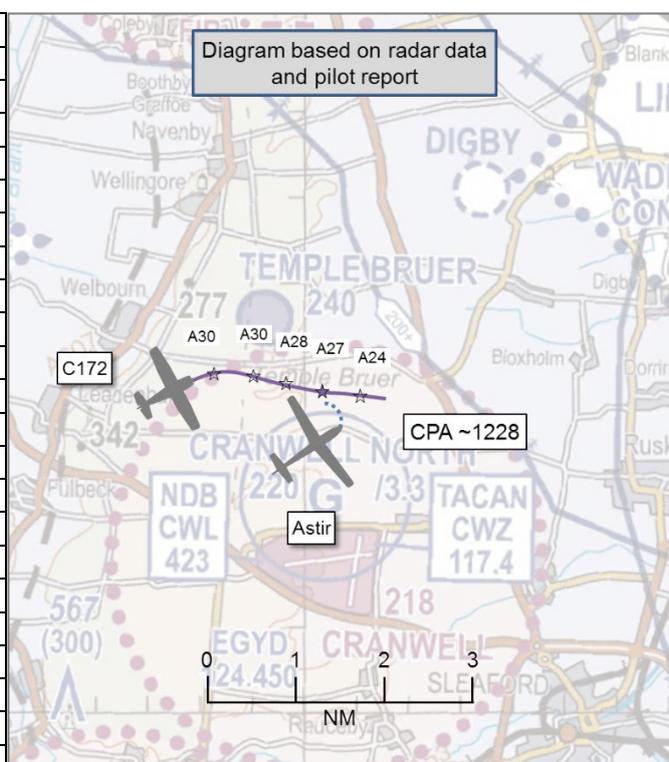


AIRPROX REPORT No 2019133

Date: 01 Jun 2019 Time: 1228Z Position: 5304N 00029W Location: ivo Cranwell North airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Astir	C172
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	'Cranwell Gliders'	Cranwell Tower
Altitude/FL	NK	2800-2400ft
Transponder	Not fitted	A, C, S
Reported		Not reported
Colours	White	
Lighting	Not fitted	
Conditions	VMC	
Visibility	10km	
Altitude/FL	2500ft	
Altimeter	QFE (NK hPa)	
Heading	north (turning left)	
Speed	50kt	
ACAS/TAS	Not fitted	
Alert	N/A	
Separation		
Reported	0ft V/200m H	
Recorded		NK



THE GLIDING CLUB CFI reports that he was present on the airfield and, although not the nominated Duty Instructor, he was asked to talk to one of the club pilots who was in an agitated state having just landed and been involved in an Airprox. The pilot advised that he had been soaring locally and was in a left-hand thermaling turn at approximately 2500ft agl, 1km north of the airfield, when he saw a Cessna 172 (positively identified) at a similar height and approximately 200m horizontally spaced, close enough that he could clearly read the registration. The pilot was so shaken that he had decided to land. The CFI spoke to the Cranwell ATCO I/C by landline, who informed him that the aircraft had been in radio communication with Cranwell ATC and had been advised that the North Airfield was active with gliding in progress; he had also informed 'Cranwell Gliders' that the aircraft was routing to the north of the airfield. It was acknowledged that the incident, whilst within the Cranwell MATZ, was outside the ATZ.

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

THE C172 PILOT declined to take part in the Airprox process.

THE CRANWELL ATCO I/C reports that he was the Aerodrome Controller (ADC), controlling Cranwell Air Systems (AS) on Tower VHF, whilst monitoring Cranwell Zone VHF frequency, (which is normally monitored to accommodate Cranwell Zone crossings on weekends, bank holidays etc when ATC is not manned). He noted that when Cranwell Tower frequency is busy, it can be too capacity sapping to monitor the VHF Zone frequency and so it is therefore not always monitored. A call from a member of the gliding club was received approximately 30-45 minutes after the event to inform ATC that they had just had to console a glider pilot due to a close call with a light civilian AS, which the controller believed to have been [C172 C/S]. He recalled that at around the time of the reported incident he spoke to the pilot of [C172 C/S] on VHF Zone, who was requesting a MATZ crossing via Temple Bruer to [a local farm strip]. The pilot reported being at 3200ft on 1011hPa at 1224Z. An unrelated PAN call was then received on the Tower frequency at 1227Z. The controller then informed the [C172 pilot] that Cranwell

North Airfield was active with multiple gliders. He gave basic traffic information from his Air Traffic Monitor on what he believed was the closest glider. He also immediately informed the gliding club on handheld radio of the traffic transiting west-to-east at altitude 3200ft. The controller noted that there should be no mistake that gliders operating outside the ATZ have no additional protection than that expected in Class G airspace.

Factual Background

The weather at Cranwell was recorded as follows:

METAR EGYD 011250Z 20007KT 9999 FEW038 BKN250 22/13 Q1019 BLU NOSIG=

Analysis and Investigation

Military ATM

An Airprox occurred on 1 Jun 19 at approximately 1225 UTC, 1km north of Cranwell North Airfield between a Glider and a C172. The Glider was not receiving an Air Traffic Service, the C172 was receiving a Basic Service from Cranwell Tower.

The Glider was conducting a local flight to and from Cranwell North Airfield and was performing a left-hand turn at the time of the incident. The C172 was on a cross-country flight from [departure] to [a local farm strip] routing via Temple Bruer. The Cranwell Tower controller was monitoring the Cranwell Zone frequency in order to facilitate any Cranwell Zone crossings which would have impacted circuit flying.

The incident did not show on radar but relevant excerpts of the Cranwell R/T and management radio systems were obtained. Analysis of these R/T recordings show that the C172 contacted Cranwell at 1224:34 giving routing details and anticipated transit altitude. At 1225:57, the Cranwell Tower Controller passed information to the C172 on the activity at Cranwell North Airfield. This transmission also included Traffic Information (derived from the Air Traffic Monitor) on two transponding gliders [UKAB Note: The Astir was not fitted with a transponder]. Shortly after this, a Tutor in the visual circuit declared an emergency and this became the focus of the Tower Controller's attention.

Having established that the C172 routing would place it close to the Cranwell North gliding activity, the Cranwell Tower Controller contacted the gliding club via management radio to inform them of the transiting C172. It is not known if this information was relayed by the flying club to airborne gliders.

As the Cranwell Tower Controller made both the C172 and the glider club aware of each other and provided Traffic Information to the C172 on observed conflicting traffic, the controller discharged their duties appropriately in this situation.

UKAB Secretariat

The Astir and C172 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right². If the incident geometry is considered as converging then the C172 pilot was required to give way to the Astir³. If the incident geometry is considered as overtaking then the Astir pilot had right of way and the C172 pilot was required to keep out of the way of the other aircraft by altering course to the right⁴.

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

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

⁴ SERA.3210 Right-of-way (c)(3) Overtaking.

Cranwell Safety Investigation

The Gliding Club duty auth did not relay details of the passing GA traffic that was provided to him by Cranwell ATC. Recommendation: The Cranwell Gliding Club should revise orders for the Duty Auth to ensure that all warnings from CRN ATC of passing traffic are re-broadcasted to gliders that are airborne.

The GA pilot elected to fly through a known area of gliding activity despite being made aware of the gliding activity taking place. Whilst not the wisest decision [in their opinion], the GA pilot was within his rights to fly where he did despite being warned of gliding activity.

Summary

An Airprox was reported when an Astir and a C172 flew into proximity at about 1228Z on Saturday 1st June 2019 to the north of RAF Cranwell. Both pilots were operating under VFR in VMC, the C172 pilot in receipt of a Basic Service from Cranwell Tower and the Astir pilot not in receipt of a FIS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the gliding club CFI, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate operating authority. 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 first discussed the ATC aspects of the Airprox and were heartened by the proactive and safety enhancing actions of the Cranwell ADC. However, it was a disappointment that their pro-active Traffic Information message to the gliding club was not passed on to the airborne gliders (**CF2**). That being said, some members wondered to what degree that message would have been assimilated and/or actioned by the airborne glider pilots even if it had been transmitted to them. The Board also noted that the lack of transponder in the Astir meant that the Cranwell controller was unable to identify the glider, and that this in turn meant that they could not provide accurate Traffic Information to the C172 pilot (**CF1**).

In the event, the C172 pilot was passed Traffic Information on other gliders, and were warned of gliding activity at Cranwell North airfield albeit without specific Traffic Information on the Astir (**CF3**). For his part, the Astir pilot was unaware of the C172's transit (**CF3**) and only saw the C172 at a late stage (**CF4**). The Board were disappointed that the C172 pilot had chosen not to participate in the Airprox process because this meant that they could not know his perspective or decision-making rationale. As a result, it was not known whether the C172 pilot had seen the Astir, and members could only surmise that he either did not, or was sufficiently unconcerned by its proximity that he did not alter his flight path.

Members then discussed Electronic Conspicuity and noted that Traffic Information was passed to the C172 pilot on 2 other gliders that were fitted with transponders, and that fitment of a transponder to the Astir would no doubt have resulted in specific Traffic Information on its position also being passed to the C172 pilot. Such fitment could also have provided a TAS alert to other TAS equipped aircraft.

Some members questioned the wisdom of the C172 pilot flying in such proximity to a known area of gliding activity which had been further highlighted to him as active by the controller. Other members commented that equal access was intrinsic to Class G airspace and that, although the powered aircraft was required to give way in a converging situation, the mere presence of gliders should not preclude transit by powered aircraft. Members noted that, ultimately, the C172 pilot's routeing to Temple Bruer took him north of the direct track to his destination (presumably to avoid the overheads of Cranwell and Cranwell North airfields), and that he had done so at an altitude at which he remained clear of the Cranwell ATZ. The issue at debate being how far one should avoid gliding sites, to which there was no definitive answer other than 'as much as is practical, and certainly avoid the overhead below maximum winch-launch height'.

Regarding risk, some members opined that, in the absence of the C172 pilot's report, there might be too little information with which to come to a conclusion (risk Category D). The Board discussed this at length but, in the end, decided that the Astir pilot's report was sufficient to determine that, although clearly startled, he had estimated the range at CPA to be such that the risk of collision had been averted. Accordingly, the Board assessed the risk as Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2019133			
CF	Factor	Description	Amplification
Ground Elements			
• Situational Awareness and Action			
1	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
2	Human Factors	• Traffic Management Information Provision	Not provided, inaccurate, inadequate, or late
Flight Elements			
• Situational Awareness of the Conflicting Aircraft and Action			
3	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
• See and Avoid			
4	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: C.

Recommendation: Nil.

Safety Barrier Assessment⁵

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

Ground Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Astir glider was not fitted with a transponder and hence the controller could not detect it.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action was not formally evaluated because it was not definitively known whether the C172 pilot was aware of the Astir or had taken action. That being said, the Board agreed that the likely lack of situational awareness by either pilot about the other was contributory.

See and Avoid were assessed as **partially effective** because the Astir pilot did not see the C172 until at a late stage.

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

Airprox Barrier Assessment: 2019133		Outside Controlled Airspace						
Barrier		Provision	Application	Effectiveness				
				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</u>	<u>Not Used</u>		
Provision	✔	⚠	✘	⊖	⊖	○		
Application	✔	⚠	✘	⊖	⊖	○		
Effectiveness								