

## **AIRPROX REPORT No 2014204**

**Date/Time:** 1 Oct 2014 1941Z (Night)

**Position:** 5147N 00118W  
(10 ENE Brize Norton)

**Airspace:** Oxford AIAA (Class: D)

**Aircraft 1**                      **Aircraft 2**

**Type:** Voyager                      C182

**Operator:** HQ Air (Ops)              Civ Trg

**Alt/FL:** 2300ft                      2700ft  
              QNH (1026hPa)

**Conditions:** VMC                      VMC

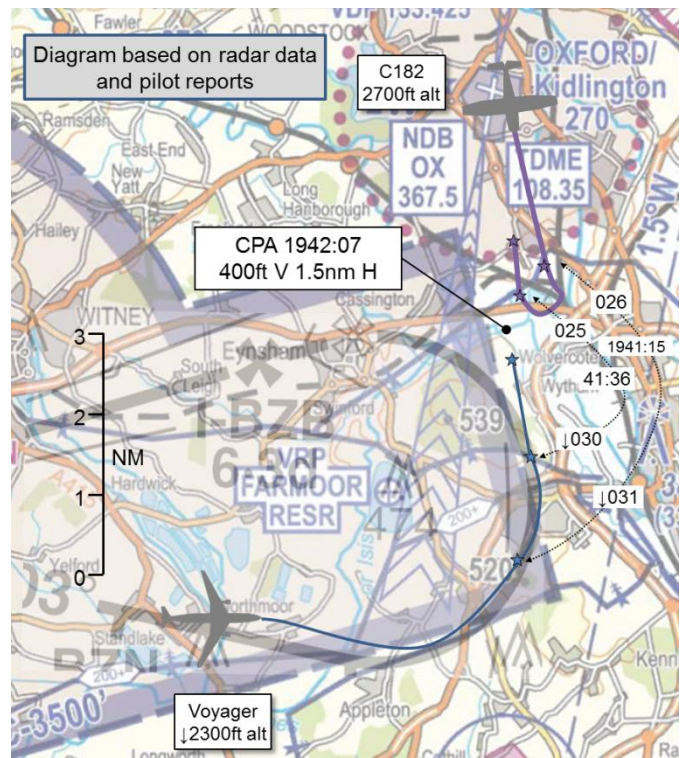
**Visibility:** 30km                      >10km

**Reported Separation:**

0ft V/1nm H                      0ft V/NK H

**Recorded Separation:**

400ft V/1.5nm H



## **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE VOYAGER PILOT** reports flying a grey aircraft with all lights illuminated and SSR transponder Modes 3A, C and S selected. The aircraft was fitted with TCAS. He reports turning inbound to RW26 on the NDB to ILS procedure. ATC called traffic outside the CTR, relative bearing 1 o'clock, range 2nm and 300ft below. The crewman then reported seeing anti-collision lights 12 o'clock at a similar level to the Voyager. The auto-pilot was dis-engaged and a slight climb and left turn initiated. The other aircraft was then seen to clear to the 1 o'clock position. During the manoeuvre, the TCAS traffic alert sounded. Once clear of the traffic, the ILS was regained. The pilot noted that, although the crew were aware that the conflicting traffic was outside the Brize CTR, they were sufficiently concerned about the visual proximity to take manual avoiding action.

He assessed the risk of collision as 'Low'.

**THE C182 PILOT** reports flying a white and blue aircraft with all lights illuminated and SSR transponder selected with Modes 3A, C and S. He was flying at 2700ft and receiving a Basic Service from Oxford. He reported that he transited overhead Oxford to track south towards Didcot. As he transited he could see an aircraft to his right, in the 2 o'clock position at the same altitude, it appeared to be inside the Brize CTR. The aircraft was initially passing in front from right to left but, when it was in his 12 o'clock (just south of Oxford city and outside the CTR), it then began turning towards him. He took control from his student and turned to the right to avoid any conflict. He noted that it was difficult to judge distance at night and so couldn't say what the horizontal separation was. During the turn the Oxford controller alerted him about the conflicting traffic. He then transited north back towards Oxford overhead.

He assessed the risk of collision as 'Medium'.

**THE BRIZE DIRECTOR** reports that he wrote the report 10 days after the incident and therefore his recollection was a little vague. He recalled that traffic levels were light, and that he was bandboxing<sup>1</sup> the Director, Approach and Zone positions. The Voyager called for recovery 20nm to the north and once identified requested to self position for the NDB/ILS. He was given own navigation and a descent. The controller thought that the pilot asked for a Traffic Service on leaving controlled

<sup>1</sup> Covering more than one ATC position from one radar consol.

airspace. The pilot was cleared for the inbound procedure when he was 5 miles north of the airfield and, when the aircraft was about to commence its base leg turn, the controller called traffic that was 5nm north-east, at a similar level. The traffic was slowly turning onto a northerly heading and, from its profile, the controller believed it might have been operating out of Oxford. Once the Voyager turned onto base leg the controller called the traffic again; it was now 2nm north of the Voyager, heading north, outside the Brize CTR. The controller was not concerned by the proximity of the traffic as it was now entering the Oxford ATZ and he knew the Voyager would shortly be turning onto a north-westerly heading to intercept the ILS. The Voyager intercepted the glidepath at 8nm and continued inbound.

He perceived the severity of the incident as 'Low'.

## Factual Background

The weather at Brize Norton was recorded as:

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METAR EGVN 011850Z 25003KT CAVOK 16/13 Q1027 BLU NOSIG
METAR EGVN 011950Z 25001KT 9999 FEW040 BKN050 16/13 Q1027 BLU NOSIG
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## Analysis and Investigation

### CAA ATSI

The C182 was operating IFR on a local navigational exercise and was in receipt of a Basic Service from Oxford Approach. The Oxford controller was providing a combined Aerodrome and Approach control service without the aid of surveillance equipment. The CAA ATSI had access to Oxford RTF and area radar recording together with written reports from the pilots of both aircraft. Oxford had not been advised about the Airprox and the controller had no recollection of the event.

The C182 pilot had planned to route south towards Didcot. At 1934:50 the C182 pilot requested a transit overhead Oxford at 2500ft. This was approved and the controller instructed the C182 pilot to report passing overhead.

At 1938:52 the area radar recording showed the Voyager overhead Brize Norton at 5600ft turning onto an easterly track. The C182 was 3.2nm north of Oxford at 2500ft. The C182 pilot reported overhead Oxford at 1939:48. The Voyager was within the Brize Norton Zone Class D airspace and the Voyager pilot's written report indicated that he was in receipt of a Radar Control Service. At 1940:43 the Voyager was shown leaving Class D airspace. The C182 was 1.1nm south of Oxford turning onto a south-south-easterly track – Figure 1.

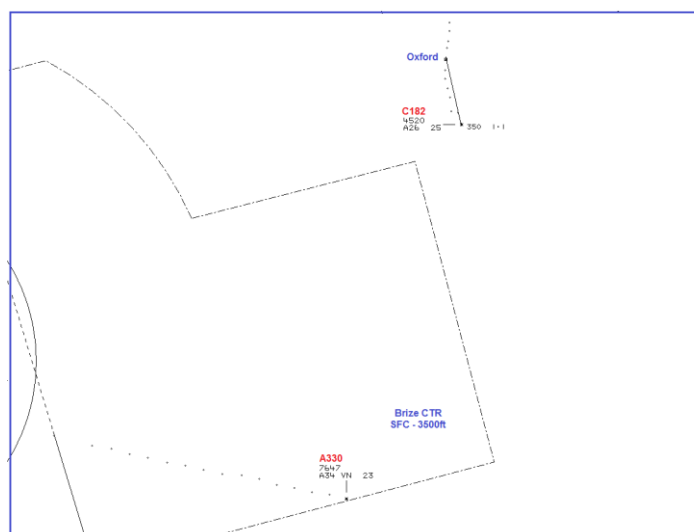


Figure 1 – Swanwick MRT at 1940:43 (A330 = Voyager)

At 1941:17 the following RTF exchange occurred:

ATC *"(C182)c/s er keep well clear of the edge of the Brize Zone I think there's something turning onto a wide left base on edge of their zone I can see to the south"*

C182 *"Er visual (C182)c/s is he coming to.."*

At 1941:33 the Voyager was in a left turn and was shown to have crossed the edge of the Brize Control Zone before again leaving controlled airspace. It was not clear what level of service the Voyager was receiving outside controlled airspace. The distance between the two aircraft was 2.5nm. The C182 pilot's written report indicated that he had sighted the other aircraft in his 12 o'clock outside of the Brize Norton Zone and commenced a right avoiding turn – Figure 2.

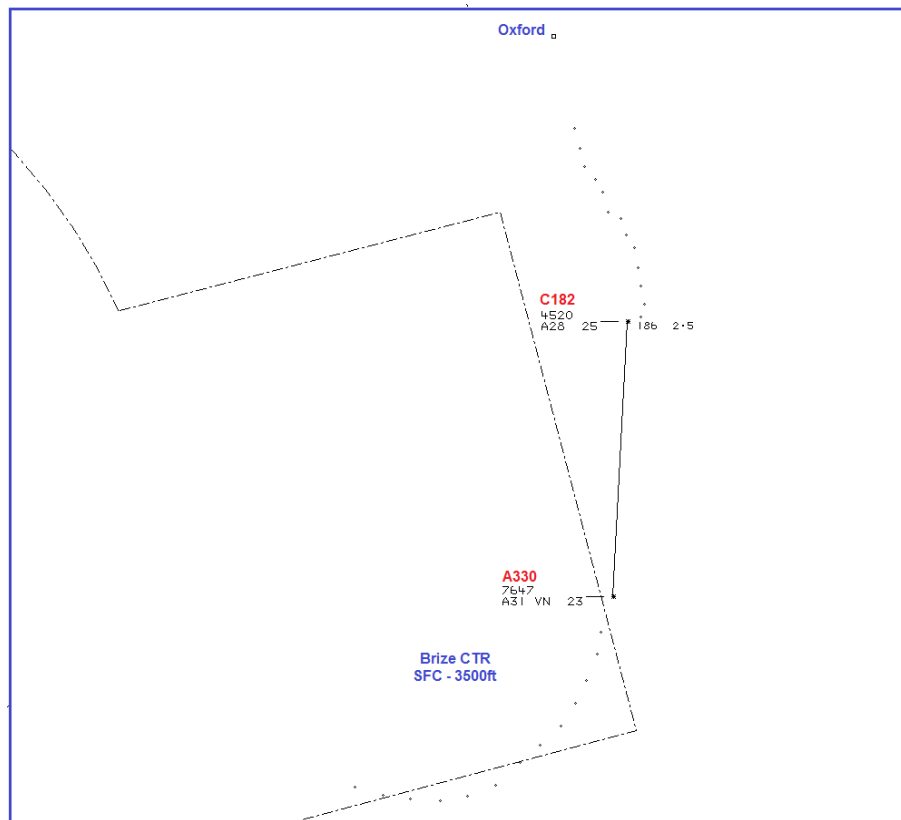


Figure 2 – Swanwick MRT at 1941:33 (A330 = Voyager)

ATC *"No I I can ?????? ?????? I can see his landing lights now he's turning on now to the ILS about ten mile final"*

C182 *"Er roger we're staying well clear (C182)c/s"*

ATC *"Roger"*

C182 [1941:50] *"Er (C182)c/s we're just heading back towards to you overhead"*

ATC *"(C182)c/s no problem"*

C182 *"Not sure what he's doing"*

At 1942:03 the distance between the two aircraft was 1.6nm horizontally and 400ft vertically.

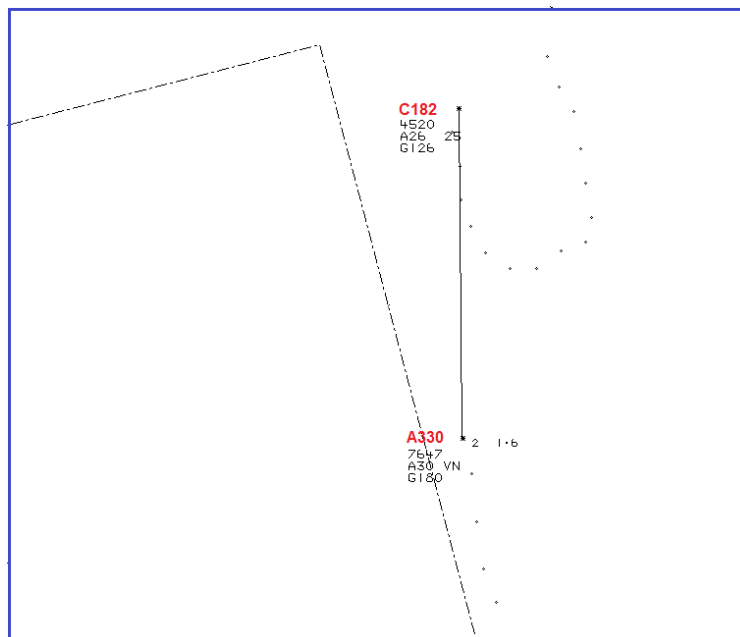


Figure 3 – Swanwick MRT at 1942:03 (A330 = Voyager)

ATC *“Yeah perhaps I was- perhaps I get yeah he is turning now I can see him turning on now er it’s in the lefthand turn he’s probably gonna go through the locali??.”*

C182 *“Okay thanks”*

At 1942:19 the Voyager commenced a left turn. The distance between the two aircraft at CPA was 1.5nm horizontally and 400ft vertically – Figure 4.

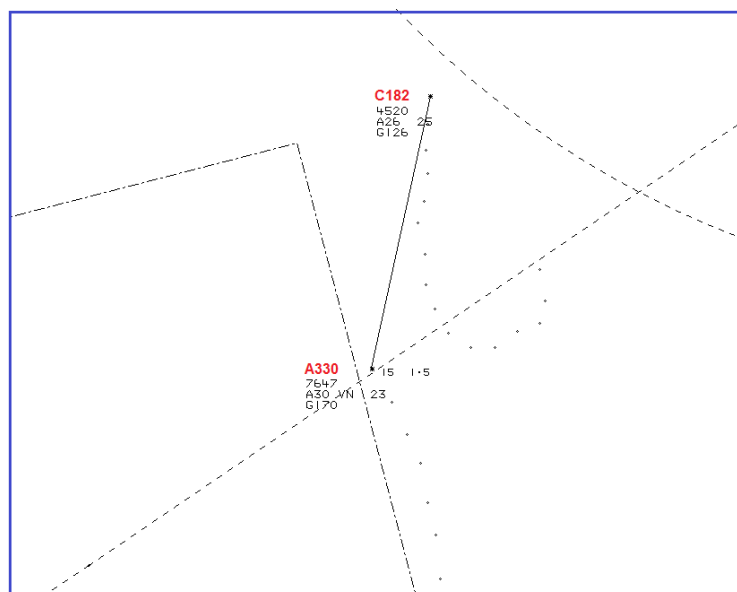


Figure 3 – Swanwick MRT at 1942:19(A330 = Voyager)

The Voyager re-entered controlled airspace and the two aircraft continued without further incident. The Voyager pilot’s written report indicated that he was conducting an NDB to ILS procedure.

The C182 was in receipt of a Basic Service where<sup>2</sup>:

‘ATS is provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights. This may include weather information, changes of serviceability of facilities,

<sup>2</sup> CAP774, Chapter 2, Paragraph 2.1, 2.5 & 2.6

conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot's responsibility.

Basic Service relies on the pilot avoiding other traffic, unaided by controllers. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.'

Given that the provider of a Basic Service is not required to monitor the flight, pilots should not expect any form of traffic information from a controller. A pilot who considers that he requires a regular flow of specific traffic information shall request a Traffic Service.

However, where a controller has information that indicates that there is aerial activity in a particular location that may affect a flight, they should provide traffic information in general terms to assist with the pilot's situational awareness. This will not normally be updated by the controller unless the situation has changed markedly, or the pilot requests an update.'

There had been no notification or coordination regarding the Voyager leaving controlled airspace and the Oxford controller was therefore not aware of the Voyager's intentions. The ATSU indicated that the controller sighted lights to the south of Oxford and he passed generic traffic information to the C182 pilot. The C182 pilot sighted the traffic in his 12 o'clock outside controlled airspace and commenced a right avoiding turn to return towards the Oxford overhead. The controller continued to update traffic information to the C182 pilot until the Voyager turned back towards Brize Norton. From the Voyager pilot's written report it is likely that he was conducting a procedural ILS approach and was not in receipt of radar vectors from Brize Radar.

## Military ATM

At 1936:16 the Voyager was placed under a Traffic Service on the request of the crew. At 1940:51 (Figure 1), Director called, “[Voyager c/s] as you turn traffic north east five miles tracking south east outside controlled airspace seven hundred feet below an Oxford outbound.”

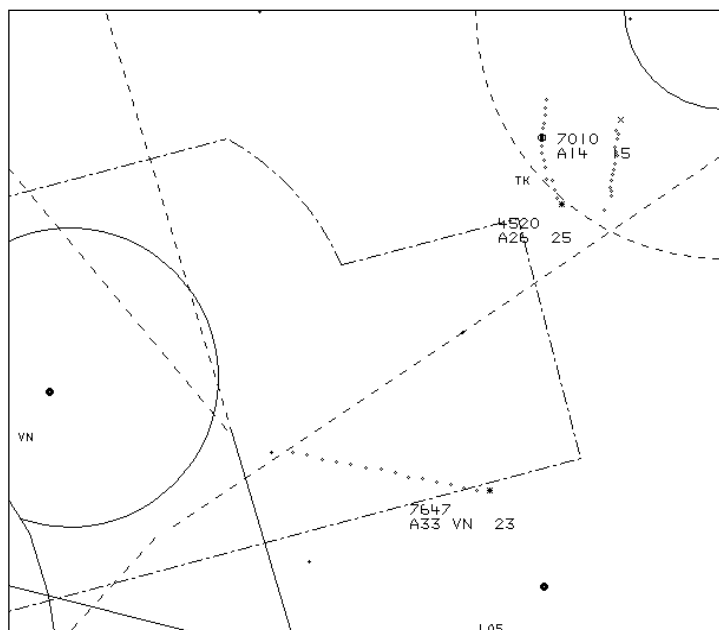


Figure 1: Traffic Information at 1940:51 (Voyager squawk 7647; C182 squawk 4520).

At 1941:19 (Figure 2), Director informed, “[Voyager c/s] previously called traffic north east three miles tracking south five hundred feet below outside controlled airspace.”

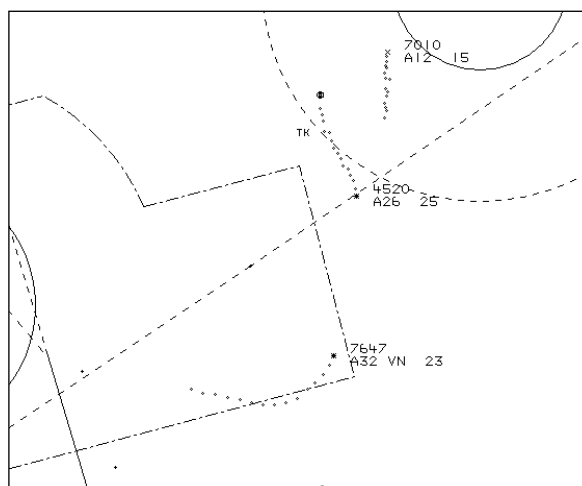


Figure 2: Traffic Information at 1941:19.

At 1941:45 (Figure 3), Director updated with, “[Voyager c/s] previously called traffic twelve o’clock two miles now tracking north four hundred feet below.” The pilot responded with, “was visual, just lost him.”

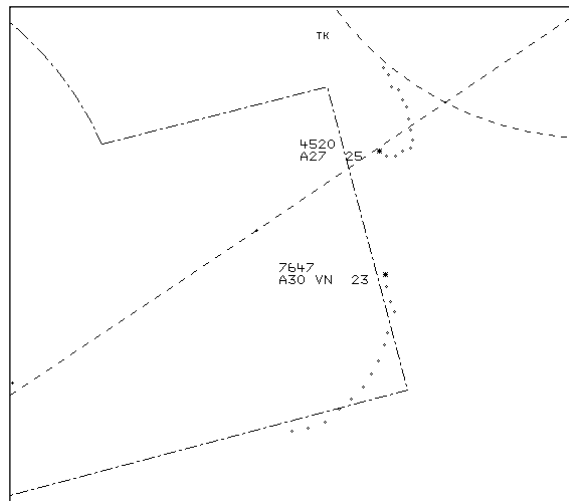


Figure 3: Traffic Information at 1941:45.

At 1941: 58 (Figure 4), Director responded with, “Two miles in your twelve o’clock tracking north four hundred feet below.”

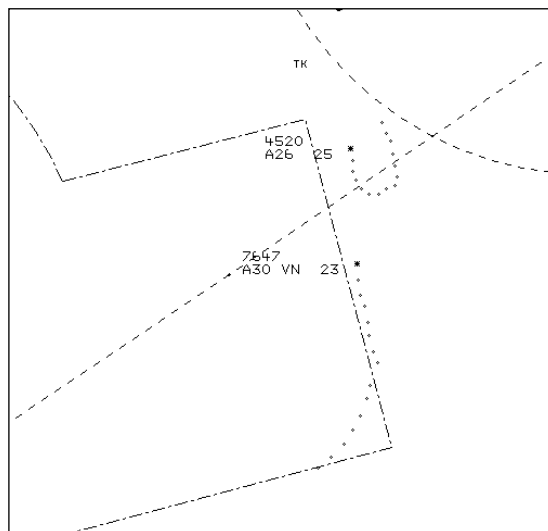


Figure 4: Traffic Information at 1941:59.

The CPA was at 1942:12 (Figure 5) at 400 feet and 1.5nm.

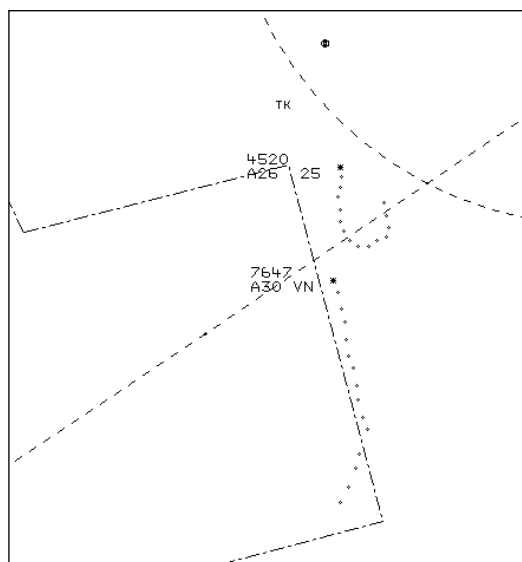


Figure 5: CPA at 1942:12.

Brize Director, as per the conditions of a Traffic Service under the CAP774, called Traffic Information and provided regular updates; the Director knew that the ILS turn inbound would route the Voyager back into the Brize Zone and away from the traffic in Class G. The Voyager crew were under their own navigation for the NDB to ILS procedure and the approaches can occasionally take the aircraft outside the Brize Control Zone. The crew were cognisant of the Traffic Information and they had TCAS to support the information. The crew were not comfortable with the separation and initiated their own left turn, prior to re-gaining the ILS. Numerous barriers were available to ensure separation in Class G airspace; TCAS, Traffic Information and lookout combined to provide awareness and avoid the risk of collision.

### **UKAB Secretariat**

Both pilots shared an equal responsibility for collision avoidance and for not flying into such proximity as to create a danger of collision<sup>3</sup>. If the geometry is considered to be head-on then both pilots were required to turn right<sup>4</sup>, however, the Voyager pilot judged that a climb and left turn inbound to Brize to be the better option in the circumstances.

### **Comments**

#### **HQ Air Command**

Large aircraft at Brize Norton occasionally drift outside controlled airspace during some procedures. The Voyager pilot and the Brize Director had agreed a Traffic Service outside controlled airspace prior to the commencement of the procedure. A local order states:

*“In the interests of lessening RT, Air Systems in the radar circuit which leave the CTR for up to 2nms need not be told of a change in service. However, the appropriate service is to be applied if a confliction occurs.”*

The Brize Director had provided Traffic Information on the Cessna several times in the build up to the CPA, which the Voyager captain acknowledged. The Voyager captain also had the Cessna visible on his TCAS. The Cessna pilot was only on a Basic Service and therefore was unaware of the Voyager's intentions. When both aircraft became visual, on a dark night, they both perceived the separation close enough to take avoiding action. The Voyager captain's decision to adjust his left turn (back into controlled airspace) seems entirely reasonable under the circumstances. The barriers of Traffic Information, TCAS and lookout were all available and worked; however both pilots perceived the separation as requiring an adjustment to their flight paths.

### **Summary**

An Airprox was reported on 1<sup>st</sup> October 2014 at 1940 between a Voyager and a C182. The Voyager was under IFR and in VMC, receiving an ATS from Brize, and he received Traffic Information on the C182 which was operating outside the CTR. The C182 was on a VFR flight and receiving a Basic Service from Oxford, he also received Traffic Information.

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

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

<sup>3</sup> Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

<sup>4</sup> Ibid., Rule 10 (Approaching head-on).



The Board first looked at the actions of the Voyager pilot. Some members wondered whether it was wise for the unit to have a procedure that took the aircraft out of the CTR, and noted that had it been a controller vectored ILS the Voyager track would have been planned to remain within the confines of the CTR. This led to a discussion about the merits of practising NDB approaches if they went outside the CTR when they could be practised more safely in a simulator. The Board opined that the situation was compounded by the local order that stated ATC didn't need to articulate the change of type of service as the aircraft exited controlled airspace, which meant that the pilot may not have realised he was in Class G and therefore had an equal responsibility to avoid the C182. The Board thought that this, coupled with the uncertainty about the range of the other aircraft in the dark, meant that he may have perceived the situation to be more serious than it was.

For his part, the C182 pilot did all that he could in the circumstances, unsure of the intentions of the Voyager he took the safe option and turned away. Some members opined that he may have achieved a greater separation by turning left in this particular incidence, but it was generally agreed that because it was dark and he was unsure what the Voyager might do next, sticking to the rules of the air was the sensible option.

Turning to ATC, whilst both controllers passed timely Traffic Information to their own aircraft, the Board wondered why neither controller had telephoned the other to either pass, or request, Traffic Information; had they done so the element of doubt in the pilots' minds could have been eliminated.

When discussing the cause, the Board quickly agreed that this incident represented normal operations in Class G airspace and therefore was deemed to be a sighting report, the risk was assessed as Category E, normal safety standards had pertained.

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

<u>Cause:</u>	A sighting report.
<u>Degree of Risk:</u>	E.
<u>ERC Score<sup>5</sup>:</u>	50.

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<sup>5</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.