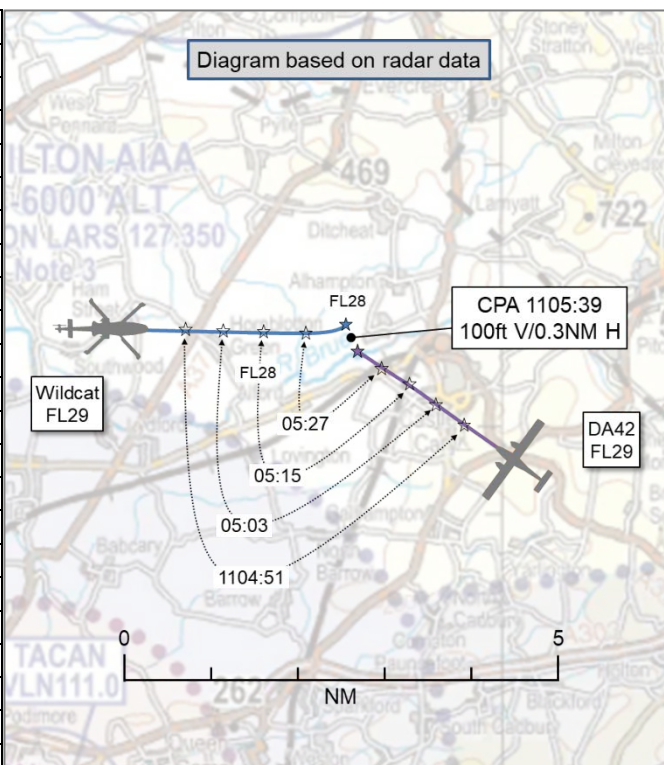


AIRPROX REPORT No 2021013

Date: 09 Mar 2021 Time: 1106Z Position: 5107N 00231W Location: 8NM NE RNAS Yeovilton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Wildcat	DA42
Operator	RN	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Basic
Provider	Yeovilton	Yeovilton
Altitude/FL	3000ft	3100ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Grey	White
Lighting	HISL, nav	Strobe, nav
Conditions	VMC	VMC
Visibility	15km	10km
Altitude/FL	3000ft	3000ft
Altimeter	RPS (NR hPa)	RPS (1015hPa)
Heading	090°	303°
Speed	120kt	120kt
ACAS/TAS	TCAS I	TAS
Alert	TA	TA
Separation		
Reported	200ft V/0.5NM H	50ft V/1NM H
Recorded	100ft V/0.3NM H	



THE WILDCAT PILOT reports being tasked to conduct a check test flight in the Yeovilton IF areas north of Yeovilton. At the time of the Airprox they were straight and level and ATC had requested not below 3000ft for deconfliction. About 20sec before sighting the contact (a DA42), Yeovilton Radar had informed them of the traffic (southeast, routing northwest - similar heading). This prompted a dedicated look out, and the aircraft was sighted in the 1 o'clock position, about 1NM, at the same time that TAS declared a conflict. At this time, Yeovilton Radar reported that the DA42 [pilot] was visual, however, they believed there to be insufficient separation, adjusted to heading 060° and descended to 2800ft RPS. This was below the deconfliction altitude but assessed as necessary for avoiding action. CPA was assessed as 0.5NM, however, if no avoiding action had been taken, this distance would have been no more than 0.25NM. An Airprox was filed with ATC within 5 minutes.

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

THE DA42 EXAMINER reports in straight and level cruise, conducting a CPL Skill Test, when the Examiner observed a helicopter at a similar altitude passing from left to right on an increasing relative bearing and constant track. It was assessed that the helicopter would pass in front so the current track was maintained. The Examiner confirmed the student was maintaining track and monitored closely for signs of track change from the other aircraft. Whilst the situation remained safe, the Examiner did not wish to intervene unless necessary. Visual contact was maintained throughout with escape options in the event the helicopter changed heading towards them. The Examiner noted that during the test briefing, the need for good lookout was emphasised with the student briefed to point out conflicting traffic once seen. The student was also briefed that the Examiner would not routinely point out traffic unless it was deemed a threat. The student did point out this other traffic. Active lookout, monitoring of proximate traffic and the advantages of maintaining greater separation were discussed post-flight.

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

THE YEOVILTON LARS/IF CONTROLLER reports they were screening a student in LARS/IF with the Wildcat operating in IF areas 1 and 2 on UHF and 2 Basic Service LARS tracks on VHF. The Wildcat was initially operating in IF area 1 between 3000-6000ft on the Portland RPS (1017) and requested use of IF area 2, which was granted. The Wildcat was instructed for coordination not below 3000ft, due to 2 Hawks operating in the RTC, making instrument approaches to RW22. The Wildcat pilot acknowledged the altitude restriction and tracked easterly for IF area 2. The exam callsign DA42, under a Basic Service, was operating southeast of Yeovilton on a navex, routing Wedmore and on to Exeter. The DA42 asked for penetration of the Yeovilton eastern stub, routing southeast to northwest. They were cleared to overfly the eastern stub not below 3000ft on Portland 1017 to keep clear of the Hawks in the RTC. The not below 3000ft restriction was also put in place because there was shortly to be a runway change to RW26. The student controller called the DA42 to the Wildcat when they were about 6 miles apart, indicating similar altitude. The Hawk traffic was also called, operating below in the RTC at that stage. The screen controller believed the Wildcat transmitted something in response, but it was over-spoken and they did not believe the Wildcat called visual on the DA42. At about 3 miles, the student controller called the DA42 again to the Wildcat, indicating similar level. The Wildcat was then called as traffic to the DA42, as a duty of care under a Basic Service, who reported visual. The student controller then went back to the Wildcat on UHF and told them the DA42 was visual with them. The 2 contacts tracked closer towards each other and, shortly afterwards, the Wildcat reported they were descending. The Wildcat started to alter course to the east/northeast towards the Hawk that was now at about 8 miles on an instrument approach. The screen controller instructed the Wildcat not to descend below 3000ft as they were turning into the path of the Hawk below, making an instrument approach. Shortly afterwards the Wildcat pilot stated they would be reporting an Airprox.

THE YEOVILTON SUPERVISOR reports that the Approach controller was relatively busy, descending and splitting 2 fast jets for individual PAR to RW22. The Supervisor conducted a handover for the Approach controller to the LARS/IF trainee, for a Wildcat departing to the IF areas. There was only one PAR controller (programmed on the watchbill) and as such the Approach trainee was feeding [sequencing] for one [controller], with the associated track distance between his aircraft. The first Hawk was on the PAR and the second on the centreline at about 15NM from touchdown and at 2100ft due to the high ground. The DA42 on LARS had transited over the eastern stub earlier and was asked to remain not below altitude 3000ft due to the inbound Hawks. The Wildcat was operating in IF [areas] 1/2 between altitude 3000ft and 6000ft iaw Yeovilton procedures. Whilst moving between controllers and discussing the impending runway change (from 22 to 26) with the DATCO, the Supervisor saw the DA42 and the Wildcat head to head at similar levels, approximately 4NM apart. The second Hawk's track, at 2100ft, took it directly between the 2 aircraft. The LARS trainee had called the aircraft to each other (both aircraft were on different frequencies) and the Supervisor heard the civilian aircraft call visual with the Wildcat (frequencies all on loud speaker). The LARS screen Controller then instructed the trainee to tell the Wildcat that the civilian was visual with him, which they did. Moving away from the LARS team, the Supervisor then passed Traffic Information on both the DA42 and the Wildcat to the Approach team, letting them know that the aircraft either side of the Hawk would not descend into the Hawk being fed for PAR. Shortly after this the LARS screen controller informed the Supervisor that the Wildcat pilot was unhappy with the position of the DA42 and would be filing an Airprox.

Factual Background

The weather at Yeovilton was recorded as follows:

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METAR EGDY 091119Z 22007KT 9999 FEW020 09/02 Q1021 NOSIG RMK BLU BLU=
METAR EGDY 091050Z 25007KT 9999 FEW018 09/03 Q1021 NOSIG RMK BLU BLU=
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Analysis and Investigation

UKAB Secretariat

The Wildcat and DA42 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 Wildcat pilot was required to give way to the DA42².

Yeovilton Occurrence Investigation

AIRPROX declared by Wildcat, callsign []. Based on summary of [information available] the DA42 civilian aircraft passed within 0.5NM post avoiding action by the Wildcat. Both aircraft were on Yeovilton air traffic services, albeit the Wildcat was on a Traffic Service on a UHF whilst the DA42 was on a Basic Service on a VHF.

Cockpit lookout, ATC service and TAS alert were effective barriers in reducing and preventing a MAC within Class G airspace. The conflictor was sighted at range 1NM. The handling pilot of the Wildcat took avoiding action to increase separation. The DA42 pilot called visual at 3NM but took no further action to increase separation.

The decision to manoeuvre by the Wildcat in order to ensure lateral separation with the civilian AS sighted at 1NM reduced the likelihood of a MAC between the aircraft and resolved the confliction. Why the DA42 chose not to manoeuvre at 3NM to increase separation is unknown

The TAS as installed in the Wildcat does not provide TA or RA hence the Wildcat elected to descend below a co-ordinated level with the knowledge of the pattern height that other aircraft were being co-ordinated at below them in order to increase separation from the conflicting traffic, the height loss was minimised to ensure safe separation from the conflicting traffic and those below in the radar pattern. The DA42 was using an 'exam' callsign and it is unknown what internal exercises were being concurrently conducted by that aircraft.

The DDH/AM commented that, a Wildcat was conducting a check test flight, to the north of [Yeovilton], under a Traffic Service. ATC informed Wildcat of a DA42 to the southeast 3NM, routing northwest at similar height, DA42 had visual with Wildcat. A short time later ATC called traffic, this prompted a dedicated look out, the DA42 was sighted in the 1 o'clock position, approx. 1NM. Aircrew believed there to be insufficient separation, and adjusted heading and height for avoiding action, Airprox was filed with ATC. Both A/C were under a visual look service and MAC was considered remote.

Comments

Navy HQ

This AIRPROX again highlights the non-prescriptive nature of Class G Airspace around RNAS Yeovilton. The trainee Yeovilton LARS controller, rightly, called the DA42 to the Wildcat that was under a Traffic Service iaw CAP 774 on several occasions, and as a duty of care under a Basic Service, provided Traffic Information to the DA42 on the conflicting Wildcat. These actions allowed all parties to become visual with one another and allowed the crew of the Wildcat to take appropriate action in discharging their own traffic avoidance. It is unknown as to why the DA42 did not take similar actions for collision avoidance.

In this instance the ATS provided by Yeovilton ATC, adequate lookout and the utilisation of TAS by the Wildcat crew along with correct training and SOPs all acted sufficiently as barriers in preventing a MAC between the Wildcat and DA42.

¹ SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

² SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12 and 6.

Summary

An Airprox was reported when a Wildcat and a DA42 flew into proximity 8NM northeast of RNAS Yeovilton at 1106Z on Tuesday 9th March 2021. Both pilots were operating under VFR in VMC, the Wildcat pilot in receipt of a Traffic Service and the DA42 pilot in receipt of a Basic Service, both from Yeovilton Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

Members first noted that the DA42 Examiner had seen the Wildcat at sufficient range that they were able to assess the separation and that the Wildcat would pass in front and discussed whether the Examiner could have influenced the situation earlier. Instructor and Examiner members pointed out that the purpose of a skill test was to assess the candidate's performance and that an Examiner should only intervene if safety or legality was in doubt. In this case the Examiner had assessed the safety of the situation and had decided that separation was such that they could allow the candidate to continue. It was also pointed out that the aircraft were converging at about the same level, with the DA42 on the right, that the Wildcat pilot was therefore required to give way and that the DA42 pilot was required to maintain course and speed. Members discussed the degree to which the Wildcat pilot had SA on the DA42. It appeared from the reports and R/T transcripts that the Wildcat pilot may not have assimilated a Traffic Information call (**CF5**) made at 6NM separation but another Traffic Information call was made at 2NM with the Wildcat pilot becoming visual shortly afterwards and taking avoiding action. In that regard, the Board agreed that the Wildcat pilot had obtained SA at a late stage (**CF4**), had not given way to the DA42 (**CF2**, **CF3**) and wondered to what degree the Wildcat pilot's TCAS proximate traffic information had been assimilated as the aircraft converged on about a constant bearing. Members also wondered whether the requirements of the flight test were such that the Wildcat pilot was either task focused or had limited potential for manoeuvre. GA members noted that had the DA42 pilot requested a Traffic Service, SA could have been greatly increased for both pilots. However, the Board acknowledged that the DA42 CPL candidate would be operating iaw the company Operations Manual which may not have stipulated a minimum degree of FIS. Members agreed that the Examiner had had to make a finely balanced decision as to whether to take control and although the perception had been one of a situation that remained safe, it was noted that the traffic warning systems in both aircraft alerted (**CF6**, **CF7**). Turning to the ATM aspects of the Airprox, members wondered why the Wildcat pilot had been passed Traffic Information using cardinal points rather than by clock code. A military controller member explained that the Wildcat had been cleared to operate in a block of airspace in an IF area, that such operation was often associated with dynamic manoeuvring and hence that the controller had used cardinal points for Traffic Information reference, as mandated by regulation. Members discussed the provision of Traffic Information and noted that it had been slightly inaccurate (**CF1**); the 6NM Traffic Information call stated 'tracking north' when the DA42 was tracking northwest and the 2NM Traffic Information call stated 'traffic east' when it was southeast. More importantly, the Board felt that the controller could usefully have used the word 'converging' when passing Traffic Information and that this may have prompted earlier action from one or both pilots. In the event, the Wildcat pilot had clearly been concerned by the proximity of the DA42 (**CF8**) but the Board felt that although the situation could not be described as normal operations, visual sightings and separation had been such that there had been no risk of collision.

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

2021013				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
x	• Situational Awareness and Action			
1	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
Flight Elements				
x	• Regulations, Processes, Procedures and Compliance			
2	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
x	• Tactical Planning and Execution			
3	Human Factors	• Late Decision/Plan	Events involving flight crew making a decision too late to meet the needs of the situation	
x	• Situational Awareness of the Conflicting Aircraft and Action			
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late or only generic, Situational Awareness
5	Human Factors	• Understanding/Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	Pilot did not assimilate conflict information
x	• Electronic Warning System Operation and Compliance			
6	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
7	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
x	• See and Avoid			
8	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

Recommendation: Nil.

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:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because Traffic Information bearing and track of the DA42 was inaccurate and the controller did not inform the Wildcat pilot that the DA42 was converging.

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

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the Wildcat pilot did not give way to traffic converging on the right.

Tactical Planning and Execution was assessed as **partially effective** because the Wildcat pilot continued in straight and level flight until a position at which avoiding action was required.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the Wildcat pilot did not assimilate the Traffic Information passed at a separation of 6NM or the converging TCAS indication.

Airprox Barrier Assessment: 2021013		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 5%]			
	Manning & Equipment	✓	✓	[Green bar to 2.5%]			
	Situational Awareness of the Confliction & Action	✓	⚠	[Yellow bar to 15%]			
	Electronic Warning System Operation and Compliance	⊘	⊘	[Grey bar to 2.5%]			
Flight Element	Regulations, Processes, Procedures and Compliance	✓	⚠	[Yellow bar to 10%]			
	Tactical Planning and Execution	✓	⚠	[Yellow bar to 10%]			
	Situational Awareness of the Conflicting Aircraft & Action	✓	⚠	[Yellow bar to 20%]			
	Electronic Warning System Operation and Compliance	✓	✓	[Green bar to 15%]			
	See & Avoid	✓	✓	[Green bar to 20%]			
Key: Full Partial None Not Present/Not Assessable Not Used Provision ✓ ⚠ ✗ ⊘ ⊘ Application ✓ ⚠ ✗ ⊘ ⊘ Effectiveness [Green] [Yellow] [Red] [Grey] [Red Box]							