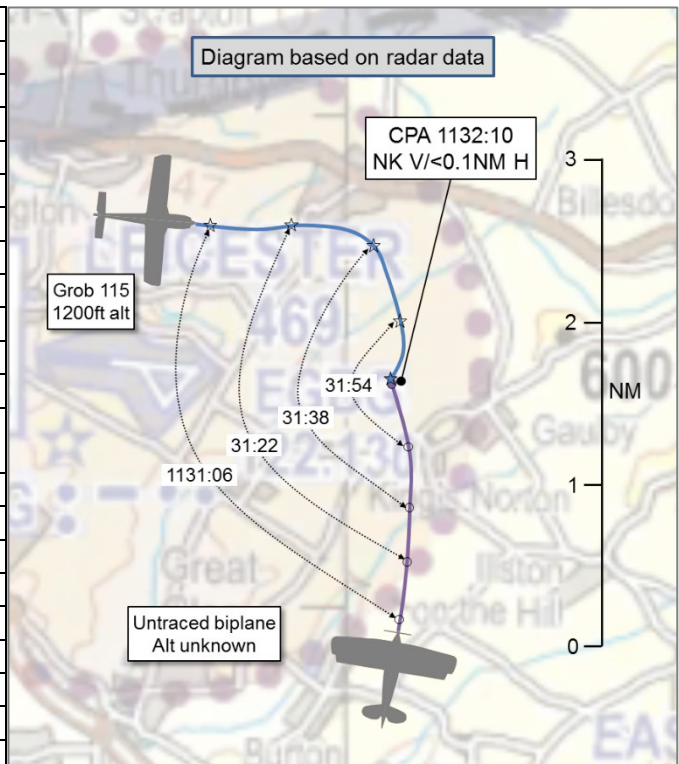


AIRPROX REPORT No 2020067

Date: 14 Jul 2020 Time: 1132Z Position: 5236N 00059W Location: Leicester aerodrome

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Grob 115	Untraced biplane
Operator	Civ FW	Unknown
Airspace	Leicester ATZ	Leicester ATZ
Class	G	G
Rules	VFR	NK
Service	AGCS	Unknown
Provider	Leicester Radio	NK
Altitude/FL	1200ft	NK
Transponder	A, C, S	Nil
Reported		
Colours	White	NK
Lighting	Nav, Strobes, Ldg Lights, Beacon	NK
Conditions	VMC	NK
Visibility	>10km	NK
Altitude/FL	800ft	NK
Altimeter	QFE (999hPa)	NK
Heading	280°	NK
Speed	80kt	NK
ACAS/TAS	Not fitted	Unknown
Separation		
Reported	100ft V/400ft H	NK
Recorded	NK V/<0.1NM H	



THE GROB 115 PILOT reports that they were flying RH (fixed-wing) circuits on RW28 with the LH (rotary-wing) circuit active. Halfway round the final turn, at approximately 800ft, they sighted what appeared to be a Tiger Moth in their 9 o'clock approximately 100ft above them and slightly behind. The turn onto finals was increasing their separation so they continued and called an 'Airmiss' to Leicester Radio. The radio operator acknowledged their call and also confirmed that the other aircraft was not in contact with them. The pilot did not see the registration of the other aircraft as it was silhouetted behind them and considered that, during their base leg, the aircraft would have been head-on and the biplane would have been slightly below their sightline, making it more difficult to see. They opined that the aircraft must also have flown through the helicopter circuit.

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

THE BIPLANE PILOT could not be traced.

THE LEICESTER AIR GROUND OPERATOR reports that the Grob 115 pilot joined the circuit and called 'final RW28' at 1130Z, to which they responded with the windspeed and direction. The Grob pilot then made a second call reporting another aircraft crossing the final approach, left-to-right, and asked about other aircraft within the ATZ and that they would like to file an Airprox. The AGO informed the Grob pilot of a C152 downwind in the circuit and no other known traffic. The Grob pilot stated that there had been a Tiger Moth-looking aircraft flying straight across the final approach path for RW28, to which they responded that no other fixed-wing traffic were reported within the ATZ, other than the C152 on downwind. The Grob pilot responded with 'I spotted him' and so they asked the pilot to report to reception after landing to discuss the matter further. They consulted Flightradar24 but could not find any evidence of the presence of the other aircraft.

The Air Ground Operator did not make an assessment of the severity of the incident.

Factual Background

The weather at East Midlands Airport was recorded as follows:

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METAR EGNX 141120Z 26011KT 230V290 9999 SCT020 16/10 Q1016=
METAR EGNX 141150Z 26011KT 9999 SCT035 16/09 Q1016=
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Analysis and Investigation

UKAB Secretariat

A review of the NATS radar replay was undertaken in an attempt to ascertain the biplane's aerodrome of departure and/or its destination airfield. The position at which the primary track was first observed proved inconclusive, so the replay was continued beyond the time of the Airprox until the biplane was to the north of East Midlands Airport, whereupon the track faded. Calls were made to airfields in the vicinity of the position that the track faded to see if they had handled a biplane on the day in question; no positive identification of the biplane involved could be made.

Analysis of the NATS radar showed the Grob 115 in the circuit pattern at Leicester aerodrome and the biplane tracking north during the time leading up to the Airprox (see Figure 1). At 1131:30 the Grob 115 pilot commenced their turn onto base leg – the biplane was 1.8NM south of the Grob 115 at this time (see Figure 2); note the presence of radar jitter, which may have been due to the proximity of other traffic in the LH circuit pattern at Leicester aerodrome.

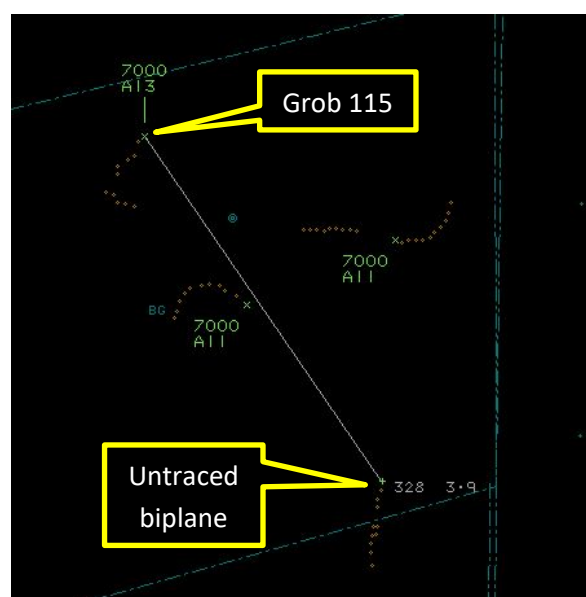


Figure 1 – 1130:30

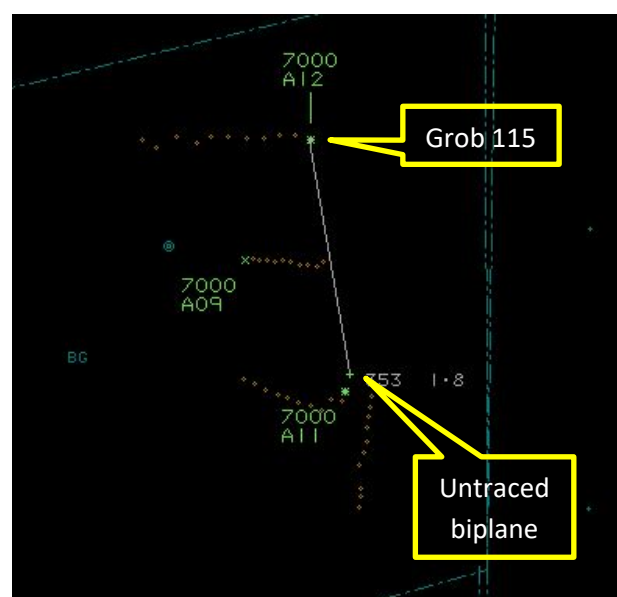


Figure 2 – 1131:30

At 1131:54, when the Grob pilot was approximately halfway along their base leg, the Grob 115 and untraced biplane were head-on to each other at a range of 0.8NM (see Figure 3). The 2 aircraft continued to close on each other until shortly after the Grob 115 pilot had commenced their final turn, at which point the Grob 115 pilot sighted the biplane and elected to continue their turn as it was increasing the separation between the 2 aircraft. CPA occurred as the 2 radar contacts merged at 1132:10 (see Figure 4).

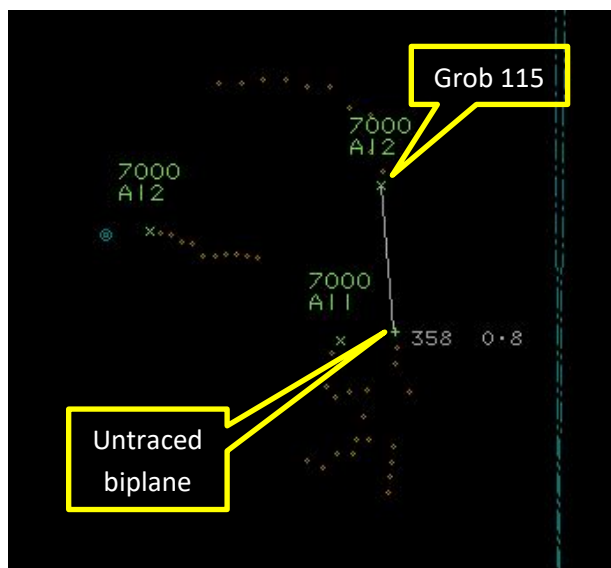


Figure 3 – 1131:54

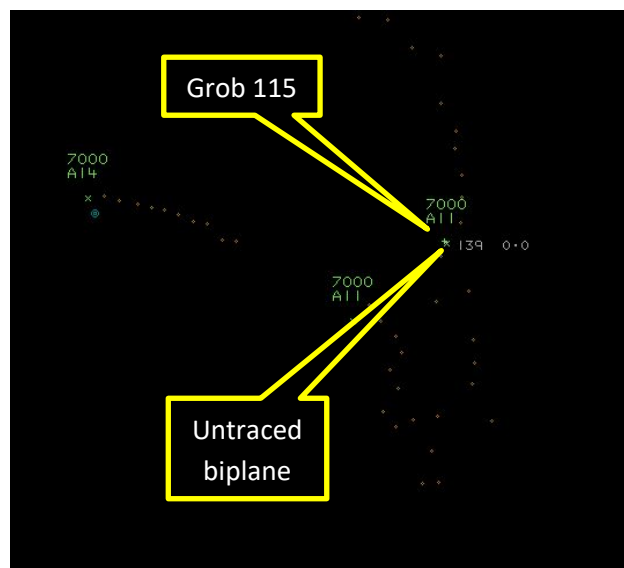


Figure 4 – 1132:10 (CPA)

The Grob 115 and untraced biplane 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 An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.²

Summary

An Airprox was reported when a Grob 115 and an untraced biplane flew into proximity in the Leicester aerodrome circuit at 1132Z on Tuesday 14th July 2020. The Grob 115 pilot was operating under VFR in VMC and was in receipt of an Air Ground Communication Service from Leicester Radio. The biplane pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the pilots of the Grob 115, radar photographs/video recordings, and a report from the Air Ground Operator involved. 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided dial-in/VTC comments.

The Board first considered the actions of the Grob 115 pilot and was grateful for their prompt reporting action – this had given the greatest opportunity to gather the required information, albeit there had been no success in tracing the pilot of the biplane. A General Aviation member emphasised that this encounter highlighted the fact that constant vigilance and lookout are essential, even within the circuit. The Board agreed that the Grob pilot had not had any prior warning, and therefore no situational awareness, of the presence of the biplane (**CF7**). Furthermore, the pilot would have been concentrating on their circuit flying and lining up with the runway on final, so it had been unsurprising that they had not spotted the biplane until it had passed through their 9 o'clock, when the appropriate avoiding action had been to continue the turn onto final (**CF8**).

The Board then briefly considered the actions of the Air Ground Operator, and quickly agreed that they had had no prior knowledge that the biplane had been inside the ATZ and no calls were received

¹ SERA.3205 Proximity.

² SERA.3225 Operation on and in the Vicinity of an Aerodrome.

informing them as such. Therefore, there was no information for the Air Ground Operator to offer to other pilots in the circuit.

Members then discussed the actions of the biplane pilot, and were disappointed that the tracing action had proved fruitless; without the biplane pilot's account, their understanding of this event had been hampered and all contributory factors may not have been identified. However, the Board did agree that the biplane pilot had not complied with The Rules of The Air Regulations 2015; namely in that he had not contacted the Air Ground Operator prior to penetration of the Leicester ATZ (**CF1**), whether or not the ATZ penetration had been intentional (**CF3**, **CF4**). Members considered that this had likely been due to insufficient or inaccurate pre-flight preparation (**CF2**), which could have – but had not – included a call to Leicester prior to departure to inform the Air Ground Operator of their intended routing (**CF6**). A call before flight would have been particularly important if their aircraft had not been equipped with a radio (the radio fit of the biplane was not known). The Board also agreed that, once within the ATZ, the biplane pilot had neither conformed with nor avoided the patterns of traffic formed by both the rotary-wing aircraft in the southerly circuit and the fixed-wing traffic to the north of the RW (**CF5**).

Turning to the risk involved in this encounter, the Board noted that it had not been possible to accurately measure the vertical separation due to the fact that the biplane had not displayed any transponder information. However, the primary radar track of the biplane had been available and this had shown the horizontal separation to be <0.1NM. Members took account of the Grob 115 pilot's estimation of vertical separation and, whilst this could not be corroborated by any other means, the Board's view was that there had been sufficient vertical separation to at least remove any collision risk. This, coupled with the Grob 115 pilot's account that there was no need for avoiding action other than to continue their final turn, led the Board to the conclusion that, although safety had been degraded, there had been no risk of collision and therefore a Risk Category of C was agreed upon.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020067		
CF	Factor	Description	Amplification
	Flight Elements		
	• Regulations, Processes, Procedures and Compliance		
1	Human Factors	• Flight Operations Documentation and Publications	Regulations and/or procedures not complied with
	• Tactical Planning and Execution		
2	Human Factors	• Flight Planning and Preparation	
3	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
4	Human Factors	• Aircraft Navigation	Flew through promulgated and active airspace
5	Human Factors	• Monitoring of Other Aircraft	Did not avoid/conform with the pattern of traffic already formed
6	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
	• Situational Awareness of the Conflicting Aircraft and Action		
7	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	• See and Avoid		
8	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

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:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Leicester Air Ground Operator was not required to monitor the aircraft under an Air Ground Communications Service.

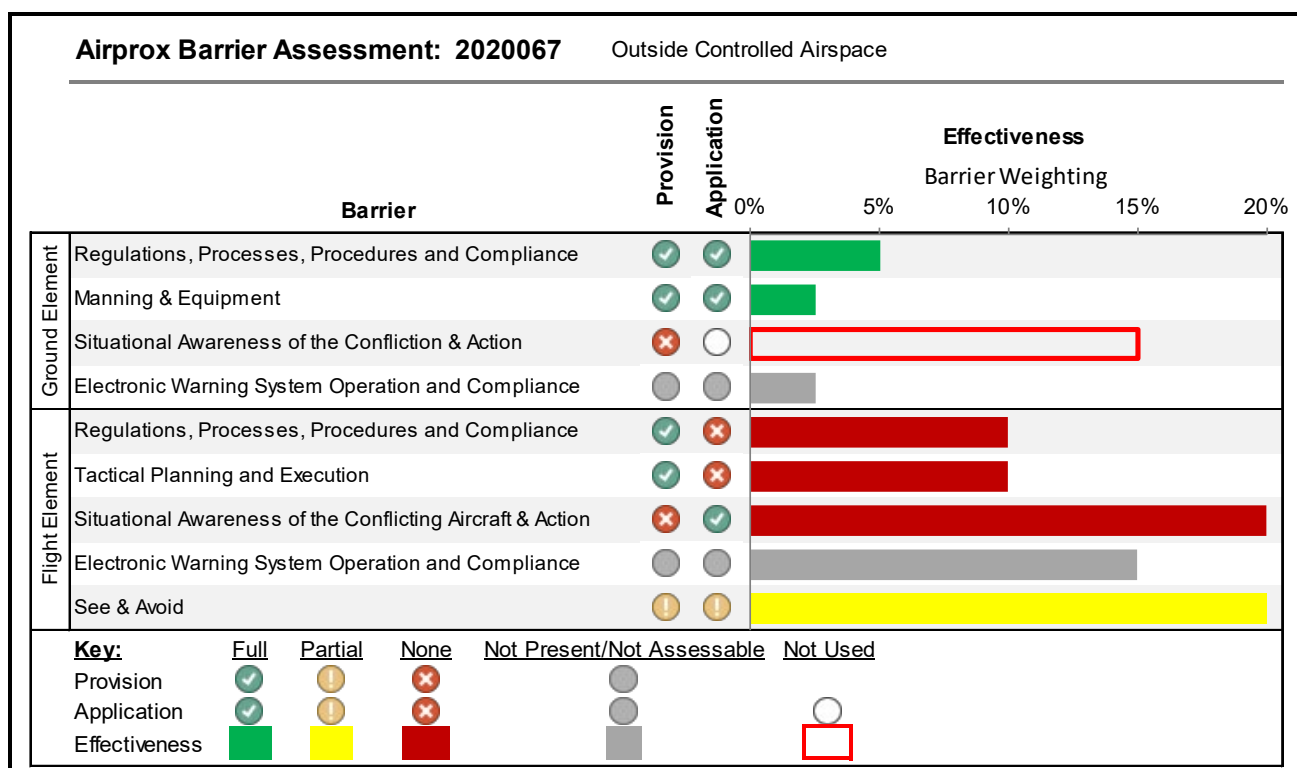
Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the biplane pilot did not obtain information from the Leicester air/ground communication service to enable the flight to be conducted safely within the ATZ, or communicate the aircraft's position and height to the Leicester Air Ground Operator on entering the ATZ.

Tactical Planning and Execution was assessed as **ineffective** because the biplane pilot flew their aircraft into the Leicester ATZ and did not conform with or avoid the pattern of traffic formed by other aircraft in operation.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Grob 115 pilot received no warning of the presence of the biplane until they sighted the aircraft.

See and Avoid were assessed as **partially effective** because the Grob 115 pilot did not see the biplane until it was effectively too late to increase the separation between the 2 aircraft.



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