ACCIDENT

Aircraft Type and Registration:	Pegasus Quik, G-CGRR	
No & Type of Engines:	1 Rotax 912-UL piston engine	
Year of Manufacture:	2010 (Serial no: 8541)	
Date & Time (UTC):	6 August 2022 at 1355 hrs	
Location:	Harringe Court Farm, Ashford, Kent	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Serious)	Passengers - N/A
Nature of Damage:	Minor damage to trike, wing damaged beyond repair	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	62 years	
Commander's Flying Experience:	306 hours (of which 90 were on type) Last 90 days - 2 hours Last 28 days - 1 hour	
Information Source:	AAIB Field Investigation	

Synopsis

During the landing, the aircraft veered to the right and bounced before tipping over onto its right side. The cause of the accident could not be determined.

Although the pilot was wearing a lap strap, he was not wearing the shoulder strap provided. Consequently, he sustained serious facial injuries when his head made contact with the front strut.

History of the flight

The pilot arrived at Harringe Court Farm airstrip, where the aircraft was based, at about 1000 hrs on the day of the accident. He prepared the aircraft for a planned solo flight to two local airstrips, both of which he had flown to before. The weather in the morning was described as generally good, although there were reports of some thermal air currents coming off the hill on which the airstrip was positioned. The pilot reported he was used to such conditions and, whilst uncomfortable at low level, the thermal effects soon dissipated during the climb after takeoff.

The pilot had no recollection of the accident flight due to the injuries he received. It was, however, possible to get a record of his flying activities from information recovered from the aircraft's navigation unit and the pilot's mobile phone.

The pilot took off from Harringe Farm to the north at 1234 hrs. Data recovered from the aircraft and the pilot's phone, recorded that he conducted a local flight, landing at two other airstrips, before returning to Harringe Farm at 1345 hrs. A witness at Harringe Farm saw the aircraft carry out an apparently normal final approach to land in a northerly direction. The weather at the time was described as good, with just a light breeze. The witness reported that after touching down, the aircraft bounced to a height of about a metre before touching down again. On doing so, they described seeing the left rear wheel of the tricycle undercarriage slowly lift into the air. They expected to see it settle onto the ground again, but it continued to rise until the aircraft's right-wing tip caught the ground, bringing the aircraft abruptly to a halt on its right side.

Members of the public seeing the accident came quickly to assist the pilot, who had been seriously injured. The emergency services were called and the pilot was transferred to hospital by air ambulance.

Accident site

The airstrip, orientated 010° / 190°, was on farmland at the top of a small hill. The accident occurred approximately halfway along the landing strip and a few metres beyond the western edge. Although there was only minor damage to the trike, the wing had suffered significant damage to the keel, cross spar and front section of the leading-edge structure which had folded under the wing. The nose of the wing had also swivelled clockwise and was pointing to the right of the aircraft.

The pilot's helmet and damaged headset were located next to the trike; the visor was located 20 m away from the right side of the aircraft. The compass was found next to the cockpit and had detached from its mounted position on the front strut. Although the front seat lap strap buckle had been released, there were no anomalies found with the operation of the buckle or the strap. The front seat shoulder strap had been rolled up and secured with a plastic tie-wrap close to the pylon behind the rear seat. Two avionic units were mounted on the top of the cockpit coaming directly in front of the pilot (Figure 1).

Aircraft examination

Examination of the engine controls and brake systems did not show any faults or anomalies. The front strut was intact with most of the aircraft damage occurring to the wing and the A-frame, with the right upright and its top knuckle having failed in overload. All the damage to the aircraft was consistent with it rolling onto its side.

There was evidence of blood inside the nylon sleeve that covered the front strut and on the lower section of the right upright.

Figure 1

G-CGRR pictured in flight showing significant features
(Image used with permission)

Survivability

Seat harnesses

The rear seat was fitted with a four-point harness and the front seat with a three-point harness. The front seat harness consisted of a lap strap and a shoulder strap, although the pilot stated that he had never used the shoulder strap on this, or any of the other three microlight types he had flown. The pilot reported that when he bought G-CGRR the front seat shoulder strap was rolled up and secured with a plastic tie wrap; he had not changed this arrangement. He commented that the shoulder strap was not particularly long which normally resulted in a relatively tight fit, making it difficult to use.

Issue 6 of the Quik Pilot's Operating Manual states that the seat harnesses should be worn at all times and warns that *'Failure to put on safety harness and wear front seat or rear seat shoulder straps could be the cause of injury or death in the event of an accident'.*

Safety helmet

The pilot wore an open-faced airborne sports helmet[1] fitted with a transparent visor. The helmet which had been removed during the pilot's rescue had some minor scratches and dirt

Footnote

[1] British Standards Institute BS EN 966:1996 categorises this helmet as a *'Helmet for airborne sports'*.

on its right side. The visor had been badly damaged with multiple scrape marks and a wide vertical line scored from top to bottom to the left of the visor's centre line. The distortion of the visor along the vertical line matched the profile of the front strut. The horizontal curved profile of the visor had bent inwards along this vertical line (Figure 2). A large piece of the visor had broken away from the upper left quarter.

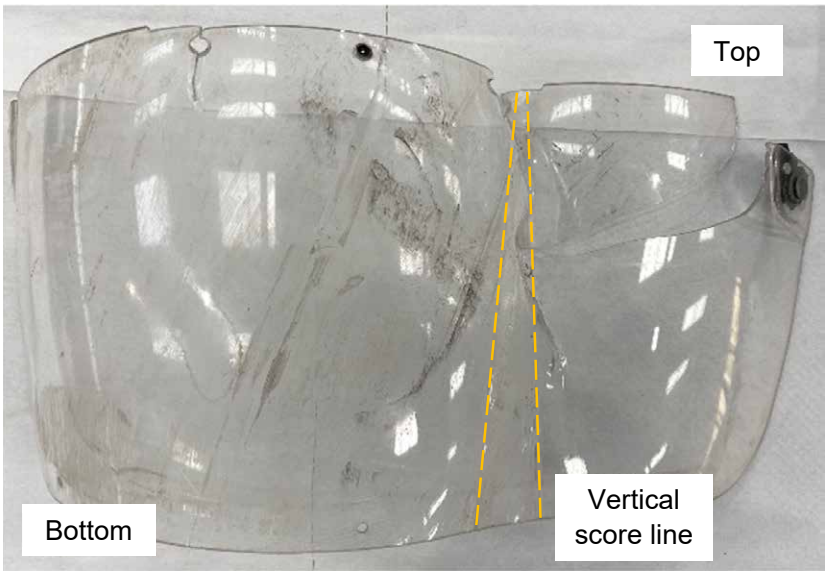

Figure 2
Damaged helmet visor

Analysis

The cause of the accident could not be determined.

No faults with the aircraft were found during the examination. The damage to the propeller blades indicated that the engine was running at a low speed. The minor damage to the trike showed that most of the impact forces were absorbed by the wing.

Although the possibility of the visor being damaged as a result of contact with the right A-frame upright was considered, the curved profile of the vertical line could only have been formed by impact between the visor and the front strut. As the pilot had not worn the shoulder strap, his upper torso would not have been restrained during the impact and the visor on his helmet would only have provided limited protection to his face. It is probable that both these facts resulted in the pilot sustaining serious facial injuries during the impact.

Conclusion

During the landing the aircraft tipped over onto its side. The pilot, who was not wearing the shoulder strap provided, sustained serious facial injuries when his head struck the front strut and the right upright during the accident sequence.

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