## AIRPROX REPORT No 2010172

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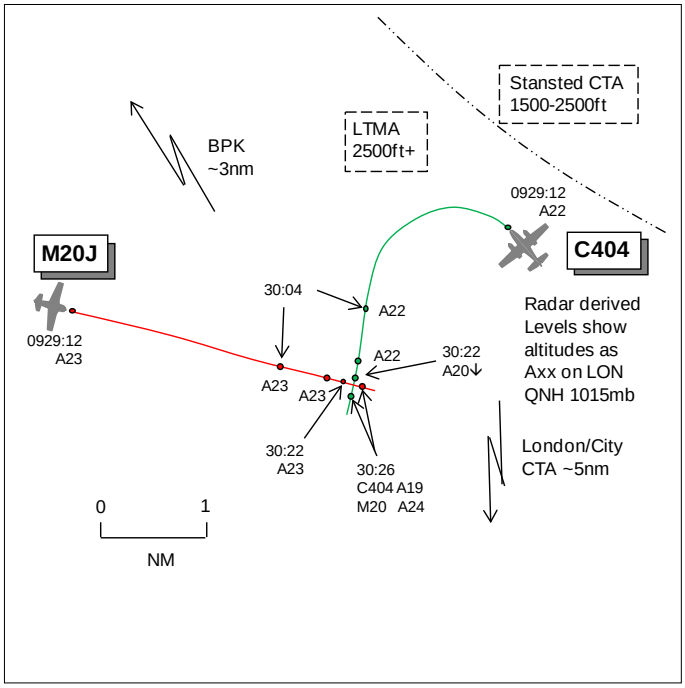
| *Date/Time:* | 24 Oct 2010 0930Z (Sunday) | |
| *Position:* | 5140N 00001W (10nm NNW London/City) | |
| *Airspace:* | LFIR | (*Class: G*) |
| | *Reporting Ac* | *Reported Ac* |
| *Type:* | C404 | M20J |
| *Operator:* | Civ Comm | Civ Pte |
| *Alt/FL:* | 2400ft (QNH 1016mb) | NR (QNH) |
| *Weather:* | VMC CAVOK | NR |
| *Visibility:* | >40km | NR |
| *Reported Separation:* | 300ft V/0-50m H | NR |
| *Recorded Separation:* | 400ft V/Nil H | |




## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE C404 PILOT** reports conducting a solo-pilot survey flight from Blackpool, VFR and in receipt of a TS from Thames Radar on 132·7MHz, squawking an assigned code with Modes S and C. The visibility was >40km in VMC and the ac was coloured blue/white with anti-collision and nav lights switched on. The Airprox occurred just after turning L to establish on the first survey line heading 180° at 120kt and 2400ft QNH 1016mb. He was outside CAS, below the LTMA base level of 2500ft altitude, although cleared into the London/City CTR as the survey line continued to O/H London/City. The traffic was first spotted in his 2 o'clock range 500-700m at what appeared to be the same altitude and on an E'ly heading and converging. He descended by 200-300ft immediately and the other ac, a single engine low-wing Piper/Socata type, passed O/H by that vertical distance with little to no horizontal separation. A warning of the traffic was given by Thames 5-10sec after their tracks had crossed and he believed the other ac was not on the Thames frequency. The flight conditions were perfect: a gin-clear day with excellent visibility and no cloud. He did not believe the other pilot saw his ac as there was no avoiding action seen and he assessed the risk as high. He apologised for the very late filing of the Airprox. It was reported to his company at the time of the incident and was picked up at a later company SMS meeting that he had not filed an Airprox to the UKAB.

**THE M20J PILOT** report was contacted by RAC Mil and a CA1094 was sent for completion. Two follow-up e-mails did not elicit a response. Despite numerous follow-up telephone calls, voice mails and e-mails from the UKAB Secretariat requesting the completion of the Airprox Report Form prior to the Board meeting, no report was received.

**ATSI** reports that the Airprox occurred at 0930:23, in Class G airspace, 10·6nm to the NNW of London City Airport.

The Airprox was reported by the pilot of a Cessna 404 Titan (C404), operating VFR and conducting an ordnance survey flight in accordance with non-standard flight (NSF) notification 051/2010.

The second ac was displaying a squawk 5031, a code assigned to Farnborough LARS. The Farnborough archived fpss showed that the other ac was most likely a Mooney 20J (M20J), operating on a VFR flight from Denham to Le Touquet and in receipt of a BS from Farnborough LARS. However no report was available from the pilot of the M20J.

The Airprox report was filed some time after the event and was received by CAA ATSI and UKAB on 26 Nov 2010. Because of the late reporting of the Airprox, the Farnborough RT and radar recordings were not available. Farnborough ATC were not aware of the Airprox and no report was available from any of the controllers concerned. In addition the C404 pilot's written report erroneously indicated that the Airprox occurred at approximately 1030 UTC and this resulted in a further delay in obtaining the correct period of radar replay.

CAA ATSI had access to the Thames Radar RT and Radar recordings provided by NATS Swanwick together with the C404 pilot's written report. The RT and radar recording show the incident occurred at 0930:23.

METAR EGLL 240920Z 35006KT 310V040 CAVOK 07/03 Q1015 NOSIG=

At 0923:15, the C404 flight established contact with Thames Radar and requested a TS. A squawk of 7032 was allocated together with the London QNH 1015. Thames Radar advised, *"(C404)c/s you're under a limited Traffic Service due to poor radar coverage and traffic loading."* The C404 pilot replied, "*er limited traffic that's copied (C404)c/s."* The radar recording showed the C404's position to be 15·8nm to the NW of London City Airport. It was noted that the Thames controller used the term 'limited' TS, when the correct phraseology should have been 'reduced' TS.

The Thames Radar controller established that the C404 pilot wanted to conduct survey work to the N and W of London City, following N-S lines at an altitude of 2400ft.

Thames Radar passed TI on 2 unknown contacts at 0925 UTC and 0928 UTC.

At 0928:29 the C404 reported in a L turn to pick up the first N-S line and Thames Radar responded, *"Understood the erm clearance limit is the southern most lake of the Lee Valley in the City Zone."* The C404 pilot replied, *"Er clearance to the southern most er of the Lee Valley (C404)c/s.*"

At 0929 Thames Radar passed TI on another unknown contact.

At 0929:14 radar recording showed the C404 at an altitude of 2200ft, in the L turn passing through a heading of 340° as the ac positioned onto the initial N-S survey line. The M20J is shown 4·1nm WSW of the C404, tracking E and indicating an altitude of 2300ft.

At 0930:04 radar recording showed the C404 rolling out on a S'ly heading at an altitude of 2200ft and the M20J in the C404's 2 o'clock position, at a range of 1nm and crossing from R to L, indicating an altitude of 2300ft. An additional primary contact was also shown to be 1nm E of the C404.

At 0930:20, Thames radar passed late TI to the C404 flight regarding the M20J, *"(C404)c/s there is further Farnborough traffic now going over the top of you two point three unverified."* The C404 pilot replied, *"Affirm we just heard him."*

[UKAB Note (1): At 0930:22, the radar recording shows the C404 tracking S'ly descending through altitude 2000ft with the M20J in its 2 o'clock range 0·1nm at 2300ft, 300ft above. The CPA occurs before the next sweep 4sec later at 0930:26 when radar recording shows the 2 ac having passed and now diverging at range of 0·1nm, the C404 now level at 1900ft and the M20J at 2400ft. At the CPA, 0930:24, it is estimated the ac passed with no lateral separation and 400ft vertical separation.]

It was not possible to determine if the Thames Radar controller had observed the M20J prior to giving a late warning. The Thames Radar controller had restricted the TS because of poor radar coverage and traffic loading.

The M20J flight was in receipt of a BS from Farnborough LARS. The Manual of Air Traffic Services (MATS) Part 1, Section 1, Chapter 11, Page 4, Paragraph 3.1.1, states:

> ‘A Basic Service is an ATS 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.’

The C404 was in receipt of a Reduced TS due to ‘poor coverage and traffic loading.’ MATS Part 1, Section 1, Chapter 11, 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.’
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> ‘There may be circumstances that prevent controllers from passing timely traffic information and/or deconfliction advice, e.g. high workload, areas of high traffic density, unknown aircraft conducting high energy manoeuvres, or when traffic is not displayed to the controller or is obscured by surveillance clutter. Controllers shall inform the pilot of reductions in traffic information along with the reason and the probable duration; however, it may not always be possible to provide these warnings in a timely fashion.’
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> ‘In high workload situations, which may not always be apparent from RTF loading, it may not be possible for controllers to always provide timely traffic information and/or deconfliction advice. High workload situations may not necessarily be linked to high traffic density.
> High traffic density can cause difficulty interpreting ATS surveillance system data and may affect RTF loading or controller workload to the extent that the controller is unable to pass timely traffic information and/or deconfliction advice on all traffic.

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

Information available included a report from the C404 pilot, transcripts of the Thames Radar RT frequencies, radar video recordings, a report from the Thames air traffic controller involved and reports from the appropriate ATC authorities.

It was unfortunate that the Board were not able to assess the Farnborough ATSU aspect of the incident owing to the late filing of the incident. Also, Members were disappointed that the M20J pilot had not completed a report form, denying Members of his viewpoint of the incident. Irrespective of the ATS being provided, the incident occurred within the Class G airspace where both pilots were responsible for maintaining their own separation from other traffic through see and avoid. The C404 flight had just turned L and established onto his initial survey line about 20sec prior to the CPA, and during this manoeuvre the pilot was responsible for clearing the area into which he was turning. That said, the C404 is known to have blind-spots owing to the wing/engine configuration and the pilot’s view would have been degraded during the later stages of the turn as the ac was belly-up to the approaching M20J until rolling out on his required track. It was about this time the C404 pilot saw the M20J approaching in his 2 o’clock at the same level and immediately commenced a descent to avoid it, passing clear beneath it by about 200-300ft. An experienced pilot Member, familiar with this type of operation, informed the Board that the pilot would have almost certainly have been concentrating on his instrumentation to ensure exact positioning of the ac on the survey line and this would have almost certainly reduced his look-out scan. The Board noted that the ac was being flown ‘single pilot’, and Members agreed that it would have been better to have an additional person in the cockpit to augment the lookout. In response to Member’s questions about the options for carrying a dedicated lookout rather than a second qualified pilot in order to save on costs, the CAA Flt Ops Advisor briefed the Board that for AOC flights certified for single pilot operations, such persons can only be passengers and may not undertake any of the pilot’s duties (handling the controls, operating aircraft equipment or completing flight documentation). Such passengers should not be permitted to

contribute in any way to the operation of the ac. The Thames controller had limited the TS owing to poor radar coverage and traffic loading; the airspace is a transit area beneath the LTMA and between London/City and Stansted CAS and frequently busy owing to flights generated by adjacent GA airfields. Thames issued TI to the C404 flight on other unknown ac in the area but only informed the pilot about the M20J as the ac were passing each other. It was not known whether the M20J pilot had seen the C404 approaching from his L; the ac was flying into sun and the Mooney is known to have a narrow 'letterbox' type windscreen. Although the M20J had right-of-way, the Rules of the Air Regulations rely on both pilots seeing each other and discharging their responsibilities accordingly. In this occurrence Members agreed that the C404 pilot had discharged his responsibilities and his actions had quickly and effectively resolved this conflict in Class G airspace.

## PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G airspace resolved by the C404 pilot.

Degree of Risk: C.