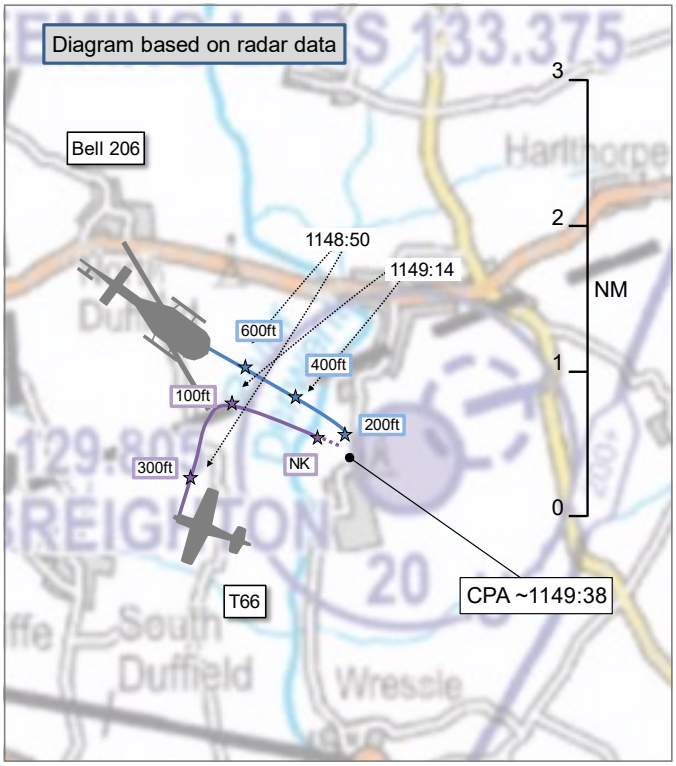
AIRPROX REPORT No 2023098

Date: 29 May 2023 Time: 1149Z Position: 5348N 00055W Location: Breighton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Bell 206	Tipsy Nipper T66
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Breighton	Breighton
Altitude/FL	NK	NK
Transponder	A, C, S	A, C, S
Reported		
Colours	Silver	White, Yellow, Blue
Lighting	Strobe, Position	Nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	100ft	31ft aal
Altimeter	QNH (1030hPa)	QFE (1030hPa)
Heading	120°	010°
Speed	50kt	70kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	Not seen	50ft V/50m H
Recorded	NK	



THE BELL 206 PILOT reports that they were carrying out pleasure flights from Breighton Airfield, the flights were conducted from the south-western part of the airfield. After having carried out around 5 short flights in the morning, the airfield manager came to inform them that they were getting noise complaints from a house/pub which was slightly to the south of the approach path for RW10. The airfield manager asked if they could extend their circuit slightly and make a final approach from a more north-westerly direction to provide a bit more separation from the complainants. They obliged and began to make approaches on a heading of roughly 120°-130°. They took off for a 15min flight and flew an extended circuit going as far as 3NM south, they then extended their right base and turned onto a final and made the call "helicopter [C/S] final runway 10". Roughly 10-15sec after this call was made they heard "[C/S] final runway 10". Due to this call being after their own final call and wrongly assuming the pilot of this aircraft was aware and visual with their aircraft, they continued the approach whilst looking out to their right to check they were clear. Then they heard the pilot of [T66 C/S] call on the radio "a helicopter has just cut in front me" (and some other words). The pilot opined that the T66 pilot did not hear their final call and because their approach was slightly offset from the normal approach that they did not see the Bell 206 until very late. They were not visual with the other aircraft as it was behind and to the right, but the ground crew told them afterwards that it came very close (within 20ft) to the tail of the helicopter.

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

THE T66 PILOT reports that they had decided to fly to Breighton and rang the airfield to check runway and QFE. They were informed it was RW10 and were also informed that there were pleasure flights operating at the airfield. They transited to Breighton and contacted the airfield when 4NM southeast and were given the airfield information. They made calls at joining downwind RW10RH, base 10RH, turning final 10RH, final 10 and short final 10. They did not hear any other radio communication prior to or during their final approach and did not see any other traffic in the circuit or immediate vicinity of the

airfield. Their turn to final was accurate on 010°, there was no traffic visual within their scan area and no traffic ahead on final, therefore they were clear to continue their approach, which was constant on both heading and descent rate. They noted that the T66 is a mid-wing aircraft and there is a substantial blind spot area to the right and left below the wing and to some distance beyond, it is possible for a 'shadow plane' travelling at the same speed and descent rate to be constantly out of view. However, in this instance this was unlikely as the helicopter appeared in their field of vision above them. They also noted that once below 200ft a pilot's concentration is fully ahead, monitoring final descent and touchdown point.

The subject helicopter suddenly appeared above and ahead of them, at about 45° in both planes approximately 200-300m ahead and 100ft above. The helicopter was facing away from them, tacking right, crossing RW10 and their flight path, and descending rapidly. They had no doubt that if they had continued there would have been a collision. Fortunately the T66 is a very agile, responsive aircraft and they were able to take aggressive avoiding action by applying full throttle, left bank in a climbing turn. They transmitted 'you idiot' and the other pilot replied 'I called final first'. They estimated that due to their climbing turn and the helicopter's descent rate, the final distance between the rear of the helicopter and the T66 vertically and horizontally was 30-40ft. They could see the rivets in the sloping underside of the helicopter, it was very close.

After landing they spoke to the airfield manager and asked what the approach instructions were for the helicopter and was told that, due to complaints from the public, the pilot had been instructed to approach their operational base at 45° and to stop and check final before proceeding to cross and land. They then located the A/G Operator and asked whether they had received radio communication. They confirmed that they had heard the T66 pilot call final twice and saw the incident but were not allowed to say anything on the radio.

They proceeded to the helicopter operational base to speak to the ground crew and were met with quite venomous abuse and told to leave the area in no uncertain terms and that the pilot was not available to speak to them. They said that they would report the incident as an Airprox and were told that, as it was an unlicensed airfield, nothing would happen anyway. They then met with other pilots who had viewed the incident and were of the same opinion that a collision had been imminent. They had heard the T66 pilot's calls and seen the helicopter pilot cross its flight path. Not wishing to cause the airfield problems, they were uncertain as to what to do next and decided to speak to some of their more knowledgeable friends, however, the decision was taken out of their hands when an unknown person reported the Airprox.[1]

They expressed the view that the contributory factors were:

- The general operating procedures for the helicopter were altered due to external complaints about the commercial operation overflying properties.

- The helicopter pilot was allegedly instructed to make a 45° approach, stop, check that the final approach was clear and then proceed to the operator's base. Due to the location of the operator's base, 50m from the threshold of RW10, the helicopter would need to cross the runway. [*UKAB Secretariat note: the Bell 206 was making an approach to the runway.*]

- The altered approach was now from a known restricted area and approaching the airfield using the Pooley's plate, pilots would not expect to see aircraft approaching from the dead-side restricted area and therefore would not be looking for traffic from there.

They further thought that:

- There had been a poor risk assessment following the decision to alter the operational pattern of the airfield.

[1] The Bell 206 pilot reported the Airprox.

- An incorrect radio transmission from the Jetranger pilot, calling final when the aircraft was not on final, but approaching from outside the known pattern.

- The failure of the Jetranger pilot to stop and hold and check final approach to RW10 before crossing to their operational base [they believed].

- Descending whilst crossing RW10 with an aircraft on approach.

- Approaching at 45° and side tracking would afford the pilot very little, if any, view of the final approach to RW10 or any aircraft on the approach.

- The pilot's misconception that calling final (even if correct) gave them the right to ignore imminent danger from another pilot also calling final on more than one occasion.

- Failure of the ground crew to alert the pilot of the imminent danger of the T66's audible and visual approach.

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

THE BREIGHTON A/G OPERATOR reports that Breighton aerodrome is an uncontrolled private airfield housing some eighty aircraft which includes their own vintage aircraft collection. They encourage like-minded aviators, especially in vintage aircraft, to visit. Radios and PPR are not mandatory. Detailed joining instructions are published in Pooley's and they keep a tight ship in this respect with all circuits to the south away from the north side, keeping in mind they have waivered airspace to the north of the runway.

Their radio service, operated by the duty pilot, is for giving information only, operating a "see and be seen" philosophy by aircraft users. On the day in question [Bell 206 C/S] was operating passenger rides and the operator (not the pilot) had asked if they could approach in the normal approach pattern for fixed-wing to land on the western end of the runway, when [the AGO] suggested approaching on the north-side of the centre-line hovering and then crossing to their operation when clear to do so, they were told that there was difficulty in pulling enough power (due to load considerations). So they suggested that the pilot extended their base-leg through the centreline and approach their operation on the western end, as they were flying right seat they would therefore have a good view of traffic on approach behind them.

They did not witness the Airprox, the Tipsy Nipper would have had an approach speed of approximately 50mph and the pilot of the helicopter complained that as they called finals first they should have had priority to land. [The A/G Operator] pointed out it was a case of "see and be seen" and this was the responsibility equally of both pilots to exercise caution and take the appropriate action. They also told the helicopter pilot that calling finals did not give them the right to land first regardless and were accused of playing a "blame game" in favour of the fixed-wing pilot.

Factual Background

The weather at Leeds Bradford was recorded as follows:

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291120Z 07008KT 020V110 9999 SCT026 15/07 Q1031=
291150Z 05006KT 010V090 9999 SCT030 14/06 Q1031=
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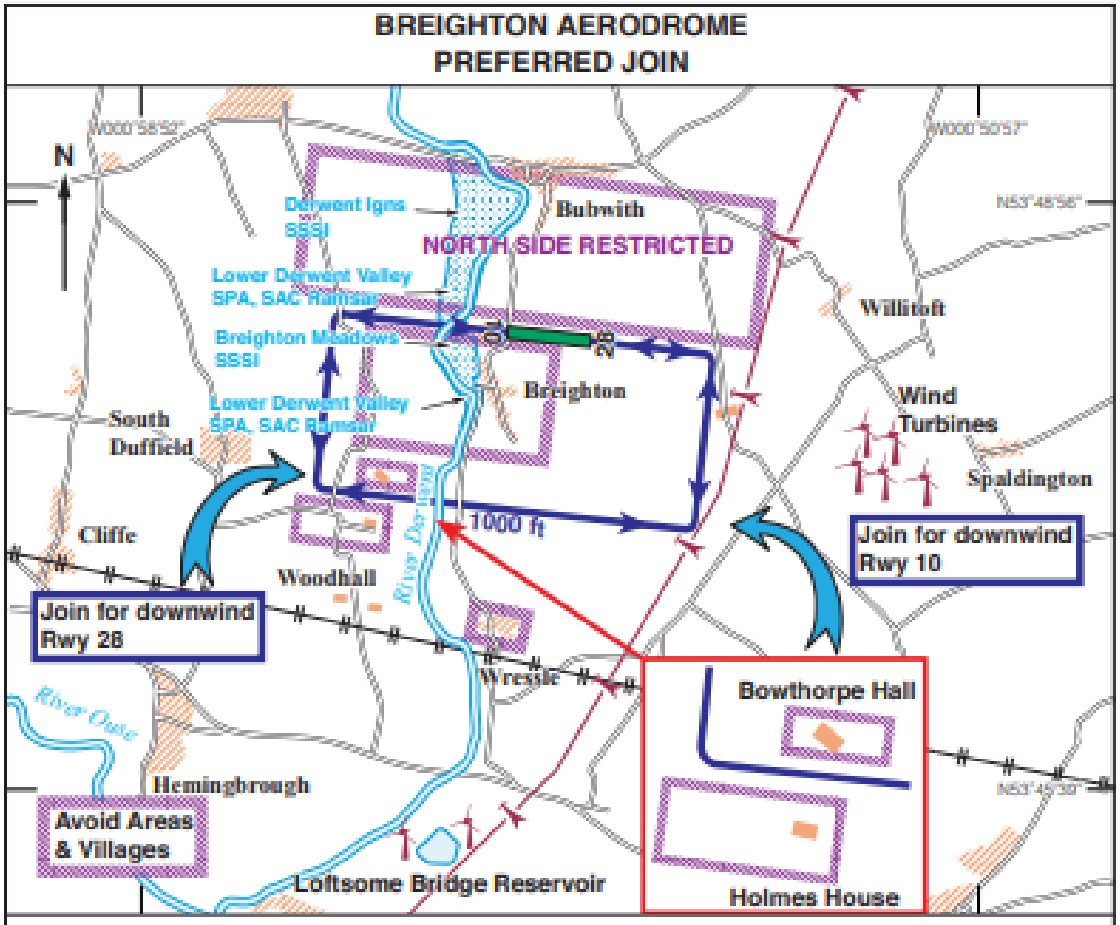
The Breighton entry in Pooley's flight guide gives the following information:



The runway is obscured by buildings and difficult to see from the South.

During special events an additional helicopter parking area in the SW corner of the airfield may be in use.

Departing acft should climb straight ahead to a distance of at least 2 nm before turning North.

Noise Abatement:
Avoid overflying the villages of Breighton and Wressle to the South, Farm buildings to the South West and Bubwith village to the North.

Avoid overflying the ecologically sensitive areas of the River Derwent Valley:

Derwent Ings (SSSI) to the North West, Lower Derwent Valley (SPA), SAC) to the West and Breighton Meadows (SSSI) to the South West.

SSSI	Site of Special Scientific Interest.
SPA	Special Protection Area
SAC	Special Area of Conservation.

Analysis and Investigation

UKAB Secretariat

The NATS area radar replay was assessed and both aircraft could be seen and identified using Mode S information. The approximate position of Breighton is marked with the white cross at Figures 1 and 2. At Figure 1, the Bell 206 can be seen northwest of Breighton indicating FL004 (radar QNH was 1029hPa, therefore add approximately 430ft). The T66 could be seen in a downwind position also indicating FL004.

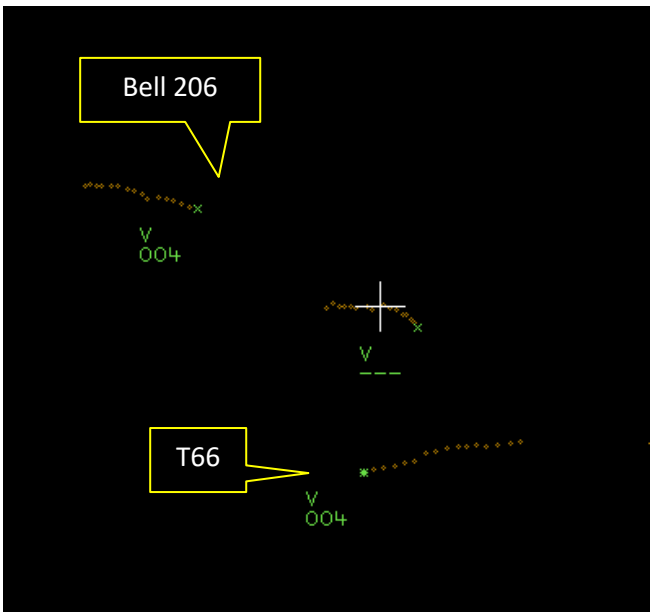


Figure 1 – 1147:25

The Bell 206 continued on a long straight-in final, and the T66 appeared to turn onto a base leg (Figure 2).

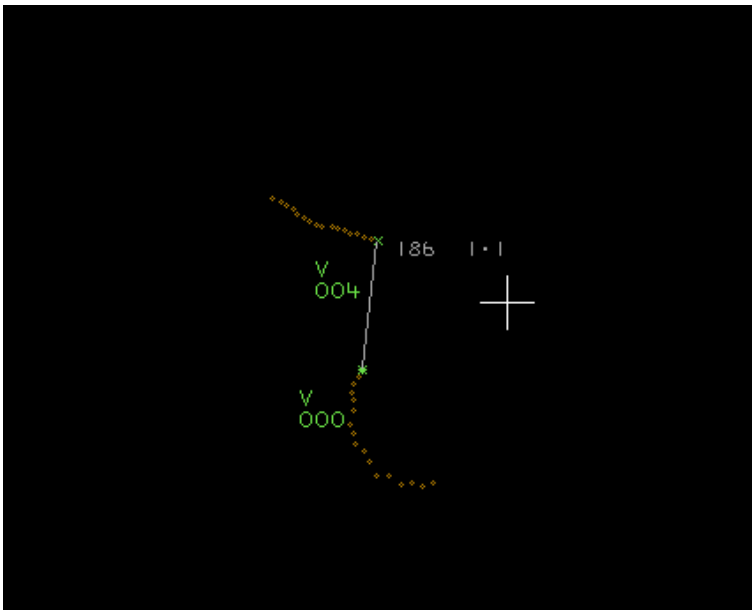


Figure 2 – 1148:30

The two aircraft continued to close until at 1149:35 (Figure 4) the Mode C on the T66 dropped from the radar replay (probably due to their low height).

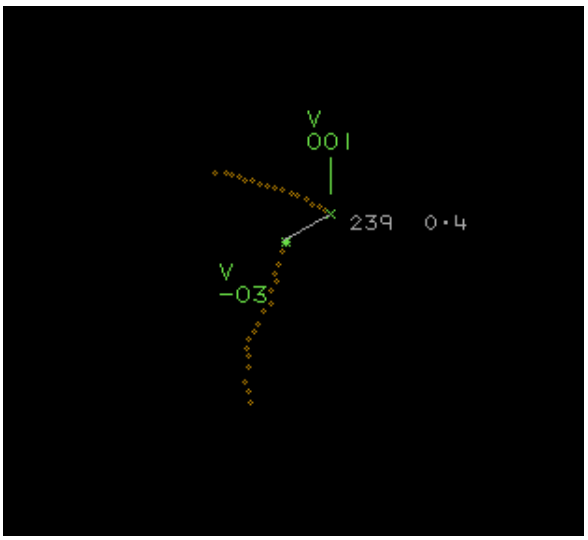


Figure 3 - 1149:02

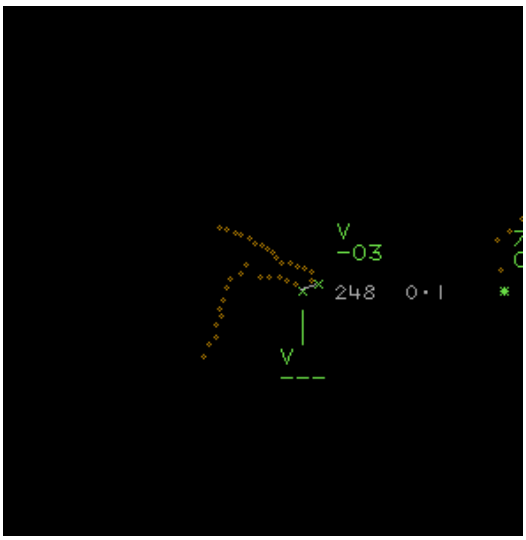


Figure 4 – 1149:34

On the next radar sweep, the T66 had completely faded from radar (probably below radar cover) and CPA would have occurred at or around this time. Unfortunately the exact separation could therefore not be determined.

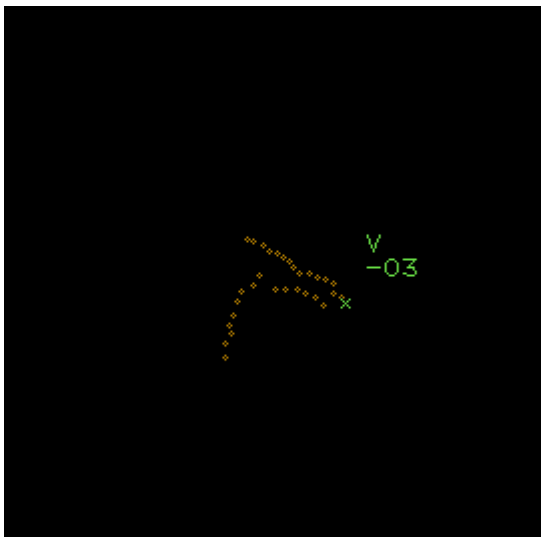


Figure 5 - 1149:38 T66 faded from radar.

The Bell 206 and T66 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2] 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.[3] When two or more heavier-than-air aircraft are approaching an aerodrome or an operating site for the purpose of landing, aircraft at the higher level shall give way to aircraft at the lower level, but the latter shall not take advantage of this rule to cut in front of another which is in the final stages of an approach to land, or to overtake that aircraft.[4]

Summary

An Airprox was reported when a Bell 206 and a T66 flew into proximity at Breighton at 1149Z on Monday 29th May 2023. Both pilots were operating under VFR in VMC, both in receipt of a AGCS from Breighton.

[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[4] (UK) SERA.3210 Right-of-way.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the Air Ground Operator 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 discussed the actions of the Bell 206 pilot. They had been operating out of Breighton throughout the day and, due to noise complaints, had been asked to adapt their approach to the airfield. This change to the approach had meant that they had been flying a non-standard circuit routing towards the airfield from a more north-westerly direction. Members thought that after the Bell 206 pilot had called final and subsequently heard the T66 pilot also call final, they perhaps could have been more alive to their own non-standard circuit and potential for another pilot to not look for conflicting traffic from this direction, and could have made a call communicating their position and intentions (**CF3**). That being said, members were sympathetic to the fact that the Bell 206 pilot had expected that the other pilot had been visual with them and had therefore continued their approach expecting the other pilot to have fitted in behind them. Although the Bell 206 pilot had received generic situational awareness from the RT that the T66 had been in the visual circuit (**CF7**), because the T66 had been behind and below them, they had not been visual with it as it continued into proximity (**CF9**).

Turning to the T66 pilot, they had joined the standard fixed-wing circuit and had reported that they had not heard the Bell 206 pilot's RT calls (**CF6**). Given that the AGO had not reported any problems hearing the Bell 206 pilot's calls, members thought it likely that appropriate calls had been made. Noting that the T66 had not been fitted with any form of EWS either, the pilot had received no situational awareness that the Bell 206 had been making an approach to the runway (**CF7**). However, members thought that the T66 pilot should have completed a thorough check along the approach path prior to turning on to both base-leg and final (**CF4**) and that even though they had not been expecting the Bell 206 to be approaching from the northwest, the radar screenshots at Figures 2 and 3, indicated that the Bell 206 had been ahead in the pattern and therefore it had been for the T66 pilot to conform with the pattern of traffic formed by the Bell 206 and to fit in behind it (**CF2**, **CF5**). Members also noted that, according to the radar, the T66 appeared to be low when it turned onto base, and thought that this may have compounded the situation, in that the helicopter would have been above and perhaps out of sight if anything other than a thorough scan had been conducted. The T66 pilot had only become visual with the Bell 206 on short final when it had descended in front of their aircraft (**CF8**), at which point the pilot had managed to take emergency avoiding action.

Members noted that neither aircraft had been fitted with any additional electronic conspicuity equipment, which on this occasion may have provided some additional information to aid visual acquisition. It was for pilots to decide on their own requirements for additional equipment according to their needs and the Board wished to highlight to pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2024.[5]

The Board then discussed the actions of the ground elements. They noted that the AGO had not been required to sequence aircraft in the circuit, but also noted the T66 pilot's comments that they had been told that the AGO had witnessed the incident but 'were not allowed to say anything on the radio'. Whilst this comment was hearsay and it was not known whether the AGO had actually said this, members were keen to dispel this myth, and the ANO, Chapter 4 article 202 states:

> *Nothing in this article prevents a person operating an aeronautical radio station for the purpose of avoiding immediate danger.*

Members then discussed the change of operating procedures that the Bell 206 had been asked to make. In asking the Bell 206 pilot to avoid the area from where the noise complaint had been received, and asking the pilot to approach the airfield using a non-standard circuit without taking into consideration

[5] Details on the CAA rebate scheme available at: https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/

the effect on other circuit users, and that it would not have been expected that aircraft would approach from this direction, the conditions for the Airprox had been inadvertently created (**CF1**).

Finally, in assessing the risk of the Airprox, the Board took into consideration the reports from both pilots and the AGO, together with the radar screenshots. They discussed how the Bell 206 pilot had not been visual with the T66 at all and how the T66 pilot described a situation where emergency avoiding action had been taken and separation had been reduced to a bare minimum. They therefore agreed that there had been a serious risk of collision (**CF10**), likely averted by the T66 pilot's avoiding action; Risk Category A.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023098			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Organisational	• Aeronautical Information Services	An event involving the provision of Aeronautical Information	The Ground entity's regulations or procedures were inadequate
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
2	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	• Tactical Planning and Execution			
3	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
4	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
5	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			
6	Human Factors	• Monitoring of Communications	Events involving flight crew that did not appropriately monitor communications	
7	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			
8	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
9	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
	• Outcome Events			
10	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: A.

Safety Barrier Assessment[6]

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

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

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the approach procedures for the Bell 206 were changed to ease the noise situation, but this change was not communicated to other Breighton operators.

Situational Awareness of the Confliction and Action were assessed as **not used** because the AGO had not been required to sequence the aircraft.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the T66 pilot had not conformed with the pattern of traffic formed by the Bell 206.

Tactical Planning and Execution was assessed as **partially effective** because the Bell 206 had not communicated their non-standard approach to other circuit users, and T66 pilot had not seen the Bell 206 on the approach path and therefore had not integrated with it.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the T66 pilot had not heard the Bell 206 pilot's RT calls and therefore had received no situational awareness that it had been on the approach. The Bell 206 pilot had received generic situational awareness from the T66 pilot's calls, but had been expecting the other pilot to integrate behind their aircraft.

See and Avoid were assessed as **ineffective** because the Bell 206 pilot had not seen the T66, and the T66 pilot had seen the Bell 206 very late.