

## AIRPROX REPORT No 2012142

Date/Time: 9 Sep 2012 1722Z (Sunday)

Position: 5153N 00122W  
(3.5nm NNW OX NDB)

Airspace: Oxford AIAA (Class: G)

Reporting Ac Reported Ac

Type: AS355 Gulfstream GV-SP

Operator: Civ Exec Civ Pte

Alt/FL: 2500ft ↓NR↓  
(QNH NR) (NR)

Weather: VMC CLBC NR

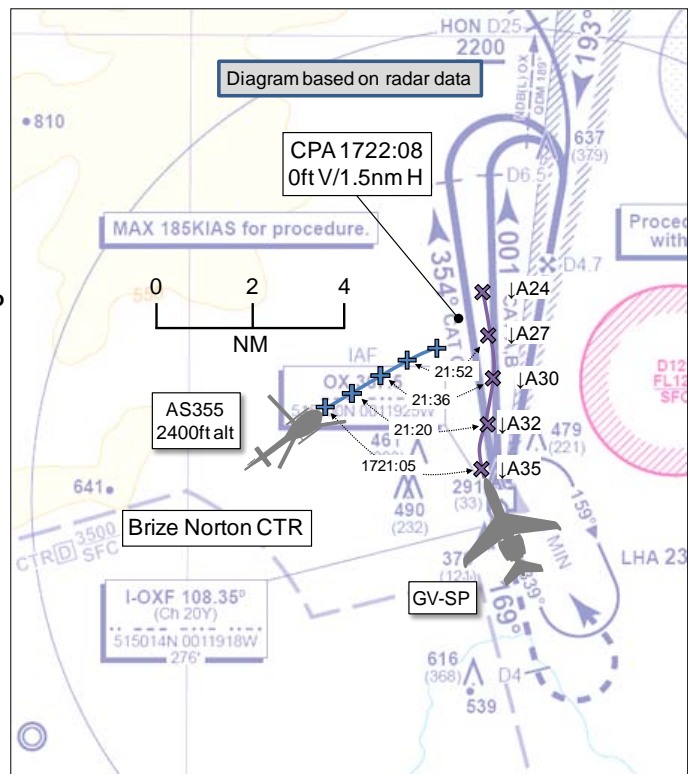
Visibility: >10km NR

Reported Separation:

100ft V/0.5nm H NR

Recorded Separation:

0ft V/1.5nm H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE AS355 PILOT** reports operating under VFR in VMC with a TS from 'Brize Zone'. The black, red and silver helicopter had anti-collision and 'position' lights selected on. The SSR transponder was selected on, with Modes A, C and S, as was the Traffic Advisory System (TAS). On leaving the Brize Norton CTR to the NE, 200ft below cloud heading 065° at 120kt and altitude 2500ft [QNH NR], he was informed of an ac 'over the Oxford ATZ' which was 1000ft above him. The ac was identified on TAS and seen to commence a descent and to turn 'towards his position'. The ac continued to descend, Brize ATC informed him of this, and he descended 400ft, turning R through 50°. The TAS display showed the ac, which he did not see, pass down his LH side by ½nm.

He assessed the risk of collision as 'High'.

[UKAB Note(1): The AS355 pilot's descent and turn are apparent on radar, but occurred very shortly after CPA and hence are not depicted on the diagram.]

**THE GULFSTREAM GV-SP (GV) PILOT** reports conducting an ILS approach to Oxford/Kidlington A/D, operating under IFR with a PS from Oxford TWR. The TCAS was selected on, as was the SSR transponder with Modes A, C and S. The only other ac he was aware of was another 'light jet' that was in the hold above him when he 'arrived at Oxford'. There were no TCAS TA or RA alerts during the approach, nothing was reported by ATC and his recollection was that nothing conflicted with the flight. He reported that he was notified of the Airprox by his company safety department some time after the event.

**THE BRIZE NORTON APPROACH CONTROLLER** reports [AS355 C/S] was on a TS, routing from Dunkswell to Silverstone. The pilot was maintaining altitude 2500ft [Brize QNH 1008hPa] for the transit. When the AS355 was 4nm NW of Oxford he called traffic to the pilot, which was indicating 1000ft above, within the lateral limits of the Oxford ATZ. The traffic was squawking [GV C/S]. He saw the traffic turn N and start to descend so he called Oxford via landline to give TI on his [AS355] track. He told Oxford that the helicopter was maintaining [altitude] 2500ft; Oxford acknowledged and told him their track was a Gulfstream. He gave TI to [AS355 C/S] again, giving a position report and telling the AS355 pilot the Gulfstream was 800ft above him, descending. [AS355 C/S] turned on to an E'ly heading and descended 400ft to avoid the traffic, which was now descending through his 12

o'clock, 'on top of him'. After he was clear, the AS355 pilot asked if Oxford were controlling the other ac involved and queried why it had been given a descent through his level. The controller informed him that he had 'given Oxford TI', to which the AS355 pilot replied that the 2 ac had come very close and that he was thinking of filing an Airprox.

**THE BRIZE NORTON SUPERVISOR** reports being in the Approach Control Room at the time of the incident. The controller had two Zone transits on frequency, one of which was [AS355 C/S] under a TS, who was passed TI on traffic inside the lateral limits of the Oxford ATZ, indicating 1000ft above. The controller then telephoned Oxford to pass TI on [AS355 C/S], to which the Oxford controller stated that her traffic was a Gulfstream. [AS355 C/S] continued to receive TI on the Oxford track and decided to turn E'bound and descend 400ft to remain clear of it. The AS355 pilot telephoned Brize Norton ATC on landing to discuss the incident.

**ATSI** reports that the Airprox occurred at 1721:56 UTC, 3.6nm to the NW of Oxford Airport, within Class G airspace, between a Eurocopter Ecureuil II AS355NP (AS355) and a Gulfstream GV-SP G550 (GV).

The AS355 pilot was operating VFR on a flight from Dunkeswell to Silverstone and was in receipt of a TS from Brize Norton Radar. The GV pilot was operating IFR on a flight from Dublin to Oxford and was in receipt of a PS from Oxford Approach.

Oxford was operating a combined Aerodrome and Approach Control Service without the aid of surveillance equipment. Oxford is promulgated as providing radar services between the hours of 0830 to 1600 UTC. Brize Norton Radar was aware that Oxford was providing a PS without radar surveillance.

CAA ATSI had access to RTF recording from Oxford Approach and area radar recordings, together with written reports from both pilots. Oxford ATSU was not immediately aware that an Airprox had been reported. When subsequently questioned the Oxford controller concerned had no recollection of an incident.

The Brize Norton and Oxford Airport weather was reported as follows:

METAR EGVN 091650Z 22009KT 9999 FEW025 BKN200 20/15 Q1008 BLU NOSIG=  
METAR EGVN 091750Z 21009KT 9999 FEW022 SCT150 BKN200 19/15 Q1008 BLU NOSIG

METAR EGTK 091650Z 23016KT CAVOK FEW040 21/14 Q1007=

## Factual History

The GV pilot was cleared to the Oxford OX(NDB) at altitude 4500ft, QNH 1007hPa, with an arrival estimate of 1718 provided by London Control. He contacted Oxford APP at 1713:32; the Oxford controller responded and gave further descent to altitude 3500ft and cleared the GV pilot to go outbound on reaching the OX(NDB).

At 1714:02, radar recording shows the GV 10nm NW of the OX(NDB), passing an altitude of 5700ft. The AS355 is shown 9.1nm SW of Brize Norton, approaching the Brize Norton CTR boundary at 2600ft.

At 1714:28, the GV pilot requested, "*er to lose some altitude could we make a er a one turn outbound and then come back inbound er OX and then go to er into the procedure.*" The Oxford controller replied, "*Affirm*". At 1716:10, the GV pilot reported level at 3500ft and the controller confirmed that he was cleared for the RW19 Procedural ILS approach, which the pilot acknowledged. At 1717:25, the GV was 1.8nm SE of the OX(NDB), positioning for the entry procedure prior to going outbound. The AS355 was 2.1nm NW of Brize Norton Airport at altitude 2400ft.

At 1720:42, the GV pilot reported beacon outbound and the controller replied, “[GV C/S] *report base tur - correction localiser established.*”

At 1721:05, the GV pilot was outbound in the procedure, 1nm NW of the OX(NDB) at altitude 3500ft. The AS355 is shown in the GV pilot’s 10o’clock position at a range of 3.6nm indicating altitude 2400ft. The outbound QDR for the ILS/DME/NDB(L) RW19 procedure is 001° for CAT A & B ac and 354° for CAT C ac. The GV is a CAT C ac.

At 1721:30, Brize Norton Radar contacted Oxford Approach and the following conversation occurred.

Oxford     *“Air Traffic Oxford”*  
Brize       *“Er Brize there’s traffic northwest of you three seven zero three”*  
Oxford     *“Oh Yeah”*  
Brize       *“Yeah he’s maintaining two thousand five hundred feet one zero zero eight”*  
Oxford     *“Okay the traffic east in his twelve o’clock is a Gulfstream”*  
Brize       *“Thank You”*  
Oxford     *“Okay Bye”*

It was not clear if the Oxford controller was visual with both ac or if they were observed on the ATM.

At 1721:36, radar recording shows the GV passing altitude 3000ft, 2.4nm due E of the AS355 which was at altitude 2400ft. The CPA occurs at 1722:08, when the GV has crossed R to L through the 12o’clock of the AS355 and descends through its level at a range of 1.5nm. The distance between the two ac then increased as the GV continued on a N’ly track.

At 1723:55 the GV pilot reported established on the ILS at 7nm. The AS355 is shown 2.5nm SE of the GV on an E’ly track. The GV continued without further incident and landed at 1727.

At 1727:01, Brize Norton contacted Oxford and advised of a possible Airprox report from the AS355 pilot, who he indicated had descended 400ft to avoid the GV traffic. There was some initial confusion about which ac were involved; the Oxford controller confirmed that the GV pilot had commenced the ILS letdown procedure and the Brize controller indicated that he would ‘update Oxford’ once he had spoken with the AS355 pilot.

## Analysis

The AS355 pilot was in receipt of a TS from Brize Norton Radar. CAA ATSI did not have access to the Brize RTF recording and were therefore unaware of any TI passed to the AS355 pilot. CAP774 (UK Flight Information Services), Chapter 3, Page 1, Paragraph 1, states:

*‘A Traffic Service is a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance-derived traffic information to assist the pilot in avoiding other traffic. Controllers may provide headings and/or levels for the purposes of positioning and/or sequencing; however, the controller is not required to achieve deconfliction minima, and the avoidance of other traffic is ultimately the pilot’s responsibility.’*

The GV pilot was in receipt of a PS from Oxford Approach. CAP774, Chapter 5, Page 1, Paragraph 1, states:

*‘A Procedural Service is an ATS where, in addition to the provisions of a Basic Service, the controller provides restrictions, instructions, and approach clearances, which if complied with, shall achieve deconfliction minima against other aircraft participating in the Procedural Service. Neither traffic information nor deconfliction advice can be passed with respect to unknown traffic.’*

The Oxford controller had no prior notification of the AS355 pilot’s intention to cross the Oxford instrument letdown track and the controller was not able to provide a warning or timely TI to the GV pilot. Brize Radar were aware that Oxford were operating procedurally, without the aid of

surveillance equipment, and it was considered likely that, had more timely TI been passed to Oxford, it would have aided the SA of those involved and would have afforded the opportunity to agree a course of action. The Manual of Air Traffic Services Part 1, Section 1, Chapter 10, Page 1, Paragraph 1, states:

‘Traffic information passed between ATS personnel is information about aircraft that is relevant to the provision of an air traffic service. The purpose of traffic information is to enable the recipient to determine whether or not any action is necessary to achieve or maintain the required separation between the subject aircraft. For example, after receiving traffic information, a controller may consider it necessary to issue avoiding action or may request co-ordination with respect to the traffic.

The passing of traffic information does not imply a commitment to an agreed course of action and there is no undertaking to update the information that has been passed. The dynamic nature of an air traffic environment may render traffic information obsolete once passed but if, after receiving traffic information, a controller believes that co-ordination is necessary, he shall use the term “request co-ordination”...’

CAP774, Chapter 1, Page1, Paragraph 2, states:

‘Within Class F and G airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance and terrain clearance, and they should consider service provision to be constrained by the unpredictable nature of this environment.’

## Conclusions

The Airprox occurred when the AS355 pilot, in receipt of a TS from Brize Norton Radar, transited through the promulgated Instrument letdown area for Oxford Airport and came into conflict with a GV which had commenced an ILS approach procedure for RW19.

**BM SAFETY POLICY & ASSURANCE** reports that this Airprox occurred on 9 Sep 12, between an AS355 operating VFR in receipt of a TS from Brize Norton (BZN) APP and a Gulfstream V (GV) operating IFR in receipt of a PS from Oxford APP, inbound to Oxford.

All heights/altitudes quoted are based upon SSR Mode C from the radar replay unless otherwise stated.

## Information

The AS355 pilot reported operating at altitude 2500ft in unlimited visibility, 200ft beneath cloud. BZN APP reported medium to low workload and low task complexity and were providing an ATS to one ac conducting a BZN CTR crossing, in addition to the AS355 pilot.

The incident sequence commenced at 1719:08, as the AS355 pilot left the BZN CTR and was placed under a TS. At this point, the GV pilot was 11.7nm ESE of the AS355 and 6nm SE of Oxford, in a RH turn passing through W, indicating altitude 3400ft [QNH 1007hPa]. The AS355 pilot was tracking NE’ly, indicating altitude 2400ft, and maintained this track until 1722:12, shortly after the CPA. The GV squawk code was code-callsign converted to display the ac’s callsign and entry designator. This information was displayed to BZN controllers on their surveillance displays.

Between 1719:37 to 1719:46 and 1720:32 to 1720:37, BZN APP was involved in RT exchanges with the unrelated ac conducting a BZN CTR crossing. At 1720:54, BZN APP passed TI to the AS355 pilot stating, “*traffic south-east, 3 miles, tracking north-west, one thousand feet above*” which was acknowledged. At this point, the GV pilot was 4.3nm SE of the AS355, tracking NNW’ly and indicating altitude 3400ft. The AS355 pilot stated that he first sighted the GV on his TAS when it was

1000ft above him, at the '3500ft position passed by Brize ATC', which correlates with this initial TI transmission.

The guidance material for CAP774 Chapter 3 Para 5 states that, '*Controllers shall aim to pass information on relevant traffic before the conflicting aircraft is within 5 nm.*' However, given the time of the CPA (1722:08), the relative speeds of the ac involved and the incident geometry, BM SPA contends that the late provision of TI was neither a causal nor contributory factor in the Airprox.

At 1721:12, the GV pilot, 3.1nm ESE of the AS355, turned onto a NNE'ly track and commenced descent. At 1721:28, BZN APP updated the TI on the GV to the AS355 pilot stating, "*previously called traffic er 12 o'clock, 2 miles, crossing left-right er 800ft above descending.*" The AS355 pilot acknowledged the TI, replying that he had, "*got him on TCAS.*" The GV was 2.6nm E of the AS355, tracking NNE'ly and descending through altitude 3100ft. Notwithstanding that BZN APP incorrectly described the track of the GV as "*left-right*", it is clear from the AS355 pilot's reply to the TI and his Airprox report, that this error had no bearing on his SA and thus was neither a causal nor contributory factor in the Airprox.

At 1721:42, the GV pilot turned onto a NNW'ly track and, at 1721:45, BZN contacted Oxford APP to advise them of the AS355, stating that, "*there's traffic north-west of you, 3-7-0-3.*" At this point, the GV was 2.1nm ENE of the AS355, descending through altitude 2800ft and the AS355 was 3.6nm NW of Oxford. BZN APP continued, advising Oxford APP that the AS355 was, "*maintaining 2500ft, 1-0-0-8.*" Oxford APP replied, "*Okay, the traffic in his twelve o'clock's a Gulfstream*" which was acknowledged by BZN APP and the landline call terminated at 1721:54. Oxford APP's reply suggests that whilst he was not using the recently installed radar to provide an ATS to ac, he was able to see the AS355 on radar.

The CPA occurred at 1722:08, 3.5nm NNW of Oxford, as the GV passed 1.5nm NE of the AS355, through its 12o'clock position and descending through its level, on a NNW'ly track. At 1722:12, the AS355 can be seen on radar to have initiated a turn to the R and a descent. At 1722:34, BZN APP provided a further update of the TI on the GV to the AS355 pilot stating, "*previously called traffic north, 2 miles, indicating 100ft below, descending, it's a Gulfstream, will be descending into Oxford.*" The GV was 2.3nm N of the AS355, continuing to track NNW'ly, descending through altitude 2000ft. The AS355 pilot acknowledged the TI, replying "*Err, roger, that's copied, I'm regaining 2500.*" Immediately after this, the AS355 pilot and BZN APP were engaged in an exchange of RT concerning the Airprox event and, at 1723:29, the AS355 pilot advised that he had, "*dropped about 400ft cos I couldn't see him.*"

## Analysis and Conclusion

In terms of the military ATM aspects of this Airprox, it may have been useful for BZN APP to enhance the TI that was passed to the AS355 pilot at 1720:54, by adding that the GV was inbound Oxford. This point was echoed by the AS355 pilot in his report, saying that if he had been aware of the GV pilot's intentions as an Oxford inbound ac he would have altered his 'position in space...so as not to create any possible conflict'. That said, the AS355 pilot acknowledged that he was aware of the potential for Oxford IFR traffic to be operating within that area. Given the low workload experienced by BZN APP, it is also reasonable to suggest that an earlier call to Oxford APP to pass them TI on the AS355 may have been appropriate, once it became apparent that the AS355's track could be a factor for the GV. That said, given that it was only certain that the AS355 would affect the GV once the GV had commenced its descent 'beacon outbound' at 1721:12, the call could have been made, at best, only 33sec earlier. Moreover, when the call was made, at 1721:45, it did not elicit any request from Oxford APP to agree a course of action with regard to the AS355 and GV.

Notwithstanding the "*left-right*" error which, as already stated, was neither a causal nor contributory factor, BZN APP provided relatively accurate and timely TI to the AS355 pilot. The AS355 pilot was able to utilise this information, alongside that gained from his TAS, to undertake a course of action to increase the separation that already existed between his ac and the GV. Given the lateral separation

that existed at the CPA, it is reasonable to suggest that the pilot of the AS355 would have been less concerned if he had been able to visually acquire the GV.

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

Information available included reports from the pilots of both ac, radar photographs/video recordings and reports from the appropriate ATC and operating authorities.

The Board first considered the actions of the pilots. The AS355 pilot was aware of the conflicting GV traffic from information supplied by his TAS and TI from Brize Norton APP although it was apparent he perceived that the traffic was closer than it actually was. His avoiding action turn and descent occurred very shortly after the CPA and so did not increase mis-distance. The Board agreed that the erroneous TI passed at 1721:28 did not have a significant effect on the AS 355 pilot's SA. The GV pilot was under a PS from Oxford and was starting the procedural ILS approach to RW19. He stated that he did not receive a TCAS TA or RA or indeed any indication of proximate traffic during the approach. In the absence of relevant recorded information, the Board were unable to determine why proximate traffic was not indicated, especially given the AS355 pilot's TAS indications. One Pilot Member opined that the area has such a high level of flight activity that the GV pilot could have become desensitised to proximate traffic indications such that he was not able to recall a specific instance on this approach. The Board also opined that the cloud conditions were a factor, with the AS355 pilot reporting flying '200ft below cloud' and the reported weathers at Brize Norton and Oxford indicating FEW between 2200ft and 4000ft. The GV pilot did not report his weather conditions so the Board could only surmise that the AS355 pilot would not initially have been able to see the GV. A controller Advisor to the Board noted that controllers cannot be aware of local weather conditions unless pilots brief them; the exchange of weather reports and TI being controller/pilot teamwork. It was noted that both pilots were flying in Class G airspace, that they both had an equal responsibility to 'see and avoid' and that the GV had right of way over the AS355. The Board also emphasised that the responsibility to 'see and avoid' remained, no matter what the flight conditions or whether the flight was operating under VFR or IFR, and consequently that pilots were expected to request an ATS appropriate to their conditions.

Turning to the provision of ATS, ATC Members were of the unanimous opinion that both controllers had provided the agreed service in accordance with the relevant regulations and that this Airprox served as a prime example of why the provision of a service to the bare minimum required may not enhance safety of flight. Both controllers were in possession of the information required to effect safe deconfliction and, whilst the Board recognised they did not have any responsibility to do so themselves, it was entirely within their power to provide sufficient information to the pilots to enable them to do so. ATC Members also opined that, given the medium to low workload of both controllers, it could reasonably have been expected that they effect some form of meaningful coordination or that Brize APP offer to transfer control to Oxford, thereby enabling deconfliction under the PS. In the event, Brize APP's phone call to the Oxford controller occurred some 38sec before CPA and probably represented the last opportunity to effect meaningful coordination. The opportunity was not taken and the ac flew into conflict.

Despite the absence of a proactive approach by the controllers, and notwithstanding the AS355 pilot's perception of the proximity of the GV, the Board recognised that the CPA was such that the risk of collision was negligible and consequently that the Risk was minimal.

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

Cause: A conflict between Procedural IFR traffic and VFR traffic in the vicinity of the Oxford instrument approach pattern.

Degree of Risk: C.