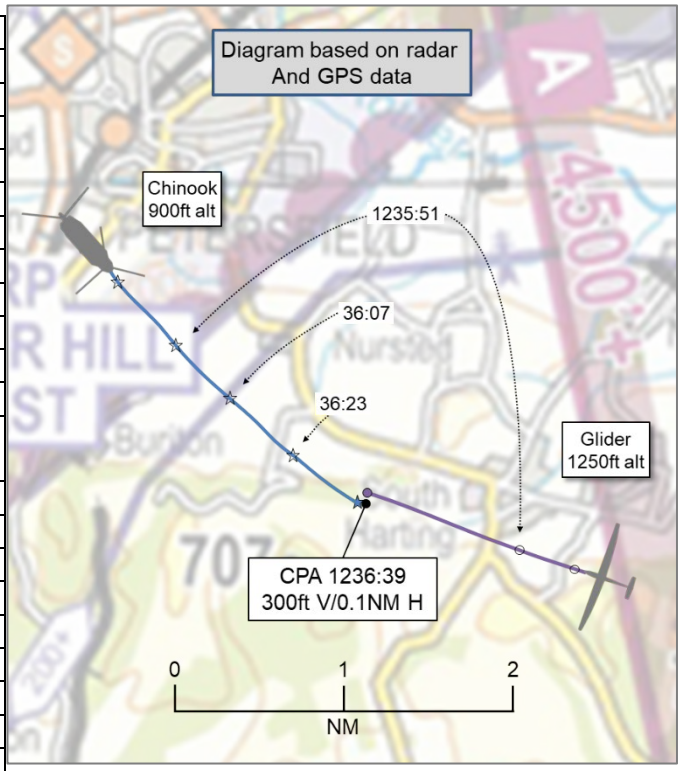
## AIRPROX REPORT No 2021233

Date: 22 Nov 2021 Time: 1237Z Position: 5058N 00054W Location: 2.5NM SSE Petersfield

## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|---|---|---|
| Aircraft | Chinook | HPH Shark |
| Operator | HQ JHC | Civ Gld |
| Airspace | London FIR | London FIR |
| Class | G | G |
| Rules | VFR | VFR |
| Service | Basic | Listening out |
| Provider | Odiham Approach | CGFF[1] |
| Altitude/FL | 900ft | 1200ft |
| Transponder | A, C, S | Off |
| **Reported** | | |
| Colours | Green | White |
| Lighting | Nav, HISL, Landing | None |
| Conditions | VMC | VMC |
| Visibility | >10km | >10km |
| Altitude/FL | 700ft | NK |
| Altimeter | QNH (1031hPa) | QFE (NK hPa) |
| Heading | 140° | NK |
| Speed | NR | 60-80kt |
| ACAS/TAS | TAS | FLARM |
| Alert | None | Information[2] |
| **Separation at CPA** | | |
| Reported | 0ft V/200m H | NR V/NR H |
| Recorded | 300ft V/0.1NM H | |




**THE CHINOOK PILOT** reports that during a low level transit to Tower Hill on the South Downs, their crew had just identified the target on top of the ridge line which was about to be recce'd prior to flying a fast rope assault profile. Shortly after the target had been identified, the handling pilot (RHS) made a threat call for a no-factor aircraft in the 12 o'clock high position at about 5NM. Immediately after identifying this aircraft, and on starting to look back down toward the target, they (non-handling pilot LHS) noticed the profile of an un-powered glider at the same level in the 11 o'clock. It was pointing directly towards them and was in a very slight right-hand bank at a distance of around 300m. Their immediate assessment was that both aircraft would have become too close to maintain safe separation without intervention and they simultaneously called for the handling pilot to "come right descend", making the control movements required themself before formally taking control. The glider passed down the left-hand side of their aircraft, slightly above, with about 200m separation, seemingly flying in a WNW direction following the ridge line. It did not appear that the glider pilot had taken any avoiding action. On reflection, they believe that had no action been taken, both aircraft would have very narrowly avoided a collision however, their wake turbulence would likely have caused the glider pilot some issues. An Airprox was reported to the RAF Odiham Approach controller shortly after the event. They noticed that their heart rate increased during the event and then returned to normal after the RT report. Having confirmed that the crew felt fit to continue the sortie, they continued to operate in the vicinity of the South Downs between Tower Hill and Arundel for the next 15min. They noted approximately 15-20 gliders transiting along the ridge line at heights varying from about 1000ft agl to just above the top of the ridge[3]. With Odiham Approach operating without a serviceable Watchman, they elected to inform

[1] Common glider field frequency.
[2] The Chinook was not equipped with compatible EC and so it is likely that the information alert would have been generated by other aircraft in the area.
[3] UK CAA ORS4 1496 paragraph 9 permits a glider conducting day VFR flight to be flown below 500ft in certain circumstances

ATC of the intense glider activity in the area. After recovery to RAF Odiham without further incident, they discussed the event with the Duty Authoriser. They noted that although they had discussed the risk of MAC and associated mitigations in the brief and out-brief, neither of them had checked Glider-Net prior to walking out. Although this will have only indicated the gliders airborne at the time, this may have provided an idea for how busy the area could have been. Shortly after landing, Glider-Net showed a significant number of gliders transiting along the ridge line of the South Downs.

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

**THE GLIDER PILOT** reports on the day in question they were flying along the South Downs using the ridge for lift as it was a northerly wind. There were 37 other glider pilots flying the ridge that day, most of whom were using the same route, from Lewes to Petersfield. They did see a Chinook helicopter manoeuvring to the north of them approximately 1NM plus away. Had it been closer they [opine that they] would surely have heard it and had they done so then they would have reported it on the radio to alert other glider pilots.

**THE ODIHAM APPROACH CONTROLLER** reports that the Watchman had failed earlier in the day and they were therefore operating SSR alone on Radar when, at 1238, a [Chinook pilot] reported that they had just had an Airprox. The pilot informed them that they were flying west-to-east and saw a glider travelling east-to-west, in their 11 o'clock. The pilot reported taking avoiding action by breaking right and commencing a descent. The pilot passed the grid location which, after putting that through a conversion website, tallied with the latitude and longitude that they had noted for the Airprox. The minimum separation from the glider was reported [by the pilot] as being 700ft vertically and 200m laterally. They were unable to identify any confliction as the aircraft was low level, and the conflicting aircraft was not transponding.

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

## Factual Background

The weather at RAF Odiham was recorded as follows:

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METAR EGVO 221250Z 02014KT 9999 FEW024 09/03 Q1030 NOSIG RMK BLU BLU
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## Analysis and Investigation

### Military ATM

The Odiham Approach controller was operating SSR alone following a PSR failure earlier in the day. The Chinook pilot informed ATC of the Airprox on the frequency however the controller was unable to see the confliction due to operating SSR alone.

Figure 1 shows the positions of the Chinook and the primary contact believed to be the glider during the Airprox. The screenshot is taken from a replay using the NATS radars which are not utilised by the Odiham controller, therefore, may not be entirely representative of the picture available to the controller.

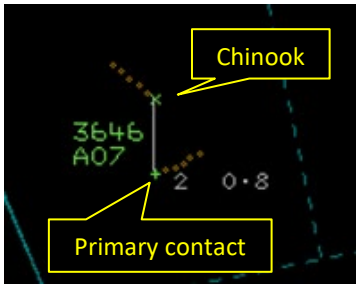



Figure 1 - CPA.

This was the closest point at which a primary contact believed to be the glider came to the Chinook, although the glider had already passed ahead of the Chinook. Separation was measured at 0.8NM with an unknown height.

The Approach controller was limited by the unserviceable surveillance equipment which resulted in the controller not being able to see the confliction to enable Traffic Information to be passed. It is not known whether the controller was aware of gliding activity in the area from NOTAMs or glider site notification although, even with this knowledge, any Traffic Information that could have been passed would have been limited as the glider was not transponding and the Chinook was operating at low level.

**Occurrence Investigation**

**Chinook operating organisation Investigation**

The investigation found that the Chinook crew flew in close proximity to an area of intense gliding activity. At the point of the Airprox, avoiding action was taken to increase separation then further operation in vicinity of the gliders was terminated.

Conditions were good for intense gliding activity in the area, this should have prompted discussion on Glider-Net during sortie brief and out-brief however, the crew failed to check Glider-Net or other sources in their out-brief. Once they became airborne there was no common conspicuity between the Chinook and glider traffic as the aircraft isn't fitted with [compatible EC equipment] and gliders are generally not fitted with transponders so will not show on TAS. Having spoken with the crew, they state that this was an oversight on this occasion. A wider review of MAC has been undertaken and a review of conspicuity mitigation measures against light aircraft and gliders has been requested.

**RAF Odiham Investigation**

The RAF Odiham investigation led to the following findings and recommendations:

- ATC was unable to pass Traffic Information on glider traffic due to the primary radar being unserviceable.
- The ATC Supervisor was occupied dealing with complaints from locals. The controller had minimal information for the intentions of the Chinook pilot. RAF Odiham does not have a Station-Ops and therefore ATC often shares this workload with the Duty Ops Controller.
- ATC liaison officers should be appointed to improve communications between each squadron and ATC.

## Comments

**JHC**

This Airprox highlights the increased MAC risk when operating in areas of high traffic density, particularly when the traffic intensity is due to gliders which are not mandated to be transponder equipped. A key observation is the acknowledgement of the omission of a Glider-Net check prior to the sortie. This might have alerted the crews to be more aware (even though they did spot the conflicting traffic) and ask for an upgrade of Basic Service to Traffic Service or to contact another LARS agency which could have called the traffic if it had been displayed on primary radar. The issue of unserviceable Watchman radar has been ongoing at Odiham for a protracted period now. The ATM DASOR does not mention whether Odiham ATC was aware of the glider traffic or if they reminded the crews of operating SSR alone. This might have prompted calling another agency.

Given all of the above, the only barrier which really prevented any further incident was good lookout.

**BGA**

We appreciate the thoughtful reports from the Chinook crew and Military ATM, and their awareness of the public data sources available to improve their Situational Awareness on gliding activities.

As they are clearly aware, the South Downs can become busy with low-level glider traffic in suitable weather conditions (wind >10kts from 340° round to 040°), and it is unfortunate that on this occasion this aspect of the out-brief was missed.

Mutually compatible EC equipment in the Chinook and glider would have improved everyone's SA.

**UKAB Secretariat**

An analysis of the NATS radar replay was undertaken on which the routing and the altitude of the Chinook only could be seen, the glider was not detected by the NATS radars; however, a GPS data log file for the flight was available and has been used and combined with the radar data to produce the diagram above and determine the CPA. It should be noted that the aircraft positions have been determined using different data sources.

The Chinook and Glider pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[4] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[5]

## Summary

An Airprox was reported when a Chinook and an HPH Shark flew into proximity 2.5NM SSE of Petersfield at 1237Z on Monday 22nd November 2021. Both pilots were operating under VFR in VMC, the Chinook pilot in receipt of a Basic Service from Odiham Approach and the glider pilot was not in receipt of an ATS.

## PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data, 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 and members had been encouraged by the fullness of the pilot's report, which had detailed that the usual check of Glider-Net pre-flight had not taken place (**CF3**) which, members agreed, along with the pilot not having been in receipt of a surveillance based air-traffic service, had contributed towards them not having any situational awareness regarding the presence of the glider (**CF5**). A Military member stated that, had the Chinook pilot had some situational awareness of the presence of gliders, then they may have elected to operate differently or elsewhere. A glider pilot member commented that this particular area can be busy when certain weather conditions prevail with not only gliders but also aircraft such as para-gliders and hang-gliders. Members noted that the Chinook had been equipped with a TAS system which had been unable to detect the glider as, although the glider had been equipped with a transponder, this had been turned off (**CF6**).

The Board next discussed the actions of the Glider pilot and agreed that they had had no awareness of the presence of the Chinook (**CF5**) and had not become visual with it (**CF7**). Members discussed whether the glider pilot may have heard the Chinook, however were satisfied that on this occasion, the glider pilot had not done so. The Board also considered the EC equipment that had been carried by the glider pilot and agreed that, although it had alerted the pilot to other aircraft in the vicinity, it had not been compatible with the EC equipment carried on the Chinook (**CF6**) and so no alert had been issued

[4] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[5] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

in relation to it. Members stated that it had been unfortunate that the glider pilot had had their transponder selected to off (**CF4**) however recognised that there is no requirement for a glider pilot to switch it to on. A BGA member stated that their advice is that, if a serviceable transponder is being carried by a glider pilot, it should be selected to on.

Board members then discussed the role of air-traffic in this event and a Military member stated that there had been issues regarding the serviceability of the Watchman secondary-surveillance radar at Odiham, which had failed at the time of this event (**CF1**) and, that that had resulted in the Odiham Approach controller being unable to see any of the glider traffic on the ridge. It has not been established whether the provision of a Basic Service to the Chinook pilot was as a result of the Watchman failure or whether it had been at the request of the pilot, however under a Basic Service the controller is not required to monitor the flight (**CF2**). Members noted that the section of airspace in which the event had happened is used by a number of different types of operator and that their actions within it are varied. A discussion followed regarding the level of communication that takes place between the airspace operators and users. It was stated that a Regional Airspace Users Group (RAUG) could facilitate better liaison between users however, as no such group exists in the area, the BGA members committed to communicate with glider sites in the area to encourage better interoperability and communication with other airspace users and service providers.

Finally, the Board considered the risk involved in this Airprox. Members noted that the pilots of both of the aircraft had had no prior awareness of the presence of the other and that, although both aircraft had been carrying EC equipment, this had been unable to detect the other aircraft. A Military member stated that this event highlights the MAC risk that exists in such areas however, the Chinook pilot had become visual with the glider in time to enable effective avoiding action to have been taken 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:

| | 2021233 | | | |
|---|---|---|---|---|
| CF | **Factor** | **Description** | **ECCAIRS Amplification** | **UKAB Amplification** |
| | **Ground Elements** | | | |
| | **• Manning and Equipment** | | | |
| 1 | Technical | • Radar Coverage | Radar Coverage | Non-functional or unavailable |
| | **• Situational Awareness and Action** | | | |
| 2 | 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** | | | |
| | **• Tactical Planning and Execution** | | | |
| 3 | Human Factors | • Pre-flight briefing and flight preparation | An event involving incorrect, poor or insufficient pre-flight briefing | |
| 4 | Human Factors | • Transponder Selection and Usage | An event involving the selection and usage of transponders | |
| | **• Situational Awareness of the Conflicting Aircraft and Action** | | | |
| 5 | Contextual | • Situational Awareness and Sensory Events | Events involving a flight crew's awareness and perception of situations | Pilot had no, late or only generic, Situational Awareness |
| | **• Electronic Warning System Operation and Compliance** | | | |
| 6 | Technical | • 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 |
| | **• See and Avoid** | | | |
| 7 | 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 |

Degree of Risk: C

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:

**Ground Elements:**

**Manning and Equipment** were assessed as **partially effective** because the Primary radar at RAF Odiham had failed resulting in the ATCO being unable to fully employ their equipment.

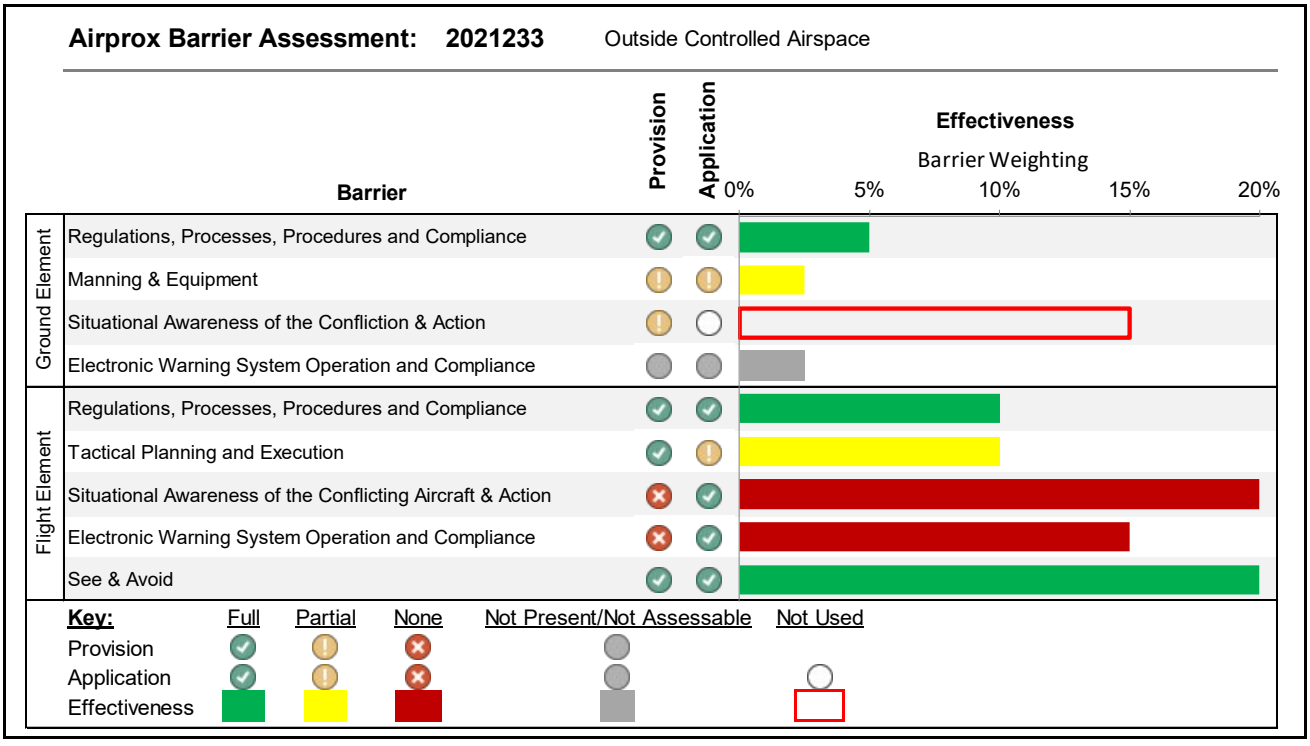
**Situational Awareness of the Confliction and Action** were assessed as **not used** because under a Basic Service, the controller is not required to monitor the flight.

**Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because the Chinook crew had not checked their usual additional information sources pre-flight which can indicate potential traffic levels and that, although the glider was equipped with a transponder, this had been selected off.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the Chinook pilot had not been aware of the presence of the glider before they had become visual with it, and, the glider pilot did not see the Chinook at the time of the Airprox.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the equipment that had been carried and employed by both the Chinook pilot and the glider pilot had been incompatible.




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