

**ACCIDENT**

<b>Aircraft Type and Registration:</b>	Skyranger 912S(1), G-ZADA	
<b>No &amp; Type of Engines:</b>	1 Rotax 912ULS piston engine	
<b>Year of Manufacture:</b>	2006 (Serial no: BMAA/HB/446)	
<b>Date &amp; Time (UTC):</b>	18 June 2017 at 1800 hrs	
<b>Location:</b>	Ince Airfield, Merseyside	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - None	Passengers - 1 (Serious)
<b>Nature of Damage:</b>	Extensive damage, beyond economic repair	
<b>Commander's Licence:</b>	National Private Pilot's Licence	
<b>Commander's Age:</b>	68 years	
<b>Commander's Flying Experience:</b>	400 hours (of which 130 were on type) Last 90 days - 6 hours Last 28 days - 6 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

**Synopsis**

Following a high and fast approach, the aircraft landed further along the runway than planned and ran off the end of the grass runway into a river.

**History of the flight**

After departing from Shobdon Airfield at 1700 hrs, the pilot flew in company with two other aircraft to Ince where he had landed once before. The visibility was good, the wind was light and variable and the temperature was 20°C when one of the other aircraft (also a Skyranger) led the trio overhead Ince and into the left-hand circuit for grass Runway 36. As the lead aircraft touched down, its pilot realised the right mainwheel tyre had deflated, so he steered right, towards the edge of the dry, 20 m wide strip, and shut down the engine. After making a radio call to inform other aircraft, he and his passenger quickly climbed out and pushed the aircraft off the runway into an adjoining area of long grass.

The following aircraft was G-ZADA, but when the pilot turned onto final approach he was higher than intended and with an airspeed of 70 mph instead of 60 mph. As he side-slipped his aircraft towards the 380 m long runway, he was satisfied that the aircraft ahead was clear of his landing path and, although he realised he was going to touch down further along the runway than he wished, he believed he still had sufficient landing distance. However, the airspeed did not bleed off in the final stage of the approach as

he expected, possibly because the aircraft's fabric covering had recently been replaced, and he estimated that the speed was still 10 mph above the speed he intended at touchdown.

Once on the runway the pilot applied maximum braking but was unable to halt the aircraft before the end of the runway, where there is a steep river bank. The aircraft overran the runway and crossed over the shallow river, which was approximately 10 m wide, before hitting the far bank and coming to rest (Figure 1). The occupants had no difficulty escaping from the aircraft but the passenger subsequently experienced chest pains and was later diagnosed to have fractured a rib.

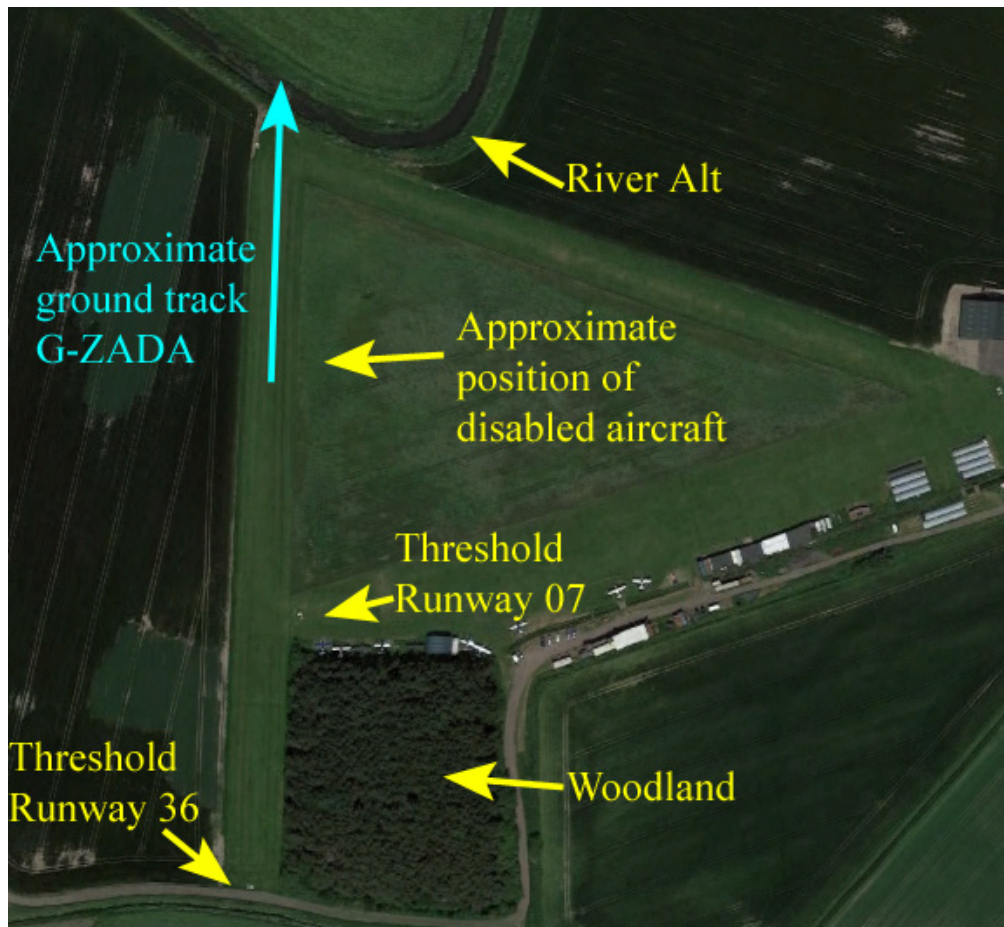


**Figure 1**

View of the aircraft in its resting place by the north bank of the River Alt.  
Note power lines which cross the extended centreline of Runway 36

### **Other witness information**

The pilot of the lead aircraft provided a GPS-derived plot of his aircraft's flight which indicated that it stopped approximately two-thirds of the way along Runway 36 (Figure 2) and this correlated with his recollection, as well as that of other witnesses. He did not see G-ZADA land but, after helping to push the disabled aircraft clear of the runway, his passenger glanced back and saw G-ZADA touchdown approximately in line with his own position and then lost sight of it.



**Figure 2**

Ince Airfield; Runway 36 and aircraft's approximate ground track after touchdown  
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### Pilot's assessment

Departing Shobdon, the pilot calculated the aircraft was close to its maximum takeoff weight, so when he landed it was only a few kilograms lighter. He did not refer to the relevant landing performance calculations (see *Skyranger Operator's Manual* section) until after the accident but he was confident that there was sufficient landing distance available, even when he realised he was high and would land further along the runway than intended.

The pilot stated that, while circuiting to Runway 36, he was distracted by trying to avoid noise-sensitive areas and, as a result, he turned onto final approach high and fast. He also thought that woodland on the east side of Runway 36 (Figure 2), may have initially given him the impression that the threshold was north of the woodland, where Runway 36 passes the threshold of Runway 07. When he touched down he was confident there was still sufficient distance available to bring the aircraft to a halt. He did not consider initiating a baulked landing and later noticed power lines which run across the extended centreline, north of the river, and was glad he did not try to take off again from the upwind end of the runway.

The pilot did not think the presence of the disabled aircraft caused him to adjust his approach path, although he later agreed that it may have been a distraction. He stated that he had learnt several lessons from the accident and in future he plans to initiate a go-around if he realises he is high or fast when approaching a relatively short runway, or if he is unable to touchdown close to the threshold for any other reason.

Another observation made by the pilot after the accident was that, given the light wind, he should have landed on Runway 29, which he had used on his previous visit, because it is slightly longer and the circuit is less affected by noise sensitive areas. He also assessed that, when it became evident that he was not going to stop before the end of the runway, he could have steered the aircraft at low speed into the long grass to his right.

### **Skyranger Operators' Manual**

The *Skyranger Operators' Manual* states that the aircraft's unfactored landing distance (from a height of 50 ft agl) is 250 m, with landing flap and an indicated approach airspeed of 70 mph. A factor of 1.05 is to be applied for every 10°C above 15°C and an additional safety factor of 1.33 is also recommended; giving a factored landing distance required of 350 m in this case (from a height of 50 ft agl). However, the landing safety factor currently recommended by the British Microlight Aircraft Association (BMAA) and the CAA for such aircraft is 1.43. Details of this, plus other performance considerations for takeoff and landing, are discussed in the CAA's Safety Sense Leaflet 7c '*Aeroplane Performance*' and in the '*Pre-Flight Preparation*' section of CAP 1535, '*The Skyway Code*'.

The aircraft manufacturer stated that the quoted safety factor of 1.33 pre-dates the BMAA's and the CAA's current recommendations and the Operators' Manual will now be reviewed. However, the manufacturer believes the unfactored landing distances in the manual are achievable by 'an average pilot'.