

ACCIDENT

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| Aircraft Type and Registration: | Enstrom 280C Shark, G-COLL | |
| No & Type of Engines: | 1 Lycoming HIO-360-E1BD piston engine | |
| Year of Manufacture: | 1981 | |
| Date & Time (UTC): | 19 March 2010 at 1405 hrs | |
| Location: | Near Douglas, Isle of Man | |
| Type of Flight: | Private | |
| Persons on Board: | Crew - 1 | Passengers - None |
| Injuries: | Crew - None | Passengers - N/A |
| Nature of Damage: | Substantial damage to the skids, forward fuselage, rotor head and main rotor blades | |
| Commander's Licence: | Private Pilot's Licence (Helicopters) | |
| Commander's Age: | 68 years | |
| Commander's Flying Experience: | 120 hours (of which 114 were on type) Last 90 days - 3 hours Last 28 days - 1 hour | |
| Information Source: | Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB | |

Synopsis

The helicopter took off from a private landing site. At a height of 200 to 300 feet agl the pilot perceived that the engine had stopped and immediately entered autorotation. He turned towards a field on his left, flared to reduce speed and level off, and the helicopter dropped to the ground from a height of about 10 to 12 ft. The damage was substantial but the helicopter remained upright and the pilot escaped uninjured. No conclusive evidence was found to explain the loss of power.

History of the flight

The helicopter had been parked overnight at a private landing site. The weather conditions were fine; the

surface wind was from 160° at 9 kt, with clear skies, good visibility and no significant cloud. The pilot intended to fly on a two day tour around the Isle of Man. His initial planned route was north to Laxey and then on to the Point of Ayre.

The pilot carried out his normal pre-flight and pre-takeoff checks and lifted into the hover. It was his usual practice to wind out the mixture control knob to a pre-set position before lifting off and he did this as normal. When in the hover he made a blind transmission radio call to ATC to advise that he was departing and then set the transponder to ON. The takeoff was normal but at approximately

200 feet agl the pilot noticed that “it all went quiet”; later he recalled that the helicopter had yawed to the left as well. He responded by rapidly lowering the collective, and opened the throttle.

The helicopter entered autorotation and the pilot aimed for a field ahead and to his left. He saw that the far edge of the field was approaching and flared to stop the forward motion. The helicopter levelled off and then dropped to the ground from a height that he estimated was about 10 to 12 ft. It dropped nearly vertically, bounced forward about a metre and stopped in an upright position but rolled to the left with the left skid having collapsed. Although the helicopter sustained substantial damage, the pilot was not injured and was able to evacuate the aircraft unassisted. There were a number of people in the area who were on hand to assist and a call was made to alert the emergency services, who attended the scene.

Discussion

After the accident, the pilot noted that the condition of the blades suggested that there had been little energy left in them, although they were damaged beyond economic repair. The next day, he started the engine and let it run it for 12 minutes at 1,500 rpm; no problem was apparent.

The mixture control is a push/pull knob incorporating a vernier adjustment. The pilot can make precise adjustments to the fuel mixture in flight by turning the control. Larger adjustments, for starting and stopping the engine, can be made by pushing the red button and sliding the control in or out. The pilot advised that he always adjusted the mixture control knob out to the same position before takeoff. He identified this by means of an existing wear mark.

This type of helicopter has a mechanical correlator which will maintain rotor rpm if the helicopter is flown smoothly. For correct operation the throttle twist grip must not be allowed to move as the collective pitch is altered. (The manufacturer suggests adjusting the throttle friction tightly enough to ensure there is no movement.) The correlator is not able to compensate for changes in tail rotor pitch or any translational tendency.

The pilot considered that the loss of power he experienced could have been as a result of a fuel supply problem. However, the day after the accident when the engine was restarted it ran normally at 1,500 rpm. Therefore, why there should have been a loss of power in the climb remains unclear.