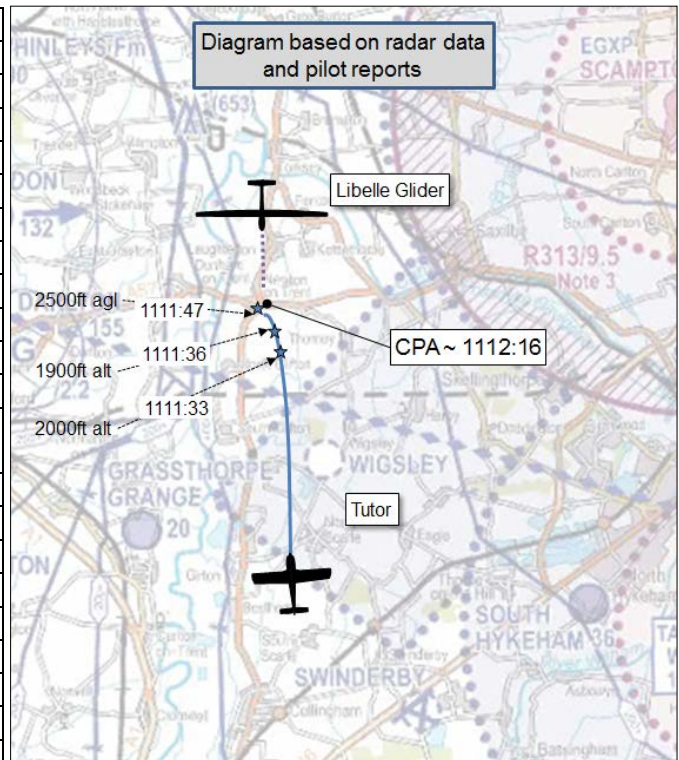


**AIRPROX REPORT No 2017050**

Date: 06 Apr 2017 Time: 1112Z Position: 5315N 00044W Location: 7nm W Scampton

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tutor	Libelle Glider
Operator	HQ Air (Trg)	Civ Pte
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	None
Provider	Doncaster	N/A
Altitude/FL	2300ft	2140ft
Transponder	On/C	Not Fitted
<b>Reported</b>		
Colours	White	White
Lighting	Strobe, Nav, Taxi	NK
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	2140ft
Altimeter	RPS (1026hPa)	QNH
Heading	004°	180°
Speed	120kt	65kt
ACAS/TAS	FLARM	FLARM
Alert	Information	Unknown
<b>Separation</b>		
Reported	NK V/0.1nm H	Not Seen
Recorded	160ft V/0.3nm H	



**THE TUTOR PILOT** reports that he was instructing a first medium-level to low-level navigation exercise. The student pilot was in control and was in receipt of a TS from Doncaster Zone following a handover from Cranwell departures approximately 2 minutes before the incident. On handover, Doncaster zone stated 2 contacts in the aircraft’s 12 o’clock; one a slow-moving primary return and one squawking mode C. After an initial lookout, he instructed the student to finish his low-level entry checklist and he continued to look for the contact. Nothing was seen, but because there were three 253ft agl wind turbines in the area, the instructor erroneously believed the reported contacts to be ground clutter. The student finished his checks and started a descent into low-level. He was unhappy with the student’s level of lookout and was taking control when the FLARM warning system sounded. He took control and noted a threat in the forward-left sector. Unable to see the conflict, he selected full power and climbed 1000ft wherein the FLARM warning ceased. Entering into a left-hand orbit he observed a white sports-glider approximately 1000ft below, heading south. When he initiated the climb the FLARM indicated 0.1nm laterally and <7 degrees vertically from the glider. It is his belief that the glider had not seen the Tutor and had entered into a climb as the Tutor entered the initial descent to LL, which would explain the lack of any earlier FLARM indications. He reported the Airprox to Doncaster Zone and continued the sortie.

He assessed the risk of collision as ‘High’.

**THE LIBELLE GLIDER PILOT** reports that he was unable to remember any encounter with another aircraft.

## Factual Background

The weather at Scampton was recorded as follows:

METAR EGXP 061050Z 27009KT 9999 BKN030 12/05 Q1030 BLU

## Analysis and Investigation

### CAA ATSI

The Tutor was operating VFR and had been transferred by RAF Cranwell to Doncaster Radar. ATSI were not able to identify the second aircraft, reported by the Tutor to be a Sports Glider.

At 1110:00 the Tutor contacted Doncaster Radar who, at 1110:10, identified the Tutor, agreed a Traffic Service and immediately passed traffic information on two aircraft in its vicinity. The first was on an aircraft which was visible on the radar replay and reported as being in the Tutor's 10 o'clock at 1nm, opposite direction and 300ft below. The second aircraft was reported as being in the Tutor's 12 o'clock range of 4nm, slow moving, and because it was a primary radar-only contact, the controller had no information on the level of the aircraft. This second contact was not visible on the radar replay used for the analysis. The Tutor acknowledged the traffic information but advised that they were not visual with either aircraft.

The Doncaster controller then went on to deal with other traffic but, at 1111:30, prioritised the Tutor and passed an update on the second radar contact, which was reported as now being in the Tutor's 12 o'clock still, but at a range of less than a mile. The controller did not receive a response from the Tutor.

At 1111:44 (Figure 1) the Tutor was seen on the radar replay to be in a slight left turn and climb, and a primary-only contact also became visible for one sweep of the radar replay. ATSI considered that there was a high probability that this primary contact corresponded with the Glider. The aircraft were separated by 0.3nm laterally. The vertical separation could not be determined.

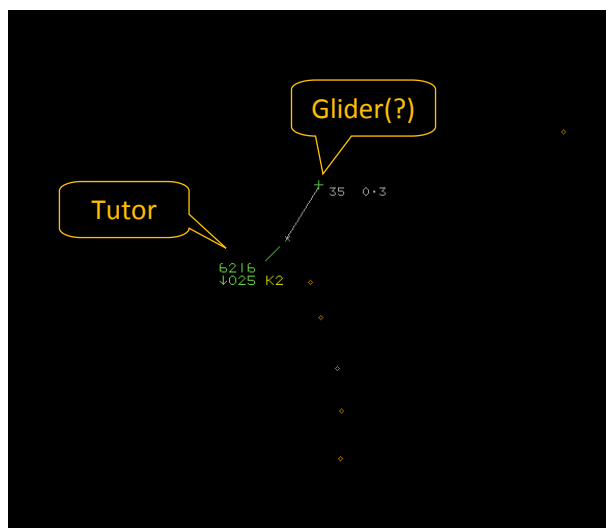


Figure 1 – 1111:44

This area is notified as the Lincolnshire Area of Intense Aerial Activity (AIAA), and is also busy with general aviation, gliding and parachuting activity.

Under a Traffic Service the Controller is not required to provide a deconfliction minima but is required to provide timely and accurate traffic information, as occurred in this event. Ultimately, because both aircraft were operating in Class G airspace the pilots are responsible for their own collision avoidance.

## UKAB Secretariat

The Tutor and Glider 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>1</sup>. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right<sup>2</sup>.

## Comments

### HQ Air Command

The crew of the Tutor were conducting an Elementary Flying Training (EFT) sortie that included both medium-level and low-level elements. The exercise also includes demonstrations of how to get permission to enter, cross and exit different types of airspace. During this exercise the crew will use all means available to detect and deconflict from other known traffic, including on-board sensors and use of a Traffic Service (TS) as a minimum.

The Doncaster controller is to be applauded for his persistence in highlighting an intermittent track that, with no SSR information available, potentially posed a threat to the Tutor under a TS – it was a combination of this, and FLARM derived information, that led the pilot of the Tutor to take separation from the area where he thought the aircraft to be. It was once he had climbed above the level of the glider (as indicated on FLARM) that he was able to gain visual with it and remain separated.

Essentially, the 2 barriers of electronic conspicuity (FLARM) and a surveillance-based ATS both worked to some extent. However, the FLARM warning was reasonably late and had it not been for the persistence of the controller to spot the potential confliction on primary radar only and continue to pass TI then the outcome may have been very different. The lookout barrier appears to have failed in this encounter as the glider was not seen until after avoiding action had been taken and it seems that the glider pilot did not see the Tutor.

### BGA

It's very good to see that the decision to fit FLARM to the Tutor fleet is helping pilots to spot gliders, and that in this instance positive action to increase separation was effective.

## Summary

An Airprox was reported when a Tutor and a Glider flew into proximity at 1112 on Thursday 6<sup>th</sup> April 2017. Both pilots were operating under VFR in VMC, the Tutor pilot in receipt of a Traffic Service from Doncaster and the Glider pilot not in receipt of a Service.

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

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

The Board began by discussing the actions of the Tutor pilot. It was clear that he was alert to the risks of mid-air collision and had taken measures to ensure that appropriate barriers were in place. It was unfortunate that he had somewhat discounted the ATC barrier by assuming that the reported traffic was ground clutter when he did not initially see it; the military member said that a valuable lesson that had been learnt regarding making such assumptions. Notwithstanding, the Tutor pilot had received a FLARM indication from the conflicting glider and acted upon it by climbing his aircraft to increase separation, whereby he became visual with the Glider, albeit after CPA.

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<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3210 Right-of-way (c)(1) Approaching head-on.

The Board then looked at the actions of the Glider pilot. Some members wondered whether he would also have received FLARM indications regarding the Tutor. The gliding member opined that, depending on the version of FLARM unit, his FLARM may have only presented a general indication that the Tutor was in the area rather than a conflict indication. Glider pilots regularly receive transient FLARM indications from aircraft around them which, if they do not materialise into a conflict, may not be notable in themselves depending on what he was doing at the time if he was focused on finding thermal lift.

The Board then turned to the Doncaster controller and commended him for his persistence in reporting the contacts to the Tutor pilot despite them being only intermittent and without transponder information.

Finally, noting that FLARM had effectively saved the day, the Board commented that it had only provided information to the pilots themselves. Although they acknowledged that FLARM could not be used as a source for controlling purposes at present, members commented that some ATC units now had FLARM receivers installed which could provide situational awareness to controllers on FLARM or PilotAware equipped aircraft if used in the correct way.

The Board then considered the cause and risk of the incident. They quickly agreed that the Glider pilot had not seen the Tutor, and that the Tutor pilot had not seen the Glider until after CPA. However, the Tutor pilot had acted on his FLARM indications to increase the separation. The Board agreed that the incident was therefore best described as a conflict in Class G airspace resolved by the Tutor pilot. Turning to the risk, members agreed that the FLARM had alerted the Tutor pilot to the presence of the Glider and that the Tutor pilot's subsequent actions had increased separation to the extent that although safety had been degraded there had been no risk of collision; accordingly, the Board assessed the risk as Category C.

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

Cause: A conflict in Class G airspace resolved by the Tutor pilot.

Degree of Risk: C.

#### Safety Barrier Assessment<sup>3</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 Situational Awareness** was considered to be **partially effective** because although the Tutor pilot had received TI from Doncaster on the Glider, albeit an intermittent contact, the Tutor pilot had assumed it was radar clutter produced by the wind turbines which resulted in the Tutor pilot not fully utilising the available SA.

**See and Avoid** was considered to be **ineffective** because the Tutor pilot did not see the Glider until after CPA, he did, however, comply with the information available from his FLARM. The Glider pilot did not recall seeing the Tutor.

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<sup>3</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

