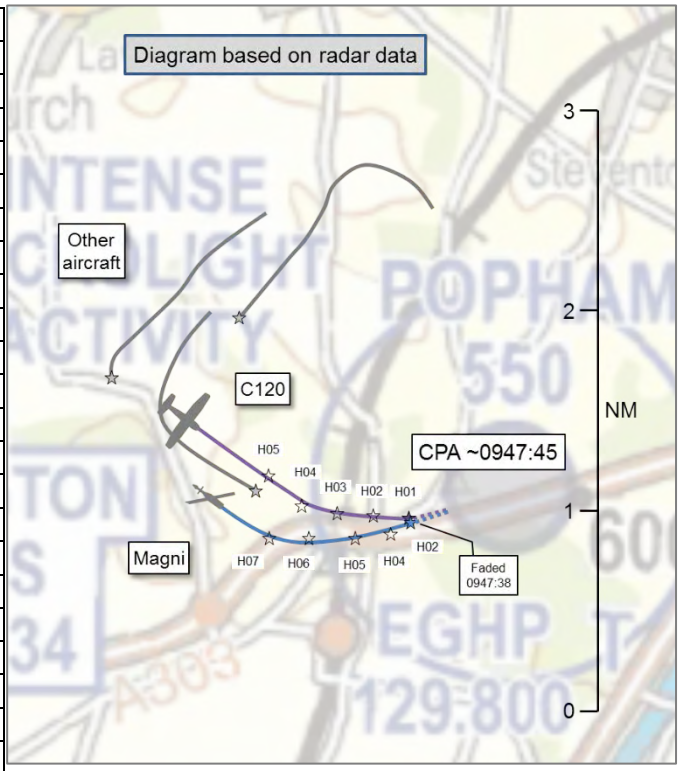
AIRPROX REPORT No 2018088

Date: 05 May 2018 Time: 0948Z Position: 5112N 00114W Location: Popham airfield – elev 550ft

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Magni Gyroplane	C120
Operator	Civ Helo	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Popham	Popham
Altitude/FL	NK	NK
Transponder	A, C, S	A, C, S
Reported		
Colours	Red	Polished
Lighting	Strobes	NK
Conditions	VMC	VMC
Visibility	>10km	NK
Altitude/FL	50ft	30ft
Altimeter	agl	agl
Heading	080°	080°
Speed	~50kt	50-55kt
ACAS/TAS	NK	NK
Alert	NK	NK
Separation		
Reported	NK	Not seen
Recorded	<100ft V/<0.1nm H	



THE MAGNI GYROPLANE PILOT reports that he had joined the Popham overhead as requested on the radio and altered his altimeter to the Popham QFE. He noted that he had visited Popham many times before and was 'very familiar' with the visual circuit pattern. He descended to circuit height on the deadside, saw 2 aircraft ahead, followed them visually and heard them on the radio, He saw the second aircraft was on final, turned base, and a minute later turned final himself and called final on the radio. He heard an aircraft behind call 'downwind visual with the Gyro' and saw the aircraft in front of him land. He started a descent to about 500ft as he crossed 'the grain silo'. He saw the runway was clear and, as he approached about 150m from the RW08 numbers, he cut the power and descended towards the numbers at 60mph. He had just crossed the RW08 numbers, at a height of about 50ft, when he saw a polished aluminium Cessna directly beneath. He applied full power and climbed back into the circuit. He noted the Cessna registration and mentioned something on the radio. The pilot commented that he did not hear any R/T transmissions from the Cessna pilot. The Magni pilot was supplied at a later date with a photograph, taken by a member of the public, showing the incident. He noted that Gyroplanes do not glide well, so the approach method taught is to descend to 500ft on final and cut power when certain of being able to make the runway in case an engine failure should occur.

The Magni pilot did not make an assessment of the risk of collision.

THE C120 PILOT reports operating in a very busy visual circuit at a microlight festival. He arrived from the southeast and joined from the deadside over the upwind end of RW26, fitting into the pattern of every aircraft he could see, about 4-5 from recollection. Once downwind he observed a gyroplane 'on the inside of him', which he later strongly suspected was the other Airprox aircraft. However, when the gyroplane turned onto what might have been base leg, it continued southwards and seemed to him to have left the circuit to the south. The circuit diagrams for Popham show that the final approach for RW08 is considerably offset to the north; the approach track is more like 110° until very short final. It appeared that the gyroplane pilot hadn't turned onto the offset approach at the normal point [the grain

silos] but had continued southwards. He followed another aircraft in front and slowed down to give it time to vacate the runway. The pilot noted that the Cessna 120 has good forward visibility and that he would be able to see anything on approach that was in front or higher than him. He stated that there was definitely no gyroplane between him and the aircraft in front. All seemed normal until almost the start of the landing flare, just before the RW08 threshold, when he heard an R/T transmission '[*expletive*] where did that come from'. He was not initially aware that the other pilot was referring to him but, shortly afterwards, a further transmission was heard, '[C120 registration] just cut me out of the circuit'. The C120 pilot then saw that he was 'overtaken by a shadow' but he did not see the other aircraft. The pilot noted that he was low over the runway so he remained predictable and continued with a normal landing. Later that day he found a post-it note on his aeroplane which stated, 'Are you aware that you landed underneath my gyro on 08 and you also never called final, please be more careful, gyros land from a higher point'. The C120 pilot made some observations, as follows:

- He thought it highly likely that the gyroplane pilot made a straight in approach to RW08 without offsetting. In this position, had it been higher, it would have been obscured by his right wing.
- Having watched several similar gyroplanes landing at Popham, he noticed that many made a very steep approach, arriving over the threshold sometimes in an almost vertical descent, and only rolled a few meters after landing.
- He had called finals but the radio was very busy, there were many non-standard R/T transmissions and his call could have been missed.
- It appeared that the gyroplane in question afforded excellent visibility; he found it hard to accept that his aircraft wasn't seen until the last minute.
- If the gyroplane had been flying the correct offset approach it would have been clearly visible to him, even if much higher.

The C120 pilot did not make an assessment of the risk of collision.

THE POPHAM A/G OPERATOR did not provide a requested narrative of the event.

Factual Background

The weather at Southampton was recorded as follows:

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METAR COR EGHI 050950Z 07004KT 010V140 CAVOK 17/05 Q1025=
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Analysis and Investigation

UKAB Secretariat

The Magni and C120 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]. 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[3].

Figure 1 illustrates the promulgated noise abatement circuit patterns for Popham, the location of the grain silos, and the offset approach to RWY08.

[1] SERA.3205 Proximity.
[2] SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[3] SERA.3210 Right-of-way, Landing.

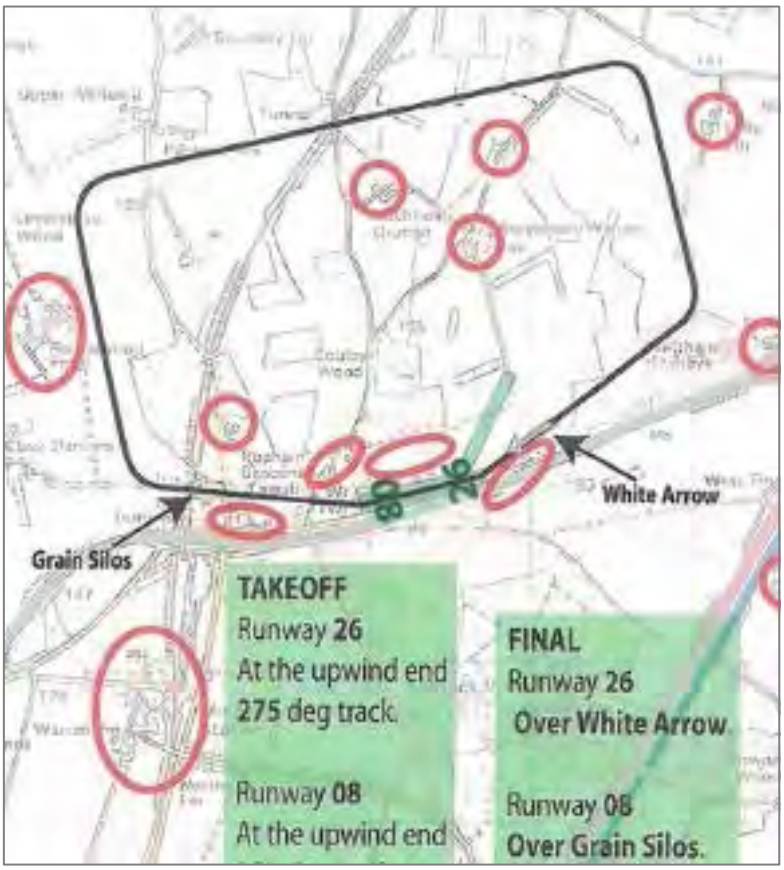


Figure 1

Summary

An Airprox was reported when a Magni gyroplane and a C120 flew into proximity at Popham at 0948hrs on Saturday 5th May 2018. Both pilots were operating under VFR in VMC, both in receipt of an Air Ground Communication Service from Popham.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings.

Members quickly identified that the Airprox appeared to have arisen from the C120 pilot's misapprehension as to the intentions of the Magni pilot, compounded by a lack of assimilation of the relevant radio calls by both pilots. The radar recording indicated that the Magni pilot flew south of the promulgated circuit ground track (see diagram) and had lined up with the RWY08 extended centreline as opposed to the offset approach. The C120 pilot assessed this as the Magni pilot intending to leave the circuit and, having not heard or assimilated the Magni pilot's finals call, therefore did not anticipate that the Magni pilot would also be on final approach to RW08. The C120 pilot then turned on to final thinking that his approach path was clear and so did not integrate with the Magni, ahead of him in the circuit. Members considered the Magni pilot's track and debated whether that had an effect on his status in the visual circuit. After some discussion, the Board agreed that although he was not following the published ground track, his deviation to the south of track was sufficiently small that he was still in the pattern of traffic intending to land. As such, it was for the C120 pilot to ensure that he integrated with the Magni; GA members further commented that, although he may have assumed that the Magni was departing the visual circuit, without confirmation of such it remained incumbent on the C120 pilot to monitor the Magni to ensure that his own flightpath remained clear of it.

Agreeing that the cause of the incident had therefore been that the C120 pilot did not integrate with the Magni autogyro, the Board nevertheless agreed that the Magni pilot's deviation from the promulgated ground track and the C120 pilot not assimilating the Magni pilot's finals call were both contributory factors. Members also agreed that the relative positions of the 2 aircraft were such that the pilots were

unsighted to each other once the C120 pilot had turned onto finals and it had only been the C120 pilot's shallower angle of approach that had fortuitously resulted in it passing below the Magni and into the Magni pilot's field of view, when he could then take avoiding action. A photograph of the 2 aircraft on very short final showed that separation had been reduced to the absolute minimum and that collision had only been avoided by providence.

Members wondered to what degree fixed-wing pilots were aware of the reported autogyro approach technique, and whether the marked difference in approach speed and angle warranted consideration of additional mitigations when it was known that large numbers of such aircraft would be operating at an airfield.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The C120 pilot did not integrate with the Magni autogyro.

Contributory Factors:
1. The Magni pilot did not follow the promulgated circuit ground track.
2. The C120 pilot did not assimilate the Magni pilot's finals call.

Degree of Risk: A.

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:

ANSP:

Situational Awareness and Action were assessed as **not used** because an AGCS is not required to provide deconfliction in the visual circuit.

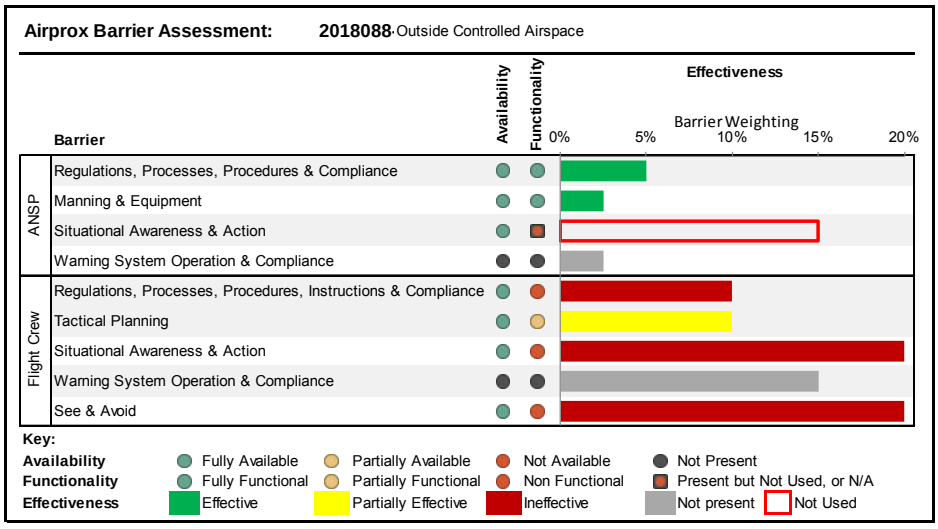
Flight Crew:

Regulations, Processes, Procedures, Instructions and Compliance were assessed as **ineffective** because the C120 pilot did not integrate with the pattern of traffic intending to land.

Tactical Planning was assessed as **partially effective** because the Magni pilot did not fully follow the promulgated Popham circuit ground track.

Situational Awareness and Action were assessed as **ineffective** because both pilots did not assimilate the others' R/T calls.

See and Avoid were assessed as **ineffective** because the C120 pilot did not see the Magni and the Magni pilot only saw the C120 as it flew into his field of view on very short final and at very close range.



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