

AIRPROX REPORT No 2014129

Date/Time: 26 Jul 2014 1129Z (Saturday)

Position: 5103N 00024E
(SE Bewl Water)

Airspace: London FIR (Class: G)

Aircraft 1 Aircraft 2

Type: Bulldog DR400

Operator: Civ Trg Civ Pte

Alt/FL: 2500ft 2200ft
QNH (1016hPa?) QNH (1015hPa)

Conditions: VMC VMC

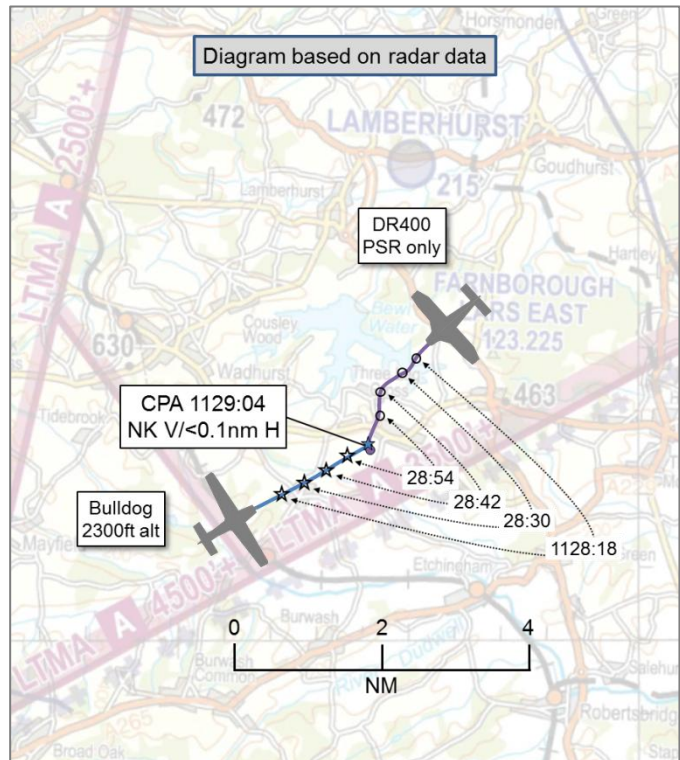
Visibility: >10km 10nm

Reported Separation:

0ft V/500m H NK

Recorded Separation:

NK V/<0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BULLDOG PILOT reports conducting a student navigation exercise. The red, white and grey aircraft had top and bottom strobe lights selected on, as was the SSR transponder with Mode A¹. The aircraft was not fitted with an ACAS or TAS. The pilot was operating under VFR in VMC, in receipt of a Traffic Service from Farnborough LARS(E). As they approached a planned turning point, heading 060° at 105kt, the instructor was pointing out how to identify it when the student shouted "Traffic!". The instructor looked slightly left and saw a white, green and red 'Robin 200' aircraft at a range of 500m in straight and level flight. He took control and immediately made a climbing turn to the left to avoid the other aircraft. He reported the Airprox to 'Farnborough radar'. The pilot noted that no strobe lights were seen on the other aircraft.

He assessed the risk of collision as 'High'.

THE DR400 PILOT reports conducting a local flight. The predominantly white aircraft did not have any lights selected on, 'in good daylight'. The SSR transponder was not selected on. The aircraft was not fitted with an ACAS or TAS. The pilot was operating under VFR in VMC, in receipt of an 'Advisory Service' from Headcorn, he reported. Whilst on a southerly heading at about 90kt he became aware of a white and red Bulldog aircraft on the right-hand side which had begun a climbing manoeuvre to avoid collision. He stated that this was a late sighting and that he would normally have seen an aircraft on the right-hand side earlier, but that it appeared to be travelling at 90° to his track which made it difficult to acquire visually. He assessed that, had both aircraft maintained their headings and altitudes, a collision would have been unlikely.

He assessed the risk of collision as 'Low'.

THE FARNBOROUGH LARS(E) CONTROLLER reports working on a very busy Saturday lunchtime, with 9 aircraft on frequency at the time. The Bulldog pilot reported on frequency at 1120 and requested a Traffic Service. Once identified, the controller gave him a reduced Traffic Service due to controller workload and high traffic density. He was responding to another aircraft when, at 1128, the Bulldog pilot reported that he'd come close to another aircraft and asked if the controller had the registration. He initially did not see another contact, it may have been garbling with his label, but then

¹ Mode C was not reported as selected on but an altitude readout was apparent from the radar replay.

noticed a primary contact tracking southbound, just behind the Bulldog. The pilot then said he was reporting an Airprox and the controller advised him to do this when on the ground.

Factual Background

The weather at Lydd was recorded as follows:

METAR EGMD 261120Z 10008KT 9999 SCT016 23/20 Q1016

METAR EGMD 261150Z 12009KT 9999 FEW016 24/20 Q1016

Analysis and Investigation

CAA ATSI

ATSI had access to reports from both pilots and the Farnborough LARS(E) controller, together with area radar recordings and RTF and transcript of the Farnborough LARS(E) frequency.

An Airprox was reported in Class G airspace by a Scottish Aviation Bulldog pilot when he came into proximity with a Robin DR400 in the vicinity of Bewl Water, Sussex. The Bulldog pilot was operating on a local VFR flight, was displaying SSR code 1732 and was in receipt of a limited Traffic Service from Farnborough LARS(E). The DR400 pilot was on a local VFR flight and was in contact with Lashenden Radio.

At 1119:40, the Bulldog pilot, level at 2200ft, contacted Farnborough LARS(E) and requested a Traffic Service. The controller agreed a Traffic Service with reduced information due controller workload and high traffic density with possible late warning of traffic. The Bulldog pilot was subsequently warned of individual traffic and generic information on paragliders northeast of Shoreham.

At 1128:02, area radar showed a primary return, opposite direction to the Bulldog at a range of 3.3nm, see Figure 1.



Figure 1

At 1128:14, a helicopter pilot not involved in the Airprox event contacted Farnborough LARS(E) for a Basic Service. The RT conversation lasted until 1129:13.

The Bulldog and the primary return continued to converge (see Figures 2 and 3) until the tracks crossed (see Figure 4).

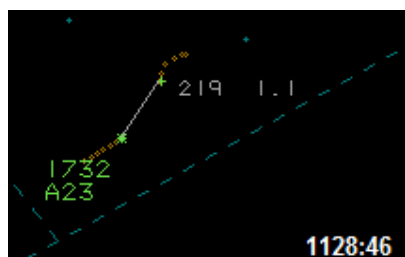


Figure 2

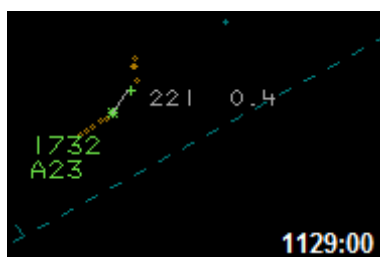


Figure 3



Figure 4

At 1129:15, when the RT conversation between Farnborough LARS(E) and the helicopter pilot ended, the Bulldog pilot reported that he had just come very close to a midair collision with a DR400. The controller replied that nothing was seen on radar before stating that traffic had popped up tracking southbound, primary only. The Bulldog pilot reported that he would be filing an Airprox.

The Farnborough LARS(E) controller limited the Traffic Service being provided to the Bulldog pilot due to workload and traffic density, although he did pass specific and general traffic information on other traffic prior to the Airprox. He did not notice the primary contact prior to the Bulldog pilot reporting an Airprox. The controller was speaking to a helicopter pilot operating approximately 15nm to the northwest of the Bulldog and it is likely that his attention was drawn to that part of the radar display.

Both pilots were operating in Class G airspace and were ultimately responsible for their own collision avoidance, regardless of the service being provided.

UKAB Secretariat

The Bulldog and DR400 pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision². If the incident geometry is considered as converging then the DR400 pilot was required to give way to the Bulldog³. If the incident geometry is considered as head-on then both pilots were required to turn to the right⁴. The aircrafts' radar tracks were obtained from area radar not available to the Farnborough LARS(E) controller and present a more complete picture, which the controller did not have.

Summary

An Airprox was reported when a Bulldog and a DR400 flew into proximity at 1129:06 on Saturday 26th July 2014. Both pilots were operating under VFR in VMC, the Bulldog pilot in receipt of a reduced Traffic Service from Farnborough LARS(E) and the DR400 pilot not in receipt of an Air Traffic Service.

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 the air traffic controller involved and a report from the appropriate ATC authority.

The Board first considered the pilots' actions. The Bulldog pilot and student were conducting a navigation exercise and had negotiated a Traffic Service with Farnborough LARS(E), a thoroughly sensible course of action considering that the crew would likely be directing some of their attention to

² Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

³ *ibid.*, Rule 9 (Converging).

⁴ *ibid.*, Rule 10 (Approaching head-on).

identifying turn points from time to time. Unfortunately, this mitigation to mid-air collision was lost due to the DR400 pilot's decision not to turn on his SSR transponder. Members agreed that although mitigation of mid-air collision risk in Class G was based on 'see-and-avoid', a valuable barrier had been lost due to lack of SSR returns from the DR400. This denied the Farnborough LARS(E) controller a radar track and he was therefore unable to provide Traffic Information to the Bulldog pilot. Members also highlighted that the SSR transponder provides mitigation against mid-air collision through a number of other systems, such as TCAS, TAS and STCA⁵, and that all pilots would be better served by selecting it on at all times with all available Modes whilst airborne.

Members agreed that the DR400 pilot was required to give way to the Bulldog but was not able to visually acquire it in time to do so. This was quite possibly due to the reported 90° closing angle and resultant constant bearing with low probability of visual detection in the pilots' peripheral vision. The DR400 pilot included this fact in his description of the incident but his assessment of risk of collision as 'Low' was felt by many Board members to be misplaced, a constant bearing being the indication of impending collision.

The Board agreed that the root causal factor was a late sighting by the Bulldog pilot and, given his description of the incident, effectively a non-sighting by the DR400 pilot and that although effective avoiding action was taken by the Bulldog pilot, safety margins had been much reduced below normal.

PART C: ASSESSMENT OF CAUSE AND RISK

<u>Cause:</u>	A late sighting by the Bulldog pilot and effectively a non-sighting by the DR400 pilot.
<u>Degree of Risk:</u>	B.
<u>ERC Score⁶:</u>	20.

⁵ Short Term Conflict Alert, a radar console alert to visually highlight converging traffic.

⁶ Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.