

Accident

Aircraft Type and Registration:	Chaser S 447, G-MYBU	
No & Type of Engines:	1 Rotax 447 piston engine	
Year of Manufacture:	1992 (Serial no: CH837)	
Date & Time (UTC):	4 July 2019 at 1300 hrs	
Location:	Mendlesham Airfield, Suffolk	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Extensive damage to airframe; monopole broken; keel, seat tubes and base bar bent; spats broken.	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	56 years	
Commander's Flying Experience:	240 hours (of which 6 were on type) Last 90 days - 8 hours Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

Just after takeoff, the front strut of the microlight trike separated from the forward mounting point. The pilot recognised that structural integrity was severely compromised and attempted to return to the runway. There was insufficient height to achieve this and the aircraft landed in crops alongside the runway. The microlight trike was extensively damaged, and the pilot sustained minor injuries.

History of the flight

The pilot, who had not owned the aircraft for long, had rigged the aircraft the day before the accident, following a wing cleaning. It was the first time that the pilot had rigged the aircraft, so he asked for assistance from a friend he considered to be very experienced with this type of aircraft. The friend believed he had secured the front strut from the wing structure to the trike body. The strut is secured to the nose of the aircraft by a pin which passes through the tube of the strut and through holes on the mounting point on the aircraft nose (Figures 1 to 3).

On the day of the accident the local hang-gliding club was flying. The hang gliders were lined up for launch along the left side of the runway and the winch launch towline was also laid out on that side. After a discussion with the hang glider club, the accident pilot agreed

to use the right side of the runway to avoid the parked hang gliders and to ensure that his takeoff would be visible to the winch driver.

As soon as the pilot took off, he turned right to clear the runway and be more into wind. Almost immediately he became aware that the front strut was no longer attached to the nose of the aircraft and was dangling from the wing attachment hang point.

Aware that the structural integrity of the aircraft was now severely compromised, the pilot attempted an immediate landing. Given the low altitude, he was unable to return to the runway and the aircraft struck crops to the right of the landing surface, sustaining extensive damage to the landing gear and trike body.

The hang glider pilots ran to the accident site to offer help, but by the time they arrived the pilot had vacated the aircraft. An air ambulance attended the scene, but the pilot's injuries were not sufficiently serious to warrant his transfer to hospital by air. He was taken to hospital by ground ambulance and treated for minor injuries.

Aircraft Information

The Chaser S 447 is a single-seat deregulated aircraft. It is a weight-shift microlight with a trike body suspended from the wing structure. All maintenance activity on the aircraft was conducted by the owner.

The front strut is secured to the trike by means of a pin which passes through both the tube of the strut and the attachment point. A correctly routed pin locks the strut to the attachment point, and the correct fastening of the strut is shown in Figure 2.



Figure 1
Attachment location



Figure 2
Correct attachment

In this case, the pin passed through the strut tube but not through the attachment point. The holes on the attachment point would have remained visible, indicating an insecure strut, but this was not noticed either during rigging or pre-flight checks. The incorrect attachment is shown at Figure 3.



Figure 3
Incorrect attachment

Once in flight the aerodynamic forces of the wing caused the strut to separate.

Conclusion

An incorrectly rigged strut separated immediately after takeoff. The structural integrity of the aircraft was severely compromised and the aircraft struck crops during the pilot's attempted landing.