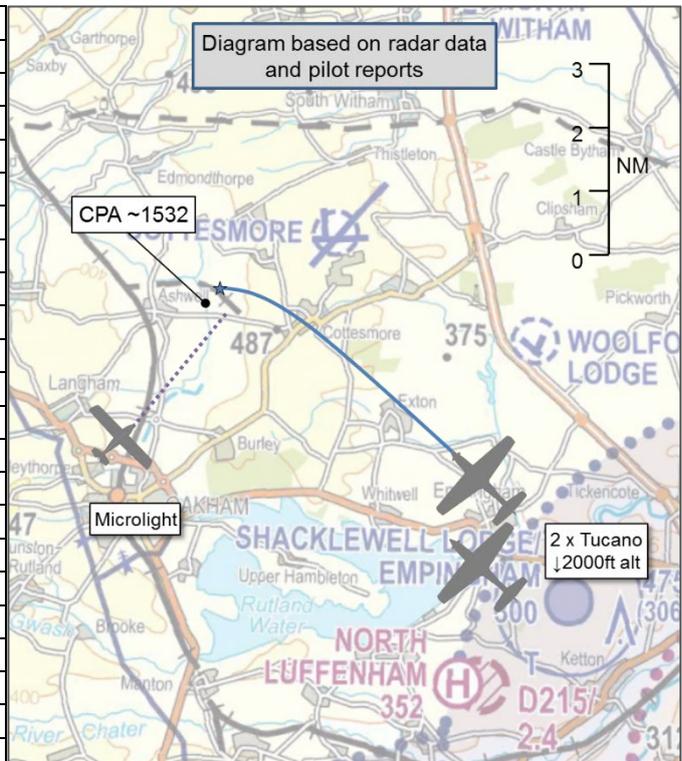


**AIRPROX REPORT No 2019126**

Date: 30 May 2019 Time: 1532Z Position: 5243N 00039W Location: 10nm NW Wittering

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tucano	Unknown Microlight
Operator	HQ Air (Trg)	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	
Service	None	
Altitude/FL	2900ft	
Transponder	A, C, S	Nil
<b>Reported</b>		Not Reported
Colours	Black, Yellow	
Lighting	Strobes, Nav	
Conditions	VMC	
Visibility	40km	
Altitude/FL	2000ft	
Altimeter	RPS (1010hPa)	
Heading	314°	
Speed	Not Reported	
ACAS/TAS	TAS	
Alert	None	
<b>Separation</b>		
Reported	0ft V/100m H	
Recorded	NK	



**THE TUCANO PILOT** reports that he was the No2 in a formation of two Tucanos. The formation was in fighting-wing with No2 swept at approximately 200m in the leader's left 7 o'clock. As the formation was entering low-level to the NW of RAF Wittering and descending through 2000ft, the leader came left for positioning for the entry point and, as No2 followed, the captain saw a red microlight pass down their left side at approximately 100m range at the same altitude. The microlight appeared to be heading NE at low speed maintaining straight-and-level. He watched the microlight continue behind the formation and ensured they were clear of the conflict. He decided not to call an Airprox at that time as they were on low-level common frequency and the Tucano only has one radio. He commented that this event highlights the importance of effective lookout, especially in low-level and during the descent. No other member of the formation was ever visual with the microlight and he opined that had the formation turned a few seconds earlier, one aircraft in the formation would have collided with the microlight.

The pilot assessed the risk of collision as 'High'.

**THE MICROLIGHT PILOT** could not be traced.

**Factual Background**

The weather at Wittering was recorded as follows:

METAR EGXT 301450Z 26015KT 9999 SCT028 BKN037 22/15 Q1019 BLU=

## Analysis and Investigation

### UKAB Secretariat

The Tucano and Microlight 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>1</sup>. If the incident geometry is considered as converging, then the microlight pilot was required to give way to the Tucano formation<sup>2</sup>.

## Comments

### HQ Air Command

The Tucano formation had submitted their sortie to CADS, but this information would likely not have been available to the microlight pilot. Therefore, the ability to plan to avoid was not possible. The Tucano formation was squawking and had recently departed Wittering. In the descent to low-level, they had changed frequencies from Wittering to Low-Level Common, prioritising building SA about the low-level environment. It is not possible to determine whether the microlight was talking to an ANSP agency or squawking – the Tucano crews didn't receive an alert on their TAS. This left lookout as the only available barrier to the avoidance of MAC. It is likely that the No. 2 Tucano would have had their attention divided between the ground (navigation & entry to low level), the lead aircraft and the airspace ahead. This possibly explains the late sighting of the microlight.

Given the circumstances causing this Airprox to develop, the importance of an effective lookout in Class G airspace cannot be overstated.

## Summary

An Airprox was reported when a Tucano and a microlight flew into proximity 10nm NW of Wittering at around 1532hrs on Thursday 30<sup>th</sup> May 2019. The Tucano pilots were operating under VFR in VMC, in the UKLFS. The microlight pilot could not be traced.

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

Information available consisted of reports from the Tucano pilot, radar photographs/video recordings and a report operating authorities. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first looked at the actions of the Tucano pilots. The formation was about to enter into low-level and members heard that the pilot in the No2 aircraft would have needed to divide his attention between looking at the lead aircraft in the formation (to his right) and his look-out for other aircraft (**CF2**), so they thought that he had been fortunate to spot the microlight to his left, albeit it was too late to either call the threat to his leader or take any effective action (**CF4**). The Tucanos had left the Wittering frequency so could not receive any Traffic Information from the controller (although there was no evidence that the controller could see it on his radar anyway). Furthermore, the microlight was not squawking and so it did not alert the TAS in the Tucanos. Therefore, the Board agreed that the Tucano pilots had no opportunity to gain situational awareness that the microlight was there, prior to actually seeing it (**CF1, CF3**). Members thought that had the Tucano pilots switched back to the Wittering frequency to report the Airprox then there was a possibility that the controller may have been able to trace the microlight pilot, but they acknowledged that by that time the Tucano formation would be concentrating on establishing themselves at low-level and monitoring the low-level common frequency for other aircraft in the area.

<sup>1</sup> SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

<sup>2</sup> SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

Unfortunately, the microlight pilot could not be traced, so it was not known whether he had seen the Tucanos and already taken avoiding action, or had not seen them at all. A member with microlight experience commented that many microlight pilots in the area use the disused runway at Cottesmore for PFL training, and it was possible that this one was undertaking a similar profile or setting up for such an activity and so might have been concentrating on this perhaps to the detriment of lookout. Either he had not seen the Tucanos, had seen them and was not concerned, or had seen them and did not wish to (or was not aware of how to), report the occurrence

Members then debated whether there had been a risk of collision. Although the Tucanos had not taken any avoiding action, the microlight had passed close down their left-hand side and it was not known whether the microlight pilot had taken any action. Some members thought that although safety had been degraded, there had been no risk of collision. Others thought that 100m was too close for comfort given the dynamics of the event and the speed of the Tucanos. In the end, the latter view prevailed and the Board assessed that safety had been much reduced below the norm, risk Category B.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

2019126			
CF	Factor	Description	Amplification
	<b>Flight Elements</b>		
	<b>• Situational Awareness of the Conflicting Aircraft and Action</b>		
1	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
2	Human Factors	• Distraction - Job Related	Pilot was engaged in other tasks
	<b>• Electronic Warning System Operation and Compliance</b>		
3	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	<b>• See and Avoid</b>		
4	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: B.

### Safety Barrier Assessment<sup>3</sup>

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

#### **Flight Elements:**

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the Tucano pilots had no prior information about the microlight.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the microlight was not squawking and so did not alert the Tucanos' TAS.

**See and Avoid** were assessed as **ineffective** because the Tucano pilot did not see the microlight in time to take any avoiding action, and the other members of the formation did not see it at all.

<sup>3</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

<b>Airprox Barrier Assessment: 2019126</b>		Outside Controlled Airspace						
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b>				
				<b>Barrier Weighting</b>				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	●	●					
	Manning & Equipment	●	●					
	Situational Awareness of the Confliction & Action	●	●					
	Electronic Warning System Operation and Compliance	●	●					
Flight Element	Regulations, Processes, Procedures and Compliance	●	●					
	Tactical Planning and Execution	●	●					
	Situational Awareness of the Conflicting Aircraft & Action	✗	●					
	Electronic Warning System Operation and Compliance	✗	✗					
	See & Avoid	✗	✗					
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present</u>	<u>Not Used</u>		
Provision	●	●	✗	●				
Application	●	●	✗	●		○		
Effectiveness	■	■	■	■		□		