

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Mainair Blade, G-BZLM	
<b>No &amp; Type of Engines:</b>	1 Rotax 582-2V piston engine	
<b>Year of Manufacture:</b>	2000	
<b>Date &amp; Time (UTC):</b>	29 April 2006 at 1819 hrs	
<b>Location:</b>	St Boswells, Galasheils, Scottish Borders	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - 1 (Minor)	Passengers - 1 (Minor)
<b>Nature of Damage:</b>	Severe damage to the left wing, landing gear and engine	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	38 years	
<b>Commander's Flying Experience:</b>	91 hours (of which 39 were on type) Last 90 days - 5 hours Last 28 days - 3 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

The aircraft was operating from a grass strip. The takeoff was normal until a height of approximately 30-40 ft when it ceased climbing and the left wing struck a light stanchion. The aircraft then descended and struck the ground.

## History of the flight

The pilot and a friend had flown from Eastfortune to the private airstrip at St Boswells. The weather was good with a surface wind from 030° at 10 kt, visibility greater than 10 km and with scattered cloud at 4,000 ft. The transit and landing were uneventful and during the flight the engine had performed normally.

After a short break, the pilot and his passenger prepared to return to Eastfortune. The engine start was normal and the aircraft was taxied to the south-eastern edge of the field. The takeoff utilised the longest length available at the strip, which was approximately 250 m, and had a level, dry, grass surface orientated to 340°. The calculated takeoff mass was 375 kg with a maximum permitted takeoff mass of 390 kg.

The pre-takeoff checks were completed and the engine power check was normal. The throttle was advanced to the maximum power setting and the engine responded normally. The aircraft took off in the normal distance, which was approximately 120 m, and began to climb

away. At a height estimated by the pilot to be about 30-40 ft, the aircraft stopped climbing; there was no sound of rough running or a drop in power although the pilot did not remember checking the engine rpm gauge. The aircraft remained in level flight despite efforts by the pilot to climb away by making a large forward movement of the control bar. The left wing then struck a light stanchion. The aircraft continued ahead briefly and then descended, impacting the ground at the side of a building.

Both the pilot and passenger received broken bones; although the pilot was able to extricate himself from the wreckage the passenger had to be assisted. The emergency services attended the scene and both persons onboard were removed to hospital. The two occupants were wearing protective helmets which may have prevented additional injuries.

#### **Previous incident**

On 15 April 2006, the same pilot was flying from Eastfortune to Hawick in G-BLZM and, when crossing the Lamermuir Hills, the engine rpm decayed. This occurred some four or five times and the pilot attempted to set maximum power. The engine started misfiring and would not achieve the normal 6,000 rpm. The pilot

landed safely at a nearby private grass strip and then contacted his flying instructor to seek advice.

The pilot then cleaned the fuel filter, which contained fluff and dirt, and checked the spark plug gaps, which were correctly set. After completing an engine power check he departed and returned to Eastfortune, the engine performed normally throughout the flight. In a post flight discussion with his instructor he was informed that the previous owner of the aircraft had run the engine on a fully synthetic two-stroke oil mixture. The current owner used mineral oil, which he believed, can leave an oily film on the fuel filter if the filter is not changed regularly.

#### **Conclusion**

A contaminated fuel filter had previously led to a loss of power from the engine. The pilot and his instructor considered that the type of oil used in the two-stroke mixture may have been a contributory factor in the subsequent accident. However, Rotax engines are cleared to operate with any oil specified by the engine manufacturer; these currently include both fully synthetic and mineral oils. An additional factor in the accident may have been the large forward movement of the control bar in the marginal climb conditions.