AIRPROX REPORT No 2014199

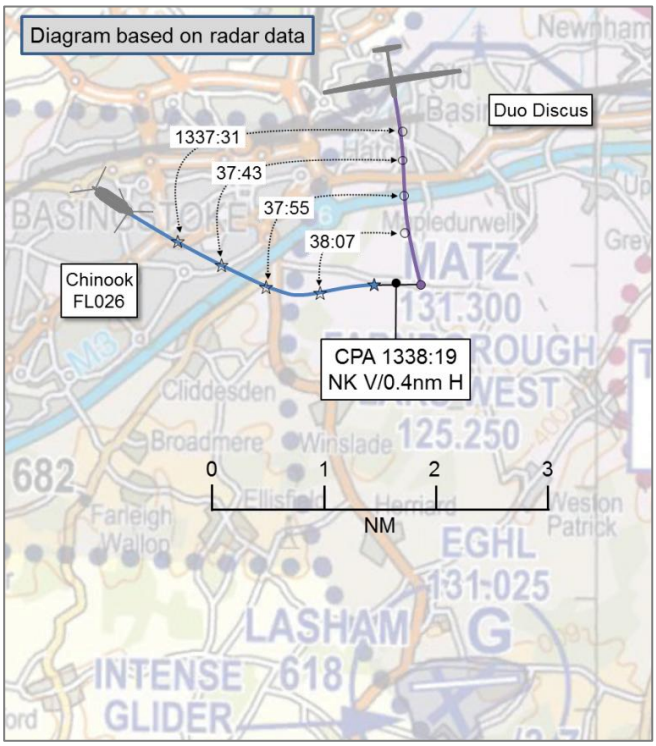
Date/Time: 7 Oct 2014 1338Z

Position: 5115N 00103W (2nm ESE Basingstoke)

Airspace: London FIR (*Class*: G)
Odiham MATZ

	Aircraft 1	*Aircraft 2*
Type:	Chinook	Duo Discus
Operator:	HQ Air (Ops)	Civ Pte
Alt/FL:	2000ft QFE (983hPa)	3000ft QNH (NK hPa)
Conditions:	VMC	VMC
Visibility:	30km	>50km
Reported Separation:	50ft V/150ft H	500ft V/150m H

Recorded Separation: NK V/0.4nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE CHINOOK PILOT reports conducting a radar to ILS recovery to Odiham. The green camouflaged aircraft had upper and lower white HISLs, flashing position and white landing lights selected on, as was the SSR transponder with Modes A, C and S. The aircraft was not fitted with an ACAS or TAS. The pilot was operating under IFR in VMC, in receipt of a reduced Traffic Service from Odiham Approach. Heading 130°, at 120kt, in straight-and-level cruise, at height 2000ft, he received Traffic Information, '10 o'clock, 5 miles, left to right, no height information'. A second Traffic Information call was received, '11 o'clock 3 miles, left right, no height, possibly Lasham traffic' and he was instructed to turn left onto heading 090° in order to pass behind the traffic. At this time the Chinook was about 3nm west of Odiham. Shortly after the turn, the PF, in the right-hand seat, briefly saw an aircraft in the correct direction and called 'visual'. However, this call was made on what transpired to be a third aircraft that was further away and of no immediate confliction. The pilot was instructed to descend to 1600ft on the Odiham QFE. As the PF began the descent, the left-hand seat pilot and one of the crewman became visual with a white coloured 'light aircraft'; the crewman instructed the PF to stop the descent. The other aircraft was on a constant bearing, 50-100ft below, and converging from the left on a perpendicular heading. The PF became visual with the confliction shortly afterwards and initiated an avoiding turn to the left to go behind the glider.

He assessed the risk of collision as 'High'.

THE DUO DISCUS PILOT reports recovering to Lasham. The white glider was not fitted with external lighting but was fitted with a radio, an SSR transponder and a FLARM TAS. The transponder was selected off. The pilots were operating under VFR in VMC, listening out on the 'Lasham Gliders' frequency, and not in receipt of an Air Traffic Service. The rear seat pilot pointed out a Chinook 'manoeuvering miles away to the west', to the south of Newbury. A heavy shower developed, that was heading for Lasham, and made necessary an immediate return to the airfield, so the PF set course south for Lasham, descending rapidly at about 80kt. They noticed that the Chinook appeared to have taken up an easterly heading and, as they passed ahead and 'comfortably below', they looked back and noticed it suddenly start a climbing turn to the left. Both pilots remarked that this looked like the reaction of someone who had suddenly spotted them. The PM remarked that he would not be surprised if the Chinook pilot filed an Airprox; the PF was sceptical due to the significant vertical and horizontal separation; both opined that filing an Airprox was unnecessary.

He assessed the risk of collision as 'None'.

THE ODIHAM APPROACH CONTROLLER reports the Chinook pilot called for a radar pickup at Odiham for an ILS. He was identified and given a reduced Traffic Service. When transiting 1nm south of Basingstoke Hospital, a contact was called to him in the left 10 o'clock, range 5 miles, crossing left-right with no height information. The pilot called not visual. The traffic was then called again as left 11 o'clock, 3 miles, crossing left-right, no height information, possibly a glider from Lasham. The Chinook was just to the south east of Basingstoke Hospital by 1nm and was still not visual. A suggested turn of left 080° from the original 130° heading was given to pass behind the traffic. The traffic was then called again at 2nm and the pilot called visual. This was 2nm east-southeast of Basingstoke hospital.

He perceived the severity of the incident as 'Low'.

THE ODIHAM SUPERVISOR reports a medium to low workload with the Approach and Director positions bandboxed[1] at the time of the Airprox. The controller was being screened as he was training in Approach; however, he did hold a Director endorsement. The Chinook pilot was under a Traffic Service and the conflicting traffic, a primary contact, was called several times to him. The pilot then called visual. Believing that the Chinook pilot was visual with the 'conflictor', and having no information about its height, the controller gave the pilot a descent instruction in order to reach the correct height to carry out the instrument approach. The Supervisor received a call from the pilot about 2hr later, after he had landed, to say that they would be filling an Airprox, and that they had called visual with traffic which was not the conflicting traffic that the controller had been calling. The pilot stated that they did not become visual with the conflictor until after the descent instruction had been issued. There were no other aircraft showing in the immediate vicinity on the radar screen at the time; however, suppression was in use on the Watchman Radar display, and the radar service had been limited accordingly.

Factual Background

The weather at RAF Odiham was recorded as follows:

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METAR EGVO 201250Z 10006KT 9999 FEW040 12/M04 Q1032 BLU
METAR EGVO 201350Z 08005KT 9999 FEW045 13/M05 Q1031 BLU
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Analysis and Investigation

Military ATM

The Airprox took place between a Chinook under a Traffic Service with Odiham Approach, and a Duo Discus glider, listening out on the 'Lasham Gliders' frequency. The Odiham trainee Approach Controller was bandboxing Approach and Director at the time and workload and task difficulty were described as 'low'. The controller was Director-endorsed and had identified the Chinook for an ILS. The glider was called at 5nm and then at 3nm, possibly as a Lasham glider. A turn left was suggested to allow the Chinook to pass behind, and an update was passed at 2nm; the pilot called visual. The controller had two aircraft on frequency and classed the incident as 'low' severity. The Supervisor explained that traffic had been called to the Chinook on several occasions and, once the pilot had reported visual, the controller had descended the aircraft to be at the correct height for the ILS. No other aircraft were showing on radar in the vicinity; radar Suppression had been chosen on the Primary Radar and the Traffic Service had been limited accordingly. At 1334:26, Approach had limited the Traffic Service to the Chinook as, "*Traffic Service reduced all around due to limited surveillance performance*". At 1335:47, Approach called a Squirrel helicopter with which the Chinook pilot was visual and, at 1336:04, (Figure 1), further information was passed as, "*further traffic, left 10 o'clock, 5 miles, crossing left to right, slow moving, no height information*". The Chinook pilot responded with "*looking*".

[1] One controller undertaking both functions from a single console.

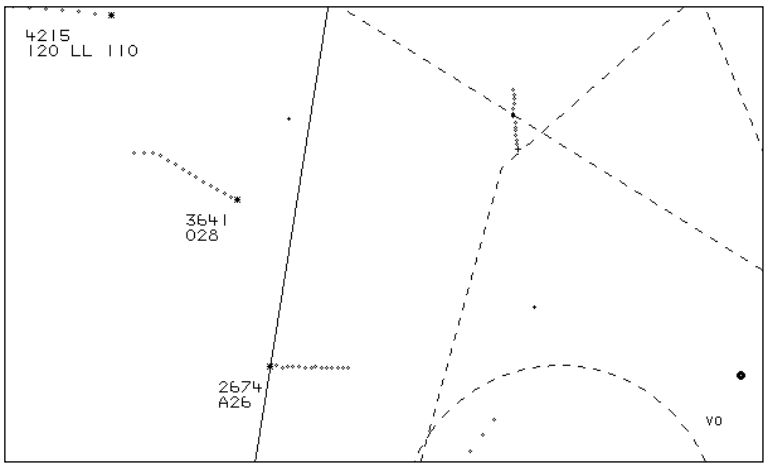

Figure 1: Traffic Information at 1335:47 (Chinook 3641; glider primary contact only)

At 1337:02, an update was provided as, "*previously reported traffic now left 11 o'clock, 3 miles, crossing left to right, slow moving, no height information*". At 1337:27, (Figure 2), a further update was provided, "*previously reported traffic is left, 11 o'clock, tow miles, crossing left to right, no height information. Possibly a glider in the Lasham circuit*". The Chinook pilot replied with "*still looking"*

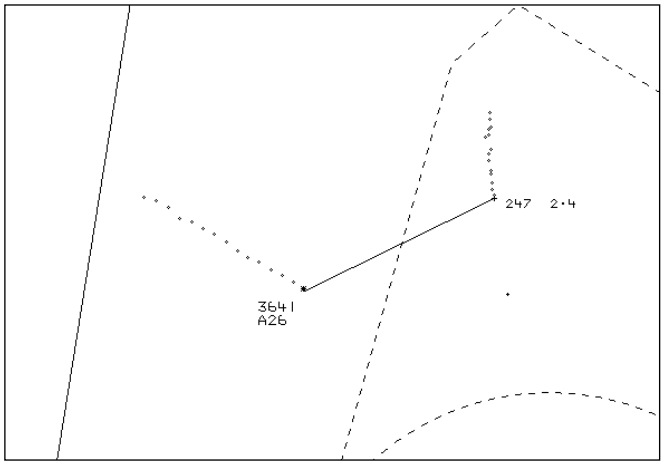

Figure 2: traffic Information at 1337:27

At 1337:37, Approach followed-up with, "*I can give you a slight turn to transit behind if you're happy?*" A left turn onto 080° was provided at 1337:44 (Figure 3).

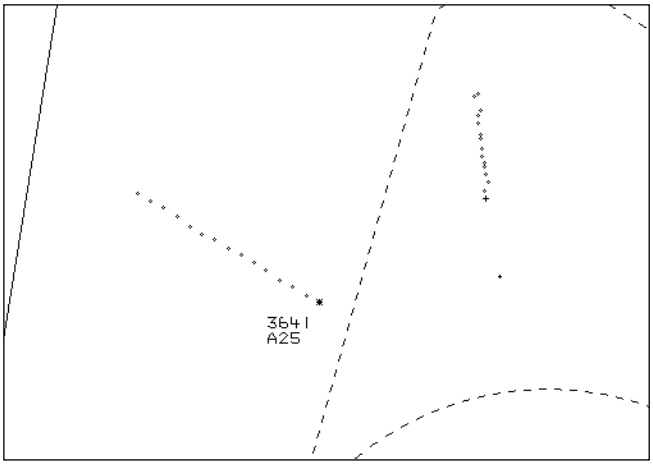

Figure 3: Vector provided at 1337:45

At 1337:58, Approach passed, "*previously reported traffic is north east, one mile, tracking south, slow moving, no height information*". At 1338:03, (Figure 4), the Chinook pilot reported visual with a glider, left to right at the same height.

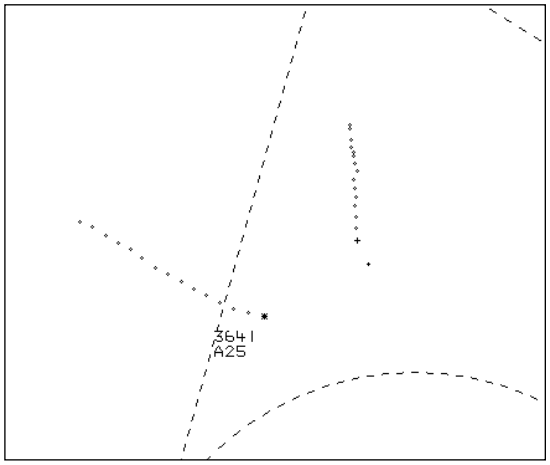

Figure 4: Chinook reported visual at 1338:03

At 1338:06, the Chinook pilot was instructed to maintain heading and descend to 1600ft. The pilot replied with, "*Caution wait*" at 1338:13 (Figure 5) and, at 1338:42, had confirmed clear of a glider inbound to Lasham.

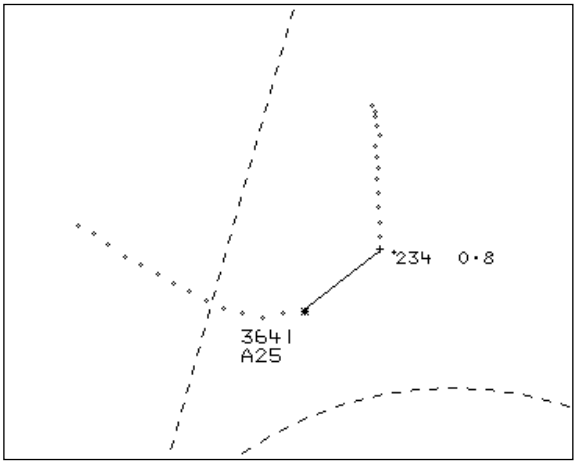

Figure 5: Geometry at 1338:13

The CPA was estimated on replay at 0.4nm horizontally with no height information available; Figure 6 (1338:24) demonstrates the Chinook pilot's left turn to avoid the glider.

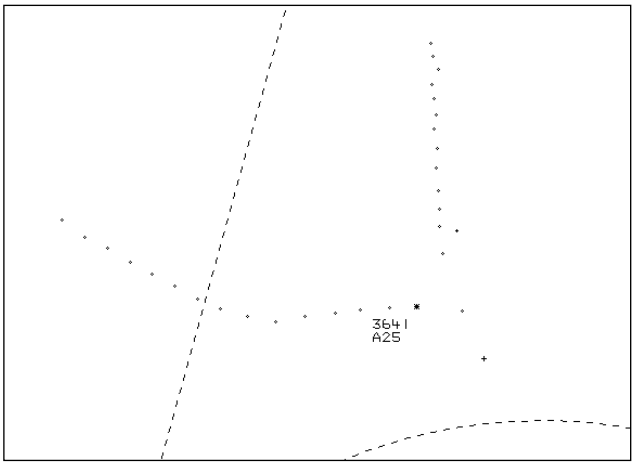

Figure 6: Geometry at 1338:24

The trainee Approach controller was conducting a Director task with a low workload and had demonstrated the provision of a Traffic Service, as per CAP774, in calling four sets of Traffic Information. The controller also offered a vector to keep the Chinook clear. The Traffic Service had been reduced from all around, and the controller was demonstrating duty of care through persistent information and the use of vectors to avoid an aircraft on a converging heading. The suppression of the radar picture was necessary to filter clutter from the radar picture. The Chinook pilot was under radar vectors for an Instrument Approach and was under an appropriate Air Traffic Service for the conditions. The crew had searched for the traffic and were aware of their collision responsibilities under a Traffic Service. The crew reported visual with an aircraft in the position called by ATC. However, a late sighting of an additional aircraft caused the crew to take an avoiding action left turn and climb. The glider pilots' were visual with the Chinook at a greater range and had maintained visual as they returned to Lasham.

The normal barriers to an incident in Class G airspace would be radar-derived information, ACAS/TAS and 'see and avoid'. The Chinook did not have an ACAS or TAS; the glider had FLARM selected on but the transponder was switched off; this was a degraded barrier. Traffic Information was regular and accurate; the return that the Chinook called visual with does not appear on radar replay and the controller would naturally consider the Chinook crew to be visual with the track that had been called on numerous occasions. 'See and avoid' was the key barrier to this incident. The glider pilots were visual with the Chinook at long range and were comfortable following the closing geometry and degree of separation at CPA. The glider may have been difficult to see as it was initially above the Chinook on a constant bearing and, having already seen an aircraft, the crew may have thought that they were visual with the track that was causing concern for ATC.

UKAB Secretariat

The Chinook and Duo Discus pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision[2]. If the incident geometry is considered as converging, then the Chinook pilot was required to give way to the Duo Discus[3]. It was apparent from the radar replay, e.g. Figure 6 of the Military ATM report, that there was considerable radar jitter at CPA. Consequently, the stated horizontal separation at CPA should be considered as having a high margin of error in this case.

Comments

JHC

The JHC crew were operating under a Traffic Service, and using a transponder. Although not required to do so, it is surprising that a glider fitted with a transponder would decide not to utilise such a barrier in what is busy airspace. JHC Chinook aircraft are currently undergoing the embodiment of a TAS, an addition which, should other aircraft be transponding, will provide an additional barrier in the future.

Summary

An Airprox was reported when a Chinook and a Duo Discus flew into proximity at 1338 on Tuesday 7th October 2014. Both pilots were operating in VMC, the Chinook pilot under IFR in receipt of a limited Traffic Service from Odiham Approach and the Duo Discus pilot not in receipt of an Air Traffic Service.

[2] Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).
[3] ibid., Rule 9 (Converging).

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first considered the controller's actions and commended him for his proactive approach with multiple calls of Traffic Information and the offer of a deconfliction vector. Some members wondered whether the Odiham Approach controller should have given the left turn that he did since it appeared to have reduced separation at CPA; however, the Board noted that the radar replay shown in this report was from NATS area radar, and was not the same as that being viewed by the Approach controller at the time and so it would be wrong to pass comment on the controllers actions in this way. In the event, the Chinook passed behind the glider and so the Board determined that the controller had acted on the best information available to him at the time.

Turning to the pilots' actions, the glider pilots had seen the Chinook at range and maintained awareness of its position relative to them as they returned to Lasham due to the deteriorating weather. Unusually, the glider was fitted with an SSR transponder. It was appreciated that such equipment required a relatively high degree of power, and that continuous use would be likely to drain the glider's batteries quite quickly, but members emphasised the utility of selecting the transponder on whenever possible both for radar controllers' benefit and that of alerting other aircrafts' TAS and ACAS. Members also noted that the Chinook was not fitted with a TAS at the time of the incident but were heartened to hear that fleet fitment was planned in the near future.

For their part, the Chinook crew were inbound to Odiham under IFR and were looking for the glider traffic being called to them. Unfortunately, the pilot misidentified other traffic from the Traffic Information he was given, called visual, and thereby inadvertently established both faulty situational awareness in the rest of the crew and with the controller. The Board agreed that this was contributory to the Airprox. In the event, the Chinook crew did not see the glider until about CPA, and the Board agreed that this late sighting constituted the root cause of the Airprox in what was see-and-avoid Class G airspace. Gliding members suggested that the glider crew were well aware of the proximity of the Chinook but were content with the degree of separation; they opined that the late sighting by the Chinook crew had resulted in a greater degree of perceived risk than had actually existed. Members discussed this aspect of differing perceptions of risk, and whether this incident could be considered to be within the bounds of 'normal procedures and safety standards'. However, after much discussion, the Board agreed in the end that this did not fall within those bounds but that, in fact, there had been no risk of collision because the glider pilots had the Chinook in sight at all times.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the Chinook crew.

Contributory Factor: Following Traffic Information, the Chinook crew visually identified a different aircraft.

Degree of Risk: C.

ERC Score[4]: 2.

[4] Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.