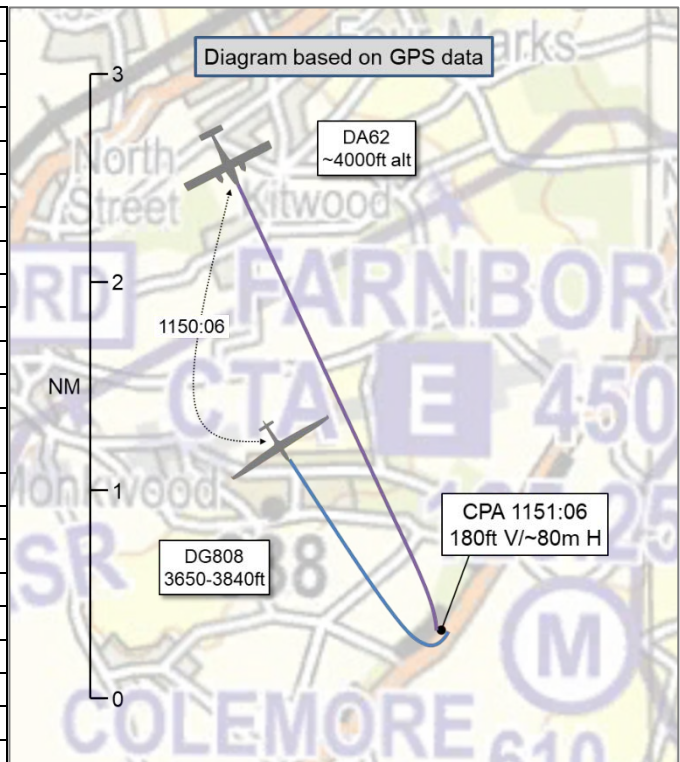


AIRPROX REPORT No 2021060

Date: 27 May 2021 Time: 1151Z Position: 5104N 00102W Location: Colemore Common

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DG808	DA62
Operator	Civ Gl'd	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Basic
Provider	Gliding frequency	Farnborough
Altitude ¹	3840ft	4020ft
Transponder	Off	A, C, S
Reported		
Colours	White	Grey
Lighting	Not fitted	Strobe, landing, taxi
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	4000ft	4000ft
Altimeter	QNH (NK hPa)	QNH (1020hPa)
Heading	~135°	150°
Speed	65kt	153kt
ACAS/TAS	FLARM	TAS
Alert	None	None
Separation		
Reported	0ft V/100ft H	NK V/NK H
Recorded	180ft V/~80m H	



THE DG808 PILOT reports returning to their home airfield having had just flown across the northern edge of the Southampton zone and turned towards Petersfield. The transponder had been selected 'ON' because the pilot thought they may access CTA8 but in fact didn't and so, about 30-40sec before this incident, the transponder was selected 'OFF'. As they were heading roughly southeast, at about 4000ft with no traffic was in sight, lift was encountered. The pilot began a turn to the left and looked over their [left] shoulder as they did so. After turning through about 90-100° they saw a Diamond Twin Star, which looked to have been on the same heading and at the same altitude, initiate a very rapid turn to the right at an estimated 70° of bank and passed just to the west. The glider pilot thought that the DA62 pilot had not seen the glider until it began to turn and that if they had not turned there was a good chance it would have flown directly into the glider from behind. The DG808 pilot noted that they were both in class G airspace and that although the transponder was off at the time of the incident, it had only just been selected off so if the DA62 was being worked by someone, they would have expected its pilot to be made aware of the presence of traffic at the same altitude immediately ahead. A further factor was that the glider pilot chose a non-optimal heading to remain clear of class D airspace, putting themselves into a very busy and narrow corridor between Southampton and the Farnborough CTA7.

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

THE DA62 PILOT reports conducting a transit flight, planning to stay 'high' while remaining outside the London TMA, with the view that higher altitude generally results in less traffic and less risk of a bird strike. The crew were very aware of Lasham gliding centre and planned a route to remain as clear of Lasham as possible. They also briefed that they would focus on the lookout for gliders while passing that part on the route. The plan was to fly at 4,000ft and obtain a service from Farnborough LARS at the CPT VOR. The aircraft is equipped with ADS-B out and a Traffic Alert System. Situational

¹ Altitude above the WGS84 ellipsoid.

awareness on the day was good, with other aircraft showing on the TAS screen that could be identified with the R/T communication with Farnborough. They were aware many gliders are non-transponding and do not show up on the screen, such that they keep an extra lookout in areas of glider activity. The Farnborough LARS frequency was very busy with Farnborough advising of previous traffic and keeping a lookout for those. The crew were advised of and became visual with other glider traffic. Knowing the area was popular with gliders and other traffic, all aircraft lights were on. The DA62 pilot had visual contact with the [Airprox] glider in the 1 o'clock position about 2 minutes prior to the airprox although they did not recall Farnborough advising about that traffic; the frequency was exceptionally busy. The pilot recalled thinking that if the controller did advise, they would report traffic sighted immediately. In the meantime, the crew discussed their course of action. The immediate concern was that they had no way of knowing what action the glider pilot would take next. It appeared to be flying straight and level and not making any turning manoeuvres. It did not appear on the TAS screen, and thus they were unsure if it was FLARM equipped or not. If it was FLARM equipped but not showing on the screen for other reasons, it was hoped at the very least the ADS-B out would alert the glider pilot to their presence. They discussed descending, as the one move a glider would avoid doing. However, they concluded they should take no action that risked losing visual contact with the glider, would assume the glider pilot was unaware of them and aim to keep visual contact until clear. The DA62 pilot initiated a heading change to the right to overtake the glider on the right side whilst keeping the glider in sight. The aircraft was manually flown with autopilot disconnected in anticipation of any avoiding action that might be required. At exactly the time the heading change to the right was initiated, the glider pilot initiated a 180° turn to the left. When this was seen the DA62 pilot turned harder to the right at 90° from the previous heading. Within seconds the glider passed off the left wing at a similar level. It was very difficult to determine the distance between aircraft at that moment, but this was the closest the DA62 pilot had ever come to another aircraft in the sky. The entire incident was over in a matter of seconds. The DA62 pilot noted that it appeared the glider was either not equipped with or not using any enhanced awareness system that would have alerted them to another aircraft. The DA62 was equipped with the latest transponder specifications including ADS-B, with everything functioning as it should, which would have greatly enhanced the situation for all pilots if traffic systems were in use. Where gliders are sharing airspace with powered aircraft, especially in a section of airspace within tight boundaries of controlled airspace such that VFR powered aircraft routing north-south are funnelled into a tight space, the use of traffic reporting system on gliders should be mandatory.

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

THE FARNBOROUGH CONTROLLER reports that he was informed that [the DA62 pilot] had retrospectively filed an Airprox [that occurred] whilst [they were] on the Farnborough frequency. Nothing was said on frequency at the time and the controller had no recollection of the event.

Factual Background

The weather at Farnborough was recorded as follows:

TAF EGLF 271105Z 2712/2721 23003KT 9999 SCT040=
METAR EGLF 271150Z AUTO 35004KT 320V030 9999 NCD 17/07 Q1020=

Analysis and Investigation

NATS Ltd

[DA62] was working Farnborough LARS West on a Basic Service. Approximately 5nm South of Lasham, the Controller called traffic information to [DA62] on glider indicating a similar level to [DA62]:

11:49:41 - Radar – “Two Uniform Tango there’s glider traffic ahead of you about er 2 miles similar track to yourself slow moving erm and same altitude keep a lookout”

11:49:49 – [DA62] – “Er yeah, thanks very much Two Uniform Tango”



The traffic (wearing a SDG conspicuity squawk) was a glider, [DG808], working LARS West, however the level of [DG808] was not validated a verified due to them wearing a conspicuity squawk. The squawk of [DG808] dropped off radar before [DA62] came into proximity to them, however [DA62] reported visual with the called traffic by LARS West:

11:50:28 – [DA62] – “er Farnborough Two November Golf Uniform Tango er we have that er traffic in sight on our right-hand side”

11:50:36 - Radar – “Two Uniform Tango Roger thank you”



11:50:28

[DA62] continued on frequency for a further 90 seconds before requesting to leave the frequency. No mention was made on frequency by [DA62] of the proximity of another aircraft or an Airprox occurring.

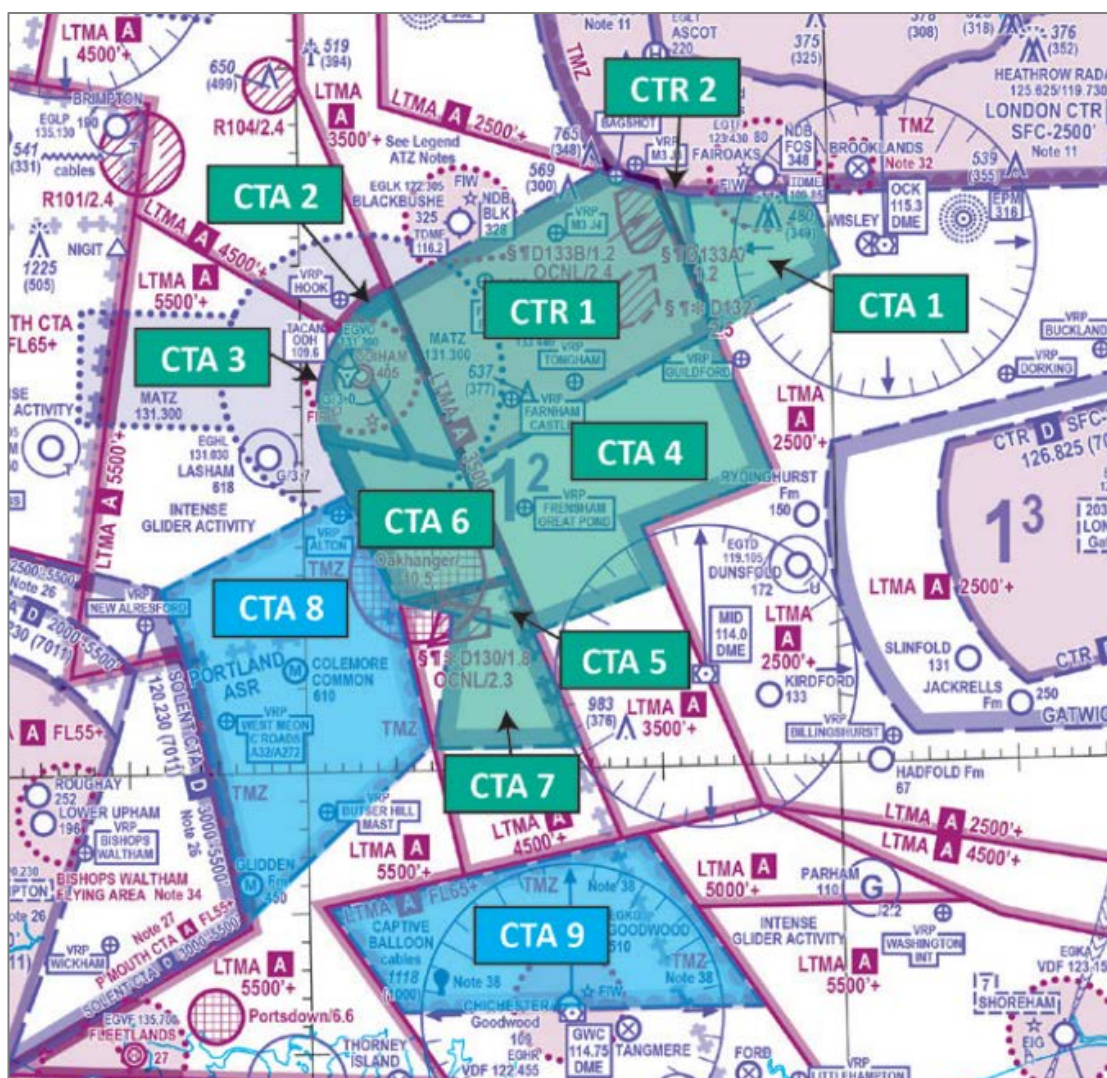
It is believed that the Airprox occurred with [DG808] due to them indicating a similar altitude to and being in close proximity to [DA62], however there were other non-squawking aircraft in the vicinity of [DA62] who could also have been the aircraft the [DA62] had the Airprox with.

The radar and RT recordings were reviewed, and the controller was interviewed. Due to the length of time that had elapsed between the event and Farnborough being informed of the Airprox, the controller could not recall any details of the interaction between [DA62] and [DG808].

An airprox occurred outside controller airspace between [DA62] and another aircraft that was believed to be glider [DG808]. Both aircraft were working Farnborough LARS West on a Basic service. The Controller observed [DA62] routing in close proximity to [DG808] so called generic traffic information to [DA62] on [DG808]. [DA62] acknowledged this and reported visual with the traffic.

UKAB Secretariat

The DG808 and DA62 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 DG808 pilot had right of way and the DA62 pilot was required to keep out of the way of the other aircraft by altering course to the right.³ 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, however, except for flight in airspace designated by the competent authority for mandatory operation of transponder, aircraft without sufficient electrical power supply are exempted from the requirement to operate the transponder at all times.⁴



Farnborough airspace: CTA7 Class D base 3500ft, CTA8 Class E+TMZ base 4500ft

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

⁴ (UK) SERA.13001.

Comments

BGA

Glider pilots are trained to avoid flying in the blind spots of other aircraft. Whilst it's good to read of the DA62 crew's awareness of gliders in this very busy area, a small course correction at an earlier stage would have avoided this incident altogether.

We encourage all glider pilots in gliders that are fitted with transponders to keep them selected on for as long as possible.

Summary

An Airprox was reported when a DG808 and a DA62 flew into proximity near Colemore Common at 1151Z on Thursday 27th May 2021. Both pilots were operating under VFR in VMC, the DA62 pilot in receipt of a Basic Service from Farnborough and the DG808 pilot listening out on a gliding frequency.

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.

Board members first discussed ATC aspects of the Airprox and commended the Farnborough controller for passing Traffic Information to the DA62 pilot, whilst under a Basic Service (**CF1**). The NATS Ltd investigation established that Traffic Information was passed at a range of about 2NM and it appeared from the R/T transcript that the DA62 pilot achieved visual contact about 45sec later. With a closing speed of some 90kt, this indicated that the glider was seen at a range of slightly less than 1NM. Members agreed that it was for the overtaking DA62 pilot to keep clear of the glider (**CF2**) and felt that this could have been achieved with a small change of heading on being passed Traffic Information initially (**CF3**). The DA62 pilot had SA from the Traffic Information call and presumably initially from their TAS, at least until the glider pilot selected their transponder off, but that SA had not resulted in timely action (**CF4**) and as the range closed, the loss of transponder information from the glider meant that the DA62 TAS could not alert (**CF6**). Unfortunately, the glider pilot had no SA of the approaching DA62 (**CF5**) and did not see it until at about CPA, effectively a non-sighting (**CF8**). A gliding member updated the Board on the glider pilot's reasoning for selecting the transponder off; the pilot had a marginal glide to their home airfield and had to take non-optimal routing due to the airspace structure. The glider was fitted with a retractable engine and the pilot decided to preserve the remaining power to ensure engine start should their final glide prove insufficient. Members commended the DA62 crew for the degree of thought that had gone in to their transit plan but agreed that ultimately they had not taken action in a timely manner and had ultimately had to take avoiding action when the glider turned left into their flight path (**CF7**). The Board discussed the risk and agreed that although avoiding action was taken, the degree of separation at CPA was such that it was felt that safety had been much reduced (**CF9**).

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021060			
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	• 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				
4	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
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
• 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	• Lack of Individual Risk Perception	Events involving flight crew not fully appreciating the risk of a particular course of action	Pilot flew close enough to cause concern
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.

Recommendation: Nil.

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:

Electronic Warning System Operation and Compliance were assessed as **not used** because the DA62 squawk is not within the select frame for Farnborough LARS West STCA.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the DA62 pilot was overtaking the DG808 and was required to keep out of its way.

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

Tactical Planning and Execution were assessed as **partially effective** because the DA62 pilot did not take action at an earlier stage, once they had sighted the DG808.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the DA62 pilot had SA on the DG808, having been passed Traffic Information but did not take action until at a late stage.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the DG808 transponder was not available to generate a potential alert in the DA62 TAS.

See and Avoid were assessed as **partially effective** because the glider pilot saw the DA62 at about CPA, an effective non-sighting, and the DA62 pilot had to react to the glider pilot's turn when at close range and hence at a late stage.

