

AIRPROX REPORT No 2014131

Date/Time: 11 Jul 2014 1515Z

Position: 5237N 00102W
(Leicester Aerodrome
- elevation 469ft)

Airspace: Leicester ATZ (Class: G)

Aircraft 1 Aircraft 2

Type: R22 PA34

Operator: Civ Trg Civ Trg

Alt/FL: NK 0ft

Conditions: VMC VMC

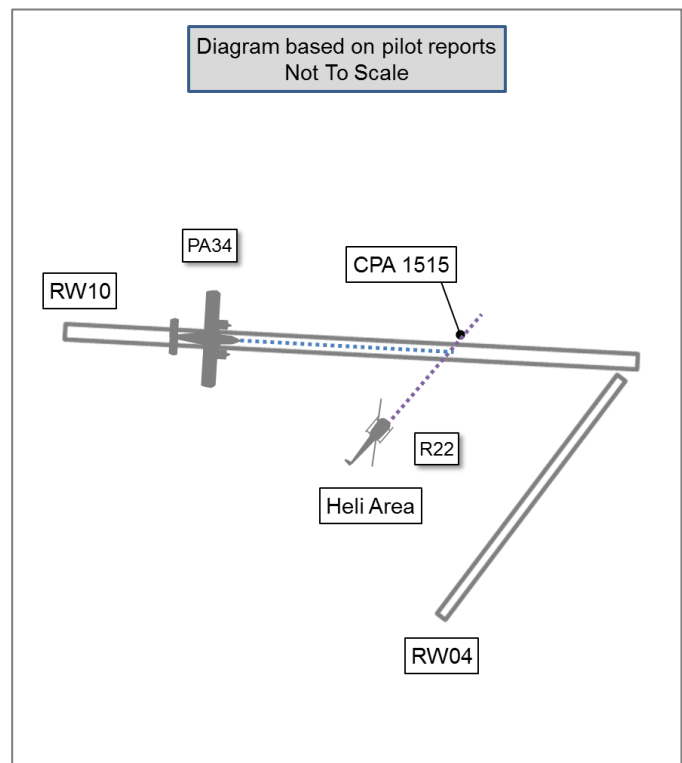
Visibility: >8KM NK

Reported Separation:

Not Seen 50ft V/100m H

Recorded Separation:

NK



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE R22 PILOT reports flying a white and blue helicopter with SSR Mode C selected and squawking 7000; the aircraft's lighting state was not reported. He was on a VFR solo flight, about to depart on a navigation exercise to the east of Leicester. He had a PPL(H), and had conducted all of his flying at Leicester aerodrome. The active runway was 04, LH circuit. He was aware of other aircraft operating in the airspace at the time, including a B206 and a fixed-wing aircraft lining up for departure from RW04. He hover-taxied to the 'H' and conducted his usual checks of engine gauges. He then conducted a nose-left turn to check the area behind him. He kept a good lookout for any aircraft on approach to RW04, there were none. He concluded from the check that he was in the first position for departure, and turned back nose-right to line-up for a RW04 departure. He then made the appropriate RT call on the A/G frequency "[R22 C/S] ready for departure". He heard no reply to this call and, with no other aircraft seen or heard to affect, he called "[R22 C/S] taking off" and began his take-off run. He had not seen anything in his take-off run until about 400ft in the climb. At this point he saw a fixed-wing aircraft [the PA34] approaching from the right in the RW10 left-hand circuit downwind leg. He had to hold at 500ft to avoid a potential 'close quarter situation'. The PA34 passed above him, at which point he continued his climb to circuit height of 700ft. He was unsure why the PA34 was in the RW10 downwind position. He departed the zone and continued his exercise. A few minutes into the exercise he heard another helicopter [the B206] pilot ask the PA34's pilot if he had seen the R22 as it looked very close. The pilot of the PA34 reported that he had called final. The pilot of the R22 realised that they were talking about his helicopter. He decided to return to the aerodrome to discuss the incident. He confirmed that he had not seen any aircraft on final approach to RW10 when he conducted his pre-flight check, and had not heard any radio call as to the position of the fixed-wing aircraft.

He assessed the risk of collision as 'High'.

THE PA34 PILOT reports that his aircraft was coloured white and black; strobe, landing lights and beacon were illuminated and SSR Mode C was selected squawking 7000. During a training flight he made an NDB approach to RW10 at Leicester aerodrome, then joined the visual circuit. He had been in the visual left-hand circuit for about 25min, making normal calls on the A/G frequency. As the smaller aircraft and helicopters were using the short runway (RW04) and the centre helicopter area, he stated in each radio call that he was downwind or final for the main RW10. This, he commented, was the normal procedure at Leicester if using a different runway to the duty runway. As he made

the turn onto base-leg, he visually checked the traffic situation. The only traffic was an R22 [the subject helicopter] in the hover in the helicopter area. After turning onto final approach for another touch-and-go (the fifth), his student made the RT call “[PA34 C/S] final runway 10 touch-and-go”. The R22 pilot remained in the hover until the PA34 was on short final at approximately 1nm, then reported taking off. He immediately made an RT call saying “[PA34 C/S] short final main runway 10”. As there was no reply from the R22 pilot, he briefed his student to make a full-stop landing because it looked like the R22 was going to cross the runway in front of them. He briefed that if the R22 pilot did take off he should be clear of the runway by the time they touched down. If so, and it was safe to do so, they would convert their landing into a touch-and-go. He made no further calls as he assumed that the R22 pilot was a solo student and did not want to unnerve him. As they touched down, the R22 pilot was just clearing the runway and was climbing out from the main runway. He instructed his student to continue for a touch-and-go and they took-off passing clear and behind the R22 as planned. During his climb-out, following the incident, a person called on the frequency asking if he had seen the R22. He explained briefly what had occurred and the person said he would have a word with the R22 pilot when he landed. As there was never any risk of collision, and the helicopter operating company were going to speak to the R22 pilot, he saw no reason to take any further action.

He assessed the risk of collision as ‘None’.

A BELL 206 JETRANGER PILOT, who was operating on the aerodrome at the time, filed a witness report concerning the incident. He reports that he was flying a helicopter operated by the same company as the R22. He was conducting a circuit training exercise on RW04 at the time. A fixed-wing aircraft (the PA34) completed an NDB approach and go-around and then commenced touch-and-go circuits on RW10. He was holding on the ground de-briefing his student just short of the ‘H’. A solo PPL pilot was on the ‘H’, another solo helicopter pilot was hovering to his rear, and a fixed-wing aircraft was lining up on RW04. He looked up to see the PA34 completing a touch-and-go at the same time as the first solo helicopter transitioned away on RW04. He estimated that the helicopter (the subject R22) crossed approximately 10ft in front of and 20ft above the PA34. [UKAB note, this information was used by the pilot of the R22 when reporting the minimum separation.] He called the pilot of the PA34 to say it looked a bit close from where he was sitting. He recollected that the PA34 pilot had replied “*well I called finals*”. He then continued circuits crossing the active circuit in two places, causing the departing R22 pilot to hold his height below the normal circuit to avoid the PA34.

THE LEICESTER AERODROME A/G OPERATOR recalls that due to her position in reception, and the fact that she was dealing with a customer at the time, she did not view the incident. However, she did hear most of the radio calls. The PA34 pilot was operating on RW10 with a left-hand circuit. He had been established in that pattern for several circuits after previously having used the NDB hold, and he was using the longer runway because the active RW04 was too short for the performance of his aircraft¹. The airport was quite busy at the time with helicopter traffic, one of which she believed was using a different area of the airport to the active. She had advised all of the traffic of the active runway and circuit direction. She did hear the pilot of the PA34 making two final approach calls at the time for RW10.

Factual Background

The East Midlands airport weather was recorded as follows:

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METAR EGNX 1450 34006KT 300V020 999 SCT37 22/12 Q1018
METAR EGNX 1520 32007KT 290V360 CAVOK 22/12 Q1018
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The dimensions of the Leicester ATZ are:

Upper limit 2000ft: a circle 2nm radius centred at 523628N 0010155W on longest notified runway (10/28).

¹ Runway dimensions: RW10 935x30m; RW04 490x18m.

The UK AIP² states Leicester Aerodrome procedures:

'Helicopter Operations use the 'H' in the centre of the grass triangle.'

Relevant circuit procedures:

'All fixed wing circuits are to the left.

Fixed wing circuits will be at 1000ft QFE.

Helicopter circuits are to the left on runway 04

Helicopter circuits will be at 700ft QFE.'

CAP452 Aeronautical Radio Station Operator's Guide³ states:

'Air Ground Communications Service (AGCS) is a service provided to pilots at specific UK aerodromes. However, it is not viewed by the UK as an Air Traffic Service because it does not include an alerting service as part of its content. AGCS radio station operators provide traffic and weather information to pilots operating on and in the vicinity of the aerodrome. Such traffic information is based primarily on reports made by other pilots. Information provided by an AGCS radio station operator may be used to assist a pilot in making a decision; however, the safe conduct of the flight remains the pilot's responsibility'.

CAP413 Radiotelephony Manual⁴ states:

'An AGCS radio station operator is not necessarily able to view any part of the aerodrome or surrounding airspace. Traffic information provided by an AGCS radio station operator is therefore based primarily on reports made by other pilots. Information provided by an AGCS radio station operator may be used to assist a pilot in making decisions, however, the safe conduct of the flight remains the pilot's responsibility.'

Analysis and Investigation

UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision⁵. An aircraft landing, or on its final approach to land, shall have the right-of-way over other aircraft in flight or on the ground⁶. A flying machine shall take off and land in the direction indicated by the ground signals or, if no signals are displayed, into the wind, unless good aviation practice demands otherwise⁷. The A/G operator commented that it is usual practice to display appropriate ground signals for the runway in use at Leicester but she could not confirm whether or not this applied on the day of the Airprox. The R22 pilot's report appears to describe an event on the RW10 downwind leg. This would indicate that he may not have perceived the Closest Point of Approach, which occurred as the PA34 crossed behind him during the roll on RW10.

Summary

The Airprox occurred within Class G airspace of the Leicester ATZ. Both pilots reported that they had made appropriate RT calls on the A/G frequency. The PA34 pilot was conducting circuits on the main RW10 as the runway in use (RW04) was too short for his type of aircraft. The R22's pilot departed from RW04 not realising that the PA34 was on final approach to RW10. The pilot of the R22 reported sighting the PA34 when he was climbing out. At that time the PA34 was in the downwind position RW10. The pilot of the PA34 reported that he was visual with the R22 departing and considered that he took appropriate action to resolve the situation by initially changing his intention of carrying out a touch-and-go into making a full-stop landing. He only reverted to his original intention after the R22 had cleared RW10.

² AD 2.EGBG.

³ Chapter 4.

⁴ Chapter 4.

⁵ Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

⁶ *ibid.*, Rule 13 (Order of landing).

⁷ *ibid.*, Rule 14 (Landing and take off).

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots, a pilot witness who was operating on the aerodrome and a report from the A/G operator concerned.

The Board noted that Leicester aerodrome provides an Air/Ground (A/G) operation but it was apparent that the A/G operator was not in a position to allow her to view the aircraft movements. This was in accordance with the provisions of an A/G service as stated in CAP 413, but it was also noted that two runways were in use at the time (the R22 pilot was departing from the runway in use RW04, the PA34 pilot was operating on the longer main RW10). Some members of the Board wondered if it was appropriate to operate on two runways under an A/G operation where nobody was overseeing the situation. Other members opined that this was acceptable provided appropriate circuit calls were made such that pilots had sufficient situational awareness to be able to sequence themselves safely into the different circuits. There was no reason to suggest that both pilots had not made appropriate RT calls.

The Board first discussed the actions of the R22 pilot. The Civil Helicopter member considered that the R22 pilot, who reported having a PPL(H), was probably inexperienced on type at least. In his view an experienced pilot would not have reported that he was 'checking the gauges' prior to departure, and it sounded to him that he was performing tasks by rote. This concentration on his pre-flight checks might, he thought, explain why he had not heard the RT calls made by the PA34 pilot. Although he checked that the RW04 approach was clear, he did not check the RW10 final approach area. A Civil Pilot member commented that if the R22 pilot had carried out all his flying at Leicester, as he reported, it was surprising that he had not experienced RW10/28 being used at the same time as another runway.

The Board then considered the actions of the PA34 pilot who had been operating on RW10 for about 25 minutes prior to the Airprox. Taking into account the PA34's performance it was understandable why he was operating on the longer main runway instead of the runway in use. It was apparent that the pilot of the PA34 was aware of the presence of the R22 at the 'H' and heard its pilot report that he was taking off when he was on final approach to RW10 at 1nm. Some Members wondered why he had not considered making a missed approach at this point. However, it was pointed out by a pilot member that if he had overshoot he would probably have lost sight of the R22. The majority of members believed that the pilot's plan of initially making a full-stop landing and then continuing the touch-and-go if the R22 had passed clear of the runway was appropriate. Although it was considered that the B206 pilot had reported what he believed was an accurate estimation of the separation between the R22 and the PA34, pilot members thought that the angles involved whilst he was observing the situation from his position on the aerodrome may have given him the wrong impression of the distance between the two aircraft. Actual distances between the two aircraft could not be confirmed as there was no radar recording of the Airprox. Following further discussion and assessing the witness report from the B206 pilot, all members agreed that because the PA34 had the R22 in sight at all times, and had a plan to avoid any risk of a collision, the Airprox should be risk-categorised as C.

The Board then considered the cause of the Airprox. Discussion took place over whether the PA34 pilot, who was not operating on the runway in use, caused the Airprox by potentially conflicting with traffic on the duty runway. However, he had made appropriate RT calls confirming he was operating on RW10 and, under an A/G operation, it was appropriate for pilots to be aware of the position of other circuit traffic by listening to the reports being made on the frequency. Consequently, the Board considered that the R22 pilot should have been aware of the presence of an aircraft in the circuit to RW10. Therefore it was agreed that the cause of the Airprox was that the R22 pilot flew across an active runway and in front of the PA34.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The R22 pilot flew across an active runway and in front of the PA34.

Degree of Risk: C.

ERC Score⁸: 4.

⁸ Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.