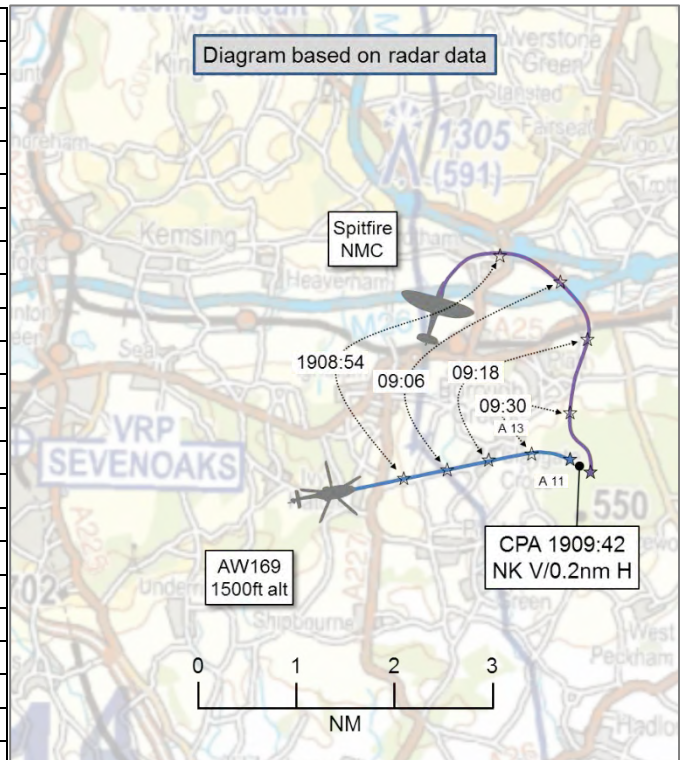


AIRPROX REPORT No 2018110

Date: 05 Jun 2018 Time: 1910Z Position: 5116N 00021E Location: 6nm E Sevenoaks VRP

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	AW169	Spitfire
Operator	HEMS	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	London Info	Biggin Hill
Altitude/FL	1100ft	NK
Transponder	A, C, S	A, S, No Mode C
Reported		Not reported
Colours	NK	
Lighting	NK	
Conditions	VMC	
Visibility	10km	
Altitude/FL	1300ft	
Altimeter	NK	
Heading	110°	
Speed	135kt	
ACAS/TAS	TCAS I	
Alert	TA	
Separation		
Reported	0ft V/300m H	NK
Recorded	NK V/0.2nm H	



THE AW169 PILOT reports being in transit to an incident in Herne Bay when a TCAS contact was observed initially in the 1 o'clock position at about 4nm. The contact was seen to move rapidly right to left with no height information. Visual contact was established in the 9 o'clock at about 3nm, an aircraft conducting aerobatics. The aircraft exited a loop in the 10 o'clock position, closing from left to right. The F/O (PF) entered a descending right turn away from the contact (now identified as a Spitfire), at which point the Spitfire commenced a barrel roll in the 12 o'clock. A TCAS 'Traffic Traffic' warning sounded. The aircraft commander took control and entered a steep turn to the left. The Spitfire passed clear to the right and continued to the south, before turning behind the helicopter. Due to flight time remaining to the landing site, and liaison required with ground emergency services, the Airprox was not reported at the time on the in-use ATC frequency.

He assessed the risk of collision as 'Medium'.

THE SPITFIRE PILOT submitted a narrative report rather than complete a CA1094 Airprox form. He stated that he would have been listening out on Biggin Hill's frequency at the time, that he had carried out 4 flights that day, and had flown 20 times since. He had no recollection of the Airprox flight at all, save to say that in all probability he thought he would have seen the helicopter and considered it a normal encounter with acceptable separation. The pilot stated that in the area the Airprox occurred, there was a considerable amount of GA traffic and sightings of other aircraft were numerous on any flight. He opined that the situation was aggravated by the low base of controlled airspace and the apparent lack of any proposal by NATS to raise the base. The Spitfire pilot also commented after the Board had sat that due to the low base of controlled airspace it was not possible to carry out looping manoeuvres in a Spitfire at that location and that barrel rolls were not conducted either. The only manoeuvre flown was an aileron roll which involved no change in heading.

Factual Background

The weather at Biggin Hill was recorded as follows:

METAR EGKB 051920Z 07006KT 040V100 9999 FEW021 13/11 Q1016=

Analysis and Investigation

CAA ATSI

The AW169 pilot was in transit to the Herne Bay area in receipt of a Basic Service with London Information. The Spitfire pilot was carrying out aerobatics up to 17nm east-southeast of Biggin Hill, whilst in receipt of a Basic Service from Biggin Hill.

Neither pilot received Traffic Information on the other; however, neither the London FISO nor the Biggin Hill controller were providing an Air Traffic Service using surveillance equipment, and neither would have been aware of traffic not on their frequency.

Analysis and Investigation

UKAB Secretariat

The AW169 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 hazard¹. If the incident geometry is considered as converging then the Spitfire pilot was required to give way to the AW169 and to avoid passing over, under or in front of the other, unless it passes well clear and takes into account the effect of aircraft wake turbulence².

Summary

An Airprox was reported when an AW169 and a Spitfire flew into proximity at 1910hrs on Tuesday 5th June 2018. Both pilots were operating under VFR in VMC, the AW169 pilot in receipt of a Basic Service from London Information and the Spitfire pilot probably listening out on the Biggin Hill frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the appropriate ATC authority.

Members noted that both pilots were operating in a busy area and that neither was in receipt of an Air Traffic Service that could improve their SA with regard to other aircraft in the vicinity. The Board noted that the AW169 pilot was greatly assisted by his TCAS, the indications from which enabled an early visual sighting at a reported range of 3nm. Some members wondered how the aircraft could then subsequently be allowed to close to a range of 0.2nm but acknowledged that the requirements of SERA.3210 (Right of way, converging) result in the aircraft on the right (the AW169) being required to maintain heading and speed, at least until the equal responsibility for collision avoidance becomes apparent. There was a fine line between 'watching and waiting' and reacting to an aircraft approaching whose pilot may not have seen your aircraft. In the event, it appeared that the Spitfire pilot's aerobatic manoeuvres had resulted in the AW169 pilot being unsure of an effective course of action, both laterally and vertically.

Members noted that it was for the Spitfire pilot to give way to the AW169, and that the recorded lateral separation of 0.2nm (reported as being at the same level) indicated that the Spitfire pilot may not have seen the helicopter; however, they could not definitively say that this was the case given the Spitfire pilot's uncertainty in this respect. As a result, in discussing cause and risk they felt that the incident

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(2) Converging.

was probably best described as a conflict in Class G airspace which had been resolved by the AW169 pilot. Turning to the risk, members noted that the AW169 pilot had had to conduct a steep turn to the left to avoid the Spitfire, and the Board therefore agreed that the dynamic nature of the closing aircraft and their subsequent separation (both radar recorded and reported), was such that the safety of the aircraft had been compromised to the extent that a definite risk of collision had existed.

Finally, the Board noted that the Spitfire’s Mode C (Alt) output was not displayed on the radar recordings. Given the requirements of SERA 13010 for pilots to select Mode C on unless directed otherwise by ATC (when serviceable), some members wondered whether the Spitfire’s Mode C may have been unserviceable at the time; they suggested that the Spitfire operator should confirm its function at the earliest opportunity.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G resolved by the AW169 pilot.

Degree of Risk: B.

Safety Barrier Assessment³

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

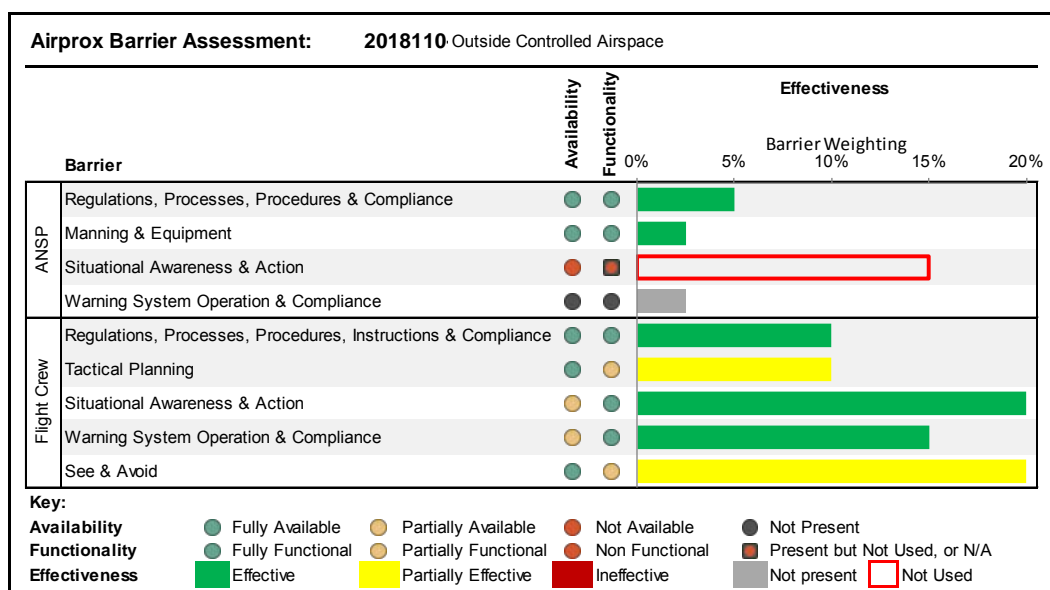
ANSP:

Situational Awareness and Action were assessed as **not used** because neither pilot was in receipt of a service which attracted the requirement for action from ground based personnel.

Flight Crew:

Tactical Planning was assessed as **partially effective** due to the location and altitude that the Spitfire pilot choose to undertake his aerobatics in what was a busy portion of airspace with numerous other aircraft likely to be transiting at those heights.

See and Avoid were assessed as **partially effective** because the Spitfire pilot most likely did not see the AW169.



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