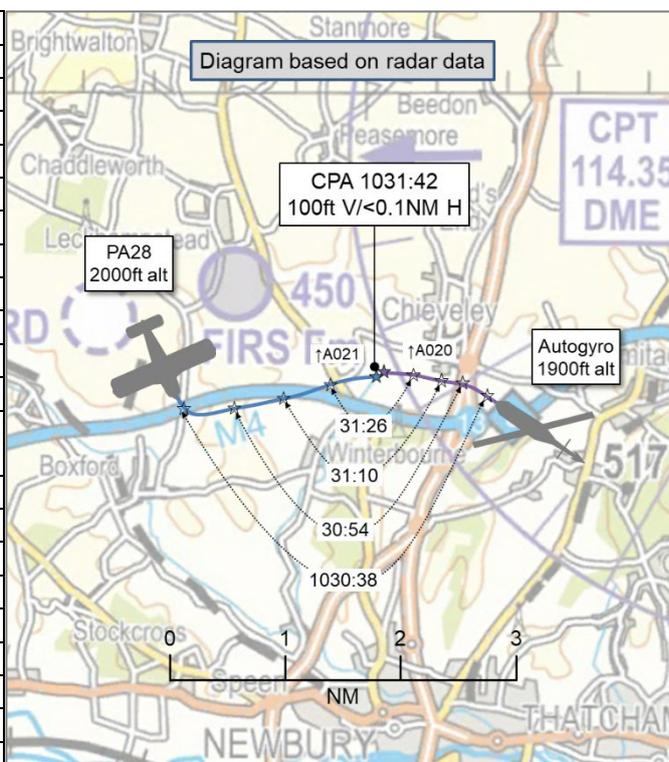


AIRPROX REPORT No 2021028

Date: 19 Apr 2021 Time: 1032Z Position: 5127N 00120W Location: Chieveley

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	MTOsport Autogyro
Operator	Civ FW	Civ Helo
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Farnborough	N/A
Altitude/FL	A021	A020
Transponder	A, C, S	A, C, S
Reported		
Colours	White/maroon	Yellow
Lighting	Nav, anti-colls	Strobes, nav, landing lights
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	2000ft
Altimeter	QNH	QNH (1022hPa)
Heading	090°	270°
Speed	95kt	60kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	50ft V/15-30m H	100ft V/0.1NM H
Recorded	100ft V/<0.1NM H	



THE PA28 PILOT reports being on a biennial training flight. They had previously been general handling to the north/northwest of Newbury. Shortly after turning back onto an easterly heading, the handling pilot announced that they were not hearing the radio clearly. They looked down to adjust their headset volume and the instructor looked in to adjust comms volume on the Garmin GNS430.¹ The crew believes that they could not have been looking inside the cockpit for more than 5-10sec when a yellow autogyro was spotted very late in their 11 o'clock at a range of 15-30m, on what appeared to be an opposite track. Avoiding action was taken to the right and, although extremely close, they do not believe the aircraft would have collided. Prior to the distraction, both pilots had been maintaining a good lookout; They are surprised that they did not see the aircraft prior to the distraction. The Airprox was reported to Farnborough LARS West from whom they were in receipt of a Basic Service.

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

THE AUTOGYRO PILOT reports that they were on a local VFR flight. On leaving the circuit at [a local airfield], they remained on [the airfield]'s air/ground frequency and continued north towards Newbury, turning west at junction 13 of the M4 motorway. They were flying approximately 1NM north of the M4, on a heading of 270° and keeping the M4 line-feature on their left. Levelling out after the turn, they conducted a lookout scan then they briefly checked their instruments and engine temperatures and pressures. On looking up from the instruments, they saw an aircraft approaching fast in their 11 o'clock position at a range of approximately 300m, co-altitude and on a reciprocal heading. They immediately initiated a steep descending turn to starboard. They did not notice the other aircraft make any change in course.

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

¹ Combined GPS, Navigation and Communications equipment.

THE FARNBOROUGH LARS WEST CONTROLLER reports working a moderately busy LARS West sector. [The PA28 pilot] called on frequency stating a yellow gyrocopter just passed quite close to them, and they will probably be filing. The controller noticed there was a conspicuity squawk close to the aircraft where it may have happened, but they did not check Mode S for a callsign and it was not on frequency. Shortly after, the pilot confirmed a yellow gyrocopter had passed them on a right-to-left track at the same level. This occurred just south of the M4 eastbound and [the PA28] was on a Basic Service. The weather was good and the airspace was busy, so they had not noticed this Airprox take place. The pilot then confirmed they would be filing before leaving the frequency.

Factual Background

The weather at Benson was recorded as follows:

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METAR EGUB 191020Z 02002KT 9999 FEW040 13/04 Q1021 NOSIG RMK BLU BLU=
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Analysis and Investigation

NATS Farnborough

[UKAB Note – In order to dis-identify the tracks on the radar, the radar screenshots provided in the NATS Unit Investigation report have been replaced with screenshots taken from the NATS radar replay system. Therefore, they are not entirely representative of the screen that the Farnborough LARS West controller was using.]

[The PA28 pilot] was operating on LARS West on frequency 125.250MHz under a Basic Service in Class G airspace and reported an Airprox with a gyrocopter. The gyrocopter was not working Farnborough. The LARS West sector was moderately busy; the sector was not band-boxed.

[The PA28 pilot] was operating in the northwest sector around CPT under a Basic Service outside controlled airspace.

At **1032:56** the PA28 pilot contacted the Farnborough LARS West controller to report the Airprox.

At **1033:12** the pilot of an unrelated aircraft called the Farnborough LARS West frequency to request a Basic Service. At **1033:20** the controller asked the pilot asked to standby.

At **1033:41** [the PA28 pilot] asks the controller if they copied their previous transmission; the controller confirms that they understood the message but was not yet ready to copy the details.

From **1034:41** onwards there were a number of unrelated transmissions from other stations, including a squawk adjustment and frequency change and a LARS track coming on frequency.

At **1035:34** the Farnborough controller requests the PA28 pilot pass the details of the Airprox. At **1036:17** to PA28 pilot requests a frequency to [a local airfield]. [The PA28 pilot] then left the frequency and continued inbound to their destination.

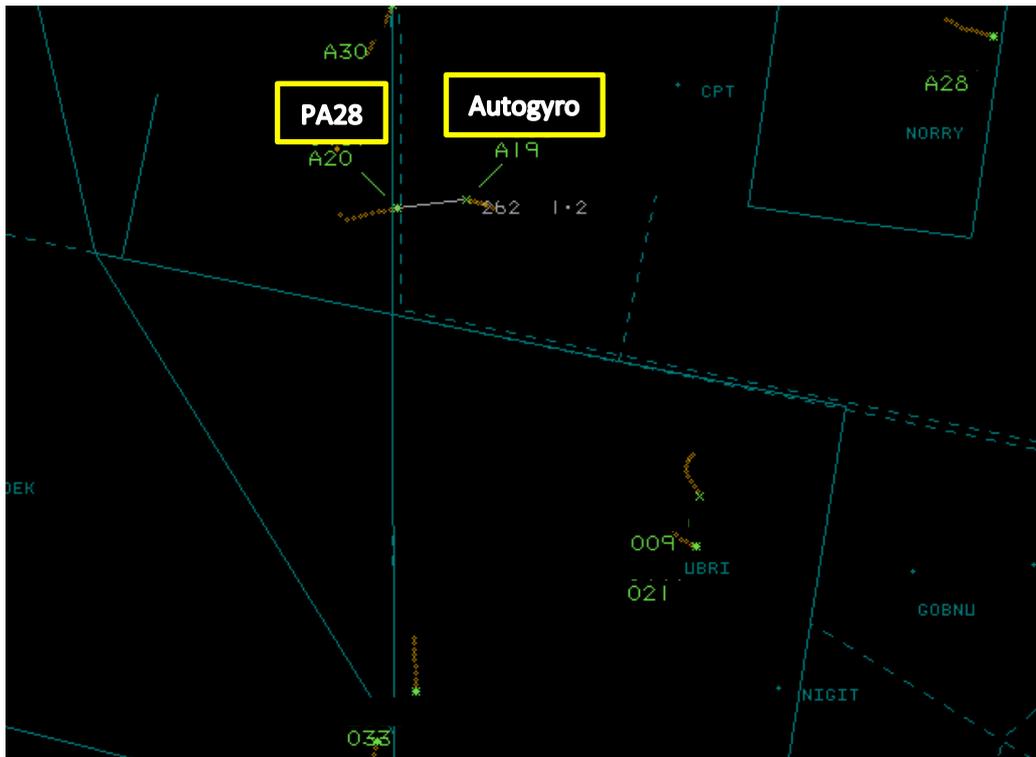


Figure 1 - 1031:17



Figure 2 - 1031:42 - CPA

The radar replay was reviewed, which showed the description of the event from the controller's report was accurate. The controller was asked for their recollection of their use of the pan facility on the radar and whether this had any relevance to the detection, or otherwise, of any risk of collision relating to the event. The controller responded that they were engaged on other tasks looking

elsewhere on the screen and the panning of the screen related to that. It was also suitable given the level of service [the PA28 pilot] was receiving.

This incident occurred during a period of operation of LARS West split from other radar tasks at Farnborough which was appropriate given the traffic levels within the FIR at the time of the incident.

[The PA28] had previously been identified as part of regular unit custom and practice, despite this not being an absolute requirement for aircraft in receipt of a Basic Service (CAP774 Chapter 2 Para 2.4 refers). In the immediate run-up to the data labels of [the PA28] and the assumed Airprox contact starting to overlap, the controller was panning the radar screen on their principal controlling screen to facilitate service provision (Traffic Service) to an IFR aircraft south of GWC. This resulted in the returns of [the PA28] and the presumed gyrocopter being right on the edge of the observable screen, however this panning is further adjusted just prior to the CPA. The controller did not detect a risk of collision as it was not a requirement to maintain radar surveillance on [the PA28] (CAP774 Chapter 2 Para 2.5 refers).

CAP774 Chapter 2 Para 2.8 states:

"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))."

To consider a definite risk of collision existing, the controller must see and become aware of the conflict, and the controller states that they did not observe this conflict, therefore were unable to consider the risk and issue a warning.

CAP774 Chapter 2 Para 2.9 states:

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

Ultimately, the incident occurred because [the PA28] and the reported gyrocopter flew into conflict with one another outside controlled airspace.

UKAB Secretariat

The PA28 and Autogyro 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

Summary

An Airprox was reported when a PA28 and an MTOsport Autogyro flew into proximity at Chieveley at 1032Z on Monday 19th April 2021. Both pilots were operating under VFR in VMC, the PA28 pilot in receipt of a Basic Service from Farnborough LARS West and the Autogyro pilot not in receipt of an Air Traffic Service.

² SERA.3205 Proximity.

³ SERA.3210 Right-of-way (c)(1) Approaching head-on.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

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 PA28 pilot and heard from a GA pilot member that this Airprox took place towards the practical limits of the Farnborough LARS West sector; in their experience, when to the West of the A34 it can be beneficial to seek a Service from either Brize Norton or Boscombe Down. That said, the Board noted that the PA28 pilot had agreed a Basic Service with the Farnborough controller and this led to a long discussion concerning the understanding amongst 'non-professional' pilots of the differences in levels of Service under UK Flight Information Services (FIS). Other members with Flight Examiner experience considered that there was little in the current PPL syllabus to teach and test the knowledge of candidates in this regard, and even less to periodically check if a PPL-holder's understanding of UK FIS remains valid. The Board felt that there is a widespread misunderstanding that a controller will be 'looking after them' under a Basic Service and wished to reiterate to pilots that if a pilot wishes to receive information about traffic that may be a factor to their flight, then they should agree a Traffic Service at the least (as this is a FIS that requires the controller to utilise surveillance-derived information). Some members considered that a Safety Recommendation might be made in this regard but, on hearing from a CAA advisor that a number of PPL syllabus reviews have already been conducted in the last few years, agreed that Director UKAB would approach the Head of the CAA's GA Unit on the Board's behalf to discuss these concerns.

Returning to the event itself the Board considered that, through a combination of not having any on-board electronic conspicuity equipment capable of detecting the presence of the autogyro and there being no Traffic Information forthcoming from the Farnborough controller, the PA28 pilot had not had any situational awareness of the presence of the autogyro (**CF5**). This had therefore left the PA28 pilot with only the See and Avoid barrier available to them and, members agreed, this barrier had also been weakened by the PA28 crew being distracted by a communications volume issue at the most inopportune moment (**CF6**) leading to their late sighting of the autogyro (**CF7**).

Turning to the actions of the autogyro pilot, the Board heard from a helicopter pilot member that the airspace around Newbury can be particularly busy and therefore they would recommend seeking an Air Traffic Service to assist with the detection of other aircraft when flying in that area. In this case, the autogyro pilot had remained on the Air/Ground frequency of a local airfield and the Board felt that they may have been better served by talking to Farnborough, Brize Norton or Boscombe Down and seeking an Air Traffic Service (**CF4**). Members agreed that, akin to the PA28 pilot, without any on-board electronic conspicuity equipment capable of detecting the presence of the PA28 and without any form of Air Traffic Service, the autogyro pilot had had no situational awareness of the presence of the PA28 (**CF5**). Furthermore, the autogyro pilot had also been checking their engine instruments as the PA28 approached (**CF6**) and this had therefore led them to spot the approaching PA28 at a late stage (**CF7**).

The Board then considered the actions of the Farnborough LARS West controller and noted that, under the terms of a Basic Service, the controller had not been required to monitor the PA28 (**CF1**). Given that the controller had been using the pan facility on their screen to better facilitate Service provision to another aircraft, the Board agreed that it was unsurprising that they had had no situational awareness regarding the relative proximity of the PA28 and autogyro (**CF2**). There then followed a lengthy discussion on the employment of the electronic warning system – namely STCA⁴ – available to the Farnborough controller. The Board heard from an ATC advisor that STCA is designed to be used within controlled airspace (although it remains available for use outside controlled airspace). At Farnborough,

⁴ Short Term Conflict Alert.

as at many other units employing STCA, the system is 'filtered' to minimise the likelihood of nuisance alarms de-sensitizing controllers to a genuine alert. On the Farnborough LARS West position, the STCA is filtered to exclude any aircraft below 2300ft (as was the case here) and/or presenting an alarm to the controller when one or both aircraft involved is displaying a 7000 (conspicuity) transponder code (the autogyro was transponding a 7000 code). Therefore, although the STCA was functioning 'as designed' for the Farnborough LARS West position, and was available to the controller, it was not used in this encounter and the Board felt that this had been contributory to the Airprox (**CF3**). The Board wished to highlight to pilots that the 'filtering' of STCA is commonplace and that it should not be expected that the controller will be alerted to aircraft in proximity unless those aircraft meet specific, pre-defined parameters (which include the altitude at which the aircraft are flying and the code to which the transponder is set).

Finally, the Board considered the risk involved in this event. Members noted that the two pilots had assessed the risk of collision as 'medium' and 'high' respectively. They also noted that the CPA, as measured on the NATS radars, showed a vertical separation of only 100ft and a horizontal separation of less than 0.1NM. Members quickly agreed that there had been a risk of collision (**CF8**) and then discussed whether this separation had been generated by the actions of both pilots or whether it had been entirely fortuitous that the 2 aircraft had missed each other. The majority view was that the avoidance manoeuvres from both pilots had generated sufficient separation to reduce the risk of collision, but not to remove it entirely, and that safety had been much reduced. Accordingly, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021028			
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
2	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late or no Situational Awareness
• Electronic Warning System Operation and Compliance				
3	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				
• Tactical Planning and Execution				
4	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
• 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 or only generic, Situational Awareness
• See and Avoid				
6	Human Factors	• Distraction - Job Related	Events where flight crew are distracted for job related reasons	
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
• Outcome Events				
8	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:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Farnborough LARS West controller was not required to monitor the PA28 under the terms of a Basic Service.

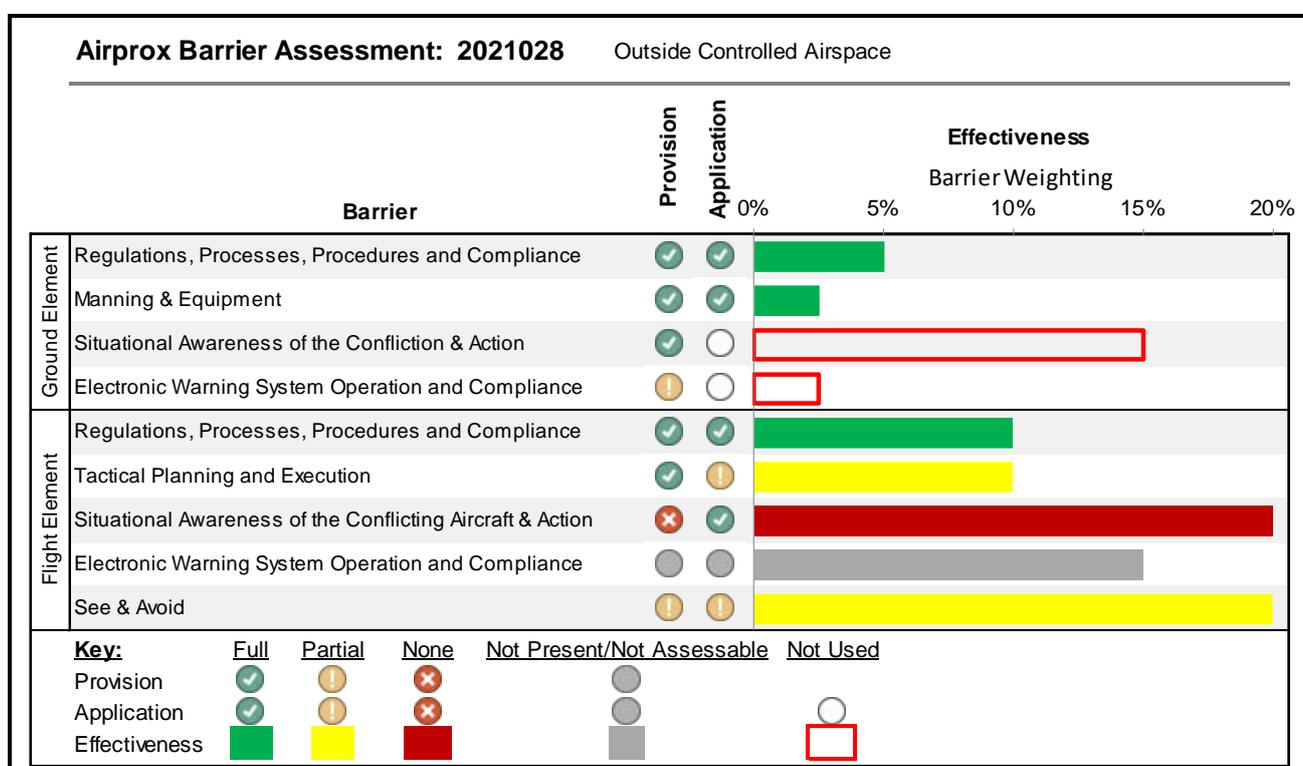
Electronic Warning System Operation and Compliance were assessed as **not used** because the STCA ‘Select Frame’ available to the Farnborough LARS West controller does not include aircraft below an altitude of 2300ft or alarm against those aircraft displaying a 7000 transponder code.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Autogyro pilot had not chosen to seek an Air Traffic Service, thus denying both the Farnborough controller and the PA28 pilot the opportunity to gain situational awareness of the aircraft’s presence.

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

See and Avoid were assessed as **partially effective** because neither pilot saw the other aircraft until such time as avoiding action had to be taken by both pilots.



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