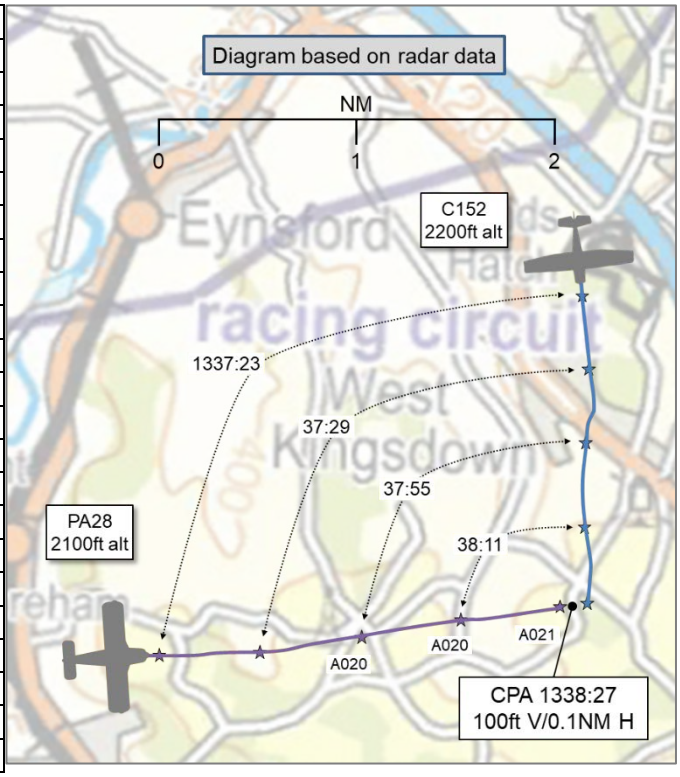
AIRPROX REPORT No 2021153

Date: 19 Aug 2021 Time: 1338Z Position: 5119N 00015E Location: 1NM S Brands Hatch

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152	PA28
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	AFIS
Provider	Farnborough East	Rochester Info
Altitude/FL	2200ft	2100ft
Transponder	A, C	A, C, S
Reported		
Colours	White	White
Lighting	Anti-Col	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	1900-2300ft
Altimeter	QNH (1014hPa)	QNH (1015hPa)
Heading	NR	095°
Speed	85kt	95kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	0ft V/30m H	50ft V/70-80m H
Recorded	100ft V/0.1NM H	



THE C152 PILOT reports that they were on a VFR flight from [departure airfield] to [destination airfield] and were at 2000ft just south of 'London golf club', West Kingsdown. They were in receipt of a Basic Service from Farnborough east and keeping good lookout. Whilst looking out to their right, (the west) they saw an aircraft at the same height that appeared to be about to collide [with the] the side of their aircraft. Before they had had a chance to react, the pilot of the other aircraft spotted them and did a sharp left turn (to the north east). They report that they were pretty shocked and called on the radio '*aircraft to my right'*, but had received no response from the [pilot of the other] aircraft. The C152 pilot opined that there had been a clear failure of both pilots to keep good lookout, but they felt that the pilot of the other aircraft had been in a much better position to see their aircraft and they were horrified that they [hadn't seen the C152] until it was almost too late.

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

THE PA28 PILOT reports that they were on an instrument training detail to Detling VOR. Their student's flying [had been] erratic with large heading and altitude excursions due to lack of practice. Their altitude [was between] 1900ft and 2300ft. They contacted Rochester information [when they were to the] east of Brands Hatch as they would have possibly needed to transit their ATZ . They saw the other aircraft to the left of the nose, late. The other aircraft was crossing ahead, left to right, [at a] similar level. The PA28 pilot made a turn to the left to increase separation. Relative bearing [was now] changing rapidly. The other aircraft crossed ahead of them. They had been somewhat distracted and hadn't seen the other aircraft as they were concerned that they might have infringed the London TMA (2500ft amsl) if they hadn't kept a close watch on their student's handling.

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

THE FARNBOROUGH LARS CONTROLLER reports that they received notification that they had been operating the Farnborough LARS east frequency when an Airprox occurred. The Airprox was not reported on frequency, however, after being informed of the callsign and details of the flight, they do

remember hearing what they believed to be a pilot say "aircraft to the right" on frequency, without any callsign attached. Although they can't be sure, they opined that it may be that this transmission was linked to the later reported Airprox. They believe all aircraft on frequency at the time were under a Basic Service.

THE ROCHESTER AFISO did not respond.

Factual Background

The weather at Biggin Hill was recorded as follows:

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METAR EGKB 191320Z 25008KT 200V300 9999 SCT035 19/12 Q1015
METAR EGKB 191350Z 25008KT 200V290 9999 BKN027 19/13 Q1014
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Analysis and Investigation

Farnborough Investigation

[The pilot of a C152] working LARS east and operating under a Basic Service, retrospectively reported an Airprox. Radar replays show that it had involved an aircraft working Biggin Hill[1]. Radar repays and controller reports have been viewed. LARS N and E were band-boxed with light to moderate traffic, and at a level well below what would be considered busy by Farnborough.

[The C152 pilot] first called at 1333:40. It was a Cessna 152, 1 person on board, routing [departure airfield] to [destination airfield] and requesting a Basic Service. [Farnborough] radar gave them a squawk of 1730 and a Basic Service.

At time 1338:23 the radar return of [C152], indicating 2200ft, merged with the return of an aircraft squawking 7047 - a Biggin conspicuity squawk. It was at this point a transmission was made [saying] 'aircraft to my right' by a pilot, but no callsign was heard. There was no further reference made to the event during the recording. The controller at the time was trying to establish 2 way contact with [another aircraft] following a series of attempts.

The transcript follows, with screenshots at appropriate times [UKAB note - raw data radar screenshots provided but not included in this report]:

1333:40 (C152 c/s) – "*Farnborough east this is [C152 c/s] requesting a Basic Service"*
1333:46 (Controller) – "*[C152 c/s] Farnborough radar pass your message"*
1333:49 (C152 c/s) – *"[C152 c/s] QE2 bridge erm on a flight from [departure airfield] to [destination airfield] via Brighton and Whitstable One POB Cessna One Five Two requesting a Basic Service"*
1334:02 (Controller)– "*[C152 c/s] QNH One Zero One Four Basic Service squawk One Seven Three Zero"*
1334:10 (C152 c/s)– "*er [C152 c/s] could you repeat the QNH and er squawk code please"*
1334:16 (Controller)– "*[C152 c/s] squawk One Seven Three Zero Basic Service QNH One Zero One Four"*
1334:24 (C152 c/s)– "*er [C152 c/s] squawking One Seven Three Zero QNH One Zero One Four [C152 c/s] Basic Service"*
1335:13 (Controller) – "*[C152 c/s] report your altitude"*
1335:17 (C152 c/s)– "*[C152 c/s] Two Thousand One Hundred Feet"*
1335:21 (Controller) – "*Roger"*

(the next few transmissions are an aircraft leaving the frequency to Biggin, and what follows is the controller trying to contact an aircraft calling LARS north).

1337:25 (Other aircraft) – "*Farnborough north er [other aircraft c/s]"*

[1] UKAB note - The pilot was in contact with Rochester Information but had retained the Biggin Hill conspicuity squawk.

1337:29 (Controller) – "*[Other aircraft c/s] Farnborough pass your message"*

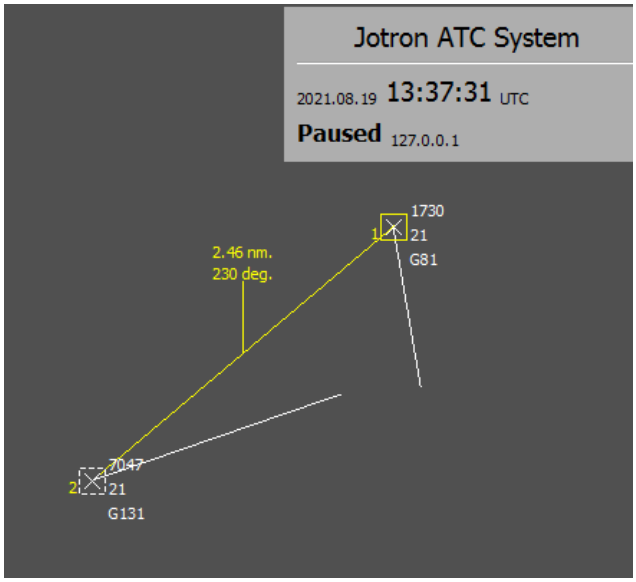


Figure 1 – approximately one minute before the Airprox

1337:37 (Controller) – "[*Other aircraft c/s] Farnborough radar pass your message"*
13:37:47 (Other aircraft) – "*Farnborough north er [other aircraft c/s]"*
1337:51 (Controller) – *"[Other aircraft c/s] Farnborough radar pass your message"*

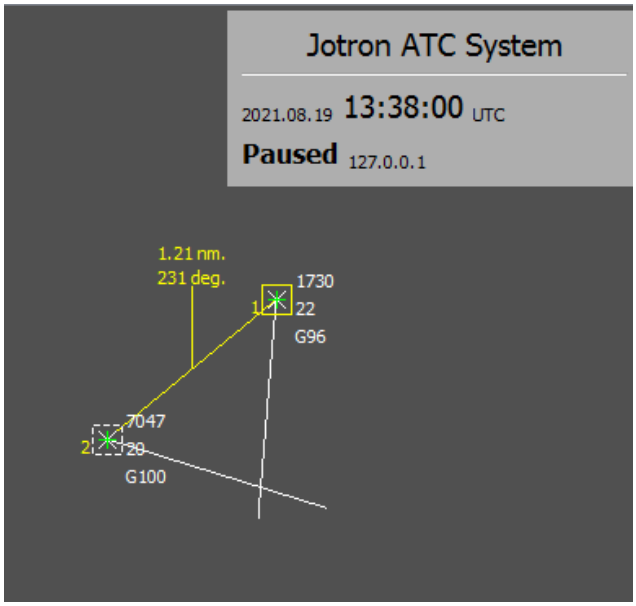


Figure 2

1338:17 (Controller) – "*[Other aircraft c/s] Farnborough radar pass your message"*

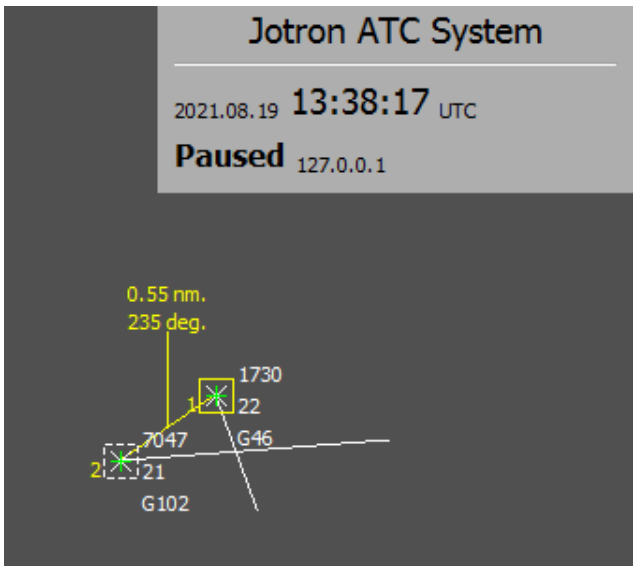


Figure 3

1338:24 (No callsign) – "*aircraft to my right*"

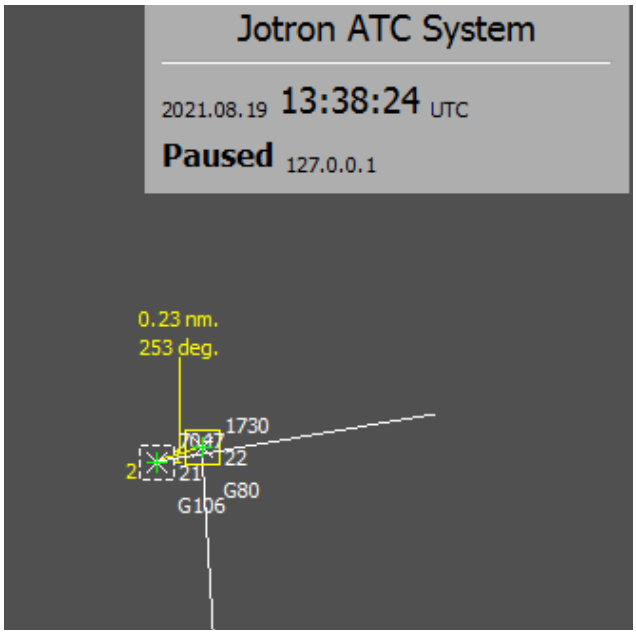


Figure 4 – when the "*aircraft to my right*" transmission is made

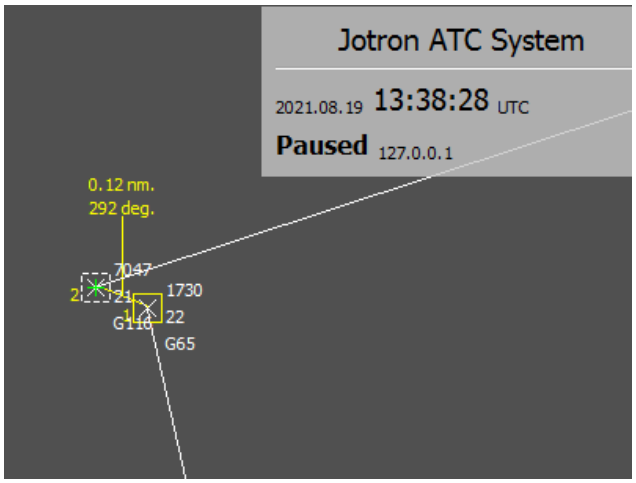


Figure 5 – the closest measured point, but [C152] has passed the 7047 squawk. 0.12NM and 100ft

1338:27 (Other aircraft) – *"er [other aircraft c/s] radio check"*
1338:30 (Controller)– "*[Other aircraft c/s] Farnborough readability strength five pass your message "*

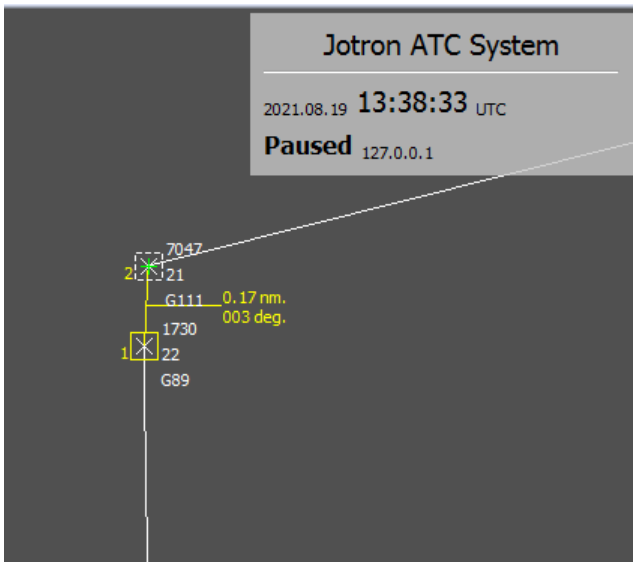


Figure 6 – zoomed to show [C152] has passed to the south of 7047

1338:51 (Controller) – "*[Other aircraft c/s] nothing heard"*

When the transmission *'aircraft to my right'* was made, the distance between [the C152 and the PA28] was 0.23NM and 100ft. The next sweep shows [C152] has passed in front of the 7047 squawk. The controller, from their report, had a vague recollection of a transmission of *'aircraft to my right'* being made, but nothing else reported on frequency.

[The C152 pilot], on a Basic Service at the time, reported retrospectively an Airprox. [The C152 pilot] was using the LARS east frequency, and the other aircraft the Biggin [Hill] frequency. It is believed, although it cannot be confirmed as there is no callsign before the transmission, that the pilot of [the C152] reported an aircraft on their right, but no mention of an Airprox was made on frequency.

Radar replays show that [the C152] came very close to an aircraft working Biggin Hill. At that time, the LARS north and east controller was trying to contact an aircraft who had free-called LARS north but could not establish two way [communications] with them.

MATS pt. 1 Section 1 Chapter 12, Paragraph 2E.1 states "Given that the provider of Basic Service is not required to monitor the flight, pilots should not expect any form of Traffic Information from a controller. A pilot who considers that he requires a regular flow of specific Traffic Information will request Traffic Service." Furthermore, paragraph 2F.1 states "Deconfliction is not provided under Basic Service. If a pilot requires deconfliction advice, deconfliction service will be requested. A controller shall make all reasonable endeavours to accommodate such a request as soon as practical." As such, given the parameters of a Basic Service, the pilot cannot expect to receive Traffic Information. If a controller sees a particular hazard, they can pass information to a pilot, but at the time of the Airprox, the controller was trying to contact a pilot on the LARS north sector, and their attention was elsewhere.

UKAB Secretariat

At the time of the Airprox the pilot of the PA28 was in communication Rochester Information but had retained the Biggin Hill conspicuity squawk of 7047. It should be noted that ATC at Biggin Hill is not surveillance equipped and this transponder code is allocated to Thames Radar which provides

surveillance services for pilots of flights operating to and/or from Biggin Hill requiring a Deconfliction Service or Traffic Service.

The C152 and PA28 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 C152 pilot was required to give way to the PA28.[3]

Summary

An Airprox was reported when a C152 and a PA28 flew into proximity 1NM south of Brands Hatch at 1338Z on Thursday 19th August 2021. Both pilots were operating under VFR in VMC, the C152 pilot in receipt of a Basic Service from Farnborough LARS east and the PA28 pilot in receipt of an aerodrome flight information service from Rochester Information.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, 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.

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 first discussed the actions of the C152 pilot and noted that they had been utilising a Basic Service from Farnborough east. It was agreed that this is a busy area for GA aircraft and the Board reiterated the fact that under a Basic Service, the ATCO is not required to monitor the flight (**CF1**) and so, in terms of collision avoidance, a Basic Service does little to supplement the pilot's lookout. The C152 pilot had not been aware of the PA28 operating in the area (**CF2**) and, when the C152 pilot did become visual with the PA28, it had been too late for the pilot to be able to take any effective avoiding action (**CF5**).

When discussing the actions of the PA28 pilot, the Board noted that they had retained the listening squawk from Biggin Hill but had been in contact with Rochester Information as they had anticipated crossing their ATZ. The Board considered whether the PA28 pilot had over-prioritised airspace infringement avoidance, given the comments regarding distraction (**CF3**). The Board agreed that, although the PA28 pilot had become visual with the C152 at a late stage, it had been in time to take emergency avoiding action (**CF4**). Members agreed that the PA28 pilot had had no previous awareness of the C152 being in the vicinity (**CF2**) and so had been relying on their lookout.

Finally, in assessing the risk of collision, the Board discussed that neither pilot had had any awareness of the presence of the other, and that the air traffic services that they had been receiving had provided no additional mitigation to the risk of collision. Members agreed that there had been a risk of collision (**CF6**), but that the action of the PA28 pilot had generated sufficient separation to reduce the risk of collision – although not remove it entirely – and that safety had been much reduced. Accordingly, the Board assigned a Risk Category B to this Airprox.

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

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021153			
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 or only generic, Situational Awareness
	• See and Avoid			
3	Human Factors	• Distraction - Job Related	Events where flight crew are distracted for job related reasons	
4	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
5	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			
6	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[4]

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

Ground Elements:

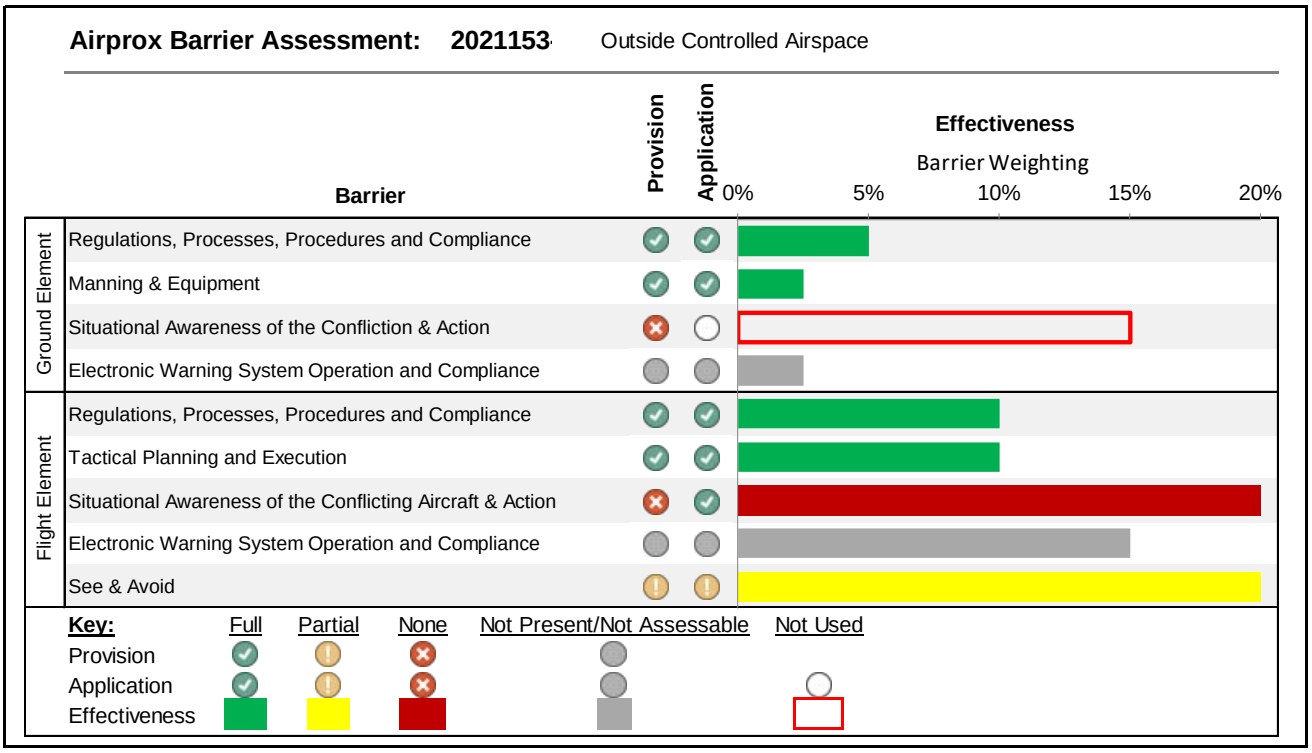
Situational Awareness of the Confliction and Action were assessed as **not used** because, the controller was not required to monitor the flight under a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot was aware of the presence of the other aircraft.

See and Avoid were assessed as **partially effective** because, the PA28 pilot only saw the C152 in time to take emergency avoiding action.

[4] 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: 2021153 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