

## **AIRPROX REPORT No 2014119**

Date/Time: 23 Jul 2014 1531Z

Position: 5152N 00119W  
(Oxford AIAA)

Airspace: London FIR (Class: G)

Reporter: Oxford Radar Controller

	<u>Aircraft 1</u>	<u>Aircraft 2</u>
<u>Type:</u>	AC90	Jet Provost

<u>Operator:</u>	Civ Comm	Civ Pte
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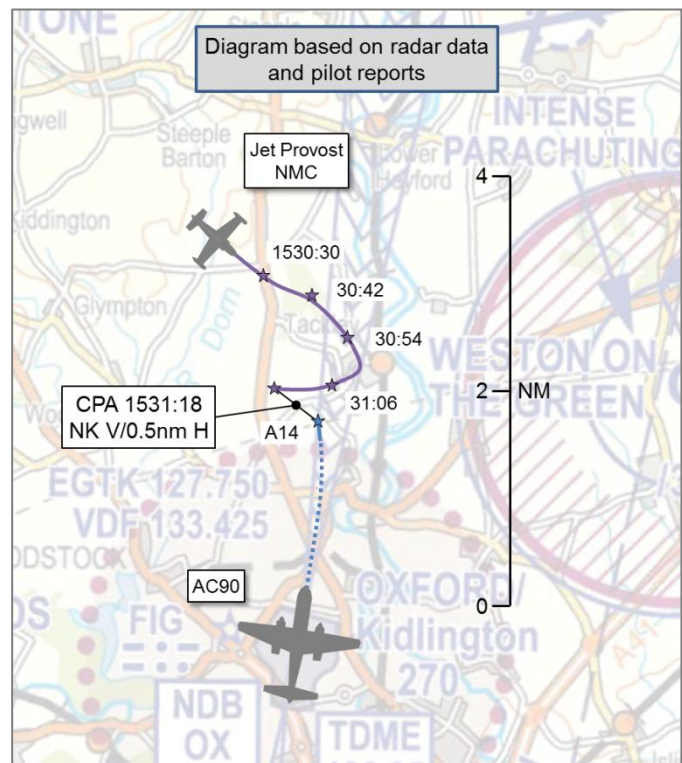
<u>Alt/FL:</u>	NK	2000ft QNH
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<u>Conditions:</u>	VMC	VMC
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<u>Visibility:</u>	>10KM	CAVOK
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<u>Reported Separation:</u>	0ft V/1nm H	NK
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<u>Recorded Separation:</u>	NK V/0.5nm H
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## **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE OXFORD RADAR CONTROLLER** reports that at 1529 he observed a fast moving radar blip appear in the vicinity of Enstone displaying Mode S showing the aircraft's registration but with no Mode C. Controller knowledge identified this aircraft as a Jet Provost. The blip was observed to track southeast toward the narrow gap between the Oxford (OXF) ATZ and D129 (Weston on the Green) which was active to FL80. Several calls to the aircraft on the OXF Radar frequency of 127.750 were made with no response. An AC90 had departed from RW01 VFR to the north at which time the Aerodrome controller was warned of the Jet Provost and that its intentions were unknown. When 3nm north of OXF, the pilot of the Jet Provost turned south toward the OXF ATZ into a head-on aspect with the departing AC90 which was approximately 1.5nm upwind of RW01. At a point 2.5nm north of OXF, and 0.5nm directly ahead of the AC90, the Jet Provost pilot executed a hard right turn and routed close to the western edge of the OXF ATZ, behind a PA34 which was completing an NDB instrument approach from the W. The Jet Provost was then observed to squawk 3717 and manoeuvre between the Brize Norton (BZN) CTR and the OXF ATZ. Traffic Information was requested from BZN LARS and the aircraft was transferred to OXF Radar by the BZN LARS controller. On contact, the pilot of the Jet Provost reported at altitude 1000ft and was therefore instructed to remain outside the OXF ATZ and climb to not below altitude 2500ft to route through the OXF overhead toward Benson. The pilot of the AC90 reported that he saw the Jet Provost as it flew towards him and that the aircraft was at the same level as him (900ft QNH). The OXF DSATCO requested, via Benson ATSU, that the pilot of the Jet Provost telephone OXF ATC to discuss the matter. On doing so, the pilot reported that he had attempted to contact OXF on 125.325MHz and was advised that 125.325MHz was now (and had been for some time) the OXF Director frequency, which was now not continuously monitored. He was also advised of the nature of the intense aerial activity in the vicinity of OXF and the availability of radar and approach services at OXF.

**THE ROCKWELL AERO COMMANDER (AC90) PILOT** reports that he was outbound from OXF under VFR/VMC. His aircraft was coloured mainly white; red 'belly' lights and flashing landing lights were illuminated; SSR Modes C and S were selected. ACAS was not fitted. He was cleared for take-off from RW01 to climb not above 2000ft and notified of traffic. It was a normal take off, then climbing on runway heading, keeping a good look-out for other traffic. He observed the Jet Provost on what he initially thought was the RW19 approach to OXF. He was transferred to the Approach frequency

and was then asked his 'view on the traffic'. He replied same level 'not nice'. He did not take avoiding action although he was ready to carry it out if it was required. He wanted to keep his view of the traffic as he believed that the aircraft would make a turn to either the left or right to clear out of the OXF 'area'. At this stage he had put on the flashing landing lights. The other aircraft turned to the west. Its pilot then contacted OXF Approach and was told of the incident. Observing his GPS he was inside the OXF 'area' and he believed that the distance of the other aircraft from him also put him in the 'area' or on the 'area' edge. He described the risk of collision as low-medium because he had seen the aircraft and due to the outside meteorological conditions.

He assessed the risk of collision as 'Low-Medium'.

**THE JET PROVOST PILOT** reports operating a VFR flight under VMC. Two rotating beacons were illuminated; SSR Modes C and S were selected. ACAS was not fitted. His planned routeing was to take him either through RAF Brize Norton (BZN) or around OXF and Hinton to the east; however, on departure, and on doing a go-around, it was apparent that he had an air-sick passenger. They elected to continue the flight and to get on the ground quicker at the destination so he wanted to go over/through OXF. He quickly dialled in what he thought was the OXF frequency (he had BZN preset) but could not raise them. Knowing OXF and the extended centre-line, he then turned away so as not to infringe and headed towards BZN. He contacted BZN Zone and asked for a direct transit to his destination. It took some time for them to get back to him (he assumed now because OXF were more than likely ringing them about him). They refused a transit and asked him to contact OXF which he did. At that point OXF advised him about an aircraft on departure and to continue to the overhead which he did. He continued to his destination and, on landing, was asked to contact OXF ATC which he did; only then was he advised of the full situation. He added that he always bought up-to date ½ million charts; however, a factor in this incident could be that he always kept his old maps and it is possible that on this occasion he was handed an older map by mistake. He has resolved that as soon as he gets a new map the old one will be disposed of and, even if folded, he will now unfold the map to confirm it is the latest version. He did not see the AC90.

## **Factual Background**

The OXF weather was:

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METAR EGTK 231450Z 08011KT 050V120 9999 FEW037 26/18 Q1018=
METAR EGTK 231520Z 05010KT 010V100 9999 FEW036 SCT044 ///// Q/////
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The Oxford section of the UK AIP states the OXF Approach/Radar frequency as 127.750MHz; OXF Director frequency as 125.325MHz, when required.

The OXF ATZ is a circle, 2 nm radius centred at 515013N 0011912W on the longest notified runway (01/19). The upper limit is 2000ft.

## **Analysis and Investigation**

### **CAA ATSI**

At 1529:00, the OXF Radar controller observed the Jet Provost 6.5nm north-northwest of OXF as it started to track south towards the airport squawking 7000 without Mode C level reporting. The Radar controller was able to identify the contact as a Jet Provost using Mode S and made three transmissions to its pilot in case he was listening out on the OXF frequency. The Jet Provost was 4.4nm north of OXF when the AC90 departed from OXF RW01 at 1530:12 (Figure 1).

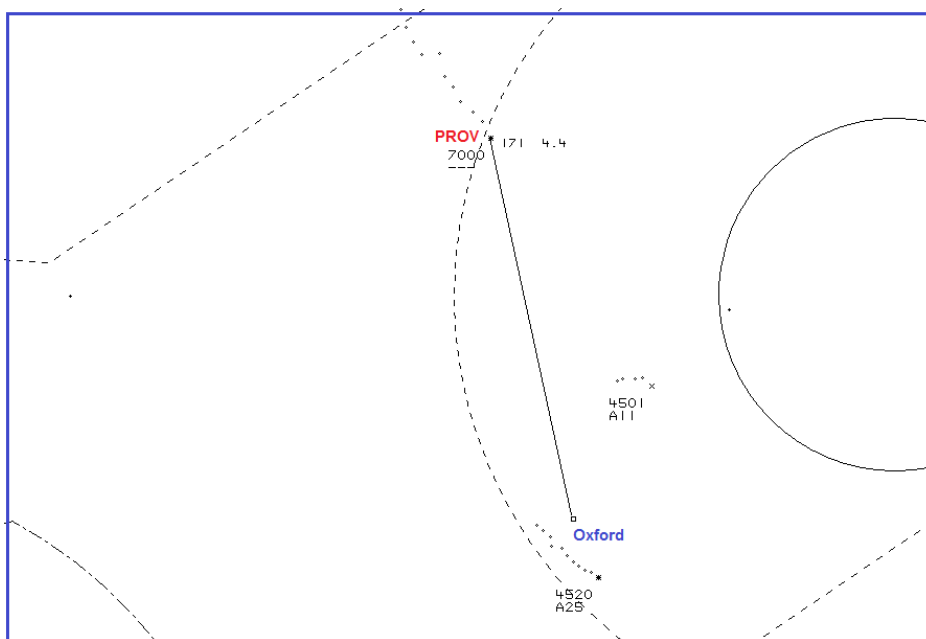


Figure 1 – Swanwick MRT at 1530:12

The Jet Provost pilot then turned onto a westerly track north of the OXF ATZ (radius 2nm) and shortly after departure, as a result of a warning from the Radar controller, the OXF Aerodrome controller advised “[AC90 C/S] traffic information [1530:40] from Oxford Radar crossing the zero one climb out approximately three miles from west to east is a Jet Provost no height information keep a very good lookout”. The AC90 pilot reported visual with the Jet Provost and at 1531:17 it crossed through the AC90 pilot’s 12 o’clock at a range of 0.6nm (Figure 2).

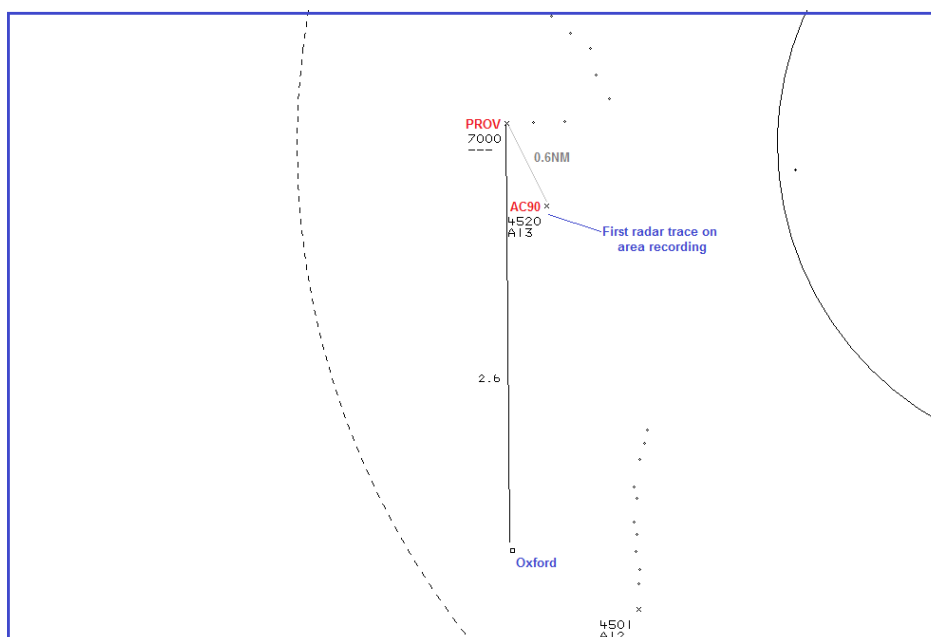


Figure 2 – Swanwick MRT at 1531:17

The AC90 was at an altitude of 1300ft and the pilot subsequently reported to radar that the Jet Provost was at a similar level. The pilot of the AC90 was transferred to OXF Radar at 1531:31 (Figure 3).

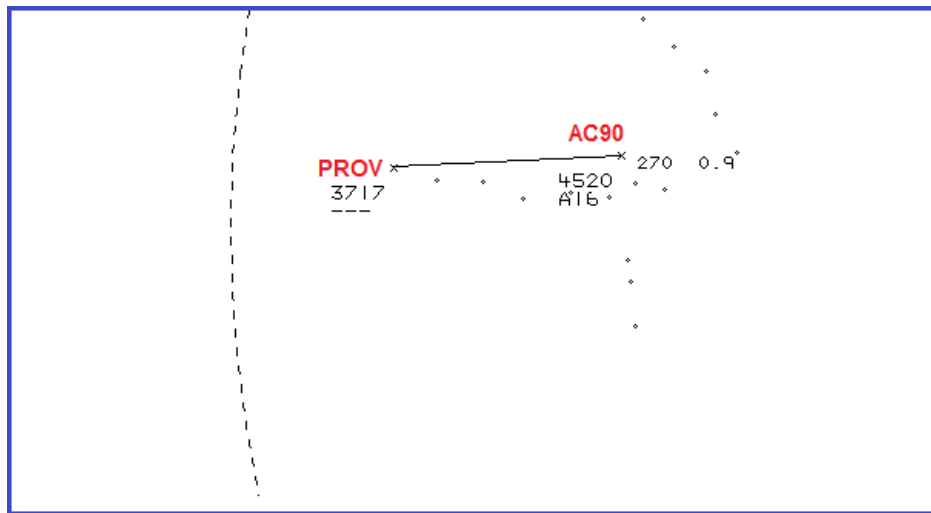


Figure 3 – Swanwick MRT at 1531:31 (PROV = Jet Provost)

The AC90 pilot contacted OXF Radar at 1531:42, after the Airprox had occurred and a Basic Service was agreed. The Jet Provost pilot routed to the northwest of OXF. In his written report he indicated that BZN had advised him to contact OXF Radar which he did at 1532:14 (2.5nm northwest of OXF) reporting out of Enstone approaching north of Blenheim Palace and requesting a transit of the OXF Zone. The Radar controller passed appropriate Traffic Information and prior to transferring the Jet Provost pilot to RAF Benson he advised the pilot that he had earlier passed in proximity to a departing AC90 on the boundary of the OXF ATZ. The Manual of Air Traffic Services Part 1, Section 2, Chapter 1, Paragraph 1.4 states:

'Aerodrome Control shall issue information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic with the objective of: Preventing collisions between: aircraft flying in, and in the vicinity of, the ATZ; and aircraft taking-off and landing;...'

The Radar controller recognised the potential for conflict and took steps to try and establish contact with the pilot of the Jet Provost and then warned the Aerodrome controller. Appropriate Traffic Information was immediately passed by the Aerodrome controller to the pilot of the departing AC90, which resulted in him sighting the Jet Provost as it crossed 0.6nm ahead from right to left at a similar level.

### Military ATM

BZN confirmed that they did not have a flight strip for the Jet Provost's movement and the controllers did not recall providing a service. It is highly likely that the pilot free-called BZN and, due to its proximity to OXF, he was told to call OXF immediately.

### UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a risk of collision<sup>1</sup>. Initially, because the geometry was considered to be 'head-on' both pilots were required to alter their course to the right<sup>2</sup>. Although the pilot of the Jet Provost did not see the other aircraft, his right turn, made when approaching the OXF ATZ, resulted in his aircraft turning away from the AC90.

<sup>1</sup> Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

<sup>2</sup> Ibid., Rule 10 (Approaching head-on).

## Summary

The Airprox occurred in Class G airspace. The OXF Radar controller observed the Jet Provost routing towards the OXF ATZ and recognised the potential conflict with the departing AC90. He tried, unsuccessfully, to contact the pilot of the Jet Provost and warned the Aerodrome controller of the approaching aircraft. The Aerodrome controller immediately passed Traffic Information to the pilot of the departing AC90. This resulted in the AC90 pilot sighting the Jet Provost, which crossed 0.6nm ahead from right to left at, he reported, a similar level. Meanwhile the pilot of the Jet Provost had attempted to contact OXF Approach but, because he used an incorrect frequency, he was unable to establish contact. He remained outside the OXF ATZ and did not see the AC90.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots and the controllers concerned, area radar and RTF recordings and a report from the appropriate ATC authority.

The Board commended the actions of the Oxford Radar controller. Not only did he observe the approaching Jet Provost on his radar display and try to contact its pilot using its registration obtained from its SSR Mode S but, also being aware of the departing AC90, he warned the Aerodrome controller about the aircraft approaching Oxford's airspace with its intentions unknown. This allowed the Aerodrome controller to issue Traffic Information to the AC90 pilot, which assisted him in observing the Jet Provost.

The Board discussed the actions of the AC90 pilot. Some pilot members wondered if he should have taken action on sighting the Jet Provost by turning rather than continuing towards it. However, it was noted in the pilot's report that he was unsure whether the Jet Provost pilot would turn left or right to remain clear of Oxford's airspace and, therefore, any turn by him could have resulted in a closer conflict and a possible loss of his visual sighting of the traffic. Members agreed that the AC90 pilot's course of action was therefore reasonable.

Turning to the Jet Provost pilot, the Board noted that he had tried to contact Oxford but was unsuccessful because he was using a frequency that was no longer monitored. This frequency had been the Approach frequency before Oxford ATC was equipped with radar but it was now the Director frequency and only monitored when required. Some members wondered why ATC did not monitor the frequency at all times, especially as it had been the published Approach frequency. It was pointed out that the status of the frequency changed over two years ago (June 2012) and there was no reason to believe that it would still be used by pilots making 'free calls'. Its revised use is published in the Oxford entry in the UK AIP.

The cause of the Airprox and any contributory factors were then discussed. The Board noted that both pilots were operating in Class G airspace and were entitled to be there, especially as the Jet Provost pilot had remained outside the Oxford ATZ. Although the aircraft remained separated by 0.5nm, the Board could understand why the Oxford Radar controller had filed the Airprox given that he was concerned by the potential for the Jet Provost to come into proximity with the AC90; they considered this concern to be the cause of the Airprox report. Although it was realised that the Jet Provost pilot had tried unsuccessfully to contact Oxford Approach, this lack of communication, when transiting close to the Oxford ATZ, was considered to be a contributory factor. Notwithstanding, it was considered that, with 0.5nm lateral separation, normal procedures and safety standards in Class G airspace had pertained during the incident, especially because the AC90 pilot did not have to take avoiding action. Consequently, the Airprox was determined to be risk Category E.

**PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The Oxford Radar controller was concerned by the proximity of the Jet Provost and the AC90.

Contributory Factor: The Jet Provost pilot did not establish contact with Oxford as he transited close to their ATZ.

Degree of Risk: E.

ERC Score<sup>3</sup>: 10.

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<sup>3</sup> Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.