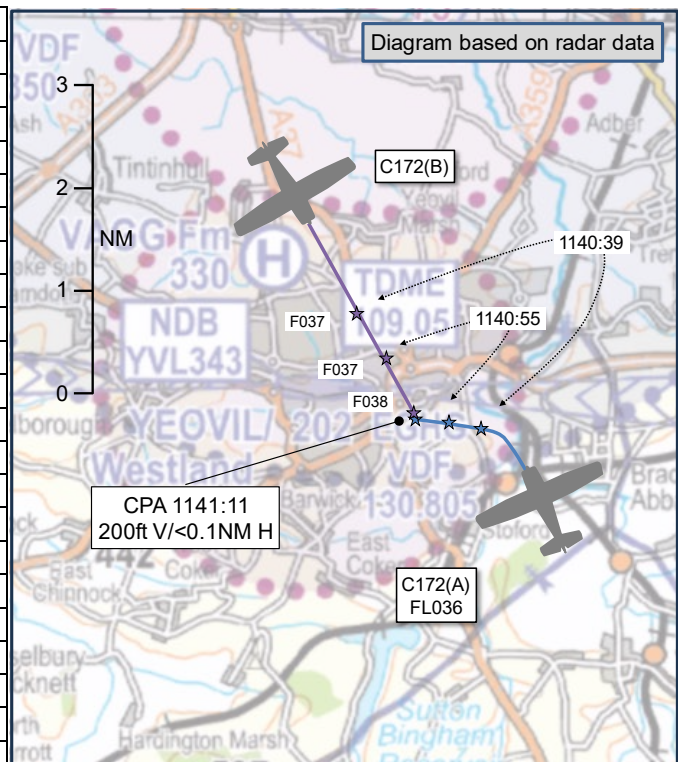


**AIRPROX REPORT No 2023253**

Date: 17 Nov 2023 Time: 1141Z Position: 5056N 00237W Location: 1NM E Yeovil Westland

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	C172 (A)	C172 (B)
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Procedural	Basic
Provider	Yeovil Westlands	Yeovilton
Altitude/FL	FL036	FL038
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	NK	Blue
Lighting	NK	Strobe
Conditions	NK	VMC
Visibility	NR	>10km
Altitude/FL	4000ft	4000ft
Altimeter	QNH	QNH (1021hPa)
Heading	NR	160°
Speed	NR	120kt
ACAS/TAS	Unknown	SkyEcho
Alert	Unknown	None
<b>Separation at CPA</b>		
Reported	NR	300ft V/500ft H
Recorded	200ft V/<0.1NM H	



**THE YEOVIL WESTLAND CONTROLLER** reports that C172(A) was on frequency and was cleared to the hold at altitude 4000ft on QNH 1021hPa at approximately 1120. Traffic Information was passed to the Yeovilton Supervisor, stating that the aircraft was squawking 4355, IFR traffic, and entering the hold at 4000ft for 2 holds and then an NDB approach. Exeter radar prenoted a DA40 at FL50 for an RNP approach. An AW101 pilot also called up at 3000ft for an RNP [approach] via OSBIR. The DA40 pilot came on frequency and was told that, due to other traffic, they would have to join the YVL hold at altitude 5000ft. Traffic Information was passed to the Yeovilton Supervisor on the DA40 and AW101 stating their squawks and that they were both IFR. The C172(A) pilot was told that, due to Westland test traffic, they could continue to hold but would not get an NDB approach. The AW101 pilot then changed their intentions and said they would be returning back visually. The Yeovilton Supervisor then called to pass Traffic Information on an overflight at 4000ft southwest of Yeovilton. Traffic Information was immediately passed to the C172(A) pilot to which they replied that they were looking. The C172(A) pilot then replied that they were visual, and the conflicting traffic was within 200ft and above. In a subsequent phone call to the Yeovilton Supervisor, the controller stated that it was very close and that that was far too late to pass Traffic Information against their IFR traffic. Their response was that the aircraft had changed track, but also that they had passed their own Traffic Information. This shows a complete lack of understanding of the traffic situation and the Letter of Agreement.

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

**THE C172(A) PILOT** reports that they were conducting training over the YVL NDB in a holding pattern. Information was passed to them by the Yeovil Westland controller regarding traffic on their right-hand side at the same level, 4000ft, that had been working Yeovil Radar (Yeovilton). Visibility was good and they assessed that, whilst the other aircraft was close, there was no risk of collision as the other aircraft was above and would pass clear.

**THE C172(B) PILOT** reports that they were advised of the Airprox by UKAB. At the time of flight no threat was observed; this is as recalled, considering no notes were taken of the event. Yeovil Radar advised traffic left, 4NM, similar level. Due to the grey uniform conditions, they were initially unable to spot the other aircraft, then advised it in sight. There was no further information from ATC, but the traffic passed below, approximately 10° left-to-right of the nose.

The pilot assessed the risk of collision as 'None'.

**THE YEOVILTON CONTROLLER** reports that they were the Radar Approach controller, working all of the radar frequencies (App, Dir, LARS/IF). The traffic level was relatively low and YVL had informed them of 2 aircraft in the YVL Hold (operating at 5000ft and 4000ft respectively). A civilian light fixed-wing [C172(B)] was receiving a Basic Service and was transiting above the MATZ at 4000ft RPS. The aircraft originally tracked to the north and re-routed to BIA maintaining a southeasterly track. They monitored the aircraft and observed a slight change to the original track and called the YVL aircraft to the [C172(B) pilot] around 4NM. They re-called the traffic to the [C172(B) pilot] at 3NM and they reported visual. Whilst this was happening, they were liaising with the Supervisor who was on the landline to the YVL controller and informed them that the [C172(B) pilot] had reported visual.

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

**THE YEOVILTON SUPERVISOR** reports that the APP controller was working APP/LARS/DIR/IF frequencies due to the low traffic levels. Yeovil Westlands was active and had called with regards to their instrument traffic. The first aircraft was in the hold at 4000ft and the second was entering the hold at 5000ft from Exeter. They (the Supervisor) passed both pieces of information to the APP controller for their situational awareness. APP then had a civilian MATZ overflight at 4000ft on the RPS, which was initially routeing southwest but, once 2NM south of Yeovilton, it turned southeast towards Bournemouth. The aircraft was in receipt of a Basic Service. They then called Yeovil Westlands to pass Traffic Information and at the same time the APP controller passed Traffic Information to the MATZ overflight pilot about the traffic at 4000ft in the Westlands Hold. The pilot reported visual and they believe that they also passed this information to the Westlands controller.

## Factual Background

The weather at Yeovilton was recorded as follows:

METAR EGDY 171120Z 25004KT 9999 FEW025 11/07 Q1021 NOSIG RMK BLU BLU=

## Analysis and Investigation

### Yeovil Westland Investigation

[C172(A) C/S] pre-booked some IFR training with Westland Approach including holding over the YVL NDB. Another aircraft, a DA40 had also booked IFR training, along with a based Merlin helicopter aircraft, who requested an RNP IFR Approach on their return.

[C172(A) C/S] joined the holding procedure at 4000ft altitude. A short while later [DA40 C/S] was routed to hold at 5000ft altitude.

In accordance with the Letter of Agreement between the two units, the Westland Approach controller passed Traffic Information in good time to Yeovil Radar on all traffic and their intentions. (Time: 1123 and 1135).

There was no reciprocal Traffic Information passed by Yeovil Radar until one minute before the incident, when Traffic Information was passed about a transiting Cessna 172 at the same level as Westland holding traffic. (Time: 1139). By this stage the aircraft were very close and separated by approximately 200ft vertically.

The C172(A) [pilot], who was receiving a Procedural Service from Westland Approach, reported seeing the transiting C172(B) pass overhead by 200ft, stating "No problem, we were well visual with him and no conflict". (Time: 1140 – 1141).

### Investigation

The recordings of the RT and landline calls were made available for the investigation but not in an easy-to-use format. A record was made of the RT and calls leading up to the incident.

The Westland Approach controller established their traffic into the holding procedure, and passed all relevant Traffic Information to Yeovil Radar. There has been a unit discussion about why the aircraft were established in the hold, above the transition altitude in the FIR, at an altitude rather than a Flight Level. With high pressure on the event day, Flight Level 40 and Flight Level 50 were both available. Indeed, the DA40 was correctly transferred to the unit at a Flight Level (50), but then instructed to adjust to an altitude. However, the incorrect assignment of altitude rather than Flight Level had no bearing on the incident.

On receiving the very late Traffic Information from Yeovil Radar about the transit traffic at the same level as the holding traffic, Traffic Information was passed swiftly to [C172(A) C/S] so that the pilot was able to visually sight the transit aircraft.

### Conclusion

The transiting aircraft under the control [sic] of Yeovil Radar, was permitted to fly towards a known IFR traffic holding area, with no timely Traffic Information passed by the Yeovil Radar ATCO to the Westlands Approach ATCO, contrary to the LOA between the two units.

## Yeovilton Investigation

### Background.

Yeovil Westland and Yeovilton ATC hold a Letter of Agreement between the 2 units due to their close proximity and Westland ATZ sitting within the Yeovilton MATZ to the south at approximately 4 miles. RNAS Yeovilton provides Lower Airspace Radar Service (LARS) for the local area, and radar Air Traffic Services (ATS) using both primary radar and SSR, iaw CAP774. Yeovil Westland does not have the facilities to provide a surveillance-based ATS and provides a Procedural Service to traffic in its instrument holds.

### Findings

Traffic Information had been passed to the aircraft under a Basic Service with Yeovilton when it was 10NM away from the Westland traffic. It was called again at 4NM, and again at 3NM when the pilot called visual. Yeovilton's traffic was under a Basic Service with the Approach controller, under its own navigation and the pilot had reported visual with the conflicting Westland traffic. Yeovilton's traffic did not require any coordination, due to being a Basic Service and reporting visual with the other aircraft. Traffic Information had been passed by the Yeovil Supervisor to the Westland controller (when separation between the aircraft was approximately 2NM). The Letter of Agreement between Yeovilton and Yeovil Westland states "In the event that the pilot of the Yeovilton IFR or VFR traffic elects to take visual separation from the Westland traffic and transit through the Westland Approach pattern, Yeovilton should pass this Traffic Information to Westland swiftly". The passing of Traffic Information was not sufficient for the Westland controller to feel satisfied with the traffic proximity to their traffic (receiving a Procedural Service with no radar available).

The Westland Air Traffic controller deemed that the separation between their procedural traffic in the NDB hold and the aircraft conducting a MATZ overflight of Yeovilton under a Basic Service was such that safety was compromised.

Yeovilton's traffic [C172(B) C/S] was under a Basic Service, Traffic Information had been passed to the pilot when the conflicting Westland traffic was 2.5NM away, this was called again and the pilot reported visual with the traffic approximately 2NM away, meeting the requirements of Traffic Information under a Basic Service. The letter of agreement states that Yeovilton should pass Yeovil Westland Traffic Information swiftly on traffic which will conflict with their procedural traffic. This was passed by the Yeovilton Supervisor when the aircraft had 2NM separation, and Yeovilton traffic had called visual with the Westland traffic. Therefore, the Letter of Agreement was fulfilled during this encounter.

Recommendation: Yeovilton XO ATC to organise a meeting/visit to Westland ATC to discuss the current Letter of Agreement, with the potential for other controllers to attend, to improve situational awareness.

### UKAB Secretariat

An analysis of the NATS radar replay was undertaken. Both aircraft could be identified using Mode S data. At Figure 1, the C172(B) could be seen overhead Yeovilton indicating FL037 and the C172(A) could be seen in the vicinity of Yeovil Westland indicating FL038.

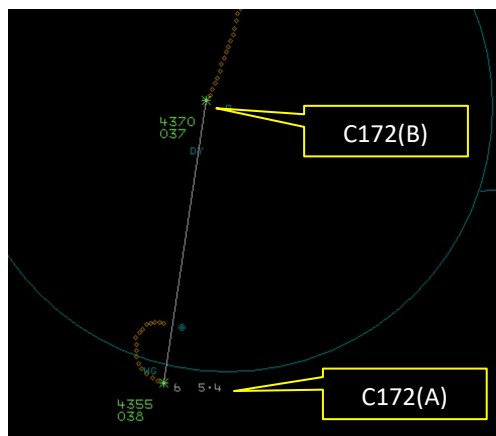


Figure 1 - 1138:32

At around 1140, the C172(B) had turned onto a southwesterly heading (see Figure 2). Whilst the C172(A) had turned back towards Yeovil Westland.

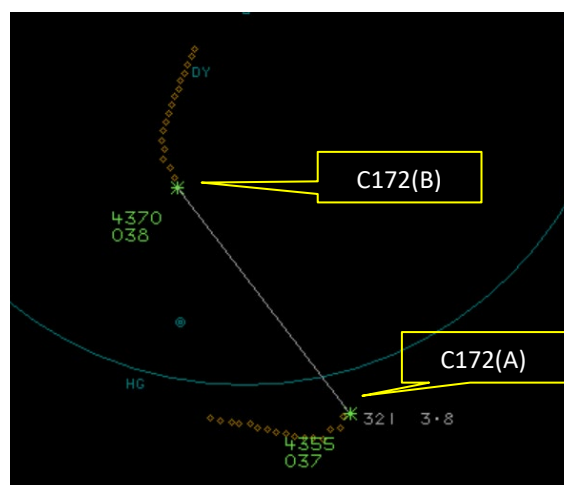


Figure 2 - 1140:00

The two aircraft continued to close until CPA at 1141:11 when the radar separation was 200ft and <0.1NM.

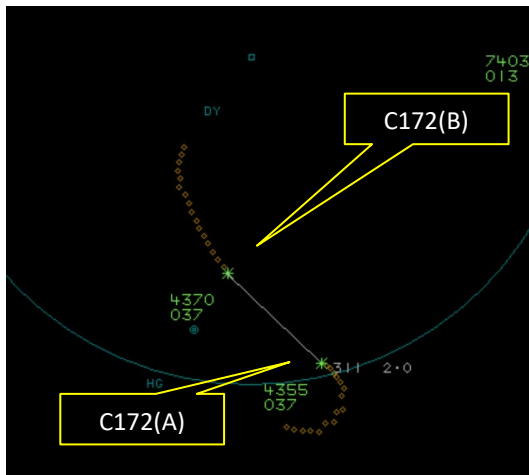


Figure 3 – 1140:31

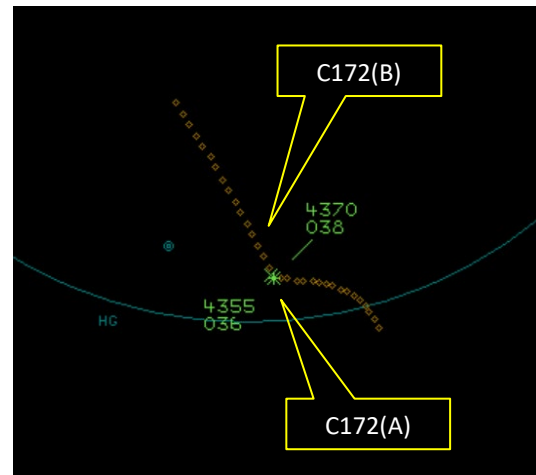


Figure 4 – 1141:11 CPA

The C172(A) and C172(B) 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> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>2</sup> If the incident geometry is considered as converging then the C172(A) pilot was required to give way to the C172(B).<sup>3</sup>

## Comments

### Yeovil Westland Comment

SATCO statement:

1. Traffic Information was passed late by Yeovilton ATCU and not in accordance with the LOA.
2. As a low intensity traffic ATC unit, the YVL hold very rarely has more than one aircraft in it at a time. Although it is Class G airspace, to route an aircraft through the hold at a similar altitude when several aircraft are holding or commencing an instrument approach is poor judgement on behalf the Yeovilton ATCO and erodes safety.
3. On looking at the ABS-B exchange data after the incident, it showed that at time 1143 C172(A) at 3600ft and C172(B) at 3700ft half mile due east, which concurs with another ATCO's visual observation of both aircraft from the VCR at that time.

## Summary

An Airprox was reported when a C172(A) and a C172(B) flew into proximity in the vicinity of Yeovil Westland at 1141Z on Friday 17<sup>th</sup> November 2023. The C172(A) pilot was operating under IFR in VMC, in receipt of a Procedural Service from Yeovil Westland and the C172(B) pilot was operating under VFR in VMC, in receipt of a Basic Service from Yeovilton.

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

Information available consisted of reports from both pilots, radar photographs and reports from the air traffic controllers involved. 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.

This Airprox had been reported by ATC, so the Board first looked at the actions of the controllers. The Westland controller had been operating without any surveillance equipment and providing a Procedural Service. This meant that they had only been able to provide Traffic Information on known traffic, an

<sup>1</sup> (UK) SERA.3205 Proximity.

<sup>2</sup> (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

<sup>3</sup> (UK) SERA.3210 Right-of-way (c)(2) Converging.

inherent risk when providing a Procedural Service in busy Class G airspace, and that they had not had any prior knowledge about the C172(B) until told about it by the Yeovilton controller (**CF3**). Whilst the controller had passed information on their traffic to Yeovilton, they had received the information on Yeovilton's traffic later than they would have wished and had been concerned by its proximity to their own traffic (**CF2**). Once they had received it, they had immediately passed Traffic Information to the C172(A) pilot which, through no fault of their own, could have been considered to have been late Traffic Information at a range of between 2-3NM away (**CF1**). However, fortunately, the C172(A) pilot had reported visual and had been unconcerned by the other aircraft.

Turning to the actions of the Yeovilton controller, they had been providing a Basic Service to the C172(B) pilot which had been routing outside the Yeovilton ATZ. They reported that, at first, it appeared that the C172(B) would not have affected Westland's traffic, however, an unexpected turn by the C172(B) pilot, on to a southeasterly heading, had taken the controller by surprise. Some members wondered whether the Yeovilton controller, knowing the destination of the C172(B) pilot, should have anticipated the turn, or at least asked the pilot for their routeing. Others countered that under the terms of a Basic Service, the Yeovilton controller had not been required to monitor the traffic on the radar anyway. Once the controller had realised the C172(B) pilot's routeing would affect the Westland traffic, they had passed Traffic Information to the C172(B) pilot and the Yeovilton Supervisor had assisted by passing the Traffic Information to Westland ATC.

The Board was heartened to hear that both ATC units had agreed to review their LOA and were undertaking liaison visits to gain a better understanding of the others' perspective, which members agreed could only be a positive step. However, a CAA advisor to the Board cautioned against Yeovilton agreeing to provide Traffic Information at a specific range on Basic Service traffic which they were not required to monitor on radar, although passing generic Traffic Information should be achievable.

When looking at the actions of the pilots, the Board quickly agreed that the C172(A) pilot could have done little more under the circumstances; they would have been focused on flying the procedure. They had received generic Traffic Information from the Westland controller (**CF6**), and their CWS had not been able to detect the other aircraft at all (**CF7**). However, once the Traffic Information had been passed, they had become visual, and had been unconcerned by the proximity of the other aircraft.

Although the C172(B) pilot had only been receiving a Basic Service from Yeovilton, they had received Traffic Information on the C172(A) on two occasions, reporting visual with the other aircraft when at a range of around 2NM. Members noted that, on receiving the first Traffic Information, after being told that the other aircraft had been operating in the Westland Hold and had been at a similar level, the pilot reported that they could not initially see the other traffic. Members thought that the pilot could have requested additional information at this point, in order to remain well clear, rather than simply continuing on track and at the same altitude (**CF5**). Once visual, the pilot had assessed that there had been no risk of collision and had continued as planned. However, members thought that the pilot could have altered their track slightly, or climbed, in order to have provided a greater margin of separation to an aircraft operating IFR and conducting a recognised approach procedure (**CF4**), noting that the C172(B) pilot had reported visual at 2NM, yet had flown within 200ft and less than 0.1NM of the other aircraft.

When determining the risk of the Airprox, the Board considered the reports from the controllers and both pilots, together with the radar screenshots. Members quickly agreed that although safety had been degraded, there had been no risk of collision because both pilots were visual with each other, Risk Category C.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

	2023253			
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	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	Concerned by the proximity of the aircraft
3	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
<b>Flight Elements</b>				
<b>• Tactical Planning and Execution</b>				
4	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
5	Human Factors	• Lack of Communication	Events involving flight crew that did not communicate enough - not enough communication	Pilot did not request additional information
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
<b>• Electronic Warning System Operation and Compliance</b>				
7	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment

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 **partially effective** because Yeovilton ATC passed late Traffic Information on C172(B) to Westland ATC.

#### **Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because the C172(B) pilot could have given the other aircraft a wider berth.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because the C172(A) pilot had only generic information on the position of C172(B).

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the CWS on C172(B) could not detect the C172(A).

<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: 2023253</b>		Outside Controlled Airspace							
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b>					
				<b>Barrier Weighting</b>					
				0%	5%	10%	15%	20%	
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓						
	Manning & Equipment	✓	✓						
	Situational Awareness of the Conflicition & 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>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>			
Provision	✓	⚠	✗	⊖					
Application	✓	⚠	✗	⊖					
Effectiveness									