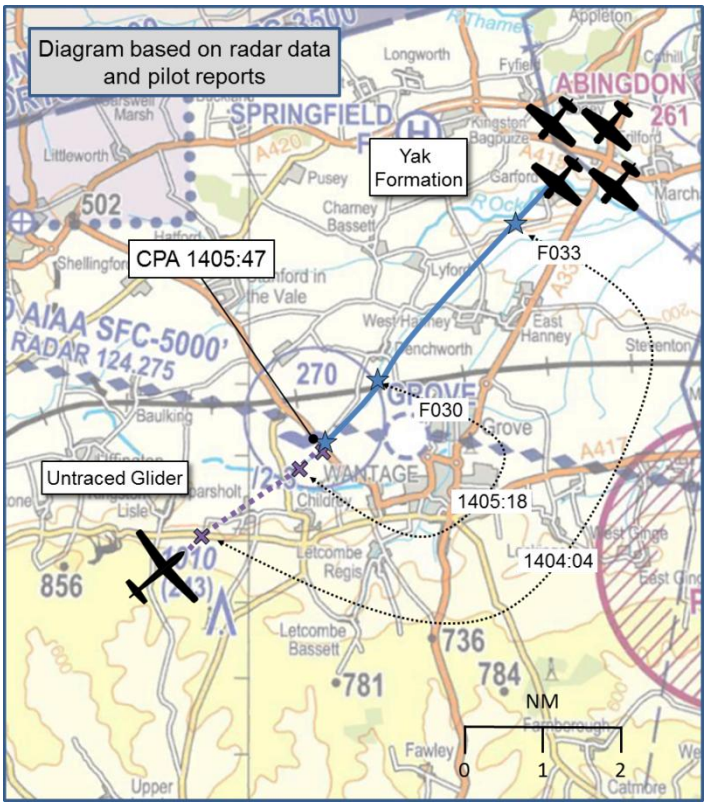
AIRPROX REPORT No 2014192

Date/Time: 28 Sep 2014 1405Z (Sunday)

Position: 5136N 00128W (1nm W of Grove Disused Aerodrome)

Airspace: London FIR (*Class*: G)

	Aircraft 1	*Aircraft 2*
Type:	Yak 50	Glider
Operator:	Civ Pte	Unknown
Alt/FL:	2900ft (1019hPa)	NK
Conditions:	VMC	NK
Visibility:	>5nm	NK
Reported Separation:	10-20ft V/100m H	NK
Recorded Separation:	NK V/NK H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE YAK PILOT reports flying as the No.4 at the rear of a 'loose box formation' of four Yaks, under VFR in VMC, heading 220°, straight-and-level at 2900ft (1019hPa), with no lights, and squawking transponder Modes 3/A and C. They were in receipt of a Basic Service from Brize Norton LARS (via the lead Yak pilot), and all of the formation pilots were 'fully aware' that it was a Sunday and good thermalling weather, so they were 'actively looking for glider traffic soaring or fast transiting'. The Yak pilot saw a glider 'at the last moment', approaching head-on to him, possibly slightly higher; he could clearly see the bulbous nose and long wings, and thought that it may have had a 'T-tail'. He evaded by rolling and diving the Yak to the left, and thought that the glider's flight-path may have taken it just over his; he broadcast a warning to the other formation pilots, but they had not seen the glider as they passed it, and he did not see the glider take any avoiding action.

He assessed the risk of collision as 'High'.

THE GLIDER PILOT could not be traced.

THE BRIZE NORTON LARS CONTROLLER reports that traffic levels were high, including provision of Traffic Services to numerous Benson-based Grob Tutor pilots. The controller does not recall an Airprox being reported on frequency, and cannot remember any details of the occurrence.

THE BRIZE NORTON SUPERVISOR reports assessed the unit's workload as medium to low, and the LARS controller's workload as high, but does not recall any details of the occurrence and did not hear an Airprox being reported.

Factual Background

The weather at Brize Norton at 1350 was recorded as:

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METAR EGVN 281350Z 16005KT 9999 FEW038 SCT045 BKN280 23/13 Q1019 BLU NOSIG
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Analysis and Investigation

Military ATM

The RAF Brize Norton LARS[1] controller had high traffic levels at the time, with multiple tracks on frequency. The controller had no memory of the event and assessed the risk at 'negligible'. The Supervisor confirmed the high controller workload and confirmed that no Airprox was reported on frequency.

The Yak Team were placed under a Basic Service at 1350:22, routing Sywell to Henstridge, via the east of Oxford. The controller had a number of aircraft on frequency with near constant RT. At 1358:36 the controller asked if the formation was tracking through the Brize Control Zone and the pilot responded that the formation would remain clear to the east. Figure 1 shows the geometry at 1405:06 with a primary contact emerging on radar.

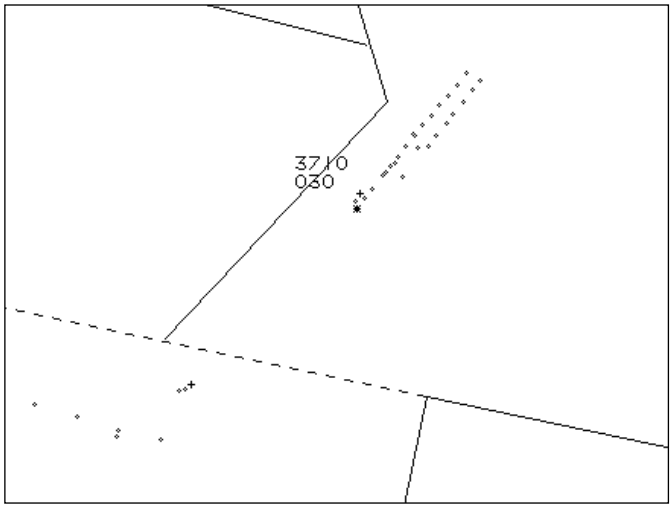

Figure 1: Geometry at 1405:06 (Yak squawk 3710).

The CPA on radar was recorded at 1405:47 (Figure 2), as 0.2nm horizontally, but height information was not available because the glider was a primary radar track. At the time of the CPA, LARS was passing Traffic Information to two separate Tutor callsigns under Traffic Services. The next transmission to the Yak Team was at 1412:13, when the pilot confirmed switching to the next frequency.

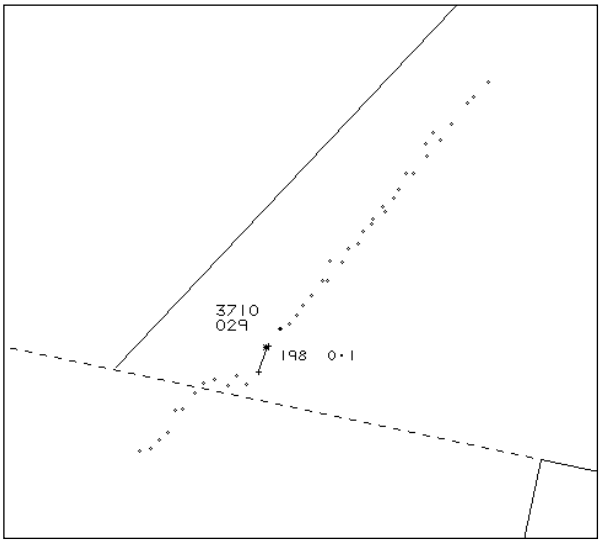

Figure 2: CPA at 1405:47.

[1] Lower Airspace Radar Services

In the absence of a report from the glider pilot, it cannot be ascertained if he was visual with the Yaks, but the Yak pilot did not see the glider take any avoiding action despite the reciprocal geometry at close range. The Yak Team had chosen a Basic Service and were aware of their lookout responsibilities. The Brize LARS controller was busy, and rightly prioritised traffic under a Traffic Service; it is not known if the glider painted on Brize Norton ATC's radar.

The normal barriers to an Airprox in Class G airspace would be TCAS, radar-derived Traffic Information and the principle of 'see-and-avoid'. The Yaks did not have TCAS or FLARM, and it is not known if the glider had any form of ACAS; this was an absent barrier. The Yak Team chose a Basic Service for their transit and this placed more emphasis on lookout because a busy radar controller, as per the CAP774, was providing LARS to multiple pilots, including multiple instances of Traffic Information to pilots receiving a Traffic Service. The Yak Team were especially aware of the need for a vigilant 'see-and-avoid' due to the conditions; however, the late sighting of the glider could have been caused by a number of factors, including the difficulties in spotting a white glider, given its cross-section, and the limitations of the human visual scan.

UKAB Secretariat

Whilst a primary radar return can be seen on the radar recording on a reciprocal track to the Yak formation, it is subject to some track jitter and is lost for one radar-sweep at around the CPA before being regained as the aircraft move apart; consequently, it can be established that the aircraft aspect was head-on, or approximately so, but an accurate CPA distance cannot be established. The aircraft were approaching head-on so both pilots were required to alter course to the right[2] (notwithstanding their overriding requirement to avoid collision). The No.4 Yak pilot saw the glider at the last moment and decided that tuning left and diving was the safest course of action.

Summary

An Airprox was reported between a Yak, being flown as the No.4 at the rear of a formation of four Yaks, and a Glider on a reciprocal flight-path in Class G airspace. The formation was in receipt of a Basic Service from Brize Norton LARS. The Yak pilot avoided the glider by diving and turning left, the glider pilot could not be traced.

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 photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board were reminded that even though a glider was shown on the radar recordings, the picture that the Brize Norton LARS controller would have had available was derived from a different radar system and so the controller may not have been able to see a return. In addition, the Yak formation was receiving a Basic Service and the controller had, quite correctly, prioritised the provision of Traffic Information to those pilots in receipt of a Traffic service. Considering their relatively restricted manoeuvrability as a formation, the Board opined that it may have been more helpful for the Yak pilots to have requested a Traffic Service; if the glider had been displayed on the Brize Norton radar, they may have received early warning of its approach. In the end the Board agreed that the cause was a late sighting by the Yak pilot and a probable non-sighting by the glider pilot. Members agreed that safety margins had been much reduced, but the Yak pilot's late sighting and last-minute avoiding action had been effective in improving the situation. They also noted that the Yak pilot had sensibly broadcast a warning to the rest of his formation; the Board agreed that the degree of risk was Category B; avoiding action had been taken to prevent a collision, but had still resulted in safety margins being much reduced below the normal.

[2] Rules of the Air 2007, Rule 10, Approaching Head-on

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the Yak 50 pilot and a probable non-sighting by the glider pilot.

Degree of Risk: B.

ERC Score[3]: 20.

[3] 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.