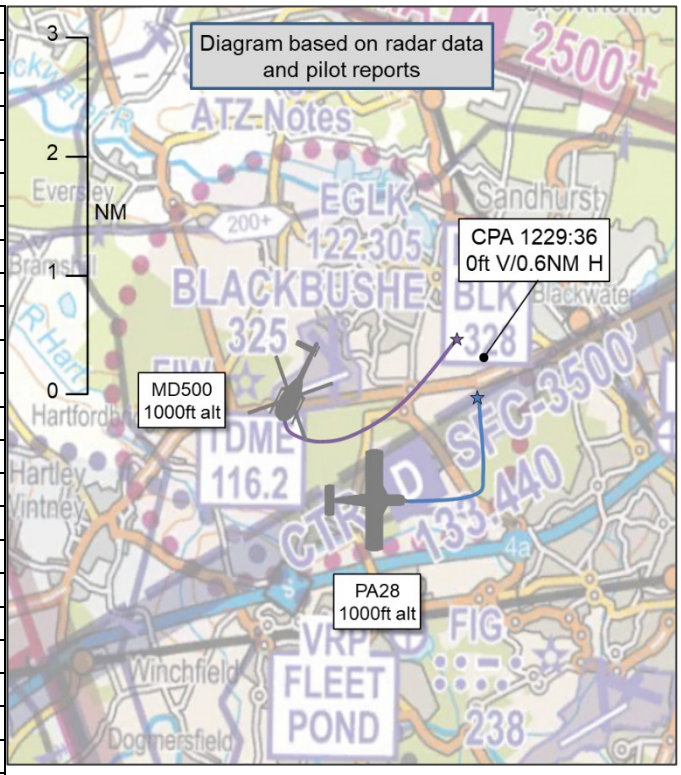
AIRPROX REPORT No 2020116

Date: 12 Sep 2020 Time: 1229Z Position: 5119N 00048W Location: Blackbushe

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	MD500
Operator	Civ FW	Civ Helo
Airspace	Blackbushe ATZ	Blackbushe ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Blackbushe	Blackbushe
Altitude/FL	1000ft	1000ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Blue	NR
Lighting	Landing, Strobe	NR
Conditions	VMC	VMC
Visibility	NK	NR
Altitude/FL	700ft	NR
Altimeter	QNH	QNH
Heading	340°	NR
Speed	75kt	NR
ACAS/TAS	Not fitted	Unknown
Alert	N/A	Unknown
Separation		
Reported	0ft V/1000m H	NR
Recorded	0ft V/0.6NM H	



THE PA28 PILOT reports that they were checking out another instructor on aircraft type. As they were descending on base leg and about to turn final, they saw the other aircraft at a similar level tracking up the final approach path as it was departing from the airfield. The Instructor passed the information to the student, who was flying at the time, who then steepened the turn to position to pass behind the aircraft. Blackbushe Information was aware of the traffic and gave Traffic Information. The aircraft was seen in good time and avoided by a steepened turn to cut the corner from base to final to pass behind the helicopter safely.

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

THE MD500 PILOT reports that they were informed after the event that an Airprox had been reported. The pilot was in visual contact with the aircraft turning final and that pilot was visual with them. The pilot of the aircraft filing the report was well clear to the right. They opined that they considered the event to be a normal VFR 'see and be seen' departure with no conflict or avoiding action taken, as none was needed, and would probably stress to the reporting pilot they were operating in a non-controlled traffic advisory circuit. However, they noted that as was often the case in aviation, from an operating standpoint there were lessons to learn.

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

Factual Background

The weather at Farnborough was recorded as follows:

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EGLF 121220Z AUTO 27009KT 240V310 9999 BKN040/// 19/10 Q1020=
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Analysis and Investigation

Blackbushe Investigation

Analysis of the RT recordings found that the MD500 pilot had requested routing directly to the heli-lanes when they booked out. Normally aircraft have two options, either to depart remaining outside controlled airspace, to which they are asked to head north or west, or, if they require a clearance through the Farnborough CTR, a VFR clearance is obtained for them. It appeared as though the VFR clearance was eventually decided upon, but this was not noted on the flight strip by the tower assistant taking the booking. Ordinarily this would be noted by either highlighting the words "VFR", or by writing "VFR CLR REQ" in the bottom right, but this did not happen on this occasion.

It is usual for helicopters at Blackbushe to request rotor start from the ATSU which didn't happen on this occasion. Executive helicopters seem to do this as a matter of procedure, and the Blackbushe based helicopters also do so. However, it was identified that this was not specified within the AIP entry or procedures, and this will be rectified. The MD500 pilot called to lift and was told to air-taxy to the H, where they were given clearance to take-off at their discretion at 1228:40. The MD500 was observed taking off from the H to the west, following the circuit direction for RW25. The aircraft turned crosswind (south) and then downwind. Helicopters usually fly a tighter circuit and the downwind leg was closer in than other aircraft, which was not unusual. However, the AFISO was surprised the aircraft was downwind at all, as they were expecting it to depart to the north or to the west remaining outside CAS given that no clearance for Farnborough CTR had been arranged. It was then observed heading NE across the circuit final leg, although it was difficult to estimate its height. Traffic Information was passed to an aircraft reporting final who reported they were visual. Traffic Information was not given to the PA28 pilot following behind as it was not perceived to be close to it.

CAA ATSI

An Airprox was reported by the pilot of a PA28 with an MD500 whilst the PA28 was carrying out circuit training at Blackbushe. The PA28 was sharing the circuit with a C172 ahead. At 1227:27 the C172 reported downwind (Figure 1).

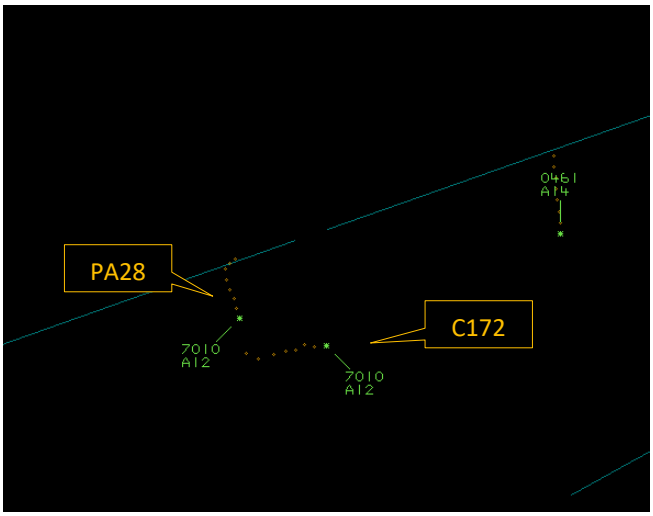


Figure 1 – 1227:27

At 1227:35 the MD500 pilot, (having previously called Blackbushe Tower at 1225:55**,** ready to air-taxi for departure, initially routing via the London Zone H3 helicopter route), was given a discretionary take-off approval from the helicopter aiming point.

At 1228:05 the PA28 pilot reported downwind for a touch-and-go. The Blackbushe AFISO advised them that there was an aircraft ahead, and requested they report final. The PA28 pilot reported being visual with that aircraft. At 1228:30 the MD500 appeared on the area radar replay (Figure 2).

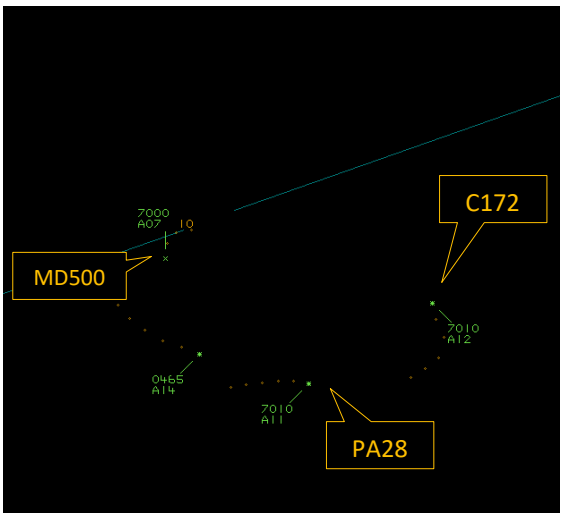


Figure 2 – 1228:30

At 1228:38 the MD500 pilot reported ready to leave the frequency for Farnborough which led to a short discussion about routing and frequency (Figure 3 at 1228:50).

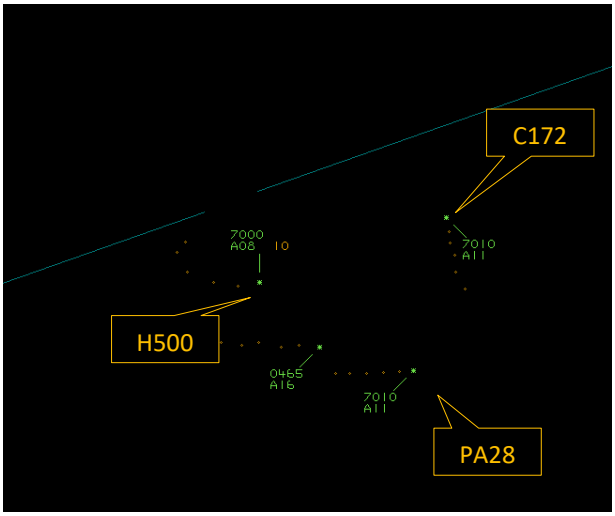


Figure 3 – 1228:50

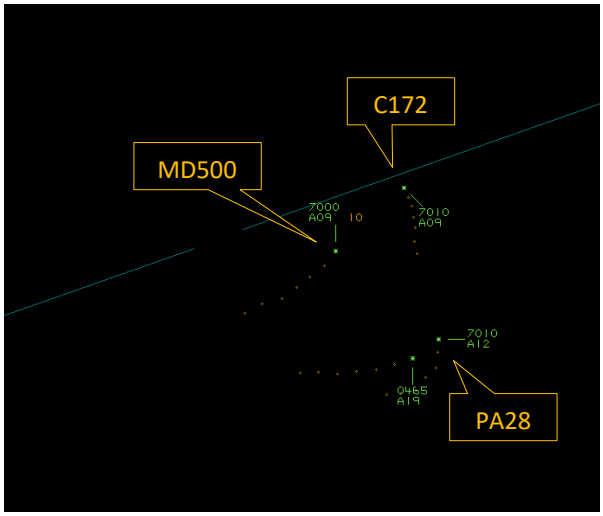


Figure 4 - 1229:10
(H500 had left the frequency)

At 1229:21 the AFISO advised the C172 pilot *"caution I've got a rotary just departing across the approach"*, to which the C172 pilot confirmed they were visual (Figure 5).

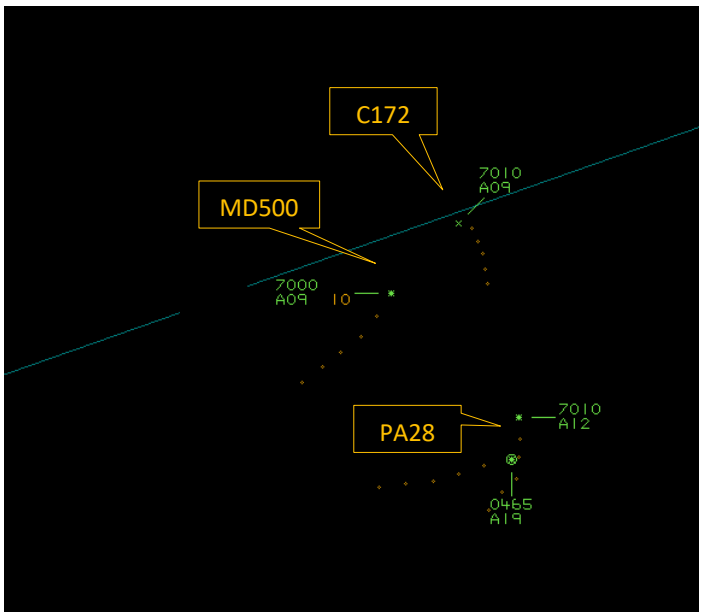


Figure 5 – 1229:21

Whilst the MD500 came within 0.1NM of and passed behind the C172 at 1229:27, the CPA with the PA28 was never less than 0.7NM (Figure 6).

[UKAB Secretariat Note: Allowing the radar to run on until 1229:36 gave a CPA of 0.6NM)

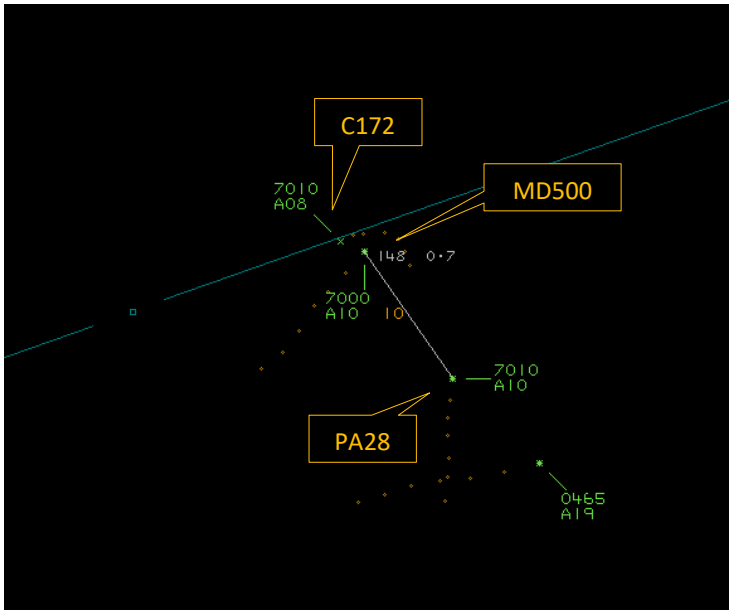


Figure 6 – 1229:27 - CPA

The pilot of the PA28 who was instructing, stated that they saw the MD500 whilst on base leg, and that their student *"steepened the turn to position to pass behind".* The MD500 pilot, in their written report stated that they had seen the C172, and that the PA28 was *"well clear to the right".*

A comprehensive report from Blackbushe ATSU appeared to give some insight into the routing of the MD500. When they were booking out, the pilot of the MD500 had requested that Blackbushe obtain a Farnborough CTR transit clearance for them to allow routing to join the H3 helicopter route.

Helicopters intending to enter the London CTR at the Bagshott VRP and follow the H3 helicopter route, will often pick up the M3 motorway which passes to the south of Blackbushe, north-east bound, as it takes them straight towards the Bagshott VRP. That routing from Blackbushe would however require a transit clearance of the Farnborough CTR, as it is outside of the Local Flying

Area (LFA) at Blackbushe, and within Farnborough controlled airspace. However, this information was not relayed to the AFISO nor recorded on the flight progress strip by the assistant. The pilot did not call for rotors start which is considered "standard" at Blackbushe, and so their first call, which included their requested routing via the H3 helicopter route, was just for air-taxi to the helicopter aiming point for their departure. This likely reduced the thinking time for both pilot and AFISO, removing an opportunity to clarify the exact routing and any clearances required for transit of Farnborough's controlled airspace.

The Blackbushe ATSU report suggested that the AFISO was expecting the helicopter to turn right to the north or west as a left turn would take it towards the Farnborough CTR for which no clearance had apparently been requested. Whilst the AIP entry for Blackbushe covers a number of different departure/arrival routings, none appear to cover a routing direct to/from the Bagshott VRP. Both the AIP and the Blackbushe Airport pilot information page do however emphasise the requirement to obtain a clearance to transit the Farnborough CTR if they intend to leave the LFA. Although requested in the booking out, the MD500 pilot subsequently did not repeat their request for the clearance, nor query the absence of one.

It was noted that the pilot of the MD500 did not subsequently contact Farnborough after leaving the Blackbushe frequency, but rather contacted Heathrow Radar for their London CTR and H3 routing clearance.

The AFISO correctly passed Traffic Information to the C172 pilot on the MD500, (which by this time had left the frequency). They did not pass Traffic Information to the PA28 pilot because they believed there was no confliction.

Blackbushe have identified and will rectify the omission of any reference to the requirement to obtain a rotors-start clearance, but no mention was made of inclusion of the Bagshott departures/arrivals.

ATSI recommends that Blackbushe ATSU consider the following:

> That specific mention is made in the AIP entry for Blackbushe and on the Blackbushe Airport Pilot Information page, of arrivals and departures from/to Bagshott VRP and exiting or intending to enter the London CTR, emphasising the need to confirm this with the ATSU on bookout, and again at engine start to enable appropriate clearances to be obtained.

UKAB Secretariat

The PA28 and MD500 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 PA28 and an MD500 flew into proximity in the Blackbushe visual circuit at 1229Z on Saturday 12th September 2020. Both pilots were operating under VFR in VMC and both were in receipt of an AFIS from Blackbushe.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the AFISO involved and reports from the appropriate 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.

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

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 a combination of written contributions and dial-in/VTC comments.

The Board first looked at the actions of the PA28 pilot, they were on an instructional sortie in the Blackbushe visual circuit, normally a predictable environment, and were not expecting to see a helicopter flying in the opposite direction along the approach lane. Fortunately, the pilot had enough situational awareness from hearing the other pilot on the frequency to cue them to look for the helicopter and were able to tighten their turn to go behind it. Although the final separation was 0.6NM, and the PA28 was not the closest aircraft to the MD500, still the Board thought that the PA28 pilot was correct to report the Airprox and acknowledged the safety concerns that they may have had (**CF10**).

The MD500 pilot had booked their departure as per the Blackbushe procedures, but an oversight from Blackbushe staff meant that their request for a VFR clearance from Farnborough was not passed on to the AFISO (**CF2**). Members thought that the MD500 pilot should have realised they needed a clearance for their intended routing and when one wasn't forthcoming requested it from the AFISO, it was the pilot's responsibility to ensure they had the correct clearances prior to getting airborne (**CF5**). In not doing so, they led the AFISO to believe they did not require a clearance and therefore would be departing to the north or the west (**CF7**). Once airborne they did not conform to a standard circuit, but instead flew a tighter pattern inside the fixed-wing visual circuit, crossing the fixed-wing base leg and final at 800ft, the same height as the fixed-wing aircraft (**CF4**). Members thought that even if the pilot had known the AFISO was expecting them to depart to the east, still a clearance to depart was not a clearance to route directly through the visual circuit and the pilot should have given way to, or conformed with, the traffic established in the visual circuit (**CF6**, **CF8)**. The pilot was given Traffic Information on the aircraft turning finals and perceived that there was no conflict with the PA28 turning base (**CF9**) and so continued on their departure track without altering course.

Turning to the role of the Blackbushe AFISO, members noted that as an AFISO they had no jurisdiction over the circuit traffic. An AFISO cannot give instructions to an airborne pilot, only offer advice and information useful for the safe and efficient conduct of flight; therefore the AFISO could not instruct the MD500 to avoid the circuit traffic. They did issue Traffic Information to the aircraft on finals, correctly deeming that to be the closest threat, and that information undoubtably alerted the PA28 pilot to the presence of the MD500. The Board briefly discussed the procedures at Blackbushe, they noted that Blackbushe had identified that a call to start may have given the AFISO more time to realise that a mistake had been made on the flight strip about the VFR clearance and they were heartened to hear that Blackbushe intended to include this in their procedures going forward (**CF1**).

Finally, when determining the risk, the Board quickly agreed that because both pilots had been visual with each other and the PA28 pilot had taken timely and effective avoiding action, there had been no risk of collision. Notwithstanding, they assessed that circumstances of the Airprox had been such that safety had been degraded; accordingly they assigned a Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020116		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Regulations, Processes, Procedures and Compliance		
1	Organisational	• ATM Information Provision	Inadequate regulations or procedures
2	Human Factors	• ATM Regulatory Deviation	Regulations and/or procedures not complied with
	• Situational Awareness and Action		
3	Contextual	• Situational Awareness and Sensory Events	The controller had only generic, late or no Situational Awareness

	Flight Elements		
	• Regulations, Processes, Procedures and Compliance		
4	Human Factors	• Flight Operations Documentation and Publications	Regulations and/or procedures not complied with
	• Tactical Planning and Execution		
5	Human Factors	• Pre-flight briefing and flight preparation	
6	Human Factors	• Monitoring of Other Aircraft	Did not avoid/conform with the pattern of traffic already formed
7	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
	• Situational Awareness of the Conflicting Aircraft and Action		
8	Human Factors	• Monitoring of Other Aircraft	Pilot did not sufficiently integrate with the other aircraft
	• See and Avoid		
9	Human Factors	• Perception of Visual Information	Pilot perceived there was no conflict
10	Human Factors	• Perception of Visual Information	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:

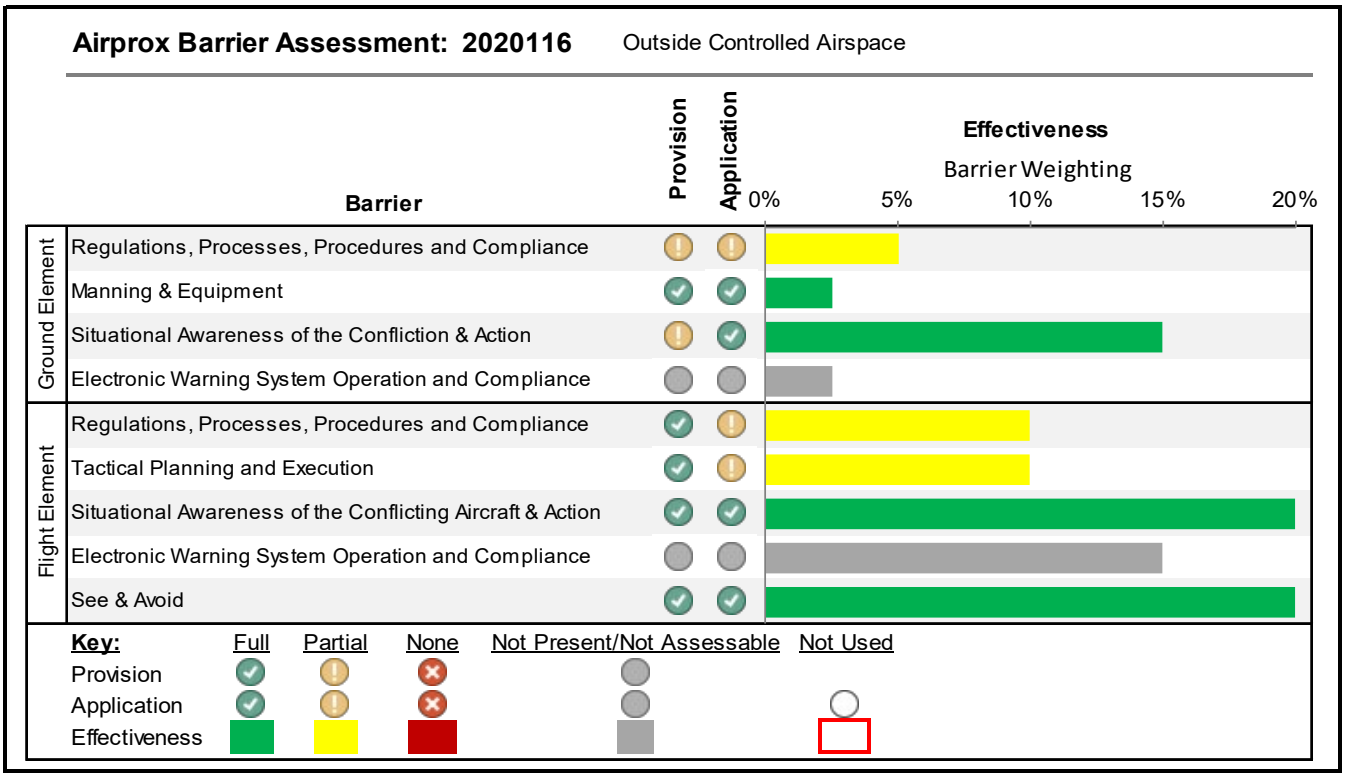
Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because Blackbushe did not have a procedure that required helicopter pilots to call for start-up and subsequently the booking out procedures were not robust enough to ensure the AFISO knew that the MD500 pilot required a VFR clearance.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the MD500 pilot did not ensure they had a VFR clearance to allow them to depart as requested.

[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: 2020116
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