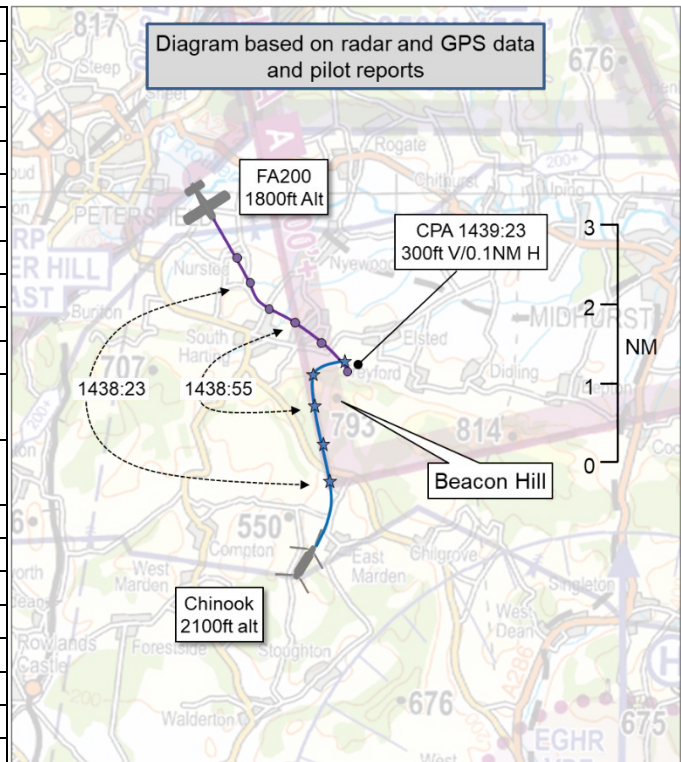


AIRPROX REPORT No 2023234

Date: 03 Oct 2023 Time: 1439Z Position: 5057N 00051W Location: 7NM northwest Goodwood

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Chinook	FA200
Operator	HQ JHC	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Odiham Approach	NA
Altitude/FL	2100ft	1800ft
Transponder	A, C, S	None
Reported		
Colours	Camouflage Green	Blue and white
Lighting	Strobes, navigation, landing	None
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	NK
Altimeter	QNH (1021hPa)	QNH (1021hPa)
Heading	Turning right	NK
Speed	70kt	NK
ACAS/TAS	TAS	SkyEcho
Alert	None	None
Separation at CPA		
Reported	100-200ft V/0m H	NR
Recorded	300ft V/0.1NM H	



THE CHINOOK PILOT reports that their aircraft had been set up for an 80kt/2000ft mutual support profile using Beacon Hill as the simulated landing site. The aircraft had been in a gentle right turn when the RH seat pilot saw an aircraft through the chin window approximately 100ft-200ft below. No avoiding action had been necessary. TAS had no indications. Odiham approach had no radar returns.

The pilot perceived the severity of the incident as 'Medium'.

THE FA200 PILOT reports that this had been a maintenance ferry-flight from [departure airfield] to their engineering base at [destination airfield]. The alternator had not been producing a charge so the flight had been completed using the battery power only. Enroute the pilot switched all electrical loads off to conserve battery power for the arrival. The electronic conspicuity equipment had been switched on using its internal battery. The pilot did not recall having received any traffic warnings on their SkyDemon display.

The pilot later added that, as previously reported, they had been solo flying to [...] for maintenance, to replace a failed alternator. For the enroute part of the flight, the master switch had been off and so they had been non-radio, with no transponder and no beacon lighting. An [EC device] had been on, utilising its internal battery power.

At about 1438, whilst heading 150° and with 10NM to run to Goodwood, the pilot spotted traffic as a black dot against the sky just above the horizon and at a relative bearing of about 045° and at a range of 2-3NM. As it stayed at a constant bearing the pilot turned 10-15° left to change the angle. Having done this the target had also turned, slightly to the right, which meant it had still been on a constant [bearing]. As it had been closer, the pilot could identify it as a Chinook and at this point had assumed the crew had seen them. The pilot kept the Chinook visible at all times as it eventually passed overhead,

slightly behind, and thought that it had been commencing a right turn. The FA200 pilot had not regarded the Chinook as a collision threat as they had been convinced that the crew had seen them.

The FA200 pilot notes that they have learnt a lesson from this, NEVER ASSUME the other traffic has you in sight, no matter what aircraft it is. With hindsight it would have been prudent to have descended to increase the vertical separation as the Chinook passed overhead.

THE ODIHAM APPROACH CONTROLLER reports that they had been the Approach controller at the time. At approximately 1435 [they recall] they had been asked for Traffic Information by the Chinook pilot on a small fixed-wing aircraft tracking south near their location. There had been nothing showing on radar, this information had been passed to the pilot. The Chinook pilot had then notified that they had experienced an Airprox and to expect a DASOR on their return to unit.

The controller perceived the severity of the incident as 'Low'.

THE ODIHAM SUPERVISOR reports that at the time of the report they had been away from the ACR. On returning, they had been notified of the report and had taken actions to ensure all information had been captured by controllers immediately.

Factual Background

The weather at Odiham was recorded as follows:

METAR EGVO 031420Z 25016KT 9999 FEW035 17/09 Q1021 NOSIG RMK BLU BLU=

Analysis and Investigation

Military ATM

An Airprox occurred on 3rd Oct 2023 at approximately 1430, in the vicinity of Beacon Hill. The Chinook had been conducting a currency flight in VFR conditions using Beacon Hill as a simulated landing site and in receipt of a Basic Service from Odiham Approach. The FA200 had been conducting a maintenance ferry flight in VFR conditions from [departure airfield] to [destination airfield] and had not been in receipt of an Air Traffic Service.

Utilising occurrence reports and information from the local investigation, outlined below are the key events that preceded the Airprox. Whilst the NATS radar recordings have been able to identify the FA200 through use of alternate radar heads, the Airprox occurred at a range of approximately 17NM from the Odiham radar head and therefore when considering the altitude of both aircraft they were at the extremes of the theoretical base of radar coverage. This makes the display of the Chinook but non-display of the FA200 to the Odiham Approach controller an expected scenario given the FA200's lower altitude.

The FA200's alternator had not been producing a charge and therefore the pilot had elected to switch off all electrical loads to conserve battery power. This had resulted in the fitted transponder also being turned off, whilst a SkyEcho was switched on using internal battery.

At 1439:29, the Chinook pilot had contacted the Odiham Approach controller and had requested Traffic Information regarding the FA200, "*Established now, two thousand feet, one zero two one, squawking three six four six. Request information on traffic, light aircraft, now southbound at eighteen hundred feet*". The Odiham Approach controller acknowledged the Chinook pilot and reported that nothing had been observable on radar. The Chinook pilot reported the Airprox and elected to continue with the training sortie.

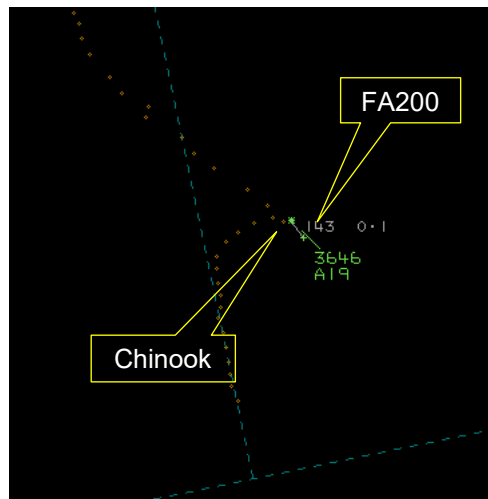
Local BM Investigation(s)

As a result of the FA200 not being displayed on radar to the Odiham Approach controller, there was no evidence to support a local investigation.

2 Gp BM Analysis

The range of the Airprox from the Odiham radar makes the non-display of the FA200 an expected scenario. Through the FA200 being at the extremes of the theoretical base of radar coverage it is entirely plausible that it had been intermittently displayed however not to a level that would allow effective track assessment by the Odiham Approach controller. Had the FA200 been utilising their transponder, the detection likeliness significantly increases. Overall, the Odiham Approach controller fulfilled the Basic Service responsibilities correctly with the radar picture with which they were presented.

UKAB Secretariat



The Chinook and FA200 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

JAC

Another Airprox involving a Chinook aircraft which shows the benefit of a good lookout, especially considering that the conflicting aircraft was not displaying on radar, therefore rendering the type of Air Traffic Service irrelevant. The TAS fitted on Chinooks only works against transpondering aircraft and doesn't give pilot advisory information. With the FA200 pilot having turned off their [transponder] to save battery [power], there had been no prior warning of this confliction. It has been passed back to Odiham that when operating near light FW airfields (Goodwood, Popham etc) pilots are to assume that traffic will not be transpondering and therefore lookout is the only barrier.

AOPA

In this instance, due to electrical issues, electronic conspicuity systems were possibly ineffective, air traffic services were also ineffective due to the lack of services requested by the pilot, resulting in the prime mid-air collision avoidance tool being effective lookout before turning.

Summary

An Airprox was reported when a Chinook and an FA200 flew into proximity 7NM northwest of Goodwood at 1439Z on Tuesday 3rd October 2023. Both pilots were operating under VFR in VMC, the Chinook pilot in receipt of a Basic Service from Odiham and the FA200 pilot not in receipt of a FIS.

¹ (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

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 considered the actions of the Chinook pilot, noting that they had been in receipt of a Basic Service from Odiham and that the terrain, operating altitude and range from the provider would have limited the picture for the controller. The Board noted that the FA200 had been operating without transponder or radio, and therefore effectively invisible to the provider, and consequently agreed that the provision of useful information in this case would have been heavily constrained. The Chinook pilot described having approached their operating site from the south, circling around the peak to the north and visually acquiring the FA200 only from above through their chin window as it progressed south (**CF5**). Given the timing of the visual acquisition of the FA200, members opined that there had been little more that the Chinook pilot could have done.

In reviewing the actions of the FA200 pilot, members accepted that at times aircraft need to be moved for specific engineering tasks and that, in this case, the pilot had aimed to utilise their limited battery power for departure and recovery, had elected to fly in good weather conditions, had carried a portable electronic conspicuity device to alert others in the area and had carried a moving map display to raise their own situational awareness of other users noting that it had been unfortunate that in this case there had been no interaction between the system they had been using and that fitted to the Chinook (**CF3**). Members recognised that in this case there had been no situational awareness available to either pilot (**CF2**). The FA200 pilot reported having seen the Chinook and visually tracked it as the 2 aircraft closed, maintaining good visual contact throughout, assuming the Chinook pilot had seen them, and consequently had flown close enough to cause concern to the Chinook pilot (**CF4**).

Members went on to review the actions of the Odiham controller, noting the service offered and constraints previously discussed in this case, adding that under a Basic Service there is no requirement for the controller to monitor the flight (**CF1**) and accepted that there had been nothing more that they could have offered.

When determining the risk, the Board considered the reports from both pilots together with that of the Odiham Approach controller. They noted that, although the Chinook pilot had been operating in good VMC with a Basic Service in support, as the FA200 had limited electronics, the main barrier in place had been See-and-Avoid. The respective approach profiles of the Chinook and FA200 had effectively sky-lined the Chinook to the FA200 pilot who had acquired and tracked the Chinook minimising the risk. Accordingly, the Board accepted that although safety had been degraded, there had been no risk of collision; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023234			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
2	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
• Electronic Warning System Operation and Compliance				

3	Technical	<ul style="list-style-type: none"> ACAS/TCAS System Failure 	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
<ul style="list-style-type: none"> See and Avoid 				
4	Human Factors	<ul style="list-style-type: none"> Incorrect Action Selection 	Events involving flight crew performing or choosing the wrong course of action	Pilot flew close enough to cause concern
5	Human Factors	<ul style="list-style-type: none"> 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

Degree of Risk: C.

Safety Barrier Assessment²

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

Ground Elements:

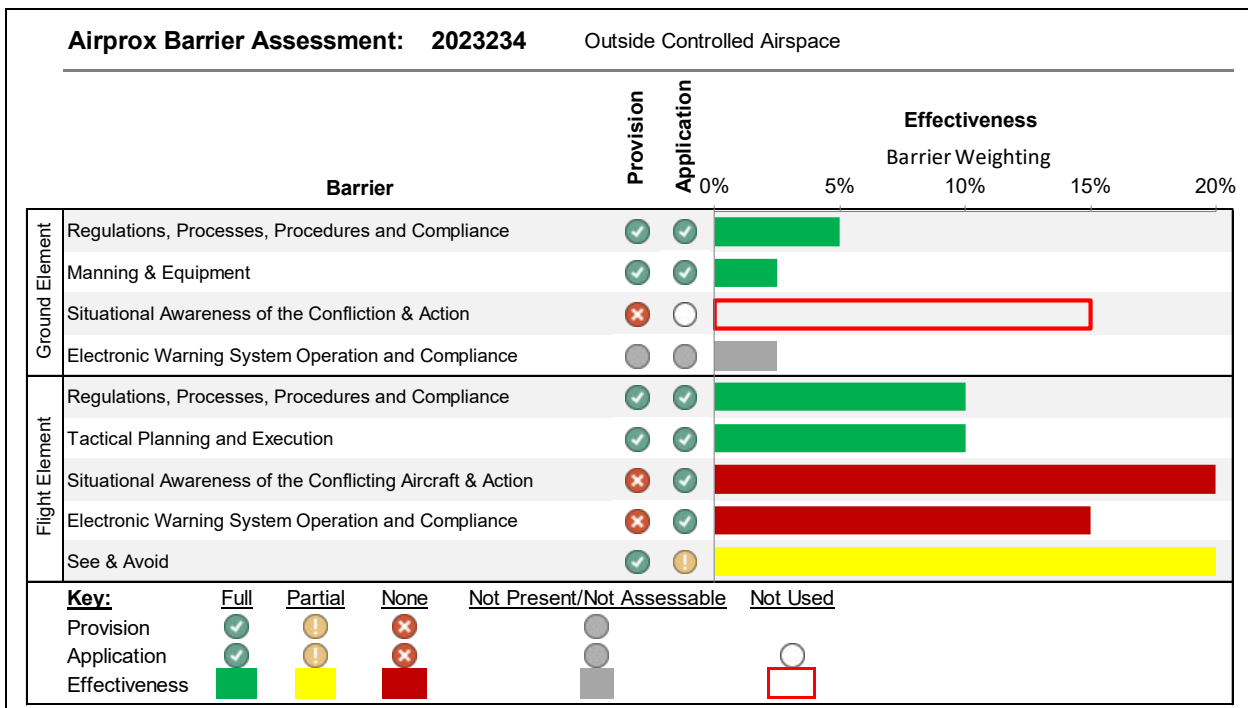
Situational Awareness of the Confliction and Action were assessed as **not used** because there is no requirement for the Odiham controller to monitor the flight under a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any situational awareness of the presence of the other aircraft

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the conspicuity equipment carried by both aircraft was incompatible with that carried by the other.

See and Avoid were assessed as **partially effective** because the Chinook pilot had achieved only a very late sighting of the FA200, and the FA200 pilot, having visually acquired the Chinook, had flown close enough to cause concern to the Chinook pilot.



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