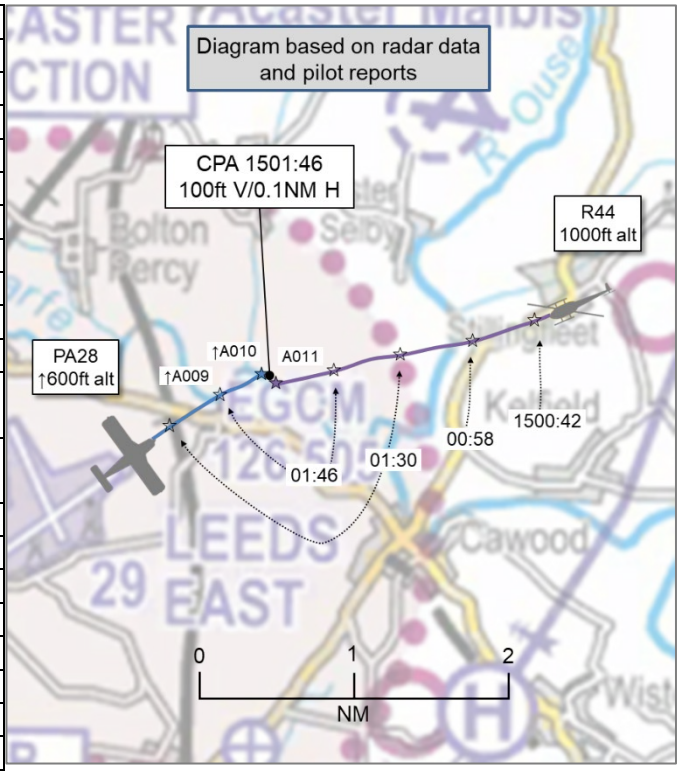
AIRPROX REPORT No 2022042

Date: 28 Mar 2022 Time: 1502Z Position: 5351N 00109W Location: Leeds East ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	R44
Operator	Civ FW	Civ Helo
Airspace	Leeds East ATZ	Leeds East ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Fenton Radio	Fenton Radio
Altitude/FL	1000ft	1100ft
Transponder	A, C	A, C, S
Reported		
Colours	White, coloured tail	Red and gold
Lighting	Nav, Strobe, Landing	Nav, Strobe, HISL, Landing/Taxy
Conditions	VMC	VMC
Visibility	5-10km	<5km
Altitude/FL	800ft	1000ft
Altimeter	QFE (1021hPa)	QFE (NR hPa)
Heading	060°	240°
Speed	80kt	90kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	0ft V/100m H	100ft V/100m H
Recorded	100ft V/0.1NM H	



THE PA28 PILOT reports that whilst they were climbing through 800ft on the runway centreline in the Leeds East ATZ, they met a Robinson helicopter, registration [redacted], at approximately the same height on a reciprocal heading, close by on their right. They turned to the left to ensure clearance and watched the helicopter fly the wrong way along the runway before turning to align correctly over Church Fenton village. There was another aircraft, a Cirrus, also downwind at the time. The Robinson pilot claimed over the radio to have become disorientated in the haze. They were aware of a joining aircraft/helicopter, but [they opine that] the choice of join direction and altitude was not the best.

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

THE R44 PILOT reports that they were inbound to Leeds East from the east. They maintained a listening watch on the frequency for a short while before calling on frequency requesting airfield information and giving an estimated time to reaching the ATZ boundary. They reported their altitude of 1000ft during this RT call. Approaching the ATZ they heard [the pilots of two] aircraft transmitting at the same time and therefore could not hear any individual transmissions. They called entering the ATZ and they then heard [the pilot of] one aircraft call 'late downwind'. As they were unsure of the position of the other aircraft, they asked for their position. By this time they were inside the ATZ and the other aircraft pilot reported 'upwind, about to turn crosswind'. They then began a lookout procedure and spotted the aircraft ahead. For a short moment they were confused due to the haze and they believed their position was further north and [had] therefore positioned for a downwind join for RW06. [They believe that the] haze had clearly caused disorientation as they were positioned close to the upwind leg against the flow of traffic. That said, they reported visual with the other aircraft and as they were positioned with the other aircraft in their 1 o'clock position, they made a slight left turn to increase separation. They did not see this as a high risk of collision as they were visual with the other aircraft. The pilot of the other aircraft was also visual with them (this is based on their RT call to them in which they acknowledged their

position and their method of join). After landing, they apologised to the other pilot directly having realised the error lay with them.

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

THE LEEDS EAST A/G OPERATOR reports that [the R44 pilot] called inbound joining from the north. The runway in use was 06LH, [and the weather was observed as] 070/04 QNH 1021hPa, haze, roughly 5K visibility. [The PA28 was] in the circuit, positioned on climb out of RW06 into left-hand circuit, turning crosswind. [The PA28 pilot] called 'not a good idea travelling the opposite way to the circuit pattern' – there was no answer. From their position they were unable to view what was happening due to haze and, as there was no answer, they are unsure of location of incident. Once they had landed, [the R44 pilot] called 'apologies to the aircraft I cut up, I was temporarily disorientated due to haze' [the PA28 pilot] replied 'it would have been a good idea to climb higher'. The pilot of [the PA28] visited the tower afterwards to see if they [the A/G operator] had seen the occurrence – they confirmed that they hadn't. The pilot of [the PA28] rang [the airport] on the 29/03/2022 to state [that they were] filing an MOR due to the R44 helicopter being 50m away from them at the time of occurrence, and therefore a near miss.

Factual Background

The weather at Leeds/Bradford was recorded as follows:

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METAR EGNM 281450Z 06005KT 020V080 9999 SCT006 SCT030 12/08 Q1020
METAR EGNM 281520Z 06005KT 020V090 9999 FEW020 12/08 Q1020
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Analysis and Investigation

LEEDS EAST INVESTIGATION

The Leeds East operating authority carried out an investigation, as part of which the airport manager spoke with parties involved, the output and findings of which are summarised below:

- Staff are to remind aircraft pilots to join via the VRP into active circuit.
- The helicopter pilot was unfamiliar with the airport procedures and became disorientated.
- A helicopter circuit should be introduced and the AIP updated accordingly.

UKAB Secretariat

An analysis of the NATS radars was undertaken and both of the aircraft were detected in the lead up to the Airprox. The R44, identifiable from the Mode S transponder, can be seen to have been inbound from the east, as reported by the pilot. The PA28, identifiable by cross reference with the pilot report, was first detected as it passed 600ft climbing out on runway heading. Shortly after this, at **1501:18** the R44 entered the ATZ and the aircraft were separated by 1.4NM horizontally and 200ft vertically, Figure 1. The PA28 pilot continued their climb-out and the R44 commenced a slight climb whilst the two aircraft converged, CPA occurred at **1501:46** with a separation measured at 0.1NM horizontally and 100ft vertically, Figure 2.

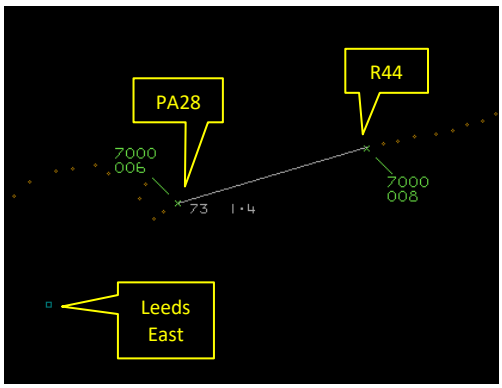

Figure 1 - R44 crossed into ATZ

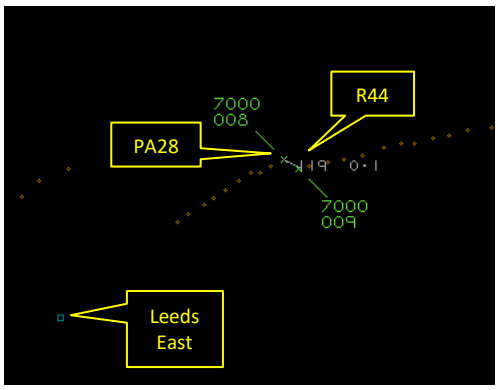

Figure 2 – CPA

The PA28 and R44 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] An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.[2]

Summary

An Airprox was reported when a PA28 and an R44 flew into proximity in the Leeds East ATZ at 1502Z on Monday 28th March 2022. Both pilots were operating under VFR in VMC, both in receipt of an AGCS from Fenton Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers involved 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 first discussed the actions of the PA28 pilot and members agreed that, as a result of the radio calls that had been made by the R44 pilot, they would have had generic awareness that the R44 had been in the vicinity (**CF4**). A GA pilot member commented that the PA28 pilot had been flying a normal departure profile and that once they had become visual with the R44, they had turned to avoid it. Members then agreed that the PA28 pilot had been concerned by the proximity of the R44 (**CF6**).

Next, the Board considered the actions of the R44 pilot and noted that they had reported becoming disorientated due to the haze. This led members to agree that the pilot had not sufficiently adapted their plan to account for the conditions (**CF2**). Members then discussed the situational awareness of the R44 pilot and agreed that the RT transmission which they had heard would have gained given them generic awareness of the traffic in the vicinity however, as they had been disorientated and uncertain of their position, their mental model of the relative positions of that traffic would have been inaccurate (**CF4**). The Board went on to determine that as a result, the R44 pilot had not joined the circuit correctly (**CF1, CF3**) and that they had become visual with the PA28 at a late stage (**CF5**).

Members attention turned to the involvement of the ground elements and agreed that the Leeds East Air/Ground radio operator had acted appropriately in only passing information relating to the runway in use and the weather to the R44 pilot. The Board was encouraged to see that Leeds East have taken steps following this event to help prevent a reoccurrence; however, the CAA's Airspace & ATM policy advisor highlighted that an Air/Ground radio operator's remit is limited[3]: Providing Information of this

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[3] CAP452. Chapter 4. Limitations. Personnel providing an AGCS shall ensure that they do not pass a message which could be construed to be either an air traffic control (ATC) instruction or an instruction issued by Flight Information Service Officers (FISOs) for specific situations.

nature over the radio to remind pilots of how and where to join the aerodrome traffic circuit could be misconstrued and could be done, for example, as part of the PPR process.

Finally, the Board considered the risk involved in this Airprox. Members noted that the pilots of both of the aircraft had had only generic awareness of the presence of the other and that, as the R44 pilot had become disorientated, their mental model of the situation had been inaccurate. However, the PA28 pilot had become visual with the R44 early enough to enable them to take effective avoiding action and, although safety had been degraded, members were satisfied that there had been no risk of collision. Consequently, the Board assigned a Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022042			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
2	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
3	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
	• 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
	• See and Avoid			
5	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
6	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: C

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 when delivering an Air Ground Communications Service, the air/ground radio operator can pass only information to pilots.

Flight Elements:

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

Tactical Planning and Execution was assessed as **partially effective** because the R44 pilot had not conformed with the pattern of traffic and had not adapted their plan to account for their disorientation caused by the haze.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because R44 pilot had had an inaccurate mental model regarding their location relative to the circuit and the pilots of both aircraft had had only generic awareness of the presence of the other.