

AIRPROX REPORT No 2011085

Date/Time: 23 Jul 2011 1356Z (Saturday)

Position: 5551N 00405W (12nm E
Glasgow - elev 26ft)

Airspace: Glasgow CTA (Class: E)

Reporting Ac Reported Ac

Type: B757 Discus BT

Operator: CAT Civ Pte

Alt/FL: ↓3000ft 3450ft↑
(QNH 1013mb) (QNH 1013mb)

Weather: VMC CAVOK VMC CLBC

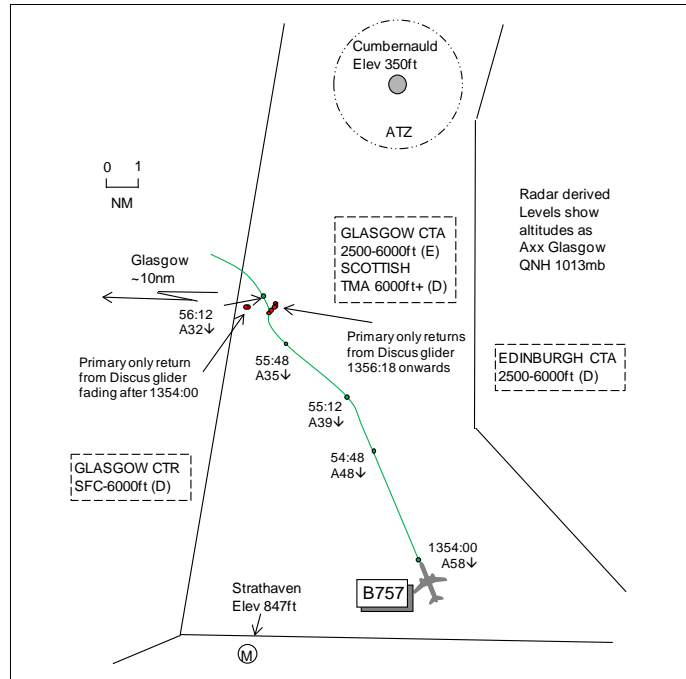
Visibility: >10km 30km

Reported Separation:

Nil V/100m H 20ft V/300m H

Recorded Separation:

NR



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE B757 PILOT reports inbound to Glasgow IFR and in receipt of a RCS from Glasgow Approach on 128.75MHz, squawking 2746 with Modes S and C. They were operating in excellent visibility below scattered cloud and had requested and received clearance for a visual approach but not to descend below 3000ft. Radar had advised that a primary return had been seen in the area previously but had now disappeared, having believed that the ac had descended below radar cover. About 12nm SE Glasgow heading 300° at 230kt, level at 3000ft, he thought, he saw a glider directly ahead range 1.5nm and at the same level. The A/P was disconnected and a R turn was commenced. The glider appeared to fly straight and level in the opposite direction passing 100m to their L at the CPA. ATC was informed and the approach was continued normally. He assessed the risk as high.

THE DISCUS BT PILOT reports returning N towards Portmoak, VFR on a cross-country flight and listening out on frequency 120.6MHz [Cumbernauld]; no transponder was fitted. The visibility was 30km flying 1500ft below cloud in VMC and the ac was coloured white. He was heading for a gap between the Glasgow CTR and the Cumbernauld ATZ as with a NW'ly wind he wanted to avoid any likelihood of being drifted onto the Edinburgh Class D CTA if he tracked E of Cumbernauld. His over-riding concern was to avoid the Class D airspace to the E and W; however, this funnels one towards the Cumbernauld ATZ and, with every possibility of getting low in that area (as he had during his track S), he was monitoring their frequency. At about 1352 he commenced a climb in a thermal to the R with about 40° of bank and whilst turning he was scanning as normal but was not conscious of any other traffic. After several turns while turning through approximately an E'ly heading at 50kt and 3450ft QNH he suddenly became aware of an ac, a low-wing twin-jet, passing at high speed from R to L range 300m banking away from him about 20ft above and descending. He took no avoiding action as at that point there could have been no further conflict. The other ac continued descending to the N and turning L. He assessed the risk as medium. He went on to say that he had flown gliders through this particular stretch of Class E airspace in VMC over quite a few years without any conflict. He was concerned that in spite of ensuring his flightpath stayed out of the surrounding and O/H Class D airspace, fast CAT ac were descending out of the upper Class D into the Class E airspace, cutting the corner before entering the Glasgow CTR.

THE GLASGOW APR reports operating as the FIN DIR and, although the traffic loading, in terms of inbound, was only medium, there were a number of VFR ac operating in and around the CTR. He had been observing a primary only return in the vicinity of Strathclyde Country Park for some minutes, initially suspecting that the return might be spurious. However, having watched it turn towards the edge of the CTR and then track the CTR boundary he elected to vector his inbound traffic around it. Subsequently he watched the return turn 180° to the S and then fade from radar entirely. Prior to it fading he called Scottish FIR at Prestwick Centre to see if the flight was in contact with them but it wasn't. In addition INT made a blind transmission to see the flight was listening out on 119.1MHz. The B757 crew reported visual with Glasgow and initially he was reluctant to release the flight, partly for traffic reasons and partly because he had concerns about this unknown ac/return. A short time later, with the unknown return having faded from radar and the B757 flight having been instructed to reduce its speed for traffic reasons, he elected to release the B757 for a visual approach. There was no return showing on radar at this time and, as it was a nice day, it seemed preferable that the crew was flying by visual reference clear of cloud. He then informed the B757 crew that there had been a primary only return in the vicinity through which they were flying but that it had now faded from radar and was last observed turning to the S. Previous experience of popular ac routes and radar performance suggested that the ac had probably turned towards Strathaven and descended. The B757 crew then reported that they were turning to the N from a W'yly heading to avoid a glider at the same level which was described as being "scarily close".

ATSI reports that the Airprox occurred at 1555:50 UTC, in Class E CAS, 11.7nm to the E of Glasgow Airport. The Airprox was reported by the pilot of a B757, inbound to Glasgow, IFR from Verona. The other aircraft was a Discus BT glider, operating on a VFR flight from Portmoak, which lies 44nm NE of Glasgow Airport and 14nm N of Edinburgh Airport.

The Glasgow and Edinburgh Control Zones (CTRs), Class D CAS, extend from the surface to an altitude of 6000ft. The Glasgow Control Area (CTA), Class E CAS connects the 2 CTRs and extends from an altitude of 2500 (or 700ft agl if higher) to an altitude of 6000ft. VFR flight is permitted within Class E CAS without an ATC clearance although pilots are encouraged to contact ATC. Radio is not mandatory. The ATC watch log did not show any record of notification, nor was any activity promulgated by AIS NOTAM, regarding gliding activity at or from Portmoak.

NATS Glasgow had previously submitted an Airspace Change Proposal seeking re-classification of the Glasgow CTA, from Class E to Class D and believed that this would enhance safety by establishing the airspace as a known traffic environment where all ac are required to be in contact with ATC.

The radar controller's written report indicated that a number of VFR ac were operating in and around the zone with a number of primary contacts in the vicinity of Strathclyde Country Park, situated 14.5nm SE of Glasgow Airport.

The Glasgow controller was operating as Glasgow FIN (Director) and assessed traffic levels as medium.

CAA ATSI had access to radar and RTF recording, together with controller and pilot written reports.

METAR EGPF 231350Z 29006KT 260V350 9999 FEW042 19/09 Q1013=

At 1347:18, the radar recording shows an unknown primary contact, at a position 12.5nm E of Glasgow Airport. This contact is a steady return slowly tracking NW. Director was vectoring an A319 and DHC-8, ahead of the B757 and to the E of the unknown contact.

At 1349:32, the B757 flight contacted Glasgow Radar and reported descending to FL080, with information 'Oscar'. Director advised the B757 to expect vectors for ILS approach to RW23 and updated the B757 crew with information 'Papa'. The radar recording shows the unknown primary contact turn onto a N'yly track 11nm E of Glasgow Airport.

At 1351:10, Director advised preceding inbound DHC-8, *"...just to keep you in the picture I'm going to keep you slightly wide today I've got er unknown traffic following the eastern edge of the zone so just want to give you a bit of a wide berth."* Shortly afterwards the controller reported the unknown traffic had turned onto S.

At 1351:41, the radar recording shows the primary contact turning R, 12.7nm E of Glasgow Airport and become stationary. The track history then starts to fade. The controller's written report indicates that the contact was observed turning onto S before fading from radar and attempts were made to try and identify or make contact with the unknown ac. The controller considered that from previous experience and radar performance, the profile was consistent with an ac descending inbound to Strathaven.

At 1352:16, the B757 was 24nm SE of the airfield. The radar recording shows the track history of the unknown contact, fading from radar, 14nm ahead of the B757. Director turned the B757 flight onto a heading of 335°; this heading was adjusted to 340° and the B757 flight was descended to 3000ft QNH 1013mb.

At 1354:01, the B757 crew reported, *"...we are visual requesting visual contact approach."* Director replied, *"(B757)c/s roger er for the moment stay on the vector and I'll release you very shortly."* Shortly afterwards the B757 crew was asked to start reducing speed to 200kt. The radar recording shows a spurious return in the last known vicinity of the unknown traffic, which fades.

The controller's written report indicates that there was no return showing on radar and considered it preferable that the B757 flight continued with visual reference and clear of cloud. At 1554:47, Radar advised, *"(B757)c/s you're clear visual approach Runway two three route via five mile final not below three thousand feet until advised."* The B757 crew gave a correct readback.

At 1555:11, the B757 was 3.5nm from the last known location of the unknown traffic. Director passed TI, *"(B757)c/s er I did have a primary only return in your approximate vicinity until very recently it's faded from radar now so I believe it to be low level and probably gone even lower but suggest you keep a good lookout"*. The B757 pilot replied, *"er (B757)c/s."*

At 1555:49, the radar recording shows the B757 passing an altitude of 3500ft and 1nm from the last known location of the unknown ac. The pilot reported, *"and (B757)c/s we've got a glider just ahead of us we're deviating right to avoid."* Radar acknowledged and shortly afterwards the B757 crew reported, *"er that was scarily close."*

At 1356:10, the radar recording shows the B757 passing an altitude of 3200ft. The B757 crew advised, *"and (B757)c/s now clear of that traffic and er returning to er so – towards a five mile final."* Director responded, *"(B757)c/s roger you say it was a glider was he at the same level as you."* The B757 crew responded, *"Affirm."* Director then reported that the contact had reappeared on radar.

At 1356:18, the radar recording shows an unknown primary contact appear, coincident with the track history of the B757 and 2nm behind, at a position 11.7nm E of Glasgow Airport. The radar recording shows this slow moving contact tracking NNE.

The B757 crew confirmed an intention to make a report and was then transferred to the Tower.

The glider was subsequently traced and the written report from the pilot indicated operating on a cross country flight from Portmoak and listening out on frequency 120.6MHz.

As a result of the Airprox the CAA Director of Airspace Policy (DAP) considered that a safety critical risk existed within the existing Glasgow Class E CTA. Consequently an interim reclassification of the airspace from Class E to Class D will take effect on 16th September 2011.

Once the primary contact had faded, Director would not have been aware of the exact location of the unknown ac and had an expectation that it had turned S and descended to low level.

The radar controller passed TI to the B757 flight on the last known position of the unknown traffic and advised the B757 crew, that the ac had probably descended to low level. MATS Part 1, Section 1, Chapter 5, Page 13, paragraph 15.2 states:

‘The action to be taken by controllers when they observe an unknown aircraft, which they consider to be in unsafe proximity to traffic under their control, in various types of airspace is as follows:

Class E:

Pass traffic information unless the controller’s primary function of sequencing and separating IFR flights is likely to be compromised. If a pilot requests avoiding action it shall be provided to the extent determined by the controller. Give avoiding action if radar derived or other information indicates that an aircraft is lost or has experienced a radio failure.’

VFR flight is permitted within Class E CAS, without an ATC clearance, however pilots are encouraged to contact ATC. The glider pilot was listening out on frequency 120.6 MHz. It is not clear if the glider pilot had attempted to contact ATC either before or during the flight.

The interim measures taken by CAA DAP will prevent the re-occurrence of any similar event by ensuring that the airspace becomes a known traffic environment, where all ac are required to be in contact with ATC.

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.

While it is recognised that traffic inbound from the SE for a visual approach will enter the Glasgow CTA Class E, a CAT pilot Member wondered why the B757 flight was flying at an altitude that was well below that needed for a continuous descent approach (CDA) into Glasgow. The normal inbound routing is via LANAK (20nm SE of Glasgow) at FL70 before receiving radar vectors towards the FAT. With CAVOK Wx at Glasgow, it was thought the B757 flight may have descended through the cloud base early in the initial approach phase with its crew anticipating clearance for a visual approach with its associated reduced track miles to touchdown. The Board was briefed that some cockpit navigation displays do not show the airspace boundaries and Members wondered if CAT crews, in general, would be aware of the airspace classification in which they were flying. It is incumbent on pilots to recognise the airspace classification which dictates the level of ATS and the responsibilities of pilots with respect to other traffic. Within Class E airspace, IFR traffic is separated from other IFR flights whereas pilots have equal responsibility to ‘see and avoid’ when IFR and VFR traffic are involved. The Radar controller had been vectoring traffic ahead of the B757 in the sequence around the Discus glider as it was unknown traffic in the CTA. This was more than was required by MATS Part 1 but was judged by Members to be good practice in the circumstances. However when the radar return from the Discus faded the controller released the B757 flight for a visual approach. The B757 crew turned L towards Glasgow and was told that the (Discus) radar return had faded in the area they were about to fly through and for them to keep a good lookout. This turned out to be a good call as they spotted the glider about 1.5nm ahead at the same level and executed a R turn to avoid it, estimating separation as 100m.

The Discus pilot was cognisant of the airspace and was attempting to gain height for his transit N’bound. This piece of airspace is in effect a N-S corridor between the Glasgow and Edinburgh Class D airspace through which GA ac can transit VFR. It was thought best practice by Members for pilots to follow the guidance in the AIP where they are encouraged to contact ATC when flying through the Class E airspace. The Discus pilot had elected to listen out on the Cumbernauld frequency as a precaution as he had encountered loss of lift earlier when transiting S’bound. Whilst

orbiting R he saw the B757, albeit late, crossing from R to L, he estimated about 300m away and slightly above but descending. Members acknowledged that ultimately the Discus glider had right of way under the Rules of the Air but thought the Discus pilot should have been able to see the approaching airliner sooner.

Members agreed that all parties had fully discharged their responsibilities which led the Board to classify this a conflict between IFR and VFR traffic in Class E airspace which was resolved by the B757 crew. Although the B757 crew had taken positive action to avoid the Discus glider and remove the actual collision risk, the Board agreed that the ac passed with separation margins reduced and that safety had been compromised during this encounter.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict between IFR and VFR traffic in Class E airspace, resolved by the B757 crew.

Degree of Risk: B.