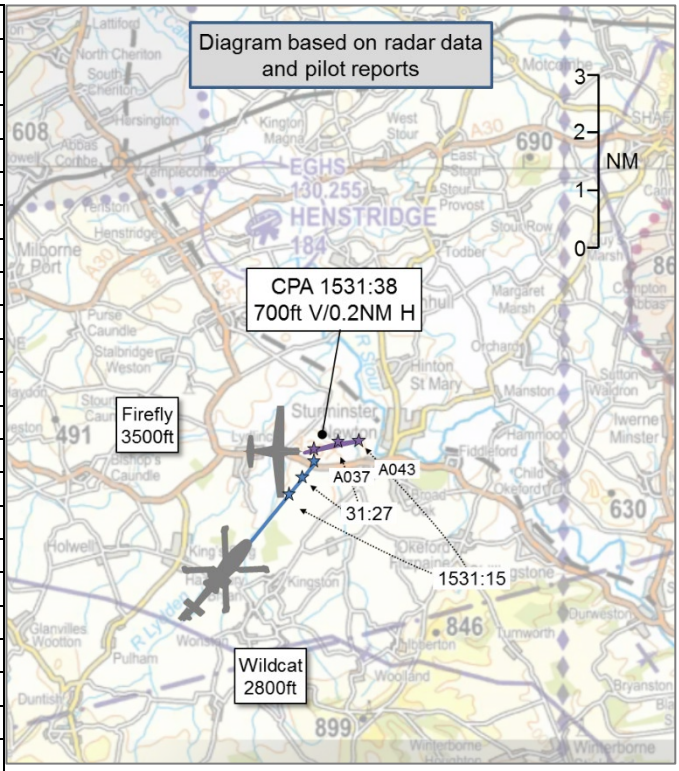
AIRPROX REPORT No 2020061

Date: 06 Jul 2020 Time: 1531Z Position: 5055N 00219W Location: Henstridge

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Wildcat	Slingsby Firefly
Operator	RN	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Basic
Provider	Yeovilton App	Yeovilton LARS
Altitude/FL	FL028	FL035
Transponder	A, C, S	A, C
Reported		
Colours	Grey	Yellow, Black
Lighting	NR	NR
Conditions	VMC	VMC
Visibility	20KM	15 KM
Altitude/FL	3000ft	4000ft
Altimeter	QFE (1020hPa)	RPS
Heading	030°	Aerobatics
Speed	100kt	NR
ACAS/TAS	TAS	Not fitted
Alert	None	N/A
Separation		
Reported	1000ft V/0.5NM H	Not Seen
Recorded	700ft V/0.2NM H	



THE WILDCAT PILOT reports that on completion of a routine sortie, they were recovering to Yeovilton and receiving vectors for a PAR recovery. The Radar controller informed them of traffic in their 12 o'clock and which they could not see. A short while later they spotted a small fixed-wing civilian aircraft, about 2NM ahead and approximately 1000ft above, conducting aerobatic manoeuvres in the vicinity of Henstridge Airfield. They relayed this information to the Radar controller who acknowledged and replied that this was the previously called traffic. They elected to continue on the designated heading IAW ATC instructions, whilst keeping the civilian aircraft in sight. The aircraft continued to conduct aerobatic manoeuvres and it was clear that they were unaware of the Wildcat. At approximately 1NM, the aircraft pulled up into a loop and they were forced to take avoiding action in order to avoid a collision (the aircraft would have pulled out of the loop on top of their position). Having taken avoiding action, they elected not to call the incident on the radio, as the frequency was extremely busy and instead decided they would call ATC to discuss on the ground.

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

THE FIREFLY PILOT reports that he was conducting aerobatics and was receiving a Basic Service from Yeovilton LARS. They informed ATC that they would be conducting aerobatics between 2000-6000ft to the south of Sherborne and Henstridge airfield. They did not see the other aircraft and no Traffic Information was passed by ATC.

THE YEOVILTON CONTROLLER reports they were instructing a student controller in the LARS/IF seat. The student was controlling a Wildcat under a Traffic Service on the IF frequency as well as a civilian Firefly on the LARS frequency operating in the vicinity of Henstridge airfield under a Basic Service. The Wildcat pilot had completed operations in the IF areas and requested vectors for an IFR approach to RW26. The student instructed the Wildcat to maintain 3000ft on the QFE and gave a north-easterly heading to position for a handover to the Approach/Director controller. Whilst vectoring, the

student gave Traffic Information twice on the Firefly operating at approximately 4000ft, and further information on an Approach/Director track which was flying underneath. Sometime later the Wildcat pilot asked the student if they were aware of the traffic conducting 'aeros' in the vicinity of Henstridge. The student replied that it was the previously reported traffic to which the Wildcat pilot then reported visual. The aircraft was subsequently handed to the Approach controller for further vectoring. Later in the day the Radar Supervisor received a call from the Wildcat crew stating that they were submitting an Airprox due to the proximity of their aircraft to the light fixed-wing.

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

THE YEOVILTON SUPERVISOR reports that they were the radar supervisor at the time. They heard the LARS/IF controller call traffic to the recovering Wildcat and glanced at the supervisors' display for an update on the picture, they noticed the positions of the relevant traffic and the Mode C readout. The weather was good and they did not hear the pilot call for an update on the traffic. About an hour later they received a phone call from the pilot of the Wildcat who recounted their version of what had happened regarding the civilian aircraft in their vicinity. They stated that they were visual with the conflicting traffic but that if they had not manoeuvred their aircraft it would have been an Airprox. They asked the Supervisor to look at the event from an ATC perspective. Whilst the Supervisor was looking into the event they received a call from the duty air traffic controller who reported that the senior pilot of the Wildcat squadron had called to say they were filing an Airprox.

Factual Background

The weather at Yeovilton was recorded as follows:

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METAR EGDY 061520Z 30016KT 9999 FEW035 19/10 Q1023 NOSIG RMK BLU BLU=
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Analysis and Investigation

UKAB Secretariat

Figures 1-7 are screenshots from the NATS radars, (which were not the radars available to the Yeovilton controller) depicting the events on lead-up to and during the Airprox. At Figure 1, the Wildcat pilot had told ATC of his intentions to recover back to Yeovilton and been told to fly a heading of 020° and maintain 3000ft. Traffic Information had previously been given on the Firefly as "indicating 3000ft above" and the pilot had replied that he was not visual.

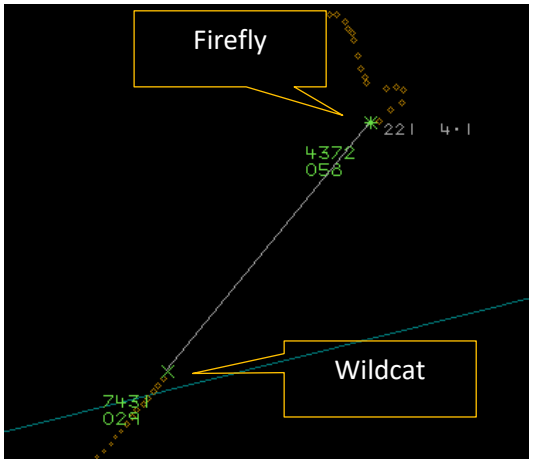


Figure 1:1528:56

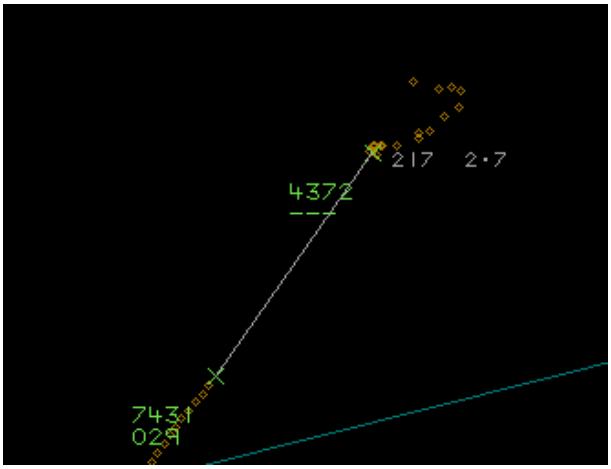


Figure 2:1529:31

The two aircraft continued to close and at 1530:38, just after Figure 3, the controller initiated a handover to Yeovilton Approach. At 1530:44 (Figure 4) the Wildcat pilot queried the traffic and told the controller there was traffic on their nose at approximately 4000ft, the two aircraft were 1.6NM apart at this time. The controller replied that it was the traffic that had already been called to the pilot.

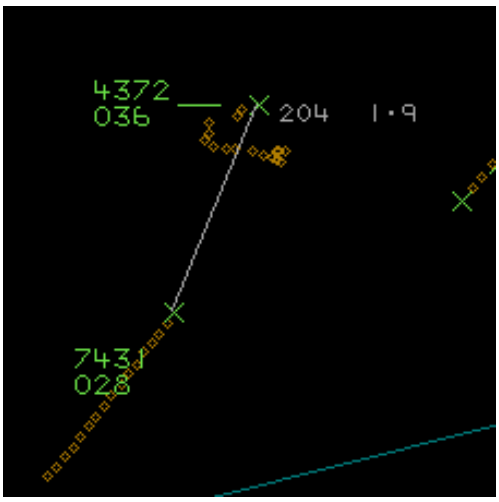


Figure 3: 1530:35

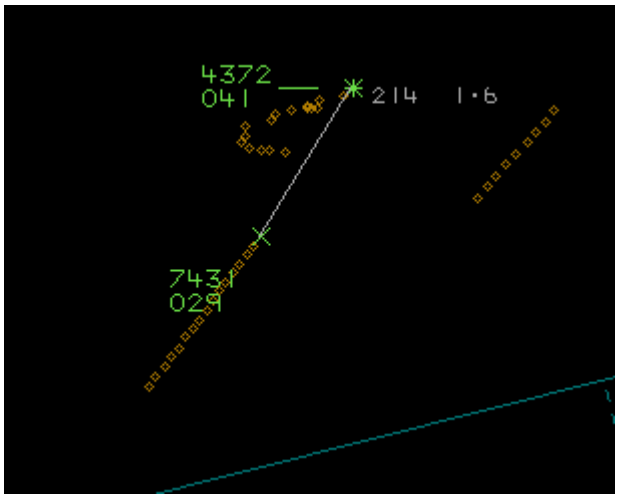


Figure 4: 1530:44
Wildcat pilot queries the Traffic

Radar CPA occurred at 1531:39 (Figure 5), when the two aircraft were 700ft and 0.2NM apart. At Figure 6, the Mode C on the Firefly was no longer showing on the radar, indicating that the Firefly may have been descending rapidly and by Figure 7 the Wildcat pilot had taken avoiding action.

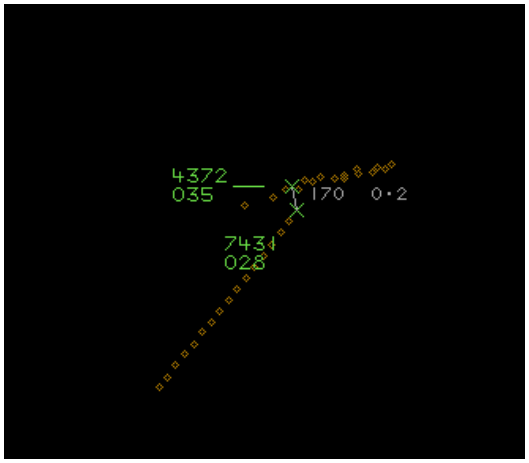


Figure 5: 1531:39 Radar CPA

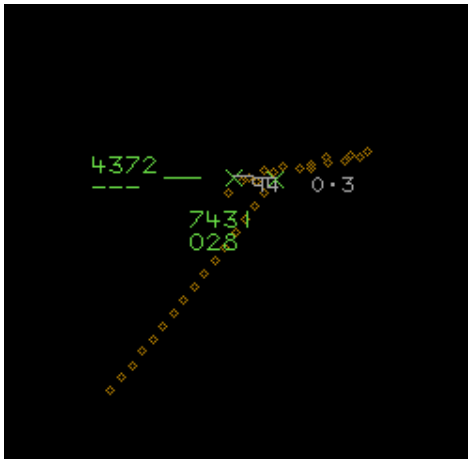


Figure 6: 1531:47

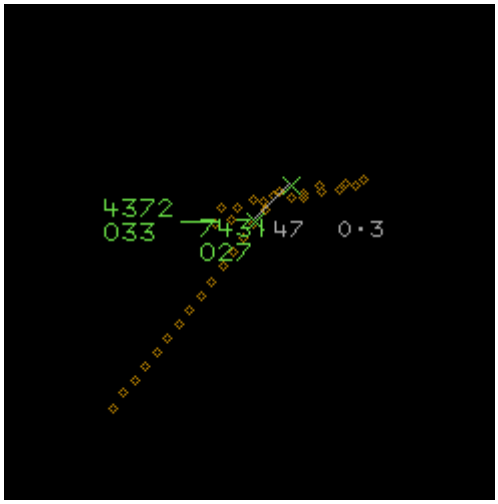


Figure 7:1531:54 Wildcat avoiding action

The Wildcat and Firefly 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] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[2]

Comments

Navy HQ

An investigation was conducted in to this Airprox using information from the DASORs submitted from both Yeovilton ATC and 815 NAS, along with tape transcripts and video replays from the Yeovilton radar feed. The Airprox was not declared on frequency.

This Airprox highlights the non-prescriptive nature of Class G Airspace. The controller rightly called the Firefly traffic to the Wildcat pilot, who was under a Traffic Service iaw CAP 774, although the controller was unaware that the Firefly was conducting aerobatic manoeuvres at the time. This allowed the aircrew of the Wildcat to visually locate the Firefly and take appropriate action in discharging their own traffic avoidance. Owing to the heights and altitudes that both air-systems were operating, the controller may have wished to have given generic Traffic Information to the Firefly crew, who were on a Basic Service, regarding the Wildcat to improve their situational awareness. However, due to controller workload and the apparent lack of a definite risk of collision from surveillance-derived information, this generic Traffic Information was not passed to the Firefly pilot.

In this instance the ATS provided by Yeovilton ATC, an 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 Firefly.

Summary

An Airprox was reported when a Wildcat and a Firefly flew into proximity in the vicinity of Henstridge at 1531Z on Monday 6th July 2020. Both pilots were operating under VFR in VMC, the Wildcat pilot in receipt of a Traffic Service from Yeovilton LARS and the Firefly pilot in receipt of a Basic Service also from Yeovilton LARS.

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.

The Board first considered the part that the Yeovilton controller had to play. They were providing a Traffic Service to the Wildcat and a Basic Service to the Firefly and the Board were told that on the initial call, the Firefly pilot requested a block of airspace: 3000-6000ft. Members considered that this should have been enough to cue the controller that the Firefly would be manoeuvring and that they should have expected it to be changing levels. Therefore, when Traffic Information was passed to the Wildcat pilot that the Firefly was 3000ft above, it would have been more accurate to also include the information that it was manoeuvring (**CF3**). Noting that the controller was under training, members questioned the mentoring of the OJTI[3] who should have been monitoring more closely to pick up the omission (**CF1**). Furthermore, the controller did not pass reciprocal Traffic Information to the Firefly

[1] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.
[3] On the job training instructor.

pilot. A discussion followed about whether Traffic Information should be passed to a pilot on a Basic Service, in the end the Board agreed that whilst only mandated if the controller considers a definite risk of collision to exist, it was considered good practise to pass Traffic Information to both pilots. Once the Wildcat pilot announced their intentions to recover to Yeovilton, the controller provided a transit heading and level, however, this heading routed directly through the area that the Firefly was manoeuvring in. Members considered that at this point the controller could have easily altered the heading, or level, to keep the Wildcat clear of the Firefly (**CF2**, **CF4**).

Turning to the Wildcat pilot, the Board thought that having been told that the conflicting traffic was 3000ft above (**CF6**), they were understandably surprised to see the Firefly just above them and conducting aerobatics. However, having seen the Firefly 2NM away, even though at that stage vertical separation existed, members thought that the Wildcat pilot could have manoeuvred earlier, either vertically or horizontally, to remain out of the way (**CF5**, **CF8**).

The Firefly pilot was not given Traffic Information on the Wildcat and had no situational awareness about it approaching (**CF6**). Given that both aircraft were with the same controller, some members wondered whether the pilot should have heard the controller giving Traffic Information to the Wildcat pilot and could have assimilated that it was about their aircraft. Perhaps unsurprisingly given that they were conducting aerobatics, the Firefly pilot did not see the Wildcat (**CF7**).

Finally, when assessing the risk, members quickly agreed that, because the Wildcat pilot had been visual for some time, there had been no risk of collision. A brief discussion followed on whether safety had been degraded, but in the end the Board agreed that normal safety standards had pertained; Risk Category E.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020061		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Manning and Equipment		
1	Human Factors	• Mentoring	
	• Situational Awareness and Action		
2	Human Factors	• Conflict Detection - Not Detected	
3	Human Factors	• ANS Traffic Information Provision	TI not provided, inaccurate, inadequate, or late
4	Human Factors	• Separation Provision	The ANS instructions contributed to the Airprox
	Flight Elements		
	• Tactical Planning and Execution		
5	Human Factors	• Insufficient Decision/Plan	Inadequate plan adaption
	• Situational Awareness of the Conflicting Aircraft and Action		
6	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	• See and Avoid		
7	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
8	Human Factors	• Lack of Action	Pilot flew close enough to cause concern

Degree of Risk: E.

Safety Barrier Assessment[4]

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

Ground Elements:

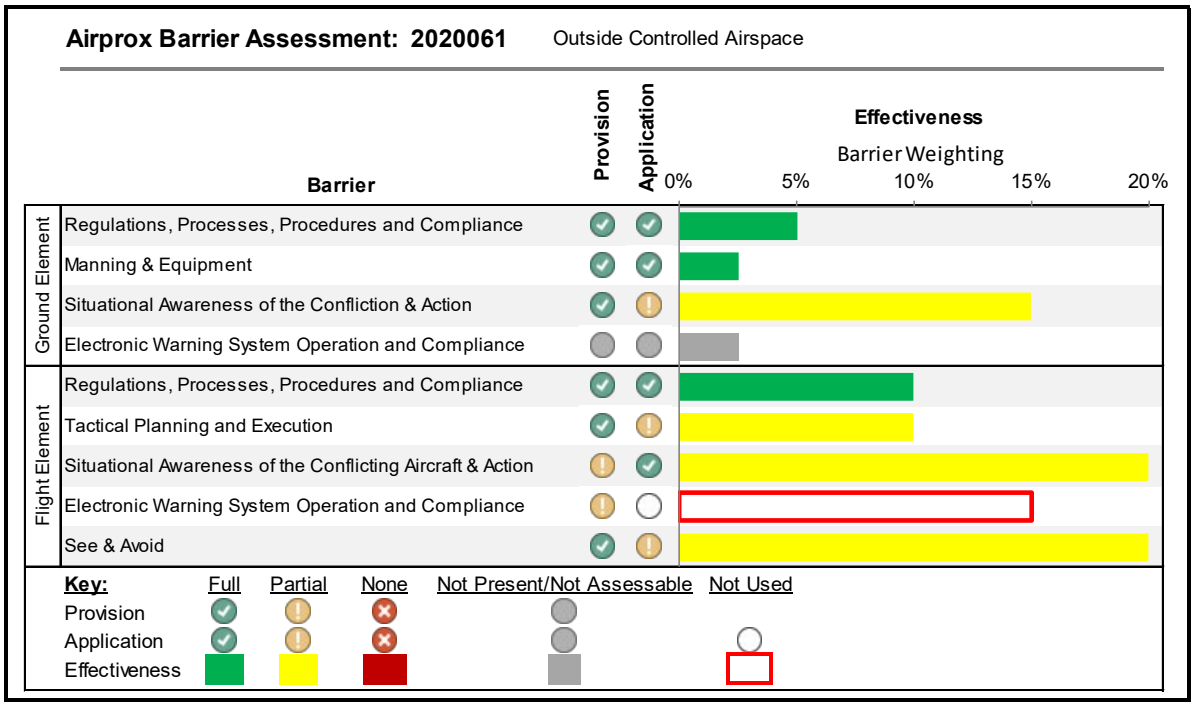
Situational Awareness of the Confliction and Action were assessed as **partially effective** because the controller did not assimilate that the Firefly was manoeuvring, did not pass accurate information to the Wildcat pilot and did not pass reciprocal Traffic Information to the Firefly pilot.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Wildcat pilot did not adapt his plan once he was visual with the Firefly.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the Wildcat pilot was not told that the Firefly was manoeuvring and the Firefly pilot was not aware of the Wildcat.

See and Avoid were assessed as **partially effective** because the Wildcat pilot could have taken earlier action to remain clear of the Firefly.



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