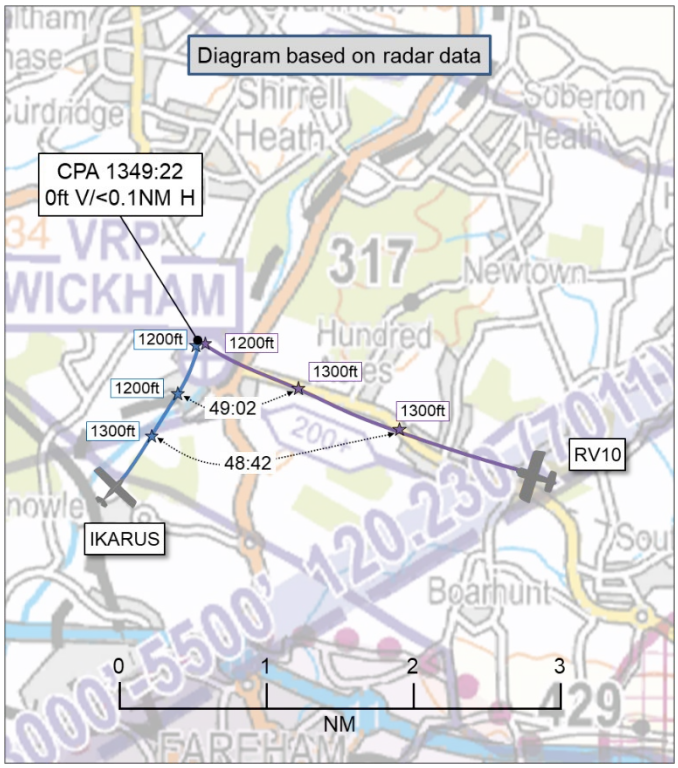
AIRPROX REPORT No 2024242

Date: 17 Sep 2024 Time: 1349Z Position: 5054N 00111W Location: Wickham VRP

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Ikarus	RV10
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Basic
Provider	Lwr Upham Radio	Solent Radar
Altitude/FL	1200ft	1200ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	Red and white
Lighting	Strobe & landing	Nav, strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1200ft	1300ft
Altimeter	QNH (1032hPa)	QNH
Heading	025°	290°
Speed	85kt	140kt
ACAS/TAS	SkyEcho/FLARM	Not fitted
Alert	Unknown[1]	N/A
Separation at CPA		
Reported	50ft V/30m H	Not seen
Recorded	0ft V/<0.1NM H	



THE IKARUS PILOT reports that the Airprox occurred at the end of a 220 mile, 3 airfield navigation exercise. On [the sector] to Stoney Cross they requested a transit of the Southampton zone at 2200ft through Bournemouth [ATC] but they were unable to clear them so passed them (free-call) to Solent Radar. They were unable to make contact with Solent before reaching Stoney Cross so descended to 1500ft for the transit [under the Solent CTA].

Moderate turbulence was encountered from Stoney Cross, with 500fpm up/down-draughts encountered including one instance of negative G. No 2-way comms was established with Solent but they were listening out with a listening squawk set. At Cowes, they set 7000 and contacted Lee Information as they were going to transit their ATZ. Lee confirmed that Fleetlands ATZ was active. They passed abeam Lee at 1700ft. They were focused on navigating to Wickham and staying clear of Fleetlands ATZ. They called Lee going enroute 3NM south of Wickham. Then they went through the local rejoin procedures: descend to 1200ft (to stay below Southampton zone in Lower Upham's local flying area), approach checks, including setting transponder to standby (from Mode A,C,S), tuning Upham Radio and calling for runway and Southampton QNH. After getting and setting the QNH they were looking out to locate their turning points to ensure that they stayed outside the Southampton Zone on the join to Lower Upham as the approach path is very tight for RW04 (100-200m clearance to the zone boundary). At this stage they saw the other aircraft at 1 o'clock above them, very close (upper right corner of the windscreen). Separation was notably less than 100m, possibly less than 30m. The aircraft was hidden by their wing (high wing) until seen. The other aircraft was flying west and flew into the Southampton Zone. It appeared to be in a slight climbing right turn and may have been taking avoiding action. From the point seen to closest approach was less than 1sec. No avoiding action was possible in the time available. There was both vertical and lateral separation but the approach was far too close for comfort.

[1] Pilot reported not referring to their EC equipment during this phase of flight.

Their aircraft (rental) had [two types of electronic conspicuity-EC] fitted displaying on an iPad on the central console in front of the control column. Navigation was on a personal [device] using in-built GPS, on a kneeboard tablet. Their focus was on avoiding controlled airspace, due to the well-publicised CAA 'zero tolerance' policy on airspace infringement and very close proximity of a flightpath to controlled airspace, maintaining their desired flightpath in turbulence and preparing for arrival. The EC tablet was not part of their scan at that time. After the event they did see the other aircraft on the EC tablet and it passed just south of the Upham local flying area and north of the Southampton ATZ. The other aircraft was heading 300°. Of note, there was a significant difference (about 10hPa) between the Portland RPS and local airfield QNH at the time.

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

THE RV10 PILOT reports that they had not seen the other aircraft and had been flying 'into sun' at the time. They had contacted Solent radar for entry clearance as they approached the Solent CTZ, in a cruise descent as they approached the airfield. Joining Solent controlled airspace for landing at Longwood Farm inside their control zone, no Traffic Information was received. They remarked that the area around Solent controlled airspace is always busy so a particularly careful lookout is needed, and neither the pilot nor their passenger saw another aircraft despite a good lookout and good visibility.

THE LOWER UPHAM AIR/GROUND OPERATOR reports they had been unaware of the Airprox [until after the event], as it had happened in Class G airspace outside their LoA within Southampton airspace.

THE LEE AFISO reports they had no contact with [the RV10] on the date in question. The timeline was as follows;

1339 – [The Ikarus pilot made their] initial call routeing [from departure point] to Lower Upham with one person on board (POB). A Basic Service was given with airport information. There was no reported traffic to affect, and they were asked to 'report overhead'. This was adjusted to reporting abeam at the pilot's request due to routeing.

1344 – [The Ikarus pilot] reported west abeam. This was acknowledged with a request to report when changing frequency.

1347 – [The Ikarus pilot] reported 3NM south of Wickham and leaving frequency. This was acknowledged.

They had no further contact with either aircraft and were unaware of any Airprox incident until the Airprox Board informed them of such.

THE SOLENT RADAR CONTROLLER had no record of the Airprox. The pilot of the RV10, on frequency, had also been unaware of the Airprox and had therefore not reported it.

Factual Background

The weather at Southampton was recorded as follows:

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METAR EGHI 171350Z 04010G21KT 340V100 9999 SCT039 19/10 Q1029
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Analysis and Investigation

CAA ATSI

[Due to callsign confusion] Southampton [was not notified until later than expected] and so no report or recorded media was available from them and no controller contribution.

Both aircraft were entering Southampton's CTR in the same area, but [the pilots] were not on the same frequency and so were unaware of the presence of the other.

[The Ikarus] was inbound to Lower Upham which is in the Bishops Waltham Flying Area (BWFA), and, in accordance with a Letter of Agreement with Southampton ATC, the pilot was able to enter the Southampton CTR without the need to call Southampton ATC.

[The RV10] was inbound to Longwood Farm strip and, in accordance with their Letter of Agreement with Southampton ATC, the pilot was required to contact Southampton ATC ("Solent Radar") to obtain a clearance to enter the Southampton CTR.

Without a report from the Southampton controller, it is not known if [the Ikarus] was visible on the Southampton Radar display, and if Traffic Information was passed to the pilot of [the RV10]. However the pilot of [the RV10] stated in their report that none was received. The pilot of [the Ikarus] was initially monitoring the Solent Radar frequency, then changed to Lee on Solent for an ATZ transit before then changing to the Upham Radio frequency rather than returning to the Southampton Radar frequency, and so would not have heard the call made by [the RV10] to Solent Radar.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were positively identified using Mode S data. CPA was assessed to have occurred at 1349:22 with the aircraft co-altitude at 800ft on 1013hPa (Figure 1).

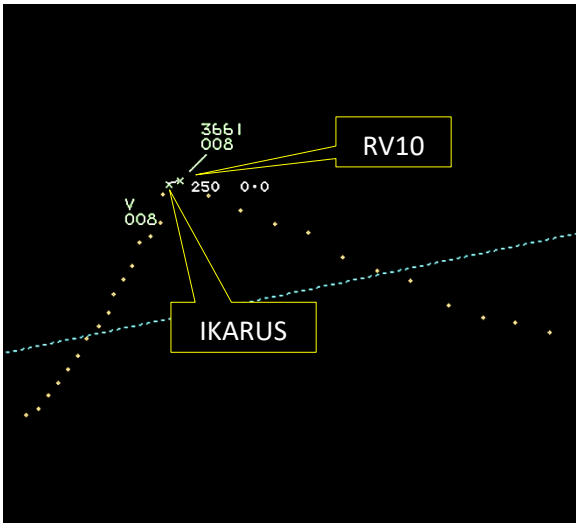


Figure 1 – Time 1349:22 CPA 0ft vertical and less than 0.1NM lateral separation

Further analysis was undertaken from the aircraft navigation GPS data, which verified the tracks converging at VRP Wickham.

The Ikarus and RV10 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2] If the incident geometry is considered as converging then the Ikarus pilot was required to give way to the RV10.[3]

Summary

An Airprox was reported when an Ikarus and an RV10 flew into proximity at Wickham VRP at 1349Z on Tuesday 17th September 2024. Both pilots were operating under VFR in VMC, the Ikarus pilot in receipt of an AGCS from Lower Upham and the RV10 pilot likely in receipt of a Basic Service from Solent Radar.

[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data, reports from the air traffic controller, AFISO and AGO involved and a report from the appropriate operating authority. 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 first looked at the actions of the Ikarus pilot and noted that the pilot had made effort to attempt to contact Solent Radar and in revising their plan to fly beneath Solent CTA when contact could not be made. In their discussions, members noted that this area is very busy airspace in which pilots would benefit from the use of electronic conspicuity equipment, and they were heartened to learn that the Ikarus had two types of this equipment installed. However, the Board was disappointed to note that the electronic conspicuity equipment fitted had not alerted as expected (**CF3**) and wondered if the equipment had been set up optimally, noting that the Ikarus pilot had seen the RV10 on the equipment after the event. Given that the pilot had not been in receipt of a service from Solent Radar, albeit one had not been required, and had not received any useful warning from the electronic conspicuity equipment, the Board agreed that they had had no situational awareness of the presence or position of the RV10 (**CF2**). Members further agreed that the Ikarus pilot had had an effective non-sighting of the RV10 as, once sighted, it had been too late for them to have taken avoiding action (**CF4**). While acknowledging that the Ikarus wing may have created some obscuration on their view of the RV10, members agreed that this would be true of all aircraft dependent on the relative positioning of approaching aircraft, therefore members reiterated the importance of weaving the aircraft occasionally to improve their profile for being seen and increasing their own view.

The Board then considered the actions of the RV10 pilot and noted that, as the pilot had been required to speak with Solent Radar as part of their zone entry procedures, they had contacted them in a timely manner and had already been displaying a Southampton transponder code at the time of the Airprox. Members noted the RV10 had not been fitted with electronic conspicuity equipment, which they felt could have helped in this scenario, and that without a Traffic Service from Solent Radar the Board agreed the pilot had had no situational awareness of the presence or position of the Ikarus (**CF2**). Furthermore, the Board agreed that the pilot had not sighted the Ikarus at all (**CF4**).

Members briefly discussed the advisability of directly overflying the Wickham VRP for either pilot. While the Board acknowledged that the Wickham VRP formed part of the Ikarus pilot's approach profile, that had not been the case for the RV10 pilot. The Board suggested that, when using any VRP or notable navigation point, pilots are advised to offset their position slightly to avoid conflict with other traffic also planning to transit the same area. Members also discussed the utility of the old quadrantal rule[4] to provide separation between aircraft, but were minded that this would have had no impact on VFR traffic below the transition level, and therefore would not have applied to this Airprox with both aircraft approaching their respective landing sites.

Turning their attention to the FIS situation, the Board agreed that Solent Radar had not been required to monitor the RV10 while it had been under a Basic service (**CF1**) and that the air/ground facility at Lower Upham would not have been aware of the RV10 outside their zone and therefore would have been unable to provide any pertinent information to the Ikarus pilot.

When determining the risk of the Airprox, the Board agreed that separation was reduced to the bare minimum, with both pilots being unaware and unsighted on the other's aircraft until the Ikarus pilot saw the RV10 too late to have been able to make any inputs to materially improve matters. Members agreed that there had been a risk of collision and that providence had played a major part in this Airprox (**CF5**). As such, the Board assigned a risk category A to this event.

[4] Reference to the quadrantal rule can be found in the UK CAA Rules of the Air Regulations 2007 (page 14), which was replaced by SERA (Standardised European Rules of the Air) on 4th December 2014 and had removed any reference to it. SERA then became 'UK retained EU legislation' when the UK formally left the EASA system on 31st December 2020.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024242			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
2	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			
3	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
4	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
	• Outcome Events			
5	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: A.

Safety Barrier Assessment[5]

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 **not used** because the Southampton ATCO was not required to monitor the RV10 under the terms of a Basic Service.

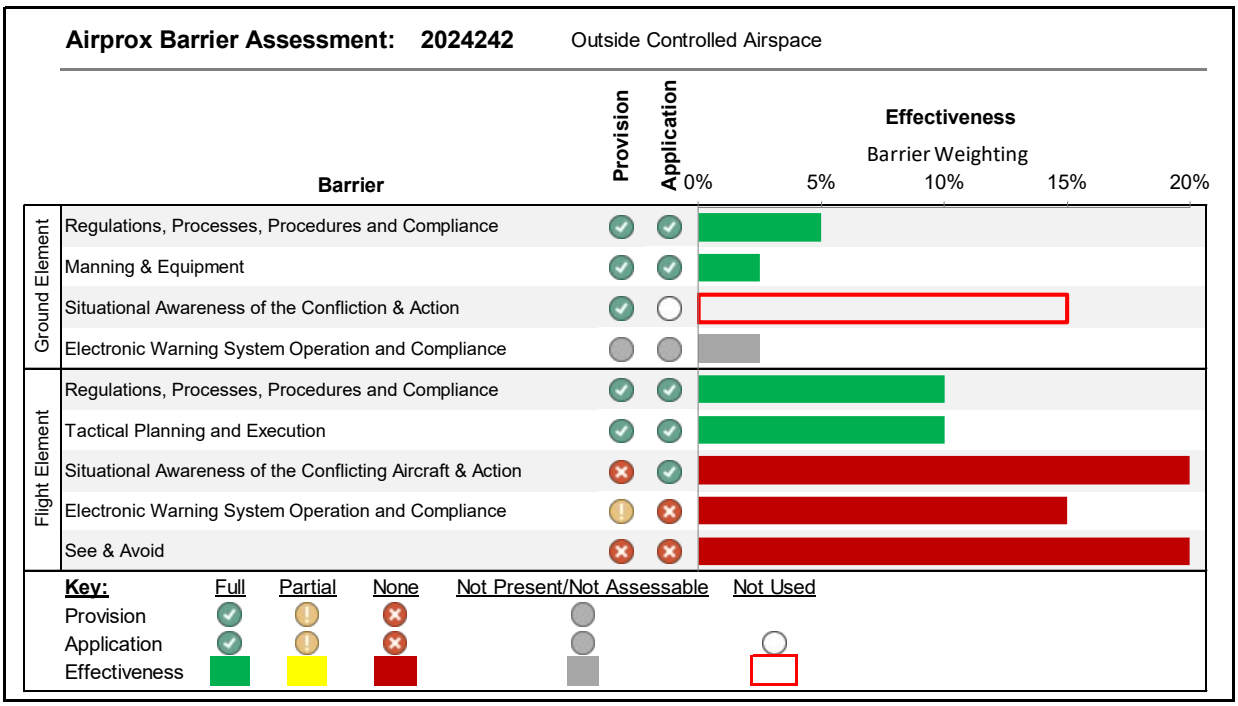
Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither the Ikarus pilot nor the RV9 pilot had situational awareness of the presence or position of the other's aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the electronic conspicuity equipment carried by the Ikarus alerted later than expected.

See and Avoid were assessed as **ineffective** because the RV10 pilot had not sighted the Ikarus, and the Ikarus pilot had seen the RV10 too late to have taken any action to increase the separation.

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


Airprox Barrier Assessment: 2024242
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
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness