ACCIDENT

Aircraft Type and Registration:	Hunting Percival P56 T Provost Mk 51, G-BLIW
No & Type of Engines:	1 Alvis Leonides 126 radial piston engine
Year of Manufacture:	1954
Date & Time (UTC):	16 September 2010 at 1138 hrs
Location:	Shoreham Airfield, West Sussex
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to both wings, main landing gear, tailwheel, lower front cowls, air box, oil cooler and propeller
Commander's Licence:	Private Pilot's Licence
Commander's Age:	66 years
Commander's Flying Experience:	1,197 hours (of which 113 were on type) Last 90 days - 8 hours Last 28 days - 5 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

Shortly after departure the engine started vibrating and the pilot could not control the propeller pitch angle. He initiated a forced landing back towards the airfield but overshot the end of the runway and touched down heavily in a field, causing the landing gear to collapse.

History of the flight

The Hunting Percival P56 T Provost Mk 51, also known as a 'Piston Provost', is a single-engined two-seat ex-military training aircraft with a fixed landing gear. It is powered by a 550 hp Alvis Leonides 126 radial engine which, through a reduction gearbox, drives a three-bladed constant-speed propeller.

G-BLIW had been rebuilt by its owner and was being prepared for its first test flight. The pilot/owner had not flown a Piston Provost in five years, but he was current on the T-6 Harvard. After carrying out his pre-flight checks he departed from Runway 25 (grass). The wind was 7 kt from 300° and there was scattered cloud at 2,500 feet and broken cloud at 4,800 feet. He made a gentle climbing turn to the left at 100 kt, climbing at 1,000 ft/min. Upon reaching 2,300 feet he reduced the power to zero boost and reduced the rpm to 2,600. He then moved the propeller lever to make a slight adjustment to the rpm but this had no effect. He pulled the propeller lever further back and this resulted in a sudden drop in rpm accompanied by

vibration. Reducing the power caused the vibration to reduce, but when he tried to increase the power the vibration increased again with little increase in engine rpm or thrust.

The pilot made a PAN urgency call to the Shoreham controller and initiated a descent to the south of the airfield in order to position himself for a landing on Runway 25. He turned on to final at 90 kt, closed the throttle, set the propeller lever to fine pitch, and set full flap. However, the aircraft was too high, its speed was decaying slowly, and the pilot realised that he was going to overshoot the end of the runway. Upon passing the far end of Runway 25 he rolled to the left to avoid a raised bank and aimed to land in a field within the airfield boundary. He held the aircraft off to reduce the airspeed further, and the right wing dropped, causing the right gear to hit the ground heavily, followed shortly by the left gear. Both main gear legs collapsed and the aircraft slowed rapidly and yawed round to the left until it was facing due east. The aircraft came to rest about 250 m south-west of the Runway 07 threshold. The pilot was able to vacate the aircraft unassisted.

Pilot's assessment of the cause

The pilot reported that, after landing, the propeller was found to be in the full coarse position while the propeller lever was set to full fine. The cause of the loss of propeller pitch control was not determined. He said that contributory factors to his overshooting the runway were the absence of a headwind and the reduced drag from the propeller being in coarse pitch rather than in fine pitch.