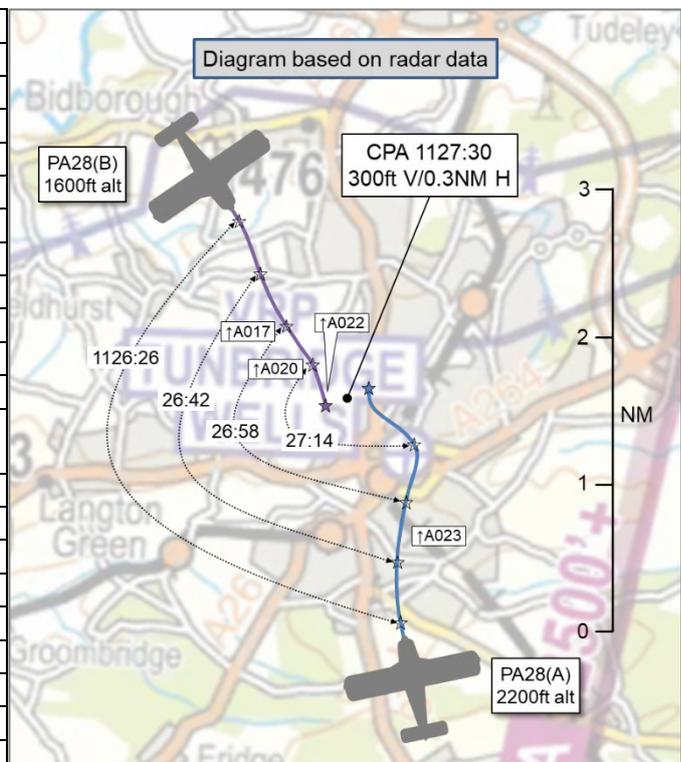


## AIRPROX REPORT No 2021036

Date: 22 Apr 2021 Time: 1128Z Position: 5108N 00015E Location: Tunbridge Wells

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28(A)	PA28(B)
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Farnborough	Farnborough
Altitude/FL	A023	A022
Transponder	A, C, S	A, C
<b>Reported</b>		
Colours	White, red	White, red
Lighting	Anti-coll, beacon, strobes	Beacon, nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2150ft	Climbing to 3000ft
Altimeter	QNH (1027hPa)	QNH
Heading	N/K	N/K
Speed	100kt	70kt
ACAS/TAS	Not fitted	Not fitted
<b>Separation</b>		
Reported	0ft V/500m H	N/K V/N/K H
Recorded	100ft V/0.3NM H	



**THE PA28(A) PILOT** reports being on a routine navigation training flight. When overhead Tunbridge Wells the student was turning left onto a southerly heading when they noticed the aircraft and correctly took immediate action. The instructor at the time was looking down at routing information and did not immediately see the aircraft but, when looking up when the turn started, saw the aircraft immediately. Aggressive avoiding action was taken – a steep turn to the right – and the instructor took over to increase rate of turn. The Airprox was notified on frequency. The other aircraft is not thought to have seen them as no avoiding action was noticed.

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

**THE PA28(B) PILOT** reports that, in their opinion, this was not a significant Airprox. As they were levelling-off from a climb, there was an aircraft approximately 1000ft to their left. They lowered the nose every 500ft during the climb and did not hear any Traffic Information from Farnborough Radar. They only saw the aircraft as they were levelling off and considered it to be nothing significant.

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

**THE FARNBOROUGH LARS EAST CONTROLLER** reports working LARS North and East band-boxed. They considered their workload as medium-high but manageable and had approximately 15 aircraft on frequency, all receiving a Basic Service. There was a relatively high traffic density on LARS East with approximately 10 aircraft on the LARS East frequency and several more in the area working other units or squawking 7000. Splitting the frequencies was not possible due social distancing requirements. During the session they had been passing generic Traffic Information to various Basic Service aircraft due to a perceived collision risk. During a routine scan they noticed two radar data blocks garbling in the vicinity of Tunbridge Wells and rotated them using the mouse. They saw that the data blocks corresponded to aircraft on frequency and saw that the radar returns had passed each other so they didn't pass Traffic Information. Shortly afterwards, the pilot of [PA28(A)] reported an

Airprox. The controller asked them to report the details when able and the pilot reported they were head-on to a Cherokee at 2000ft, same level, overhead Tunbridge Wells. The pilot then requested a frequency change to Gatwick. The controller contacted the other aircraft believed to be involved ([PA28(B)]) to check that they were OK. The pilot confirmed that they saw the other aircraft as they were climbing and did not think that it was that bad. They confirmed that they did not have any flight issues. The controller advised both pilots that they would raise a safety report.

## Factual Background

The weather at Gatwick Airport was recorded as follows:

METAR EGKK 221120Z 09009KT CAVOK 12/01 Q1027=

## Analysis and Investigation

### NATS Farnborough

[The PA28(A) pilot], whilst working LARS East, reported an Airprox with another aircraft [PA28(B)] at 2000ft. [The PA28(A) pilot] reported that the aircraft had been 'head on' over Tunbridge Wells.

Traffic workload was medium to high but manageable. The event happened when [the PA28(A) pilot] contacted Farnborough radar to report an Airprox with [PA28(B)] which, at the time, was working LARS North and East band-boxed on frequency 123.225Mhz. [The PA28(A) pilot] reported visual with [PA28(B)] at 2000ft, same level as [PA28(A)] overhead Tunbridge Wells.

The radar replay was reviewed to establish the identity of the aircraft involved in this reported Airprox. The controller report suggested during a routine scan they witnessed two contacts had passed each other so no Traffic Information had been passed. Shortly afterwards, [the PA28(A) pilot] reported an Airprox. The controller checked in with [the pilot of PA28(B)] – no flight issues were had and both aircraft were informed that a safety report would be raised.

The incident occurred when [PA28(A)] came into conflict with [PA28(B)] outside of controlled airspace. The pilot of the aircraft [callsign redacted], whilst at altitude 2000ft, reported an Airprox with [PA28(B)] at the same level overhead Turnbridge Wells. The LARS East controller had witnessed the passing of the two contacts on the radar shortly after the incident and so no Traffic Information was passed. There were no flight issues detected by either aircraft over RT post Airprox.

### CAA ATSI

The Airprox was reported by the pilot of PA28(A) whilst on a navigational training flight overhead Tunbridge Wells. [The pilot of] PA28(B) was conducting general handling in the same area. Both aircraft were receiving a Basic Service from the Farnborough LARS East controller, who was also providing an Air Traffic Service to aircraft in the Farnborough LARS North area, with both frequencies having been combined. ATSI had access to reports from both pilots, and the Farnborough controller and unit investigation reports. Snapshots have been taken from the area radar replay and do not necessarily represent the picture presented to the Farnborough controller at the time.

[The pilot of] PA28(A) had called Farnborough LARS East at **1116:28** advising that they were routing to Tunbridge Wells, Crowborough and Billingshurst. They requested and were provided with a Basic Service (Figure 1). [The pilot of] PA28(B) called Farnborough LARS East at **1121:38**, advising they were at Bough Beach reservoir at 1200ft, shortly climbing to 2000ft for general handling in the local area. A Basic Service was requested and agreed with the Farnborough controller (Figure 2).

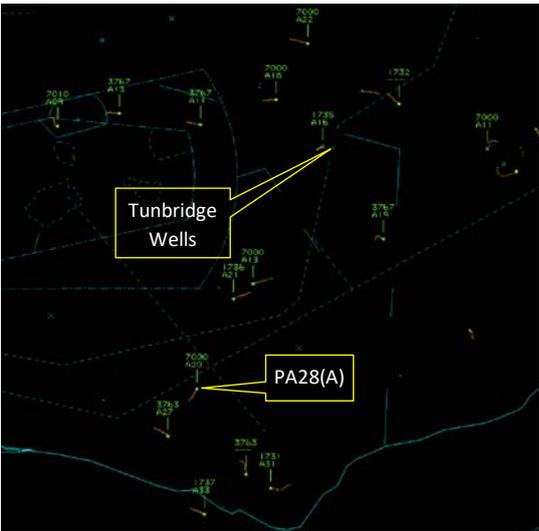


Figure 1 – 1116:28

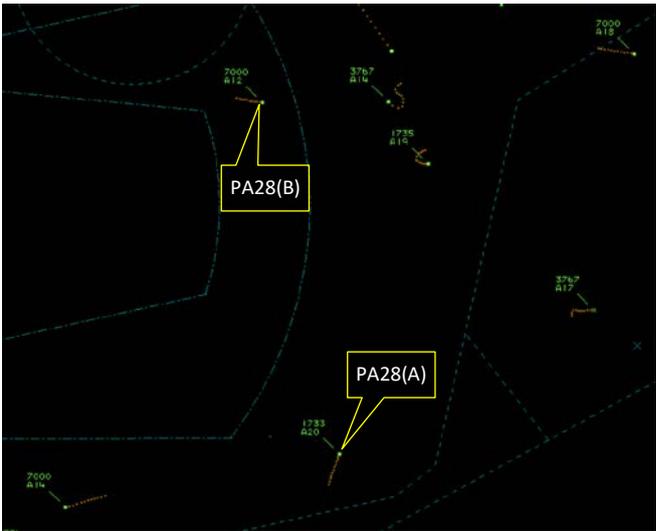


Figure 2 – 1121:38

Whilst handling other aircraft calls, the Farnborough controller, at **1123:55**, passed Traffic Information to an aircraft tracking towards another at a similar level in the vicinity of Tunbridge Wells (circled in Figure 3). Between the period **1125:00** to **1127:45** the Farnborough controller was fully occupied with aircraft calls (Figures 4 – 8).



Figure 3 – 1123:55

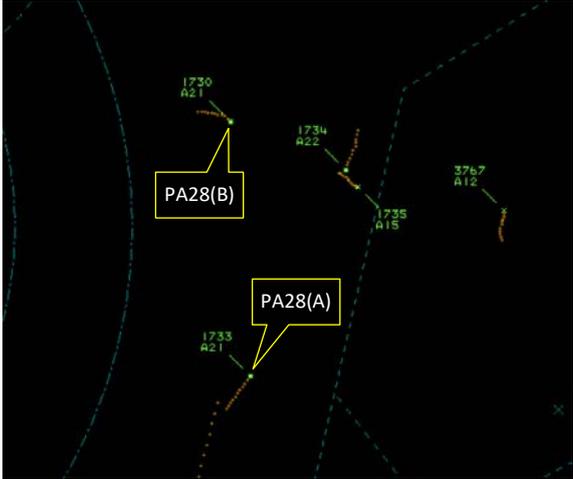


Figure 4 – 1125:00

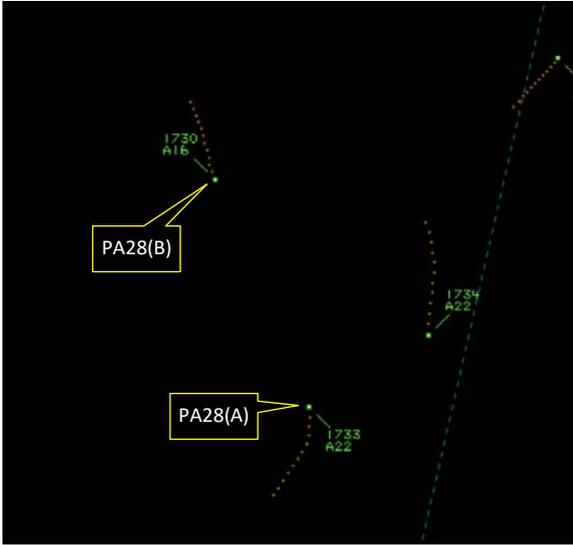
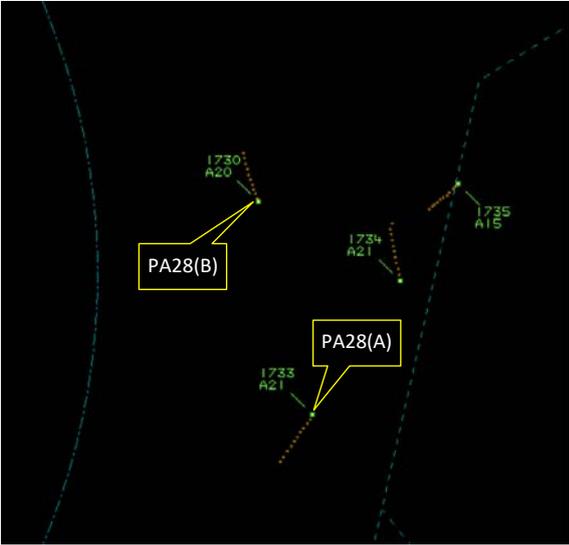


Figure 5 – 1126:00

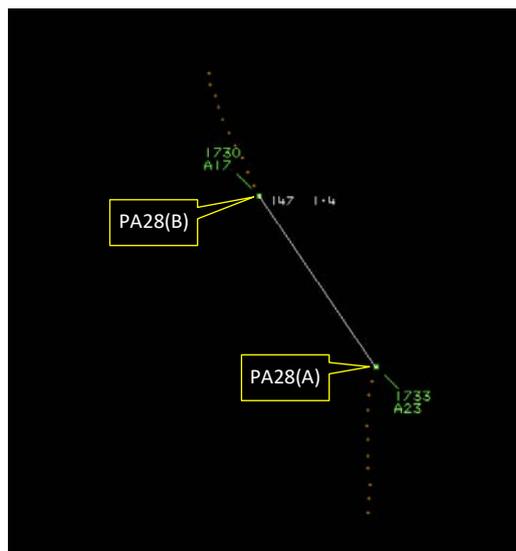


Figure 6 – 1126:30

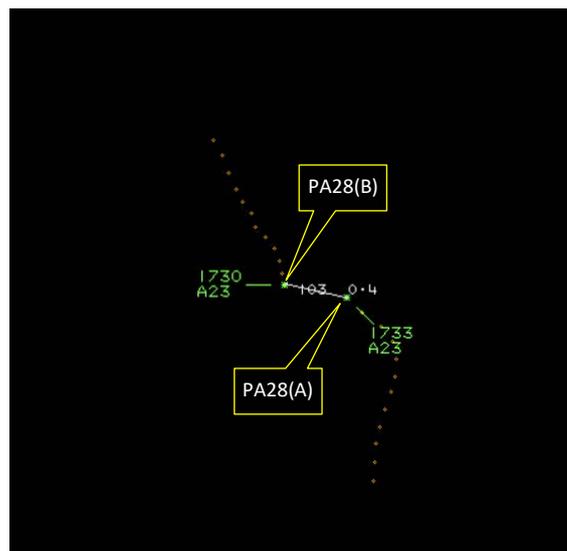


Figure 7 – 1127:00

Figure 8 – 1127:26

CPA occurred at **1127:30** with the aircraft separated by 0.3NM laterally and 100ft vertically (Figure 9). [The pilot of] PA28(A) reported the Airprox to the Farnborough controller at **1127:47**.

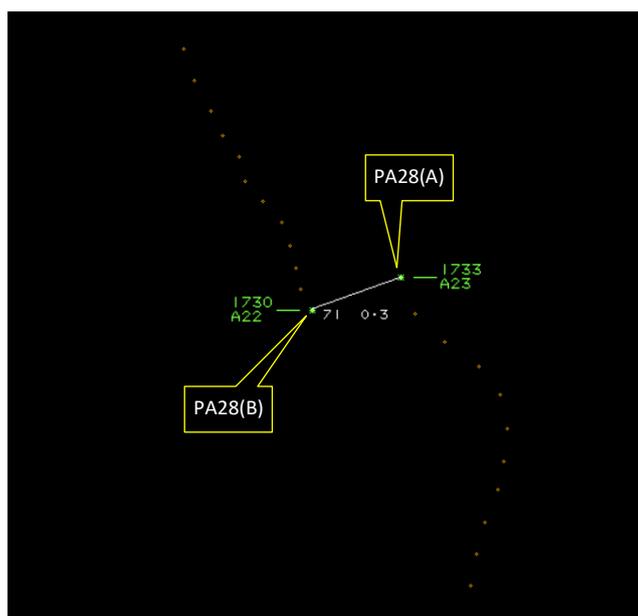


Figure 9 – 1127:30 – CPA

The Farnborough controller estimated that workload was medium to high but “manageable”, with 15 aircraft on frequency, all receiving a Basic Service. They stated that the traffic density in the East sector was high, with a number of other aircraft working other units or on the general conspicuity squawk. During a routine scan they “noticed two radar data blocks garbling in the vicinity of Tunbridge Wells and rotated them using the mouse”. They then became aware that both aircraft were on their frequency but, as they had already passed each other, Traffic Information was not passed.

The reporting pilot (PA28(A)) stated that the student was “turning left onto a southerly heading and noticed the aircraft and correctly took immediate action”, (reported as “aggressive....steep turn to the right, instructor took over to increase rate of turn.”)



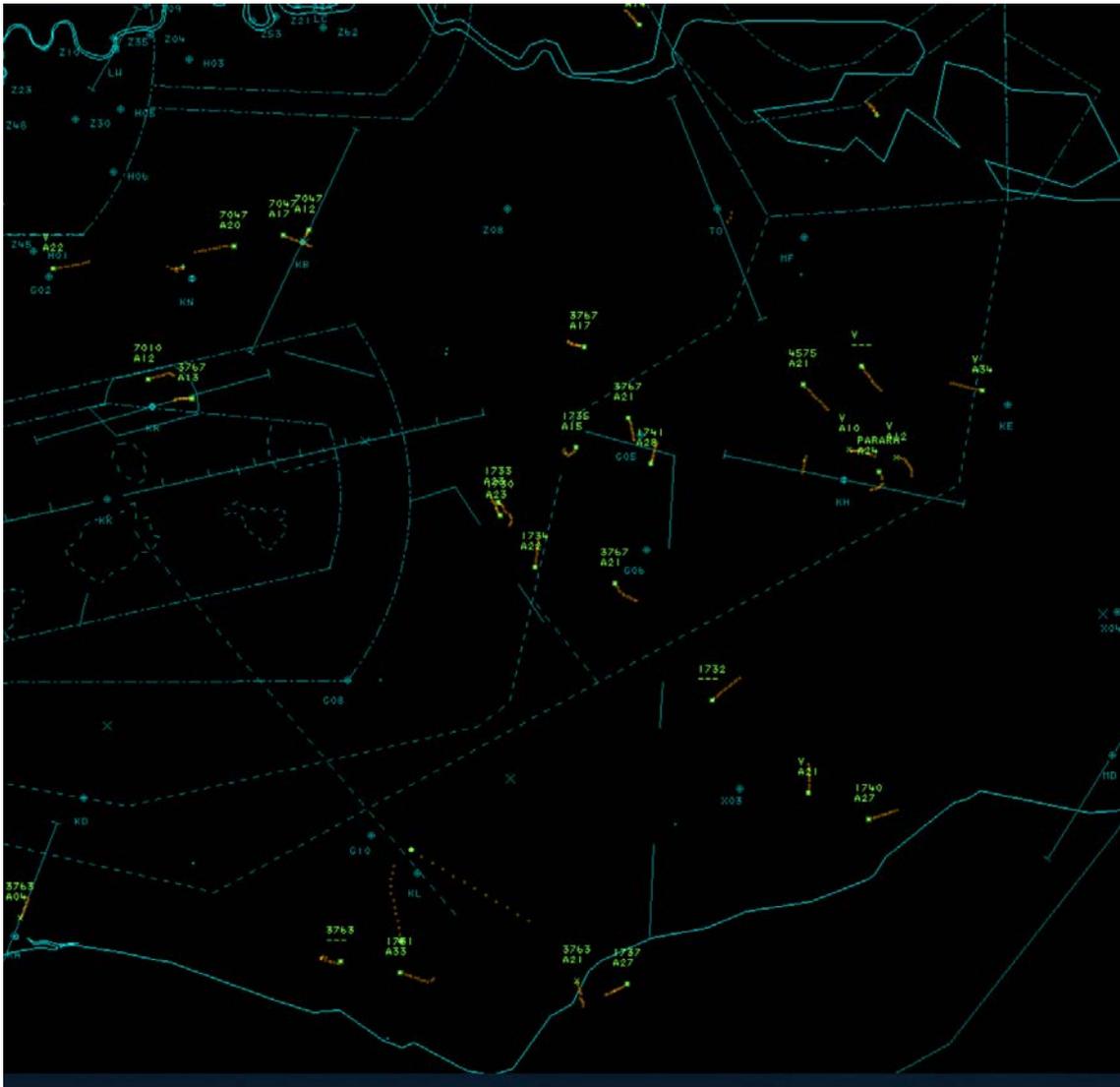


Figure 11 – Farnborough LARS East

In their report the Farnborough controller did state that splitting of the two sectors was not possible due to “social distancing requirements”. The unit investigation did not identify any additional issues nor did it comment on whether consideration had been given to closing a sector. Farnborough LARS sectors can be closed, but normally as a result of reduced staff numbers. In such cases East is the first to be closed, then North.

When reading the report from the pilot of PA28(B) they stated that they did not hear any Traffic Information being passed by the Farnborough controller, which might suggest that they were expecting more than the standard requirements of a Basic Service.

Despite active scanning the controller did not see the conflict until after the aircraft had passed.

However, under a Basic Service the controller “*is not required to monitor the flight, pilots should not expect any form of traffic information from a controller/FISO. A pilot who considers that he requires a regular flow of specific traffic information shall request a Traffic Service.*”

*A controller with access to surveillance-derived information shall avoid the routine provision of traffic information on specific aircraft but may use that information to provide a more detailed warning to the pilot’.*

Prior to this Airprox, the controller had demonstrated that “*If a controller/ FISO considers that a definite risk of collision exists, a warning shall be issued to the pilot (SERA.9005(b)(2) and GM1 SERA.9005(b)(2))*”.

Furthermore; “*Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.*”<sup>1</sup>

## UKAB Secretariat

The PA28(A) and PA28(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>2</sup> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>3</sup> If the incident geometry is considered as converging then the PA28(B) pilot was required to give way to the PA28(A).<sup>4</sup>

## Summary

An Airprox was reported when PA28(A) and PA28(B) flew into proximity over Tunbridge Wells at 1128Z on Thursday 22<sup>nd</sup> April 2021. Both pilots were operating under VFR in VMC and both pilots were in receipt of a Basic Service from Farnborough LARS East.

## **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.

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 considered the actions of the pilot of PA28(A). Some members felt that their choice of a VRP as a navigational turning point had been ill-advised and a GA pilot member with instructional experience drew the Board’s attention to CAA Safety Leaflet 5e,<sup>5</sup> paragraph 4(j), which espouses passing to the side of VRPs rather than directly over them. The Board felt that planning to overfly the VRP (or executing an overflight of the VRP if it had perhaps not been planned) had contributed to the Airprox (**CF5**) and that this situation had been exacerbated by the instructor being momentarily ‘heads-in’ as the aircraft approached the turning point. In the event, PA28(B) had been approaching the same VRP from the north, though it appeared to the Board that perhaps the PA28(B) pilot had planned to pass abeam the VRP. Because PA28(A) was not equipped with any form of electronic conspicuity equipment capable of detecting PA28(B), and without any information from the Farnborough controller, the PA28(A) pilot had not had any situational awareness of the presence of the other PA28 (**CF6**). This had left them relying on the See and Avoid barrier to detect the approaching PA28(B), and the Board considered that the PA28(A) pilot had sighted PA28(B) late and at a point where immediate action to increase separation had been required (**CF7**).

The Board then considered the actions of the pilot of PA28(B). As with the PA28(A) pilot, the Board also felt that flying so close to a VRP had increased the PA28(B) pilot’s chances of encountering another aircraft, although members acknowledged that this could have been part of a standard routing or local agreement that had not been reported by the PA28(B) pilot and, in any case, the PA28(B) pilot had not been routing directly to the VRP. Similar again to the other aircraft involved, PA28(B) had not been

<sup>1</sup> CAP 774 UK Flight Information Services. Chapter 2.

<sup>2</sup> (UK) SERA.3205 Proximity.

<sup>3</sup> (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

<sup>4</sup> (UK) SERA.3210 Right-of-way (c)(2) Converging.

<sup>5</sup> [SafetySense Leaflet 5e – VFR Navigation](#)

equipped with any form of electronic conspicuity equipment capable of detecting PA28(A) and there had been no Traffic Information forthcoming from the Farnborough controller. Some members wondered, however, if the PA28(B) pilot had been expecting Traffic Information whilst under a Basic Service, and the Board wished to reiterate to pilots that they should not expect any Traffic Information under a Basic Service, particularly if the controller is busy – if they wish to receive Traffic Information then they should request a surveillance-based Flight Information Service such as a Traffic or Deconfliction Service. In this case, the PA28(B) pilot had not had any situational awareness of the presence of PA28(A) (**CF6**) and had also been relying on the See and Avoid barrier to keep them separated from other aircraft. The PA28(B) pilot had sighted PA28(A) when it was 1000ft abeam their aircraft and, notwithstanding the eventual separation between the 2 aircraft, the Board felt that this effective non-sighting was also contributory to the Airprox (**CF8**).

Turning to the actions of the Farnborough controller, the Board noted that they had been working a combined sector of LARS North and LARS East. Members heard from a controller advisor that it is not uncommon for these positions to be combined and that, due to COVID-19 protocols, there had been no option to split the sectors. The Board then discussed what other options had been open to Farnborough to reduce the controller's workload, and again heard from the controller advisor that the only realistic option would have been to close one of the sectors. They went on to say, however, that the workload had been assessed by the controller as 'medium-high but manageable' and that this assessment would have also been ratified by the watch supervision; had it been assessed as beyond controller capacity then a sector would have been closed. The Board went on to discuss the controller's actions and quickly agreed that this had clearly been a very busy session, but that controller had been doing their best to maintain a scan of the 2 sectors and had been passing generic Traffic Information to pilots where they had perceived that a risk of collision had existed. With this in mind, the Board concluded that the controller had been actively scanning both sectors for possible conflicts and, if the sectors had been split, then the likelihood of the controller spotting the conflict between PA28(A) and PA28(B) would have been increased. Notwithstanding Farnborough had assessed the workload as 'manageable', and would only have had the option to close a sector had it become unmanageable, the Board felt that the COVID-19 protocols for social distancing had been contributory to this Airprox (**CF1**). Furthermore, the Board assessed that the fact that the sectors had been so busy had meant that, although the controller had not been required to monitor either of the aircraft as they had both been under a Basic Service (**CF2**), the controller's active scan of both sectors had not detected the proximity of the 2 aircraft involved in this Airprox until their respective data blocks had 'garbled' (**CF3**). This, in turn, had meant that the controller had not had specific situational awareness of the proximity of the 2 aircraft in 3 dimensions until after they had rotated the data blocks in order to read the information pertaining to each aircraft (**CF4**), by which time the 2 aircraft had passed each other and so the passing of Traffic Information had become redundant.

Finally the Board considered the risk involved in this encounter. Members noted that the PA28(A) pilot had assessed the risk of collision as 'high' whilst the pilot of PA28(B) had assessed it as 'low', and that the separation as measured on the NATS radar recording showed a lateral separation of 0.3NM with 100ft of vertical separation. The Board was in agreement that the PA28(A) pilot had seen PA28(B) early enough to manoeuvre and remove and risk of collision from the encounter, but some members felt that safety had been degraded (Risk Category C) whilst others considered that the resultant horizontal separation had led to normal safety parameters for VFR flight in Class G airspace being achieved (Risk Category E). After some further discussion, the majority view was that the lateral separation had, in part, been due to the manoeuvring of the pilot of PA28(A) and so the Board concluded that this Airprox had involved a reduction in safety margins and should therefore be classified as a Risk Category C event.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK****Contributory Factors:**

2021036				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Ground Elements</b>				
<b>• Manning and Equipment</b>				
1	Organisational	• ATM Staffing and Scheduling	An event related to the planning and scheduling of ATM personnel	
<b>• Situational Awareness and Action</b>				
2	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
3	Human Factors	• Conflict Detection - Detected Late	An event involving the late detection of a conflict between aircraft	
4	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late or no Situational Awareness
<b>Flight Elements</b>				
<b>• Tactical Planning and Execution</b>				
5	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
6	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
<b>• See and Avoid</b>				
7	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
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

**Degree of Risk:** C

**Safety Barrier Assessment<sup>6</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:**

**Manning and Equipment** were assessed as **partially effective** because the Farnborough LARS controller could not split the LARS East and LARS North positions due to the social distancing requirement associated with the COVID-19 pandemic.

**Situational Awareness of the Conflication and Action** were assessed as **partially effective** because, although the Farnborough LARS controller was not required to monitor the aircraft under the terms of a Basic Service, they had nonetheless noticed that the data blocks associated with PA28(A) and PA28(B) were garbling and, by the time they had reorientated the labels, the two aircraft had passed.

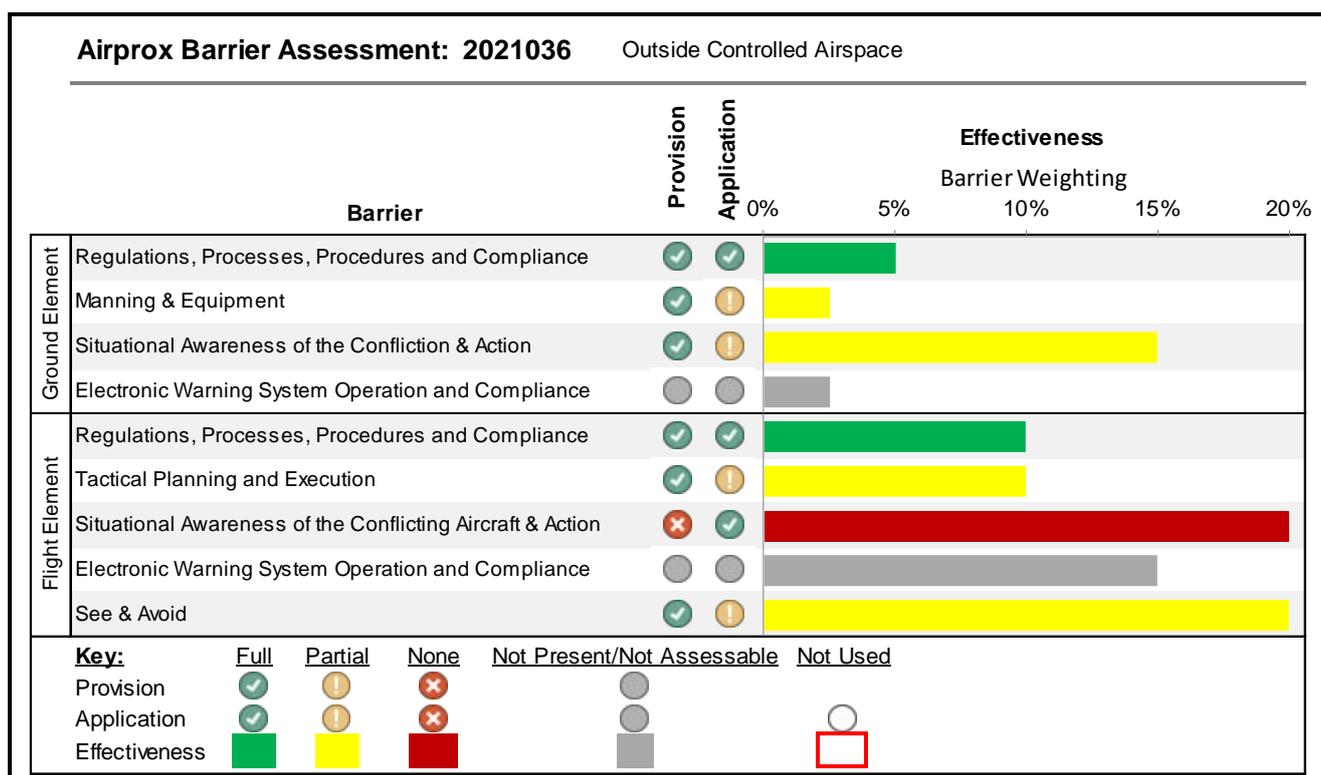
<sup>6</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

**Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because the PA28(A) pilot had selected the Tunbridge Wells VRP as a turning point (see CAA Policy For The Establishment Of Visual Reference Points (VRPs)<sup>7</sup>).

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because neither pilot had any situational awareness of the presence of the other aircraft prior to sighting it.

**See and Avoid** were assessed as **partially effective** because the PA28(A) pilot sighted PA28(B) at a late stage and had to take immediate avoiding action, and the PA28(B) pilot did not see PA28(A) until at or around CPA.



<sup>7</sup> <http://publicapps.caa.co.uk/docs/33/PolicyStatementEstablishmentOfVisualReferencePointsV2.pdf>