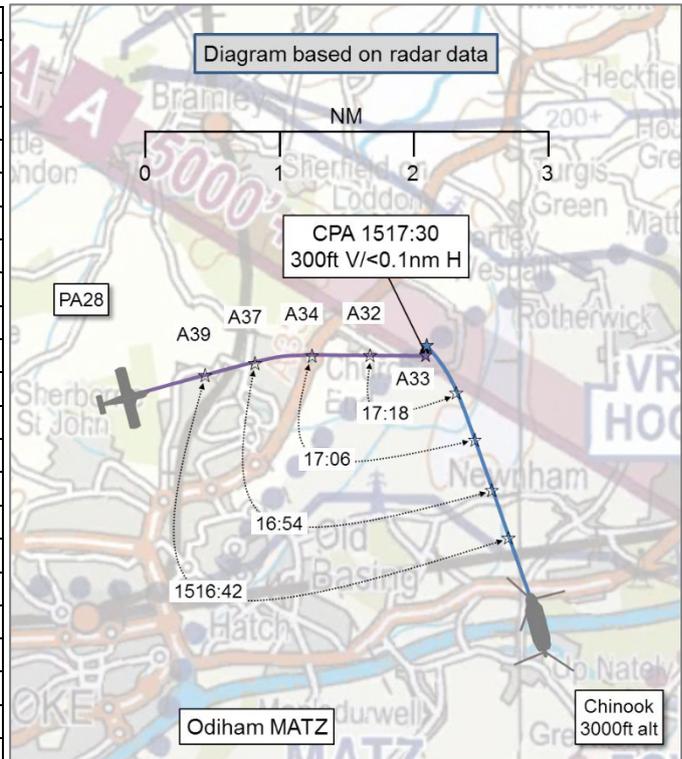


**AIRPROX REPORT No 2018065**

Date: 02 May 2018 Time: 1518Z Position: 5118N 00101W Location: 5nm NW RAF Odiham

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Chinook	PA28
Operator	HQ Air (Ops)	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Traffic	Information
Provider	Odiham	Blackbushe
Altitude/FL	3000ft	3300ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Green	NK
Lighting	Nav, HISL	NK
Conditions	VMC	VMC
Visibility	30km	50km
Altitude/FL	3000ft	3300ft
Altimeter	QNH (1005hPa)	QNH (NK hPa)
Heading	328°	070°
Speed	120kt	110kt
ACAS/TAS	Not fitted	Not fitted
Alert	Proximity	N/A
Separation		
Reported	150ft V/0m H	200ft V/100m H
Recorded	300ft V/<0.1nm H	



**THE CHINOOK PILOT** reports carrying out a Compton SID from RAF Odiham, which involved levelling at altitude 3000ft and heading in a northwesterly direction from Odiham. As he levelled-off, ATC alerted the crew to opposite direction conflicting traffic 500ft above. TAS displayed the traffic and the crew visually identified a PA28. The PA28 continued to descend towards them and the non-handling pilot prompted the handling pilot to descend from the procedure. A TAS alert sounded as the PA28 passed overhead; the estimated altitude of the PA28 was 3000ft with the Chinook having descended to 2800ft indicated. It was seemingly obvious to the Chinook crew that the PA28 crew had not seen them and were not aware of their proximity; mitigated on their part by good ATC awareness, TAS and lookout. However, on speaking to Odiham ATC afterwards it transpired that the PA28 pilot had apparently reported to Blackbushe (from whom he was receiving a Basic Service) that he had in fact seen them. If this was the case, it seemed to him that the PA28 aircraft had knowingly been manoeuvred too close for the Chinook crew's comfort and their avoiding action was the only factor that prevented a collision.

The non-handling pilot, in the right seat, reported that the PA28 approached from the left 9 to 10 o'clock and was therefore 'cross-cockpit' to him. He saw it just prior to the avoidance descent. Initially he thought it would pass close overhead so he said "continue" because the handling pilot was flying 'on instruments'. The centre seat occupant was also visual with the PA28 and overrode this with "descend", a decision the non-handling pilot backed up and verbalised. On reaching 2800ft, having left 3000ft, the PA28 overflew them directly by 200ft. This was backed up by a TAS alert showing the PA28 being 200ft above. He was confident that their flight paths would have coincided so that at the very least their wake vortex would have affected the PA28. He was of the opinion that collision was very likely. The non-handling pilot noted that he was used to GA light-aircraft 'coming to take a closer look at Chinooks', and that this PA28 pilot had told ATC that he was visual with the Chinook, a fact he ascertained from Odiham ATC by phone after the event. The non-handling pilot speculated whether 'sight-seeing' had occurred. He noted that the PA28 did not deviate in its flight path and gave no indication of being in visual contact with them. If the PA28 pilot was visual then, in the Chinook non-handling pilot's opinion,

the judgement of closure range was dangerously close; his closest point of approach was, at most, 200ft and he could not have known whether the Chinook would manoeuvre at any point. He also opined that the PA28 pilot had contravened Rules of the Air in that he should have given way to traffic on his right.

The centre-seat occupant was an Instrument Rating Examiner conducting a check on the 2 crew but not actively involved with operating the aircraft. Alongside his examining duties, he was able to provide an extra pair of eyes for lookout in addition to the 2 crew and the crewman. The weather conditions were good as they climbed out from Odiham. The crew took a Traffic Service from Odiham whilst outside controlled airspace. Odiham Approach called traffic in the aircraft's left 10 o'clock although he did not recall the range. He believed the aircraft was called as 700ft above them. He looked in that arc and saw a low-wing, single-engine, fixed-wing aircraft. It was moving in the field of vision from left to right and he thought it was in a gentle descent. The Chinook was reaching top of climb at that point, at around 3000ft. The Examiner called 'Padlock'<sup>1</sup> on the threat and monitored its progress. He noted it did not change aspect very much whilst in a gentle right turn towards them. As the aircraft ended up on a direct track toward them, he updated the 'Padlock' by calling "Descend". The aircraft passed directly above them, roughly head-to-head. He judged the separation to be 300ft when viewed from his position in the centre-seat. After they had recovered to their original altitude, he suggested that the aircraft had been a direct conflict and an Airprox should be reported.

He assessed the risk of collision as 'Low'.

**THE PA28 PILOT** reports that in his opinion no Airprox occurred. Whilst under a Basic Service from Farnborough radar, ATC advised of traffic to the right. Looking in that direction, a Chinook helicopter was seen around 200ft below their aircraft. It passed underneath while they were straight and level at around 3300ft QNH. The proximity was similar to or less than that frequently encountered in this local area.

He assessed the risk of collision as 'None'.

**THE ODIHAM APPROACH CONTROLLER** reports that the Chinook was departing on a Compton SID. Noting an aircraft 10nm northwest of Odiham at approximately 3000ft (squawking 0440), he called the traffic to the Chinook pilot, who did not report visual with the aircraft. The controller monitored 'the conflictor', was satisfied that it was maintaining 3000ft and updated the Chinook pilot on its position and level. At approximately 5nm northwest of Odiham, 'the conflictor' changed squawk to 7000 and started to descend towards the Chinook. The controller called the confliction again and the Chinook pilot did not report visual until the Mode C indicated about 200ft above. The Chinook pilot reported that he might file an Airprox and the controller informed the supervisor of the incident.

**THE ODIHAM SUPERVISOR** reports that he was engaged on a phone call at the time of the incident. The approach controller drew his attention to the last call from Chinook pilot, stating that the pilot might submit an Airprox on a light aircraft that had descended over the top of them. The approach controller pointed out the conflicting aircraft that had no SSR displayed and which was inbound to Blackbushe. The Supervisor telephoned Blackbushe 'ATC' and asked for the registration and aircraft type. He also requested that the pilot contact Odiham ATC on landing. The pilot called back and the Supervisor took his details in preparation for a possible Airprox report.

## Factual Background

The weather at Odiham was recorded as follows:

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METAR EGVO 021550Z 33014KT 9999 SCT030 12/05 Q1007 BLU NOSIG=
METAR EGVO 021450Z 28014KT 9999 -SHRA FEW026 BKN038 11/05 Q1005 BLU TEMPO 7000 SHRA
SCT024TCU WHT=
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<sup>1</sup> NATO codeword indicating that the Examiner would maintain visual contact with the PA28.

## Analysis and Investigation

### CAA ATSI

The PA28 could not be formally identified from the area radar replay, however the profile of the aircraft observed on the radar recording was consistent with the profile described in the reports received from both pilots and the Odiham ATCO.

The Chinook pilot report stated that the date of the event was the 3<sup>rd</sup> May and this date formed the basis for the requested radar & R/T media. It was subsequently discovered that the date of the event was in fact the 2<sup>nd</sup> of May. As a result, the Farnborough R/T recording was no longer available at the time of the investigation. This report has been compiled utilising the area radar recordings and the Odiham R/T recordings.

The Farnborough controller was not required to monitor the flight of the PA28 under the terms of a Basic Service. However, the PA28 pilot reported having been passed Traffic Information from the Farnborough controller and subsequently sighting the Chinook. In the absence of the Farnborough R/T, ATSI were unable to comment on the actions of the Farnborough controller.

### Military ATM

An Airprox occurred on 2 May 18 at approximately 1517 UTC, 5nm northwest of RAF Odiham between a Chinook and a PA28. The Chinook was receiving a Traffic Service from Odiham Approach, the PA28 was receiving a Basic Service from Farnborough Radar. Figures 1-4 show the positions of the Chinook and PA28 at relevant times in the lead up to and during the Airprox. The screen shots are taken from a replay using NATS radars, which are not utilised by RAF Odiham, and therefore are not representative of the picture available to the controller.

The Chinook departed RAF Odiham on a Compton SID climbing to altitude 3000ft on the Farnborough QNH to conduct instrument flying training. The aircraft was placed on a reduced Traffic Service due to the proximity of the Odiham radar overhead. The PA28 was transiting from Bournemouth to Blackbushe at about altitude 3300ft.

Traffic Information was passed by the Odiham Approach Controller for the first time at 1516:09 at a range of 3½nm (Figure 1). Cardinal headings were used when passing the Traffic Information which, at the request of the Chinook pilot, was updated in clock code format.



Figure 1



Figure 2

The Traffic Information was updated at 15:16:51 (Figure 2). Note: PA28 squawk changed to 7000 at 1516:23.

Traffic Information was passed for a final time at 1517:07 (Figure 3). The Chinook pilot reported visual with the PA28 at that time.



Figure 3



Figure 4

CPA was recorded at 1517:32 (Figure 4) and was measured at 0.1nm and 300ft.

The controller correctly identified and reduced the Traffic Service being provided to the Chinook. The climb to altitude 3000ft was also appropriate given that the PA28 was indicating 900ft above the cleared level of the Chinook. All Traffic Information passed by the Odiham Approach Controller was accurate and allowed the Chinook crew to become visual with the PA28 about 20sec before CPA occurred. Information provided by the Farnborough controller and the PA28 pilot indicated that Traffic Information had been passed by Farnborough and that the PA28 pilot was visual with the Chinook.

### UKAB Secretariat

The Chinook and PA28 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>2</sup>. If the incident geometry is considered as converging then the PA28 pilot was required to give way to the Chinook<sup>3</sup>. Additionally, the PA28 pilot was required to avoid passing over, under or in front of the Chinook, unless he passed well clear and took into account the effect of aircraft wake turbulence<sup>4</sup>.

### Comments

#### HQ Air Command

A combination of timely and accurate Traffic Information from the Odiham Approach controller and TAS indications allowed the Chinook crew to gain visual with the PA28. Initially, the indications were that sufficient vertical separation existed so the Chinook crew elected to continue on the instrument procedure. However, when it became apparent that the PA28 was descending, the crew of the Chinook elected to descend in order to re-establish greater vertical separation.

All available barriers to MAC contributed to the detection and resolution of the Airprox – a surveillance-based ATS, ACAS and lookout. Given that the PA28 pilot had informed Farnborough ATC that he was visual with the Chinook this appears to be a case of 'one person's adequate separation is another person's too close'. There seems to be an element of 'normalisation' on the part of the PA28 pilot, as he states that 'the proximity was similar to or less than that frequently

<sup>2</sup> SERA.3205 Proximity.

<sup>3</sup> SERA.3210 Right-of-way (c)(2) Converging.

<sup>4</sup> SERA.3210 Right-of-way (c).

encountered in this local area'. It is suggested that a separation of 200-300ft vertically between non-cooperating aircraft is, at best, on the limits of what should be deemed to be 'normal', irrespective of geography.

## **Summary**

An Airprox was reported when a Chinook and a PA28 flew into proximity at 1518hrs on Wednesday 2<sup>nd</sup> May 2018. Both pilots were operating in VMC, the Chinook pilot under IFR in receipt of a Traffic Service from Odiham Approach, and the PA28 pilot under VFR in receipt of an AFIS from the Blackbushe AFISO (shortly before CPA, in receipt of a Basic Service from Farnborough).

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

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

Members first discussed the Chinook crew's actions and noted that the handling crew were operating under IFR in receipt of a Traffic Service; had been passed Traffic Information on 3 occasions; had seen the approaching PA28 at a range of 1.3nm; had monitored its flight path as it turned and descended towards them; and, finally, had made an avoiding action descent when it appeared to be in conflict. Turning to the PA28 pilot, the Board noted that although he had only been in receipt of a Basic Service from Farnborough, the controller had passed Traffic Information to the PA28 pilot and the Board presumed that this was because the aircraft were converging and that the controller perceived that this could affect their flight. The PA28 pilot notified the Farnborough controller that he was visual with the Chinook and transferred to the Blackbushe frequency. The PA28 transponder code changed to VFR conspicuity at 1516:23, at a range of about 2.5nm from the Chinook, so the Board surmised that the pilot was visual with the Chinook before that time and range. Members discussed the subsequent flight path of the PA28 at length, and were unable to fathom why the pilot chose to descend to within 300ft of an aircraft with which he was visual and could not know its pilot's intentions, passing almost directly above it, and to which he was required to give way. None of the pilots, instructors or examiners on the Board agreed with the PA28 pilot's assertion that this was an acceptable vertical separation in this context and members wondered whether he had become normalised to what was an insupportable degree of separation.

Members noted that the Chinook and PA28 were converging and that the Chinook was to the right of the PA28. Members also noted that the Chinook pilot was required under military regulations derived from the rules of the air to maintain course and speed, which he did, and that the PA28 pilot was required to give way and in doing so not to pass above, below or ahead unless well clear. The Board agreed unanimously that the PA28 pilot had not satisfied these criteria and so, because he had been visual with the Chinook for at least 1min prior to CPA, the cause of the Airprox was determined to be that he had flown into conflict with the Chinook. Notwithstanding, the Board agreed that the degree of SA within each aircraft was such that although safety may have been compromised, no risk of collision existed.

Members re-iterated that although most of aviation was laden with regulation, it was to a large degree effective communication, consideration and courtesy between participants which allowed the many different facets of aviation to co-exist to everyone's benefit, especially in Class G airspace.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The PA28 pilot flew into conflict with the Chinook.

Degree of Risk: C.

Safety Barrier Assessment<sup>5</sup>

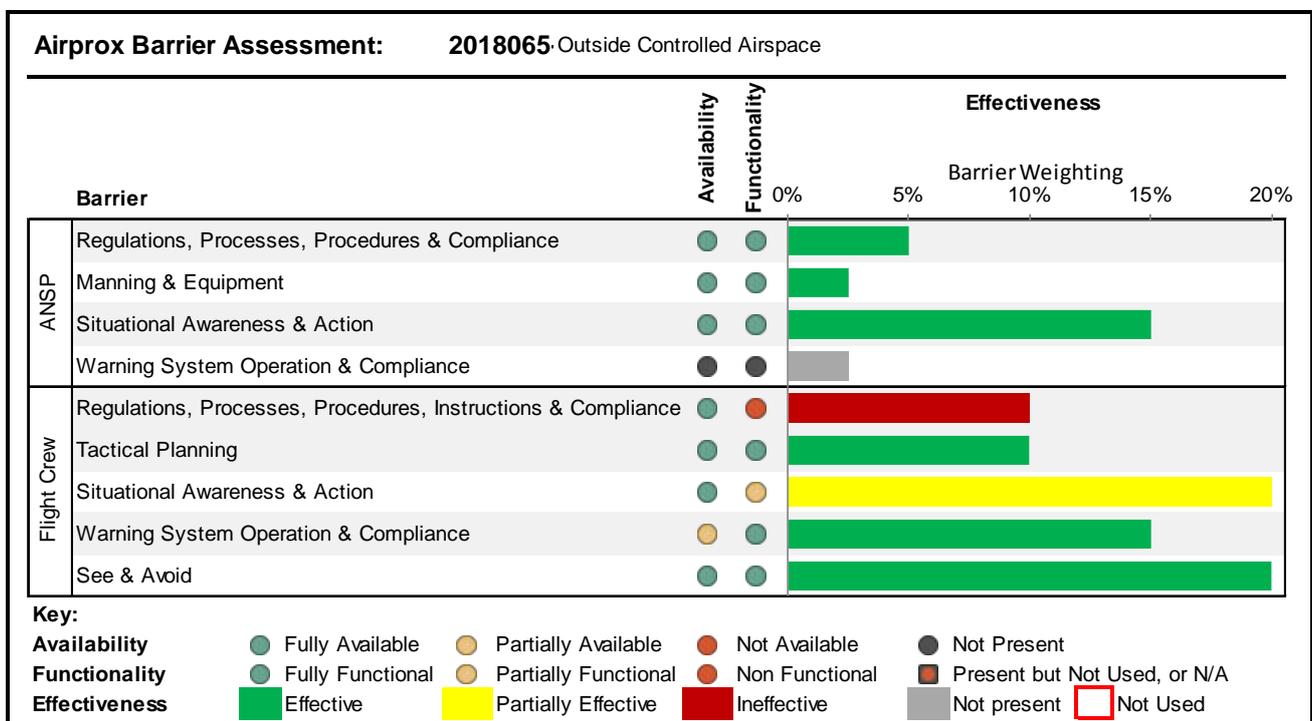
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

**Flight Crew:**

**Regulations, Processes, Procedures, Instructions and Compliance** were assessed as **ineffective** because in the Board’s opinion, the PA28 pilot did not comply with SERA.3210.

**Situational Awareness and Action** were assessed as **partially effective** because although the PA28 pilot was visual with the Chinook on his right, he continued to descend to within 0.1nm and approximately 300ft of it.

**Warning System Operation and Compliance** were assessed as **partially available** because only the Chinook was equipped with a TAS.



<sup>5</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).