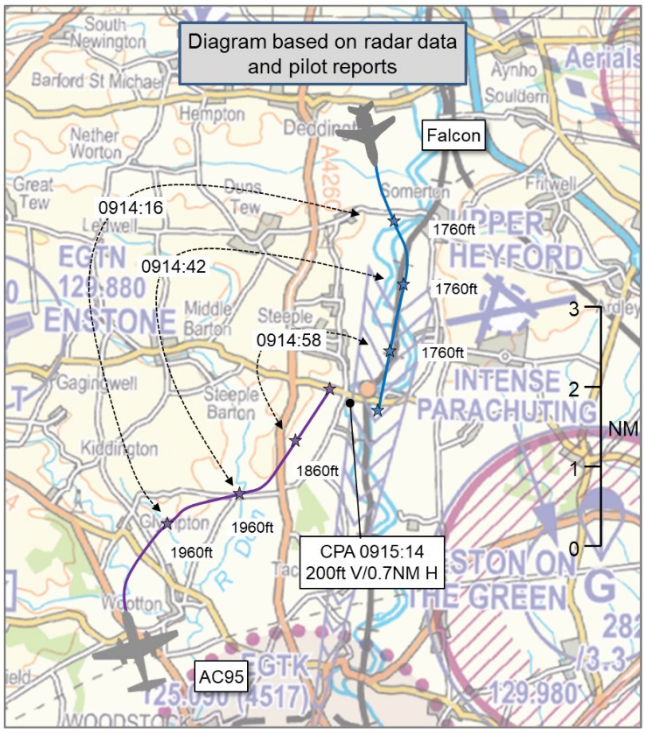
AIRPROX REPORT No 2024143

Date: 23 Jun 2024 Time: 0915Z Position: 5155N 00118W Location: 5NM NNE of Oxford Kidlington

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Falcon	AC95
Operator	Civ Comm	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Traffic	Traffic
Provider	Oxford Radar	Oxford Radar
Altitude/FL	1660ft	1860ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White
Lighting	Landing	Anti coll, strobes, navigation
Conditions	VMC	VMC
Visibility	5-10km	>10km
Altitude/FL	1800ft	1700ft
Altimeter	QNH	QNH (1019hPa)
Heading	NK	050°
Speed	NK	190kt
ACAS/TAS	TCAS II	TAS
Alert	RA	Information
Separation at CPA		
Reported	200ft V/NK H	~200ft V/~1NM H
Recorded	200ft V/0.7NM H	



THE FALCON PILOT reports that they had been intercepting the glideslope at 1800ft for RW19 and had received a TCAS RA telling them to descend. The pilot notes that as they had been intercepting the glideslope they had already been descending and had [therefore] followed the RA. [The other aircraft] had been sighted and had always been at least 200ft above them. [It appeared that] Oxford Approach had not been able to get in touch with the other traffic [which had looked like a twin engine Aero Commander] until the last minute as the approach path [to Oxford] is through uncontrolled airspace and [the controller] had told them to switch on their transponder [they recall]. When [it appeared that] the other pilot had done so, the Falcon pilot had received the RA and Oxford approach [had then] apologised to them and handed them over to the Tower frequency. They had then landed with no further events.

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

THE AC95 PILOT reports that their IFR flight plan had been rejected due to heavy traffic around London so the pilot had filed a VFR flight plan. They had departed with a right turn and had set heading for a VFR flight survey mission […]. After having received Traffic Information, they had stopped their climb and, having already turned to the opposite heading of final for RW19, they had searched for traffic and had gained visual contact with an aircraft below their altitude; they had then resumed their heading for their survey mission.

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

THE OXFORD CONTROLLER reports that they had been working as the Radar controller when the TCAS RA had occurred, although nothing was declared on the frequency at the time. They report that they had been in the process of vectoring the Falcon for the ILS for RW19 and recall that it had been on a heading to establish on the localiser at 1800ft. There had been training traffic in the Oxford hold at

3500ft and the Tower controller had requested a release for a VFR departure, the AC95, a survey flight which had been given instructions to depart with a left turn-out and not above 2000ft on a 4515 squawk for a Traffic Service. The controller had given the release but the pilot queried the left turn requesting a right turn-out instead which the Radar controller had approved with the Tower controller. When the AC95 pilot checked-in on frequency, the controller identified the aircraft but didn't climb it due to the traffic in the Oxford hold. The AC95 had then started turning north so the controller had called traffic [to the AC95 pilot] to the northwest that was manoeuvring, possibly in the Enstone circuit. As the AC95 pilot had been acknowledging this Traffic Information, they had then proceeded to continue their turn to the northeast and hence directly towards the final approach and also continued transmitting that they had traffic on TCAS northeast of them showing 300ft below. As soon as the AC95 pilot had finished this transmission the controller had immediately told them that they needed to remain well to the west of the final approach as [that TCAS indication related to] traffic establishing on the ILS at 6NM. This had been acknowledged but the pilot had been very slow in responding and took some time to turn away. The controller had then called the traffic to the Falcon pilot which they acknowledged but still continued their approach to land.

Factual Background

The weather at Oxford Airport was recorded as follows:

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METAR EGTK 230850Z 26003KT 9999 SCT021 19/12 Q1019=
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Analysis and Investigation

Oxford

RW19 had been in use. The two aircraft involved in the TCAS RA had been an AC95 on a VFR survey flight departing from Oxford, and a Falcon inbound IFR to Oxford under vectors from Oxford Radar. The AC95 was understood to have been routeing to the east for their survey flight, and had requested a Traffic Service after departure, for which the Tower controller had allocated them an Oxford discrete squawk. Due to the aircraft type, the Tower controller had sought, and received, release from the Radar controller.

At 0911 the AC95 pilot had been cleared for take-off. The pilot had enquired whether a right turn-out was approved. The Tower controller responded that the flight details had said that the AC95 would be routeing to the east, and asked the pilot to confirm they wished to turn right after departure, which the pilot had confirmed. The Tower controller had then telephoned the Radar controller to confirm that the release had still been valid due to the incorrect assumption that the AC95 would have initially been turning left. The Radar controller confirmed the release but stated that the AC95 was to climb not above 2000ft initially. The Tower controller relayed this to the pilot, who had correctly read it back. The AC95 took off at 0912.

At 0913 the AC95 pilot had been instructed to contact Oxford Radar.

At 0914:07 the AC95 pilot had checked-in with Oxford Radar. The Radar controller had informed the AC95 pilot that they were identified, placed them under a Traffic Service, and passed Traffic Information on unknown traffic in the vicinity of Enstone Airfield. The AC95 pilot had acknowledged this and stated "we have something 300ft below us, in front." The AC95 had begun to turn northeast, towards final approach, and it is assumed that the aircraft they had referenced had been the Falcon, which had been about 7NM north of Oxford, about to intercept the ILS localizer. The Radar controller responded by instructing the AC95 pilot to "remain west of the final approach track", and had then passed accurate Traffic Information on the Falcon, describing it as "establishing on the ILS at 6NM at 1800ft." They had also repeated, "remain well west of the final approach track". The AC95 pilot had responded, "the traffic is in sight". The AC95 pilot had continued towards final approach but turned slightly to the left, presumably to route behind the Falcon.

The Radar controller had then passed Traffic Information on the AC95 to the Falcon pilot, stating that the aircraft had supposed to be remaining west of the final approach at 2100ft (the Falcon had

been level at 1800ft, and was approximately 1NM from commencing final descent). The Falcon pilot responded with "got it on TCAS". The CPA occurred at approximately 0915:15, the two aircraft approximately 3/4 mile apart on roughly reciprocal headings, with Mode C showing a 200ft variance, with the AC95 being above the Falcon.

This difference is smaller than the minimum accuracy of Mode C (+/- 200 feet), making the actual variance in the range 0-600ft. The AC95, having passed to the right of the Falcon, had resumed a more northeasterly course and passed behind it. No TCAS RA was reported by either pilot on RT, but the crew of the Falcon reported the RA by telephone after landing.

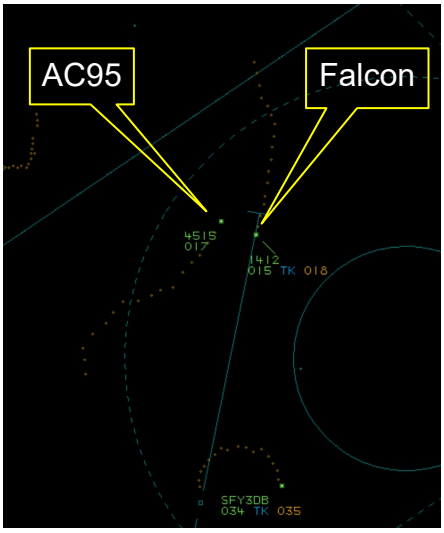
Findings and observations

The TCAS RA occurred between two aircraft, one of which had been operating VFR on their own navigation, and the other which had intercepted the ILS localizer for RW19. Neither aircraft had been under vectors at the time of the TCAS RA. Both the Falcon and the AC95 pilots were being provided with a Traffic Service by Oxford Radar at the time of the event. The Radar controller provided accurate and timely Traffic Information, sufficient for the pilot of the AC95 to sight the Falcon while approximately 4NM away, and to allow the former to discharge their collision avoidance responsibilities. It is not known why the AC95 pilot had requested to turn right after departing RW19 when their survey destination was to the east of Oxford. This right turn had introduced the relative aircraft positioning which ultimately led to the TCAS RA. Had the pilot of the AC95 turned left after take-off, the TCAS RA is highly unlikely to have occurred. Although the AC95 pilot had continued towards final approach despite being instructed twice by the Radar controller to remain west of final approach, the pilot had reported visual with the Falcon at sufficient range to avoid collision. Pilot compliance with ATC instructions is not mandatory in Class G [airspace] outside an ATZ, and pilots in Class G [airspace] are ultimately responsible for collision avoidance regardless of the type of UK FIS being provided. Understanding that the pilot of the AC95 had been visual with the Falcon, and having informed the AC95 pilot that the Falcon had been establishing on the ILS to RW19, the Radar controller had a reasonable expectation that the AC95 pilot would alter course to avoid the Falcon. With no risk of collision, it had been reasonable to permit the Falcon pilot to continue their approach and the Radar controller provided the Falcon pilot with Traffic Information on the AC95. The Oxford Safety Manager reports that they were content with the actions and decisions of the Radar controller in this incident, and for them to resume controlling duties without further action.

CAA ATSI

Having reviewed the radar, RTF and reports, ATSI concurs with the Oxford investigation.

UKAB Secretariat



CPA 0915:14 200ft V/0.7NM H

The Falcon and AC95 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 Falcon and an AC95 flew into proximity 5NM north-northeast of Oxford-Kidlington airport at 0915Z on Sunday 23rd June 2024. The Falcon pilot had been operating under IFR in VMC and the AC95 pilot under VFR in VMC. Both pilots had been in receipt of a Traffic Service from Oxford Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, 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.

The Board firstly discussed the actions of the Falcon pilot, noting that the pilot had been operating under IFR and had been in receipt of a Traffic Service as they had been establishing for an ILS approach. This had meant that the pilot's attention had been primarily, and reasonably, 'in-cockpit' and that the TCAS had alerted them to the presence of the AC95, allowing visual contact and an assessment that they had been clear of that other traffic. Board members did highlight that, particularly in cases like this, although on an instrument approach where conditions allow and when operating in Class G airspace, a good lookout should also be built into the scan and work cycle. The Board felt that there had been nothing further the Falcon pilot could have done in this event.

Members secondly considered the actions of the AC95 pilot, noting that they had amended their planned departure due to a rejected IFR flight plan and had had to re-plan for a VFR departure. They opined that this had likely triggered the wish to make a left-turn on take-off in order to be assured of avoiding Weston-on-the-Green that lies to the northeast of Oxford-Kidlington, even though their activity area had been to the east (which a right turn might have better served). This plan adaption is understood but members felt that more consideration could have then been given to their options for avoiding other traffic operating in, around and to Oxford-Kidlington, particularly other inbound aircraft (**CF2**). The Board felt that the AC95 pilot had not awarded sufficient lateral separation from the inbound track having relied on the 'Class G airspace, see and avoid' principle which had resulted in the incoming Falcon pilot having been concerned by their proximity (**CF3**).

Members wished to thank both pilots for having equipped with electronic traffic alerting systems, noting that in this case it had reinforced the situational awareness of the Falcon pilot through a TCAS RA (**CF4**) and the AC95 pilot through a TAS Information indication (**CF5**).

In considering the role of the Oxford controller, members acknowledged that the AC95 pilot had changed their departure from IFR to VFR and had changed their requested departure direction, but felt that having enabled that, they had then assumed that the AC95 pilot would naturally avoid the approach lane (**CF1**). The Board noted that the controller had passed Traffic Information concerning traffic operating in the Enstone area but could equally have offered Traffic Information concerning the Falcon and its arrival route at an earlier stage than had been the case.

Concluding their discussion, members agreed that it would have been helpful for the pilot of the AC95 to have more positively avoided the approach lane to RW19 during their departure and that the TCAS RA received by the Falcon pilot had helpfully coincided with ongoing descent actions. Members agreed that safety had been degraded and that the Falcon pilot had been concerned by the proximity of the AC95 but that, ultimately, the separation between the aircraft had been such that no avoiding action

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

had been necessary, and no risk of collision had existed. The Board therefore assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024143			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	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	
	Flight Elements			
	• Tactical Planning and Execution			
2	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
	• Situational Awareness of the Conflicting Aircraft and Action			
3	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			
4	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	
5	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	

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:

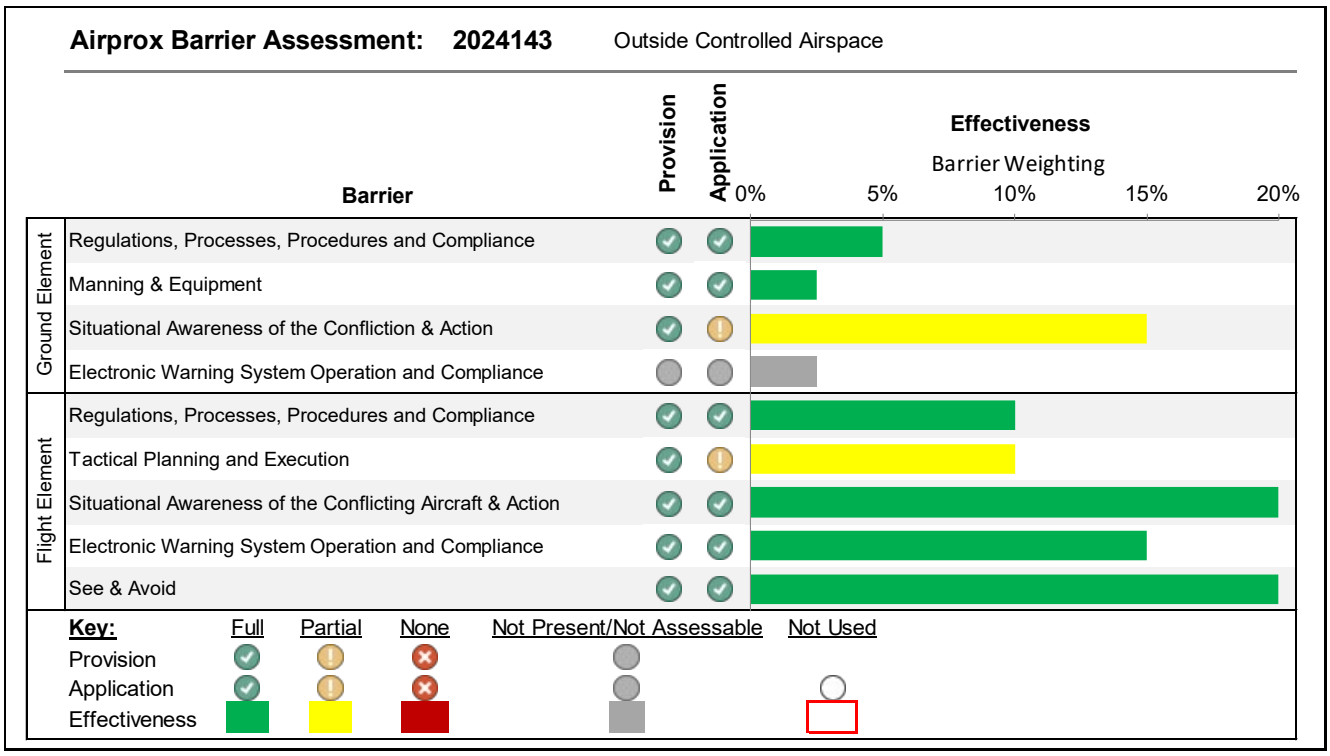
Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because, on the AC95 pilot changing to a VFR departure with a right turn, the Oxford controller had assumed that they would keep clear of the approach lane for RW19.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the AC95 pilot could have chosen to route away from the inbound approach traffic as they had departed.

[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: 2024143
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