

## AIRPROX REPORT No 2011059

Date/Time: 18 Jun 2011 1807Z (Saturday)

Position: 5119N 00037W (3nm SW Fairoaks)

<u>Airspace:</u> LFIR	<u>(Class:</u> G)
<u>Reporting Ac</u>	<u>Reported Ac</u>

Type: B222 BE200

Operator: Civ Comm Civ Pte

Alt/FL: ↑2400ft 1400ft  
(QNH 1001mb) (QNH)

Weather: VMC CLBC

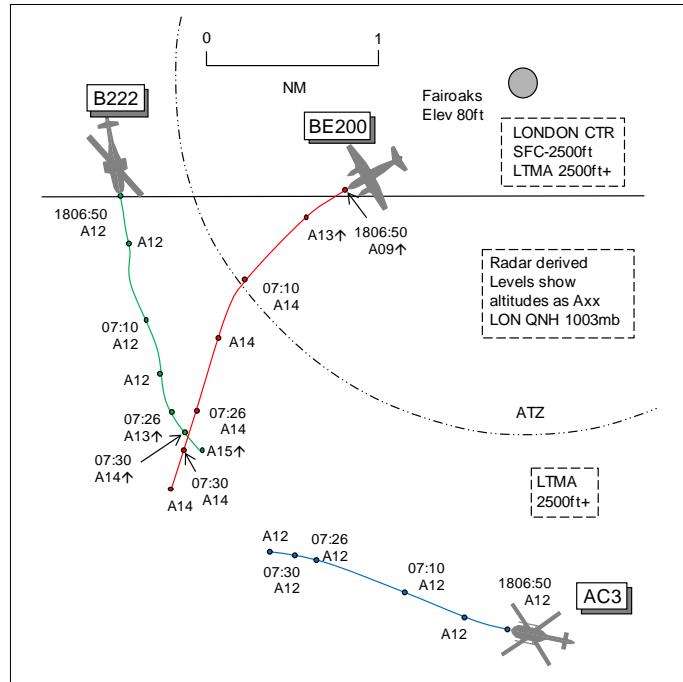
Visibility: >40km >10km

Reported Separation:

Nil V/60m H Nil V/600m H

Recorded Separation:

<100ft V/<0.1nm H



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

**THE B222 PILOT** reports departing Ascot via the Heathrow CTR 'W End Free-lane' for a private site near Sevenoaks, VFR under a BS from Farnborough E on 123-225MHz, squawking with Mode C. The visibility was >40km flying 2000ft below cloud in VMC and the helicopter was coloured blue with nav and anti-collision lights switched on. The Free-lane exits abeam the W edge of the Fairoaks ATZ at 1200ft amsl. Farnborough gave him TI on a helicopter at about 11 o'clock same level with which he was visual. He requested a climb to 2400ft to which Farnborough had no objection. Heading 170° at 100kt he commenced the climb and also started a L turn towards OCK. When passing through 1700ft, he thought, a faster ac, a white coloured low-wing twin-prop type, passed him at the same level about 60m away but also climbing in a 10° nose up attitude and in an approximately 20° L turn. He saw the other ac too late to take avoiding action but he rolled 'wings level'. He was flying from the RH seat and the other ac was not seen earlier owing to its relative position. He assessed the risk as high.

**THE B222 CHIEF PILOT** commented that this is a very busy area of airspace on Ascot days with helicopters streaming out of the Heathrow CTR through Fairoaks climb-out and Farnborough approach. He believed it would be prudent for flights departing Fairoaks to call before getting airborne/leaving the ATZ and that the frequency used should be common to the Ascot and Fairoaks departures to ensure awareness by all flights of potential conflicts. Currently Ascot departures on the 'W End Free-lane' use Farnborough E 123-225MHz yet Fairoaks departures tend to use W on 125-25MHz as does most other traffic in the area.

**THE BE200 PILOT** reports flying solo on departure from Fairoaks VFR and in receipt of a BS from Farnborough on 134-35MHz, squawking 7000 with Modes S and C; TCAS was fitted. The visibility was >10km flying 2000ft below cloud in VMC and the ac was coloured white with anti-collision and strobe lights switched on. Having departed Fairoaks iaw the 'out of hours' procedure after watching 2 helicopters pass N to S through the 'Bagshot Gap' and changing to Farnborough Radar, he was informed of 2 converging helicopters. One was to the S which was easily seen as he was turning L onto heading 170° at 160kt and 1 other to the N which he could not see. At that point a TCAS 'traffic' audio warning was heard on the N contact and he made an effort to look out to his R over the higher wing. It was then he caught sight of a blue/white Bell 222 or 430 type helicopter about 1000m away climbing through his level of 1400ft QNH. He increased his L bank to turn inside the track of the

helicopter despite its ROC taking it above his ac. His L turn was already moving his ac's vector away from the contact but it was tightened to increase separation, estimating they passed with 600m separation. He assessed the risk as low.

UKAB Note (1): The BE200 pilot was contacted by the UKAB Secretariat to clarify the reported separation distances, TCAS actions and Ascot procedures. The pilot stated that 600m minimum separation was based on a snapshot at the initial sighting as he had eased his L turn to look for the helicopter and when sighted he had lost sight of it when he tightened the turn to avoid. He did not see the B222 turn towards his ac and did not regain visual contact with it after his turn. The TCAS TA was generated after he first saw the B222 and tightened his turn and he did not recall any vertical commands on the PFD as he was heads-out flying the tight avoiding turn. He was aware of the Ascot W end Free-Lane' procedures and has watched the 2 previous helicopters exit the Heathrow CTR before departing.

**THE FARNBOROUGH LARS W CONTROLLER** reports the BE200 flight called him on departure from Fairoaks and looking at the position he noticed a 7000 squawk, fairly fast moving, heading towards a 4777 squawk that was W'bound. He immediately passed TI to the BE200, which was not yet identified, as, "Traffic believed to be you has traffic similar level 1 mile SW." He continued to pass TI and issued a squawk until the BE200 pilot reported visual with the helicopter. He also tried to alert LARS N/E but N/E was intensely busy. There was little or no time to effect any type of avoiding action advice and it was unpractical due to Ascot departing traffic.

**THE FARNBOROUGH LARS E CONTROLLER** reports working N and E bandboxed when the B222 flight called on frequency. It was just leaving the London CTR via the 'West End Free-lane' routeing from Ascot to Sevenoaks. There were about 3 helicopters leaving and 1 joining the CTR at the time, all just to the SW of Fairoaks. Although they were all on a BS he called generic TI. Just after this LARS W pointed out another 7000 squawk, which was just appearing from the middle of these known contacts, indicating 1400ft, a similar level to the helicopters. As it had already passed, tracking SW, he did not call this traffic. Shortly afterwards, the B222 pilot asked if he had seen this traffic and he replied that he had only just seen it after LARS W had pointed it out. He apologised for the lack of TI but said that it had departed Fairoaks on LARS W frequency.

**ATSI** reports that the Airprox occurred at 1807:27, within Class G airspace and 6·5nm to the NE of Farnborough Airport and 2·8nm to the SW of Fairoaks Airport during the period of Royal Ascot week. (Saturday)

For the period of Royal Ascot week a NOTAM B0793/11 was issued promulgating the temporary Ascot ATZ, valid:14th to the 18th June 2011. Associated with this special event, a TOI was issued by Swanwick LTC, who have operational responsibility for the London CTR. The TOI contained procedures for the 'Ascot delegated airspace' within the CTR. Participating helicopter operators were provided with a comprehensive briefing on associated operational procedures.

As part of these arrangements, helicopter departures routeing via the designated 'West End Free-lane,' were required to maintain an altitude of 1200ft on a squawk 4776 and contact Farnborough Radar on 123·225MHz (LARS E). The planned movement of the participating helicopters was to the SE and consequently LARS E was designated as the controlling frequency. This would also reduce the traffic loading of the LARS W controller.

The Airprox was reported by the pilot of a Bell 222 (B222) helicopter, on a VFR flight from Ascot to Sevenoaks in Kent. The B222 was squawking 5023 and in receipt of a BS from LARS E.

The second ac, was a Beech 200 (BE200), which had just departed Fairoaks (promulgated as AFIS Mon-Sat 0700-1700, ATZ coincident with AFIS or A/G hrs), in accordance with the Fairoaks 'out of hours' procedures. The BE200 was squawking 7000, on a VFR flight to Dunsfold and had just contacted the LARS W controller. The pilot's written report indicated that the pilot had called Farnborough Approach on frequency 134·35MHz which was combined with Farnborough LARS W

(125.25MHz). It is not clear if the BE200 pilot was aware of the Ascot 'Westend Free-lane' route and procedures. No AIC is promulgated for this event.

The Fairoaks Aerodrome Manual, Appendix E, 'out of hours', terms and conditions, note 4 states:

'For traffic information and Lower Airspace Radar Service call Farnborough Radar 125-250MHz as soon as possible, normally available 0800-2000 (local).' (LARS W)

Farnborough controllers were operating in bandboxed mode. One controller was working LARS W and Approach Radar in combined mode. The second controller was working LARS N and LARS E combined. Traffic levels were assessed as medium and there were no reported unserviceabilities.

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Prior to the incident 2 helicopters had departed the Ascot designated 'West End Free-lane' ahead of the B222, working LARS E. In addition an opposite direction helicopter (Ascot inbound) [AC3], was approaching from the SE and also working LARS E.

At 1804:55, the B222 flight established contact with LARS E reporting, "*(B222 c/s) four double seven six off Ascot for Sevenoaks and request Basic.*" The LARS E controller allocated a squawk 5023, passed the QNH 1003 and agreed a BS.

At 1806:24 the radar recording, viewed at short range, shows the BE200 just airborne from Fairoaks indicating an altitude of 100ft and displaying a 7000 squawk.

At 1806:45, the BE200 flight established contact with LARS W and reported, "*Farnborough radar good evening again er (BE200 c/s) airborne from Fairoaks to Dunsfold VFR.*" The LARS W controller replied, "*(BE200 c/s) roger Basic Service Q N H one zero zero three keep a look out there's a helicopter (B222) just believed to be to the west of you by half a mile at twelve hundred feet possibly turning westbound also helicopter (Ascot inbound)[AC3] a mile south of you twelve hundred feet turning northbound.*" There was no response from the pilot of the BE200 and the LARS W controller repeated the warning about traffic in the vicinity [1807:10], "*(BE200 c/s) caution a helicopter rotary indicating one thousand two hundred feet believed to be in front of you less than quarter of a mile.*" The BE20 pilot replied, "*er looking and seen.*" The LARS W controller responded, "*(BE200 c/s) roger squawk zero four three four when you can Basic Service QNH one zero zero three.*" This was acknowledged by the BE200 pilot.

The LARS W controller's written report, indicated that he tried to warn the LARS E controller about the 7000 squawk (believed to be the BE200), but reported that the LARS E controller was 'intensely busy.'

At 1806:50, radar recording shows a number of ac in the vicinity of Fairoaks with a S'bound overflight at FL096 directly overhead the BE200 with labels overlapping and garbling. A short range expanded view of the radar recording shows the B222 passing 2.3nm SW of Fairoaks, indicating an altitude of 1200ft, with the BE200 in the B222 helicopters 10 o'clock position at a range of 1.2nm, indicating 900ft. The Ascot inbound helicopter [AC3] is shown 3.2nm to the S of Fairoaks tracking W, indicating 1200ft and displaying a LARS E squawk 5020.

At 1806:50, the LARS E controller advised the B222 pilot, "*(incomplete c/s) there's traffic (Ascot inbound) er southeast by three miles turning northbound into west end rotary same level has you in sight.*" The B222 pilot responded, "*I think that's for (B222 c/s) visual.*"

At 1807:10, the LARS E controller gave approval for the B222 helicopter to climb to 2400ft. Radar recording shows the B222 indicating an altitude of 1200ft, converging with the BE200 at a range of 0.6nm. The BE200 is indicating an altitude of 1400ft.

The written report from the LARS E controller indicated that, 'the LARS W controller pointed out the 7000 squawk (BE200) which was just appearing from the middle of the known contacts, indicating 1400ft – a similar level to the helicopters' and 'as it had already passed tracking southwest the controller did not call the traffic'.

[UKAB Note (2): The CPA occurs between 2 sweeps of the recorded radar. At 1807:26 the B222, which is turning L through 160°, is climbing through altitude 1300ft QNH 0·1nm W of the BE200 which is also turning slowly L through heading 200°, level at 1400ft QNH. The next sweep shows the BE200, still at 1400ft, 0·1nm to the S of the B222, having passed just ahead of it, which is climbing through 1400ft QNH. The CPA is estimated to be <100ft V and <0·1nm H.]

At 1808:05, the LARS W controller confirmed the BE200's altitude as 1400ft on QNH 1003 and the ac type as a Beech Kingair.

At 1810:30, the B222 pilot reported that the twin prop looked as though it had come out of Fairoaks and had got a little bit adjacent. The pilot indicated to the LARS E controller that he would call later to discuss the incident.

NATS reported that there had been no previous incidents of this kind associated with the Royal Ascot week. They regarded this as a one-off event that should not reflect on the previous 3 years of developing the event procedures. It was thought that the pilot departing Fairoaks was unaware of the Ascot procedures.

As a result of a recent meeting between the Ascot event stakeholders, a number of measures have been proposed for the 2012 event:

- 1) The Ascot organisers will promulgate an AIC.
- 2) Farnborough will issue a comprehensive NOTAM.
- 3) Flight safety awareness of the event will be publicised.
- 4) Fairoaks will provide a pilot briefing, with a requirement that 'out of hours' movements will be required to telephone Farnborough, prior to departure

It is not clear if the BE200 pilot was aware of the 'West End Free-lane' and associated arrangements for Ascot departures. No AIC was issued and the NOTAM only referred to the Ascot Temporary ATZ. The designated Ascot airspace lies within the London CTR and was applicable to approved helicopter operators. However, the additional activity generated outside the CTR was likely to impact upon GA pilots flying in the adjacent airspace.

Ascot helicopters movements were working LARS E and by default Fairoaks out of hours departures would contact LARS W. It was likely that this situation was not foreseen and had not occurred in the past.

The LARS W controller received a call from the BE200 flight, which probably prompted the controller's early detection of the conflict. However, the LARS E controller was reported as being very busy. This together with complex radar picture and the garbling of the radar labels prevented the detection of the 7000 squawk as the BE200 departed.

The incident occurred 1min after the BE200 became airborne, within Class G airspace. Both flights were in receipt of a BS, with reported good flight visibility (>40km). CAP 774, UK Flight Information Services, 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.'

'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.'

'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 Airprox occurred when the two flights operating VFR in Class G airspace and in receipt of a BS, came into conflict.

Under a BS there is no obligation placed upon the controller to provide TI. However, if a controller considers that a definite risk of collision exists, a warning may be issued to the pilot. The LARS W controller was able to pass a warning to the BE200 flight, but the LARS E controller did not detect the departure from Fairoaks and was unable to pass a warning.

A number of factors were considered to have contributed to the cause of the Airprox:

The workload of LARS E and the garbling of the radar labels delayed the controller becoming aware of the Fairoaks departure. The Airprox occurred within 1min of the BE200 becoming airborne and the BE200 pilot called on a different frequency to the helicopters exiting the Ascot delegated area.

There were no additional arrangements to brief pilots departing from Fairoaks in accordance with 'out of hours' procedures.

There was no AIC or NOTAM promulgating the arrangements for traffic entering and leaving the Ascot designated area, which would have increased the awareness of GA pilots operating in the adjacent area.

CAA ATSI is content that the proposals made for the 2012 event will address the safety issues highlighted by this Airprox.

## **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 and operating authorities.

The NATS Advisor informed Members that in previous years LARS W had been delegated to work traffic entering/leaving via the 'W End Free-lane'. The task was moved to LARS E to reduce the traffic loading on the LARS W frequency, which is usually the busiest LARS position at Farnborough. It appears that both the B222 and BE200 crews were going about their business with both flights establishing a BS from Farnborough. SA could have been enhanced had they been on the same frequency but the crews were responsible for maintaining their own separation from other ac through see and avoid. The BE200 pilot had seen the 2 previous 'W End Free-lane' departures but did not see the B222 following behind. LARS E had not noticed the BE200 depart Fairoaks owing to multiple

radar tracks and label garbling and was too busy to accept LARS W's warning. From the radar recording it was clear that there was an opportunity for both crews to see each other's ac for some time prior to the Airprox, the BE200 converging from the B222's L and the B222 converging from the BE200's 1 o'clock. Both crews cited cross-cockpit visibility deficiencies owing to their seating positions; while these were factors, they should be mitigated by moving the ac's heading and/or by moving one's head. The B222 had right of way under the RoA regulations but these rules rely on crews sighting a potential conflict beforehand. The B222 pilot saw the BE200 too late to take avoiding action as it passed in front, he estimated by 60m, as he was climbing and turning L; Members agreed that this had effectively been a non-sighting, and a part cause of the Airprox. LARS W had done well in seeing the conflict and issuing a warning to the BE200 flight which enabled the pilot to see the B222 close-by. However, the BE200 pilot then lost sight of the helicopter whilst tightening his avoiding action turn, unaware of or misjudging the helicopter's flightpath and close proximity; Members agreed his avoiding action had been ineffective and was the other part cause. These elements together with the recorded minimum separation were enough to persuade the Board that an actual risk of collision existed during this incident.

Whilst understanding the rationale for spreading the workload at Farnborough between LARS W and E, the Board acknowledged the intended proposals for next year, and the commitment by the NATS Advisor to ensure they are implemented, which will hopefully militate against this situation occurring again.

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

Cause: Effectively a non-sighting by the B222 crew and ineffective avoiding action by the BE200 pilot.

Degree of Risk: A.