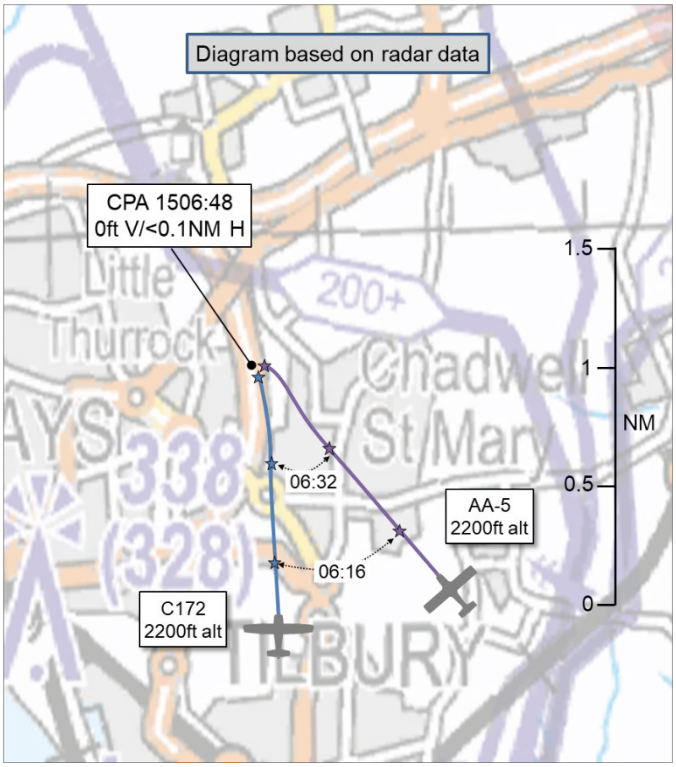
AIRPROX REPORT No 2024131

Date: 19 Jun 2024 Time: 1507Z Position: 5129N 00021E Location: Little Thurrock

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C172	AA-5
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Southend Radar	Southend Radar
Altitude/FL	2200ft	2200ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White/Blue	Red
Lighting	Bcn, strobes, ldg.	Beacon, nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2200ft	2100ft
Altimeter	QNH (1022hPa)	QNH
Heading	355°	330°
Speed	105kt	110kt
ACAS/TAS	Not fitted	PilotAware
Alert	None	Information
Separation at CPA		
Reported	100ft V/50m H	200ft V/0m H
Recorded	0ft V/<0.1NM H	



THE C172 PILOT reports that they were flying at 2200ft QNH from Gravesend towards Brentwood on a Basic Service from Southend Radar. They had started their periodic lookout, when they spotted a red/white low-wing aircraft just slightly below them and extremely close. By reflex they pulled back on the yoke to commence an avoidance manoeuvre, and then reverted to descend to remain clear of Class A airspace at 2500ft (max altitude 2400ft). ATC was advised of the event, and asked if they had the other traffic on radar, and they said they did, and that it was a Basic Service. They replied, *"it was very close".*

After the flight, they reviewed AIP requirements on Airprox reporting, and realised that they had omitted to use the word "Airprox" when advising ATC.

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

THE AA-5 PILOT reports that they saw the other aircraft to the west, clearly on a converging path. The aircraft appeared to be above them and they disconnected the autopilot in order to take evasive action. They watched the converging aircraft closely and judged that evasive action was not needed. The converging aircraft passed overhead less than the anticipated 200ft. They stated that this indicates that they should have been more active in taking evasive action.

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

THE SOUTHEND RADAR CONTROLLER reports that after receiving a report on the 24th of June regarding an Airprox on the 19th of June involving aircraft [C172 callsign] they can recall the following regarding the event:

They received a handover from the outgoing ATCO of the traffic situation at approximately 1500. They were advised that [the C172] was under a Basic Service to the southwest of Southend outside controlled airspace.

The [pilot of the] aircraft reported traffic, just after the handover, that was close. They advised the pilot, *"Roger, Basic Service".* Their thought was to remind the C172 pilot of the current service they were under to give them the opportunity to upgrade the service if they deemed it appropriate.

At no point did the pilot in question mention an Airprox.

Factual Background

The weather at Southend was recorded as follows:

```
METAR EGMC 191450Z 07012KT 030V100 9999 FEW032 18/11 Q1022
```

CAP 774 – UK Flight Information Services, Chapter 2, Para 2.1 states that,

> 2.1 A Basic Service is an ATS provided for the purpose of giving advice and information useful and efficient conduct of flights. This may include weather information, changes of serviceability of facilities, conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot's responsibility.
>
> *Basic Service relies on the pilot avoiding other traffic, unaided by controllers/ FISOs. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.*

Analysis and Investigation

Southend Airport

An Airprox was notified to London Southend Airport ATC by the UKAB regarding two aircraft operating in Class G (uncontrolled airspace) that were, at the time the Airprox occurred, both in receipt of a Basic Service from Southend Radar. At the time of the Airprox, the C172 was on a local VFR flight and the AA-5 was on a VFR flight from [the southeast to destination].

Following the occurrence, the C172 pilot commented on the proximity of the AA-5 traffic to Southend Radar, neither pilot, however, reported an Airprox directly to Southend ATC.

Whilst investigating this occurrence, the investigator had access to the recorded R/T and surveillance data consisting of the 'at the glass' recordings of the Southend Radar Controller's Working Position (CWP). At the time of the occurrence the Southend Radar controller was providing an Approach control service in combined ('band-boxed') configuration, the traffic loading was low-to-moderate.

At time 1439:19, [the C172 pilot] called Southend Radar and requested a Basic Service. The pilot reported that they were [operating] a C172 on a local, VFR flight at 1300ft on QNH 1022hPa, and requested that their flight plan be opened. In response, the Southend Radar controller instructed them to pass their message. The pilot then repeated the original message; however, they reported their aircraft type as being a C152, and added their position and routeing. The Southend Radar controller did not reply to that transmission due to an incoming telephone call from London Terminal Control (LTC) South.

At time 1440:00, LTC South called regarding IFR Cessna Citation traffic inbound to Southend from the south. This telephone call was somewhat protracted due to high R/T loading on the LTC South frequency. Co-incident to this, [the C172 pilot] called Southend and requested a radio check. This transmission was also not replied to as the Southend Radar controller was engaged in co-ordinating the Citation's inbound release.

At time 1440:35, [the C172 pilot] again requested a radio check. The Southend Radar controller instructed them to pass their message regarding the opening of their flight plan. The pilot passed their flight details again, and added that they were climbing to altitude 2300ft. The Southend Radar controller seemed slightly confused regarding the pilot's flight plan request, and requested confirmation that they were requesting a Basic Service. The pilot confirmed that they were requesting a Basic Service, the Southend Radar controller then instructed them to squawk 5066, and a Basic Service was agreed.

At time 1455:48, [the C172 pilot] reported their [position and routeing] at 2300ft. The Southend Radar controller acknowledged the information. The pilot of [the C172] then requested clarification as to whether their flight plan had been opened. The controller explained that a flight plan had not been opened because the pilot had previously stated that they were routeing from [A to A],VFR. The pilot replied with "never mind."

At time 1501:44 (Figure 1), [the AA-5 pilot] called Southend Radar and requested a Basic Service. They reported that they were an AA-5 from [departure point to destination], 2NM to the north of Rochester at 2200ft on the Southend QNH. The Southend Radar controller instructed them to squawk 4575,[1] and a Basic Service was agreed.

There was a change of controller between these times.

At time 1506:14, according to the recorded surveillance data, [the AA-5] was approximately 1NM to the east of [the C172], on a converging track. Mode C on both aircraft indicated 2300ft (Figure 1).

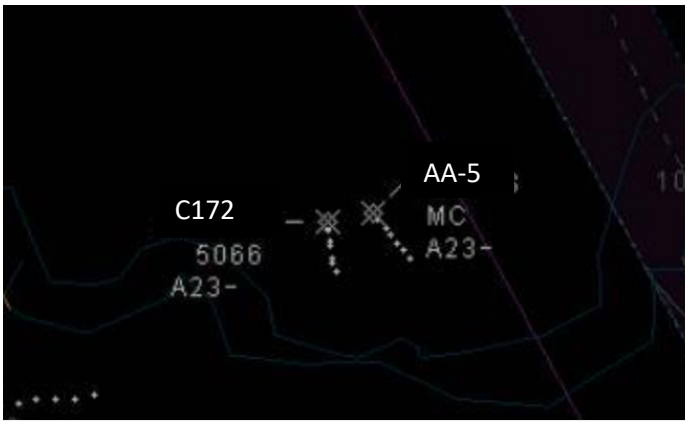


Figure 1 – Southend Radar at 1506:14

At time 1506:45 CPA occurred when the radar contacts merged, and the Mode C on both aircraft indicated 2300ft (Figure 2),

Figure 2 Southend Radar 1506:45 (CPA)

[1] Southend's conspicuity code.

At time 1507:01 [the C172 pilot] called Southend Radar and asked whether the traffic on their left side was indicating on radar. The Southend Radar controller reminded them that they were under a Basic Service. The pilot of [the C172] then commented that the other traffic had been *"very close."*

At time 1509:28, the Southend Radar controller instructed [the AA-5] pilot to squawk conspicuity and free-call [their next frequency].

At time 1513:53, the Southend Radar controller instructed [the C172 pilot] to squawk conspicuity and free-call [their next frequency].

Prior to the Airprox, the pilot of the C172 was concerned about whether their flight plan had been opened. It is not usual for short-duration, local, VFR flights, operating outside controlled airspace to file flight plans, and it is not clear whether the pilot had filed a full flight plan in advance. It is possible that they were unfamiliar with UK Flight Planning procedures as referenced in the UK AIP (ENR 1.10). In any event, the details the pilot passed to Southend ATC via the radio fulfilled the criteria of an 'abbreviated flight plan', and were sufficient for their intended routeing outside controlled airspace.

At the time the Airprox occurred, [the pilots of] both aircraft were in receipt of a Basic Service from Southend Radar in line with CAP 774 (see above).

It is noteworthy that the Airprox occurred shortly after a controller handover had taken place. As part of this investigation, the Southend Radar controller was asked about their recollection of the Airprox. They stated that, prior to the pilot of the C172 commenting on the proximity of the AA-5, they had not been monitoring the tracks of either aircraft. They went on to state that after the C172 pilot's sighting report, they reminded them that they were under a Basic Service in order to give the pilot the opportunity to upgrade the service should they deem this to be appropriate. The C172 pilot did not request for the service to be upgraded, and they continued to receive a Basic Service until they left the Southend Radar frequency.

In conclusion, an Airprox occurred in Class G (uncontrolled) airspace. Both aircraft involved were operating VFR, and were receiving a Basic Service from Southend Radar. The Southend Radar controller was not required to monitor either the C172, or the AA-5, and the pilots of both aircraft involved had equal responsibility for avoiding the other traffic.

CAA ATSI

The report from Southend has been reviewed and ATSI has only one comment which they have made previously on the importance of pilots reporting "Airprox" at the time to ensure they capture the controller's recollection with little or no delay, rather than having to rely on retrospective reporting.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken, and both aircraft were visible throughout and identified using Mode S data. CPA was seen as the aircraft paths crossed at 1506:48 with 0ft vertical and 0.0NM horizontal separation indicated, depicted in the diagram on page 1 and Figure 3 below as less than 0.1NM due to known radar resolution limitations.

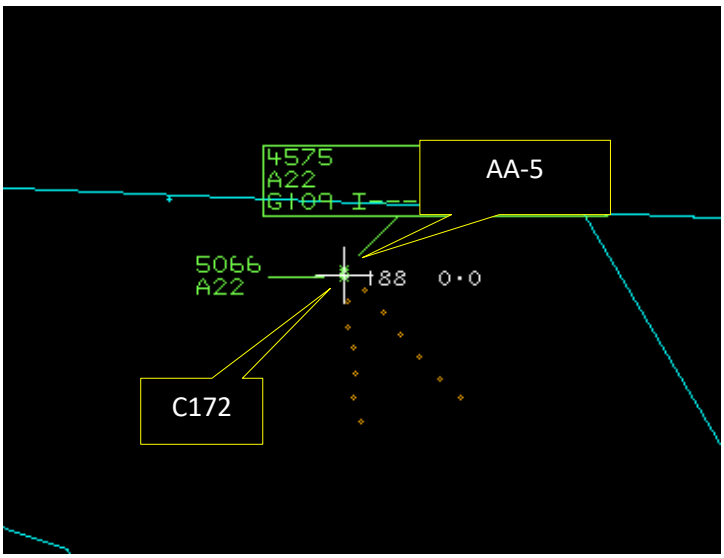


Figure 3 Time 1506:48 CPA separation 0ft and <0.1NM

The C172 and AA-5 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 overtaking then the C172 pilot had right of way and the AA-5 pilot was required to keep out of the way of the other aircraft by altering course to the right. An overtaking aircraft is an aircraft that approaches another from the rear on a line forming an angle of less than 70 degrees with the plane of symmetry of the latter, i.e. is in such a position with reference to the other aircraft that at night it should be unable to see either of the aircraft's left (port) or right (starboard) navigation lights. An aircraft that is being overtaken has the right-of-way and the overtaking aircraft, whether climbing, descending or in horizontal flight, shall keep out of the way of the other aircraft by altering its heading to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from this obligation until it is entirely past and clear. An aircraft that is obliged [...] to keep out of the way of another shall avoid passing over, under or in front of the other, unless it passes well clear and takes into account the effect of aircraft wake turbulence.[3]

Summary

An Airprox was reported when a C172 and an AA-5 flew into proximity at Little Thurrock at 1507Z on Wednesday 19th June 2024. Both pilots were operating under VFR in VMC and both pilots were in receipt of a Basic Service from Southend Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller 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.

The Board first discussed the ATC elements of this Airprox report and noted that, while it had been unfortunate that the incident had occurred at or around the time of a controller handover, the controller had not been required to monitor the flights of either the C172 or the AA-5, the pilots of which had both been in receipt of a Basic Service as per CAP 774 referenced above (**CF1**). However, there had been a degree of disappointment among some members who considered whether the controller could have provided Traffic Information to one or both pilots anyway, especially as their workload had been

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

described as 'low to moderate' at the time and both aircraft had been visible on radar with Southend squawks, in line with CAP 774 Ch2 para 2.8.[4]

Turning their attention to the actions of the C172 pilot, members were heartened that the pilot had latterly read the reference in the UK AIP ENR 1.14 with regards to the reporting of Airprox. The Board agreed that, although a Basic Service is often considered to be sufficient in uncontrolled Class G airspace with good visibility, in this case it would have been prudent for the C172 pilot to have been in receipt of a Traffic Service (**CF3**), and that this in turn would have helped with the C172 pilot's situational awareness regarding the presence of the AA-5, which at the time had been none (**CF5**). Members further noted that had the C172 been fitted with an electronic conspicuity (EC) device that this may have also increased the C172 pilot's situational awareness of the position of proximate traffic and have enabled them to have had an earlier sighting of the AA-5. Under the particular circumstances of this Airprox, the Board considered that the C172 pilot had not seen the AA-5 until at or around CPA, effectively constituting a non-sighting (**CF8**).

The Board then looked at the actions of the AA-5 pilot and acknowledged that the pilot had had situational awareness of the C172, having received information from their EC device (**CF6**) and then sighting it. However, members were very concerned about the pilot's lack of action on having spotted the C172 and wondered if the pilot had thought, with the C172 on their left, that the C172 pilot should have given way to them and had consequently flown into conflict with the C172 (**CF7**). The Board agreed that the AA-5 pilot had not taken timely action to avoid the C172 (**CF4**) and that, in so doing, they had not complied with the regulations and procedures for overtaking the other aircraft as detailed above (**CF2**). Members also agreed, after some discussion, that the AA-5 pilot may also have benefitted from a Traffic Service but had only requested a Basic Service (**CF3**).

Concluding their discussions, and in determination of risk, members agreed that the separation between the C172 and the AA-5 had been such that safety had been much reduced and that there had been a risk of collision (**CF9**). As such, the Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024131			
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			
	• Regulations, Processes, Procedures and Compliance			
2	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	• Tactical Planning and Execution			
3	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
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
	• Situational Awareness of the Conflicting Aircraft and Action			
5	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			

[4] If a controller/ FISO considers that a definite risk of collision exists, a warning shall be issued to the pilot ((UK) SERA.9005(b)(2) and GM1 (UK) SERA.9005(b)(2))

6	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
7	Contextual	• Loss of Separation	An event involving a loss of separation between aircraft	Pilot flew into conflict
8	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			
9	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: B.

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 Southend controller was not required to monitor either the C172 or the AA-5 as both pilots were receiving a Basic Service.

Flight Elements:

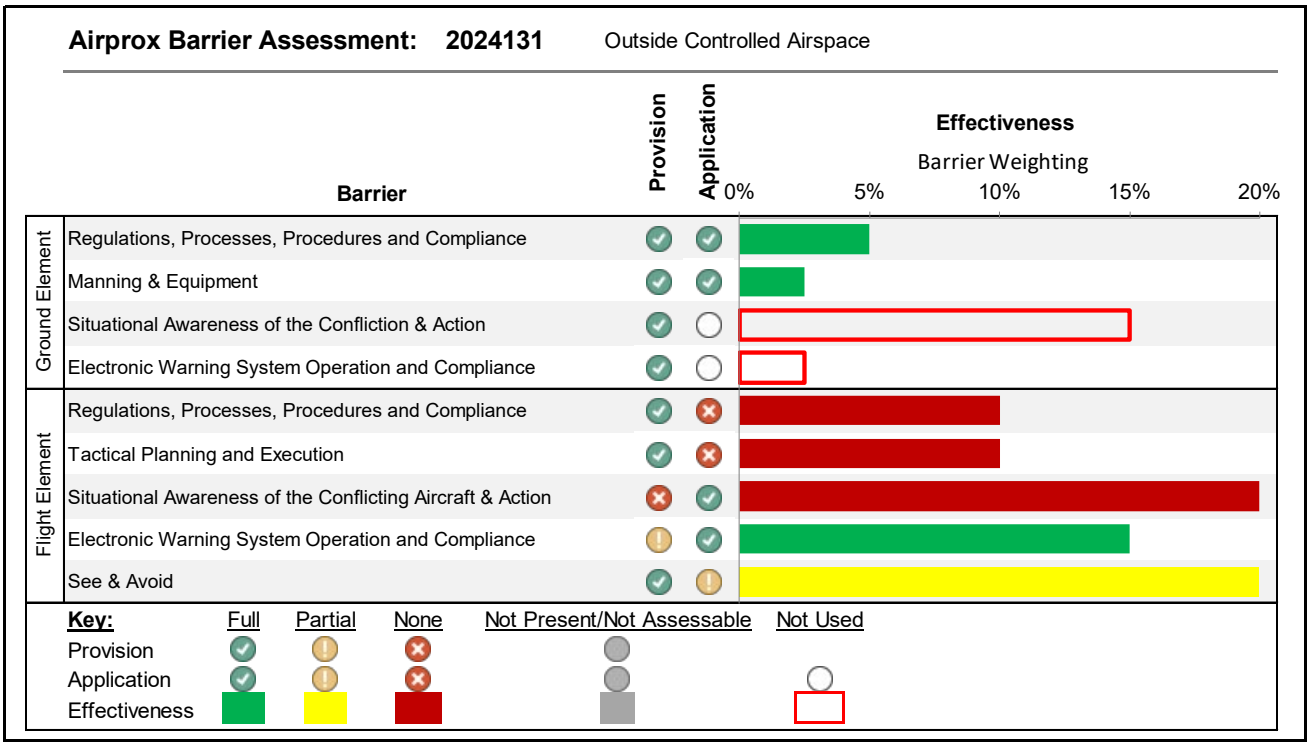
Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the AA-5 pilot had not followed the correct procedure for overtaking another aircraft.

Tactical Planning and Execution was assessed as **ineffective** because the AA-5 pilot had not taken timely or effective action to avoid the C172, and that neither the C172 pilot nor the AA-5 pilot had requested a Traffic Service.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the C172 pilot had been unaware of the presence of the AA-5.

See and Avoid were assessed as **partially effective** because C172 pilot had only seen the AA-5 at or around the moment of CPA.

[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: 2024131
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