

## AIRPROX REPORT No 2010046

Date/Time: 13 May 2010 1016Z

Position: 5119N 00102W (10nm WNW Farnborough)

Airspace: LFIR (Class: G)

Reporting Ac Reported Ac

Type: C510 Mustang Pioneer 200

Operator: Civ Comm Civ Pte

Alt/FL: 3400ft 2000ft?  
(QNH 1015mb) (QNH)

Weather: VMC CLBC VMC CLOC

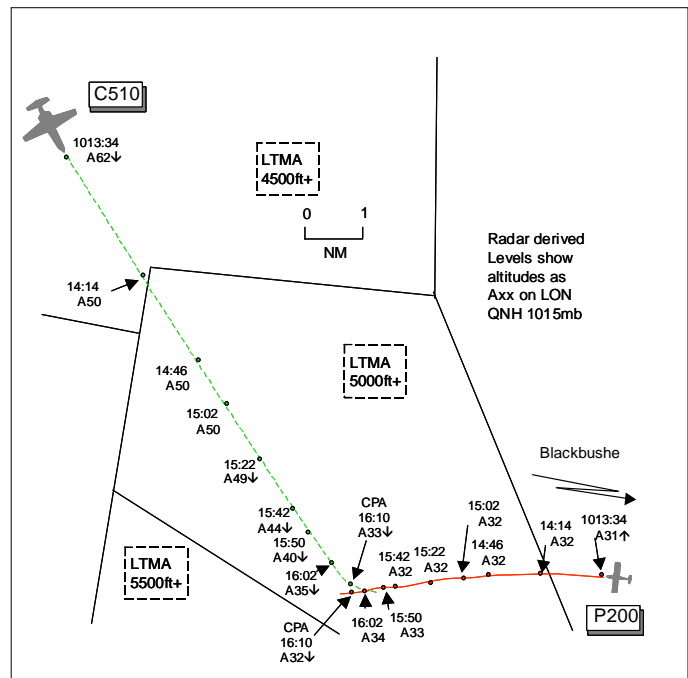
Visibility: >10km >10km

Reported Separation:

Nil V/250m H 500ft+V/500m+H

Recorded Separation:

100ft V/0.1nm H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE C510 MUSTANG PILOT** reports inbound to Blackbushe IFR and shortly after leaving CAS, and following a handover from London Control to Farnborough when they were waiting for a TS to be given, they had a TCAS TA; TCAS 1 was fitted. The visibility was >10km flying 500ft below cloud in VMC and the ac was coloured white/grey/blue with anti-collision, nav and strobe lights switched on. Heading 140° at 190kt and level at 3400ft QNH a visual sighting was made of light ac traffic, a high wing C172 type he thought, in their 12 o'clock, range 300m, crossing from L to R at the same level. The A/P was disconnected and an immediate L turn (45° AoB) was initiated to pass behind the conflicting traffic; estimated separation was 250m. He was unable to report the incident to Farnborough LARS [actually Approach] immediately owing to workload but he subsequently telephoned to report it. He assessed the risk as high.

**THE PIONEER PILOT** reports flying a local sortie from Blackbushe under VFR, heading 300° at 100kt and in receipt of a BS from Farnborough on 125.25MHz, squawking an assigned code with Modes S and C. He had just become airborne for a local GH sortie prior to carrying out some ccts. He initially selected 0447 squawk and passed his initial message to LARS giving his flight details. He headed out to the NW to avoid Odiham MATZ and then turned W'ly to avoid R101/104. Normally he would operate between 2000ft and 3000ft but he could not recall his level at the time. As he was in contact with Farnborough he did not anticipate any traffic to be as near to his position as it was, even allowing for a much higher airspeed. He recalled feeling that the other ac, a Cessna Mustang, did come very close and reported this to the controller. He was reassured that the other ac's pilot was visual with his ac and was manoeuvring to avoid him. The other ac was seen late out to his R descending from above and he estimated it passed him by 500-1000ft vertically and 500-1000m horizontally. He did not feel the need to report an Airprox as he was left with the impression that the situation had been under control (but not his own), believing the Mustang was under a TS. Subsequently however, it seemed that he was mistaken and that both flights were under a BS. With hindsight, this situation highlights the potential dangers that exist between small light ac and faster/larger ac in busy airspace. In Class G the 'see and avoid' doctrine inevitably works less well if ac have disparate airspeeds. He assessed the risk as low.

**THE FARNBOROUGH APPROACH CONTROLLER** reports mentoring a trainee as OJTI. The Cessna Mustang called inbound via the silent handover procedure through CPT descending to 5000ft direct to ODIMI. The ac was entering an area of high traffic density N of Odiham. The pilot called

visual with Blackbushe on his first call and was descended to 3400ft. The trainee called Blackbushe to advise them of the impending arrival before he informed the crew that further descent and routing direct to Blackbushe was approved. He also told the crew that there was traffic in their 12 o'clock 0-5nm at a similar level; the pilot called visual with the traffic and was transferred to Blackbushe. The trainee was busy with Farnborough approach traffic and no level of service was agreed with the Mustang pilot.

**THE FARNBOROUGH LARS CONTROLLER** reports seated alongside an OJTI and trainee on Approach. His frequency was busy and he had been informed about a number of movements by the trainee pointing at his screen but with no verbal communication; he did not recall any Blackbushe inbound being pointed out. He was monitoring the radar and the trainee's fss as a precaution. He first saw the Cessna Mustang about 12nm NNW of Blackbushe and on looking ahead saw an unknown ac climbing out from Blackbushe as well as an aerobatic squawk 5nm NW of Blackbushe. He tried calling the unknown ac 2-3 times but without success and the unknown was noted at 3200ft. He indicated that this unknown ac was not on his frequency to the Approach controller and this was acknowledged. A short while later he noticed the Mustang descending through 4000ft towards the unknown and about this time the Pioneer pilot called so he issued a squawk and asked the Approach controller, "*what are you doing with that?*", highlighting the Mustang at close range. No comment was received from either the trainee or mentor but he was acknowledged. He looked at Approach's fss on the Mustang to see that descent to 3400ft had been given. He decided to ask the Pioneer pilot to descend (as it was at 3200ft) in order to give both ac some form of deconfliction as the contacts were on a collision course; he passed TI to the Pioneer pilot. He considered turning the Pioneer but a R turn to the N would have worsened the situation and a S turn would have perhaps made the Pioneer pilot unable to sight the Mustang. As the ac closed to 0-5nm the OJTI told him that the Mustang pilot was visual with the Pioneer. He told the Pioneer pilot to maintain his level (which had not changed) given that the Mustang flight was visual and, assessing its descent profile, it looked as if it would continue descent. At no point was he given any indication of the Mustang's intentions by the Approach OJTI or trainee except the visual sighting of the Pioneer by the Mustang pilot at very close range.

**ATSI** reports that the Airprox occurred at 1016:08 in Class G airspace 7.2nm W of Blackbushe Airport. The Cessna Mustang (C510), inbound to Blackbushe IFR, was released to Farnborough Radar by London Control, on a silent handover, leaving CAS by descent to 5000ft and on track ODIMI. On initial contact the C510 pilot reported Blackbushe in sight.

Farnborough MATS Pt2, (17/11/09) states:

Page APR-17, paragraph 4.2.5, 3) 'LTC will instruct aircraft to leave CAS descending to the acceptance altitude 5000ft (London QNH) on track ODIMI'.

Page APR-3, Paragraph 2.4, 'Upon identification after departure, when leaving CAS or free-calling Farnborough Approach inbound, the pilot is to be requested what level of service is required by using the phraseology: "*What type of Radar service do you require?*"'

Page APR-31. 3) 'Aircraft inbound to Blackbushe leaving CAS will be controlled as if they were a Farnborough inbound to the point where they have left CAS. The aircraft will then be offered the appropriate ATSOCAS until the aircraft can continue its approach to Blackbushe visually.....The Blackbushe FISO will be notified of the inbound estimate and may inform Farnborough of the runway in use at Blackbushe and relevant airfield information'.

The Pioneer 200 (P200) flight was on a local VFR flight from Blackbushe and in receipt of a BS, having just established contact with Farnborough LARS(W).

Farnborough Approach (Radar) position was manned by a late-stage trainee (level 4) and newly qualified OJTI. Farnborough LARS(W) was seated next to the Radar trainee and the frequency was reported as busy. The workload was assessed as medium to heavy and radar recording shows a number of contacts manoeuvring in the area to the WNW of Blackbushe with labels overlapping and garbling.

ATSI had access to radar recordings, RT transcription together with controller and unit reports. It was not immediately apparent that the P200 was involved in the Airprox, because the C510 pilot had initially thought that the other aircraft involved was a C172. Consequently the LARS(W) report was written some time after the incident.

METAR EGLF 131020Z VRB02KT 9999 SCT048 12/M01 Q1015=

LARS(W) observed a number of contacts including, the C510, an aerobatic squawk and an unknown contact climbing out of Blackbushe. Radar recording shows this unknown contact displaying a Blackbushe departure squawk of 0447. LARS(W) tried unsuccessfully to establish communication with this unknown contact and then advised Radar that it was not on his frequency. At 1013:36 the (P200) pilot called LARS(W) reporting on a local VFR flight from Blackbushe, operating in the Newbury area at 3100ft. A BS was agreed and the LARS(W) controller passed the squawk 0440 and QNH 1015mb. The pilot correctly acknowledged this and at 1014:16 radar recording shows the squawk of the unknown contact change from 0447 to 0440. The distance between the 2 ac was 9nm, with the C510 12.2nm NW of Blackbushe, indicating A4900ft

At 1014:48 the C510 flight called Farnborough Radar, *"Farnborough good morning (C510)c/s five thousand feet one zero one five direct ODIMI"*. Radar replied, *"(C510)c/s Farnborough Radar good a-good morning Q N H one zero one five"*, and the C510 pilot responded, *"one zero one five and er Blackbushe in sight (C510)c/s"*. At 1015:05 Radar responded, *"(C510)c/s descend to altitude three thousand four hundred feet resume own navigation direct Blackbushe"*. The pilot of the C510 acknowledged this and Radar then notified Blackbushe of the imminent arrival. Radar recording shows the C510, 9.9nm WNW of Blackbushe. At the same time Radar was distracted vectoring a Farnborough inbound onto the ILS RW24.

LARS(W) observed the C510 inbound and at 1015:22 advised, *"(P200)c/s just advise if you want to climb above altitude four thousand feet please inbound jet traffic"*. The P200 pilot replied, *"er negative we'll remain at er three two for a while (P200)c/s"*. At this point radar recording shows the C510 starting the descent. At 1015:42 the Radar controller advised the C510, *"...descent approved you confirm you are visual with Blackbushe"* and the pilot replied, *"Affirm visual with Blackbushe er (C510)c/s"*.

The LARS(W) controller's written report states that he noticed the C510 passing 4000ft and asked Radar what they were doing with the C510 but obtained no reply. At 1015:50 Radar transmitted, *"(C510)c/s roger maintain yo-maintain your own terrain clearance descent approved into Blackbushe traffic twelve o'clock half a mile left to right indicating three thousand three hundred feet"*. The C510 pilot replied, *"In sight (C510)c/s"*. Radar informed the pilot, *"(C510)c/s Blackbushe are on runway zero seven their QNH one zero one five one in the circuit."* This was acknowledged. At this point the radar recording, timed at 1015:50, shows the two ac 1.6nm apart and converging.

Simultaneously at 1015:54 LARS(W) requested, *"(P200)c/s could I just ask you to descend to three thousand feet there's just an inbound aircraft just er above you."* The P200 pilot replied *"Roger descending three thousand (P200)c/s"*. The Radar OJTI informed LARS(W) that the C510 had the P200 in sight. Then at 1016:03 the LARS(W) controller gave a warning using the wrong c/s, *"...that traffic's just half a mile north of you three thousand three hundred feet has you in sight Business Jet"*. At 1016:08 the P200 pilot reported, *"er roger we've just er crossed paths ????? making a sharp er left turn (P200)c/s"*. The LARS(W) controller added, *"(P200)c/s he did have you in sight"* and the pilot responds, *"Understood (P200)c/s"*. Radar recording at 1016:10 shows C510, indicating altitude 3300ft passing 0.1nm to the N of the P200, indicating altitude 3200ft. Shortly afterwards the P200 was advised that there is no altitude restriction and the C510 is transferred to Blackbushe.

The pilot of the C510 did not request, nor did Radar ask the C510 pilot, what ATSOCAS service he required. The pilot reported visual with Blackbushe and was cleared for descent and own navigation. The phraseology used by the Radar controller, *"maintain your own terrain clearance descent approved"* and *"roger radar service terminates,"* is consistent with the provision of a TS. However the

controller, in his written report, considered that because a radar service had not been agreed, a BS was being provided. The C510 pilot reported that he was waiting for a TS to be issued.

Radar recording shows a number of contacts ahead of the C510 and due to garbling it was difficult to distinguish between individual ac or levels. In the period leading up to the incident, the frequency was busy and there was little verbal communication between the two control positions. The LARS(W) controller reports that he was informed about movements, by the trainee pointing. Whilst the LARS(W) controller was aware of both ac, he was not aware of the intentions of the Radar controller to descend the C510. When he did challenge this, it was too late to react in a timely manner. The controllers were seated on adjacent consoles and were in possession of information that could, through agreement or coordination, have resolved the potential conflict.

Timely TI was not passed to the C510 pilot. The Radar OJTI reported that he would normally have provided a TS with restricted TI due to the high density of traffic. The Radar controller was aware of the high density of traffic in the area but did not pass any information regarding the general airspace activity, which would have aided the situational awareness of the pilot.

Farnborough Approach Radar was manned by a late stage trainee (level 4), under the supervision of a newly qualified OJTI. This was the first time the OJTI had worked with this particular trainee and the unit training records indicated a high expectation of the trainee skill level. The OJTI was aware that an appropriate level of service should have been offered to the C510 and in this case believed that a TS with restricted TI should have been offered. The OJTI had also expected TI would have been passed earlier.

MATS Pt1 (01/07/10), Section 1, Chapter 11, page 1, paragraph 2.2.1 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 workload cannot be predicted;
- Pilots may make sudden manoeuvres, even when in receipt of an ATS'.

Due to the rapidly increased workload and a number of contributory factors, the Radar controller did not agree a level of ATSOAS service, or pass TI. The C510 pilot had reported visual with Blackbushe and Radar started to transfer the flight direct to Blackbushe. The C510 was approaching an area of high traffic density and the unknown contact had just changed squawk from 0447 to 0440. There was an added distraction caused by the requirement to provide vectors to Farnborough inbound traffic onto the ILS. No TI was provided to the C510; however, a warning was given 1min and 2sec after the initial call. It is difficult for an OJTI to decide when to step in with an advanced level trainee. This is a judgement based on a combination of circumstances, training and experience. On this occasion the OJTI allowed the trainee to continue, without recognising the complexity of the situation. The OJTI did not ensure that the C510 was offered an appropriate level of service with appropriate TI.

The P200 was in receipt of a BS from Farnborough LARS(W). No service had been offered or agreed with the pilot of the C510. When it became apparent that definite risk of collision existed, a warning was given to both flights by each controller and each pilot reported the other ac in sight.

MATS Pt1 (01/07/10), 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'.

MATS Pt1 (01/07/10), Section 1, Chapter 11, page 4, paragraph 3.5.1 states: 'Pilots should not expect any form of traffic information from a controller, as there is no such obligation placed on the controller under a Basic Service outside an Aerodrome Traffic Zone (ATZ), and the pilot remains responsible for collision avoidance at all times. However, on initial contact the controller may provide traffic information in general terms to assist with the pilot's situational awareness. This will not normally be updated by the controller unless the situation has changed markedly, or the pilot requests an update. A controller with access to surveillance derived information shall avoid the routine provision of traffic information on specific aircraft, and a pilot who considers that he requires such a regular flow of specific traffic information shall request a Traffic Service. However, if a controller considers that a definite risk of collision exists, a warning may be issued to the pilot'.

The unit has identified some important factors and learning points regarding OJTI training. The importance of newly qualified, low hour OJTIs, in particular, being aware of when it is necessary to give advice, guidance and when to step in on the frequency with more advanced late stage trainees has been highlighted. Appropriate action has been taken to debrief all OJTIs at the unit with an intention to disseminate the learning point throughout NATS.

## **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.

It was clear that there were differing viewpoints and expectations by all parties involved in this incident. No agreement as to the level of ATS was made between the C510 crew and Farnborough APP. The C510 crew were expecting a TS after leaving CAS, however, they did not request a service during the initial RT exchange or query it with APP when no service was specified. The APP trainee did not offer a service nor ask which service the crew required, contrary to MATS Part 2. The mentor was aware that no level of service had been agreed and subsequently debriefed the trainee on this point; however, the phraseology used by the trainee was consistent with a TS. From the RT transcript it was apparent that immediately after the initial RT exchange the C510 pilot reported Blackbushe in sight which allowed the APP to de-restrict the C510 from its IFR route to ODIMI and release it on a direct track. Members thought that because of the short timescale involved, as APP would expect the flight would be transferring to the Blackbushe frequency after he had coordinated the flight with the Blackbushe FISO, it was understandable that establishing a radar service, which would be terminated almost immediately afterwards, was not warranted. Also, even if a TS had been agreed, any TI was subject to controller workload and he had been busy speaking to Blackbushe and vectoring an inbound ac to Farnborough. LARS had gleaned information from APP's fps display and attempted to coordinate the P200's potential confliction but without success. After LARS informed the P200 pilot of the "inbound jet traffic" and attempted to build in some vertical separation from it, APP removed the C510's 3400ft altitude restriction, which negated LARS' action. Although the ATS scenario was less than ideal Members were mindful that, irrespective of the level of service, within the Class G airspace the crew of the C510 and the pilot of the P200 were responsible for their own separation from other traffic through see and avoid. Both LARS and APP issued a warning to both pilots but the pilots only saw each other's ac late and this had caused the Airprox.

The P200 pilot was told that the C510 pilot had his ac in sight but was understandably concerned as he saw it pass close to his R and behind him. Although TCAS 1 had alerted the C510 pilot to the P200, his late visual sighting had necessitated prompt and robust avoiding action, estimating he passed with 250m separation; the radar recording shows 100ft vertical and 0.1nm (185m) horizontal separation. Taking all these elements into account the Board agreed that the C510 pilot's actions had been effective in removing the actual collision risk but that safety had not been assured during the encounter.

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

Cause: Late sightings by the pilots of both ac.

Degree of Risk: B.