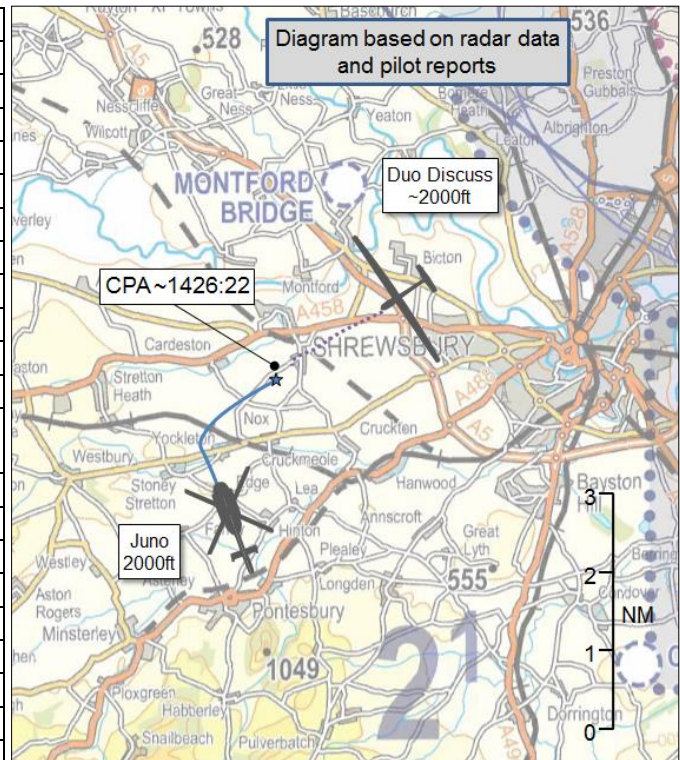


## AIRPROX REPORT No 2017203

Date: 23 Aug 2017 Time: 1427Z Position: 5242N 00251W Location: 2nm W Shrewsbury

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Juno	Duo Discus
Operator	HQ Air (Trg)	Civ Club
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Shawbury	(Shawbury) <sup>1</sup>
Altitude/FL	NK	2000ft
Transponder	A, C, S	Not fitted
<b>Reported</b>		
Colours	Black, Yellow	White, Orange
Lighting	Strobes, Anti-cols, Nav	Nil
Conditions	VMC	VMC
Visibility	10km	5km
Altitude/FL	2000ft	1950ft
Altimeter	QNH (1012hPa)	QNH
Heading	45°	270°
Speed	65kt	80kt
ACAS/TAS	TAS & FLARM	PowerFLARM
Alert	None	Information
<b>Separation</b>		
Reported	50ft V/200ft H	200ft V/300m H
Recorded	NK	



**THE JUNO PILOT** reports that he was operating 2nm south-west of Shrewsbury. ATC called an intermittent contact with no height information north of his position. On looking out, the crew identified a rotary aircraft on a similar bearing. They told ATC that they believed they were visual, but the controller updated the Traffic Information as within 0.5nm in the 12 o'clock. On searching again for the contact, the crew saw a glider at a similar altitude, heading towards and approx. 200m from their aircraft. The NHP took control and conducted an emergency turn to the left. The glider did not alter heading or height as it passed down the right-hand-side of the aircraft. An Airprox was declared on frequency.

He assessed the risk of collision as 'High'.

**THE DUO DISCUS PILOT** reports that he was P1 and had another pilot navigating as P2. They called Shawbury to tell them they were transiting the MATZ and gave their position. Later, the P2 spotted the helicopter in their 1 o'clock position and slightly lower; FLARM indicated a second later, and then the P1 also saw it. He turned left with hard bank and saw the helicopter turn left as well.

He assessed the risk of collision as 'High'.

**THE SHAWBURY LARS CONTROLLER** reports that he was the LARS and low-level controller and had been working all three frequencies for about 45 mins. During this time it was obvious that there were a number of gliders routing from Seighford to SW Shrewsbury; he had frequently called primary-only contacts to pilots, who had then reported visual with gliders. He called multiple contacts to two particular aircraft working in within the 'training valley', giving a generic call for situational awareness.

<sup>1</sup> The glider pilot had called Shawbury Zone to give them information on his routing, but was not receiving an ATS.

He had also specifically called several primary contacts to the Airprox Juno pilot (who was on a Basic Service and therefore not formally identified), giving the information as 'traffic believed to be you' and telling him the other traffic was 'believed to be a glider'. On one particular occasion, the pilot called visual with a rotary aircraft, and noting that there was a Shawbury-based rotary in the radar pattern in close proximity to the primary-only contact that he had called, he wasn't satisfied that the pilot had gained visual with the contact called. He repeated the Traffic Information, making it clear that he thought the pilot was visual with a different aircraft. A few seconds later the pilot called visual with a glider, and, shortly afterwards, reported that he would file an Airprox.

He assessed the risk of collision as 'Medium'.

**THE SHAWBURY SUPERVISOR** reports that it had been a busy afternoon and he had been assisting the RA controller who was busy with IF recoveries and 'IF box' traffic. A second talkdown had been opened and the DIR position manned. He was aware that there had been some glider activity reported by rotary aircraft, and all controllers were passing Traffic Information on the small slow-moving contacts that were believed to be the gliders. The LARS controller was band-boxing with the low-level frequencies, and he was aware that the controller was calling the primary contacts to the low-level traffic. The LARS controller informed him that an Airprox had been reported and he ensured that details were obtained.

## Factual Background

The weather at Shawbury was recorded as follows:

METAR EGOS 231350Z 26016KT 9999 FEW040 SCT180 20/11 Q1013 BLU NOSIG=

## Analysis and Investigation

### Military ATM

Figures 1 and 2 show the position of the Juno, and a primary contact that may be the glider involved, at relevant times in the lead up to and during the Airprox. The screen shots are taken from a replay using a NATS radar, which is not used by Shawbury ATC, and therefore is not representative of the picture available to the controllers. At 14:24:50 (Figure 1), the Juno (Squawking 7422) was operating in the vicinity of Shrewsbury, with an aircraft (primary contact only) operating approximately 3nm to the north east.

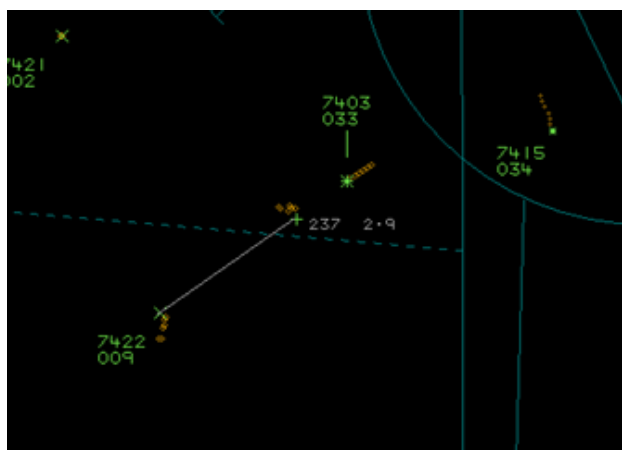


Figure 1: Geometry at 14:24:50

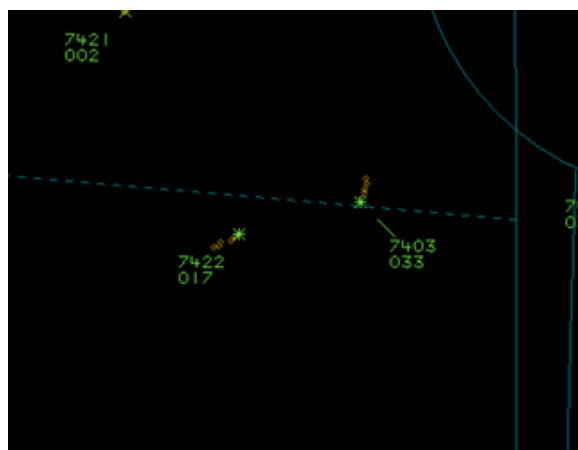


Figure 2: Geometry at 14:25:48

At 14:25:48 (Figure 2), the Shawbury Zone Controller provided updated Traffic Information (TI) to the Juno. The traffic was described as, "north east, one mile, tracking south west, no height information, believed to be a glider". There was no primary contact depicted on the NATS radar replay at that time.

At 14:26:21, having had TI updated a second time, the Juno pilot reported visual with a glider (not displayed on the NATS radar replay). At 14:26:48 (Figure 3), the primary contact reappeared on radar replay, at the same time the Juno pilot was reporting the Airprox on frequency.

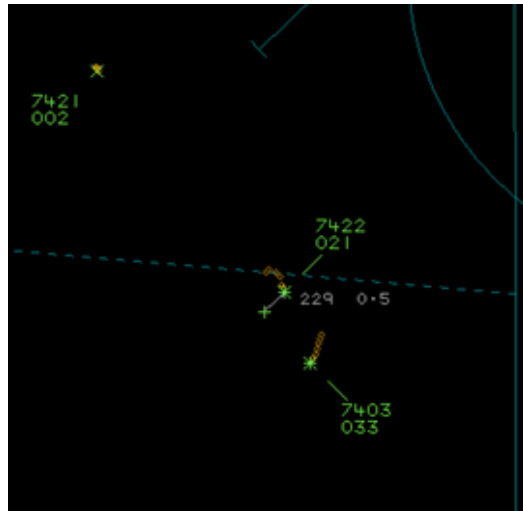


Figure 3: Geometry at 14:26:48

The Shawbury Zone Controller provided the Juno pilot with generic TI several times on what was believed to be gliding activity in the area. The presence of gliders had also been confirmed by other rotary aircraft on frequency. The Juno was using a 7422 squawk which is a generic code for station-based aircraft operating not above 3000ft. Shawbury ATC does not have Mode S and cannot distinguish between individual aircraft with the same squawk unless identification is made and maintained. The Controller then passed specific TI to the aircraft believed to be the Juno on a primary contact believed to be a glider. The TI was updated, at which stage the Juno pilot reported visual with another rotary aircraft. A further update enabled the Juno pilot to visually acquire the glider, after which the Airprox was declared. Under a Basic Service, there is no requirement for a controller to identify or monitor an aircraft, therefore pilots should not expect any form of TI; however, a warning shall be issued to a pilot if the controller believes there to be a definite risk of collision.

Although the Glider pilot had contacted Shawbury Zone, the aircraft was never formally identified by the Shawbury Zone Controller and was not being monitored on the radar screen. No ATS was agreed and no TI was passed to the Glider pilot.

Since the Airprox, procedures at RAF Shawbury have been changed in order that ATC and the flying squadrons are provided with updated information on gliding activity that has been subject to a NOTAM. In this case, no NOTAM was issued relating to the competition taking place in the local area, and the glider involved in the Airprox was not part of the competition, so the incident would not have been prevented, however the change will still give all operators better Situational Awareness.

### UKAB Secretariat

The Juno and Duo Discus 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>, notwithstanding their overall responsibility to avoid a collision.

<sup>2</sup> SERA.3205 Proximity.

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

## Comments

### HQ Air Command

This incident occurred in the busy Class G airspace to the southwest of RAF Shawbury. The glider pilot had spoken to Shawbury to inform them of his transit through their MATZ but, without the association of a transponder code to accompany the primary radar contact, the controller was unable to correlate the information given by the glider pilot with the track on his radar. Although only a Basic Service (BS) had been agreed with the Juno, the controller is to be commended for his persistence in calling the glider traffic to the pilot of the Juno, particularly when the Juno pilot confirmed that he was visual with another helicopter and the controller was not comfortable that this was the contact that he had been calling. However, crews should be aware that this level of Traffic Information (TI) under a BS is to be considered the exception rather than the norm and, if a higher degree of TI is required, then a Traffic Service should be agreed with the controller.

The other barriers available in this encounter were electronic conspicuity (both aircraft were FLARM-equipped), and lookout. Whilst the FLARM generated a warning in the glider, albeit after the helicopter had been sighted by the pilot, it did not generate a warning in the helicopter, thus demonstrating that this barrier is not always effective. Equally, it seems that the pilots of both aircraft sighted each other's aircraft at approximately the same time but this was also when the two aircraft were quite close to each other. Gliders are notoriously difficult to see and so pilots should be extra vigilant when there are reports of gliders in the vicinity.

The unit investigation discovered that the local gliding club had initiated a cross-country event due to the favourable weather conditions on the day. As this was not a competition there was no requirement to submit a NOTAM; however, the CFI of the gliding club acknowledges that a telephone call to RAF Shawbury informing them of the activity may have been wise – closer liaison between RAF Shawbury and the Midlands Gliding Club is now in place.

## Summary

An Airprox was reported when a Juno and a Duo Discus flew into proximity at 1427 on Wednesday 23<sup>rd</sup> August 2017. Both pilots were operating under VFR in VMC, the Juno pilot in receipt of a Basic Service from Shawbury and the Duo Discus pilot was not in receipt of an ATS.

### **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

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

The Board first looked at the actions of the Juno pilot. He was receiving a Basic Service from Shawbury but did receive Traffic Information. Although he thought he saw the traffic that had been called to him when he called visual with a rotary aircraft, the controller updated the information and he saw the glider at the last moment. The Board noted that the two aircraft were head-on and therefore it was not solely for the Juno pilot to give-way to the glider, the responsibility was with both pilots, notionally by turning right (although in this case both pilots assessed the geometry such that turning left for avoiding action was the best option). Noting that the Juno was fitted with a FLARM, the Board did not know why it didn't alert, especially because the FLARM in the glider did, and could only assume that it was down to aerial blanking. They concurred with the HQ Air Command comments that this served to demonstrate that CWS was not a panacea but purely a useful aid to supplement look-out.

For his part, the glider pilot had called Shawbury ATC to inform them of his routing through the MATZ, and the Board commended him for this. Although the controller had not been able to use exact data from the RT report, nevertheless it had alerted Shawbury ATC to the presence of gliders in the area. The Board wondered about the gliding task that had been set, noting that it wasn't a

competition so a NOTAM hadn't been issued. Some members wondered whether a NOTAM was a practical method of alerting other aviators to a short-notice task anyway, and the gliding member confirmed that the organisers had no way of knowing before the event how many people would turn up for gliding that day. One member wondered whether a CANP might be a better way of publicising such a task. Irrespective, the Board agreed that a phone call to Shawbury ATC that morning to let them know that there would be gliders routing through the MATZ might have been helpful for planning purposes. In this respect, the Board were heartened to hear that closer liaison between the gliding club and RAF Shawbury would now take place.

Finally, the Board looked at the actions of the Shawbury LARS controller and commended him for his pro-active controlling and timely Traffic Information. He was not required to maintain track-ident on the Juno (which was under only a Basic Service), but, not only did he do so whilst busy monitoring other frequencies, he gave pertinent Traffic Information and immediately deduced that the Juno pilot was visual with a different aircraft which he knew to be in the radar pattern. By updating the information, he enabled the pilot to get visual with the glider, albeit at a late stage. Some members recalled that certain RAF towers were trialling the introduction of FLARM receivers within the ACR and opined that, had Shawbury had one, the controllers may well have had improved situational awareness of the tracks and heights of the gliders as they routed through their area of responsibility.

In determining the cause of the Airprox, the Board quickly agreed that this had been a late sighting by both pilots. Noting that both pilots had conducted emergency turns and had reported the risk of collision as high, the Board assessed the risk as category B; safety had been much reduced below the norm.

**PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: A late sighting by both pilots.

Degree of Risk: B.

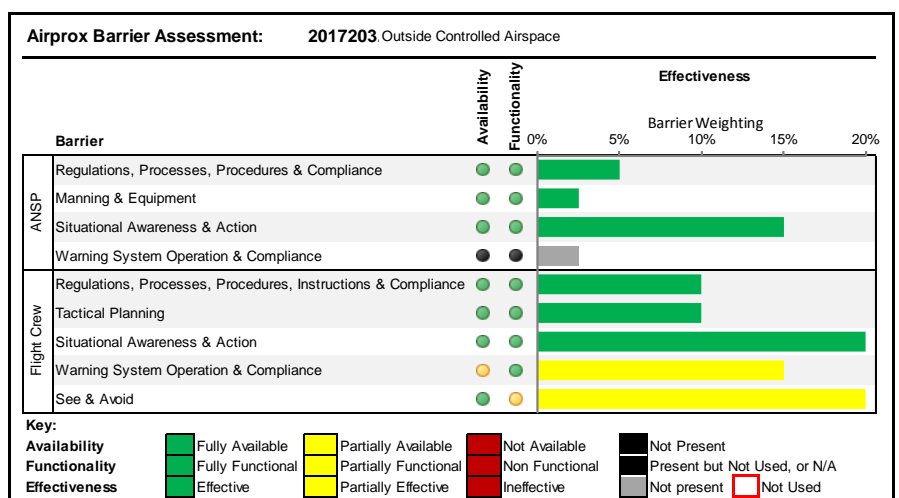
Safety Barrier Assessment<sup>4</sup>

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

**Flight Crew:**

**Warning System Operation and Compliance** were assessed as **partially effective** because the glider's PowerFLARM alerted at a late stage, and the Juno's FLARM did not alert at all.

**See and Avoid** were assessed as **partially effective** because it was a late sighting by both pilots.



<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](http://www.ukab.co.uk).