

AIRPROX REPORT No 2013150

Date/Time: 17 Oct 2013 0948Z

Position: 5152N 00153W
(10nm E Gloucestershire Airport)

Airspace: London FIR (Class: G)

Aircraft 1 Aircraft 2

Type: C525 C182

Operator: Civ Comm Civ Trg

Alt/FL: 2700ft 2500ft
QNH QNH (1013hPa)

Conditions: IMC VMC

Visibility: In cloud 7km

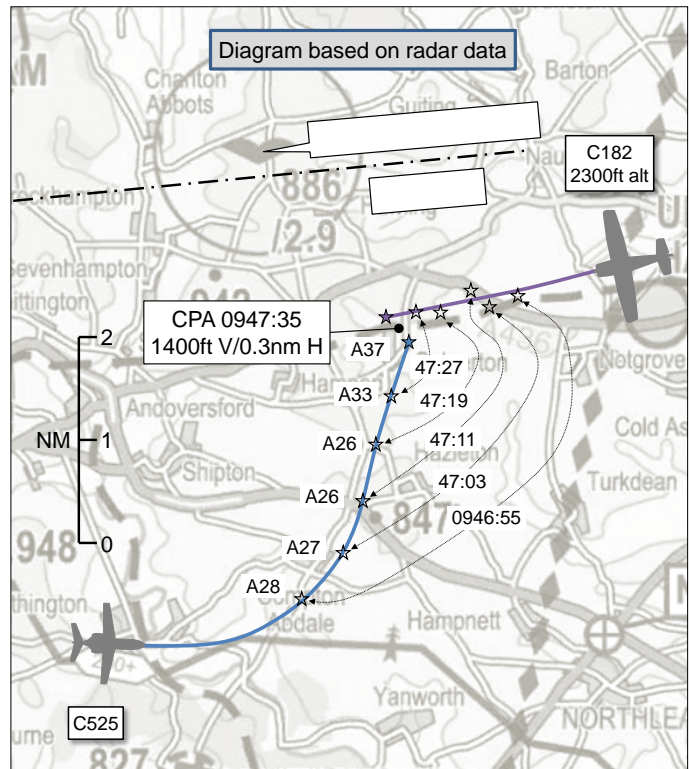
Reported Separation:

300ft V/1-2nm H NK

Recorded Separation:

300ft V/1.3 nm H

1400ft V/0.3nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE CESSNA 525 CITATION (C525) PILOT reports inbound IFR to Gloucestershire airport (GLO) in receipt of a Procedural Service. The aircraft was coloured white, with blue and black markings; all of the 'required lighting' was illuminated. SSR Modes C and S were selected; TCAS was carried. At approximately 1040 he started his initial approach at REKLO at 3000ft on QNH. He was cleared for the approach at REKLO and started a left turn to NIRM0, descending to altitude 2500ft as per the approach plate. He noted 6 to 7 other aircraft in the area, one of which caught his attention for some 2-3 min before and during the left turn at REKLO. As he left 3000ft in the descent he received a Traffic Alert. As he established on a heading of 350° to point NIRM0, descending to 2500ft, it became apparent that the traffic was in his 12 o'clock position at 2500ft. He was still IMC and had no way of sighting the traffic to avoid. Still in IMC approx 1.5nm from the traffic, and getting close to the base of the cloud, he began a climbing right turn to 4000ft on QNH. He called approach, and informed them of his traffic avoidance turn and climb. The controller indicated that he should rejoin the approach at NIRM0 after the traffic had passed. He rejoined the approach at NIRM0 at 2500ft and the rest of the flight was uneventful. He was informed by approach that they would file an MOR on the incident. At all times he was in IMC until 3nm before the Final Approach Fix.

THE CESSNA 182T (C182) PILOT reports routing towards GLO, VFR, in receipt of a Basic Service. The aircraft was coloured blue and white; strobe lights were illuminated. SSR Mode C was selected squawking 4520; the aircraft was not equipped with ACAS. She was maintaining 2500ft, misreported by ATC to the C525 pilot as 3500ft. After the C525 pilot was instructed to descend to 2500ft, she corrected the GLO Approach controller about her altitude, who relayed the correction to the pilot. By this time the C525 pilot had received an RA and climbed back to 3500ft. At the time she was 200ft below cloud and did not observe the C525.

THE GLO APPROACH CONTROLLER reports that he cleared the C525 pilot for an RNAV approach to RW27, via REKLO, under a Procedural Service. The C525 pilot approached REKLO eastbound. Whilst the C525 pilot was transiting towards REKLO, the student pilot in the C182 contacted him for a VFR transit towards Brockworth (4nm S of GLO) at altitude 3500ft. Aware that the C525 pilot was descending from the west towards REKLO through the reported level of the C182, he passed Traffic Information on the instrument pattern traffic to the C182 pilot. Approaching REKLO he checked the

level of the C525 with the pilot and passed Traffic Information on the C182's reported flight [at 3500ft]. The pilot of the C182 then actually reported at 2500ft. He updated both aircraft about the confliction. Very shortly afterwards the C525 pilot reported a TCAS RA in the approximate area of REKLO. There was no potential conflicting traffic observed in the area of REKLO until very shortly after the TCAS RA was reported, when a contact following the C182's profile appeared on the radar display. After the TCAS RA the C525 pilot completed the RNAV approach to RW27 via NIRMO.

Factual Background

The GLO weather was:

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METAR EGBJ 170920 22004KT 190V250 9999 FEW015 15/11 Q1013=  
METAR EGBJ 170950 22004KT 180V250 9999 FEW020 15/12 Q1013=
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CAP 774 UK Flight Information Services, defines the following service levels:

Procedural Service¹. Under a Procedural Service 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.

Basic Service². A Basic Service 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, 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.'

CAP 774³ also states that:

'...Controllers may, subject to workload, initiate agreements (as defined in Service Principles) with pilots of aircraft under a Basic Service to restrict their flight profile in order to co-ordinate them with aircraft in receipt of a Procedural Service. However, controllers shall limit the occasions on which they make such agreements to those where it is clear that a confliction exists, and only when controller workload permits.

Pilots must remain alert to the fact that whilst in receipt of a Procedural Service, they may encounter conflicting aircraft about which neither traffic information nor deconfliction advice have been provided. Additionally, the adequacy of ATC deconfliction advice relies on compliance by pilots, and in the non-surveillance environment ATC are unable to recognise when pilot position reports are inaccurate or incorrect.'

Analysis and Investigation

CAA ATSI

CAA ATSI had access to the RTF and area radar recordings, the written report from the controller, together with reports from the C525 and C182 pilots. An adjustment of 15 sec was made to the transcription times in order to match the radar time injection.

The C525 pilot was operating IFR inbound to GLO and was in receipt of a Procedural Service from GLO Approach on frequency 128.550MHz. The C525 pilot had been cleared to commence the RNAV approach via REKLO for RW27 and an extract from the GLO instrument approach chart taken from the UK AIP, AD 2-EGBJ-8-7 (30 May 13) is reproduced in Figure 1.

¹ Chapter 5

² Chapter 1

³ Chapter 5, Paragraph 6

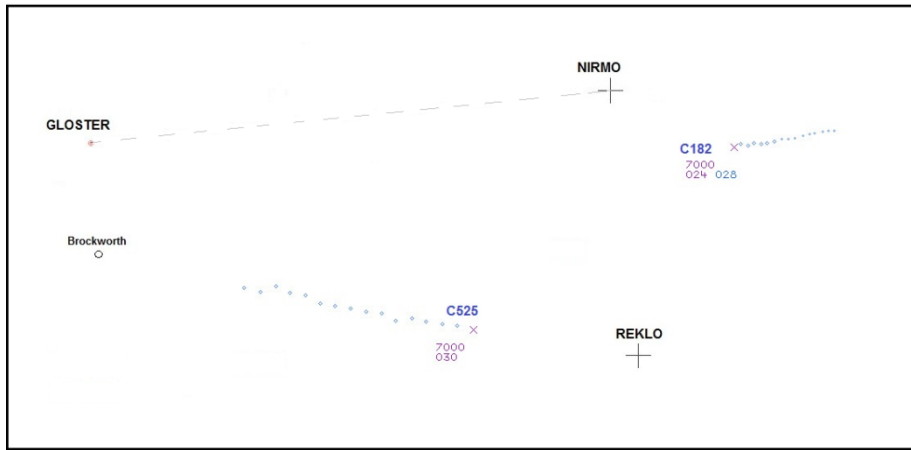


Figure 2 – Swanwick MRT at 0946:29

At 0946:43 the controller instructed the C525 pilot to report at NIRMO and then passed Traffic Information regarding the C182, “[C525 C/S] a VFR traffic just called me at er reported at three thousand five hundred feet east of the field by about ten miles westbound is a Cessna”. The C525 pilot replied, “Copied that er what altitude was that at” and the controller responded, “Er reported at three thousand five hundred feet”, which was acknowledged by the C525 pilot: “copied that thank you very much”. The C182 pilot then reported “at two thousand five hundred feet” [0947:05] – See Figure 3.

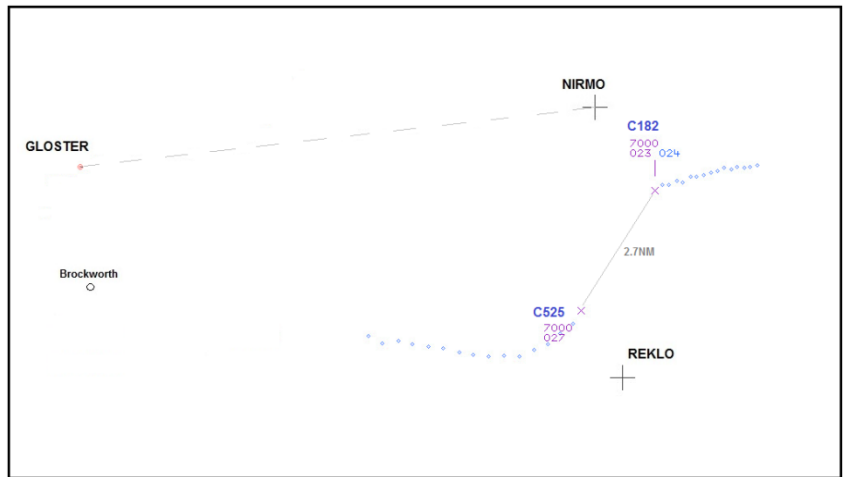


Figure 3 – Swanwick MRT at 0947:05.

ATC “[C182 C/S] roger er that previously reported er traffic in the instrument pattern at a similar level”
 C182 “Ok [C182 C/S]”
 ATC “and [C525 C/S] that traffic’s [0947:15] now reported two thousand five hundred feet
 ATC “[C525 C/S] that previously reported traffic reported at two thousand five hundred feet not identified on radar”

At 0947:21 the C525 was at FL026 (2600ft) – see Figure 4.

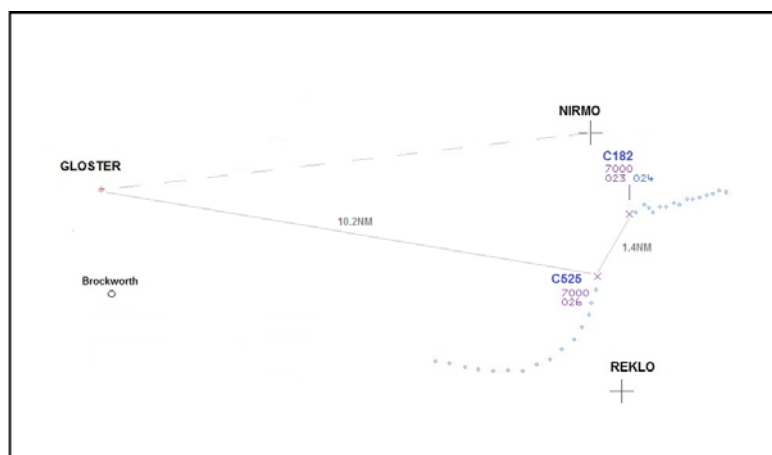


Figure 4 – Swanwick MRT at 0947:21

At 0947:29 the C525 pilot reported, “Copied that sir I’m climbing now to three thousand five hundred feet just had a er a TCAS warning so we’re presently just passing through three thousand fi-two hundred feet for three thousand five hundred feet”. The controller replied, “[C525 C/S] roger report er when TCAS is complete”. The radar recording showed the C525 indicating FL033 (3300ft), 1000ft above the level of the C182 – see Fig 5.

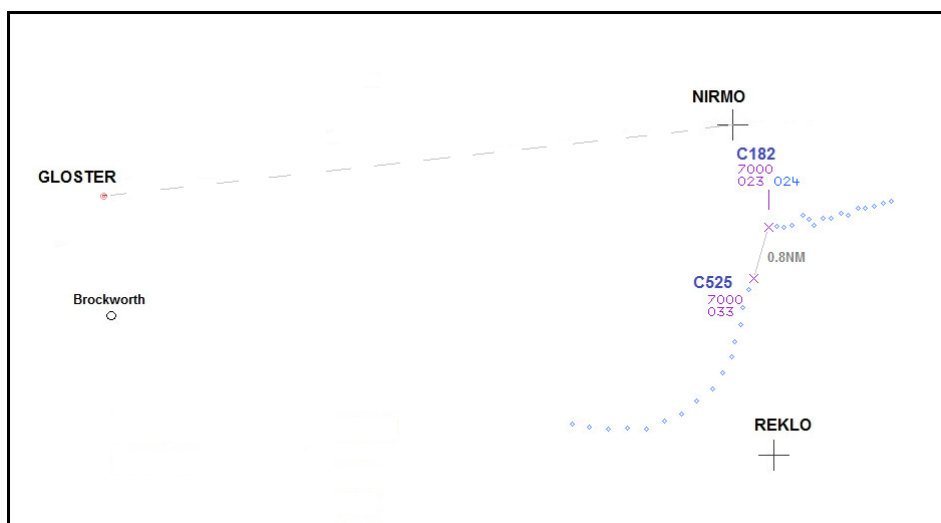


Figure 5 – Swanwick MRT at 0947:29

At 0948:18 the C525 pilot reported descending back to 3000ft. The C525 pilot advised that he intended to commence a right turn to descend back to altitude and pick up the inbound course. The controller instructed the C525 pilot to report NIRMO inbound. The pilot confirmed that he had received a TCAS RA and the controller indicated that an MOR report would be filed by ATC.

The two aircraft continued without further incident.

The ATSU reported that immediately after the incident the controller was debriefed and the tapes replayed. During the replay the ATSU and controller believed that the pilot had reported at 3500ft. However, the ATSU confirmed that on a more recent playback in PC ‘wav’ format, they confirmed that the pilot had reported at 2500ft. There was some discussion about why the controller misheard the reported level. The controller had been wearing a headset which cuts out background noise. It was not possible to determine a reason for mishearing the level other than known issue/similarity between the transmitted 2500ft and 3500ft.

The ATSU reported that as a result of this incident and a previous Airprox (2013013), the ATSU had highlighted the incidents and the potential for confusion when using the words ‘two’ and ‘three’, reminding all controllers ‘to use the standard phraseology and satisfy themselves that no confusion exists when a pilot fails to use the correct pronunciation’. The ATSU issued an Airport Advisory Notice to local pilots on the same issue. In addition the ATSU discussed the particular (Brockworth) cross-country route with the training school at OXF and it was agreed that the cross-country route from OXF to Brockworth, which routed close to the GLO RW27 approaches, was unsuitable and has been withdrawn.

[UKAB Note 1: CAP 413 (Radiotelephony Manual)⁴ states the standard phraseology for the transmission of numbers as follows: 2 = ‘TOO’, 3 = ‘TREE’]

Summary

The Airprox occurred when the C525 and C182 pilots flew into close proximity within the vicinity of the GLO RNAV instrument procedure for RW27. The C182 pilot had reported level at 2500ft but this was misheard by the controller as 3500ft and resulted in the controller passing incorrect Traffic

⁴ Chapter 2, Paragraph 1.5.1, Page 3

Information to the C525 pilot. The C182 pilot recognised the error and immediately advised the controller by reporting the correct level. After the controller had updated the Traffic Information to the C525 pilot, he responded that he was climbing to 3500ft in response to a TCAS 'warning'; which he later confirmed was an RA.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both aircraft, transcripts of the relevant RTF frequency, radar recordings, reports from the controller concerned, and reports from the appropriate ATC and operating authorities.

The Board first discussed the actions of the GLO controller. It was apparent that he had misheard the altitude reported by the C182 student pilot and believed that the pilot had reported being at 3500ft rather than the actual 2500ft. Consequently, the initial Traffic Information issued to the C525 pilot about the C182's altitude was not correct. The Board noted that when the C525 pilot had been advised that the C182 was at 3500ft he was already passing 3000ft.

Turning to the C182 pilot, the Board were pleased to note that, on hearing this incorrect Traffic Information, she immediately and pro-actively informed the controller of her correct altitude. The Board commended her for her airmanship and actions in responding so quickly to the error, especially since she was a student pilot who could quite reasonably be expected to be concentrating on the weather and her own navigation at the time.

As for the C525 pilot, the Board was clear that he had been very aware of other aircraft in the area, but his mental model was probably confused by the spurious Traffic Information that the C182 was above him rather than below. Notwithstanding, under ATSOCA and the Rules of the Air, it remained the responsibility of both pilots to avoid a collision irrespective of the ATS they were being given, or any associated Traffic Information. Some members reiterated that there often appeared to be false expectations in the minds of pilots as to the protection being delivered under a Procedural Service, especially with foreign pilots who may be unfamiliar with ATSOCA. The Board therefore felt it appropriate to make a recommendation that the CAA review the required content of airfield briefs, specifically to ensure that foreign pilots were made fully aware of the limitations of ATSOCA, the UK's implementation of ICAO Annex 11 FIS and regulation EU No 923/2012. This mirrored the recommendation made earlier in the meeting regarding Airprox 2013145.

In summary, and after much discussion, the Board noted that, by the time the spurious Traffic Information had been issued, the two aircraft were already in close proximity. Therefore, given that the C525 pilot had previously received TCAS information about the C182 as he descended through 3000ft (and should therefore have been aware of its presence anyway), the Board deduced that the incorrect Traffic Information provided by ATC to the C525 was not the direct cause of the incident.

In the end, and reflecting again on the responsibilities of each pilot to avoid collisions themselves, despite the fact that he was IMC, the Board agreed that the cause of the Airprox had been that the C525 pilot had descended into conflict with the C182 after having been procedurally cleared to conduct the RNAV approach. The Board recognised that it had not been possible for either pilot to see the other aircraft because the C525 pilot was in cloud throughout the encounter. Nevertheless, they considered that the action taken by the C525 pilot after receiving a TCAS RA had been timely and effective in preventing the aircraft from colliding – Risk Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

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|-------------------------------|--|
| <u>Cause:</u> | Whilst conducting a Procedural Approach in IMC, the Citation pilot descended into conflict with the C182. |
| <u>Degree of Risk:</u> | C |
| <u>ERC Score⁵:</u> | 2 |
| <u>Recommendation:</u> | The CAA reviews the required content of airfield briefs with specific emphasis on informing foreign visiting pilots of their responsibilities under ATSOCAS. |

⁵ 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.