

Aircraft type and registration: Benson Gyroplane B80 G-BLEU

No & Type of engines: One Volkswagon VW 1835a piston engine

Year of Manufacture: 1986

Date and time (UTC): 26 April 1986 at 1510 hrs

Location: St Merryn Airfield, Cornwall

Type of flight: Training

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — 1 (serious) Passengers — N/A

Nature of damage: Aircraft destroyed

Commander's Licence: Private Pilot's Licence (Aeroplanes) Student Pilot (Gyroplane)

Commander's Age: 45 years

Commander's Total Flying Experience: 500 hours fixed wing, 1500 hours rotary wing (of which 7 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot and Field Investigation.

The pilot was at an early stage of training on gyroplanes. He was engaged in practising short straight hops to about 25 feet followed by a flare and landing, under supervision by a qualified instructor, on the ground. On the accident flight the exercise being practiced was simulation of a landing following engine failure. The student understood that the technique to be used was to achieve level flight at about 30 feet, push forward into a nose down attitude keeping power on to ensure that a typical airspeed was maintained, and then to reduce power immediately before flaring to land. The student reported that as he entered the intended dive he experienced a considerable reduction of "g" force and when he attempted to flare he felt no resistive force from the controls although he heard the control hit the pitching stop. The aircraft did not respond to the control demand to flare and dived onto the runway in a 20° to 25° nose down attitude.

Examination of the aircraft did not reveal any evidence of pre-impact failure of the rotor control system and there was no evidence of rotor blade strikes on the airframe. Tests on the control column which had fractured at its entry to the control yoke showed that it had been capable of sustaining a load of over 100 lb applied at the handgrip.

It is a known characteristic of teetering type rotors that control power is diminished as rotor disc loading is reduced and consequently control response is decreased. This effect is exacerbated by the loss of rotor speed which occurs as a result of reduced disc loading.