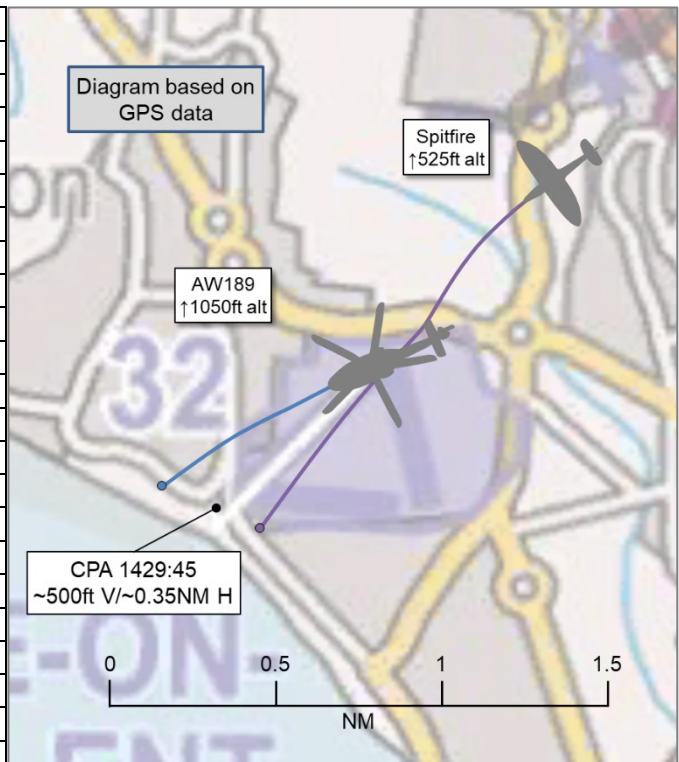


AIRPROX REPORT No 2022051

Date: 14 Apr 2022 Time: 1430Z Position: 5049N 00113W Location: Lee-on-Solent visual circuit

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	AW189	Spitfire
Operator	Coast Guard	Civ FW
Airspace	Lee-on-Solent ATZ	Lee-on-Solent ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Lee Information	Lee Information
Altitude/FL	1050ft	525ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	NR	Grey, green
Lighting	NR	Nil
Conditions	NK	VMC
Visibility	NR	>10km
Altitude/FL	1200ft	700ft
Altimeter	NK (NK hPa)	QFE (NK hPa)
Heading	NR	230°
Speed	50kt	100kt
ACAS/TAS	TCAS II	PilotAware
Alert	RA	Unknown
Separation at CPA		
Reported	NR	300ft V/600m H
Recorded	~500ft V/~0.35NM H	



THE AW189 PILOT reports that, during a Low Visibility Take Off procedure, passing through approximately 1200ft, they received a TCAS 'Traffic' alert followed almost instantaneously by a TCAS RA 'Climb, Climb now'. The TCAS RA was complied with. During this manoeuvre, the left-hand seat pilot noted a Spitfire flying close in, below them, down their port side. At this point the TCAS contact display showed the intruding aircraft to be 300ft below them. The TCAS RA was called-in to ATC at 1429.

The pilot did not make an assessment of the risk of collision.

THE SPITFIRE PILOT reports that, while they were downwind left-hand for RW23 at Lee-on-Solent the pilot of a large helicopter was advised that there was no traffic to affect departure from RW23. The helicopter was seen hovering over the threshold but did not move off. As they were turning on to finals, the helicopter initiated a steep climb. The surface wind had been reported as light and variable. The 2 pilots in the Spitfire discussed the possibility of a wake turbulence encounter. Given the surface conditions, it was decided it was highly likely, so they elected to go around, positioning clear down the left of the helicopter and positioning away from the active standard right-hand circuit for RW23. A safe margin was given between the Spitfire and the helicopter; the helicopter was in sight at all times.

The helicopter pilot called Lee Radio [sic] to say they were changing frequency and then added that they had a TCAS RA. No standard "TCAS RA" or "Clear of conflict" call were heard by either pilot in the Spitfire. At the time, the "TCAS RA" call seemed to be an after-thought. Nothing else was heard on the radio with regard to this reported incident.

In the opinion of both pilots in the Spitfire the decision to go around under the circumstances was the correct one and there was no risk of collision during the manoeuvre.

The pilot assessed the risk of collision as 'None'.

THE LEE-ON-SOLENT TRAINEE AFISO reports that RW23 was in use at the time of incident. They recall that, on the day, [the AW189 pilot] specifically requested the use of the RW to depart while they were informed that both left-hand and right-hand circuits were active. The left-hand circuit was active with traffic remaining for circuit work and joining, while the right-hand circuit – which is their warbird circuit – was active with a Spitfire doing a few local and training flights throughout the day.

[The AW189 pilot] was given instructions to taxi at their discretion to the grass strip and hold short of the RW as both circuits were active with one Cessna from the flying school in the right-hand circuit (remaining) and a Spitfire in the left-hand circuit to land. [The pilot of] a flex-wing microlight had also reported inbound but yet to join the circuit when [the AW189 pilot] was given the instruction to taxi.

Later, the Spitfire pilot reported holding before joining downwind twice to give way to traffic on the opposite circuit. When [the AW189 pilot] reported ready for departure behind a Cessna on the RW for a touch-and-go, they were informed that there was a flex-wing aircraft on base leg to land as well. [The AW189 pilot] reported that they would wait for the flex-wing before departing. After the flex-wing landed, its pilot requested to vacate at B2 while [the AW189] lined-up for departure. Once the flex-wing aircraft had vacated the RW, [the AW189 pilot] was given “take-off at your discretion”. Later, the Spitfire pilot called up again at downwind left-hand to land and was requested to report final. Due to the lack of visibility in the control tower at Solent airport to the south-east, the AFISO was not able to determine the position of Spitfire at downwind left-hand. When the Spitfire pilot reported final about 1min later, [the AW189] was still occupying the RW doing a vertical lift-off. Therefore, the AFISO said “Runway still occupied with [AW189 c/s] climbing-out” and the Spitfire pilot replied “visual”. When the AFISO saw [the AW189] moving forward, they told the Spitfire pilot to “land at your discretion” and “caution wake turbulence”. The Spitfire pilot decided to go-around at the end and the AFISO replied with “Roger”. They didn’t anticipate any issue nor conflict as the Spitfire pilot was fully aware of the [AW189] climbing-out and should have been going-around, positioning left into the left-hand warbird circuit again. [The AW189 pilot] should also have been aware of the Spitfire which had reported going-around on the radio frequency and since [the AW189] was in the critical phrase of climbing-out the AFISO did not think radio communication to the [AW189 pilot] to warn them about the Spitfire going-around was necessary. About another minute later, [the AW189 pilot] reported a TCAS RA, possibly from the Spitfire, on the radio.

Factual Background

The weather at Southampton Airport was recorded as follows:

METAR EGGH 141420Z 22005KT 170V280 9999 BKN036 16/08 Q1022=

Analysis and Investigation

CAA ATSI

Traffic Information to the pilot of the Spitfire on the departing [AW189] when they reported downwind might have been useful, and might have persuaded the Spitfire pilot to not turn final when they did. Because the AFISO did then pass Traffic Information to the second aircraft in the circuit on both the helicopter and the Spitfire, ATSI wondered if this was as a result of the OJTI advising the trainee AFISO to do so. The lack of TI passed to the Spitfire has been raised with the unit but, to date, no response has been received.

UKAB Secretariat

An analysis of the NATS area radar replay was undertaken. The AW189 was detected by the NATS area radars close to the Lee-on-Solent overhead at 1429:17 and at an altitude of 700ft (see Figure 1). However, the Spitfire remained undetected by the NATS area radars until 1430:01 when it appeared 0.5NM to the south of the AW189 at an altitude of 1100ft (see Figure 2). However, GPS data from a single source was available to the UKAB Secretariat, and this has been used to construct the diagram and measure the CPA.

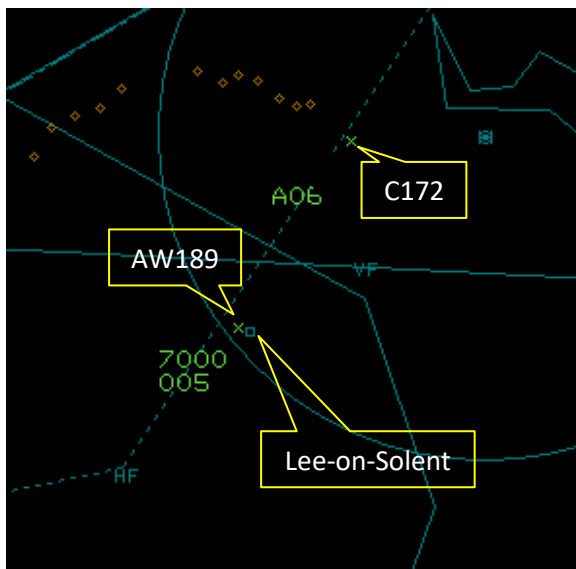


Figure 1 – 1429:17

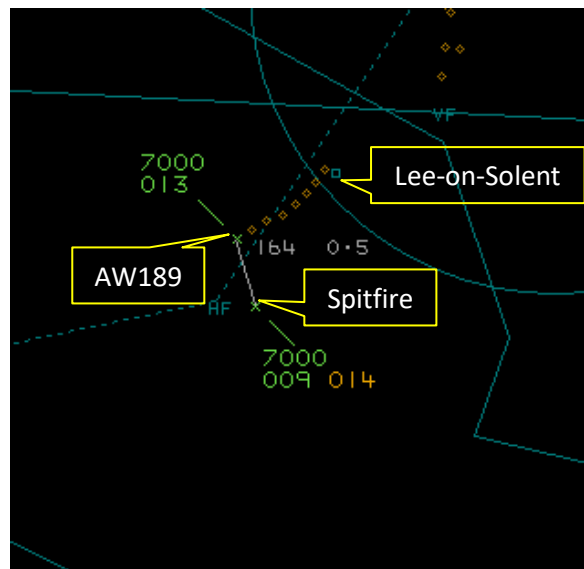


Figure 2 – 1430:01

The AW189 and Spitfire 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 An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.²

Summary

An Airprox was reported when an AW189 and a Spitfire flew into proximity in the Lee-on-Solent visual circuit at 1430Z on Thursday 14th April 2022. Both pilots were operating under VFR in VMC and both pilots were in receipt of an AFIS from Lee Information.

PART B: SUMMARY OF THE BOARD'S DELIBERATIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the AFISO involved and a report from the appropriate operating authority. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board discussed this event and concluded that normal safety standards and parameters had pertained and that that had been no risk of collision. Accordingly, the Board assigned a Risk Category E to this Airprox. However, members agreed that the following factors (detailed in Part C) had contributed to this Airprox:

- CF1.** The AW189 pilot had been concerned by their perceived proximity of the Spitfire to their aircraft.
- CF2.** Although both pilots were operating in the Lee-on-Solent visual circuit, the TCAS II equipment fitted to the AW189 had issued an RA.

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

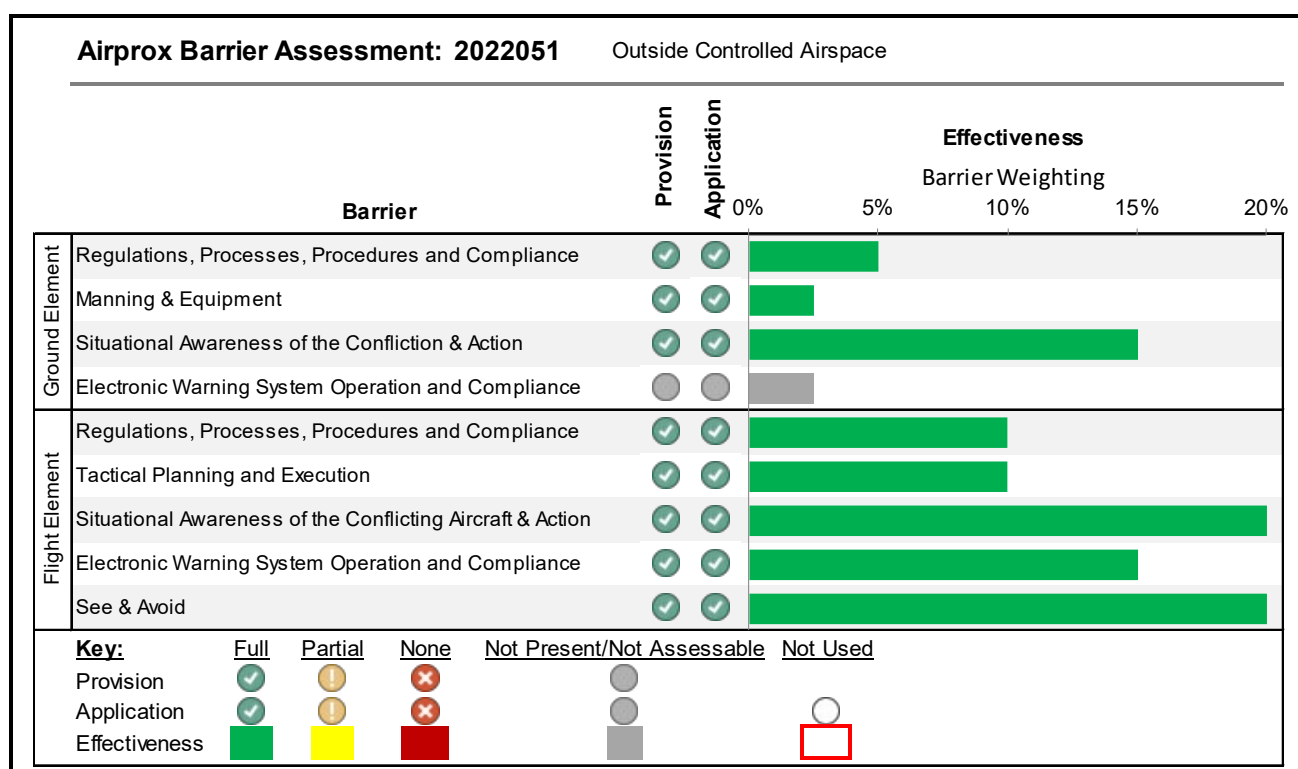
Contributory Factors:

2022051				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
1	Human Factors	• Unnecessary Action	Events involving flight crew performing an action that was not required	Pilot was concerned by the proximity of the other aircraft
• Electronic Warning System Operation and Compliance				
2	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	

Degree of Risk: E

Safety Barrier Assessment³

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that all the recognised barriers to mid-air collision had functioned as intended:



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