

AIRPROX REPORT No 2012083

Date/Time: 20 Jun 2012 1558Z

Position: 5052N 00046W (1nm final RW14R at Chichester/Goodwood A/D - elev 110ft)

Airspace: Goodwood ATZ (Class: G)

Reporting Ac Reported Ac

Type: Cessna C172 VS Spitfire TR9

Operator: Civ Trg Civ Trg

Alt/FL: 300ft↓ 400ft
QFE (1011hPa) QFE (1011hPa)

Weather: VMC CLBC VMC NK

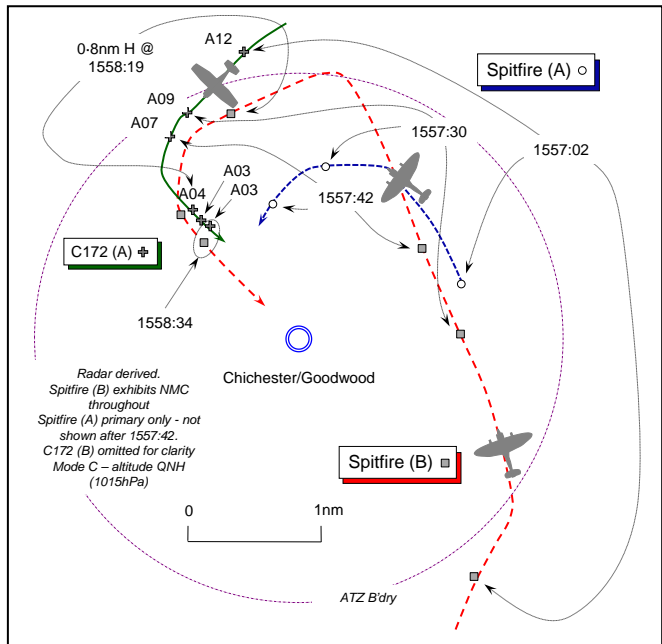
Visibility: 50km CAVOK

Reported Separation:

Nil V/100ft H 150ft V/0.25nm H

Recorded Separation:

0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PILOT OF THE CESSNA C172 [C172 (A)], a flying instructor, reports he was instructing a student on their first cct detail at Chichester/Goodwood A/D and in receipt of a BS from Goodwood INFORMATION on 122.450MHz. A squawk of A7000 was selected with Modes C and S on.

They were established in the LH cct pattern to RW14R when two Spitfire pilots called to join the cct from a 'running break' [actually a 'run-in and break'] and were informed by the FISO of the two ac already established in the cct. The lead Spitfire pilot replied they would position high and behind. Turning on to final [No2 in the pattern] whilst demonstrating the cct, the first Spitfire - Spitfire (A) - entered the cct area from above and in front of his aeroplane, then passed down the starboard side of the ac ahead on final - the No1 - and proceeded to cut in front and perform a 'running break'. About 30secs later, at 1nm final heading 140° at 65kt descending through 300ft QFE (1012hPa), the second Spitfire - Spitfire (B) - was spotted as it flew past his starboard wing at the same height about 100ft away. Spitfire (B) then proceeded to cut in front of his aeroplane with a 'high' Risk of a collision whilst executing a 'running break'. He considered going around but, because of its speed, he did not know where Spitfire (B) was going or where the pilot of Spitfire (A) had positioned his ac, so he continued his approach and took no avoiding action. He did not report an Airprox on the RT, but after landing did so in person with ATC.

His ac has a white colour scheme; the HISL, beacon, landing and taxi lights were all on.

THE PILOT OF THE VICKERS SUPERMARINE SPITFIRE TR9 [SPITFIRE (B)] reports he was recovering to Chichester/Goodwood A/D, VFR, during an instructional sortie with a student. The two Spitfires, flying 1nm in trail but as separate speaking units with Spitfire (A) ahead, called Goodwood INFORMATION on 122.450MHz for rejoin. The cct was busy so an O/H join was requested. As the cct traffic density reduced [by about a third] and the two ac in the cct [the two C172s] were seen from a range of 4nm, a trail 'run-in and break' was requested. Whilst heading 140° at 240kt, level at 400ft A/D QFE, C172 (A) on final approach [registration given] was avoided visually by 150ft vertically above and ¼nm horizontally as the aeroplane passed to port 1nm NW of the A/D during the 'run-in and break'. He assessed the Risk as 'none'; his was the second Spitfire to recover.

The Spitfire TR9 has a grey and dark green WWII camouflage scheme; the nav lights were on.

ATSI reports that the Airprox occurred 1nm NW of Goodwood, within the Class G Goodwood ATZ in the final approach area to RW14. The Goodwood ATZ comprises a circle radius 2nm, centred on the midpoint of RW14R/32L, extending from the surface to a height of 2000ft above the A/D elevation of 110ft.

The C172 flown by the reporting pilot – C172 (A) - was on a local VFR flight from Goodwood operating in the visual LH cct to RW14R together with another C172 – C172 (B). The subject Vickers Supermarine Spitfire TR9 Spitfire (B) was returning VFR to Goodwood together with another Spitfire - Spitfire (A) - following a training detail. The flight academy operates the Spitfires two days a week from Goodwood. These days vary subject to weather. The two Spitfires were not flying in formation. The LAC Radar recording shows Spitfire (B) displaying an SSR code 7000 without Mode C; Spitfire (A) is shown as a primary contact only. Altitudes displayed on the radar recording are based on the London QNH (1015hPa).

Goodwood ATSU was manned by a FISO, callsign Goodwood INFORMATION; ATSI assessed the FISO's workload as medium/heavy. A report was not available from the FISO.

The UK AIP entry for Goodwood at EGHR AD 2.22 – Flight Procedures, states:

'Fixed-wing circuit height 1200ft 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.'

The Goodwood QNH was 1015hPa and the QFE 1011hPa.

In the absence of a Goodwood weather, the Shoreham METAR for 1550Z was: 14012KT 9999 FEW042 17/12 Q1015=

At 1551:30, C172 (A) departed from RW14 to position into a LH visual cct shared with C172 (B). The two Spitfire pilots had called separately for a rejoin from the S and, when advised the cct was active, indicated an intention to position for the standard O/H join.

At 1555:28, Spitfire (B) pilot was asked to report through the O/H or downwind as the pilot wished; Spitfire (B) pilot responded that he may well join downwind but would advise when closer and indicated he was just crossing the coast.

At 1556:10, C172 (B) pilot reported short final and was given a discretionary touch and go. C172 (A) was on L base.

At 1557:02, Spitfire (A) pilot reported visual with both of the cct ac and requested *"..am I clear to break to the deadside"*. The FISO asked if Spitfire (A) pilot was following the No2 ac [C172 (A)] and added that both of these light ac were remaining in the cct for a touch and go. Spitfire (A) pilot replied that he would be well above the No2 - C172 (A) - and overtaking No1 in the pattern - C172 (B). Spitfire (B) is shown approaching the cct area in the vicinity of the downwind leg.

At 1557:30, Spitfire (B) pilot reported visual with both C172s and Spitfire (A) to position behind Spitfire (A) stated *"..I'd like to roll in behind for a run-in and break as well"*. The FISO advised Spitfire (B) pilot, *"obviously if you could make sure you don't get in front of the circuit traffic that's not a problem"*, thereby acknowledging the run-in and break; Spitfire (B) pilot acknowledged with Wilco.

At 1557:35, the radar recording shows Spitfire (A) N of the A/D with no SSR and 1nm inside of C172 (A), which was approaching a 1.8nm final at an altitude of 800ft. C172 (B) was below radar coverage on very short final.

Spitfire (A) continues through the RW14R centreline at the short final position and the pilot reported deadside descending now. Spitfire (A) continued O/H the A/D on the deadside before positioning into a short cct pattern. C172 (B), still below radar coverage, is believed to be climbing out after a touch and go.

At 1558:14, Spitfire (B) pilot reported “[Spitfire (B) C/S] is long final (sic) visual with both Cessnas for a run-in and break I’ll be inside both Cessnas”, (It is believed that Spitfire (B) pilot intended, after the break to remain inside of C172 (B), which was on climb-out). The FISO reminded Spitfire (B) pilot that both light ac would be remaining in the cct and asked Spitfire (B) pilot to report again downwind. The FISO added that obviously they would be in the cct and climbing out again. Spitfire (B) pilot replied, “that’s affirmative visual with all circuit traffic”.

At 1558:19, C172 (A) is shown 1.2nm from the A/D at an altitude of 400ft and indicated groundspeed of 56kt. Spitfire (B) is shown turning towards the RW into the final approach area 0.8nm behind C172 (A) with no Mode C but with an indicated radar groundspeed of 232kt. At 1558:30, C172 (A) is shown at an altitude of 300ft, with Spitfire (B) indicating a groundspeed of 242kt in C172 (A)’s 5 o’clock at 0.2nm. Spitfire (B) continued to pass to the R of C172 (A). The projected paths and plotted positions indicate that the CPA is at 1558:32, between radar sweeps, as Spitfire (B) passes 191m [0.1nm] to the R of C172 (A). At 1558:34, Spitfire (B) is shown in the C172 (A)’s 2 o’clock position at a range of 230m. Spitfire (B) pilot’s written report states he was flying at a height of 400ft above the airfield, which equates to an altitude of 510ft.

At 1558:42, the pilot of C172 (A) reported on final and was given touch and go at discretion by the FISO (Surface Wind 120/10). At that point, C172 (A) has faded from radar but is believed to be about ½nm from touchdown with Spitfire (B) commencing a L turn into the short cct pattern as it passed the RW14R threshold ½nm ahead of C172 (A). Spitfire (A) and Spitfire (B) continued in a short cct pattern to land ahead of C172 (B) without further incident.

The FISO indicated that his initial expectation was that with an active cct the Spitfire pilots had intended to make standard O/H joins. When the Spitfire pilots requested run-in and breaks with two ac already in the cct, the FISO acknowledged this and passed TI with an expectation that the two Spitfires would remain on the deadside, well clear of C172 (A), as was the usual practice.

The ATS Unit reports that the Spitfire pilots prefer, subject to traffic, the run-in and break option as a method of allowing the ac to bleed off speed. The Unit expressed some concerns regarding the mix of training ac and variations of speed with students in the cct. There was a recognition that student pilots might be unsure of the intention of the high-speed ac joining the cct in this way.

Unless otherwise approved the standard join is O/H at 2000ft. The cct was reported as active and both Spitfires reported their intention to make a standard join. Spitfire (A) joined the cct first, closely followed by Spitfire (B) and with only two ac ahead in the cct both Spitfire pilots requested a run-in and break.

The FISO passed appropriate traffic information to the Spitfires and acknowledged the ‘run-in and breaks’. However, it was noted that the FISO did not pass the two C172 ac, TI regarding the intentions of the two Spitfires, although it was likely that they were listening out on the RT and would have been aware of the arriving Spitfires. The FISO asked Spitfire (B) pilot not to get in front of the cct traffic on final and advised both Spitfires that the cct traffic was remaining in the cct.

The Manual of Flight Information Services, CAP410 Part B, Chapter 1, Page 1, Paragraph 2.1, states:

‘The FISO has the following specific responsibilities:

a) issuing information to aircraft flying in the aerodrome traffic zone to assist the pilots in preventing collisions.’

Page 4, Paragraph 7.4, states:

'Landing direction and traffic information on known traffic flying within the ATZ and the immediate surrounding local area is normally passed when the aircraft is still some distance away from the ATZ. This enables the pilot to determine if it is safe to proceed with the flight as planned and to intelligently position the aircraft in relation to other aircraft in the circuit pattern. FISOs are not to instruct pilots to join the circuit at a particular position. Furthermore, FISOs may not allocate a landing order, e.g. 'Report final number 3'. The pilot must be told that there are two aircraft ahead in the circuit and it is up to the pilot to position himself accordingly. Although there is a legal requirement for pilots to report entering and leaving the ATZ [Rule 45 of the Rules of the Air Regulations], this is not the case for other reports in the circuit. Any requests for position reports downwind, final etc., for the purposes of passing traffic information, only have the status of a request although it is expected that most pilots will comply.'

The Airprox occurred when the pilot of C172 (A) on short final for RW14, with a student pilot, became concerned about the relative position and proximity of Spitfire (B), which had positioned to the R of C172 (A) during the run-in and break manoeuvre that had been acknowledged by the FISO.

It is recommended that the ANSP, in consultation with local operators, review the requirements and procedures for unusual manoeuvres during periods of normal operation when training ac and student pilots may be operating in the cct.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, radar video recordings and a report from the appropriate ATC authority.

Members noted that the UK AIP specifies that the standard fixed-wing join at Goodwood is a conventional civilian overhead join at 2000ft, with a cct height of 1200ft. However, the run-in and break executed by the Spitfire pilots seems to have been a modified form of the normal military procedure designed to allow high performance ac to join and land quickly usually crossing the A/D boundary below cct height with a climbing break to wash-off speed as the ac breaks upwards onto the downwind leg. The run-in and break is not a normal procedure at civilian A/Ds and would be unknown to many civilian pilots. A GA Member opined that mixing civilian and military procedures is undesirable and this Airprox had raised a legitimate concern about the operation of ac, of widely dissimilar performance, operating in the same cct, but in differing ways; trying to integrate faster high performance ac into an already established pattern with slower training ac could prove difficult and/or disconcerting to those not familiar with the procedure. In the Member's view, both Spitfire pilots had not paid sufficient regard to the ac already in the cct pattern and had not conformed to the pattern formed by the two C172s established in the conventional LH cct to RW14, as they were required to do by the Rules of the Air. Another concern was how other pilots operating in the cct were supposed to understand what the Spitfire pilots were doing if the procedure was not promulgated to them, especially if it happened to be a student pilot on a solo landaway.

Since Goodwood employs FISOs, the Board recognised that it was entirely a pilot responsibility on how a joining pilot should position his ac in relation to other ac in the cct pattern and determine whether it was safe to do so. Members understood that FISOs are not empowered to instruct pilots where or how to join the cct and the ATSI report had made it plain that they are limited to passing information on known traffic flying within the ATZ and the immediate vicinity. Members perceived that the FISO had done as much as he could to ensure that the Spitfires could recover expeditiously and prevent a conflict with the other ac in the cct. Although it was likely that the pilot of C172 (A) would have been aware of other ac arriving in the cct from other pilot's RT calls, it was noted that the FISO did not pass TI to the two C172 pilots already established in the cct regarding the intentions of the two Spitfire pilots when their intention to conduct run-in and breaks was announced. Moreover, it seemed that the pilot of C172 (A) was not overly familiar with this procedure and just by listening out on the RT he would have gleaned little.

A helicopter pilot Member was also not persuaded that a run-in and break was a sensible method of joining in this environment. The pilot of Spitfire (A) had joined very tight ahead of C172 (A) and Spitfire (B) had run-in from an approximate IP position – about 1½nm on the centreline deadside - but a descending or level break to cct height might have been more appropriate. To overtake ac on final at low level into a climbing break would be most unexpected by other civilian pilots in the cct. Although it was clear that the pilot of Spitfire (B) was visual as he caught-up on C172 (A), his own RT call at 1558:14, when he was about 1nm behind, “*..long final visual with both Cessnas for a run-in and break I'll be inside both Cessnas*” was confusing; a fast-jet pilot Member noted that the terms ‘long final’ used jointly with ‘run-in and break’ were mutually exclusive. This might have suggested to the pilot of C172 (A), who would have been unable to see the other ac astern, that the pilot of Spitfire (B) was overtaking him on final to land first. As it was, Spitfire (B) pilot was still in the process of running in low on the deadside to break downwind into the cct and was not trying to land ahead of C172 (A). However, the pilot of C172 (A) reports he was unsure what Spitfire (B) pilot was doing when he flew past and did not know where Spitfire (A) was in the pattern.

A civilian controller Member who also undertakes FISO duties during special events, advised that at Duxford an additional ‘30 sec to the break’ RT call was made, which worked well and gave additional warning to other circuiting pilots. Another civilian area control Member noted that the C172 pilots operating in the conventional 1200ft cct would not be expecting ac to fly past them on final this close and then climb to cct height from 400ft. A military pilot Member considered that this was an acceptable method of joining the cct if all concerned were aware of what was happening; here the pilot of Spitfire (B) had sight of the two C172 ac in the cct and Spitfire (A) ahead throughout the manoeuvre and believed that he had afforded adequate separation. The Member perceived that the main Cause was that the pilot of C172 (A) was concerned by the presence of Spitfire (B). However another experienced fast-jet test pilot Member contended that the pilot of Spitfire (B) had flown too close to the C172 (A) on final whilst running-in for the break. Weighing all the various factors carefully, the Members finally concluded that the Cause of this Airprox was that the pilot of Spitfire (B) flew close enough to cause the C172 pilot concern. However, the pilot of Spitfire (B) had passed C172 (A) on the dead-side and afforded no less than 0.1nm horizontal separation according to the radar recording, keeping C172 (A) within sight throughout the manoeuvre. The Members agreed unanimously, therefore, that no Risk of a collision had existed in these circumstances.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The pilot of Spitfire (B) flew close enough to cause the C172 pilot concern.

Degree of Risk: C.