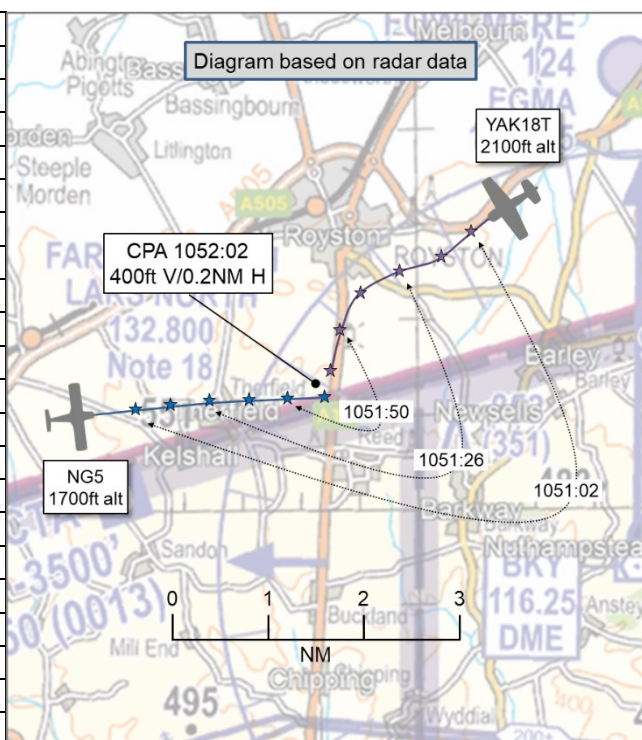


AIRPROX REPORT No 2023081

Date: 18 May 2023 Time: 1052Z Position: 5201N 00001W Location: 1NM S of Royston

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Bristell NG5	Yak18T
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	AFIS
Provider	N/A	Duxford
Altitude/FL	1700ft	2100ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue/White	Cream/Maroon
Lighting	Strobes/Tail/Wing	Beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1700ft	2100ft
Altimeter	QNH (1028hPa)	QNH
Heading	085°	NR
Speed	105kt	130kt
ACAS/TAS	PilotAware	TAS
Alert	Information	None
Separation at CPA		
Reported	225ft V/0.2NM H	200ft V/0.5NM H
Recorded	400ft V/0.2NM H	



THE NG5 PILOT reports that they had been on a flight from [departure airfield] to [destination airfield], initially with Luton for departure with a Basic Service. They recall changing frequency to Wattisham in preparation to request MATZ penetration to land at [destination airfield]. On approaching Royston, the NG5 pilot had been alerted by [their EC equipment] to an aircraft on their left a couple of miles away on a parallel course. The NG5 pilot could not see that aircraft at that stage. Shortly after, the NG5 pilot noticed the aircraft turning towards them. The aircraft appeared higher than the NG5 but it started to descend and turned to 'aim' directly at them. The aircraft flew around the back of the NG5 and positioned itself close behind, slightly higher and off to the right. In this position the NG5 pilot could not see it, but had been alerted by [their EC equipment] of its presence and that it had been overtaking by 20kts. The NG5 pilot tried to obtain a visual of the aircraft but it sat firmly in a blind spot. As the NG5 pilot had been very worried that the pilot of the other aircraft wouldn't be able to see them and might fly into them, they made an expedited descending left-hand orbit to provide separation. On resuming their original course they noticed the aircraft flying away from them in a north-easterly direction. The NG5 pilot reports having checked [various electronic aircraft tracking applications] to ascertain positions and timings which concur with what they experienced. In the view of the NG5 pilot, this had been an irresponsible thing to do. Had this happened to an inexperienced pilot or if they had not seen the other aircraft and the NG5 pilot had manoeuvred into the path of the other aircraft, it could have led to a serious incident or fatality.

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

THE YAK18T PILOT reports when inbound to [destination airfield] working Duxford Information they had been requested to hold at Royston due to a practice display over the airfield, which they did, orbiting left to the south of Royston. The Yak pilot had been visual with three other aircraft in the vicinity and, due to the erratic nature of one aircraft, informed Duxford that they would position to the south and east towards Linton. Before reaching Linton the Yak pilot had been informed that they could make an approach to RW24.

The pilot assessed the risk of collision as 'None'.

THE DUXFORD AFISO reports that no report [on this event] had been made to Duxford Flight Information Centre. A review of RT recordings showed no report or evidence of this incident.

Factual Background

The weather at Cambridge was recorded as follows:

METAR EGSC 181050Z 15006KT 090V190 9999 FEW020 16/09 Q1028=

Analysis and Investigation

UKAB Secretariat

The NATS radar replay was reviewed and both the NG5 and Yak18 were identified using Mode S.

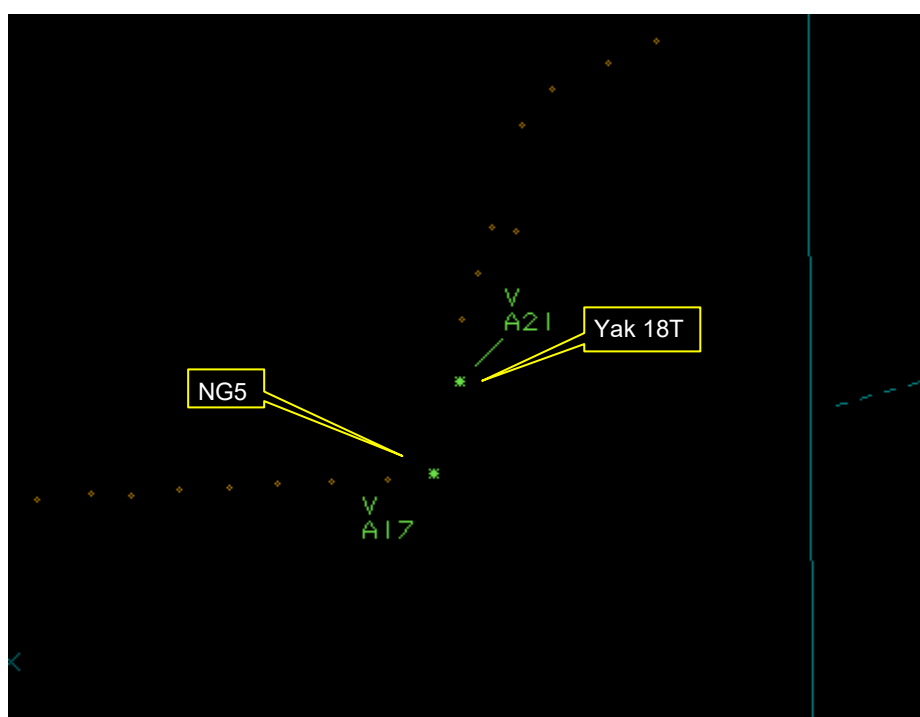


Figure 1: CPA 400ft V/0.2NM H at 1052:02

The NG5 and Yak18 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 If the incident geometry is considered as converging then the YAK18 pilot was required to give way to the NG5.²

Summary

An Airprox was reported when a Bristell NG5 and a Yak18T flew into proximity at 1NM south of Royston at 1052Z on the Thursday 18th May 2023. Both pilots were operating under VFR in VMC, the NG5 pilot was not in receipt of an air traffic service and the YAK18 pilot was in receipt of an AFIS from Duxford Information.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

¹ (UK) SERA.3205 Proximity.

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

Information available consisted of reports from both pilots and radar photographs/video recordings. 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.

Members reviewed the circumstances leading to this event and focussed initially on the actions of the Yak pilot. The Board noted that they had been tracking directly toward the NG5 and had reported changing their holding area due to the 'erratic nature' of one aircraft. Noting that the pilot had been visual with 3 other aircraft, and that the track of the NG5 had remained stable throughout the encounter, members concluded that the Yak pilot had not had any situational awareness of **(CF1)**, nor had they sighted **(CF4)**, the NG5.. With limited Air Traffic Service support for both the Yak and the NG5 pilots, reliance had been on the use of other barriers, including perhaps common low-level frequency monitoring, Electronic Warning Systems and See and Avoid.

The Board noted that the NG5 pilot had been alerted to the presence of the Yak by their EC equipment **(CF3)** and members praised the pilot for decisive action when they had been unable to reassure themselves that the Yak pilot, 'sat firmly in the NG5's blind-spot' **(CF5)**, had been visual with them. Members agreed that the NG5 pilot had been justifiably concerned about the proximity of the Yak **(CF2)** and further noted that if the overtaking aircraft pilot is visual with the overtaken aircraft, it is wise to take a wide berth to allow for manoeuvring by that pilot.

The Board did note that, in transiting a busy and relatively narrow gap, the NG5 pilot might have considered taking a radio service from a nearby agency to improve their situational awareness, although acknowledged that option for a LARS are limited in this area.

In consideration of the risk, the Board concluded that there had been sufficient separation at CPA for there to have been no risk of collision. Accordingly, members assigned Risk Category C to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023081			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
2	Human Factors	• Unnecessary Action	Events involving flight crew performing an action that was not required	Pilot was concerned by the proximity of the other aircraft
	• Electronic Warning System Operation and Compliance			
3	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
4	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
5	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

Degree of Risk: C.

Safety Barrier Assessment³

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

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Duxford AFISO had no contact with or knowledge of the NG5.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Yak18T pilot had no situational awareness of the presence of the NG5 and the NG5 pilot had been concerned about the proximity of the Yak18T as displayed on their EC equipment.

Airprox Barrier Assessment: 2023081		Outside Controlled Airspace		Effectiveness				
Barrier		Provision	Application	Barrier Weighting				
				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	✓	✓					
Key:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	●				
Application	✓	⚠	✗	●				
Effectiveness								