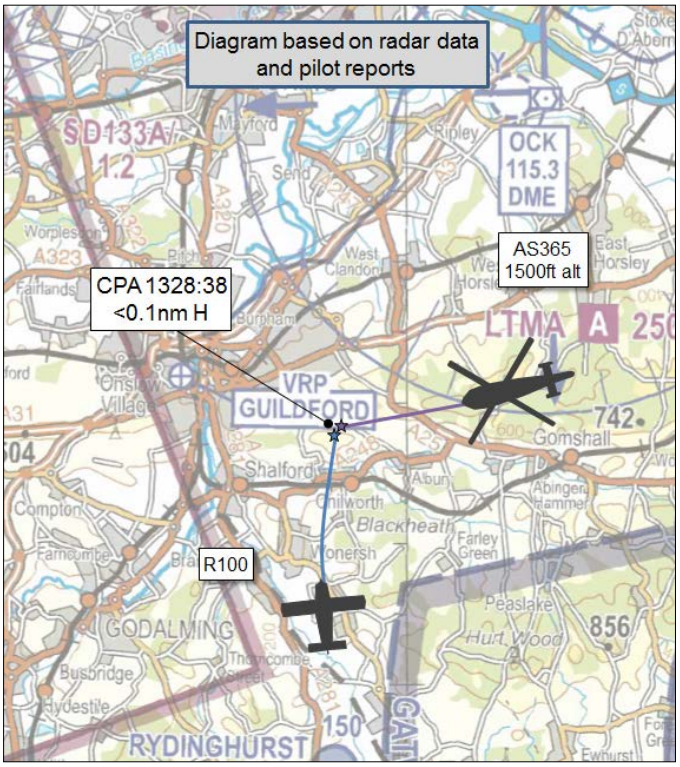
AIRPROX REPORT No 2017180

Date: 31 Jul 2017 Time: 1328Z Position: 5113N 00031W Location: 3nm E Guildford

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Robin DR100	AS365
Operator	Civ Pte	Civ Pte
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Farnborough	
Altitude/FL	NK	1500ft
Transponder	A, NMC	A, C, S
Reported		
Colours	Blue, White	White
Lighting	Strobe	Anti-Coll
Conditions	VMC	VMC
Visibility	30km	
Altitude/FL	1700ft	1500ft
Altimeter	QNH (1015hPa)	QNH
Heading	360°	270°
Speed	105kt	120kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	50-100ft V/0m H	Not seen
Recorded	<0.1nm H	



THE DR100 PILOT reports that he was descending from 2000ft to 1400ft to be ready for joining the circuit at Fairoaks, when he noticed a helicopter in very close proximity (200m) crossing right to left, heading westbound. He was northbound so the tracks were crossing more or less at right-angles. In order to avoid a collision, he pulled sharply back on the control column and went over the top of the helicopter. It was difficult to judge the vertical clearance but he estimated 50ft, with no lateral separation at all. He went directly over the top of the helicopter and experienced severe rotor-wash buffeting. Without any action, he was sure there would have been a collision. He noted that he was sitting on the left-hand-side of the aircraft which may have contributed to seeing the helicopter late, also that he had not selected Mode C on (a mistake, he had not selected it and did not realise until later) and was only receiving a Basic Service. He hoped that by reporting the Airprox he could help to avoid someone else having the same experience.

He assessed the risk of collision as 'High'.

THE AS365 PILOT reports that he did not see the other aircraft and has no recollection of the incident.

He assessed the risk of collision as 'None'.

THE FARNBOROUGH CONTROLLER reports that an Airprox report was not made on frequency at the time and they had no recollection of the incident.

Factual Background

The weather at Farnborough was recorded as follows:

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EGLF 311320Z 23014KT 9999 SCT033 19/11 Q1012=
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Analysis and Investigation

CAA ATSI

The DR100 was on a local flight and in receipt of a Basic Service from Farnborough Radar. At the time of the Airprox, the DR100 had completed their detail and was descending from altitude 2200ft to altitude 1400ft in readiness to join the visual circuit at Fairoaks.

The AS365 was not in receipt of a service from Farnborough and was not known traffic to the Farnborough controller. The identity of the AS365 has been established from the area radar replay. The aircraft were first observed on the radar replay at 1327:01 (Figure 1). The AS365 was 5.4nm NNE of the DR100 and was tracking west.

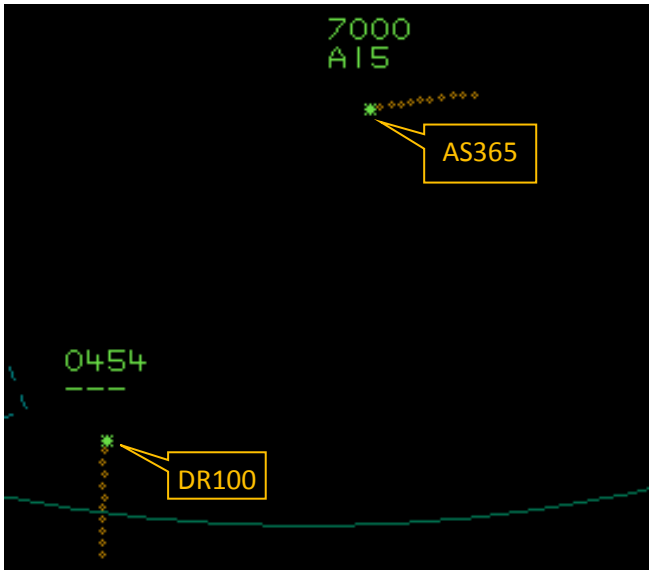


Figure 1 – 1327:01

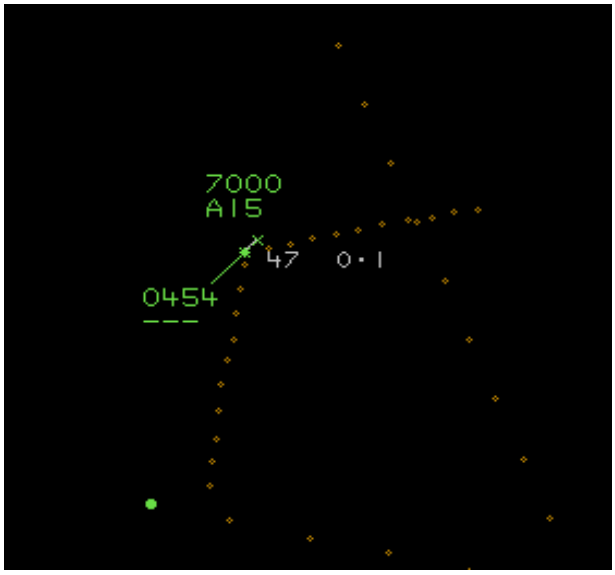


Figure 2 – 1328:39

CPA took place at 1328:39 (Figure 2), with the aircraft separated by <0.1nm. The vertical separation could not be determined because the DR100 was not displaying Mode C.

According to the NATS investigation, at 1327 the Farnborough controller started a handover to an incoming controller, pointing out all of their traffic in priority order starting with those under a radar service (and whilst doing so realised that one of these aircraft was wearing an incorrect squawk, which they instructed to change). The off-going controller didn't point out the position of the DR100 to the on-coming controller until 1328:50, after the two contacts had merged and were moving apart. Shortly afterwards the DR100 pilot reported to the on-coming Farnborough controller that they had come quite close to a helicopter. However, the incident was not reported as an Airprox until after landing.

Both aircraft were operating in Class G airspace where the pilots were responsible for their own collision avoidance.

UKAB Secretariat

The DR100 and AS365 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[1]. If the incident geometry is considered as converging then the DR100 pilot was required to give way to the AS365.

[1] SERA.3205 Proximity.

Summary

An Airprox was reported when a DR100 and an AS365 flew into proximity near Guildford at 1328 on Monday 31st Jul 2017. Both pilots were operating under VFR in VMC, the DR100 pilot in receipt of a Basic Service from Farnborough and the AS365 pilot not in a receipt of service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first looked at the actions of the DR100 pilot. He was receiving a Basic Service from Farnborough wherein it was not a requirement for the controller to maintain radar identity and therefore Traffic Information would only be passed if ATC happened to see and thought a risk of collision existed. Noting that the DR100 was not displaying Mode C, members agreed that there was no visual cue to alert the controller to the proximity of the two aircraft, exacerbated by the fact that the controller was busy with a handover to an on-coming controller. Although the Board recognised that it was a simple mistake that the pilot had not turned on his Mode C, they thought it worth reminding pilots that, as of 12th October 2017 (after this Airprox occurred), SERA now mandates that when an aircraft carries a serviceable transponder the pilot shall operate the transponder at all times and with all available modes selected regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.[2]

In the end, it was the pilot's look-out that had averted the worsening situation; having seen the AS365 very late, the DR100 pilot was able to take emergency avoiding action. Members noted that the pilots may have been in each other's blind spots (DR100 pilot sitting in the left-hand seat and the AS365 pilot sitting in the right-hand seat) and, because no avoiding action was taken, that the AS365 pilot may not have seen the DR100. The DR100 pilot reported that he climbed to avoid the AS365 and passed directly over and approximately 50ft above it, experiencing some rotor-wash buffeting as they did so he thought. GA members noted that rotor-wash would not normally be experienced when directly above the rotors; it may have been that, in pulling up sharply, the DR100 pilot may have experienced pre-stall buffet.

The Board briefly looked at the part that ATC had to play in the incident. It was unfortunate that the DR100 was not displaying Mode C because ATC members thought that had the controller seen that the height of the two aircraft were similar he may have given Traffic Information. Nevertheless, they were keen to state that, under a Basic Service, controllers were not obliged to maintain radar contact and pilots should not expect to receive Traffic Information; pilots requiring Traffic Information should request a Traffic Service.

Turning to the AS365, Board members opined that this Airprox highlighted the need for robust look-out at all times; that the DR100 had come within such close proximity to the AS365 without being seen by the pilot implied that he was either otherwise distracted by in-flight tasks or had not sighted the DR100 due to obscuration or the known limitations of the eye in detecting objects that were stationary in the field of view. Members used to flying in that area stated that it was a very busy piece of airspace and they wholeheartedly recommended calling Farnborough for an ATS; had he been on their frequency he may have received situational awareness about the DR100 in the area, even if the controller had not given Traffic Information. Similarly, the Board thought that the fitment of a CWS would have been beneficial in providing some information; even though the DR100 wasn't displaying his Mode C, the Mode A alone would have provided an indication that another aircraft was in the vicinity. By removing the barriers of ATS and electronic conspicuity, the AS365 pilot had left himself with see-and-avoid as the final barrier, and, in the end, this barrier had failed for him.

[2] SERA 13001, 13005, 13010 and 13015 - SSR Transponder

In determining the cause of the Airprox, the Board quickly agreed that it had been a late sighting by the DR100 pilot and a non-sighting by the AS365 pilot. Some members thought that this had been an extremely close call and should be assessed as risk category A (situations where separation was reduced to the bare minimum and/or which only stopped short of an actual collision because chance had played a major part in events). However, in the end, the Board agreed that the last-minute emergency actions taken by the DR100 pilot had probably materially altered the outcome, and so the incident was assessed as risk Category B, safety margins much reduced below the norm.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the DR100 pilot and a non-sighting by the AS365 pilot.

Degree of Risk: B.

Safety Barrier Assessment[3]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

ANSP

Regulations, Processes, Procedures & Compliance was assessed as **fully effective**.

Situational Awareness & Action was assessed as **not present** because the controller was not required to pass Traffic Information to the DR100 under the terms of a Basic Service.

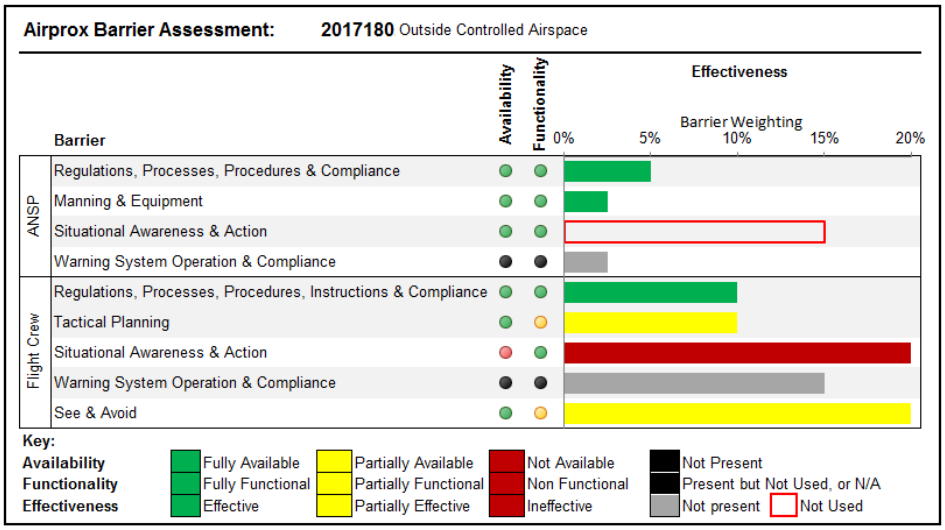
Flight Crew

Tactical Planning was assessed as **partially effective** because the AS365 would have been better served by calling Farnborough for an ATS in the busy airspace of the incident.

Situational Awareness & Action was assessed as **ineffective** because neither pilot knew about the other aircraft.

Warning System Operation and Compliance was assessed as **not present** because neither aircraft was fitted with a CWS.

See and Avoid was assessed as **partially effective**, the DR100 managed to take last-minute avoiding action.



[3] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.