

**ACCIDENT**

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|--|---|-------------------|
| <b>Aircraft Type and Registration:</b> | Robinson R22 Beta, G-SBUT   |                   |
| <b>No &amp; Type of Engines:</b>       | 1 Lycoming O-360-J2A piston engine  |                   |
| <b>Year of Manufacture:</b>            | 1997  |                   |
| <b>Date &amp; Time (UTC):</b>          | 17 October 2008 at 1217 hrs   |                   |
| <b>Location:</b>                       | Helicopter Training Area Whiskey, Shoreham Airfield                                       |                   |
| <b>Type of Flight:</b>                 | Training  |                   |
| <b>Persons on Board:</b>               | Crew - 1  | Passengers - None |
| <b>Injuries:</b>                       | Crew - 1 (Serious)  | Passengers - N/A  |
| <b>Nature of Damage:</b>               | Main rotor damaged  |                   |
| <b>Commander's Licence:</b>            | Student   |                   |
| <b>Commander's Age:</b>                | 64 years  |                   |
| <b>Commander's Flying Experience:</b>  | 31 hours (of which n/k were on type)<br>Last 90 days - 26 hours<br>Last 28 days - 8 hours |                   |
| <b>Information Source:</b>             | Aircraft Accident Report Form submitted by the pilot                                      |                   |

**History of the flight**

After completing several dual flight exercises, the instructor briefed the student to fly his first solo circuit. He advised him to apply additional forward and left cyclic during takeoff to compensate for the lack of an occupant in the left seat. During the first attempted takeoff the aircraft yawed left. The student controlled the yaw by applying right yaw pedal and landed. The instructor returned to the aircraft and, speaking on the intercom, reminded him to apply forward and left cyclic control. When the instructor had moved away from the aircraft the student resumed the exercise.

During the second takeoff the aircraft yawed more violently to the left while remaining in contact with the

ground. The student responded by applying right cyclic and yaw pedal inputs. He then felt the aircraft "jolt" and responded by applying aft cyclic control, which caused the aircraft to pitch nose up. The student attempted to control this by applying forward and left cyclic and then raised the collective in order to gain height. However, the rear tip of the right skid remained in contact with the ground and the aircraft rolled over onto its right side, causing damage to the main rotor and a fuel leak. The pilot, whose right arm was trapped in the cockpit, vacated the aircraft with assistance from the instructor, having sustained a broken wrist. The airport fire and rescue service was quickly in attendance but there was no fire.

The instructor commented that, acting on her advice to apply additional forward and left cyclic on takeoff, the student may have overcompensated for the lack of a left seat occupant. It is likely that during his subsequent attempts to control the aircraft the rear tip of the right skid became a pivot point, resulting in dynamic rollover. This

condition cannot be stopped by application of opposite cyclic control alone, but may be arrested by lowering the collective control. The instructor intends to reinforce her teaching of dynamic rollover and the appropriate techniques for avoiding and recovering from it.