

AIRPROX REPORT No 2011058

Date/Time: 2 Jun 2011 1050Z

Position: 5154N 00209W (1.25nm NE Gloucestershire - elev 101ft)

Airspace: LFIR (Class: G)

Reporting Ac Reported Ac

Type: Vans RV9 PA34

Operator: Civ Pte Civ Trg

Alt/FL: 2700ft ↓2800ft
(QNH 1034mb) (QNH 1034mb)

Weather: VMC CLBC IMC IICL

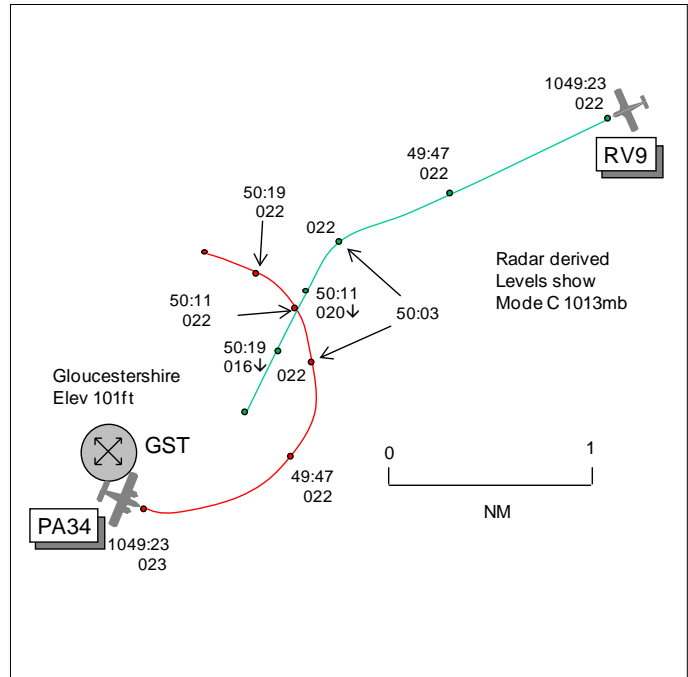
Visibility: 15nm 10km

Reported Separation:

Nil V/NR H Not seen

Recorded Separation:

>200ft V/<0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE VANS RV9 PILOT reports flying VFR en-route to Perranporth via Gloucestershire and in receipt of BS from Gloster Approach on 128.55MHz, squawking 7000 with Modes S and C. The visibility was 15-20km flying 500ft below cloud in VMC and the ac was coloured red with strobe lights switched on. His planned route was via the O/Hs of Gloucestershire, Colerne, Frome and Newquay and, having previously worked Brize under BS and been told that Little Rissington was active, he had routed well to the N and then towards Gloucestershire. He called Gloucester Approach and informed them that it was his intention to route via the O/H at 2700ft QNH1034mb. When well inside the ATZ, he thought, he turned L onto heading 191° towards Colerne at 130kt and, when abeam, his passenger spotted an ac 0.5nm away in their 11 o'clock heading towards them, appearing to be at the same height. He banked sharply to the L and also descended, recovering at 2200ft before turning back onto track and climbing back to 2700ft. After recovering his composure he informed ATC of the Airprox and was told the other ac was a PA34 carrying out an IFR procedure; he queried the relevance of this information. He subsequently changed to Filton but when abeam Yeovilton he encountered low cloud so elected to return to Enstone routeing via Kemble. He assessed the risk as medium to high.

THE PA34 PILOT reports flying a dual IFR training flight from Oxford for an IR and in receipt of a PS from Gloster Approach on 128.55MHz, squawking 7000 with Modes S and C. The visibility was 10km when clear of cloud but they were IMC occasionally in and out of cloud. They had flown an ILS at Birmingham and were then carrying out a practice diversion to Gloucestershire, intending to fly an NDB hold followed by an approach to go-around and then a visual cct to touch and go before departing. As well as the student flying P1 in the LH seat there was another student in the rear acting as an observer. En-route to Gloucestershire on a S'y track, they were cruising at FL40 and the ATIS information 'India' gave RW09 LH in use with surface wind 040/07kt, visibility 10km, cloud few 3000, temperatures 20/12 and QNH 1034mb. Gloster Approach cleared them to the GST at FL40 and instructed them to report entering the hold, which they did. The hold entry and at least one hold were performed before he advised the student on the outbound leg of the hold to report ready for the NDB procedure. Approach cleared them for the NDB approach for RW09 and asked them to report beacon outbound. Having acknowledged this, the student set 1034mb on altimeter No1 and cross-checked the same setting on altimeter No2 and this now made their altitude approximately 4600ft. This was then followed by a gentle descent being initiated to 2800ft at 120kt on the inbound

turn and inbound leg of the hold. He was unable to say exactly what altitude they were at upon beacon passage but it was not below 2800ft and he believed they were still in the descent towards 2800ft. A call was made of "beacon outbound" and Approach asked them to report base turn complete. Shortly after this while in the outbound turn for the alternate procedure he heard another ac's pilot informing Approach that a twin-engine ac had passed over the top of his ac by about 400-500ft, he thought. He believed Approach replied that he only had a Seneca (meaning them) going beacon outbound for the NDB approach but it was at FL040; the other pilot replied that he wasn't instrument rated and did not understand what the controller meant by beacon outbound etc. They continued with their approach as published without further incident and completed the detail as planned before returning to Oxford. On the return to Oxford, Approach advised that the other ac's pilot had filed an Airprox, which he acknowledged. At FL040 they were in and out of few/scattered cloud and the same conditions prevailed whilst in the descent to 2800ft. At the platform altitude of 2200ft they were clear of cloud for the remainder of the flight at Gloucestershire. At no time did he or the students see the other ac. Upon being cleared for the NDB 09 approach the controller did not instruct them to remain at FL040 until beacon outbound nor was any reference made to traffic overflying the airfield.

THE GLOUCESTERSHIRE APPROACH CONTROLLER reports the RV9 pilot contacted him at 1047 and passed all his details requesting a BS routeing via the O/H from the E and then SW bound at altitude 2400ft, he thought. The PA34 flight was in the GST hold at FL040 ready for an approach under a PS. The PA34 flight was cleared for the NDB/DME approach to RW09 and the pilot called beacon outbound at 1049 which allowed the flight to descend to 2800ft. At 1050 the RV9 pilot reported O/H and wishing to file an Airprox due to the location and relative position of the PA34; its crew was informed of the RV9 pilot's intentions.

ATSI reports that the Airprox occurred in Class G airspace at 1050:16UTC, 1.25nm to the NE of Gloucestershire Airport at an altitude of 2800ft. This position is outside the Gloucestershire ATZ, which extends to a height of 2000ft above aerodrome level (elevation=101ft) and bounded by a circle 2nm radius centred on the mid-point of RW09/27.

The PA34 was inbound IFR from Oxford on a training flight and was planning to hold at the GST NDB, which is situated on the airfield, followed by a procedural NDB/DME approach to RW09. The NDB(L)/DME Instrument Approach Chart specifies an altitude at the IAF of 2800ft and also specifies that ac will normally hold not lower than 4000ft or the equivalent FL.

The Vans RV9 was operating on a VFR flight from Enstone to Perranporth, routeing via Gloucester, Colerne, Frome and Newquay.

The Gloucestershire controller was providing an Approach PS (Gloster Approach) without the aid of surveillance equipment. The ATSU is equipped with a primary radar system only, (without SSR). The availability of radar is subject to manning and utilised to expedite the procedural environment. The radar would not have displayed traffic in the O/H.

CAA ATSI had access to the RT recording and recorded area surveillance provided by NATS Swanwick, together with written reports from the controller and 2 pilots.

METAR EGBJ 021050Z 02003KT 9999 FEW035 21/11 Q1034=

At 1035:05, the PA34 flight established contact with Gloster Approach maintaining FL040 and requesting a PS. The Approach controller agreed a PS and cleared the PA34 flight to the GST at FL040 with no delay for an NDB/DME approach for RW09, to report taking up the hold. This was acknowledged correctly by the PA34 pilot.

At 1039:21, the PA34 pilot reported taking up the hold at FL040 (converts to an altitude of 4567ft on QNH 1034 with 1mb equal to 27ft). The controller instructed the PA34 pilot to report ready for the approach.

At 1045:16, the PA34 pilot reported, *“(PA34 c/s) ready for the N D B zero nine approach”* and the controller replied, *“(PA34 c/s) cleared N D B D M E approach Runway zero nine Q N H one zero three four report beacon outbound.”* The PA34 pilot acknowledged, *“Cleared er N D B er zero nine approach Q N H one zero three four wilco (PA34 c/s).”*

At 1046:32 the radar recording shows the PA34 in the descent passing FL038, 3.6nm WNW of the GST and commencing a L turn towards the beacon. The PA34 pilot's written report indicated that once cleared for the NDB approach and instructed to report beacon outbound, the pilot had selected QNH 1034 and started a slow descent to 2800ft on the inbound turn and inbound leg of the hold.

Later on the controller had indicated an expectation that the PA34 would maintain FL040 until beacon outbound. The controller was asked why the PA34 had not been given a restriction such as 'maintain FL040 until crossing the beacon outbound'. The controller responded that normally, had there been an outbound, such a restriction would have been given. With no reason to restrict, the controller had cleared the PA34 for the procedure, but had not considered that the pilot may have elected to descend to the published level for the procedure of 2800ft.

At 1045:58, the RV9 pilot established contact with Gloster Approach. The controller had just initiated a non-operational telephone call (regarding a shift the following day) and instructed the flight to standby. The radar recording shows the RV9 at a position, 10.4nm to the NE of the airfield.

At 1046:58, the controller asked the previous station calling to pass message and the RV9 pilot advised, *“er (RV9 c/s) is an R V nine A from Enstone to Perranporth routeing via your overhead and Colerne request a Basic Service er currently three miles to the northeast of your airfield.”* The radar recording shows the RV9, 8.4nm to the NE of the airfield.

At 1047:20 the controller ended the telephone conversation and responded to the RV9 flight, *“(RV9 c/s) sorry er I was on the landline could you er say again your point of departure and destination.”* The RV9 pilot replied, *“er Enstone Perranporth (RV9 c/s).”*

At 1047:32, the controller responded, *“(RV9 c/s) Basic Service Gloster Q N H one zero three four,”* which was acknowledged correctly.

The controller indicated that he had not heard the RV9 pilot's full message and was unsure if the RV9 was routeing to Perranporth E of the airfield or via the O/H. At 1047:43, the controller asked, *“(RV9 c/s) are you routeing via my overhead”* and the pilot replied, *“Affirm.”* The controller asked the RV9 pilot to report O/H. The radar recording shows the RV9, 6.7nm to the NE of the airfield, with the PA34 2.8nm WSW of the airfield.

The controller's written report indicated that he had considered the RV9 was at 2400ft and the PA34 at FL040. The controller acknowledged that the RV9 had not stated a level, neither had the controller requested the level (the RV9 reported at 2400ft after the incident). The controller was asked if he had considered passing TI to the PA34 (under a PS), on the RV9 operating VFR via the O/H. The controller indicated that he hadn't fully assimilated the position of the RV9 and had considered that the PA34 was shortly to go beacon outbound to the W at FL040.

At 1049:28, the PA34 pilot reported beacon outbound and the controller responded, *“(PA34 c/s) report base turn complete.”* The radar recording shows the PA34 has crossed the GST, on an ESE'ly track, indicating FL023 (converts to an altitude of 2867ft). The RV9 was 3NM NE of the airfield tracking SW towards the O/H indicating FL022 (converts to an altitude of 2767ft).

From 1049:38 until 1050:16, the controller was occupied in a two-way transmission with a PA28 inbound to the airfield.

[UKAB Note (1): At 1050:03 the radar recording shows both ac indicating FL022 (2767ft) with the PA34 turning L through a N'ly heading in the RV9's 10 o'clock range 0.6nm and crossing from L to R. The next sweep 8sec later at 1050:11 shows the PA34 crossing through the RV9's 12 o'clock range

0.1nm, the RV9 now tracking 210° and indicating a descent through FL020 (2567ft QNH). The CPA occurs immediately afterwards as the next sweep at 1050:19 shows the ac now diverging, the PA34 turning through heading 290° with the RV9 0.4nm to its S descending through FL016 (2167ft QNH). It is estimated that separation at the CPA was >200ft vertically and <0.1nm horizontally as the RV9 passes just behind and below the PA34.]

At 1050:25, the RV9 pilot reported, *“er Gloster approach (RV9 c/s) would like to report an a Airprox with a twin.”* The RV9 pilot advised, *“er (RV9 c/s) was overhead or just about overhead your field a twin was coming in from the southeast at my height I er reduced to reduced height to avoid.”*

The controller acknowledged, *“(RV9 c/s) roger that’s er believed to be a Seneca traffic in the Golf Sierra Tango just called me beacon outbound in the instrument procedure for Runway zero nine.”* The RV9 pilot acknowledged with, *“Roger”* and the controller added, *“and er that aircraft was last reported flight level four zero but will be descending with the procedure.”* The RV9 pilot replied, *“I’m not er I M C qualified so I’m not quite sure what that means (RV9 c/s).”* The controller requested the level of the RV9 and the pilot responded, *“er currently two thousand four hundred on a bearing of one eight two degrees.”*

Both ac continued without further incident.

The controller was asked what might have prevented the incident. The controller acknowledged that TI should have been passed to the PA34 and a level requested from the RV9 pilot.

As a result of the Airprox the ATSU unit investigation report was made available to Gloster controllers, together with reference to the MATS Part 1 guidance regarding the potential for non-operational conversations to distract controllers from their primary task of providing a safe air traffic service.

The controller initiated a non-operational telephone call just before the RV9 called at a range of 10.4nm from the airfield. This resulted in a distraction and delay in receiving the RV9 pilot’s message. The full details and intentions of the RV9 were missed. The controller did not fully assimilate the details and was initially confused about the position of the RV9. The Manual of Air Traffic Services (MATS), Part 1, Appendix E, Page 2, Paragraph 2, states:

‘Non-operational and other conversations have the potential to distract a controller from their primary task of providing a safe air traffic service. Examples include telephone conversations with external agencies, such as airline representatives, and discussions between controllers conducted on the telephone, intercom or, in some cases, face to face, following an unplanned traffic situation.

Non-operational conversations must not be permitted to interfere with a controller’s operational duties. Procedures at units should ensure that non-urgent telephone calls from external agencies could be accommodated without prejudicing the controller’s primary task.’

The RV9 pilot did not report his level and the controller did not recognise the significance of the RV9’s routeing and the potential for conflict with the PA34.

Whilst in the holding pattern, the PA34 was cleared for the procedure without any restriction. The pilot did not report leaving FL040, nor did the controller request a leaving report. The phraseology used by the controller was ambiguous and did not convey the controller’s intention, which was for the PA34 to maintain FL040 until beacon outbound. However, the pilot having been cleared for the procedure without restriction, descended to the published level for the procedure (2800ft) prior to going beacon outbound. MATS Pt1, Appendix E, Page 2, states:

‘Radiotelephony provides the means by which pilots and ground personnel communicate with each other. Used properly, the information and instructions transmitted are of vital importance in assisting in the safe and expeditious operation of aircraft. However, the use of non-standard

procedures and phraseology can cause misunderstanding. Incidents and accidents have occurred in which a contributing factor has been the misunderstanding caused by the use of non-standard phraseology. **The importance of using correct and precise standard phraseology cannot be over-emphasised.'**

The controller was not aware that the RV9 was approaching the O/H at 2800ft and, also not aware that the PA34 was descending to 2800ft to go beacon outbound. This resulted in the 2 ac coming into close proximity at a similar level without the provision of any TI or warning that would have aided the pilot's situational awareness.

The PA34 was IFR and in receipt of a PS. CAP774 UK Flight Information Services, Chapter 4, Page 5, 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 controller shall provide traffic information, if it is considered that a confliction may exist, on aircraft being provided with a Basic Service and those where traffic information has been passed by another ATS unit; however, there is no requirement for deconfliction advice to be passed, and the pilot is wholly responsible for collision avoidance. The controller may, subject to workload, also provide traffic information on other aircraft participating in the Procedural Service, in order to improve the pilot's situational awareness.'

Both flights were operating within Class G airspace. 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. The Class F and G airspace environment is typified by the following:

- It is not mandatory for a pilot to be in receipt of an ATS; this generates an unknown traffic environment;
- Controller/FISO workload cannot be predicted;
- Pilots may make sudden manoeuvres, even when in receipt of an ATS.'

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC authorities.

Although this Airprox occurred in Class G airspace where both crews were responsible for maintaining their own separation from other traffic through see and avoid, it was clear to Members that there were opportunities to break the chain of events leading up to the Airprox. Once APP had cleared the PA34 flight for the procedure, without applying a level restriction, the crew were entitled to descend to the initial approach altitude of 2800ft QNH. Pilot Members thought that good practice would have been for the PA34 pilot to have called when commencing descent and this would most likely have broken the chain at this early stage. However the crew was not asked to report leaving FL40 and the controller incorrectly thought the flight would maintain FL40 until going 'beacon outbound'. The RV9 pilot should have volunteered his cruising altitude when invited by the controller to pass his message. However, it was clear that the controller did not assimilate the RV9 pilot's intentions while distracted by his non-operational telephone call, and did not ask for the flight's cruising level (it could have been cruising at FL40). In the absence of this information and having

confirmed that the RV9 pilot intended to route via the O/H, the controller should have identified the potential for a conflict and passed TI to the PA34 pilot in accordance with CAP774: this was another opportunity lost. Controller Members agreed that the passing of generic TI to the RV9 flight about another ac routeing through the O/H would have been 'good controllership'; it would have given the RV9 the pilot SA on the potential conflict and could have broken the chain. An experienced pilot Member stated that although the PA34 flight was IFR training, this incident was a timely reminder of the crew's need to continue exercising a good lookout for unknown traffic. Also, the PA34 crew's SA would have been improved if they had heard and assimilated the RT exchanges between ATC and the RV9 pilot. As it was, the PA34 flight was descending in IMC through cloud to 2800ft, its crew unaware of the approaching RV9 which passed unsighted during their 'belly-up' turn onto the outbound leg. Similarly, the RV9 pilot was unaware of the PA34's presence; the only clue from the RT would have been the PA34 pilot's call of 'beacon outbound' and this required the pilot to have knowledge of the IF procedures in use at the time. In the event, the RV9 pilot turned on track towards Colerne just before the O/H and saw the PA34 0.5nm away; the Board agreed that his prompt and robust avoiding action had resolved this conflict and removed the risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: In the absence of TI, a conflict in Class G airspace resolved by the RV9 pilot.

Degree of Risk: C.