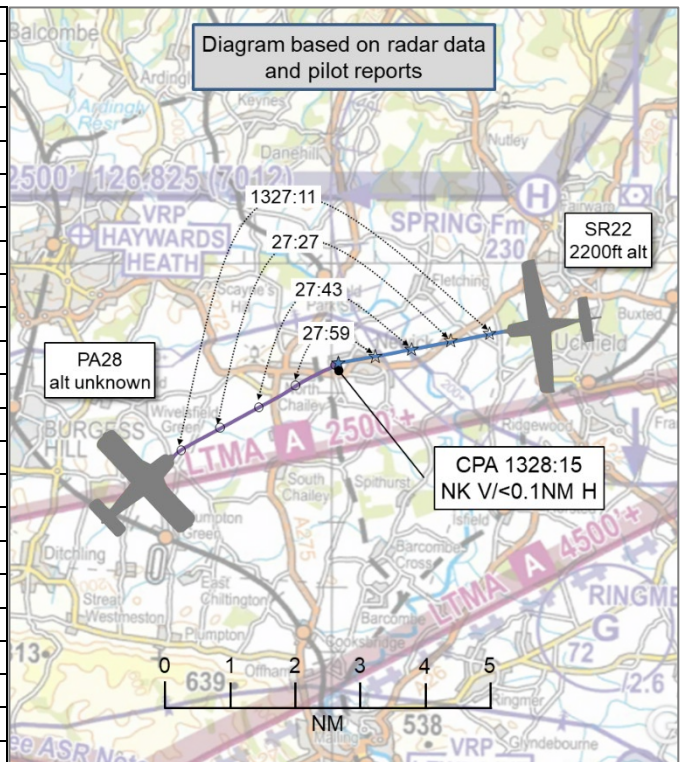


AIRPROX REPORT No 2022009

Date: 05 Feb 2022 Time: 1328Z Position: 5058N 00000E Location: 3.5NM W of Uckfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|-------------------|------------------|----------------|
| Aircraft | SR22 | PA28 |
| Operator | Civ FW | Civ FW |
| Airspace | London FIR | London FIR |
| Class | G | G |
| Rules | VFR | VFR |
| Service | Basic | None |
| Provider | Farnborough LARS | N/A |
| Altitude/FL | 2200ft | NR |
| Transponder | A, C, S+ | A ¹ |
| Reported | | |
| Colours | Blue, silver | Red |
| Lighting | Nav, strobes | Strobes |
| Conditions | VMC | VMC |
| Visibility | >10km | 5-10km |
| Altitude/FL | 2200ft | 1900ft |
| Altimeter | QNH (1019hPa) | QNH (NR hPa) |
| Heading | 235° | 010° |
| Speed | 160kt | 110kt |
| ACAS/TAS | TAS | Not fitted |
| Alert | None | N/A |
| Separation at CPA | | |
| Reported | 200ft V/0m H | 400ft V/NK H |
| Recorded | NK V/<0.1NM H | |



THE SR22 PILOT reports that they were cruising on autopilot at 2200ft below the 2500ft base of the London TMA, with a Basic Service from Farnborough East. Conditions were VMC but with cloud above and hazy ahead. Their passenger was also a qualified pilot. Farnborough advised them of traffic, level unknown, less than 1 mile ahead, converging. They were both looking but could not see any other aircraft and had no indication on the Garmin active traffic system on their aircraft. Farnborough warned them again; they then saw the other aircraft almost dead ahead at the same altitude or slightly (<50ft) below, converging. The pilot disconnected the autopilot and initiated an immediate steep climb, as the fastest way to diverge from the converging aircraft, peaking at about 2500ft (SkyDemon shows peak at 2500ft, the altimeter peaked at about 2550ft). The other aircraft disappeared directly below the nose so they pitched down again to recover to 2300ft; the other aircraft was not seen again. If Farnborough had not warned them, there was a high chance they would not have seen the other aircraft in time to avoid it.

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

THE PA28 PILOT reports that they were flying from [departure airfield] to [destination airfield] VFR when they saw the aircraft at a range of about ½NM and took avoiding action. They were not worried at any time.

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

THE FARNBOROUGH LARS EAST CONTROLLER reports that they were working LARS North and East band-boxed in low-to-medium traffic. The [SR22] was validated and verified on a Basic Service.

¹ The PA28 pilot reported that the transponder was fitted with Modes A and C; however, the NATS area radars did not detect any transponder signals from the PA28 until 1330 (after the Airprox), when a Biggin Hill conspicuity code was detected until 1344. There was no Mode C associated with the Mode A code.

The controller saw a fast moving, opposite direction, primary-only contact which looked to them as though the centre of the primary-only and [SR22] contacts were going to merge. Due to the closure rate and the fact that the base of CAS is 2500ft, they decided to give some Traffic Information. [The SR22 pilot] didn't hear the first time the controller called traffic, so they tried again when they were within ½ a mile of each other. The pilot reported that they had climbed to 2550ft (entering the Gatwick CTA [they thought]) and were descending again to leave CAS. On a later call, the pilot reported that it was close and they would file an Airprox report.

Factual Background

The weather at Gatwick was recorded as follows:

METAR EGKK 051320Z 24014KT 9999 FEW032 10/03 Q1019=

Analysis and Investigation

NATS Farnborough

[The SR22 pilot], on a Basic Service with Farnborough LARS N&E, reported an Airprox with a primary-only, opposite direction contact. [The SR22 pilot] climbed into the London TMA without ATC clearance to avoid. There was no loss of separation.

13:27 [The SR22 c/s] was seen squawking [redacted] and was told Basic Service by the ATCO and Traffic Information was passed. [The pilot of] another aircraft on the frequency, [c/s redacted], mistakenly took the call but the ATCO noticed this and updated [the SR22 pilot] on the position of the conflicting traffic.

13:28 [The SR22 pilot] acknowledged the warning of traffic. The contacts could then be seen to merge and [the SR22 c/s] could be seen climbing from 2200ft to 2500ft.

[The SR22 pilot] then called to report that they climbed to 2550ft to avoid the conflicting traffic and that they were descending back to 2300ft. The base of CAS is 2500ft (TMA Class A). They confirmed that they had the traffic in sight and that they would report an Airprox when on the ground. [The SR22 pilot] reported that the other aircraft was at the same level and then left the frequency. The radar recording showed the contacts merging, but the conflicting aircraft had no Mode C (see Figures 1 and 2).



Figure 1 – 1327:56



Figure 2 – 1328:23

The radar recordings start just before the Airprox occurred. The ATCO working N+E at the time stated that [the SR22 pilot] had been on frequency for a while under a Basic Service; they had been transferred from another Farnborough LARS sector before that, also on a Basic Service. The controller was asked why they had repeated 'Basic Service' to [the SR22 pilot] immediately prior to the Airprox. They stated that they often reiterate Basic Service when passing Traffic Information if they perceive a risk of collision exists. This is to ensure the aircraft receiving the Traffic Information does not mistakenly believe the service they are receiving has been upgraded.

CAP 774, Chapter 2 Basic Service, Traffic information.

2.5 Given that the provider of a Basic Service 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 they require a regular flow of specific traffic information shall request a Traffic Service.

2.8 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)).

2.9 Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.

Both aircraft involved in this Airprox were operating in class G airspace beneath the London TMA. [The SR22] was under a Basic Service from Farnborough LARS North & East band-boxed. The second aircraft was not on the same frequency. The ATCO fully complied with their obligations to provide Traffic Information under [paragraph] 2.8 above.

UKAB Secretariat

The SR22 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 head-on or nearly so then both pilots were required to turn to the right.³

² (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

³ (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

Summary

An Airprox was reported when an SR22 and a PA28 flew into proximity 3.5NM west of Uckfield at 1328Z on Saturday 5th February 2022. Both pilots were operating under VFR in VMC, the SR22 pilot in receipt of a Basic Service from Farnborough LARS and the PA28 pilot not in receipt of an ATS.

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 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 considered the actions of the SR22 pilot and heard from a GA pilot member that the area in which the Airprox took place can be a busy area for GA traffic and the Board was heartened to hear that the SR22 pilot had sought a service from Farnborough LARS. Members noted that the SR22 pilot had been in receipt of a Basic Service, where pilots should not expect to receive Traffic Information, but had nonetheless been passed information by the Farnborough controller on the PA28. The Board agreed that, in the absence of any information from their on-board TAS equipment (the TAS could not have detected the non-transpondering PA28 (**CF6**)) this had provided the SR22 pilot with generic situational awareness of the PA28's presence (**CF5**) – no height information for the PA28 had been available – and that this had guided the SR22 pilot's lookout in the direction of the PA28. However, the Board agreed that the SR22 pilot may have been better served by altering their course on receipt of the Traffic Information to change the geometry of the encounter, because the SR22 pilot had only sighted the PA28 at a late stage and this late sighting had been contributory to the Airprox (**CF7**).

The Board then considered the actions of the PA28 pilot. Members noted that their transponder had not been detected in the lead-up to, and during, the Airprox, but that it had been detected displaying a Mode A code in the vicinity of Biggin Hill a short while later. Members wondered whether the transponder had been intermittently unserviceable or if the pilot had perhaps forgotten initially to switch their transponder on, and so wished to remind all pilots of the requirements of (UK) SERA.13001(a) which state '*When an aircraft carries a serviceable SSR transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.*' The Board noted that the PA28 pilot had not sought an Air Traffic Service (ATS) as they transited to the south of Gatwick and considered that they may have been better served by seeking an ATS from Farnborough LARS when in this particularly busy area (**CF3**). The Board's view was that information might have been forthcoming from the controller that could have helped the PA28 pilot to visually acquire the SR22 and an ATS may also have served as a means of checking the serviceability of their transponder. In the event, the Board agreed that the PA28's lack of transponder output at the time had been contributory to the Airprox (**CF2**, **CF4**). Given that the PA28 pilot had not been in receipt of an ATS and had also not been carrying any additional electronic conspicuity (EC) equipment, the Board concluded that the PA28 pilot had not had any situational awareness of the presence of the SR22 (**CF5**) which had left them relying on their lookout for the detection of other aircraft. Members noted that the PA28 pilot had reported sighting the SR22 at a range of approximately ½NM but considered that they had not taken sufficient action at that point to ensure safe separation (**CF8**). On the subject of EC equipment, the Board wished to highlight to all pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2023.⁴

Turning to the actions of the Farnborough LARS controller, the Board noted that they had been providing a Basic Service to the SR22 pilot and that they had not, therefore, been required to monitor the progress of the SR22. However, the Board wished to praise the Farnborough controller for having observed the proximity of the primary-only contact to the SR22 and passing Traffic Information accordingly. Members noted that the Short Term Conflict Alert function is not used on the Farnborough

⁴ <https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/>

LARS North sector and observed that, even if it had been in use, it would not have functioned because the PA28 had not been transponding at the time of the Airprox (**CF1**).

Finally, the Board considered the risk involved in this event. Members noted that the SR22 pilot had assessed the risk of collision to be 'high' whilst the PA28 pilot had assessed it to be 'none'. Taking into account the recorded lateral separation of <0.1NM and the fact that the SR22 pilot had felt it necessary to take immediate avoiding action by climbing towards the base of controlled airspace above them, members agreed that safety had been much reduced and that there had been a risk of collision (**CF9**). Accordingly, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

| | 2022009 | | | |
|---|---------------|--|--|--|
| CF | Factor | Description | ECCAIRS Amplification | UKAB Amplification |
| Ground Elements | | | | |
| • Electronic Warning System Operation and Compliance | | | | |
| 1 | Technical | • Conflict Alert System Failure | Conflict Alert System did not function as expected | The Conflict Alert system did not function or was not utilised in this situation |
| 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 | • Transponder Selection and Usage | An event involving the selection and usage of transponders | |
| • 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 | | | | |
| 6 | 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 |
| • See and Avoid | | | | |
| 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 | Contextual | • Loss of Separation | An event involving a loss of separation between aircraft | Pilot flew into conflict |
| • 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 Assessment⁵

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

Electronic Warning System Operation and Compliance were assessed as **not used** because STCA is not utilised by the Farnborough LARS N and/or E control positions.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the PA28 pilot did not ensure that their transponder was functioning for the entire flight, as required by (UK) SERA.13001(a).

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot did not seek an ATS from an appropriate agency whilst flying in the vicinity of the Gatwick CTA, which is a busy portion of Class G airspace.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the PA28 pilot did not have any situational awareness of the presence of the SR22, and the SR22 pilot only had generic situational awareness (no height information) of the presence of the PA28.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TAS equipment fitted to the SR22 could not detect the presence of the non-transponding PA28.

See and Avoid were assessed as **partially effective** because the SR22 pilot sighted the PA28 at a late stage, and the PA28 pilot (who reported sighting the SR22 at a range of 0.5NM) did not take early enough action to generate an adequate degree of lateral separation.

| Airprox Barrier Assessment: 2022009 | | Outside Controlled Airspace | | | | | |
|-------------------------------------|--|-----------------------------|-------------------|---------------------|------|----------------------------|----------|
| Barrier | Provision | Application | Effectiveness | | | | |
| | | | Barrier Weighting | | | | |
| | | | 0% | 5% | 10% | 15% | 20% |
| Ground Element | Regulations, Processes, Procedures and Compliance | ✓ | ✓ | [Green bar to 5%] | | | |
| | Manning & Equipment | ✓ | ✓ | [Green bar to 2.5%] | | | |
| | Situational Awareness of the Confliction & Action | ⚠ | ✓ | [Green bar to 15%] | | | |
| | Electronic Warning System Operation and Compliance | ✓ | ○ | [Red box] | | | |
| Flight Element | Regulations, Processes, Procedures and Compliance | ✓ | ⚠ | [Yellow bar to 10%] | | | |
| | Tactical Planning and Execution | ✓ | ⚠ | [Yellow bar to 10%] | | | |
| | Situational Awareness of the Conflicting Aircraft & Action | ⚠ | ✓ | [Yellow bar to 20%] | | | |
| | Electronic Warning System Operation and Compliance | ✗ | ✓ | [Red bar to 15%] | | | |
| | See & Avoid | ⚠ | ⚠ | [Yellow bar to 20%] | | | |
| Key: | | | Full | Partial | None | Not Present/Not Assessable | Not Used |
| Provision | ✓ | ⚠ | ✗ | ● | | | |
| Application | ✓ | ⚠ | ✗ | ● | | ○ | |
| Effectiveness | Green | Yellow | Red | Grey | | [Red box] | |

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