

ACCIDENT

Aircraft Type and Registration:	Rotorway Executive, G-BRGX	
No & type of Engines:	1 Rotorway RW 152D piston engine	
Year of Manufacture:	1991	
Date & Time (UTC):	12 May 2006 at 1800 hrs	
Location:	Commonswood Farm at Horns Cross, near Northiam, East Sussex	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - 1(Minor)	Passengers - None
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	44 years	
Commander's Flying Experience:	364 hours (of which 293 were on type) Last 90 days - 2 hours Last 28 days - 0.5 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and telephone enquiries by the AAIB	

Synopsis

Whilst in the climb after lift off, the pilot noticed smoke in the cockpit. During a precautionary autorotative landing the smoke suddenly thickened and the aircraft landed heavily. A severe ground fire precluded determination of the cause of the airborne fire.

History of the flight

The purpose of the flight was associated with the helicopter's Permit to Fly renewal. After pushing out from the workshop, it was fuelled with 35 litres of Mogas from 20-litre jerry cans: some spillage was noted and the exterior was wiped down. Having completed the pre-flight checks, the pilot and passenger boarded the aircraft and started the engine, after which they noticed

that the alternator low-voltage light illuminated and stayed on. The engine was shut down for investigation, which resulted in the alternator drive belt being changed.

The access panels were replaced, the engine restarted, and with all indications normal the pilot lifted the helicopter into the hover for about one minute, checking the available power as he did so. Next, he hover taxied to the far end of the airstrip, some 800 metres away, where he demonstrated handling to his passenger and verified the hover flight envelope. About nine minutes after lifting-off, the helicopter departed the airstrip to the east, with the pilot noting a climb rate of 720 fpm at an airspeed of 60 mph with all temperatures and

pressures normal, if a little high due to the high weight and ambient temperature.

As the pilot established a cruise climb, at about 800 ft agl he had the first indication of smoke in the cabin, and he therefore started a gentle turn back to the departure point. The indications strengthened, so he increased the turn rate and initiated a descent which he turned into an autorotation in anticipation that the engine might fail. He could now feel the heat from the engine bay so he increased speed to 80 mph from the normal 60 mph autorotation speed and, passing 300 ft, he started an 'S' turn for a run-on landing. At about 50 ft agl, as he started to flare, the cockpit filled with smoke, obscuring forward visibility and the instruments and all he could now do was execute the

run-on landing in this condition. The aircraft bounced once gently and skidded forward before coming to rest with the right (passenger side) skid collapsed and the tailboom separated but the helicopter remained upright. The passenger evacuated through a hole in the front canopy without injury, whilst the pilot exited through the left door with a slight burn to his left arm.

The aircraft was beyond salvage so it was left to burn out. The extent of the fire was so severe that any meaningful examination to establish the cause was precluded, however the pilot does not rule out the possibility that spillage during the refuelling could have pooled in the belly pan and he is certain the fire was fuel-based because of its rapid progression.