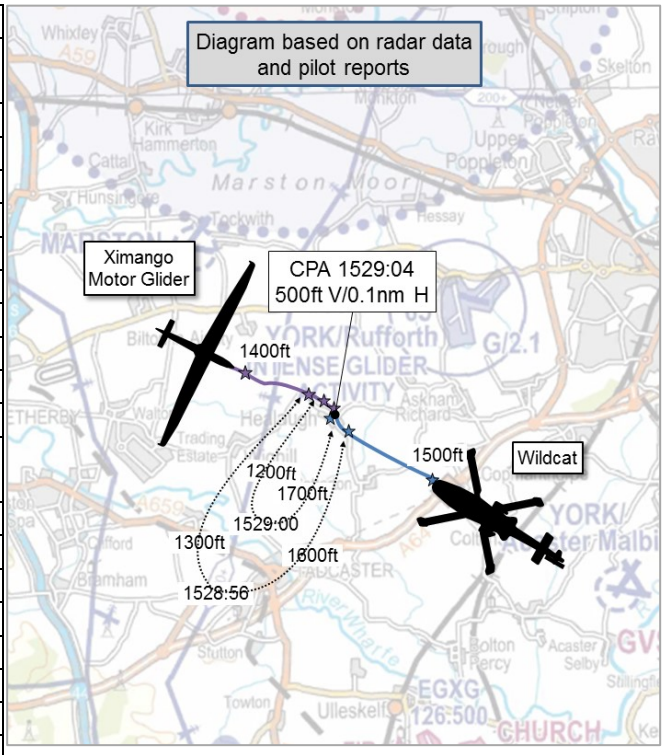
AIRPROX REPORT No 2017260

Date: 01 Nov 2017 Time: 1529Z Position: 5355N 00114W Location: 2nm SW Rufforth Glider Site

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Wildcat	Ximango Motor Glider
Operator	HQ JHC	Civ Club
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	AGCS
Provider	Linton Zone	Rufforth
Altitude/FL	1700ft	1200ft
Transponder	A, C, S	A, C
Reported		
Colours	Grey	White
Lighting	Landing, Strobe, Nav	Strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1700ft	2000ft
Altimeter	RPS (1012hPa)	Rufforth QFE
Heading	280°	180°
Speed	120kt	60kt
ACAS/TAS	TAS	Not fitted
Alert	Unserviceable	N/A
Separation		
Reported	250m	NK
Recorded	500ft V/0.1nm H	



THE WILDCAT PILOT reports that he was conducting a VFR transit from Humberside to RAF Leeming at 1500ft whilst under a Traffic Service with Leeming Zone. ATC informed him of traffic 12 o'clock at 100ft below. Because the traffic was unsighted, he elected to initiate a climb to 2000ft to increase vertical separation. Whilst in the climb, at 1700ft, a glider was sighted in his 12 o'clock on a converging heading and in a shallow dive. He conducted an avoiding right hand turn, whilst maintaining his rate of climb. The glider was seen to increase the angle of their descent and perform a turn to the right. The incident was reported over the radio to Linton Zone immediately following the incident. The Wildcat pilot reported that his TAS was unserviceable.

He assessed the risk of collision as 'Medium'.

THE XIMANGO MOTOR GLIDER PILOT reports that he was returning to Rufforth from a local soaring flight at 2000ft agl. He was joining the circuit and monitoring the Rufforth frequency to establish the movements of the local traffic. Whilst on a southerly heading and about to turn left to join the Rufforth downwind leg for RW17, he spotted a helicopter on a reciprocal heading at the same altitude about 500m head-on. He took immediate avoiding action by making a hard-right turn and descended rapidly. The helicopter did not appear to take any evasive manoeuvre.

The Ximango pilot phoned Linton after the Airprox. He informed them that he was based at Rufforth and was a very experienced Glider pilot (3500Hrs). He had contacted Linton Zone on VHF and requested a Basic Service and a transponder check as it had just been repaired. On reaching his area of operation, he switched to the gliding frequency and the transponder was selected off to preserve the battery when the engine was turned off. Conditions were very good for gliding and, on completion, the engine was restarted and the transponder turned back on. The transponder can take up to 5 mins to

warm back up. He contacted Rufforth for recovery, but held off while a helicopter landed. At this point he saw what he thought was a Gazelle coming at him and took avoiding action. He was surprised to see a Heli in transit at that altitude, that close to Rufforth on such a good day for gliding'.

He assessed the risk of collision as 'High'.

THE LINTON ZONE CONTROLLER reports that the Wildcat was handed over from Humberside in the Breighton area at 1500ft on the Barnsley QNH 1010. On initial contact, the Wildcat was identified and a Traffic Service provided, reduced due to poor radar performance and the Wildcat pilot was informed that he was at the base of radar cover and responsible for his own terrain separation. The Wildcat pilot was under his own navigation, and the controller ascertained that the Wildcat pilot would route south of York/Rufforth & Linton en-route to Leeming. As the Wildcat approached York/Rufforth from the south east, a non-squawking contact was seen and Traffic Information was passed. The Wildcat pilot was not visual with the unknown traffic, which the controller continued to call. A 7000 squawk was also seen NW and initially crossing ahead with Mode C/Alt 016, the same as the Wildcat. This traffic was called to the Wildcat pilot along with updates on the non-transponding aircraft which was in very close proximity. Traffic Information was updated again on the transponding aircraft, with its Mode C indicating 015 and descending slowly. The traffic was updated a further time with the unknown aircraft now 100ft below, maintaining, and opposite direction. The Wildcat pilot stated he was not visual and climbing to 2000ft. Almost immediately, the Wildcat declared an Airprox. Shortly after reporting the Airprox, the Wildcat pilot updated that the incident was with a glider, both aircraft turned to the right, the Wildcat was at 1700ft when the glider was sighted.

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

THE LINTON SUPERVISOR reports that he did not witness the event as it occurred. The workload of the controller and the complexity of the situation was not such that he felt he needed to closely monitor the position. The LARS controller had approximately 4 speaking units, 3x Basic Service and 1x Traffic Service. The controller did provide Traffic Information and update it as necessary. He took all necessary action following the report of the Airprox.

Factual Background

The weather at Linton-on-Ouse was recorded as follows:

`METAR EGXU 011450Z 24008KT 9999 FEW025 SCT140 BKN170 12/08 Q1014 BLU NOSIG`

Analysis and Investigation

Military ATM

Figures 1-4 show the position of the Wildcat and Motor Glider at relevant times in the lead up to the Airprox. The screen shots are taken from a replay using a NATS radar, which is not used by Linton-on-Ouse ATC, therefore is not representative of the picture available to the Linton LARS Controller.

At 15:28:05 (Figure 1), the Linton Controller passed Traffic Information (TI) to the Wildcat pilot on traffic left, 8 o'clock, ½nm, manoeuvring, no height information and traffic 12 o'clock, 3nm, crossing left to right ahead, indicating 100ft below, descending slowly. The Wildcat pilot acknowledged the TI but did not report visual.

At 15:28:31 (Figure 2), the Linton Controller passed updated TI on traffic now 12 o'clock, 1.5nm, crossing left to right, indicating 100ft below, opposite direction. The Wildcat pilot responded that he was looking and climbing to height 2000ft although the radar height readout does not indicate a change of height until the 2 aircraft were within 0.8nm (somewhere between Figures 3 and 4).

At 15:28:50 (Figure 3), the Linton Controller updated the TI once more; at 15:29:01 (Figure 4), the Wildcat pilot stated on frequency that he had just had an Airprox with a Glider.

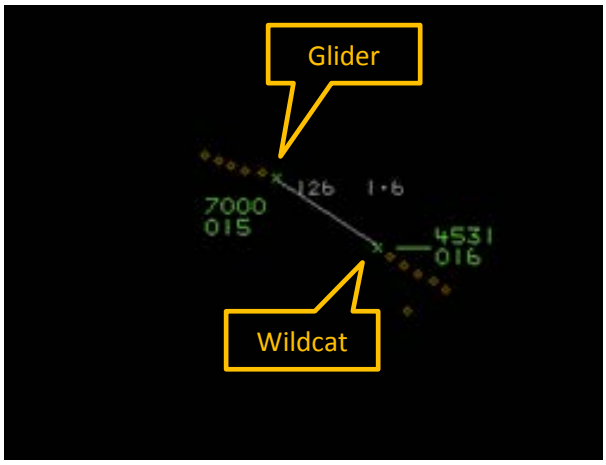


Figure 1: Geometry at 15:28:05

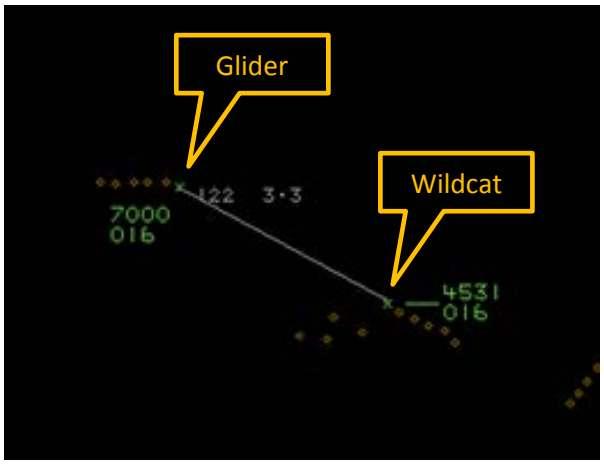


Figure 2: Geometry at 15:28:31

Figure 3: Geometry at 15:28:50

Figure 4: Geometry at 15:29:01

On initial contact, the Linton LARS Controller agreed a Traffic Service with the Wildcat pilot and reduced the service from below due to the aircraft operating close to the base of solid radar cover, and from all around due to poor radar performance.

The glider was called three times to the Wildcat pilot, though he did not report visual with the traffic. The pilot stated that, on electing to climb to increase separation, a glider was seen in the 12 o'clock position, converging and in a shallow dive. CAP 774 states that controllers shall aim to pass information on relevant traffic before the conflicting aircraft is within 5nm, in order to give the pilot sufficient time to meet his collision avoidance responsibilities and to allow for an update in traffic information if considered necessary; however, in this instance, the controller prioritised passing TI several times on other, closer traffic.

UKAB Secretariat

The Wildcat and Ximango pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[1]. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right[2].

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(1) Approaching head-on.

Comments

JHC

JHC HQ note that the initial Wildcat local investigation was completed without the benefit of all the evidence now available to the UKAB. In particular, the radar replay from NATS combined with the Linton Zone tape transcript clearly shows that the incident glider was squawking and that accurate traffic information was passed to the crew of the Wildcat by the Linton controller. As such, some of the local investigations causal factors can now be seen to be inaccurate despite the investigators best intentions; the benefit the UKAB process brings is the ability to view evidence provided by all parties and so JHC will provide feedback to the unit once the full process is complete. It should also be noted that JHC HQ have recently mandated serviceable IFF as a 'go/no-go' item given the importance of electronic conspicuity in mitigating the mid-air collision risk; following this incident we will undertake a study in to the efficacy of including serviceable CWS where fitted.

BGA

Approaching his base at Rufforth it was reasonable for the glider pilot to be talking to them rather than Linton LARS, who are to be commended on providing excellent TI to the Wildcat. The battery-imposed constraints on the use of transponders in gliders have been previously discussed at length.

Summary

An Airprox was reported when a Wildcat and an Ximango Motor Glider flew into proximity at 1529hrs on Wednesday 1st November 2017. Both pilots were operating under VFR in VMC, the Wildcat pilot in receipt of a Traffic Service from Linton and the Ximango Motor Glider pilot in receipt of an AGCS Service from Rufforth.

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 began by looking at the actions of the Wildcat pilot. Members noted that he had first been given Traffic Information on the Ximango by the Linton controller at 3nm separation but that the information had indicated that the Ximango was crossing left to right. It was not until the second Traffic Information that he was told that the Ximango was 'opposite direction'. It was at this point that the Wildcat pilot reported that he was climbing but the radar replay showed that he had not materially changed his altitude for some time after this. The Board wondered what urgency the Wildcat pilot had attached to the Traffic Information, and felt that he could have reacted sooner to the information he had been given; it did not seem from the radar recordings that the Wildcat pilot had climbed until just before CPA. Some members noted that the Wildcat's TAS was unserviceable, and they commented that this had denied the Wildcat pilot a valuable source of situational awareness that might otherwise have been available. The JHC Board member stated that a serviceable TAS was not currently mandated as part of the Wildcat minimum equipment list but, in light of this incident, they were now reconsidering whether this should be the case.

The Board then turned to the actions of the Linton Controller. Despite the reduction in radar service due to the Wildcat's altitude, the Board commended the Linton Controller for his efforts in passing timely TI to the Wildcat pilot three times on the Ximango, which was an unknown contact on his radar. Some members wondered whether the controller should have called the Ximango as opposite direction traffic to the Wildcat in his first call, but it seemed from the radar recordings that the track until then had been more left-to-right than opposite direction (Figure 2), and so it was agreed that this was a difficult judgement that would only be clear in hindsight; it had been a slight turn by the Ximango pilot after the first Traffic Information call that had altered the geometry of the incident to more head-on.

For his part, the Board noted that the Ximango pilot had seen the Wildcat late, probably because his attention was focused towards Rufforth as he positioned to join downwind. A timely reminder of the need for robust, prioritised lookout at all times, although he saw the Wildcat late, members noted that he did have time to take an emergency avoiding action turn and descent, which had materially increased the separation between the two aircraft. The Board were heartened to see the pro-active use of SSR transponder by the Ximango pilot; although this had been a close call, the fact that ATC could detect his squawk meant that the Wildcat pilot was alerted to his presence and, not being visual with him, had started to take action by climbing, which had also assisted in the resolution of the incident.

The Board then looked at the cause and risk of the Airprox. They quickly agreed that, although the first Traffic Information call may had been slightly ambiguous, even at 1.5nm with the second call, the Wildcat pilot had been presented with enough Traffic Information on the Ximango to make an informed decision and act with more urgency than he had. The Board therefore agreed that the cause was best described as the Wildcat pilot flew into conflict with the Ximango, despite being passed Traffic Information. Turning to the risk, members noted that the Wildcat pilot reported seeing the Ximango at about CPA, and that the Ximango pilot saw the Wildcat similarly late and carried out emergency avoiding action. The achieved separation of 500ft at CPA reflected more the Ximango's rapid descent than the Wildcat's climb, and the Board considered that the emergency nature of the Ximango pilot's avoiding action constituted a situation where safety margins had been much reduced below the norm. Accordingly, the degree of risk was assessed as Category B.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Wildcat pilot flew into conflict with the Ximango, despite being passed Traffic Information.

Degree of Risk: B.

Safety Barrier Assessment[3]

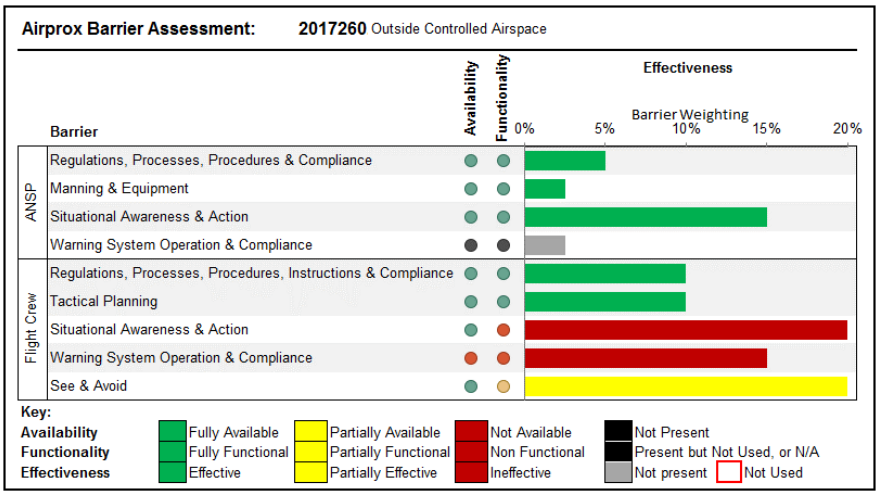
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Crew:

Situational Awareness and Action were assessed as **ineffective** because the Wildcat pilot did not act on the available situational awareness provided by the Linton Controller.

Warning System Operation and Compliance were assessed as **not available** because the Wildcats electronic warning system was not serviceable.

See and Avoid were assessed as **partially effective** because both pilots saw each other late, and the glider pilot had to take emergency avoiding action.



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