

AIRPROX REPORT No 2014143

Date/Time: 18 Aug 2014 1321Z

Position: 5137N 00109W
(2nm W Benson)

Airspace: Benson ATZ (Class: G)

Aircraft 1 Aircraft 2

Type: Puma Nimbus

Operator: HQ JHC Civ Pte

Alt/FL: 1000ft
QNH (1010hPa) NK

Conditions: VMC VMC

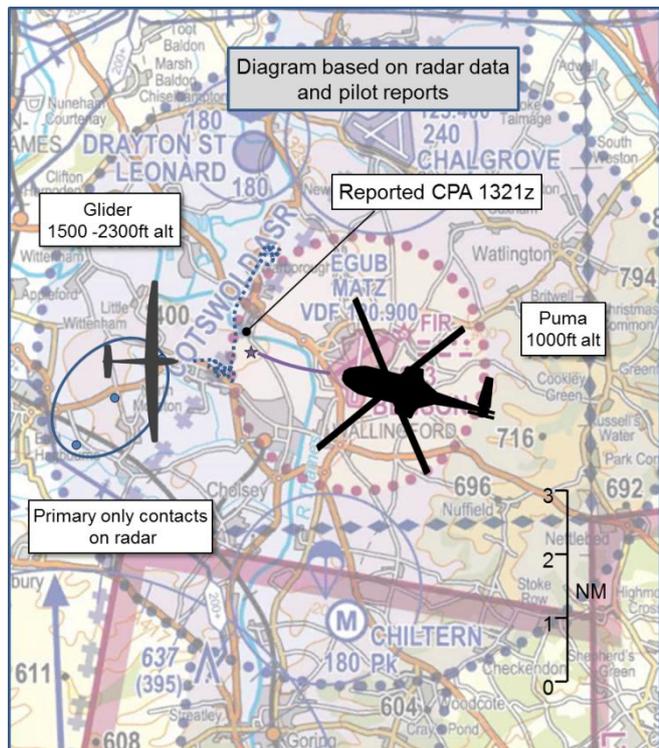
Visibility: 30km

Reported Separation:

0ft V/0.5nm H NK

Recorded Separation:

NK



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PUMA PILOT reports flying a green camouflaged helicopter with all lights illuminated and SSR transponder Mode 3A, C and S selected. The aircraft was not fitted with an ACAS or TAS. He was departing from Benson under VFR, passing altitude 1000ft, and about to speak to Benson Approach when the NHP saw a glider in the 9 o'clock position at the same level at a range of 0.5nm. Further scanning by the crew identified at least 4 other gliders circling between 500ft and 2000ft, all of which appeared to them to be within the Benson ATZ. Contact was made with Benson Approach, who could not see the gliders on radar due to the Watchman radar being unserviceable. Approach then relayed the information about the gliders to other departing and arriving traffic. On visual recovery, approximately 15min later, the crew was informed that the glider pilots had made contact with Benson Zone and had asked for permission to enter the ATZ. However, the gliders could still not be seen on radar and so the Puma pilot was led to believe they had been denied permission to enter the ATZ. He approached the airfield at 3000ft and could see the gliders to the southwest of the initials point for RW19, between 200 and 1000ft and still appeared to be within the ATZ. The pilot manoeuvred the aircraft at height to the south of the RW19 centreline and made an approach without further incident. The pilot believed that all 4 gliders infringed the Benson ATZ and, in attempting to gain lift, positioned themselves at the initials point, causing disturbance to Benson based traffic, including an NPAS helicopter. He wanted to highlight that although there were known websites publically available, which give glider information based on data gathered from FLARM, at present there was no way of accessing these websites through military computer systems.

He assessed the risk of collision as 'Medium'.

THE NIMBUS PILOT reports that he was flying a FLARM equipped glider, in VMC in the vicinity of RAF Benson. Cockpit workload was high due to difficult soaring conditions. He did not see any other aircraft in the vicinity of RAF Benson, but at this point in the flight he had to start his engine (it was a self-sustaining glider) in order to avoid a field landing. He did this and then assumed a heading in the general direction of his home airfield, whilst avoiding rain showers along the way.

THE BENSON ADC reports that, having sent the Puma to APP frequency, he received a call from Zone informing him that a number of gliders had called to request to enter the ATZ from the west. He ascertained the height and gave permission for them to enter but stated that once the Tutors started to recover the gliders would cause a problem. Zone called through with a second request, and this time the ADC refused as he was worried that the gliders were low and may try to land on the airfield. A glider called up on the tower frequency requesting entry into the ATZ and was refused on the same grounds. Shortly afterwards two Tutors joined the circuit and informed him of 3 or 4 gliders orbiting at the initials point, followed closely by a helicopter reporting the gliders in close proximity to the airfield and advising that the gliders were low and may well land in fields adjacent to the aerodrome.

He perceived the severity of the incident as 'Low'.

THE BENSON APPROACH CONTROLLER reports that Benson were operating SSR alone as there had been a fire in the Watchman building that morning rendering the primary radar unserviceable. Although she could not recall the full details of the day, she did remember that aircraft were being given a reduced Traffic Service because of the radar unserviceability. Glider information was being passed by various agencies and, because they were unable to verify the information, they were passing the information to the aircraft verbatim. A few gliders called on the zone frequency and a few on the tower frequency, but none were given permission to enter the ATZ. Once it was ascertained that the Watchman radar would be unserviceable for some time, controllers were deployed to Brize in accordance with local procedures.

THE BENSON SATCO reports that the high concentration of glider activity in and around Benson's airspace is of real concern to the unit and that the number of gliders operating without radios or SSR increases the risk of another mid-air collision. Benson had no primary radar on the day of the Airprox, but the radar image obtained from Brize shows the scale of the activity [See figure 4 in Military ATM report]. Whilst glider competitions are NOTAM'd, the SATCO opined that the information is often vague and any telephone numbers provided rarely provide any more information. He said that competition organisers rarely call Benson ATC to ask which runway they are using, or what their planned activity is. The radar image shows gliders crossing through the approach lane and on this day a number of instrument approaches were cancelled when controllers advised pilots of contacts showing on the PAR. He stated that Benson ATC were looking at the possibility of having FLARM installed in the tower, but opined that, once again, the non-glider community was having to take action to mitigate the risk of collision.

Factual Background

The weather at Benson was reported as:

METAR EGUB 181250Z 27012G24KT 9999 -SHRA FEW030CB SCT038 18/09 Q1010 / NOSIG

Analysis and Investigation

Military ATM

The Airprox occurred between a Puma and four gliders. The Puma was in the process of switching frequencies between Benson Tower and Benson Approach. At 1421:26 (Figure 1), Approach confirmed to the Puma, "*Good afternoon, Basic Service, VFR departure approved, squawk ident*".

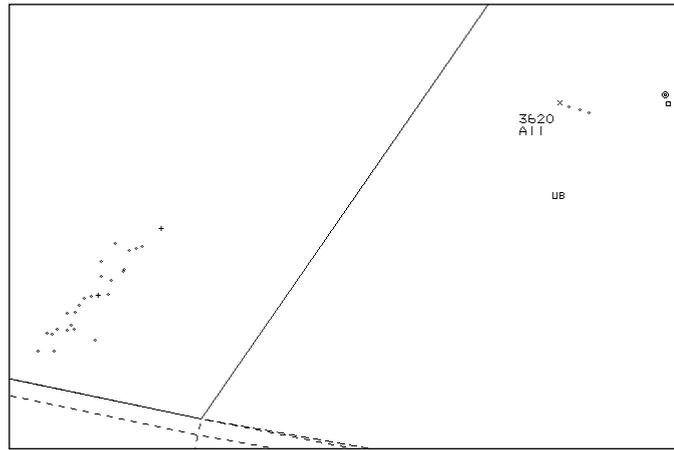


Figure 1: Basic Service applied at 1421:26 (Puma squawk 3620).

At 1421:56 (Figure 2), an intermittent contact, primary only, was detected on the Heathrow Radar.

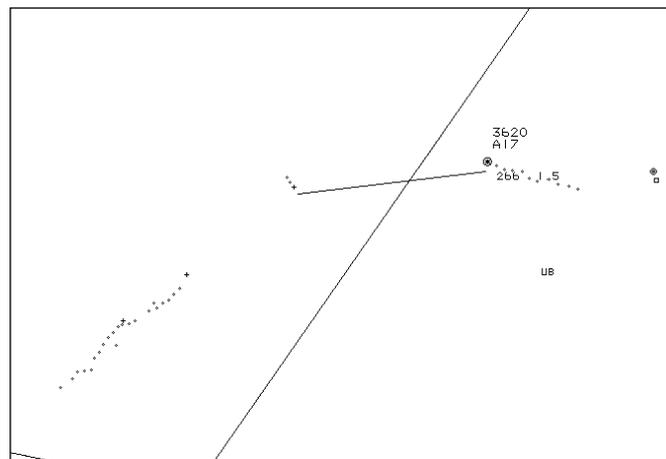


Figure 2: Intermittent primary contact at 1421:56.

At 1422:25 (Figure 3), the Puma declared, “*Er Benson approach, for your information there is one glider approximately a quarter of a mile in our nine o'clock position soaring at altitude one thousand seven hundred feet*”. This information was passed by Approach onto various Tutor callsigns and constant reports and updates were passed between controller and aircrew. The Puma recovered visually at 1431:02 and confirmed visual with three gliders to the east of the initials point.

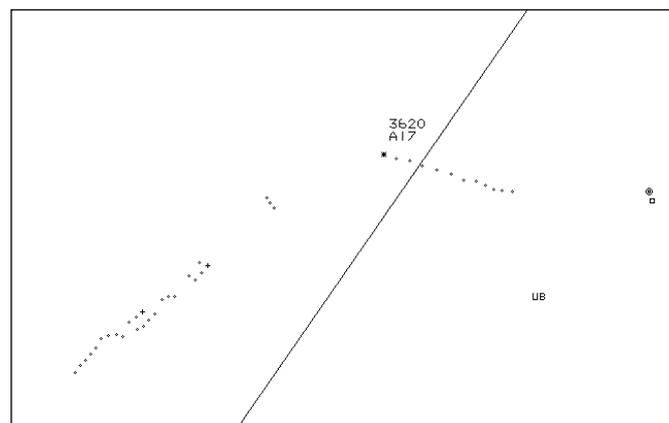


Figure 3: Airprox declared at 1422:25.

Benson had implemented their continuity plan by sending controllers to Brize Norton to provide an IFR service. The Benson based controllers, working SSR only, provided the VFR service to the

Puma, in the shape of a Basic Service. It is evident from the transcript that the control team were pro-active and busy gathering information on glider activity from different sources and sharing it with crews. As the gliders could not transpond, they were not detected by the Secondary Radar, and many were below the coverage of the IFR controllers using the Brize Radar 20nm away. The crews soon became well aware of the glider activity close to, or within, the ATZ and the lookout became a priority and a constant source of information for all of the pilots involved.

The radar picture at Figure 4 was taken on the day of the Airprox and demonstrates the glider activity within the Benson area; it was clear that movements to and from Benson would encounter gliders due to the scale and spread of the activity. The area to the north and west was congested with activity and the area to the east of Benson is restricted in terms of controlled airspace. The controllers had to cancel IFR approaches because of the traffic density and they had taken a pro-active deconfliction approach throughout the incident.

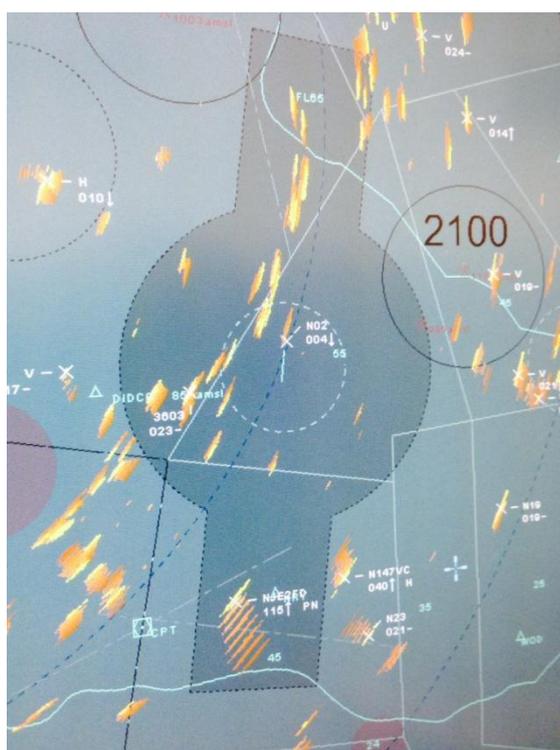


Figure 4: Radar picture taken at RAF Benson taken on the day of the Airprox.

The Puma is not fitted with ACAS or TAS, and this was an absent barrier to an Airprox, likewise the lack of transponders in the gliders was also an absent barrier. Traffic Information was not required under a Basic Service but, where possible, it was gathered and passed by the controllers, often using third-party position reports. As the Primary Radar was unserviceable, the Secondary Radar could not detect the non-transponding gliders. The crew lookout was the vital barrier to preventing collision and it appeared that the various crews were spotting gliders and sending information reports to others.

Better procedures to advertise activity and provide a degree of conspicuity would assist Benson-based squadrons in planning to avoid the biggest collections of glider activity. Benson will continue to take the issue forward at the Oxford Airspace User's Working Group to share and promote information on mutual activities. To add a degree of situational awareness to Benson crews, and to aid in deconfliction at the planning stage, FLARM feeds are being considered to highlight glider activity and strengthen the barriers to Mid Air Collision.

UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance and for not flying into such proximity as to create a danger of collision¹. If the geometry was considered to be converging then the Puma pilot was required to give way to the gliders.² Additionally, the pilot of an aircraft is required to obtain the permission of the Air Traffic Control unit to enable the flight to be conducted safely within the ATZ and to advise on entering the ATZ.³ Logger traces from the gliders confirm that the gliders were in the MATZ, but although on the boundary, were not in the ATZ at the time of the Airprox.

Comments

JHC

This Airprox again highlights the risk of MAC between gliders and other airspace users. Until gliders are required to carry a transponder or other conspicuity aid, the mitigation for preventing MAC rests with the more regulated aviation community. JHC are investigating the inclusion of a FLARM display in radar rooms to help to build situational awareness.

BGA

18th August was a poor soaring day; the gliders in question were participating in the Junior Nationals competition task from Lasham. The task route and approximate timings were fully notified to Benson that morning by email and fax. All competitors were briefed that they may not fly within an ATZ without permission.

The logger traces of all participating gliders were located and examined; it is apparent that of these gliders only one actually penetrated the Benson ATZ (see Figure 5 – red indicates inside the ATZ, which is marked by a green circle) and this pilot has confirmed that he had established communications with Benson Tower. Moreover, the timing and position data confirms that this was not the glider involved in the Airprox.



Figure 5

¹ Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

² Ibid., Rule 9 (Converging).

³ Ibid., Rule 45 (Flights within Air Traffic Zones)

Figure 6 shows positions of participating gliders in the vicinity of Benson at time of the reported Airprox (13:21UTC). It seems likely that the glider circling to the west of Benson is the one seen by the Puma pilot. It is this pilot who has made the report above.

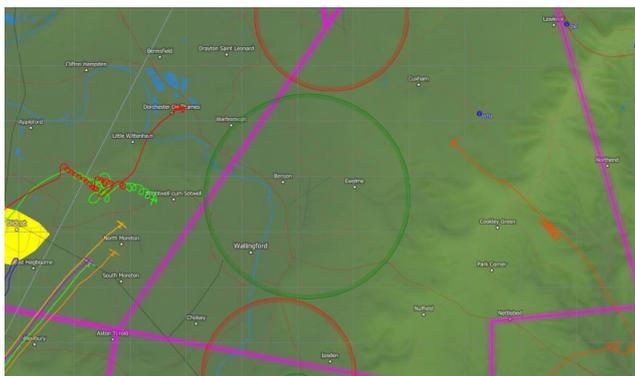


Figure 6

In this case see and avoid clearly worked, but the number of gliders in the area combined with the technical problems with the radar clearly caused concern to the Benson SATCO. It is hard to see what more the competition organisers or the participating pilots could have done; the task route was notified to Benson (and many other ATC units), and most gliders approaching the ATZ contacted Benson Zone or Tower, and remained clear when requested to do so. The BGA strongly supports providing access to 'FLARM Radar' in ATC units; this is a very low cost and technically straightforward way of increasing overall situational awareness for controllers.

Summary

An Airprox was reported on 18th August 2014 when a Puma flew into proximity with up to 4 gliders. The Puma was receiving a Basic Service from Benson, but Benson was SSR only due to unserviceable radar and could not see the gliders on radar. The glider pilot most likely to be the one seen by the Puma pilot submitted a report, but with difficult gliding conditions, did not see the Puma.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

In discussing the actions of the glider pilots, the Board agreed that although they were inside the MATZ, they were entitled to be where they were, given that the logger traces show that they were indeed outside the ATZ. The Board opined that good airmanship would suggest that a radio call to Benson ATC would be advisable given their location, and that a number of the pilots had called Benson ATC was commendable. It was agreed that the gliding community as a whole should follow their example and be encouraged to use their radios more to keep other airspace users informed. In that respect, the Nimbus pilot involved in the Airprox admitted that his workload was very high at the time, trying to prevent the need to land in a field, and this was the reason that he hadn't called Benson ATC, and also why he hadn't seen the Puma.

For his part, the Board discussed the fact that the Puma pilot was obviously concerned by the proximity of the gliders to the ATZ, although they noted that in reality the gliders were not in close proximity to his aircraft, and that he did not consider the risk of collision to be high. Nevertheless, by reporting the Airprox he had highlighted the difficulties faced by RAF Benson on the day. The Board wondered whether the Puma pilot was clear as to the delineation of the MATZ compared to the ATZ, and of the avoidance responsibilities (or not) of each as they apply to GA aircraft.

It was clear to the Board that Benson ATC were doing their best in difficult conditions, made worse by the lack of Watchman radar. The Board noted that the proximity of the gliders were such that PARs

had been stopped because of the concern that standard separation would not be maintained. Some Board members opined that installation of a FLARM display in ATC was undoubtedly a positive step in general but that it would have made little difference on this day because the numbers of gliders involved were too great to keep an accurate track, and ATC were given accurate information by other means that would not have been much increased by a FLARM display. Finally, the Board were concerned to read some of the comments made by the SATCO and JHC. It seemed that there was clear frustration about the impact that gliders were having on Benson's operations, but the Board opined that the only way of improving things was to work with the glider community rather than adopt a somewhat confrontational posture regarding airspace use or seeking to impose equipment carriage by the glider community (such as SSR) that were at present either impractical or unlikely to gain traction due to cost.

The Gliding Members of the Board re-iterated that the competition had been promulgated widely, but that the weather conditions on the day meant that the gliders had been forced closer to Benson than ideal. The BGA were looking at ways to improve the timely promulgation of such events, including the possibility of putting details into CADS⁴, which would aid military aviators. The Board also felt that the continuation of such groups as the Oxford Airspace Users groups would help all parties better understand the needs and difficulties of one another. Similar to their comments to Benson, the Board opined that what was required from both sides was cooperation and understanding; glider pilots also had a duty to fly responsibly, and tracking right along the boundaries of ATZs did not represent good airmanship given the likely disruption to the operations of the airfield concerned irrespective of whether or not a radio call had been made.

Despite a long discussion about the events of the day, when it came to assessing the cause the Board agreed that this was simply a sighting report, and in light of the actual separation between the Puma and the Nimbus, the risk category was assessed as Category E, normal procedures, safety standards and parameters had pertained.

PART C: ASSESSMENT OF CAUSE AND RISK

<u>Cause:</u>	A sighting report.
<u>Degree of Risk:</u>	E.
<u>ERC Score</u> ⁵ :	2.

⁴ Centralised Aviation Data System, a military aid to flight planning.

⁵ Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.