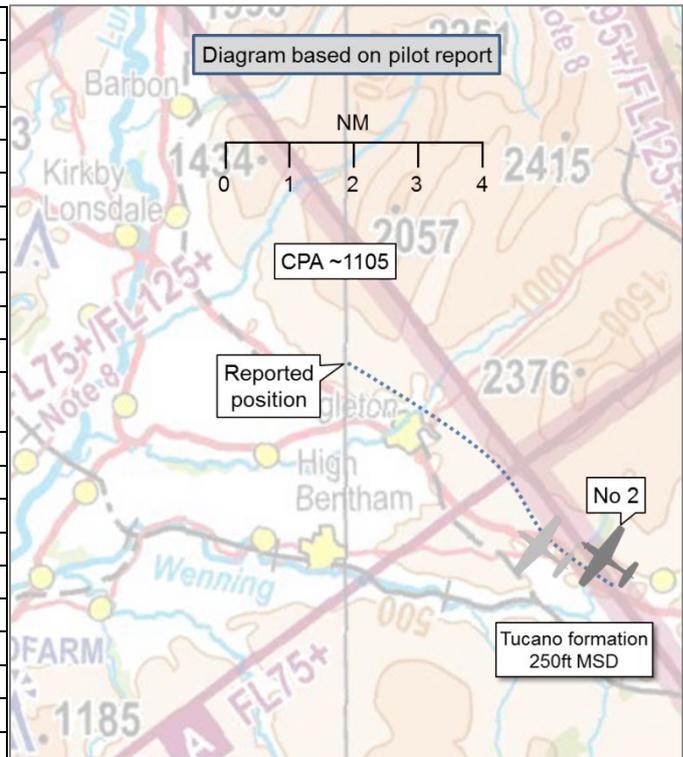


AIRPROX REPORT No 2015158

Date: 17 Sep 2015 Time: 1105Z Position: 5410N 00230W Location: IVO Ingleton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tucano	Paraglider
Operator	HQ Air (Trg)	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Altitude/FL	NK	NK
Transponder	A, C, S	Not fitted
Reported		Not reported
Colours	Black	
Lighting	HISL, nav, landing	
Conditions	VMC	
Visibility	20km	
Altitude/FL	Not below 250ft	
Altimeter	agl	
Heading	300°	
Speed	240kt	
ACAS/TAS	TCAS I	
Alert	None	
Separation		
Reported	200ft V/200ft H	
Recorded		NK



THE TUCANO PILOT reports instructing a student refresher sortie, flying at 250ft MSD as No2 of a pair, in fighting wing formation,¹ with the lead aircraft in the left 11 o'clock position. They were following the right-hand side of a valley, on a heading of about 300°, in the vicinity of Ingleton. He was looking out to the left, concentrating on the leader and the area slightly behind him, when he became aware of something going past rapidly on the right-hand side. The pilot student (PF in the front seat) immediately said that he had seen a paraglider at close range, slightly above and to the right. He believed it to be predominantly white, with some red markings. The instructor asked the formation leader whether he had seen anything; he replied that he had not. The instructor commented that it was difficult to accurately assess the separation, and that the student had estimated about 200ft laterally and vertically. This seemed plausible to the instructor but he had used the very rapid 'spin rate' of the paraglider in his peripheral vision to assess the separation as 'close'. He noted that the overcast conditions may have made it harder to see than would have been the case against a clear sky, and that none of the 4 Tucano aircrew saw the paraglider until it was too late to react.

He assessed the risk of collision as 'High'.

THE PARAGLIDER PILOT: The paraglider pilot could not be traced.

¹ Fighting Wing formation involves the No2 aircraft maintaining 45-60° swept on the leader and maintaining fore-aft separation as the leader freely manoeuvres to position himself to avoid weather, terrain or other tactical considerations. As such, the No2's primary responsibility is to avoid the leader, and his lookout will be biased towards this.

Factual Background

The weather at Warton was recorded as follows:

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METAR EGNO 171120Z 28012KT 240V310 9999 SCT024 16/08 Q0998=
METAR EGNO 171050Z 29008KT 260V320 9999 FEW020 16/09 Q0998=
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Analysis and Investigation

UKAB Secretariat

The Tucano and paraglider pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard². If the incident geometry is considered as converging then the Tucano pilot was required to give way to the paraglider³. Radar recordings did not show a secondary or primary track for the Tucano formation or paraglider, probably as a result of terrain masking and lack of radar conspicuity respectively, at their reported altitude.

Comments

HQ Air Command

This incident took place in an area regularly used by military crews to conduct low-level training and the military low-flying charts are marked with a number of hang-glider sites in the vicinity; it should therefore be expected that there was a possibility of encountering a hang-glider or paraglider. The only realistic barrier to MAC in this encounter was 'see-and-avoid' and, in the absence of a report from the paraglider pilot (it remains uncertain as to whether the object seen by the Tucano pilot was indeed a paraglider), this barrier was ineffective as the Tucano crew did not see the object until it was too late to take any action to increase separation. Notwithstanding the requirement to monitor the performance of the student pilot, robust division of lookout responsibilities may increase the chances of detection of objects, such as that seen, at greater range. That said, the crew of the formation lead aircraft, with no requirement to monitor position relative to the wingman, may have had more capacity to devote to lookout – that the lead crew saw nothing offers some evidence to suggest that the object would have been difficult to see in the given weather conditions.

Summary

An Airprox was reported when the number 2 of a Tucano formation and a paraglider flew into proximity at about 1105 on Thursday 17th September 2015. Both pilots were operating under VFR in VMC and neither were in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the Tucano pilot, radar video recordings and a report from the appropriate operating authority.

The Board were informed by the Military Training member that the nature of the sortie, to refresh tactical formation positioning to the pilot student in the No2 aircraft, was such that the onus of his lookout would necessarily have been towards the lead aircraft. The instructor in the No2 aircraft would have been similarly biasing his lookout in order to assess the student's performance. As such, members agreed that a number of factors had come together to create this incident: the small cross sectional area of the probable paraglider, lighting conditions (resulting in a lack of contrast), and the potential bias of the number 2 aircraft crew's lookout away from the direction of the paraglider.

² SERA.3205 Proximity.

³ SERA.3210 Right-of-way (c) (2) Converging.

Members then discussed the contribution of the crew in the lead Tucano and agreed that, although their lookout would not have been potentially biased to the same degree as the crew of the No2 aircraft, the lack of contrast would also have contributed to them not acquiring the paraglider.

The Board went on to discuss the range assessment of the paraglider by the Instructor pilot and noted that in cases such as these a 'startle factor' often resulted in under-assessment of range. Nevertheless, it was also agreed that the Instructor's description of a rapid 'spin-rate' as the paraglider passed was commensurate with close proximity. Members agreed that a paraglider pilot would most probably have heard the formation of Tucanos pass close by, even if he or she had not seen them, and that it was disappointing that they had not filed an Airprox report. Members wondered whether some elements of the paragliding community were aware of the Airprox process as a valuable means of improving safety of flight.

Members quickly agreed that the onus was on the Tucano formation to give way to the paraglider, and that the cause was that the Tucano pilots had seen the paraglider too late to increase separation, effectively a non-sighting. Discussing the risk, members were convinced that the Tucano pilot's description of rapid 'spin-rate' as the paraglider passed meant that safety margins had been much reduced below normal.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Effectively a non-sighting by the Tucano pilot.

Degree of Risk: B.