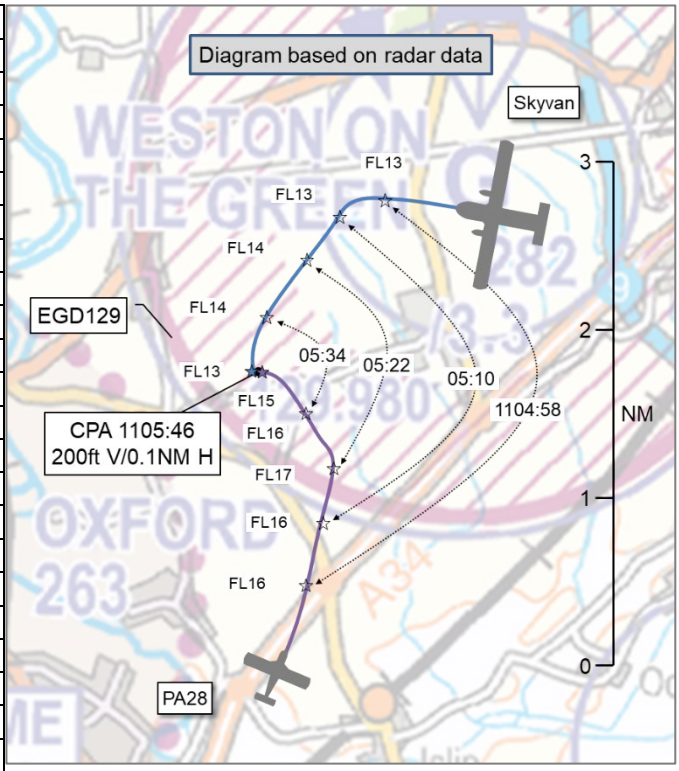
AIRPROX REPORT No 2024157

Date: 08 Jul 2024 Time: 1106Z Position: 5152N 00115W Location: EGD129

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Skyvan	PA28
Operator	Civ Comm	Civ FW
Airspace	EG D129	EG D129
Class	G	G
Rules	VFR	VFR
Service	Basic	ACS
Provider	Oxford Radar	Oxford Tower
Altitude/FL	FL013	FL015
Transponder	A, C, S	A, C, S
Reported		
Colours	White/blue	White/blue
Lighting	Nav, strobe, bcn	'LED'
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	1300ft	1500ft
Altimeter	QNH (NK hPa)	QNH (1015hPa)
Heading	170°	010°
Speed	100kt	90kt
ACAS/TAS	TCAS I	Not fitted
Alert	TA	N/A
Separation at CPA		
Reported	150ft V/50m H	500ft V/0.5NM H
Recorded	200ft V/0.1NM H	



THE SKYVAN CAPTAIN reports that whilst inbound and looking for clearance to enter the Oxford ATZ the Pilot Flying (PF) was asked by the Oxford Radar controller to conduct a left-hand orbit and look for 'Piper traffic'. At that stage in the flight D129 was active and the crew had been unaware of any other traffic operating in the vicinity. The crew received a, not unexpected, TCAS TA and, within moments of being informed of conflicting traffic and having begun the left orbit as instructed, a PA28 passed within 50m at a higher altitude and established in a steep left turn. The high wing configuration on the Skyvan, together with minimal air traffic guidance, resulted in the Skyvan crew having very little chance of seeing the conflicting aircraft and so had limited opportunity to ensure that separation could be maintained, resulting in a near miss. The PF took effective evasive action by lowering the nose to reduce altitude and continued the left-hand orbit towards the Oxford ATZ.

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

THE PA28 PILOT reports being downwind left-hand to land on RW19 at Oxford. They were at 1500ft and turning for base leg when they noticed the other aircraft to their right, which was descending. They turned left and stayed level to see where it was going, which was away from them. They completed the turn and resumed base leg to land.

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

THE OXFORD RADAR CONTROLLER reports RW19 was in use and D129 was active to 5000ft with parachuting from a Skyvan to which they were providing a Basic Service. [PA28 C/S], a PA28 inbound to Oxford from the south, had been provided with a Basic Service and transferred to the Tower frequency about 7NM away from Oxford Airport. A few minutes later, [Skyvan C/S] requested to land at Oxford for a booked refuelling stop. At this time they noticed that [PA28 C/S], then seemingly in a wide left-hand circuit, was only about 1.5NM from D129 and heading towards it, so they passed Traffic Information to [Skyvan C/S] and instructed them to orbit left, because it appeared that [PA28 C/S] might

infringe D129 at a similar altitude to [Skyvan C/S]. D129 transit approval had not been given to [PA28 C/S]. They then telephoned the Tower controller to tell them to turn [PA28 C/S] left, away from D129. From monitoring [Skyvan C/S] it appeared they had already commenced a right turn when they had been instructed to orbit left, and they decided that if they passed avoiding advice at such a late stage it was likely to exacerbate matters. They instead continued to pass Traffic Information on [PA28 C/S] to [Skyvan C/S]. Because [Skyvan C/S] was transmitting to them at the same time they were attempting to co-ordinate with the Tower controller for [PA28 C/S] to turn away from D129, they did not hear whether [Skyvan C/S] became visual with [PA28 C/S] before the two aircraft passed. When the two contacts merged the respective Mode C indications differed by about 200ft, they believed [PA28 C/S] being the lower of the two. The pilot of [Skyvan C/S] stated before transfer to Tower "that was a close call and telephoned ATC after landing to advise of the Airprox.

THE OXFORD TOWER CONTROLLER instructed the PA28 pilot to join downwind left-hand for RW19. They then handed over the position to the next controller. They did not clear the PA28 pilot into D129.

Factual Background

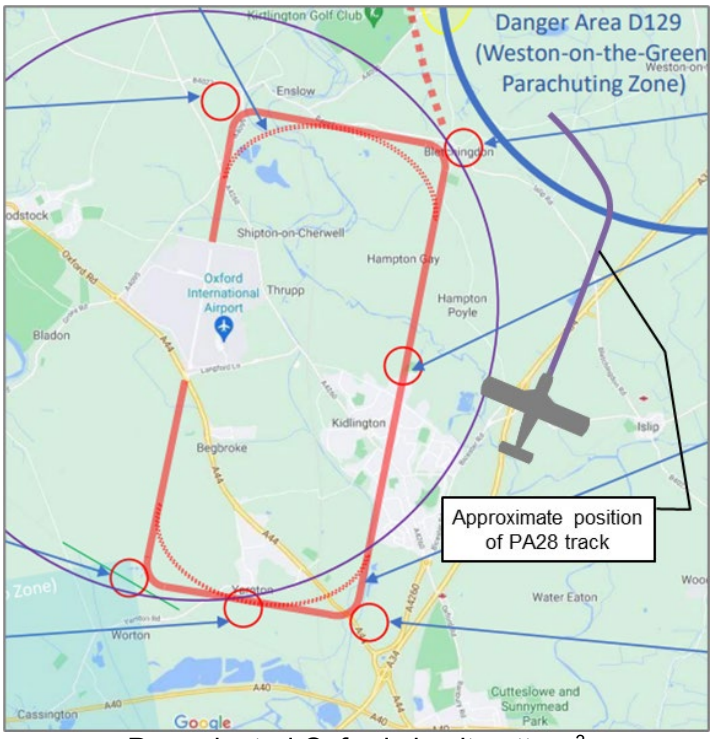
The weather at Oxford was recorded as follows:

```
METAR EGTK 081120Z 20004KT 140V240 9999 VCSH BKN033 BKN043 18/10 Q1015=
```

Analysis and Investigation

UKAB Secretariat

The Skyvan and PA28 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] If the incident geometry is considered as converging then the PA28 pilot was required to give way to the Skyvan.[2]



Promulgated Oxford circuit pattern[3]

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(2) Converging.
[3] https://www.oxfordairport.co.uk/wp-content/uploads/2024/07/oxford_airport_circuit_diagram-2024-v2.pdf

Oxford Occurrence Investigation

At the time of the infringement, the Oxford Tower controller was operating in moderate to heavy traffic levels with 'Ground' open. The Radar controller was operating in lighter traffic levels and RAD2 was closed.

The arrival procedure for [PA28 C/S] would be considered 'standard' for a VFR arrival into Oxford. The pilot of [PA28 C/S] had first made contact with the Oxford Radar controller while still some distance from the aerodrome; the type of service (Basic Service), QNH, and runway in use had all been passed to the pilot together with a squawk code of 4520 (Oxford conspicuity).

When the pilot of [PA28 C/S] first made contact with Oxford Tower the pilot was instructed by the Tower controller to, "Join downwind, left-hand, for runway one-nine" and that the "circuit is active". Again, this would be considered standard procedure and the most expeditious routeing for a direct join from the southeast with RW19 in use. It was noted that at no time did either the Oxford Radar or Oxford Tower controller report explicitly to the pilot of [PA28 C/S] that D129 was active. As per MATS Pt.2, 'When Weston-On-The-Green danger area D129 is active, the APP/APS controller shall instruct inbound pilots to remain outside D129'. This, however, appeared in Section 4 Chapter 2 which covered 'Procedures for IFR Traffic'. As [PA28 C/S] was operating VFR, this instruction was not passed. The pilot had already specified that they were in receipt of ATIS Information Yankee (which was reading, "Dee-One-Two-Nine-Active"). Likewise, D129 is permanently "notified as active SR-SS Mon-Fri plus other HR as notified by NOTAM". This danger area is also displayed on all aeronautical charts. It was also found that at 1100 (whilst on the Oxford Radar frequency) that the controller informed another aircraft on frequency that D129 was active and that the paradrop aircraft was airborne. Although not explicitly relayed to the pilot of [PA28 C/S], it would be hoped that this may at least have aided the pilot's situational awareness.

The infringement was first noted by the Oxford Radar controller at the same time that [Skyvan C/S] was transmitting to the Oxford Radar controller. On noticing the infringement the Oxford Radar controller was deemed to be quick in their response by passing this Traffic Information to the crew of [Skyvan C/S] as well as informing the Oxford Tower controller of the infringement. The Oxford Radar controller noted in their report that, "From monitoring [Skyvan C/S] it appeared they had already commenced a right turn when I instructed them to orbit left, and I decided that if I passed any avoiding advice at such a late stage it was likely to exacerbate matters, so I instead continued to pass Traffic Information on [PA28 C/S] to [Skyvan C/S]". In the circumstances, it was agreed amongst UAs consulted that the issuing of Traffic Information without avoiding action likely would be the most appropriate course of action owing to, as the controller put it, given their immediate proximity, this may well have exacerbated matters. Alternatively, allowing the pilots to obtain visual reference with the conflicting aircraft and conduct their own manoeuvres for the purpose of meeting their collision avoidance responsibilities was likely most appropriate.

On becoming aware of the infringement, the Tower controller instructed [PA28 C/S] to "turn left now" in order for them to vacate the danger area and onto an approximate left base position. This may, however, have been misinterpreted by the pilot as an instruction to enter a left hand orbit. The Oxford Tower controller, shortly after, asked the pilot of [PA28 C/S], "are you orbiting?" to which they replied, "affirm". Clearer instructions were then passed, "[PA28 C/S] roger, you need to come out the danger area, so either turn south or turn onto base now, the traffic has you visual, he's below you to your east".

During the period immediately prior to the infringement (and subsequent Airprox) it was evident the Oxford Tower controller's workload was high with a varied mix of aircraft types. Even while attempting to deconflict the aircraft and ensure [PA28 C/S] vacated the danger area, the Tower controller noted in their report that, "I had few options as had PC12 [C/S] in the circuit", which showed the complexity of the task at the time. The position was split and 'Ground' was open. This can add to complexity owing to co-ordination required between the two control positions. The Tower controller again highlighted this in their report, "I then was busy coordinating with 'Ground' and RAD a departing aircraft to cross B taxiway and depart to the northwest". Immediately prior to the

infringement the Tower controller was also engaged in conversation surrounding the parking position and maintenance organisation to which the PA28 was inbound. This may have been a significant distraction to the crew at the time.

Conversation amongst UAs consulted on this investigation turned to the passing of Traffic Information on aircraft operating inside D129 against VFR/joining traffic. It was agreed this wasn't conducted as 'standard', noting the Tower ATCO would be unable to continuously monitor the levels of the paradrop aircraft within D129. Likewise, aircraft within D129 routinely operated under a Basic Service whereby Traffic Information on specific or individual aircraft wasn't required. It was also understood that the paradrop aircraft would remain within the danger area and all other aircraft are required to remain outside the danger area, therefore, safety should be assured and Traffic Information may add to confusion as to what is 'conflicting' traffic. The passing of Traffic Information to aid situational awareness when deemed appropriate by the controllers was supported.

An observation was that both the Oxford Tower controller and Oxford Radar controller referred to the aircraft they were working [with errors in their] callsigns at the time immediately surrounding the infringement/Airprox. That said, the crews of both aircraft didn't appear to be confused as to for whom the transmissions or calls were intended.

Summary

An Airprox was reported when a Skyvan and a PA28 flew into proximity in EGD129 at 1106Z on Monday 8th July 2024. Both pilots were operating under VFR in VMC, the Skyvan pilot in receipt of a Basic Service from Oxford Radar and the PA28 pilot in receipt of an Aerodrome Control Service from Oxford Tower.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers 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 first discussed the pilots' actions and agreed that the PA28 pilot had not executed their arrival at Oxford correctly, perhaps due to a lack of prior planning. Their downwind track spacing had been much wider than that promulgated (**CF6**) which had contributed to their incursion into EGD129 (**CF5**, **CF7**). They had also not allowed for the proximity of EGD129 when planning their base turn (**CF6**) and had turned onto the base leg too late to remain clear of EGD129. The PA28 pilot had had only generic situational awareness of the Skyvan (**CF8**) in that EGD129 may have had parachuting aircraft operating within it, which in this instance had been the case, but had not acted on it. The Skyvan pilot had received a TCAS TA (**CF9**) and Traffic Information on the PA28, albeit at a late stage, but had not seen the PA28 until at about CPA, effectively a non-sighting (**CF11**), no doubt at least in part because the PA28 had been obscured by the left wing of the Skyvan in its left turn (**CF12**). The PA28 pilot had seen the Skyvan at a late stage (**CF10**) but had turned left in response to the Oxford Tower controller's instruction, albeit whilst maintaining a degree of vertical separation.

Turning to the Oxford controllers, the proximity of EGD129 to the downwind leg of the RW19 left-hand circuit meant that the Radar controller could only have detected the impending infringement and conflict at a late stage (**CF1**). Members agreed with the Oxford investigation findings that their issuing of an avoiding action turn to the left had perhaps not been the best course of action and which had unfortunately resulted in a reduction of separation at CPA (**CF2**). Although the Radar controller had sensibly notified the Tower controller of the infringement, the Board noted that immediately beforehand the Tower controller had been busy coordinating the PA28 arrival with the Ground controller, which had resulted in their attention being directed away from the circuit environment (**CF4**). Members noted the irony that although 'splitting a position' resulted in a reduction in R/T workload, it could result in periods of higher workload, or in fact a net increase in workload, due to additional coordination. Members also discussed the means whereby Oxford ATC could notify pilots of EGD129 activity. It was acknowledged

that pilots should be aware of such activity already, having planned and briefed their flight correctly with due regard to NOTAMs and aeronautical charts and having obtained the latest ATIS which would also inform pilots as to the status of D129. In this case the PA28 pilot reported they had received the ATIS, which included notification that D129 had been active, but this had not prevented an incursion, and that operating under the assumption that it would (**CF3**) was a 'fail unsafe' option. It was noted that the Oxford MATS Pt. 2 required that inbound pilots operating under IFR be explicitly instructed to 'remain outside D129' but that no such instruction was issued to inbound pilots operating under VFR. Given that IFR and VFR pilots should equally have planned, briefed and executed their flights correctly, with reference to NOTAMs, charts and the latest ATIS, Board members felt that inclusion of an explicit R/T instruction for inbound VFR pilots was warranted. It was acknowledged that this would result in an increase in R/T transmissions at an already busy airfield and that locally-based pilots would probably already be aware of the proximity and activity of EGD129. Consequently, the Board resolved to recommend that, 'Oxford review their MATS Pt. 2 procedures to include R/T instructions for visiting pilots operating under VFR to remain clear of EGD129 when active'.

With regard to risk, some members felt that the PA28 pilot had obtained visual contact with the Skyvan in sufficient time that any risk of collision had been averted, Risk C, whilst others felt that despite that, the aircraft manoeuvring and separation at CPA had been such that safety had been much reduced. The matter was resolved by a vote whereby the latter view prevailed by a small majority, Risk B (**CF13**).

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024157			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Human Factors	• Conflict Detection - Detected Late	An event involving the late detection of a conflict between aircraft	
2	Human Factors	• Conflict Resolution-Inadequate	An event involving the inadequate provision of conflict resolution	
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	Assumption that ATIS warning of D129 activity prevents entry
4	Human Factors	• Task Monitoring	Events involving an individual or a crew/ team not appropriately monitoring their performance of a task	Controller engaged in other tasks
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
5	Human Factors	• Flight Crew ATM Procedure Deviation	An event involving flight crew deviation from applicable Air Traffic Management procedures.	
	• Tactical Planning and Execution			
6	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
7	Human Factors	• Airspace Infringement	An event involving an infringement / unauthorized penetration of a controlled or restricted airspace.	E.g. ATZ or Controlled Airspace
	• Situational Awareness of the Conflicting Aircraft and Action			
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
	• Electronic Warning System Operation and Compliance			

9	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
	• See and Avoid			
10	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
11	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
12	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
	• Outcome Events			
13	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

Recommendation: Oxford review their MATS Pt. 2 procedures to include R/T instructions for visiting pilots operating under VFR to remain clear of EGD129 when active.

Safety Barrier Assessment[4]

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 **ineffective** because the Oxford Radar controller was not able to effectively deconflict the aircraft.

Flight Elements:

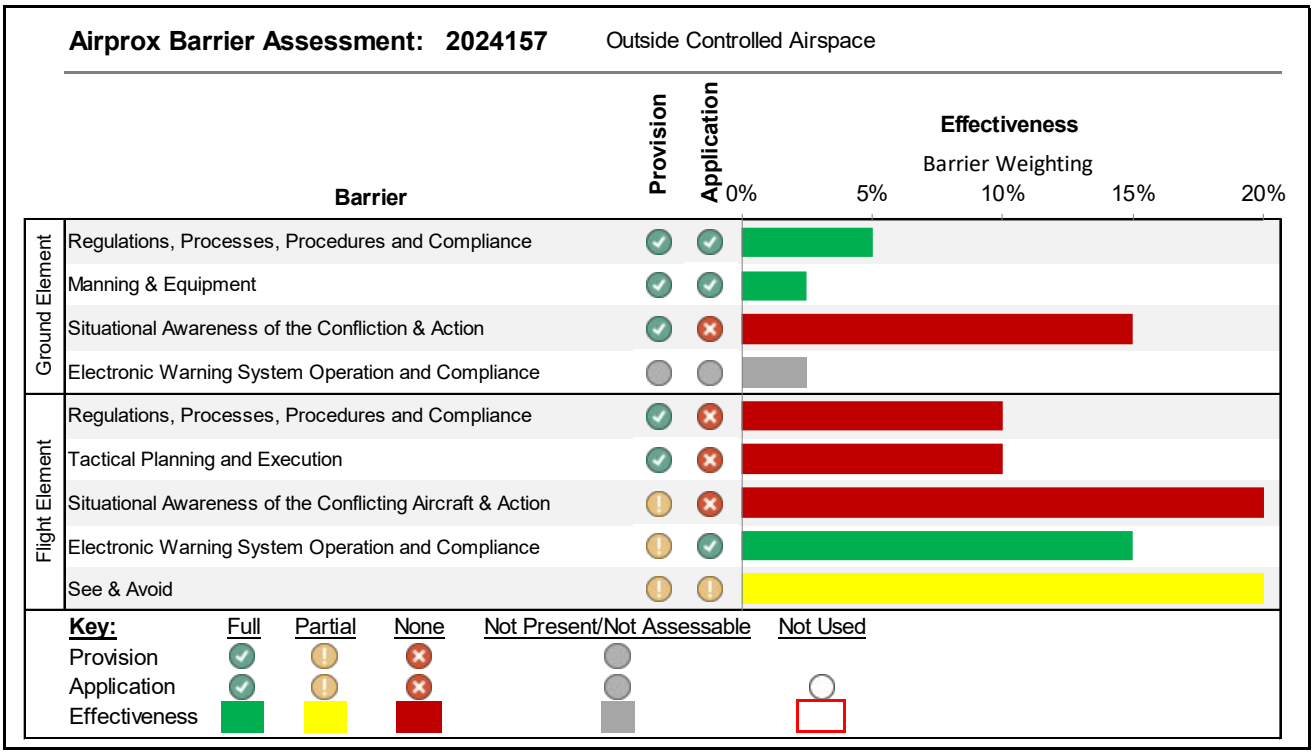
Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the PA28 pilot flew into D129 without clearance.

Tactical Planning and Execution was assessed as **ineffective** because the PA28 pilot inadvertently entered D129 whilst positioning downwind left-hand to Oxford RW19.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot had generic situational awareness in that D129 was active but did not use that to remain clear of the Skyvan.

See and Avoid were assessed as **partially effective** because the PA28 pilot saw the Skyvan at a late stage and the Skyvan pilot saw the PA28 at about CPA, effectively a non-sighting.

[4] 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: 2024157
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