

SERIOUS INCIDENT

Aircraft Type and Registration:	1) Pioneer 300, G-OPFA 2) Valenta Ray X, S037996
No & Type of Engines:	1) 1 Rotax 912 ULS piston engine 2) 1 Electric engine
Year of Manufacture:	1) 2004 (Serial No: PFA 330-14298) 2) 2014 (Serial No: SO37996)
Date & Time (UTC):	5 April 2015 at 1240 hrs
Location:	Upton-upon-Severn, Worcestershire
Type of Flight:	1) Private 2) Private
Persons on Board:	1) Crew - 1 Passengers -1 2) Crew - None Passengers - None
Injuries:	1) Crew - None Passengers - None 2) Crew - N/A Passengers - N/A
Nature of Damage:	1) 10 mm puncture in leading edge and minor surface paint damage to left wing 2) Destroyed
Commander's Licence:	1) National Private Pilot's Licence 2) None
Commander's Age:	1) 52 years 2) 59 years
Commander's Flying Experience:	1) 1,069 hours (of which 472 were on type) Last 90 days - 9 hours Last 28 days - 3 hours 2) 3,000 hours (of which 3,000 were on type) Last 90 days - 15 hours Last 28 days - 6 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and additional enquiries by the AAIB

Synopsis

While flying in uncontrolled airspace and in good visibility a remotely piloted model glider and a light aircraft collided at a height of approximately 630 ft. The glider sustained serious damage before crashing into a field. The aircraft sustained minor damage and landed uneventfully. There were no injuries.

History of the flight

The model glider pilot reported that he and others were flying remotely piloted gliders from their club's field at Fish Meadow, Upton-upon-Severn, Worcestershire. The field is about 35 ft amsl. There was little or no cloud and the wind was east-south-easterly at 5 to 10 kt.

The 1.8 kg glider had an electrically powered propeller to assist with launching, a wingspan of 3.8 m and was fitted with a height limiter that automatically removed the power to the motor at a pre-determined height above the launch site or after 30 seconds, whichever occurred first. During this flight the height limiter was set to 100 m. It also had on-board telemetry that allowed the pilot to monitor its height.

The glider was hand launched by the pilot at about 1230 hrs and climbed, under the power of its motor, to 100 m when the motor automatically cut; this was confirmed by the on-board telemetry. After about 10 min, as the glider was flying slowly in a thermal, its pilot heard the sound of a powered aircraft to his right flying from north to south. As the aircraft entered his peripheral vision he determined it was flying a course approximately along the River Severn “at a low level and travelling quite quickly.” He was unable to take avoiding action before the glider and the powered aircraft collided while over the river.

The glider’s left wing separated and drifted downwind while the rest of the glider fell into a field about 260 m south-west of the launch site. The last altitude observed by the glider pilot, as indicated by the glider’s telemetry, just before the collision, was 190 m agl (630 ft agl).

The aircraft pilot reported that he was on a local flight from Gloucestershire Airport. Visibility was in excess of 10 km with a layer of grey cloud at various heights above him throughout the flight. The aircraft initially headed north from Tewkesbury between 900 and 1,500 ft amsl. As it approached Upton-upon-Severn, the pilot and his passenger noticed two model aircraft flying from a field to the east of the river, “well below them” as they flew round the perimeter of the field. The pilot then headed away from the area. A short time afterwards there was a “loud thud” as the aircraft struck what the pilot believed was a seagull, seeing a slim grey/white object pass over the left wing. He then noticed some damage to the upper skin of the left wing but the fabric did not appear to be punctured. He recalled the altimeter indicating about 900 ft amsl when he scanned the altimeter shortly after the impact.

After checking that the aircraft handled normally the pilot contacted Gloucester Approach and informed them that he was returning as his aircraft had suffered a substantial bird strike. The aircraft subsequently landed safely with the AFFRS in attendance. It had sustained a small hole, about 10 mm in diameter, in the top of the left wing’s leading edge and surface damage to the wing fabric behind the hole.

Pilots’ comments

The model glider pilot commented that it was not unusual for light aircraft activity to be seen in the vicinity of the club’s flying field. He added that he limits his glider to 300 m (about 1,000 ft) agl. At this height his glider is able to be seen and controlled.

The aircraft pilot commented that he was aware of the presence of the model aircraft flying site and had seen activity there on previous occasions. However, before this accident he did not realise how big the models were or how high they were flown. He added that the grey cloud cover may have made it very difficult to see the model from the air.

Model aircraft flying

The sport of model flying in the UK is governed by the British Model Flying Association (BMFA). There are around 850 BMFA affiliated clubs in the UK. Additionally, there are a number that are not affiliated, with a significant amount of activity that takes place away from clubs in areas such as public open spaces, private fields, and mountain and slope sites.

Guidance document

Civil Aviation Publication (CAP) 658 – ‘*Model Aircraft: A Guide to Safe Flying*’ states:

‘A ‘model aircraft’ is defined as any ‘Small Unmanned Aircraft (SUA)’ (0-20 kg) used for sporting and recreational purposes...’

Chapter 2 Legal Requirements

4.2.1 Article 138 – Endangering safety of any person or property

A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.’

All model flying activity is controlled by this article of the ANO and it is important that the operator of any model aircraft should bear this in mind at all times.

4.2.2 Article 166 – Small unmanned aircraft

...

(3) The person in charge of a small unmanned aircraft must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.

*(4) The person in charge of a small unmanned aircraft which has a mass of **more than 7 kg** [AAIB bold] excluding its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight, must not fly the aircraft:*

(c) at a height of more than 400 feet above the surface....’

There is no height limit for a SUA under 7 kg. However, the pilot must maintain sight of the aircraft for the purpose of control and separation.

EU regulation 923/2012, Standardised European Rules of the Air (SERA)

SERA.5005 *Visual flight rules*, states:

‘...’

(f) Except when necessary for take-off or landing, or except by permission from the competent authority, a VFR flight shall not be flown:

(1) over the congested areas of cities, towns or settlements or over an open-air assembly of persons at a height less than 300 m (1 000 ft) above the highest obstacle within a radius of 600 m from the aircraft;

(2) elsewhere than as specified in (1), at a height less than 150 m (500 ft) above the ground or water, or 150 m (500 ft) above the highest obstacle within a radius of 150 m (500 ft) from the aircraft.'

Notice to Airmen (NOTAM)

In an attempt to publicise the model flying site to other pilots the model glider pilot published a NOTAM on an independent website. However, as this website is not recognised by the CAA, it would only be visible to registered users of the website.

The CAA commented that if a request for a NOTAM was submitted to them the details would be checked to ascertain if an Article 166 Exemption was required. For such activities, the organiser/operator is to submit an application to them. NOTAM action is taken for all model aircraft activities where an Article 166 Exemption has been issued and any others above 400 ft agl. It added that the decision on whether or not to take NOTAM action would depend on the intensity of the activity and the location in relation to controlled airspace and other sites of aviation activity. In this event it would not have been taken.

Discussion

The mid-air collision occurred in Class G (uncontrolled) airspace at about 600 ft agl with visibility reported to be in excess of 10 km.

Although the model glider pilot saw the aircraft, as it approached from the north, he had insufficient time to take avoiding action. The aircraft pilot did see two other model gliders but did not see the accident glider before the collision. At the point of collision the aircraft may have flown below 1,000 ft whilst within 600 m of the town of Upton-upon-Seven.