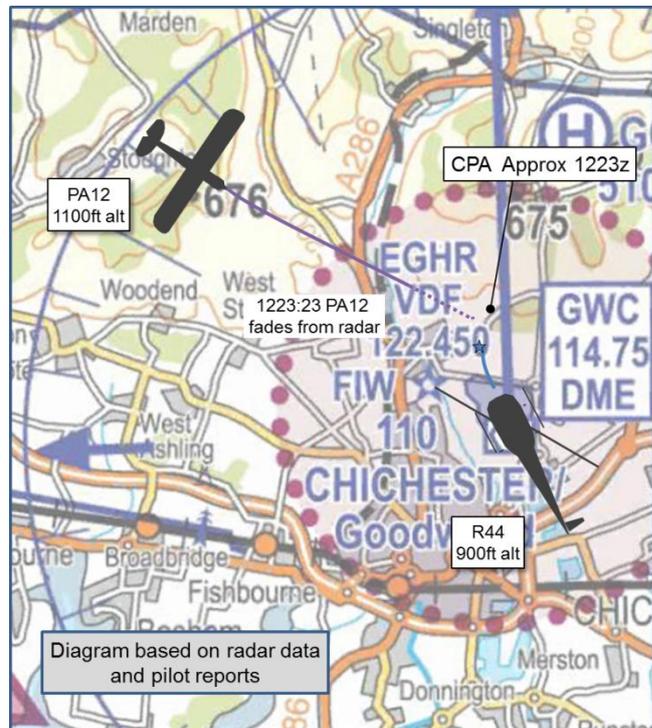


AIRPROX REPORT No 2014161**Date/Time:** 16 Aug 2014 1223Z (Saturday)**Position:** 5052N 00045W
(0.8nm N Goodwood)**Airspace:** Goodwood ATZ (*Class:* G)**Aircraft 1** **Aircraft 2****Type:** R44 Piper Cruiser**Operator:** Civ Comm Civ Pte**Alt/FL:** 900ft 1100ft
QFE (1010hPa) QFE (NK)**Conditions:** VMC VMC**Visibility:** >10km >10km**Reported Separation:**

50ft V/50m H 150ft V/200m H

Recorded Separation: NK**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

THE R44 PILOT reports flying a blue aircraft with strobe lights illuminated and transponder selected with Modes A, C and S. The aircraft was not fitted with a TCAS. He was taking passengers on a short local flight and was given clearance by ATC to depart and lift in a northerly direction. He began to level the aircraft at 900ft, in accordance with procedures, when he became aware of a light aircraft in his 9 o'clock coming towards him. He immediately descended and, at the same time, the other aircraft banked steeply to its right and turned behind; he noted the registration number and asked ATC to ask the pilot to contact him. On landing, he contacted ATC who believed the other pilot to be at 1000ft when the incident occurred, instead of 1200ft. The two pilots then met to discuss the incident, but although they agreed the position, they disagreed on whether the fixed-wing aircraft was making a standard downwind join in accordance with local procedures.

He assessed the risk of collision as 'High'.

THE PA12 PILOT reports flying a red and cream aircraft without lights and with transponder Mode 3A only; the aircraft was not fitted with a TAS. He was positioning downwind and, as he was abeam the runway commencing a gentle decent, he saw an R44 climbing towards him from the 2 o'clock position; he initiated a right turn to pass behind and, once established in the turn, saw the R44 also commence a turn, he then lost sight of it as it climbed through his level. On landing he discussed the incident with the R44 pilot who opined that the PA12 pilot was too close to the airfield on the downwind leg. He noted that many other pilots flew the same circuit track that day and opined in turn that the helicopter pilot had deviated from the published routing for the rotary circuit by going too far north. He thought that the combination of two pilots deviating very slightly had resulted in the incident and that the actual risk of collision was low because the "see-and-avoid" principle had worked.

He assessed the risk of collision as 'Low'.

THE GOODWOOD FISO reports that he was talking to various aircraft joining and departing for the Vintage Piper Aircraft Club meeting which was being held at Goodwood that weekend. He gave the PA12 joining information including runway in use and asked him to advise when downwind. The R44 was operating from the "triangle", which is where all rotary aircraft depart and land when RW32 is in use. He gave the instruction "take off at your discretion" and saw it depart north. Shortly afterwards he heard the R44 pilot saying that he would like to speak to the PA12 pilot, and the PA12 pilot replying he would like to speak to the R44 pilot. Neither the FISO, nor his assistant saw the Airprox.

Factual Background

The weather at Southampton and Shoreham was recorded as:

METAR EGHI 161220Z 29009KT 260V320 9999 FEW047 18/07 Q1021
 METAR EGKA 161220Z 23015KT 9999 FEW024 BKN035 18/12 Q1021

Analysis and Investigation

CAA ATSI

The Goodwood ATZ comprises a circle of radius 2nm, centred on the midpoint of runway 14R/32L and extending to a height of 2000ft above aerodrome level (elevation 110ft). The R44 was departing VFR from Goodwood on a northerly track in accordance with the published route and was in receipt of an Aerodrome Flight Information Service (AFIS) from Goodwood Information. The PA12 was inbound to Goodwood VFR and was in receipt of an AFIS from Goodwood Information on the same frequency.

Goodwood were hosting the Vintage Piper Aircraft Club meeting and the workload of the FISO was assessed as high. Runway 32L was in use for fixed wing aircraft with helicopters departing from the 'triangle' area. The UK AIP page AD 2.EGHR-7 (13 Dec 2012) states:

- Fixed-wing circuit height 1200 ft or as directed by ATS. Circuit directions: Runways 06, 14L/14R and 10 - LH; Runway 24, 28 and 32L/32R - RH or as directed by ATS.
- Fixed-wing standard join is overhead at 2000ft. 'Straight-in' and 'base' joins are strongly discouraged when the circuit is active. ATS can advise on circuit status. Outside ATS hours or after sunset, overhead join is mandatory.
- Helicopter circuit height 900ft or as advised by ATS. Helicopters are not permitted to join the circuit below 700ft QFE unless weather dictates a lower height.
- Helicopter circuit: When Runways 14 or 32 are in use by fixed-wing, the helicopter circuit is flown from the 'triangle' east of the VDF hut, inside and below the fixed-wing circuit. When other runways are in use by fixed-wing, helicopter circuits are flown from the threshold of Runway 32L, in the opposite direction to the fixed-wing circuit.

For illustrative purposes, Figure 1 is an extract showing the circuit patterns. A representation of the track flown by the PA12 is shown.

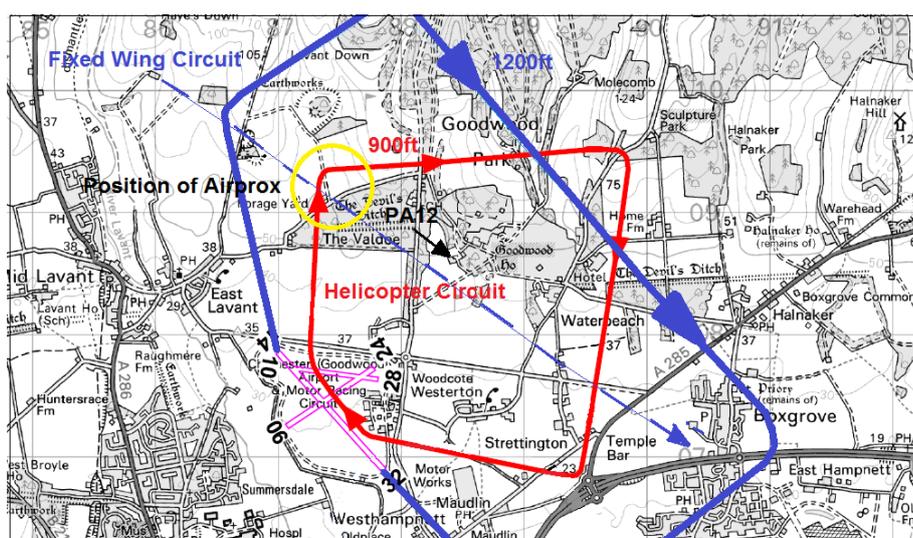


Figure 1 – Extract of circuit patterns with track flown by the PA12.

The CAA ATSI had access to Goodwood RTF and area radar recording together with written reports from the FISO and pilots of both aircraft. It was noted that there was an 8 minute

difference between the Goodwood RTF and the Swanwick Radar replay. An allowance was therefore made to the Goodwood time injection in order to align it with the radar replay.

At 1219:55, the PA12 established two way communication with Goodwood Information, reporting inbound and four miles northwest of the airfield. The FISO replied "(PA12) c/s I have your details runway three two right-hand circuit QFE one zero one seven". The PA12 pilot acknowledged "Three two one zero one seven I'll join downwind (PA12) c/s". The FISO responded "(PA12) c/s thank you report downwind caution the Rotary Circuit" which was acknowledged by the PA12 pilot "Copied (PA12) c/s".

The FISO continued to transmit to a number of other aircraft with a number of crossed transmissions. At 1221:20 the R44 called for lift and departure to the north but twice was unreadable because of crossed transmissions. On the third the transmission was weak and the FISO replied "(R44) c/s very quiet take off your discretion two six zero eleven depart north at your discretion". The R44 pilot acknowledged "Taking off my discretion (R44) c/s".

At 1223:10, the area radar replay showed the PA12 1nm north-northwest of Goodwood, tracking southeast but without Mode C. The PA12 then faded from radar. The PA12 pilot's written report specified a height of 1100ft (QFE) at the time of the Airprox – Figure 2.

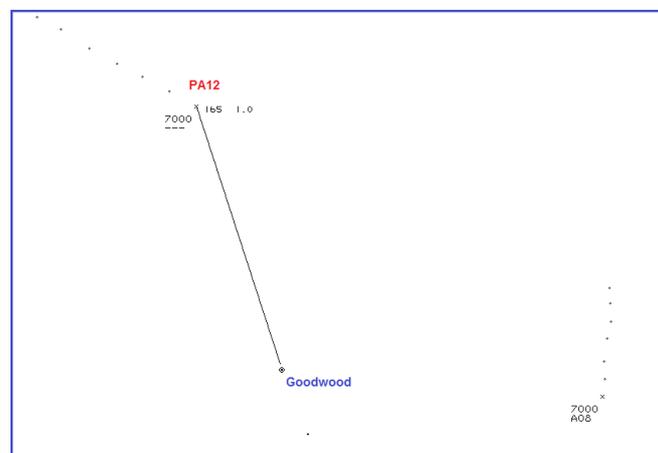


Figure 2 – Swanwick MRT at 1223:10

Neither aircraft was shown on radar for the next four sweeps until at 1223:26 the R44 appears 0.9nm north of Goodwood tracking northeast and indicating an altitude of 900ft (800ft height).

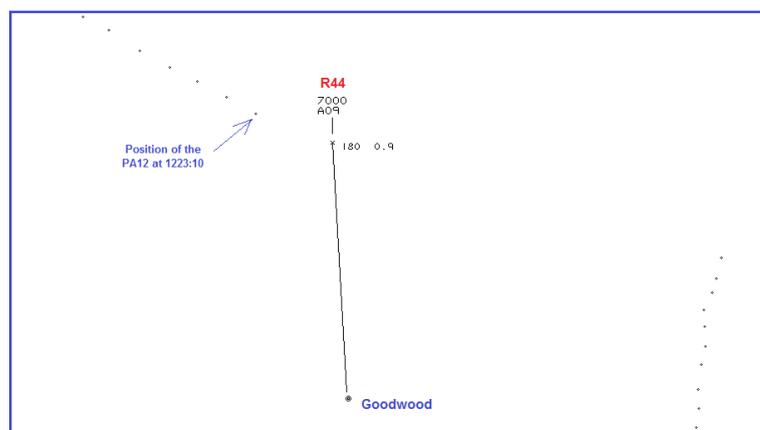


Figure 3 – Swanwick MRT at 1223:26

At 1223:30, the R44 is shown tracking northeast. The CPA was estimated to have occurred at 1223:18 at the position shown in figure 4.

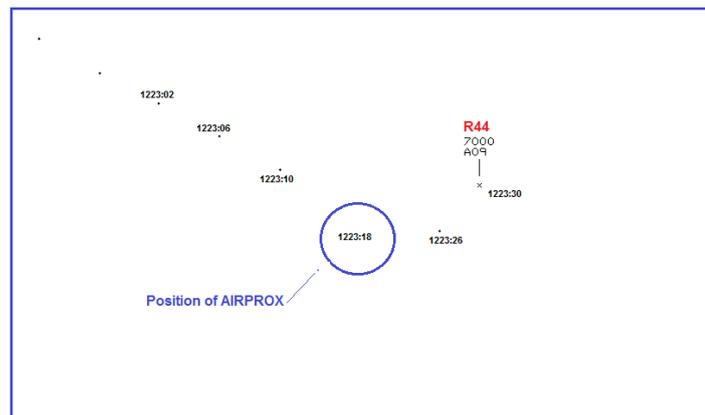


Figure 4 – Swanwick MRT at 1223:30

At 1223:40, the PA12 reported late downwind and the FISO replied “(PA12) c/s thank you report final three two break break...” and the FISO continued to transmit take off clearance to another aircraft.

The FISO’s written report indicated that neither the FISO nor his assistant had seen the Airprox. Both aircraft were in receipt of an Aerodrome Flight Information Service where FISOs shall issue information to aircraft in their area of responsibility useful for the safe and efficient conduct of flights. They are not permitted to issue instructions to aircraft in the air except under specific circumstances (which were not applicable in this incident) or when relaying a clearance from an air traffic control unit. Pilots therefore are wholly responsible for collision avoidance in conformity with the Rules of the Air¹.

The R44 appeared on radar shortly after the Airprox indicating an altitude of 900ft (height 800ft). Radar did not show Mode C for the PA12. It was therefore not possible to determine the exact geometry of the two aircraft as they passed in close proximity. The UK AIP states that the fixed wing circuit height is 1200ft and specifies that the Rotary circuit is at 900ft. The FISO reminded the PA12 pilot about the Rotary circuit, but no specific traffic information was passed to the R44 about the PA12 joining from the north. The PA12 pilot’s written report indicated that he joined downwind inside the published circuit pattern and had started a gentle descent. It was considered likely that the PA12 had started a descent in a position where aircraft would be expected to maintain a height of 1200ft due to the Rotary pattern and this brought the PA12 into conflict with the departing R44. Both pilots sighted the other and took appropriate avoiding action to resolve the conflict.

UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision². Furthermore, the pilot of an aircraft in the vicinity of an aerodrome is required to conform to the pattern of traffic formed by other aircraft at that aerodrome.³

Summary

An Airprox was reported on 16th August 2014 at 1223z when a PA12, which was joining downwind, and a R44 which was departing the airfield, flew into proximity in the Goodwood visual circuit. Both pilots were flying VFR in VMC and were on the Goodwood frequency. The Goodwood FISO advised the PA12 pilot that the rotary circuit was active, but the R44 did not receive any traffic information. The incident did not show on the NATS radars so the actual CPA is not known.

¹ CAP797 FISO procedures: Section1, Chapter 1, Page 1, Paragraph 1.1

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

³ Ibid. Rule 12 (Flight in the vicinity of an aerodrome).

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included 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 R44 pilot. Although he had been told to lift-off at his own discretion, he was not given specific Traffic Information on the joining PA12, and so he climbed in accordance with the standard Goodwood rotary circuit in the expectation that other aircraft would also be following published procedures. Other than take note that the Vintage Piper Aircraft Club meeting might mean that pilots in the circuit might not be familiar with Goodwood's procedures (and therefore extra vigilance might be required for pilots operating to 'habitual' circuit patterns), the Board considered there was little else that the R44 pilot could have done.

Turning to the PA12 pilot, the Board noted that he had flown inside the recommended fixed-wing circuit, and was commencing a gentle descent through circuit height when he encountered the R44. There followed a long discussion about whether it was compulsory for pilots to follow recommended circuit procedures and why, because he was flying an older aircraft, the PA12 pilot might fly a tighter circuit than a modern aircraft in case of engine malfunction; it was noted that this would be a common practice for pilots flying vintage aircraft. However, if he was doing so then the Board opined that he had a responsibility to articulate his non-standard positioning to other circuit users so that they could adjust accordingly. The Board considered that in the absence of any such information, the R44 pilot could have reasonably expected other aircraft to fly the standard circuit track.

Some Board members wondered whether the Goodwood procedures contrived a conflict by having the rotary circuit cross beneath the fixed wing circuit in two places, albeit with 300ft height separation. Undoubtedly designed in this manner for noise-avoidance, some members wondered whether there was merit in Goodwood looking again at their circuit patterns. Notwithstanding, the R44 was in this case departing the airfield and so, at some point, needed to cross below the fixed wing circuit, (although he could reasonably expect the other aircraft to be at 1200ft, the fixed wing circuit height). The Board considered recommending that Goodwood review its circuit procedures, but noted that this had been recommended previously for a separate Airprox for which a report was due imminently.

The Board then discussed the actions of the FISO. It was clear that he was extremely busy but, although he did pass generic information to the PA12 about the rotary circuit being active, the Board noted that he did not pass any traffic information to the R44 pilot about the PA12. The Board wondered whether it would be more appropriate for these busy rallies and events to be handled by an Air Traffic Controller, instead of a FISO, to exert more positive control over the circuit.

Turning to the cause of the Airprox, the Board agreed that the PA12 pilot had flown into conflict with the R44; a contributory factor had been that he didn't fly the recommended track route or altitude. The Board added a second contributory factor that the FISO did not pass Traffic Information to either pilot. In assessing the risk, the Board concluded that it was Category B, safety margins had been much reduced below the normal.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA12 pilot flew into conflict with the R44.

Contributory Factors:

1. The PA12 pilot did not fly the recommended track or altitude.
2. The FISO did not pass traffic information to either pilot.

Degree of Risk: B.

ERC Score⁴: 20.

⁴ 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.