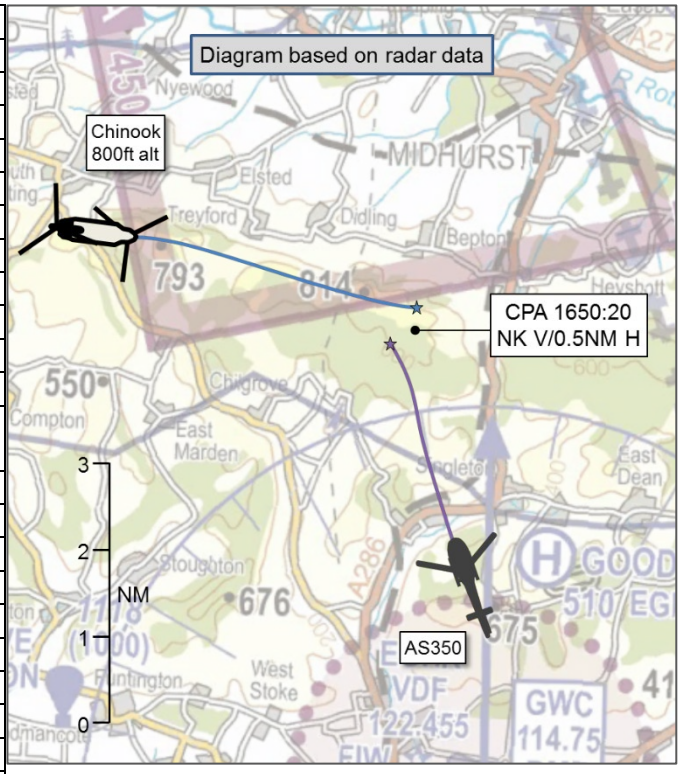
AIRPROX REPORT No 2020025

Date: 02 Mar 2020 Time: 1650Z Position: 5056N 00046W Location: South Downs

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Chinook	AS350
Operator	HQ JHC	Civ Helo
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Odiham App	
Altitude/FL	800ft	NK
Transponder	A, C, S	A, S
Reported		
Colours	Green	Blue, Silver
Lighting	Strobes, Position lights, Landing	Anti-Cols
Conditions	VMC	VMC
Visibility	10km	NK
Altitude/FL	200ft	1500ft
Altimeter	agl	QNH
Heading	090°	350°
Speed	120kt	110kt
ACAS/TAS	TAS	TAS
Alert	TA	None
Separation		
Reported	0ft V/300m H	1000ft V/0.5NM H
Recorded	NK V/0.5NM H	



THE CHINOOK PILOT reports they were conducting advanced handling manoeuvres in the South Downs area, approximately 15NM south of Odiham. The aircraft was on an easterly heading, at 200ft agl, and operating on a Basic Service from Odiham ATC whilst conducting a low level recce of the area prior to conducting dynamic manoeuvres. The No2 crewman observed an unknown rotary type in the aircraft's 3 o'clock, at approximately 300m and at a similar height, climbing away from the ground. The crewman notified the rest of the crew at the same time as a TAS contact was heard. The unknown aircraft (possibly a Squirrel, painted black) appeared to be climbing out of very low-level, turned to pass behind the Chinook, and departed through the aircraft's 6 o'clock, climbing to around 3000ft agl. No radio calls were heard before or after the incident on either of the Odiham Approach or Low-Level Common frequencies. The crew contacted Odiham ATC to ask whether they were providing a service to the Squirrel and inform them of the incident.

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

THE AS350 PILOT reports that they were in the cruise with both pilots looking out, flying between 1500-1700ft QNH to avoid the common altitudes. They saw a Chinook in the 11 o'clock position, low-level, flying on an easterly direction along the ridge line of the northern edge of the South Downs. The PF commented to the PM on the excellent camouflage against the forest back drop and that it was perhaps not a good place to be as that area is popular with hang-gliders and microlights. However, they did not perceive there to be a conflict, they observed the Chinook pass ahead from the 11 o'clock to the 1 o'clock approximately 1000ft below. The pilot provided a screenshot of his SkyDemon route, see Figure 1. A further screenshot provided (Figure 2) indicated the height of the AS350 at 1532ft, 2min and 29sec after take-off (which had been at 1647Z), at the point they assessed they passed overhead the Chinook.

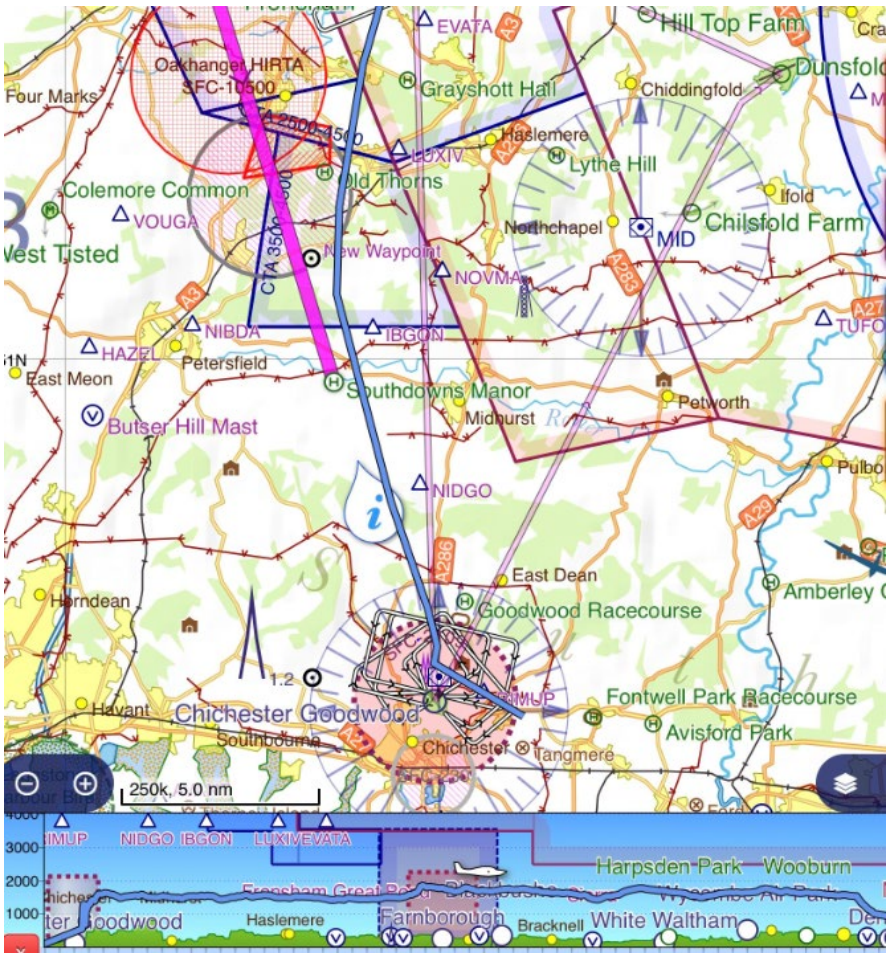


Figure 1

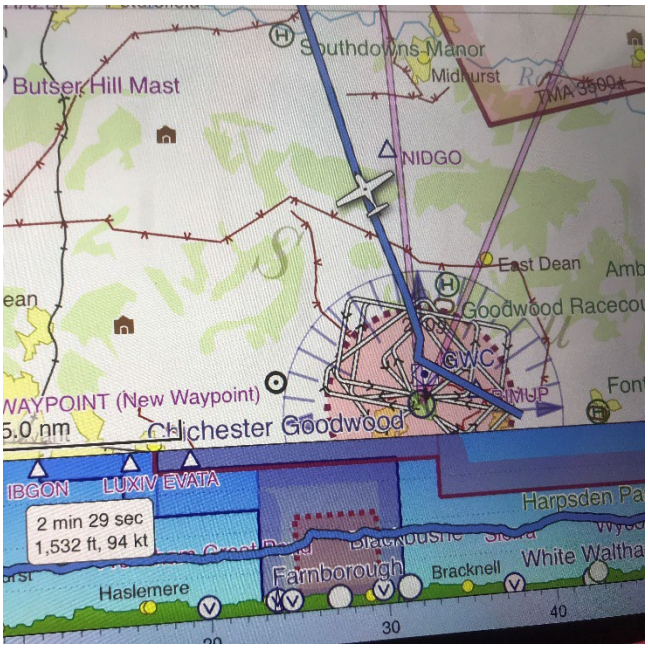


Figure 2

The pilot assessed the risk of collision as 'None'.

THE ODIHAM APP CONTROLLER reports that they were providing an ATS to both UHF and VHF aircraft on frequency. A Puma was receiving a Traffic Service to the north of the aerodrome that they were in the process of handing over for an instrument recovery to Benson. The Chinook was operating under a Basic Service low-level to the south of the aerodrome approximately 15-20NM away. During

the handover of the Puma, the Chinook pilot called up to ask whether a Squirrel had been on frequency in the last 10 minutes. The controller replied in the negative, to which the pilot reported that they had had an Airprox with a Squirrel in the South Downs. On checking the radar display in their locality the controller could not see any radar return that may have corresponded to an aircraft.

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

Factual Background

The weather at Odiham was recorded as follows:

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METAR EGVO 021550Z 26015KT 9999 VCSH FEW038 08/M01 Q0993 NOSIG RMK BLU BLU=
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Analysis and Investigation

Military ATM

The Chinook was conducting advanced handling manoeuvres at a reported 200ft around 15NM south of Odiham under a Basic Service. Whilst conducting this task, the No2 crewman on the Chinook warned the rest of the crew of the AS350 in their 3 o'clock position approximately 300m away at the same level as the Chinook.

The Odiham Approach Controller reported that in addition to the Chinook they were working a Puma on a Traffic Service to the North of Odiham which required a radar handover to Benson. At 1702Z the Chinook reported that they had been involved in an Airprox at 1650Z with the AS350. However, given the time difference between reporting and occurrence, there was nothing showing on the Odiham Approach Controller's radar screen which could have been the AS350.

The AS350 pilot reported being in the cruise at 1500ft when they noticed the Chinook at a range of 1NM some 1000ft below them. The AS350 pilot did not believe there was a risk of collision or that an Airprox had occurred.

The following radar screenshots are taken from NATS sources and are therefore not representative of the picture available to the Odiham Approach Controller at the time of the incident. The AS350 first showed on radar at 1647:39 separation at this point was approximately 7NM (Figure 1).

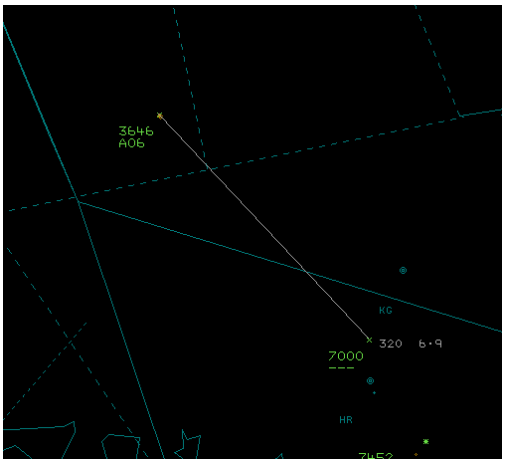


Figure 3: AS350 appears on radar

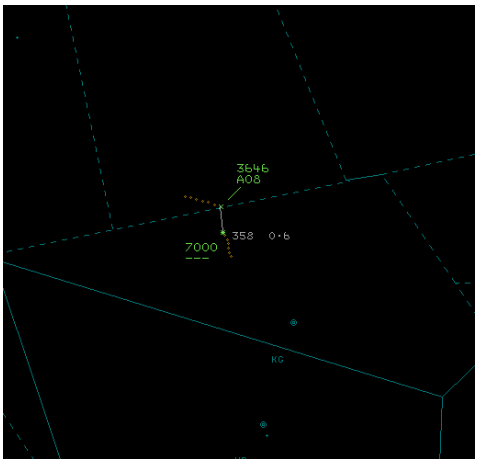


Figure 4: AS350 turn

At 1650:14, shortly prior to the CPA, the AS350 can be seen to start manoeuvring left and may be concurrent with the pilot's report about becoming visual with the Chinook. Separation at this point was 0.6NM. CPA occurred at 1650:20 and was measured at 0.5NM.

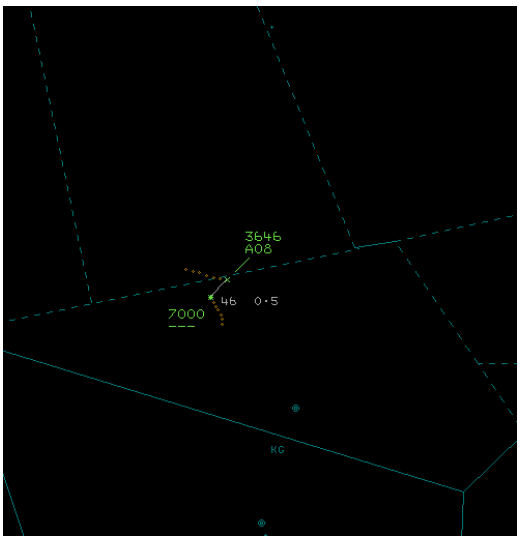


Figure 5: 1650:20 – CPA

In addition to the Chinook, the Odiham Approach Controller was also providing a Traffic Service to a Puma which had departed Odiham northbound. This aircraft, under a surveillance service, would rightly have been the priority for the controller. Given the range from Odiham, and the reported altitude of the Chinook, it is unlikely that it was displaying on the radar screen and under the terms of a Basic Service, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.

UKAB Secretariat

Although the Chinook pilot reported the AS350 as below him, the Low Flying Booking Cell confirmed that there were no other military aircraft booked into the low-flying area, nor were there any pipeline inspection helicopters in the vicinity.

The Chinook and AS350 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]

Comments

JHC

The reports from the Chinook crew and the AS350 pilot give very different pictures of the geometry of this Airprox. Without Mode C information on the AS350 it is difficult to corroborate the relative positions of the aircraft in relation to each other and as such assess the risk and contributory factors with regards this Airprox. The Chinook pilot reports 200ft agl but as they were transiting a ridge line that has an indicated height of circa 800ft this would put them closer to the AS350 than the 1000ft suggested by the latter pilot, albeit still below. It is conceivable that the sloping terrain could have distorted the perspective but this would be speculative and unlikely to be to the degree to which these reports differ. No avoiding action was initiated by the Chinook due to the late sighting and the AS350 passing behind, however, the AS350 pilot reports being visual with the Chinook and ultimately separation was maintained.

Summary

An Airprox was reported when a Chinook and an AS350 flew into proximity on the South Downs at 1650Z on Monday 2nd March 2020. Both pilots were operating under VFR in VMC, the Chinook pilot in receipt of a Basic Service from Odiham; the AS350 pilot was not in receipt of an ATS.

[1] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate ATC and 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members contributed via dial-in/VTC comments. Although not all Board members were present for the entirety of the meeting and, as a result, the usual wide-ranging discussions involving all Board members were more limited, sufficient engagement was achieved to enable a formal assessment to be agreed along with the following associated comments.

The Board first looked at the actions of the Chinook pilot. The crewman had been the first to see the AS350 and believed it to be beneath the Chinook, and subsequently to be climbing, and alerted the rest of the crew to it. The pilot then received a TAS TA (**CF2**). The Board could not reconcile the two reports from the different pilots, in that the Chinook crew believed the AS350 to be below them, when in fact it had been above. Some members with helicopter experience thought that the position of the Chinook just back from the edge of the ridge put 'dead-ground' between the Chinook and the AS350 which may have given the impression that the AS350 was climbing (**CF3**). Furthermore, it was dusk at the time which would have added to the difficulties in accurately judging the geometry of the two aircraft. Although the Chinook pilot had been receiving a Basic Service from the Odiham controller, the controller was not required to monitor the aircraft and reported that by the time they were alerted to the incident there was nothing displaying on radar in the vicinity of the Chinook (**CF1**).

Turning to the AS350 crew, they were visual with the Chinook, could see it was beneath them and did not feel that there was a confliction, or a need for avoiding action. Whilst it was unfortunate that the AS350's Mode C was not displaying on the radar, members noted that SkyDemon is permissible as evidence in CAA legal cases. The AS350's SkyDemon indicated that the AS350 had been flying at around 1500ft at the time of the Airprox; therefore, members were satisfied that the AS350 was indeed above the Chinook, albeit by about 500ft rather than the 1000ft reported by the pilot.

In assessing the risk, the Board quickly agreed that, despite the concerns of the Chinook crew, the separation had been such that with around with 500ft between them, this had been a situation where normal safety standards pertained; Risk Category E.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

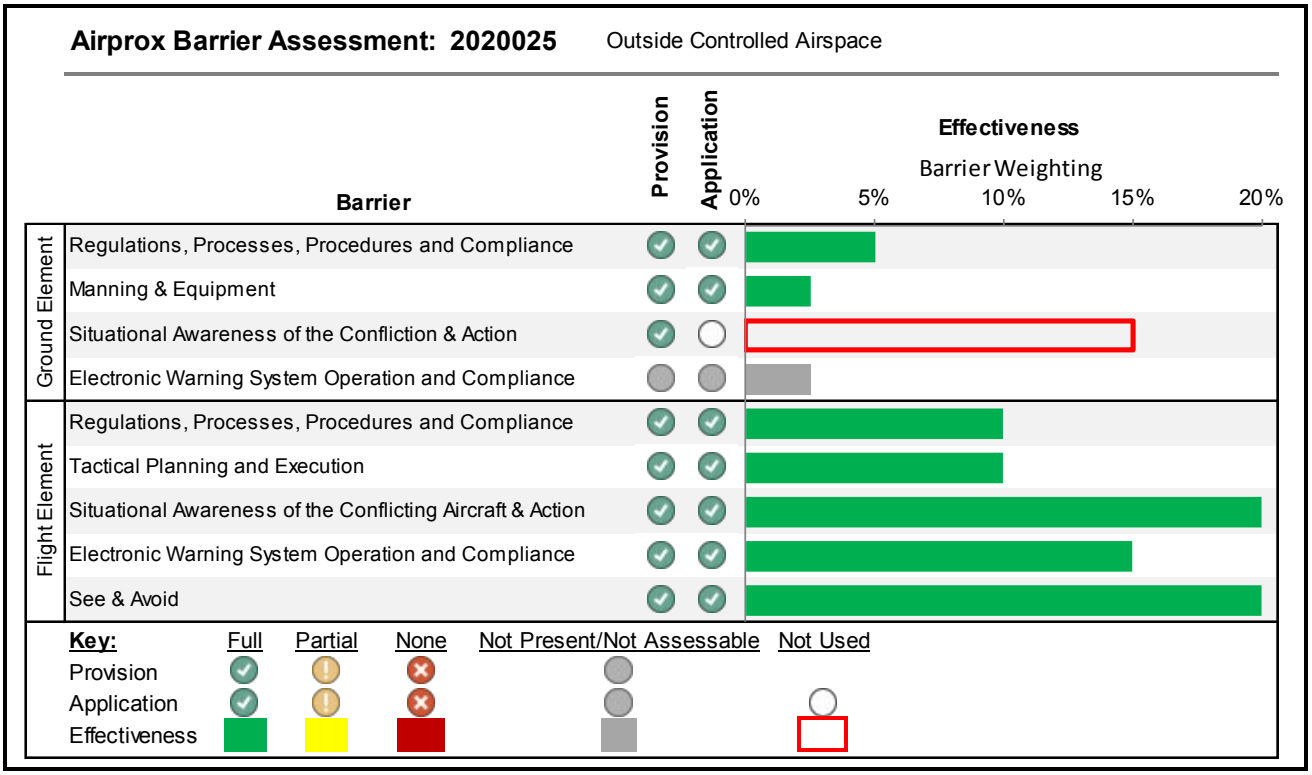
Contributory Factors:

	2020025		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• ANS Flight Information Provision	Not required to monitor the aircraft under the agreed service
	Flight Elements		
	• Electronic Warning System Operation and Compliance		
2	Contextual	• ACAS/TCAS TA	
	• See and Avoid		
3	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

Safety Barrier Assessment[2]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that all the barriers had been effective.



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