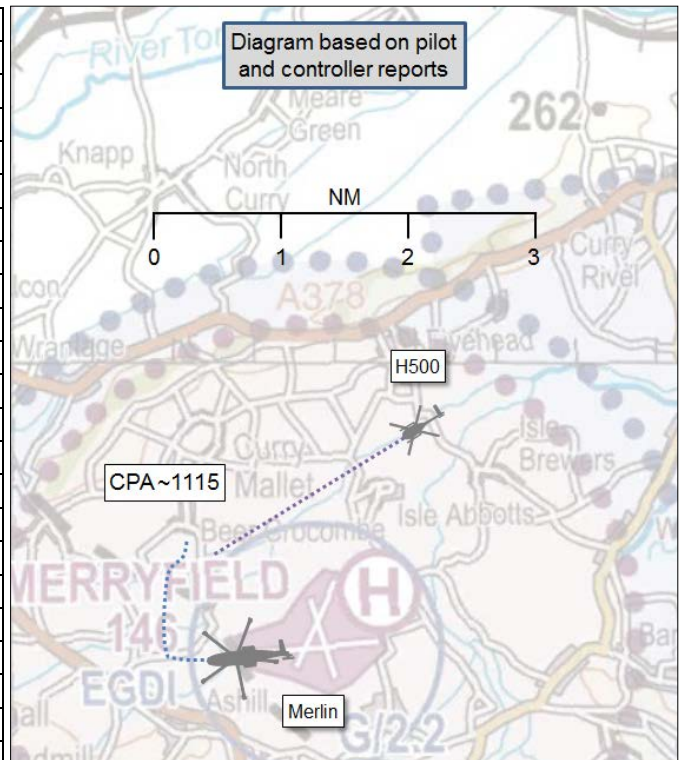


**AIRPROX REPORT No 2017134**

Date: 22 Jun 2017 Time: 1115Z Position: 5058N 00256W Location: Merryfield airfield

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Merlin	H500
Operator	RN	Civ Pte
Airspace	Merryfield ATZ	Merryfield ATZ
Class	G	G
Rules	VFR	VFR
Service	Aerodrome	Basic
Provider	Merryfield	Yeovilton
Transponder	A,C,S	A,C,S
<b>Reported</b>		
Colours	Green	Green
Lighting	NK	Anti-collision
Conditions	NK	VMC
Visibility	NK	50km
Altitude/FL	1000ft	1500ft
Altimeter	QFE (1010hPa)	NK
Heading	358°	~220°
Speed	NK	120kt
ACAS/TAS	TAS	Not fitted
Alert	TA	N/A
<b>Separation</b>		
Reported	0ft V/100m H	<200ft V/1000m H
Recorded	NK	



**THE MERLIN PILOT** reports that the crew were conducting an academic circuit to Merryfield RW27R. Having levelled off crosswind, the Handling Pilot (HP) started to turn right downwind when the TAS alerted the crew to another aircraft in the 2 o'clock position at the same level. The crew immediately saw the other aircraft converging on a constant bearing at a range of approximately 100m. The HP reversed the turn to increase separation. ATC were contacted immediately and they confirmed the aircraft was not on their frequency despite being in the ATZ. The sortie was subsequently completed without further incident.

He assessed the risk of collision as 'Medium'.

**THE HUGHES 500 PILOT** reports that he did not consider this to be an Airprox. However, for the sake of the form, they were tracking home and were just west of the Currey Rivel ridge-line when they observed a Merlin at 1nm in the climb crossing them from southeast to northwest. As they were above and behind it no action was deemed necessary.

He assessed the risk of collision as 'None'.

**THE MERRYFIELD AERODROME CONTROLLER** reports that it was a normal day of flying operations. A Merlin was operating in the right-hand circuit to RW27, commencing the downwind leg. He observed an un-notified civilian helicopter flying in close proximity to the Merlin through the MATZ from northeast to southwest at about 1000ft, passing to the north of the airfield by approximately 1nm. At the same time as his sighting, and as he was about to call the helicopter to the Merlin pilot, its pilot also sighted the aircraft, manoeuvred to avoid it, and reported it in sight. The ATC assistant (ADC qualified) spoke to Yeovilton Radar to see what they knew. The LARS controller stated that a civilian helicopter had popped up on radar and had called him westbound. The H500 pilot reported to Yeovilton LARS at 1300ft en-route to [a location in Dartmoor]. He spoke to the Radar Supervisor who confirmed that the civilian helicopter had only then been displayed on radar and was now in contact

with the controller. The Merlin pilot stated he had avoided the helicopter after being alerted by his onboard systems and continued the sortie without further incident.

He perceived the severity of the incident as 'Medium'.

**THE YEOVILTON LARS/IF CONTROLLER** reports that he was operating the position during the period 1030-1130. He had a few Basic Service tracks on, and commented that he was not very busy. The H500 pilot called requesting a Basic Service having departed from a private site routing to another private site on Dartmoor. The pilot was initially climbing to 1000ft. He gave the pilot a squawk, a Basic Service, and passed the Portland RPS 1008hPa, but he was not visual with its radar return or squawk. The pilot mentioned routing near RNAS Merryfield on initial call; however, he then had a number of calls and handovers from other aircraft to the east and northeast that diverted his attention away from the H500. He had to make multiple traffic calls and conduct a handover and gave no clearance for the H500 pilot to enter the RNAS Merryfield ATZ or MATZ. At approximately 1115 he noticed the squawk of 4373 appear 1nm north of the overhead of RNAS Merryfield. Subsequently the Merryfield controller telephoned the Radar Supervisor reporting an aircraft in their Zone. He passed details to the Merryfield controller and requested the H500 pilot pass his height, which was reported as 1300ft. The H500 pilot asked to continue en-route but he asked him to remain on his frequency until clear of the RNAS Merryfield MATZ, when he then asked him to squawk 7000 and continue en-route. He perceived the severity as low due to the meteorology conditions being blue/blue, with both aircraft flying under VFR. The aircrew of the Merlin, who were operating out of RNAS Merryfield, filed an Airprox.

He perceived the severity of the incident as 'Low'.

**THE YEOVILTON SUPERVISOR** reports that a telephone call was received by the Approach controller from RNAS Merryfield regarding an ATZ infringement whilst the visual circuit was active. Once he was made aware, he observed an aircraft squawking 4373 without Mode C approximately 1nm north of Merryfield. He immediately asked the LARS controller the height of the 4373 squawk and questioned whether a MATZ crossing request had been passed to Merryfield. The LARS controller then informed him that Traffic Information had not been passed to Merryfield and that the aircraft had not been seen on radar until the infringement had been reported. Once the aircraft squawking 4373 had transited clear of the visual circuit, he then arranged for another controller to take over the LARS task so that the details of the infringement could be recorded.

## **Factual Background**

The weather at Yeovilton was recorded as follows:

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METAR EGDY 221050Z 28012KT 9999 FEW015 BKN030 19/14 Q1013 BLU NOSIG=
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The Merryfield ATZ has a radius of 2.5nm with an upper limit of 2000ft. The airfield elevation is 146ft.

## **Analysis and Investigation**

### **Military ATM**

The ATM investigation concluded that the pilot flew through the Merryfield MATZ/ATZ without receiving a clearance to do so from the controlling authority. That said there are a number of contributory factors/recommendations that have been either completed subsequently or are ongoing internally at Yeovilton ATC to improve the barriers that might have prevented this occurrence. The LARS controller was working quite hard with traffic for which he was providing a mixture of both Traffic Service and Basic Service. His workload was exacerbated by the fact that, whereas he would normally be assisted by a Radar Assistant who would handle pre-notes on his behalf, on this occasion one was not present. There was concern that the LARS controller stated that he was unaware of the proximity of Somerton, and the fact that he missed the pilot stating an intention to transit through the MATZ. Internally at Yeovilton ATC, there are a number of questions

that have been raised which are being addressed separately because, although they could be considered contributory, they did not directly cause the MATZ/ATZ incursion. For example the LARS task is normally a function of the Radar Approach controller and, arguably, he/she could have noticed the aircraft routing from Somerton and transiting directly towards Merryfield. Noting that the LARS controller was busy and in the absence of a Radar Assistant, perhaps they could have questioned the intentions of the pilot from the LARS controller directly, or have used the Supervisor to ensure that an admin call to Merryfield had at least been completed.

### **UKAB Secretariat**

The Merlin and H500 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>1</sup>. An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation<sup>2</sup>. If an aerodrome has an air traffic control unit the commander [of an aircraft] shall not fly, take off or land within the aerodrome traffic zone unless they have obtained the permission of that unit to enable the flight to be conducted safely within the aerodrome traffic zone<sup>3</sup>.

### **Summary**

An Airprox was reported when a Merlin and an H500 flew into proximity at 1115 on Thursday 22<sup>nd</sup> June 2017. Both pilots were operating under VFR in VMC, the Merlin pilot in receipt of a Basic Service from Merryfield and the H500 pilot in receipt of a Basic Service from Yeovilton.

### **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from both pilots, the controllers concerned, area radar and RTF recordings and reports from the appropriate ATC and operating authorities.

The Board noted that the Merlin crew were carrying out a right-hand circuit to RW27 at RNAS Merryfield under VFR. They were operating within Class G airspace of the Merryfield ATZ, which has a radius of 2.5nm up to 2000ft. Just as they started to turn right downwind, their TAS alerted them to traffic in their 2 o'clock position at the same level. The crew saw the traffic (the H500) at the same level, on a conflicting track, 100m away; the Handling Pilot reversed their turn. The Merryfield Aerodrome controller had observed the H500 at about the same time but before he could pass any Traffic Information to the Merlin crew, they had reported it in sight. Both the Merlin crew and the controller reported that they believed that the H500 was within the Merryfield ATZ.

The Board noted that the H500 pilot had contacted Yeovilton LARS after departing from a private site near Somerton, which is situated about 10nm northeast of Merryfield. He reported his intention of wishing to track overhead Merryfield towards his destination in Dartmoor. The HQ Navy Operations member reported that the workload of the LARS controller was quite high, with traffic being provided with both Traffic and Basic Service. Additionally, workload had been increased because he was working without a Radar Assistant, who would normally have handled pre-notes and other operational information. He added that the Approach Radar controller could have assisted the LARS controller by establishing that Merryfield ATC had been informed about the H500 pilot's intentions. The Supervisor had not been aware that the LARS controller's workload had been excessively high. The RN member commented that it had been a disappointment that the LARS controller had not been aware of the position of Somerton, which is located at the northwest corner of the Yeovilton MATZ.

The Board was advised that radar recordings obtained by HQ Navy Operations confirmed that the H500 pilot had entered the Merryfield ATZ and that RTF recordings confirmed that he had done so without permission, a requirement under the Rules of the Air. Consequently, the Board assessed that

<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome.

<sup>3</sup> The Rules of the Air Regulations 2015, Rule 11 (Flight within aerodrome traffic zones) (2)(3).

the cause of the Airprox was that the Hughes 500 pilot flew through the Merryfield ATZ and into conflict with the Merlin.

The Board then discussed the risk. Both pilots had reported seeing the other traffic. The Merlin pilot had taken action to increase separation and the H500 pilot had observed the Merlin at a range of 1nm and did not deem it necessary to take any avoiding action. Accordingly, although safety had been degraded there had been no risk of a collision and the Board assessed the Airprox as risk Category C.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The Hughes 500 pilot flew through the Merryfield ATZ and into conflict with the Merlin.

Degree of Risk: C.

### **Safety Barrier Assessment<sup>4</sup>**

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

#### **ANSP:**

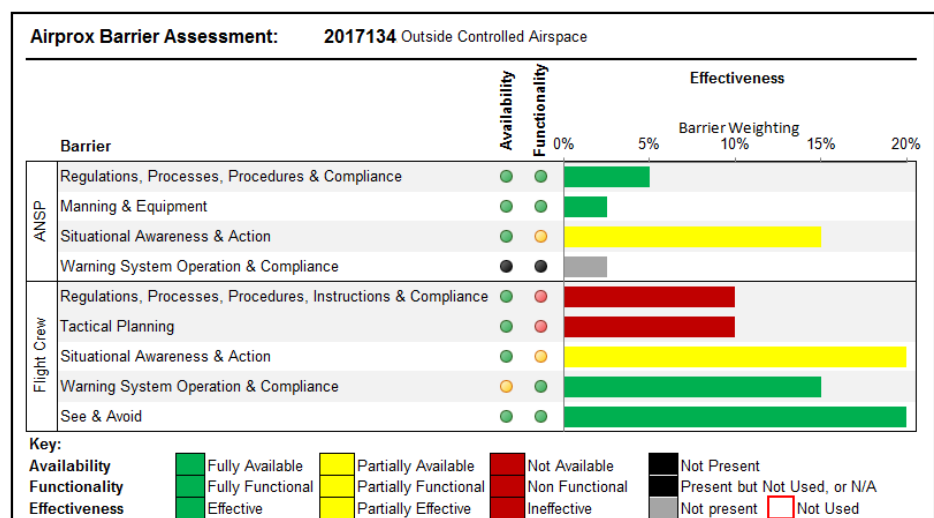
**Situational Awareness and Action** were assessed as **partially effective** because the controllers were not aware of the potential conflict between the two aircraft until the Merryfield Aerodrome controller observed the H500. The H500 did not show initially on the Yeovilton Radar display.

#### **Flight Crew:**

**Regulations, Processes, Instructions, Procedures and Compliance** were assessed as **ineffective** because the H500 pilot did not seek, or obtain, permission to enter the Merryfield ATZ.

**Tactical Planning** was assessed as **ineffective** because the H500 pilot did not plan to route clear of Merryfield airfield.

**Situational Awareness and Action** were assessed as **partially effective** because ATC were unable to issue early Traffic Information to the Merlin pilot.



<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).