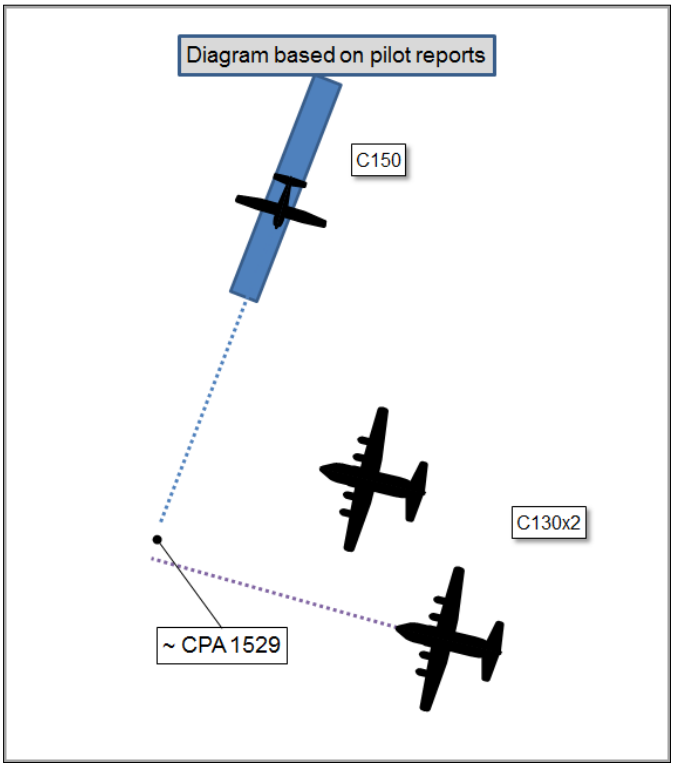
AIRPROX REPORT No 2016207

Date: 23 Sep 2016 Time: 1529Z Position: 5111N 00109E Location: Clipgate Farm Airstrip

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C150	C130 x 2
Operator	Civ Pte	HQ Air (Ops)
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Provider	SafetyCom	NATO LL
Altitude/FL	NK	NK
Transponder	Off/C	On/C, S
Reported		
Colours	White, Blue	Grey
Lighting	Beacon	Strobe, Nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	75ft agl	300ft
Altimeter	QNH (1024hPa)	QNH (1023hPa)
Heading	200°	292°
Speed	65kt	210kt
ACAS/TAS	Not fitted	TCAS II
Alert	N/A	None
Separation		
Reported	100-200ft V/0nm H	200ft V/0.5nm H
Recorded	NK	



THE C150 PILOT reports that he was on a solo pleasure flight in excellent weather conditions. He used SafetyCom to broadcast his intentions twice, as he entered the runway to backtrack and as he commenced his take-off roll. A few seconds after lifting off he sighted two large military aircraft in his 10 and 11 o'clock at low-level, approximately 300m to 400m ahead tracking North. If he had continued his normal climb-out he considered he would have been in direct conflict with them. As he was no higher than 50ft at the time, his only option was to remain as low as possible on the runway heading until the two aircraft had passed overhead his aircraft. If the aircraft had been on a North Westerly heading, at ninety degrees to his runway, it is unlikely he would have seen them on climb out due to his high wing aircraft. He realises that if he had turned his Transponder on this may have been detected by the other aircraft.

He assessed the risk of collision as 'Medium'.

THE C130 PILOT reports he was part of a formation of 2 x C130 conducting a LL training sortie throughout the SE. The routing took the formation around the Kent coastline before coasting in between Folkestone and Dover. The formation then progressed North West before turning West and then South. Shortly after coasting in north of Dover, the lead aircraft pilot saw a small white light-aircraft getting airborne from a small grass strip. The aircraft was still significantly below the formation (approx. 50-100ft agl) and in a shallow climb straight ahead. At the time of observation the lead aircraft was a good couple of hundred feet higher than the other aircraft and was about to pass overhead and behind, well clear of any conflict. However, because the number 2 aircraft was following, and to the LHS of the lead (and therefore the same side as the light aircraft), a call was immediately made on the formation inter-plane frequency. The number 2 aircraft responded that they were visual with the traffic and passing clear. Both C130's commenced a shallow climb to ensure further separation. Neither C130 had any indications of a TCAS contact and neither C130 crew felt

threatened or that this was a particularly close encounter. The crew said that they first noticed the aircraft as they passed almost overhead as it appeared out of a field that was surrounded by trees. At no stage did they feel that there a risk of collision; in their opinion they were de-conflicted both laterally and by altitude, and the other aircraft's performance limitations meant he couldn't have got close to them. They further noted that it was a very good day for flying and as such there was a significant amount of GA present in the UKLFS. As such all crew members were paying particular attention to lookout; they were able to spot the aircraft in good time they felt, and satisfy themselves that it was no factor.

He assessed the risk of collision as 'Low'.

Factual Background

The weather at Lydd was recorded as follows:

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METAR EGMD 231520Z 22009KT 9999 FEW047 18/10 Q1025
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Analysis and Investigation

UKAB Secretariat

The C150 and C130 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]. The incident geometry is considered as converging therefore the C130 pilot was required to give way to the C150[2].

Comments

HQ Air Command

The pair of C130 were on a routine low-level sortie in Class G airspace; their route was on CADS[3]; but they were well aware that there could be a lot of GA traffic in the area which would not be on the (military) deconfliction planning tool. The Cessna pilot was wise to broadcast his intentions on SafetyCom; however this is not a frequency that would have been monitored by the C130s. Had it been switched on, the Cessna pilots transponder may have helped provide some earlier awareness; but as is so often the case in Class G airspace, the final barrier is 'see and avoid'. In this case, despite the trees and vegetation around the strip making the sighting later than ideal, the C130s had sufficient time to see the Cessna and both aircraft only required the minimum of avoiding action to provide a more comfortable separation.

Summary

An Airprox was reported when a C150 and two C130s flew into proximity at 1529 on Friday 23rd September 2016. Both pilots were operating under VFR in VMC, no pilot in receipt of a Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft and reports from the operating authorities.

The Board began by discussing whether Clipgate Farm strip was marked on military maps. They were informed that it was, and that the C130 crews would have been aware of the location when they carried out their pre-flight planning. Some members opined that because the site was marked on the charts it would have been prudent for the C130 pilots to have planned to route further away from the

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(2) Converging.
[3] CADS – Centralised Aviation Data Service: a military IT system that is used to deconflict from other military aircraft at low-level, and some commercial civilian operators. CADS is not accessible to general public aviators.

site; recognising that it would not be possible to avoid every small site at low-level, if they were marked on the military low-flying chart then this gave an indication of their potential activity levels and therefore good cause to give them a wide berth. Other members also wondered whether it would have been feasible for the C130 pilots to have listened out on VHF Safety Common during the low-level portion of their sortie in that area but military members opined that this was probably not possible because of operational use of the radios on other frequencies. Ultimately, the Board noted that the C130 lead pilot had probably seen the C150 as early as could be expected as it became airborne, and commended him for alerting his No2 aircraft also to the impending confliction.

The Board then looked at the actions of the C150 pilot and agreed that he also had probably seen the C130s as early as could be expected given that the trees surrounding the strip had probably obscured their approach. Noting that the C150 pilot kept his aircraft low until the confliction was resolved, the Board agreed this was probably the best course of action in order to resolve the conflict. Commenting that the C150 pilot did not turn his transponder on prior to getting airborne, the Board were heartened to see that he now recognised the wisdom of selecting his transponder on as part of his pre-take-off checks for just this sort of incident; this was a prime example of how the use of a transponder could enhance the situational awareness of others. The Board also commented that there may have been utility in the C150 contacting the Military Low Flying Cell[4] before walking for his aircraft in order to request generic information on any military activity in their area – this may have alerted him to the fact that the C130s would be in the area, although it was recognised that it would not be possible to gain exact routing and timing information.

The Board then looked at the safety barriers that were relevant to this Airprox and decided that the following were the key factors:

- **Flight Crew Situational Awareness** was considered **ineffective** because neither aircraft was on the same frequency and were not aware of the others presence. Also, although the C130 crew were likely aware of the strip during their planning process, they could have used this information to route further from the strip as they passed by.

- **Onboard Warning/Collision Avoidance Equipment** was assessed as being **ineffective** because, even though the C130 aircraft had TCAS fitted, the C150 was not transponding, thus effectively removing this barrier.

- **See and Avoid** was considered **partially effective** because both pilots saw the other aircraft late and they only had time to carry out last-minute avoiding actions to resolve the conflict.

The Board then considered the cause and risk of the incident and members quickly agreed that both pilots had seen each other as early as could be expected and had carried out effective avoiding actions. Accordingly, the incident was therefore assessed as a conflict in Class G airspace. Turning to the risk, members noted the lack of concern by the C130 crews but did not agree that the situation was a benign as they described. Although recognising that the size of the C130s may have led to a false sense of perspective in the C150 pilot's reporting, in the Board's opinion, to have a large aircraft fly overhead within a few hundred feet whilst getting airborne represented a situation where safety had been much reduced below the norm. Emphasised by the C150 pilot having to maintain only 50-100ft after getting airborne, although they agreed that the actions of the C150 and C130 pilots had prevented the risk of collision, the Board assessed the risk as Category B.

PART C: ASSESSMENT OF CAUSE AND RISK

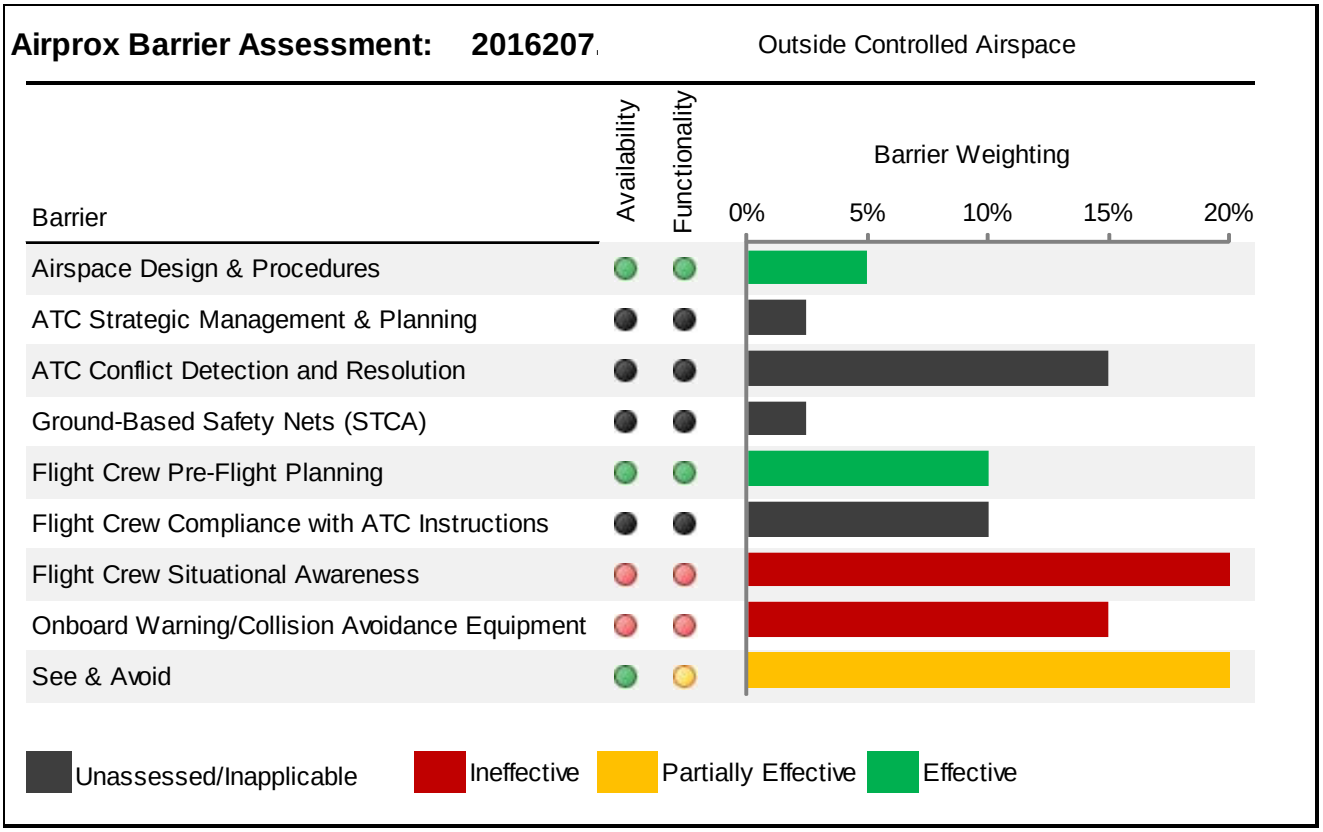
Cause: A conflict in Class G airspace.

Degree of Risk: B.

[4] https://www.gov.uk/low-flying-in-your-area/contact-mod

Barrier Assessment[5]:

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 following 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).[6] 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/Absent). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident.



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

[6] Barrier weighting is subjective and is based on the judgement of a subject matter expert panel of aviators and air traffic controllers who conducted a workshop for the UKAB and CAA on barrier weighting in each designation of airspace.