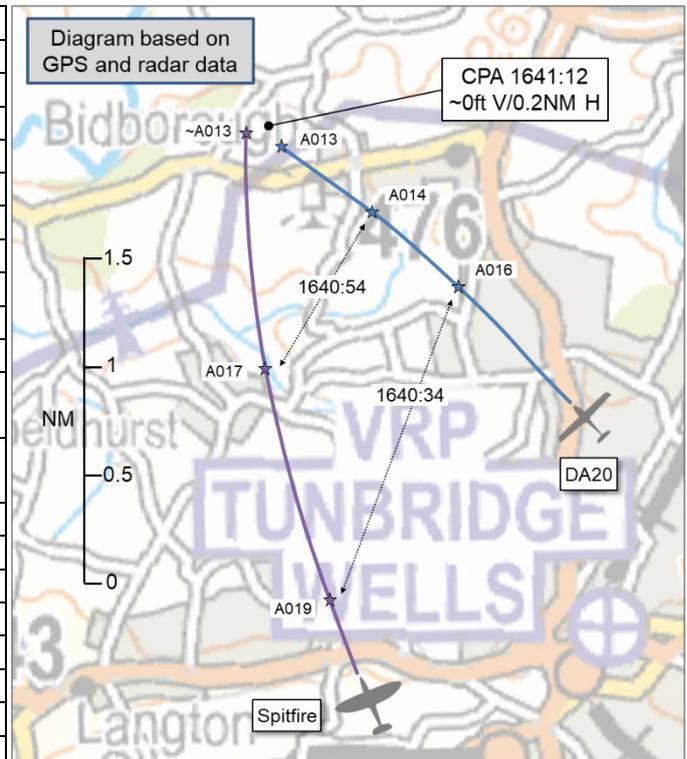


AIRPROX REPORT No 2025203

Date: 09 Sep 2025 Time: 1641Z Position: 5110N 00013E Location: 2.5NM NW Tunbridge Wells

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA20	Spitfire
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None ¹	None ²
Provider	N/A	N/A
Altitude/FL	1300ft	~1300ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	Camouflage, red markings
Lighting	Landing, taxi, position, strobes	None
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1800ft	2000ft
Altimeter	QNH (1014hPa)	QNH
Heading	310°	330°
Speed	100kt	180kt
ACAS/TAS	Not fitted	SkyEcho
Alert	N/A	TA
Separation at CPA		
Reported	50ft V/<0.25NM H	NR
Recorded	~0ft V/0.2NM H	



THE DA20 PILOT reports that they were a student pilot on their first solo-navigation exercise, routing from [their take-off airfield] via Bough Beech, Kings Hill, Bewl Water, back to Bough Beech at 1800ft and [onward to their destination airfield]. They were talking to Farnborough LARS East on 123.225MHz and receiving a Basic Service [they recall]. They were asked to use their full callsign as there was a pilot with a similar callsign also in contact with Farnborough. They did not receive any information, or a warning, from the Farnborough controller about the other aircraft before or after it had passed them. The first sighting of the aircraft was in their 12 o'clock when it shot past them from left-to-right, which they had not seen until the last minute as the aircraft was camouflaged, dark green in colour, and was going very fast. The pilot of the DA20 described their avoiding action as 'none' as it had already passed them. It appeared to start turning to the right just after it had passed them (in their 2 o'clock). This is when they recognised it had been a Spitfire and thought that it was very close.

The pilot assessed the risk of collision as 'Medium'.

THE SPITFIRE PILOT reports that they first became aware of the potential conflicting aircraft on their SkyDemon [coupled with an EC device] as they were inbound to [their destination airfield]. [First sighted at 1km,] the aircraft was on their right and they initially elected to descend to lose height early and pass below the aircraft. As they initiated a descent, the pilot of the other aircraft did the same so they made a right turn to avoid and pass behind [they recall].

The pilot assessed the risk of collision as 'Medium'.

¹ The pilot of the DA20 reported that they had been in receipt of a Basic Service from Farnborough LARS East.
² The pilot of the Spitfire reported that they had been in receipt of a Basic Service from Biggin Hill.

THE FARNBOROUGH LARS CONTROLLER reports that they were working as the Farnborough LARS North and East controller with the sectors band-boxed. Traffic levels were low to medium. They were working [the DA20], a student pilot on a solo navigation exercise in the local area around Old Hay and Tunbridge Wells. They were also working [another aircraft] that was routing [to their destination airfield] after forming with a Spitfire. They could see an intermittent fast-moving squawk ahead of [that aircraft] routing in the direction of Biggin Hill, and that was when its squawk (7000) was visible. They were able to ascertain its callsign from its Mode S (the EFPS system at Farnborough is linked to 'G-INFO') so they were able to see that it was a Spitfire.

[The pilot of the DA20] requested to leave the frequency [for an en-route frequency], which they approved. It was a few moments later that they noticed that [the Spitfire] was approaching [the DA20] at a fast pace from the south, on a track that would take them into close proximity. However, [the pilot of the DA20] was in the descent from 1900ft and [the pilot of the Spitfire] was at 2000ft so they thought that [the Spitfire] would be clear above. [The pilot of the DA20] continued to descend to be below the Gatwick CTA (base 1500ft) as they approached Tunbridge Wells, and it was at that point that [the pilot of the Spitfire] also descended and looked to turn slightly towards [the DA20]. [The DA20] was at 1300ft at that point, tracking west as [the Spitfire] passed extremely close (the blips merged) also at 1300ft, tracking north. Once they had passed, [the pilot of the Spitfire] climbed back up to 1600ft and continued north. Due to [the pilot of the DA20] no longer being on the frequency, they had not been able to warn them of the traffic. [The DA20] had been validated and verified, but [the Spitfire] had not. Neither pilot reported an Airprox but, in their opinion, the aircraft passed extremely close to each other and they were concerned that [the pilot of the DA20] was a solo student.

Factual Background

The weather at Gatwick was recorded as follows:

METAR EGKK 091650Z 17005KT 130V200 CAVOK 18/11 Q1013

Analysis and Investigation

Farnborough Unit Investigation

The Farnborough LARS North and East controller observed the radar contacts of [the DA20] (whose pilot had recently left the LARS frequency) and [the Spitfire] merge at the same altitude on their radar display. Neither pilot was on the frequency at the time, and the controller assessed this to have been a potential Airprox event.

Information available to the investigation included; CA4114 from the Farnborough LARS North and East controller and NATS4118 Initial Watch Management Investigation Report.

The Farnborough LARS North and East positions were being operated in a band-boxed configuration. The LARS controller noted that traffic levels were low to medium. [The DA20] was being flown by a student pilot on a solo navigation exercise in receipt of a Basic Service. At 1639:52, the pilot requested a frequency change to [an en-route frequency]. The pilot was instructed to squawk conspicuity and to free-call [that frequency]. The closest point of approach between the two aircraft was measured on the NODE multi-track radar as 0.2NM and 0ft. There was no separation requirement as both aircraft were operating in Class G airspace.

The NATS4118 detailed: 'As neither aircraft was on the LARS East frequency at the time, no pilot report of an Airprox was received. But, in the controller's opinion, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.'

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. Both aircraft were observed by reference to ADS-B data sources. The pilot of the Spitfire kindly supplied GPS track data for their flight. CPA was determined to have occurred between the radar sweeps at 1641:10 and 1641:14. The altitude of the Spitfire has been shown as an approximate value as it had been at 1200ft on the radar sweep before CPA and at 1400ft on the sweep after CPA. The diagram was constructed and the separation at CPA determined by combining the data sources.

The DA20 was observed on the radar replay with a squawk as assigned by the Farnborough LARS East controller (1734) until the sweep at 1640:10 (approximately 1min before CPA) when the squawk reverted to 7000. The Aerodrome Manager/SATCO at Redhill aerodrome confirmed that the pilot of the DA20 had contacted the Redhill controller for a service at 1642:11 (approximately 1min after CPA). The Head of ATS at Biggin Hill confirmed that the pilot of the Spitfire had contacted the Biggin Hill controller at 1641:25 (13sec after CPA) and subsequently requested a Basic Service. It was therefore determined that neither pilot had been in receipt of an ATS at the moment of CPA.

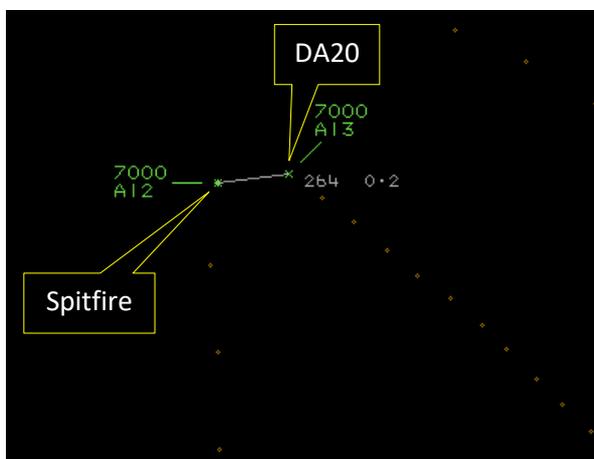


Figure 1 – 1641:10



Figure 2 – 1641:14

The DA20 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.³ If the incident geometry is considered as overtaking then the DA20 pilot had right of way and the Spitfire pilot, whether climbing, descending or in horizontal flight, shall keep out of the way by altering heading to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from this obligation until it is entirely past and clear.⁴

Summary

An Airprox was reported when a DA20 and a Spitfire flew into proximity 2.5NM north-west of Tunbridge Wells at 1641Z on Tuesday 9th September 2025. Both pilots were operating under VFR in VMC, neither in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, GPS track data from the flight of the Spitfire, radar photographs/video recordings, a report from the air traffic controller 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.

³ (UK) SERA.3205 Proximity.

⁴ (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

The Board first considered the actions of the pilot of the DA20, and members noted that, until approximately 1min before CPA, they had been in receipt of a Basic Service from Farnborough LARS East. Noting that the DA20 pilot had commented that they had not received “*any information, or a warning, from the Farnborough controller*”, members recalled the wording in CAP774:

Basic Service relies on the pilot avoiding other traffic, unaided by controllers/ FISOs. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.

Members appreciated that the pilot of the DA20 had had very limited flight experience and that, perhaps, a high proportion of their attention had been focussed on simply flying the aircraft and attending to the navigation of their planned route. Whilst the construction of a mental model of the traffic situation may have been extremely beneficial, some members had sympathy with the view that the passage of Traffic Information by a controller might have led to ‘overload’ and may not have been fully assimilated. Notwithstanding, members wished to strongly encourage the fitment of additional EC devices to aircraft, particularly to those operated by flying schools. It was suggested that, had the DA20 been fitted with a compatible EC device, a timely alert to the presence of the Spitfire may have provided the DA20 pilot with sufficient situational awareness of its approach to have lessened, or avoided, any unsettling startle effect. However, it had been the case that the pilot of the DA20 had terminated their service with Farnborough LARS East and had not yet contacted their next ATSU. Members concluded that the pilot of the DA20 had not had situational awareness of the presence of the Spitfire until it had been sighted (**CF2**). It was further agreed that, as the Spitfire had been visually acquired in their 12 o’clock position, too late to have taken any avoiding action, it had, effectively, been a non-sighting (**CF5**).

Members next turned their attention to the actions of the pilot of the Spitfire, and it was noted that they had also not been in receipt of a service at the moment of CPA. Some members pointed out that the Farnborough LARS controller had provided a service to the pilot of the aircraft that had briefly flown in formation with the Spitfire earlier but wondered why the pilot of the Spitfire had not requested a service from the same ATSU. Members suggested that it had been prudent to have been in receipt of a surveillance-based service in busy Class G airspace which may have facilitated more timely situational awareness of the presence of the DA20. Notwithstanding, members noted that the EC device fitted to the Spitfire had detected the DA20 and had provided a Traffic Alert (**CF3**). It was noted that the DA20 had been subsequently sighted at a range of 1km and members pondered the Spitfire pilot’s subsequent actions. The Spitfire pilot described that, with the DA20 to their right, they had initially elected to descend and pass below it. However, they then realised that the DA20 had also started to descend and it had therefore been necessary to have adapted their initial plan. It was noted that the Spitfire pilot had arrested their descent and had then climbed to pass in front of the DA20, crossing its track approximately co-altitude. Members suggested that it may have been more prudent to have turned away from the DA20, turned behind it, or taken some other action to have avoided a reduction of the separation laterally or vertically. Members agreed that the Spitfire pilot had not adapted their dynamic plan sufficiently to have provided adequate separation from the DA20 (**CF1**) during what had effectively been an overtake manoeuvre from the left.

The actions of the Farnborough LARS East controller were next considered, and members agreed that the controller had not been required to have monitored the flight of the DA20. Nevertheless, some members highlighted that the controller had been aware of the presence of the Spitfire and had provided a service to the pilot of the associated aircraft. The formation may have been recognised as a regular occurrence and, perhaps, their route back to their operating base may have been reasonably predictable. It was therefore suggested that there may have been an opportunity to have provided Traffic Information to the DA20 pilot regarding the presence of the Spitfire before the Basic Service had been terminated. However, it was clear to members that the DA20 pilot had already left the frequency when the controller observed the reduction of separation between the aircraft.

Concluding their discussion, members considered the risk of collision. Whilst it was agreed that the pilot of the Spitfire had visually acquired the DA20 at distance, the adaptation of their dynamic plan had been insufficient. Consequently, it was agreed that they had flown close enough to the DA20 to have caused its pilot concern (**CF4**). Members were in agreement that safety standards had been reduced but were satisfied that there had not been a risk of collision. The Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

	2025203			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Tactical Planning and Execution				
1	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
• Situational Awareness of the Conflicting Aircraft and Action				
2	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
3	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
4	Human Factors	• Incorrect Action Selection	Events involving flight crew performing or choosing the wrong course of action	Pilot flew close enough to cause concern
5	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment⁵

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the pilot of the Spitfire had not adapted their dynamic plan sufficiently to have provided adequate separation from the DA20 during their overtake manoeuvre.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the pilot of the DA20 had not had situational awareness of the presence of the Spitfire until it had been sighted.

⁵ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Airprox Barrier Assessment: 2025203		Outside Controlled Airspace						
		Provision	Application	Effectiveness				
Barrier				Barrier Weighting				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	○	○					
	Manning & Equipment	○	○					
	Situational Awareness of the Confliction & Action	○	○					
	Electronic Warning System Operation and Compliance	○	○					
Flight Element	Regulations, Processes, Procedures and Compliance	✔	✔					
	Tactical Planning and Execution	✔	⚠					
	Situational Awareness of the Conflicting Aircraft & Action	✘	✔					
	Electronic Warning System Operation and Compliance	⚠	✔					
	See & Avoid	✔	✔					
Key:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✔	⚠	✘	○				
Application	✔	⚠	✘	○				
Effectiveness								