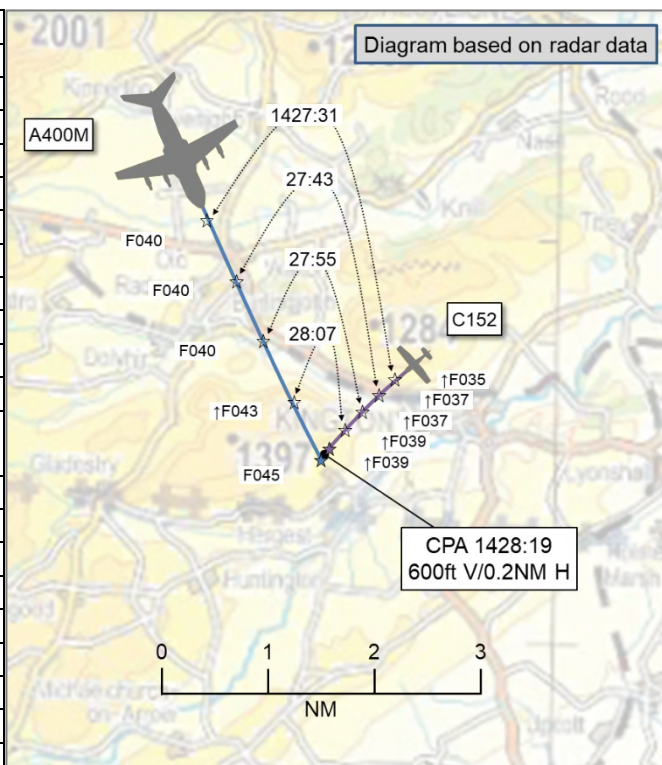


AIRPROX REPORT No 2023216

Date: 10 Sep 2023 Time: 1428Z Position: 5212N 00304W Location: Kington

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Atlas A400M	C152
Operator	HQ Air (Ops)	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	None ¹
Provider	Swanwick Mil	N/A
Altitude/FL	FL045	FL039
Transponder	A, C, S+	A, C, S
Reported		
Colours	Grey	Blue, white
Lighting	Strobe, beacon, nav, landing	Landing, taxi, nav, beacon, strobes
Conditions	NR	VMC
Visibility	NR	NR
Altitude/FL	FL040	4000ft
Altimeter	SPS	NK (NK hPa)
Heading	200°	NR
Speed	200kt	NR
ACAS/TAS	TCAS II	Not fitted
Alert	RA	N/A
Separation at CPA		
Reported	'200ft'	0ft V/400m H
Recorded	600ft V/0.2NM H	



THE A400M PILOT reports they were informed by Swanwick of traffic which they could see on TCAS was climbing and probably on a perpendicular heading. They got a TCAS TA and, although they tried to find it, they didn't see it until a TCAS RA was triggered, with climb followed by level off. The traffic was a black and white high-wing single piston engine aircraft with non-retractable gear. It was hard to see with terrain in the background. With other traffic around it was almost impossible to turn or climb away without possibly conflicting with other traffic.

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

THE C152 PILOT reports flying straight and level when they saw a grey, high-wing, 4-engine turbo-prop fly past from the right at a similar level. They did not report the Airprox by radio because the other aircraft had taken action and they didn't see it as being significant.

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

THE SWANWICK MIL CONTROLLER reports the A400M was routing at FL40 in receipt of a Traffic Service. Multiple VFR tracks were seen on radar near and to the northwest of Gloucester, between 1000-3000ft. They were also working [a military fast-jet] departing Prestwick, so were controlling at a 110NM range scale. [A400M C/S] was tracking southeast and traffic was first called at 11 o'clock at 6NM, about 1000ft below. The pilot reported not visual. The traffic continued to pose a hazard so Traffic Information was updated at 1-2NM and 300ft below. [A400M C/S] was then observed to climb and

¹ The C152 pilot reported being in receipt of a Basic Service from London Information but no transmission was received on the London FIS frequency from the C152 pilot prior to the Airprox.

reported a TCAS RA. When clear of conflict [A400M C/S] descended back to FL40 and [continued en-route].

The controller perceived the severity of the incident as 'Low'.

A SWANWICK MIL SUPERVISOR was not in place at the time of the Airprox.

Factual Background

The weather at Cardiff and Gloucester was recorded as follows:

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METAR EGFF 101450Z AUTO 11007KT 9999 NCD 25/20 Q1013=  
METAR EGFF 101420Z AUTO 10006KT 070V140 9999 NCD 25/20 Q1013=
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METAR EGBJ 101450Z 00000KT CAVOK 26/20 Q1013=  
METAR EGBJ 101420Z 22002KT CAVOK 26/20 Q1013=
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Analysis and Investigation

Swanwick Mil

The Swanwick Mil investigation found that traffic was called at approximately 7 miles separation and the controller was then distracted by phone calls and changing the aircraft frequency instead of calling the traffic again as it kept climbing on a converging heading. It wasn't called again until merged with 300ft separation and the other traffic still climbing. A debrief was held by the standards team.

Military ATM

An Airprox occurred on 10 Sep 23 at approximately 1430, to the west of Shobdon. The A400 was conducting a VFR transit in receipt of a Traffic Service from the Swanwick Military West controller. The C152 was conducting a VFR flight in the Shobdon local area.

Utilising occurrence reports and information from the local investigation, outlined below are the key events that preceded the Airprox. Where available they are supported by screenshots to indicate the positions of the relevant aircraft at each stage. The screenshots are taken from NATS radar recording software and may not represent what was presented to the controller(s) involved.

The Swanwick Military West controller was providing a Traffic Service to the A400 enroute from [departure] to [destination]; whilst also expecting the departure of a Typhoon from Prestwick. This resulted in the radar display being at a significant range of 110NM, to display both movements simultaneously. Out of Hours procedures for both movements had been pre-booked for Swanwick Military support.

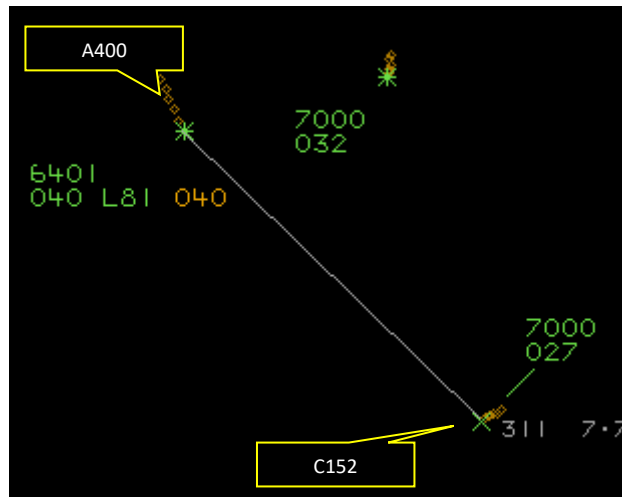


Figure 1 (1426:00). A400 pilot provided Traffic Information on the C152 and other Traffic. (Separation: 7.7NM)

At 1426, the Swanwick Military West controller updated previous Traffic Information to the A400 [pilot] regarding other Traffic *“previously reported traffic, east, 2 miles, tracking Southwest, indicating 800ft below”* which the A400 [pilot] acknowledged with *“still looking”*. The Swanwick Military West controller then provided Traffic Information on the C152 *“further traffic, left 11 o’clock, 7 miles crossing right left, correction left right indicating 1200ft below”* which again the A400 [pilot] acknowledged with *“thank you”*.

The Swanwick Military West controller then proceeded to ascertain the type of approach required by the A400 [pilot] at [destination], before transferring the A400 [pilot] to a new frequency.²

At 1427, following the A400 [pilot] checking-in on the new frequency, the Swanwick Military West controller prenoted [destination] with the A400 pilot’s intentions.

At 1427, on completion of the prenote, the Swanwick Military West controller updated the previous Traffic Information to the A400 [pilot] regarding the C152 *“previously reported traffic, left 11 o’clock, 1 mile, crossing left right, indicating 300ft below”*, which the A400 [pilot] acknowledged with *“looking”*.

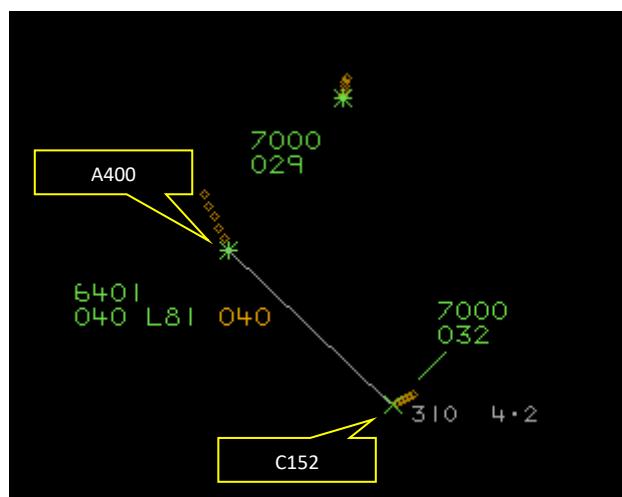


Figure 2 (1427:00). A400 pilot provided updated Traffic Information on the C152. (Separation: 4.2nm)

At 1428, the A400 [pilot] reported to the Swanwick Military West controller *“we are visual with the traffic, just got a TCAS RA, we will report later”*.

² The frequency change ensured radio coverage as the aircraft tracked south.

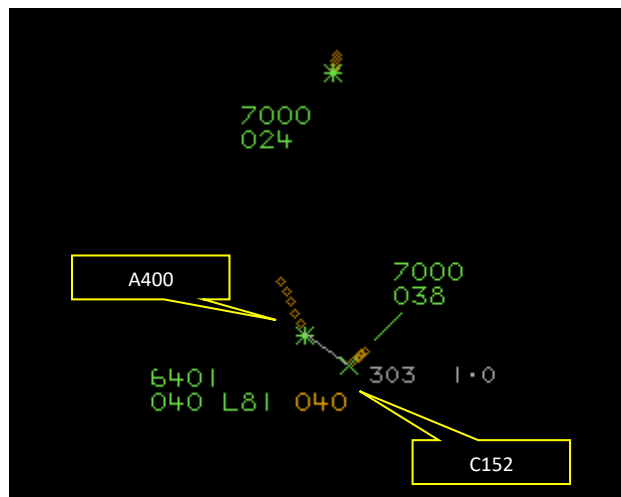


Figure 3 (1428:01). A400 pilot reported visual with the C152 and a TCAS RA. (Separation: 1.0NM)

CPA occurred at 1428:15 and was recorded as 0.2NM and 700ft separation.

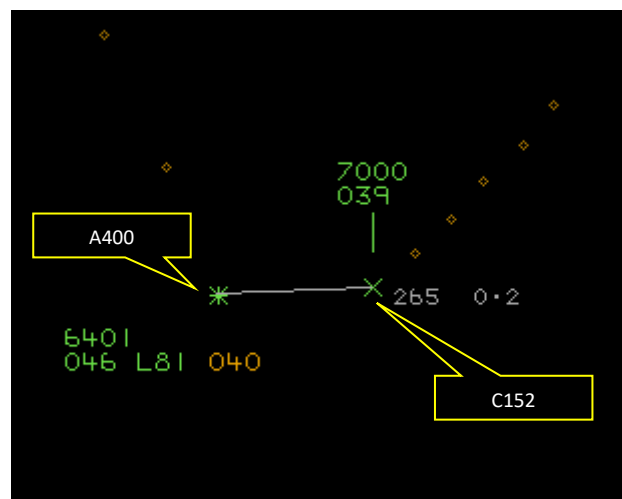


Figure 4 (1428:15). CPA.

Local BM Investigation(s)

A local investigation was conducted by 78 Sqn³ following the event to identify the Air Traffic Services related causal/aggravating factors. One key factor was identified:

- a. The Swanwick Military West controller became distracted by administrative tasks i.e. the prenote and frequency change, which resulted in a loss of situational awareness regarding the A400 and C152's converging tracks. This ultimately resulted in a lack of Traffic Information provision to the A400 [pilot] regarding the C152.

2 Gp BM Analysis

The local investigation by 78 Sqn accurately identified where the provision of Traffic Information was ineffective in providing the A400 [pilot] with suitable situational awareness regarding the C152's profile. This decreased the likelihood of the A400 [pilot] first visually acquiring the C152 and then being able to position themselves appropriately for adequate separation. Whilst the Swanwick Military West controller was operating with an extended range in readiness for the Prestwick departure, as that aircraft was not yet airborne the radar display could have been manipulated to decrease the range and provide a more effective view of the A400's traffic picture. This may have

³ Swanwick Military controllers fall under overall command of 78 Sqn.

affected the prioritisation decisions taken by the Swanwick Military West controller because the converging profile of the A400 and C152 would have been displayed more clearly. Overall, the Airprox highlights that whilst initial Traffic Information was provided it was not sufficiently updated to allow the continued converging profiles.

UKAB Secretariat

The A400M and C152 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.⁴ If the incident geometry is considered as converging then the C152 pilot was required to give way to the A400M⁵ and the A400M pilot was required to maintain a constant course and speed, unless safety dictates otherwise.⁶

Comments

HQ Air Command

From an aircrew perspective, whilst the A400M crew could see the C152 on TCAS, it could only provide them with a limited understanding of the C152's profile. They continued their track as they felt unable to turn away or climb without coming into possible conflict with other traffic. The crew tried to visually acquire the C152 but were unable until the RA was triggered. It is encouraging to see that the EC equipment picked up the C152 and alerted accordingly. On the ATC side, the investigation identified that a number of factors combined such that the C152's converging position was not updated sufficiently to the A400M crew. Suitable action to address this has been taken.

AOPA

Whilst flying in class G airspace, it is recognised that, until the whole country is covered by a LARS service, it is difficult to obtain a relevant service for the flying task. As this Airprox shows, suitable electronic conspicuity can be a great situational awareness tool in alerting flight crew to the whereabouts of unsighted traffic, thereby avoiding a mid-air collision.

Summary

An Airprox was reported when an A400M and a C152 flew into proximity near Kington at 1428Z on Sunday 10th September 2023. Both pilots were operating under VFR in VMC, the A400M pilot in receipt of a Traffic Service from Swanwick Mil and the C152 pilot not in receipt of a FIS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board members first discussed ATM aspects and agreed that while the Swanwick Mil controller had passed Traffic Information, they had then become involved in other tasks (**CF2**) at the expense of passing a timely update to the Traffic Information (**CF1**). Members noted that it would have been difficult for the controller to assimilate the A400M and C152 conflict whilst operating at 110NM scale and agreed that perhaps the scale could have been reduced until the Prestwick departure had occurred. In the event, STCA had not been configured to alert (**CF3**) and, although Traffic Information had been passed at 7NM, it had not been updated until shortly before the A400M pilot had received a TCAS RA. Turning to the pilots, the Board members first discussed the A400M pilot's actions. The C152 would have become TCAS Proximate Traffic shortly after the Traffic Information call had been made at 7NM and

⁴ (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

⁵ (UK) SERA.3210 Right-of-way (c)(2) Converging.

⁶ MAA RA 2307 paragraph 6.

members wondered whether it would have been prudent for them to have asked for an update to the Traffic Information as it had closed on a constant bearing. The C152 pilot had not been aware of the A400M converging on the right (CF6) as they had climbed towards its level and they had not given way (CF4). Members noted that the C152 had not been fitted with any form of EC and discussed the advantages of doing so, especially in the area in which the Airprox had occurred, suffering from a lack of provision of surveillance-based services. The A400M TCAS had eventually alerted, first with a TA and then with an RA (CF7) although members felt that the A400M pilot could perhaps have taken action earlier given the degree of situational awareness afforded by the initial Traffic Information call and TCAS information (CF5). The Board agreed that the pilots had both seen the other aircraft at a late stage (CF8) although the EC barrier, in the form of the A400M TCAS RA, had been sufficient to avert risk of collision, Risk C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2023216				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
2	Human Factors	• Task Monitoring	Events involving an individual or a crew/ team not appropriately monitoring their performance of a task	Controller engaged in other tasks
• Electronic Warning System Operation and Compliance				
3	Technical	• Conflict Alert System Failure	Conflict Alert System did not function as expected	The Conflict Alert system did not function or was not utilised in this situation
Flight Elements				
• Tactical Planning and Execution				
4	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
• Situational Awareness of the Conflicting Aircraft and Action				
5	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
6	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				
7	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	
• See and Avoid				
8	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment⁷

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

⁷ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because insufficient Traffic Information was passed to the A400M pilot.

Electronic Warning System Operation and Compliance were assessed as **not used** because the C152 squawk was outside the select frame.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the C152 did not give way to the A400M converging on the right.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the C152 pilot had no situational awareness on the A400M and the A400M pilot had sufficient situational awareness to have taken action at an earlier stage.

See and Avoid were assessed as **partially effective** because each pilot saw the other aircraft at a late stage.

Airprox Barrier Assessment: 2023216		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 3%]				
	Situational Awareness of the Confliction & Action	✓	⚠	[Yellow bar to 15%]				
	Electronic Warning System Operation and Compliance	✓	○	[Red box at 0%]				
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 10%]				
	Tactical Planning and Execution	✓	⚠	[Yellow bar to 10%]				
	Situational Awareness of the Conflicting Aircraft & Action	✗	✓	[Red bar to 20%]				
	Electronic Warning System Operation and Compliance	⚠	✓	[Green bar to 15%]				
	See & Avoid	⚠	⚠	[Yellow bar to 20%]				
Key:								
Provision	✓	⚠	✗	●				
Application	✓	⚠	✗	●				○
Effectiveness	[Green]	[Yellow]	[Red]	[Grey]				[Red box]