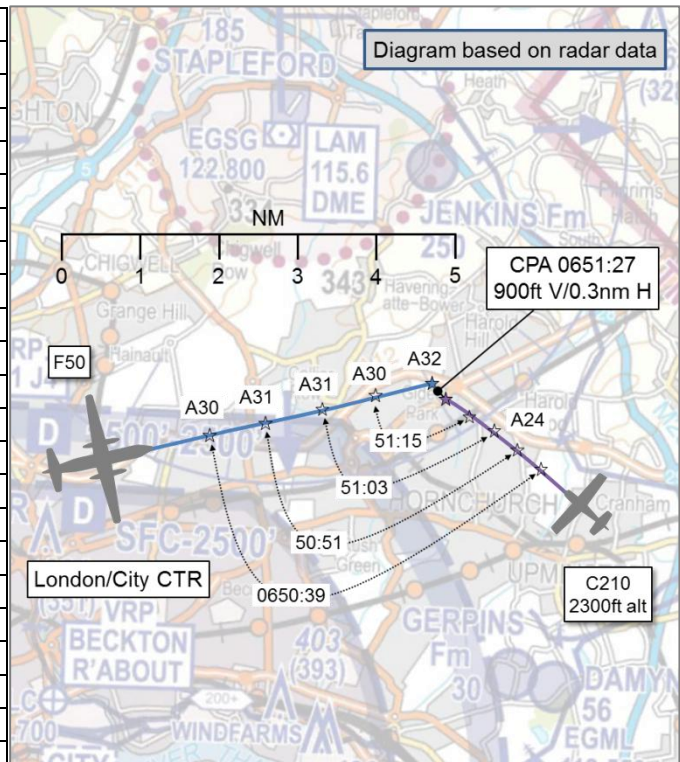


**AIRPROX REPORT No 2015033**

Date: 30 Mar 2015 Time: 0651Z Position: 5136N 00012E Location: 4nm south of Lambourne

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Fokker 50	Cessna 210
Operator	CAT	Civ Pte
Airspace	London TMA	London FIR
Class	A	G
Rules	IFR	VFR
Service	Radar Control	Traffic
Provider	Thames Radar	Farnborough
Altitude/FL	3000ft	2300ft
Transponder	A, C, S	A, C, S
Reported		
Colours	NK	White/red
Lighting	NK	Strobes, nav
Conditions	NK	VMC
Visibility	NK	10km
Altitude/FL	3000ft	2300ft
Altimeter	QNH (NK hPa)	NK
Heading	060°	NK
Speed	180kt	NK
ACAS/TAS	TCAS II	TCAS II
Alert	RA	None
Separation		
Reported	NK	350ft V/0m H
Recorded	900ft V/0.3nm H	



**THE FOKKER 50 PILOT** reports departing London/City on the CLN 7T SID, in level cruise, when uncontrolled traffic below caused a TCAS RA ‘Monitor Vertical Speed’ with ‘red bar below -400fpm’<sup>1</sup>. He reported no visual contact due to glare from the sun. ATC was informed.

The pilot did not make an assessment of risk of collision.

**THE C210 PILOT** reports being contacted ‘some months’ after the event and that his report was therefore somewhat vague. He recalled a high-wing aircraft, about 3-400ft overhead, passing from left to right on the climb-out from London/City within the Class A airspace of the London TMA [which was above him]. He commented that he flew this route often, and that he regularly observed traffic climbing out of London/City, crossing above him. He remarked that on this occasion the Fokker appeared to be particularly low. He did not recall a warning from his TCAS.

He assessed the risk of collision as ‘None’.

**THE THAMES CONTROLLER** reports working as the OJTI with a trainee on Thames Radar. The F50 was outbound from London/City on a CLN departure. Once level at 3000ft, south of ‘LAM’ he called TCAS RA against unknown traffic at 2400ft (level verified by Farnborough LARS). He initially reported TCAS RA but maintaining 3000ft. The trainee then passed Traffic Information and the pilot reported he had climbed to 3200ft but was descending back to 3000ft. At the time there was further inbound traffic off LAM heading south but was well above 4200ft so separation was not lost.

<sup>1</sup> Indicating that the pilot should monitor his vertical speed to ensure no more than 400fpm rate of descent.

## Factual Background

The weather at London/City was recorded as follows:

METAR EGLC 300650Z 27014KT 9999 FEW030 07/01 Q1008

The radar data diagram was constructed using single-source data from the Heathrow 10cm radar.

## Analysis and Investigation

### CAA ATSI

The C210 pilot contacted Southend Radar at 0634:50, reporting VFR inbound to Elstree at 2400ft. The Southend Radar controller allocated squawk 4575 and advised a Basic Service with QNH 1006hPa. The C210 pilot routed to the east and north of the London City controlled airspace and remained below the London TMA-1 Class A controlled airspace which has a base of 2500ft.

At 0647:48, the C210 was 11nm to the east of London City Airport indicating 2400ft when the Fokker 50 became airborne from RW09 on the CLN-7U SID, which required a climb to and maintain altitude of 3000ft. The London City QNH was 1008hPa. There was also a southbound over-flight in the area, crossing the London City overhead at 4000ft.

At 0651:08, the Fokker 50 was indicating an altitude of 3100ft, inside Class A controlled airspace, and the C210 was indicating 2400ft in Class G airspace. The horizontal distance between the two aircraft was 2.2nm and the vertical distance was 700ft, see Figure 1.

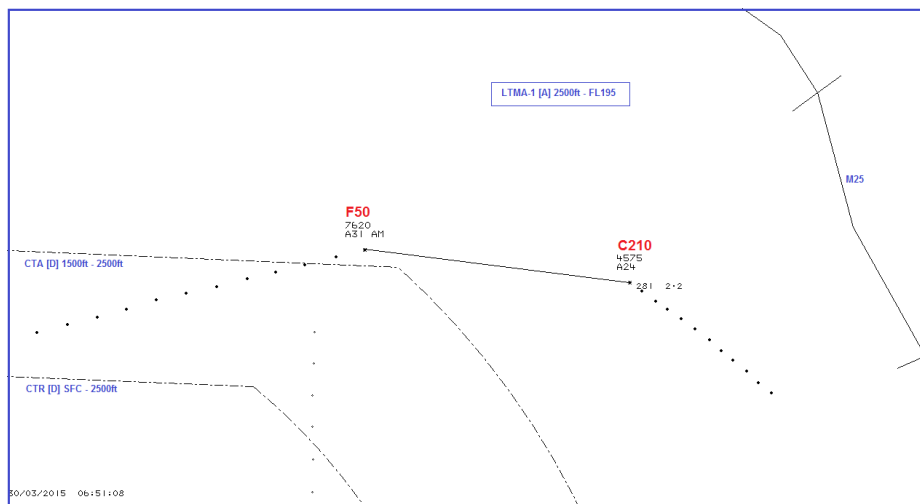


Figure 1: Swanwick MRT at 0651:08

At 0651:15, the Fokker 50 pilot made a broken transmission which was unreadable; the Thames controller's written report indicated that the pilot had reported a TCAS RA. At 0651:26 (Figure 2) the Thames Radar controller advised "[F50 C/S] traffic on your twelve o'clock quarter of a mile crossing right to left is outside controlled airspace seven hundred feet below" and the Fokker 50 pilot responded "Yeah we just had to come up to three thousand two hundred we're now clear er but descending back to three thousand feet [F50 C/S]".

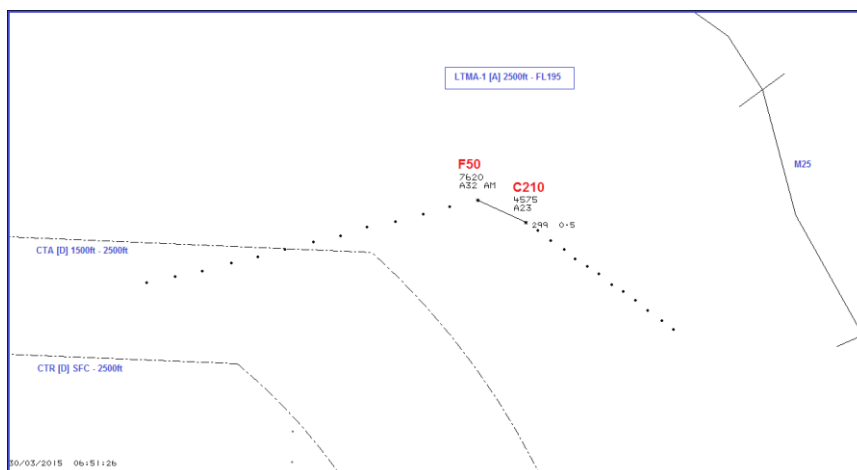


Figure 2: Swanwick MRT at 0651:26

CPA occurred at 0651:30 when the Fokker 50 passed 0.2nm north of the C210 and 900ft above, see Figure 3.

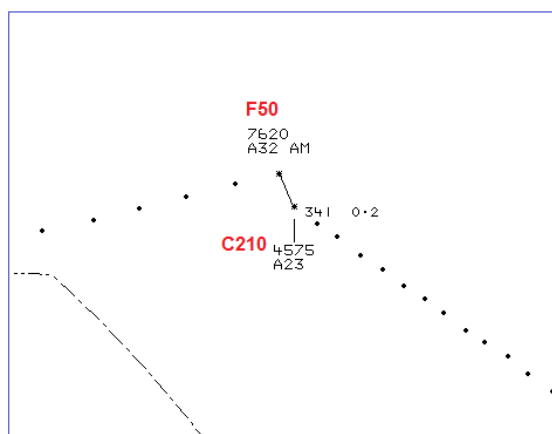


Figure 3: Swanwick MRT at 0651:30

At 0651:30, in response to a request from the Southend controller, the C210 pilot confirmed his level as 2200ft. At 0651:40, the C210 pilot reported "[C210 C/S] jet that passed over us must have been two thousand five hundred feet for your information".

The Thames radar controller's workload was assessed as medium. When the Fokker 50 pilot made the broken transmission (possibly reporting a TCAS RA), the Thames controller became aware of the traffic operating below the base of controlled airspace and the controller passed Traffic Information. The Fokker 50 pilot climbed to 3200ft until clear of the C210. The Manual of Air Traffic Services (MATS) Part 1, Section 1, Chapter 6, paragraph 13A.4, states:

'... IFR flights within class A-D airspace...are deemed to be separated from unknown aircraft flying in adjoining uncontrolled airspace...'

And Chapter 7 paragraph 9.1, states:

'...controllers should not normally allocate a level to an aircraft which provides less than 500 feet vertical separation above the base of a control area or airway. This will provide some vertical separation from aircraft operating beneath the base of controlled airspace...'

The C210 pilot was operating below the base of controlled airspace and in receipt of a Basic Service where the avoidance of other traffic is ultimately the pilot's responsibility and where a controller is not required to monitor the flight<sup>2</sup>.

<sup>2</sup> CAP774 Chapter 2, Paragraph 2.1

## UKAB Secretariat

The F50 and C210 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>3</sup>.

### Summary

An Airprox was reported when a Fokker F50 and a Cessna 210 flew into proximity at 0651 on Monday 30<sup>th</sup> March 2015. Both pilots were operating in VMC, the F50 pilot under IFR in the London TMA Class A airspace and, in receipt of a Radar Control Service from Thames Radar; the C210 pilot in the Class G airspace below the TMA, in receipt of a Traffic Service from Farnborough LARS (E).

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

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings, a report from an air traffic controller involved and a report from the appropriate ATC authority.

The Board quickly identified that this Airprox had been filed due to a TCAS alert generated on an aircraft in CAS against an aircraft below it in Class G airspace, and that the aircraft involved were not in danger of collision. It was also noted that the TCAS RA 'Monitor Vertical Speed' was a 'preventive RA' simply warning of traffic below (the RA was warning that the Fokker 50 must not descend at more than 400fpm). As such, the Board commented that the Fokker 50 pilot was not required to change flight path (in contrast, a 'corrective RA' would typically be 'Climb, Climb' or 'Descend, Descend', which would require a change of flight path). Members commented that this type of TCAS interaction had occurred frequently in the past and especially in situations where IFR and VFR traffic came into proximity. The Board concluded that the cause of the Airprox was the fact that a TCAS RA had been generated; however, given that with a 'preventive RA' there was not a danger of collision in any case, members agreed that normal procedures and safety parameters had pertained.

Peripherally to the Airprox, members noted that the Fokker 50 pilot had climbed, rather than remain at his cleared altitude, and this generated considerable discussion. It was agreed that in declaring 'TCAS RA' on RT, the Fokker 50 pilot had therefore assumed responsibility for collision avoidance from ATC. Notwithstanding every pilot's right to manoeuvre in any way they deem appropriate to maintain safety of flight, members also agreed that, in this case, the Fokker pilot had not needed to climb: in the congested environment of a TMA he may have been better served by remaining level, not least to mitigate the possibility of generating further TCAS RAs against aircraft above him. This would generally be achieved by complying with the last ATC clearance received unless a 'corrective RA' indicated a deviation from that clearance was appropriate.

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

Cause: A TCAS sighting report.

Degree of Risk: E.

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<sup>3</sup> SERA.3205 Proximity.