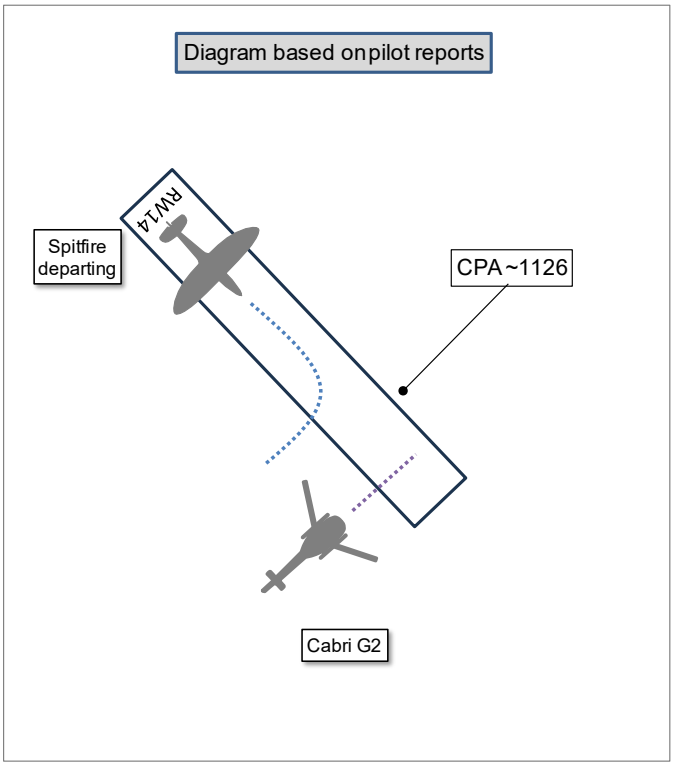
AIRPROX REPORT No 2024129

Date: 13 Jun 2024 Time: ~1126Z Position: 5051N 00045W Location: Goodwood

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Spitfire	Cabri G2
Operator	Civ FW	Civ Helo
Airspace	Goodwood ATZ	Goodwood ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Goodwood	Goodwood
Altitude/FL	NK	NK
Transponder	A, C, S	A, C, S
Reported		
Colours	NR	White, Grey
Lighting	NR	Landing
Conditions	VMC	VMC
Visibility	NR	>10km
Altitude/FL	50ft	300ft
Altimeter	NR	QFE
Heading	140°	260°
Speed	100kt	40kt
ACAS/TAS	Unknown	Not fitted
Separation at CPA		
Reported	NR	200ft V/400m H
Recorded	NK	



THE SPITFIRE PILOT reports that they were departing Goodwood on RW14, other airfield traffic was using RW24. They were cleared to backtrack RW14 and report ready. They backtracked the runway and lined the aircraft up facing slightly to the right of the centreline (into wind) for cooling and improved vision of both RW14 and RW24. They reported ready for departure. The FISO advised that there was an aircraft on a base leg for RW24 and that they were cleared to take-off at their discretion. Visual with the traffic, they reported taking-off. As the aircraft accelerated and the tail was raised, they saw a helicopter to the right of the runway at the far end. The helicopter had been hovering on the VOR field at Goodwood. They had previously been unable to see it as it had been obscured by the nose of the aircraft. The helicopter proceeded to hover taxi away from the field and towards the runway from right-to-left. They continued as they felt here was insufficient room to reject the take-off and, as the aircraft became airborne, they turned to the right to pass behind the helicopter. They were visual with the helicopter throughout as it crossed the runway. The pilot of the helicopter apologised after the event and said that they had been 'heads-in' with their student and assumed fixed-wing traffic was using RW24.

THE CABRI G2 PILOT reports that they were undertaking an instructional flight to teach limited power take-offs and landings with a student holding a fixed-wing ATPL with >3500hrs and currently flying for [an airline]. They made a radio call to Goodwood Information requesting radio check, airfield information and start for circuits, and were advised that RW24RH was in use, with helicopters operating from the VOR field. On receiving taxy instructions, they air-taxied to the VOR field accordingly. At no time were they advised that any other runway other than RW24 was in use. They continued with their instructional flight as planned (circuits to the south with running take-offs and landings). After some circuits, the instructor wished to demonstrate just a running landing without having to route around the entire circuit, so positioned directly to the east, crossing (what they believed was the unused) runway 14/32 to a point at about 300ft AGL just outside the airfield boundary, to turn left back into wind and perform a running landing back into the VOR field. As they turned left, they saw the Spitfire just taking off along RW14. Their track was already projected to pass behind and, whilst they were not concerned for a risk of

collision at that time, they were surprised they had not been aware of the runway in use, let alone the departing Spitfire. They continued with the running landing into the VOR field, crossing behind the Spitfire which was very well clear and above as they passed behind. After landing, they had a brief discussion with one of the air traffic controllers [sic] and later the student and instructor had a relatively in-depth discussion with the airport manager and deputy, who had previously assumed they were making an approach from a full circuit without making any circuit calls. Whilst it is not unusual for high performance aircraft (especially Spitfires) to use RW14/32 whilst RW24/06 or RW10/28 are in use, normally helicopters operating in the southern circuit, or the VOR field, are alerted by RT accordingly and requested to stay clear. They therefore thought that they had missed such calls whilst instructing the student. However, the airport manager advised that they had listened to the RT tapes and no such calls were made. That being said, they were very aware that they had not heard/registered the RT to/from the Spitfire and were unaware of its movements. Normally they are very aware of Spitfire operations and take care to monitor RW14/32 movements and listen out for calls to stay clear accordingly. The RW14 threshold and power check area are at the other end of the airfield from the normal helicopter operating area in the VOR field, and any aircraft in the vicinity of the RW14 threshold are not immediately apparent, without a relatively long, deliberate and prolonged scan of the area from the normal helicopter operating area in the VOR field (often much closer to the RW32 numbers). Whatever the reasons, they were surprised and disappointed with themselves that they hadn't registered and weren't aware of the RW14 movements until they saw the Spitfire taking off.

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

THE GOODWOOD AFISO reports that RW24RH was in use when the Spitfire pilot requested RW14 left-hand. There were helicopters on the VOR field. [G2 C/S] was on the VOR field, intending to carry out circuits, but had not called for departure. Once there was a suitable gap in the traffic on RW24, the AFISO gave the Spitfire RW14 for departure. On take-off the Spitfire pilot said they were making a right turn but did not elaborate. [G2 C/S] then landed on the VOR field and it became apparent the pilot had taken off, completed a circuit and landed, crossing RW14, without making any of the appropriate calls. As far as the AFISO was concerned, the G2 was still on the VOR field and would call for departure. At the time neither pilot called an Airprox but after landing the pilot of the Spitfire did so.

Factual Background

The weather at Shoreham was recorded as follows:

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METAR EGKA 131120Z 21013KT 9999 FEW017 16/11 Q1014=
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The Goodwood website provides the following details on the helicopter circuits:

Circuits

Different circuit patterns exist for fixed wing aircraft and helicopters at Goodwood. Fixed wing aircraft departing Runways 14 and 32 must make their noise abatement turn at the upwind end of the runway, and not before, to avoid confliction with helicopter circuit traffic (see diagram below Noise Abatement Procedures - Fixed Wing / Heli Circuits).

Helicopters

Helicopter circuit height is 800 FT QFE.

The southern helicopter circuit shall be flown when Runways 06, 10, 24 and 28 are in use.
The northern helicopter circuit shall be flown when Runways 14 and 32 are in use.

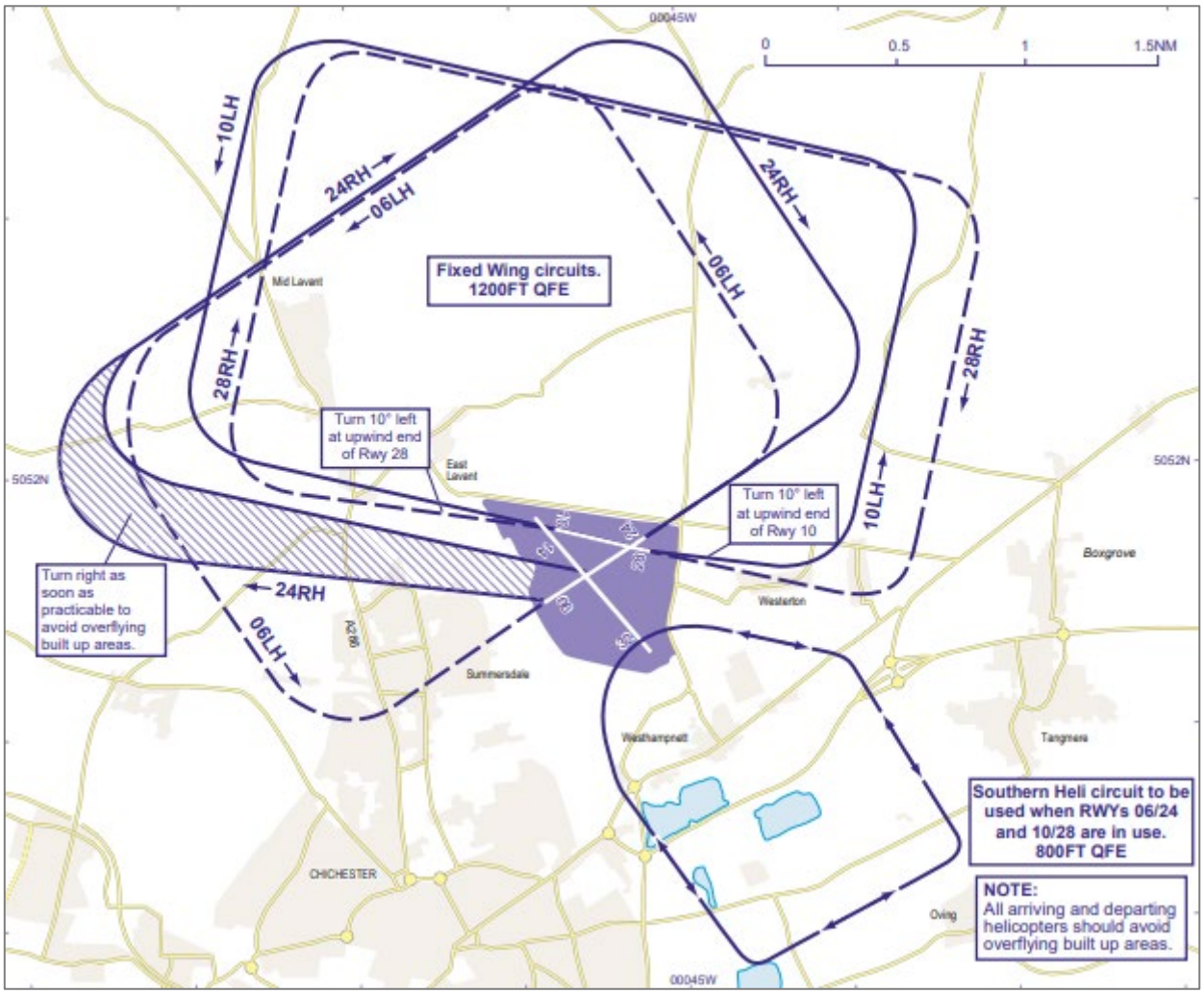


Figure 1 – Visual circuits at Goodwood.

Analysis and Investigation

Goodwood Investigation

Background

The Aerodrome was operating on RW24 for fixed-wing departures, and a helicopter was operating in accordance with the Southern Helicopter Circuit (SHC) procedure. The design of the SHC is such that it affords a geographical separation between fixed-wing movements on RWs 06,10,24 and 28, and rotary training traffic. There is an occasional requirement however, for fixed-wing movements to use RW14/32 for performance reasons, even though the wind may be favouring one of the other runways.

There were two FISOs on duty at the time of the incident. The duty FISO had been on shift since 0830(L) and the second FISO had also been on duty since 0830(L) but was acting in a non-operational FISO capacity. Prior to reporting for duty, both FISOs had adequate rest periods.

Incident and follow-up action

With the regular, fixed-wing traffic using RW24, a single helicopter [G2 C/S] was using the SHC and operating from the VOR field (west of RW14/32) as the launch and recovery point. This is in accordance with normal operational practice. [The pilot of] a departing Spitfire had requested RW14 for take-off performance reasons. The helicopter (with instructor and student) had positioned to the VOR field in preparation for the start of their circuit detail. The Spitfire had lined up on RW14 and was waiting for the FISO to confirm an appropriate gap in the traffic for RW24, to enable the

departure to be completed safely. Unknown to the FISO, the helicopter had lifted from the VOR field, tracked east, through the extended centreline for RW14, turned 180° once east of the extended centreline, and was tracking back to the VOR field at the point that the Spitfire was taking off. The Spitfire pilot became visual with the helicopter on their left, and subsequently turned right, opposite direction to the published NPR, as it crossed the aerodrome boundary. No call was made by either the Spitfire pilot or the helicopter pilot(s). The FISO had given a discretionary take-off to the Spitfire pilot, believing that the helicopter was still on the ground in the VOR field as it had not requested to lift and depart into the helicopter circuit. After landing at 1143, the pilot of the Spitfire contacted Air Traffic to advise of the potential Airprox.

The Instructor and student of the helicopter were interviewed within 2 hours of the incident, and stated that what they had done was, to them, normal operational practice, as they had not picked up on the departure from RW14, believing all fixed-wing traffic to be on RW24. They stated that if the callsign had contained 'Spitfire', this may have indicated that RW14/32 would be used for the departure and/or arrival. The interview concluded with an agreement that no helicopter will lift from any part of the Aerodrome in future, unless the take-off had been approved by Air Traffic.

Conclusion and Action(s) required:

- An SI was issued to advise FISOs and aircraft operators of the correct process for fixed-wing runway operations on RW14/32 whilst the Southern Helicopter Circuit is in use.
- Spitfire aircraft are to use the callsign prefix 'Spitfire', so that airfield users are aware of the likelihood that RW14/32 will be used, even if that is not the declared (into wind) runway.
- The SI and procedure is to be revisited as part of the FISO annual revalidation process.

CAA ATSI

Dealing with the incident in isolation, and without considering the mitigation Goodwood has since introduced, the only things that were missing at the time were Traffic Information to the Spitfire pilot on the presence of the helicopter in the VOR field, and to the helicopter pilot on the imminent departure of the Spitfire on RW14.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken, but unfortunately neither aircraft could be seen. Therefore, the diagram at the top of the report was compiled using pilot reports only.

The Spitfire and Cabri G2 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 Spitfire and a Cabri G2 flew into proximity at Goodwood at around 1126Z on Thursday 13th June 2024. Both pilots were operating under VFR in VMC, both in receipt of an AFIS from Goodwood Information.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, a report from the AFISO 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.

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

The Board first discussed the actions of the Spitfire pilot. They had requested RW14 for take-off, despite RW24 being the runway in use, for operational reasons, as was standard practice at Goodwood. They had not been given Traffic Information on the G2 operating in the VOR field by the AFISO and had not been expecting to see it as they had commenced their take-off (**CF8**). Members commended the Spitfire pilot for their quick actions in taking avoiding action and noted that they had been rightly concerned by the proximity of the G2 (**CF10**).

Turning to the actions of the G2 pilot, they had been instructing a student, teaching running landings, and reported not being aware of the Spitfire departing from RW14. Members acknowledged that the pilot would have been busy instructing the student, which required a good deal of in-cockpit chat, and may have accounted for the fact that they had not heard the Spitfire pilot call for take-off (**CF7**). Members with helicopter experience opined that it would be normal practice for a helicopter conducting low-level circuits (i.e. not the full SHC) to conduct such circuits as non-RT. However, the Goodwood investigation stated that the AFISO would have expected the G2 pilot to have called before taking-off, even for a low-level circuit (**CF5**, **CF6**) and that by not doing so, the G2 pilot had led the AFISO to assume that the helicopter had been remaining on the ground. The G2 pilot reported that they had not heard the Spitfire pilot request RW14 and had not been expecting it to depart from that runway (**CF8**). Members were heartened to hear that Goodwood had amended their procedures to ensure that the Spitfires would use the prefix 'Spitfire' before their callsign, to assist with improving situational awareness in the future. Comparing the two pilots' reports, with the Spitfire pilot reporting seeing the G2 moving from right-to-left and turning right to go behind, and the G2 pilot reporting turning left to then cross behind the Spitfire, members agreed that the G2 pilot had probably not seen the Spitfire at CPA as they had first crossed the runway, but instead had seen it once they had turned back toward the runway from the east (**CF9**).

The Board then discussed the actions of the AFISO. It would have been expected that the AFISO would have given Traffic Information to both pilots in this circumstance, even if they had believed that the G2 pilot had been remaining on the ground in the VOR field (**CF1**, **CF2**, **CF3**). Furthermore, some members thought that in addition to individual Traffic Information to the two pilots concerned, an 'all stations' broadcast could have been made to provide Traffic Information to other pilots operating in the RW24 circuit. On this occasion, unbeknownst to the AFISO, the G2 pilot, not knowing that the Spitfire had intended to use RW14, had taken off from the VOR field (**CF4**) and members thought that the AFISO report implied that they had believed that the G2 had conducted a full circuit without making any calls, when in fact they had been remaining low-level on the airfield. Members noted that Goodwood had taken action since this Airprox to improve their procedures and mitigate against such an occurrence happening again.

When determining the risk of the Airprox, members considered the reports from both pilots together with that of the AFISO. Without any radar or GPS data, members had only the pilots' reports to estimate the separation. A discussion followed with some members opining that the Spitfire pilot had been visual in good time to take avoiding action, consequently, although safety had been degraded, there had been no risk of collision. Other members thought that avoiding action at that stage in the take-off should not be considered to be without inherent risk which, coupled with the non-sighting by the G2 pilot, meant that there had been a risk of collision. In the end the Chair went to a vote and, by the narrowest majority, the Board assigned risk category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024129			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Human Factors	• ATM Regulatory Deviation	An event involving a deviation from an Air Traffic Management Regulation.	Regulations and/or procedures not fully complied with
	• Situational Awareness and Action			

2	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
3	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	Concerned by the proximity of the aircraft
4	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
5	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	• Tactical Planning and Execution			
6	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
	• Situational Awareness of the Conflicting Aircraft and Action			
7	Human Factors	• Interpretation of Automation or Flight Deck Information	Interpretation of Automation or Flight Deck Information by the flight crew.	Pilot engaged in other tasks
8	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
	• See and Avoid			
9	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
10	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

Safety Barrier Assessment[3]

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

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the AFISO had not passed Traffic information to either pilot.

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the AFISO had not been aware that the G2 pilot had lifted from the VOR field.

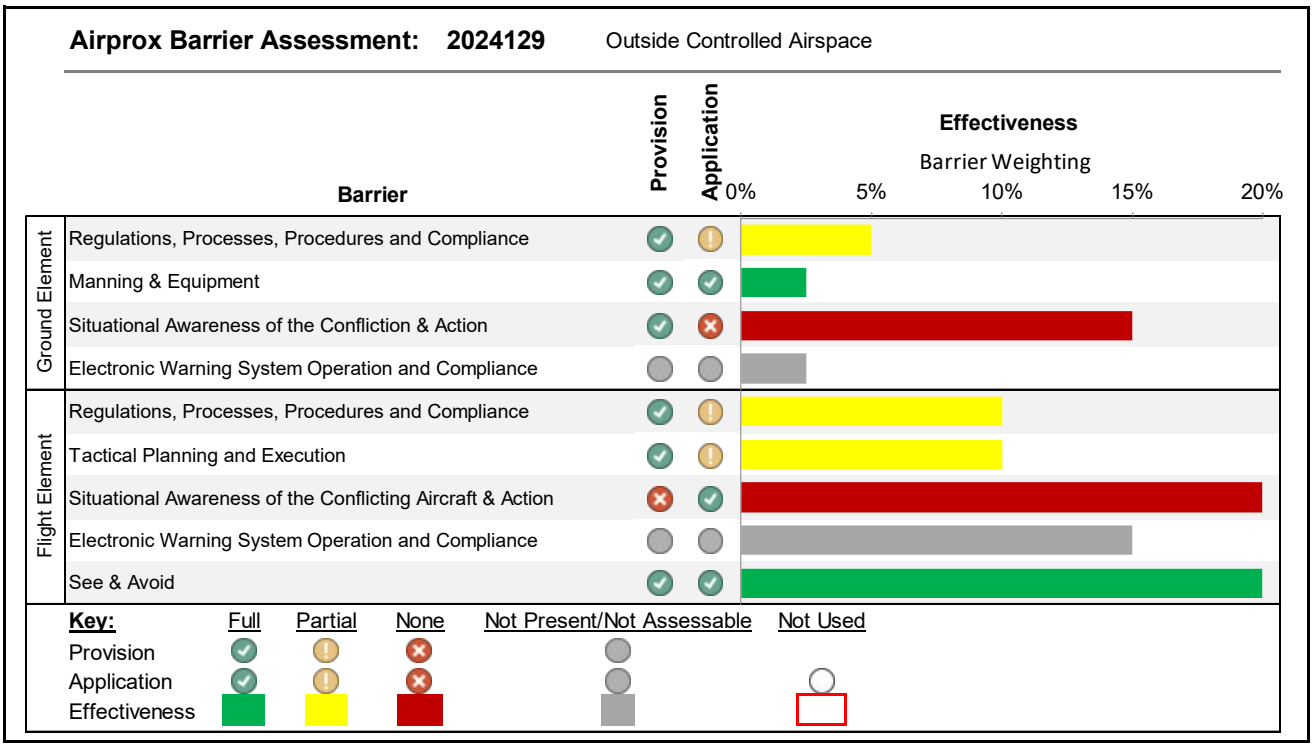
Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the G2 pilot had not called for take-off from the VOR field.

Tactical Planning and Execution was assessed as **partially effective** because the G2 pilot had not informed the AFISO that they intended to take-off and cross RW14.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had been aware of the intentions of the other.

[3] 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: 2024129
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:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness