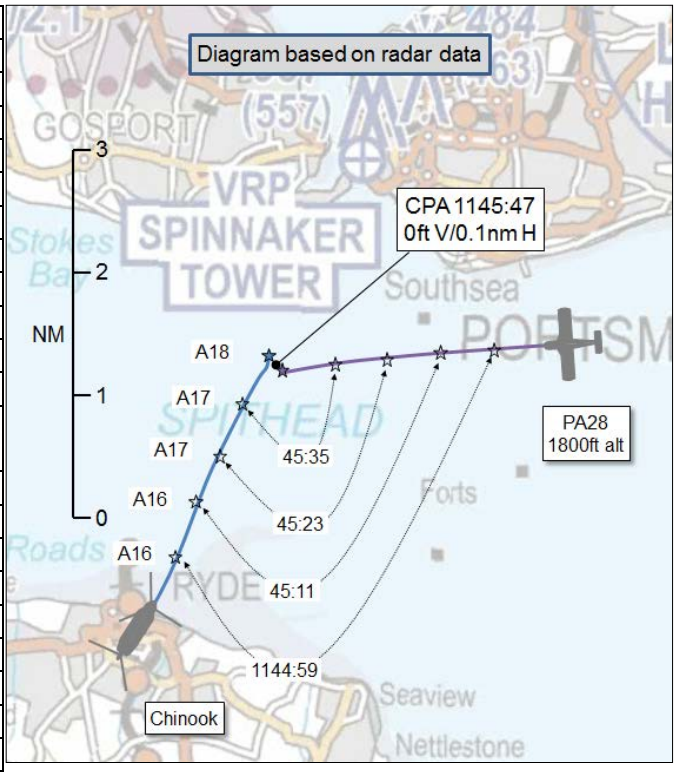
AIRPROX REPORT No 2016252

Date: 29 Nov 2016 Time: 1146Z Position: 5046N 00108W Location: Solent

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Chinook	PA28
Operator	HQ JHC	Civ Pte
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Solent Radar	Solent Radar
Altitude/FL	1800ft	1800ft
Transponder	A,C,S	A,C,S
Reported		
Colours	Green	Burgundy/white
Lighting	White strobe, nav	NK
Conditions	VMC	VMC
Visibility	>10km	30km
Altitude/FL	1500ft	1800ft
Altimeter	QNH (1034hPa)	QNH (1033hPa)
Heading	015°	~250°
Speed	130kt	110kt
ACAS/TAS	TAS	Not fitted
Alert	TA	N/A
Separation		
Reported	Nil V/~200m H	NK V/~1nm H
Recorded	Nil V/0.1nm H	



THE CHINOOK PILOT reports that he was returning to base from a training exercise over the Isle of Wight. On approaching Spinnaker Tower from the South, TAS indicated 2 x Traffic Advisory and 1 x Proximate Traffic, whilst simultaneously Solent Radar warned of multiple aircraft in the vicinity, possibly inbound to Lee-on-Solent. Both TAs were quickly identified visually however the closest aircraft's orientation was difficult to establish given into sun visibility. Once clear that this aircraft was maintaining a conflicting track, the Chinook was turned left to avoid. The opposing aircraft was then also observed to make a left turn away. The TAS TA was at approximately 1.5nm, and the aircraft was first observed at approximately 400m.

He assessed the risk of collision as 'Low'.

THE PIPER PA28 CHEROKEE PILOT reports that he was on a cross-country flight. The Chinook appeared quite suddenly in a descending attitude, routeing towards the coast. He turned left onto track to maintain visual contact with the traffic. No radio contact was heard or received from Solent Radar.

He assessed the risk of collision as 'None'.

THE SOLENT RADAR CONTROLLER did not submit a report because he was unaware that an Airprox had been filed until sometime after the event.

Factual Background

The weather at Southampton was recorded as follows:

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291120Z VRB02KT CAVOK 04/M03 Q1034
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Analysis and Investigation

CAA ATSI

At 1138:00, the PA28 pilot called Solent Radar requesting a Basic Service. The controller asked the pilot to standby and confirmed they would respond in approximately 1 minute. At 1139:05 the Solent Radar controller replied to the PA28 pilot, established that the aircraft was routing westbound, provided an SSR code of 3672 and agreed a Basic Service.

At 1142:57, the Chinook pilot attempted to establish two-way communication with Solent Radar but the transmission was broken. At 1145:30, the Chinook pilot called Solent Radar for a radio check, two-way communication was established, and a Basic Service was agreed. The controller advised the Chinook pilot of multiple (non-specific) contacts in the area including the fact that the Lee-on-Solent ATZ was known to be active. The Chinook pilot reported being at 1700ft.

The Radar screen shots used are taken using the Swanwick MRT radar. These show the height information represented as a Flight Level, therefore, as the QNH pressure was high (1034hPa), approximately 600ft should be added to the indicated figures to calculate altitude. It should also be remembered that the Solent Radar Controller would be utilising their own primary radar (in addition to one of the radar sources used in the screenshots below) and therefore there may have been more radar contacts visible to the controller. No report of the Airprox was made by any aircraft on the Solent Radar frequency at the time, and therefore no controller report was filed.

CPA between the Chinook and the PA28 occurred at 1145:55 (Figure 1) with no vertical separation and 0.1nm lateral separation.

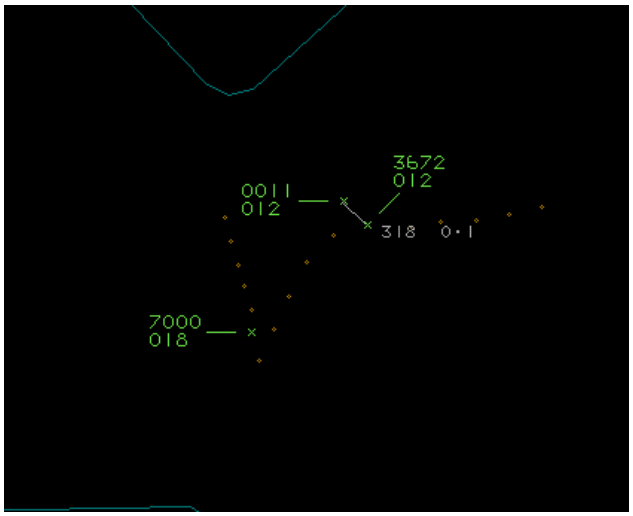


Figure 1 -1145:55: Chinook squawk 0011, PA28 3672

Both pilots were operating in Class G airspace and were ultimately responsible for their own collision avoidance. Under a Basic Service a controller is not required to identify or monitor a flight. The provision of Traffic Information is limited to circumstances where the controller observes that a potential risk of collision exists.

> *However, where a controller has information that indicates that there is aerial activity in a particular location that may affect a flight, they should provide information in general terms to*

assist with the pilot's situational awareness. This will not normally be updated by the controller unless the situation has changed markedly, or requested by the pilot.[i]

UKAB Secretariat

Both 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]. Because the incident geometry is considered as converging then the Chinook pilot was required to give way to the PA28[2].

Comments

JHC

As is often the case, this was unfortunate timing in busy Class G airspace. However, it is also a good example of the importance of electronic conspicuity systems, especially at low-level, where ATC services can be more limited. The Chinook crew made their original call to Solent Radar from low-level hence the initially poor comms and it was only after their subsequent climb and TAS TA that they became aware of the traffic and manoeuvred accordingly. This area is known to become very congested and therefore vigilance is extremely important when transiting through it. However, it is germane to note that because other parties were carrying and operating transponders, the Chinook crew were able to gain situational awareness of the opposing traffic more quickly than with lookout alone; the TAS worked to mitigate the MAC risk with the transponding aircraft. In sum, ATC provided Traffic Information, as required, and visual acquisition cued by electronic conspicuity systems prevented this incident escalating.

Summary

An Airprox was reported when a Chinook and a PA28 flew into proximity at 1146 on Tuesday 29th November 2016. Both pilots were operating under VFR in VMC, in receipt of a Basic Service from Solent Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots, area radar recordings and reports from the appropriate ATC and operating authorities.

The Board commented that it was unfortunate that the Solent Radar controller had not been able to file a report because he had not been made aware of the Airprox until well after the event. Noting that the intention to file a report was not made on the frequency at the time by either pilot, members wished to remind all pilots of the advantages of doing so, so that ATC and other pilots in the vicinity would be made aware of the incident and would therefore be prompted to make notes and save any relevant recordings.

The Board first began by discussing the actions of the Chinook pilot. They noted that he had been routeing northbound from the Isle of Wight at low-level, and that his initial attempt to contact Solent Radar had been unsuccessful, probably because he was too low to establish communication. Accordingly he had decided to climb before trying to contact Solent Radar again. When two-way communication was established, a Basic Service was agreed, and the pilot was advised about multiple contacts in the area. Members noted that the Chinook pilot reported that he had received a TCAS TA when he was about 1.5nm from the PA28, and had then continued on track until he observed the PA28 at a range of about 400m. Some members queried whether it was wise to have continued his track rather than take immediate action to separate himself from the PA28. In this respect, the Board was hampered by not knowing the format of the Chinook's TAS display, but it was suggested that a change to its level, away from that of the PA28, would have been beneficial until

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(2) Converging.

sighting was achieved. Several members commented that this would have preferable, rather than manoeuvring horizontally, because it can be difficult with TAS to readily establish a conflicting aircraft's position whilst changing heading. Others suggested that the Chinook pilot could have slowed down to allow the other traffic to pass ahead. In summary, the Board opined that receiving TAS indications should be likened to receiving ATC Traffic Information, if in a close-quarters conflict situation then action should be taken first before then concentrating on gaining a visual sighting.

The Board noted that the PA28 was also in receipt of a Basic Service from Solent Radar and he had commented in his report that no radio contact was received from the controller. Some members wondered if this meant that he was expecting Traffic Information under a Basic Service or if he was just making a factual statement. In either case, the Board wished to remind all pilots that Traffic Information should not routinely be expected under a Basic Service, ATC may not be actively monitoring aircraft under a Basic Service and controllers will only provide information if they happen to become aware of a conflict.

The Board then discussed the actions of the Solent Radar controller. He had been providing a Basic Service to both pilots. Some Board members wondered whether the controller should have passed Traffic Information to the pilots given that he was actively communicating with both and would have been aware of the PA28 as the Chinook pilot established contact. However, it was again noted that under a Basic Service the controller is not required to identify or to monitor a flight, and there were indications that he had been busy at the time. Consequently, there was no reason to judge that he would have been aware of the confliction between the two aircraft. Notwithstanding, the Chinook pilot was advised of multiple generic traffic in his area and this was in keeping with the statement in CAP 774 that '*where controllers have information that indicates that there is aerial activity that may affect a flight they should provide information in general terms'*.

The Board then turned its attention to the cause and risk of the Airprox. Members acknowledged that because both pilots were operating in Class G airspace it was ultimately their responsibility to 'see and avoid' each other. It was apparent that the Chinook pilot, although receiving a TA at 1.5nm, had only seen the PA28 late, at 400m. As for the PA28 pilot, it was opined that in having reported sighting the Chinook 'quite suddenly' as it was turning away, he had probably only seen the Chinook after CPA. Accordingly, it was agreed that the cause of the Airprox was a late sighting by the Chinook pilot and effectively a non-sighting by the PA28 pilot. Turning to the risk, it was clear to the Board that although the two aircraft had passed significantly close to each other, neither pilot had reported being concerned about any imminent risk of a collision. Additionally, the avoiding action turn by the Chinook pilot appeared to have been taken as a measured response and not as an apparent emergency turn. The Airprox was therefore assessed as risk Category C, timely and effective actions had been taken by the Chinook pilot.

PART C: ASSESSMENT OF CAUSE, RISK AND SAFETY BARRIERS

Cause: A late sighting by the Chinook pilot and effectively a non-sighting by the PA28 pilot.

Degree of Risk: C.

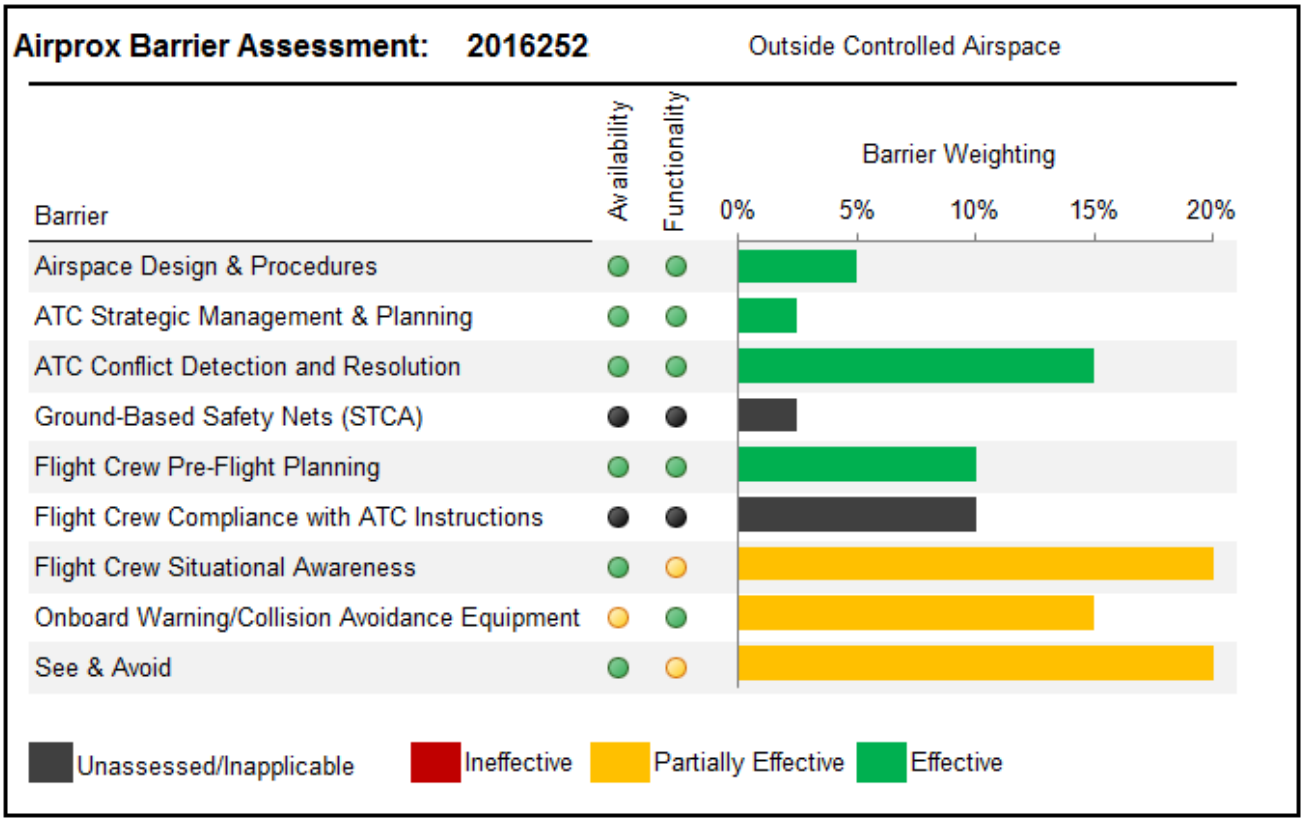
Safety Barrier Assessment[3]

The Board decided that the following key safety barriers were contributory in this Airprox:

Flight Crew Situational Awareness was considered only **partially effective** because, although both pilots were in communication with the same controller, the level of service that they had requested meant that neither pilot knew about the close proximity of the other aircraft other than in general terms for the Chinook pilot.

Onboard Warning/Collision Avoidance Equipment was **partially effective** because only the Chinook was fitted with such a system. However, it was **effective** because the Chinook pilot had received a TA about the PA28 at a range of 1.5nm.

See and Avoid was assessed as being **partially effective** because the Chinook pilot only saw the PA28 at a range of 400m and the PA28 pilot only observed the Chinook after CPA.



[3] Modern safety management processes employ the concept of safety barriers that prevent contributory factors or human errors from developing into accidents. Based on work by EASA, CAA, MAA and UKAB, the table depicts the barriers associated with preventing mid-air-collisions. The length of each bar represents the barrier's weighting or importance (out of a total of 100%) for the type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace). The colour of each bar represents the Board's assessment of the effectiveness of the associated barrier in this incident (either Fully Effective, Partially Effective, Ineffective, or Unassessable/Inapplicable). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident. The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.