

ACCIDENT

Aircraft Type and Registration:	Bucker BU133 Jungmeister, G-BVXJ	
No & Type of Engines:	1 Siemens-Bramo SH14A-4 radial piston engine	
Year of Manufacture:	1953	
Date & Time (UTC):	7 March 2010 at 1630 hrs	
Location:	Brighton Airfield, Yorkshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A Others - 1 (Serious)
Nature of Damage:	None	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	54 years	
Commander's Flying Experience:	22,000 hours (of which 2 were on type) Last 90 days - 180 hours Last 28 days - 60 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

Synopsis

When the owner 'hand swung' the propeller to start the engine, the engine started unexpectedly on the first attempt. The propeller struck the owner's left hand and severed two of his fingers.

History of the flight

The Bucker BU133 Jungmeister is a single-seat vintage biplane powered by a Siemens-Bramo SH14A-4 radial piston engine (Figure 1). The engine is not fitted with an electric starter and is therefore started by hand swinging the propeller. The aircraft had completed three flights earlier in the day and prior to each flight the engine had been difficult to start, requiring several



Figure 1

Bucker BU133 Jungmeister, G-BVXJ
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swings of the propeller. For the final flight of the day the aircraft was positioned on an area of level tarmac and the brakes applied. The pilot was in the cockpit and the aircraft's owner stood in front of the aircraft to swing the propeller.

The owner, an experienced pilot with 30 hours on type and 900 hours on Tiger Moths, judged that the engine was still slightly warm from its flight 30 minutes previously, and decided that only a small amount of priming was necessary, without 'sucking in'. After priming, and having confirmed that the magnetos were off with standard calls and hand signals, he moved the propeller through one or two compressions to put the blades in the optimum position for starting. He then called "THROTTLE SET, SWITCHES ON", after which the pilot set the throttle for start, turned on the magnetos and replied "THROTTLE SET, CONTACT" while giving a 'thumbs up' signal. As the owner swung the propeller the engine started immediately. The pilot heard the engine fire and almost simultaneously heard a heavy 'thud', and saw the owner fall backwards, away from the propeller.

The pilot realised that the owner was probably injured so he shut down the engine and went to help. As he exited the aircraft he saw a flying club member, who was also a doctor, already attending to the owner. The propeller had severed two fingers from the owner's left hand. Other members of the flying club assisted the doctor by providing a first aid kit and blankets. The pilot dialled '999' and called for an ambulance.

Pilot's comments

The pilot commented that his and the owner's expectation that the engine would be difficult to start, and would need several swings, probably contributed to the incident. They were both taken by surprise when the engine suddenly started on the first attempt.

Owner's comments

The owner commented that it was very unusual for the engine to start on the first swing. His technique was to swing the propeller downwards using just his left hand, standing legs apart about 30° 'right shoulder out' from the plane of the propeller (the propeller rotates anti-clockwise when viewed from the front of the aircraft). He would then stride backwards as soon as he had completed the swing. In this event he believes the engine fired on the first stroke, and while he was still following through with his left hand, the other blade came down and struck it.

Safety Action

The CAA does not currently have published advice on how to swing the propeller during a hand start. However, following this accident the CAA has stated that they will consider publishing such advice.