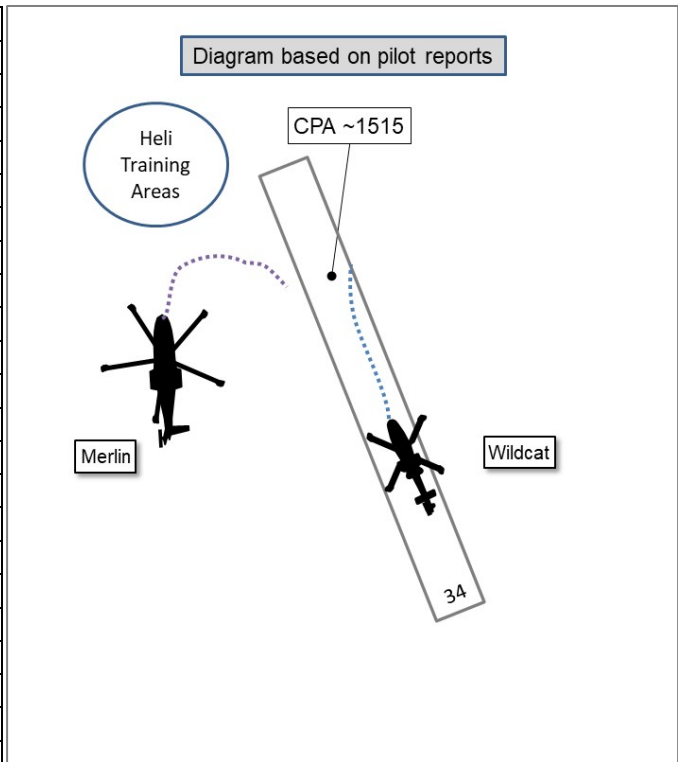


**AIRPROX REPORT No 2020165**

Date: 25 Nov 2020 Time: ~1515Z Position: 5057N 00256W Location: Merryfield Airfield

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Wildcat	Merlin
Operator	RN	HQ JHC
Airspace	Merryfield ATZ	Merryfield ATZ
Class	G	G
Rules	VFR	Choose an item.
Service	ACS	ACS
Provider	Merryfield Tower	Merryfield Tower
Altitude/FL	Not recorded	Not recorded
Transponder	A, C, S <sup>1</sup>	Not recorded
<b>Reported</b>		
Colours	Standard	Standard
Lighting	Nav, Strobe	Not reported
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	~200ft	200ft
Altimeter	QFE (1011hPa)	QFE (1011hPa)
Heading	340°	~160°
Speed	Not reported	60kt
ACAS/TAS	TAS	TAS
Alert	TA	Unknown
<b>Separation</b>		
Reported	0ft V/100m H	Not reported
Recorded	Not seen on radar	



**THE WILDCAT PILOT** reports that they were carrying out a routine sortie at Merryfield. They were operating to the Duty Runway and had just carried out a cushion creep departure into a right-hand circuit. As they climbed through approximately 100ft, a Merlin lifted from the Old Confined Area and turned directly into the path of them, no radio call from the Merlin pilot was heard. As this was now a head-on situation, they elected to roll positively to the right to avoid a collision. The Merlin passed approximately 100m down the left-hand side of the Wildcat, in the opposite direction, at the same height (about 200ft). They continued into the right-hand circuit and the crew highlighted the incident to the Merryfield Tower controller via the radio. The sortie continued and was completed without further incident.

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

**THE MERLIN PILOT** reports that they were tasked to conduct QAI Mentoring (Confined Areas) at Merryfield. They joined the Merryfield Area Left for the Old Confined area, with the Duty RW34. Two other aircraft were operating Area Left, one Wildcat conducting under slung load training at spot C (Tac Area) and one Wildcat at the northern sloping ground area. To minimise their footprint within the area they elected to conduct a Hover Recce profile before transitioning into a circuit to conduct a standard approach to the confined area to maximise the training benefit for the Aircrewmembers. On completion of the first recce, the Wildcat pilot at the sloping ground area called to operate in Area Right from the main runway. They transitioned from the recce position to a height of 200ft before a right-hand turn was conducted to track 160°, remaining in Area Left. In the final stages of the turn, their aircraft infringed the sanitised area on the left side of RW34 whilst a Wildcat was transitioning from the runway. They were visual with the Wildcat throughout the manoeuvre and their flight path was corrected to clear the sterile

<sup>1</sup> The pilot reported Transponder Modes A, C and S but, as the Airprox occurred at circuit height, the aircraft was too low to be detected by the NATS radars.

area. The Wildcat pilot informed ATC of the infringement and all callsigns were reminded to utilise positive RT in accordance with the Merryfield DAM.

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

**THE MERRYFIELD CONTROLLER** reports that the Duty Runway was RW34 with visual left and right hand circuits active. In the left-hand circuit was one wildcat [not the Airprox Wildcat] conducting load lifting to spot Charlie and a Merlin operating to the Old Confined Area. In the right-hand circuit was a Wildcat [the Airprox Wildcat] conducting General Handling. The controller had taken over the Aerodrome Control position about 10min before the incident occurred and was present when the previous controller had instructed both aircraft in the left-hand circuit on additional measures to coordinate and deconflict their adjacent activities. The [Airprox] Wildcat pilot requested the use of the duty runway, the controller instructed them to line up and made an 'All Stations' broadcast that the runway was now in use and positive control was in force. The Merlin pilot was cleared to land in the confined area at their discretion, which they did [he believed]. When the [Airprox] Wildcat pilot called ready for departure the controller checked the climb-out was clear and issued a take-off clearance and surface wind check. As the Wildcat pilot commenced their transition the controller turned to check the load lifting spot with the binoculars, satisfied that all was well they turned to recommence their scan and became aware that the Merlin pilot had lifted from the confined area without a clearance and was completing a tight right-hand turn which had placed them in close proximity to the departing [Airprox] Wildcat, whose pilot was just completing a right-hand turn away from the Merlin. The [Airprox] Wildcat pilot commented on the Merlin pilot turning in front of them and the controller informed the Merlin pilot that the Wildcat pilot was unhappy with their action and reminded them that they were required to call before lifting from the confined area for clearance in accordance with the published local procedure.

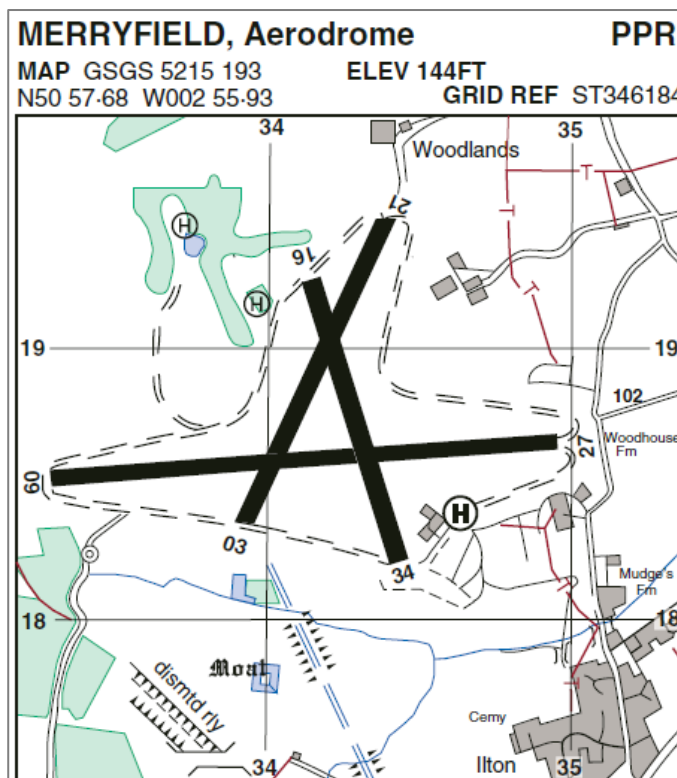


Figure 1: Merryfield Aerodrome Chart

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

## Factual Background

The weather at Yeovilton was recorded as follows:

METAR EGDY 251522Z 35005KT 9999 FEW010 09/05 Q1014 NOSIG RMK BLU BLU

## Analysis and Investigation

### RN Investigation Summary

The RN Investigation states that the Tower controller instructed all users that positive control was in effect, some users acknowledged this call, acknowledgement of this is not currently a requirement. Because the Merlin launched from the Confined Area without believing a clearance was necessary a recommendation has been raised to amend the Merryfield DAM to make the acknowledgement of ATC notification of runway activation compulsory and to clarify when an aircraft is considered to be established in the Confined Area.

## UKAB Secretariat

The Wildcat and Merlin 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>2</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>3</sup>

## Comments

### JHC

Prior to the Airprox occurring, the Merlin was conducting a high hover recce above the 'old' Confined Area, before conducting a circuit to land within it. The Tower controller had given a clearance to land at their discretion, which was acknowledged, however they did not land at that time as they were still in the recce phase. Once the recce was complete, they repositioned from the high hover to make a standard approach into the Confined Area. During this transition the aircraft infringed the sterile area designated for RW operations prompting the Wildcat to declare an Airprox. The local investigation found that the Merlin crew had not adhered to procedures as they had not received a positive clearance to lift from the confined area. Whilst the Merlin captain accepts that the turn infringed the sterile area, leading to the Airprox, he believes that this was not predicated by a failure to follow procedure. Having not yet landed in the confined area the Merlin captain did not believe there was a requirement for a positive clearance at that stage and had been given a clearance to land at his discretion. The ambiguity of this situation could have been alleviated by better communication with the Tower controller to articulate the plan to conduct a high hover recce prior to establishing in the area, but there is no formal requirement for this. However, the fact that ambiguity exists supports a recommendation from CHF for clarification in local orders as to when an aircraft is considered to be established in the confined area and subject to the requirement for positive clearances. The Merlin captain assesses that the aircraft came within no more than 100m laterally and 200ft vertically, while both aircraft were operating circuits to different areas of the airfield (Merlin area Left, Wildcat area right).

### NCHQ

This Airprox highlights the requirement for aircrew to be fully conversant with local orders and apply them at all times. It also highlighted the need for aircrew to articulate their intentions when operating outside of normal parameters, not only to ATC but to other aviators to improve situational awareness, avoid ambiguity and prevent potential situations like the one in this instance from occurring. Subsequently, an amend to the Merryfield DAM has been made, whereby all pilots are to acknowledge where positive control is in force. A further recommendation has been made to clarify when an aircraft is considered to be established in the confined Area.

## Summary

An Airprox was reported when a Wildcat and a Merlin flew into proximity at Merryfield Airfield at about 1515Z on Wednesday 25<sup>th</sup> November 2020. Both pilots were operating under VFR in VMC and in receipt of an Aerodrome Control Service from Merryfield Tower.

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

Information available consisted of reports from both pilots, 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.

<sup>2</sup> MAA RA 2307 paragraphs 1 and 2.

<sup>3</sup> MAA RA 2307 paragraph 15.

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 began looking at the actions of the Merlin pilot. The JHC Board member said that, when the controller transmitted that positive control was in force, the Merlin pilot was in the high hover over the confined area. The Merlin pilot had already been cleared to land at their discretion at the confined area. They conducted a recce of the confined area, which is a standard requirement at Merryfield, prior to making their approach to the site. Their intention was to reposition to land after their recce and they believed that as they had a clearance to land they did not need to update their intentions on the frequency (**CF7**), this meant that the Wildcat pilot was not fully aware of the Merlin pilot's intentions (**CF8**). As the merlin pilot left the high hover they were turning back and manoeuvring to make an approach to land, this turn resulted in them infringing the sterile area of the operational RW (**CF5, 6 & 10**). They were aware of the departing Wildcat, both visually and through the R/T calls, and increased their turn to increase the separation when they realised that they had infringed the RW sterile area (**CF9**).

The Board then looked at the actions of the Wildcat pilot. As the Wildcat pilot was departing, they saw the Merlin turning towards them at a similar altitude and quickly turned right to increase the separation between the aircraft. The Wildcat pilot had received a TA warning from their TAS but because they were already visual with the Merlin this did not impact upon the Wildcat pilot's action or the outcome of the Airprox (**CF11**). The NCHQ Board member opined that it was the Merlin pilot not updating their intentions as they left the Confined Area that had resulted in the Wildcat pilot turning to increase the separation. Whilst there was no clear requirement to do so in local procedures (**CF4**), a radio call from the Merlin pilot would probably have prevented the Airprox by alerting everyone to the Merlin pilot's intentions.

Next the Board discussed the controller's actions. The controller had turned their attention to another helicopter operating in a different part of the airfield (**CF3**). Because of this, and because the Merlin pilot had not updated their intentions (**CF1**), the controller had not seen the conflict until it had been resolved (**CF2**).

Finally, the Board turned to the Risk. They quickly agreed that both pilots were visual with the other aircraft and the Wildcat turned to avoid the Merlin at about the same time that the Merlin pilot tightened their turn to avoid the Wildcat. Although these were not normal safety parameters, the risk had been averted, a Risk category C. The Board were heartened that the RN investigation had recommended changes to local procedures that had resulted in this Airprox (**CF4**).

## PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

### Contributory Factors:

	2020165		
CF	Factor	Description	Amplification
<b>Ground Elements</b>			
<b>• Situational Awareness and Action</b>			
1	Contextual	• Situational Awareness and Sensory Events	The controller had generic, late or no Situational Awareness
2	Human Factors	• Conflict Detection - Not Detected	
3	Human Factors	• Distraction - Job Related	Controller engaged in other tasks
<b>Flight Elements</b>			
<b>• Regulations, Processes, Procedures and Compliance</b>			
4	Organisational	• Flight Operations Documentation and Publications	Inadequate regulations or procedures
5	Human Factors	• Flight Crew ATM Procedure Deviation	
<b>• Tactical Planning and Execution</b>			
6	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
7	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
8	Contextual	• Situational Awareness and Sensory Events	The pilot had generic, late or no Situational Awareness
9	Human Factors	• Lack of Action	Pilot flew close enough to cause concern despite Situational Awareness
10	Human Factors	• Monitoring of Other Aircraft	Pilot did not sufficiently integrate with the other aircraft
<b>• Electronic Warning System Operation and Compliance</b>			
11	Contextual	• Other warning system operation	Warning from a system other than TCAS

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:

#### **Ground Elements:**

**Situational Awareness of the Confliction and Action** were assessed as **ineffective** because the Merlin pilot did not request departure, and the Merryfield Tower controller was looking at a different part of the airfield which meant that the controller did not have full situational awareness of the conflicting aircraft.

#### **Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the Merlin pilot infringed the sterile area of the Duty runway without a clearance.

**Tactical Planning and Execution** was assessed as **partially effective** because the Merlin pilot did not communicate their intentions with the Tower controller prior to lifting from the confined area and infringed the sterile area of the Duty runway.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because the Wildcat pilot did not have full situational awareness on the Merlin's position in the circuit.

<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](#).

<b>Airprox Barrier Assessment: 2020165</b>		Outside Controlled Airspace						
Barrier	Provision	Application	Effectiveness 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	✓	✓					
<b>Key:</b>								
	Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	✓	!	✗	○				
Application	✓	!	✗	○	○			
Effectiveness								