

ACCIDENT

Aircraft Type and Registration:	Pulsar (kit-built aircraft), G-CCBZ	
No & Type of Engines:	1 Rotax 582 two-cylinder two-stroke piston engine	
Category:	1.3	
Year of Manufacture:	2000	
Date & Time (UTC):	2 July 2005 at 1134 hrs	
Location:	Approximately 0.5 miles south-west of Deanland Airfield, East Sussex	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Extensive damage to fuselage and separation of nose leg	
Commander's Licence:	National Private Pilot's Licence (NPPL)	
Commander's Age:	47 years	
Commander's Flying Experience:	225 hours (of which 70 were on type) Last 90 days - 10 hours Last 28 days - 5 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

History of the flight

The aircraft was an amateur-built Pulsar, a low-wing two-seat monoplane of composite construction powered by a Rotax liquid-cooled engine. The aircraft had been constructed in the United States and later imported into the UK. The pilot, who was also the owner, was one of a group flying from Deanland Airfield, near Lewes, to the PFA Rally at Kemble. The surface wind was light and the pilots used Runway 26 for takeoff.

The pilot of G-CCBZ reports that, shortly after takeoff and at about 300 ft agl, the engine 'popped' abruptly and then stopped completely. He lowered the nose and attempted a re-start of the engine, including use of the

primer. The engine appeared to start but then promptly stopped again. At about 150 ft agl the pilot trimmed the aircraft for landing into the only field of sufficient size for a forced landing, noting that, although large, the field contained a tall crop.

The pilot considers that the descent rate and approach speed into the field were reasonable but, as the wing contacted the crop of oilseed rape, the aircraft decelerated rapidly and pitched nose down, coming to a stop within a few metres of the first contact with the crop. The fuselage was extensively damaged and the nose leg separated: there was no fire and the pilot was not injured.

Causal factors

The pilot suspected fuel starvation and later removed the two carburettor float bowls, both of which contained sediment. He considered that there was a sufficient amount of sediment in the bowls to have restricted the supply of fuel (which was automotive MOGAS) into the engine. The larger items of sediment appeared to be small flakes of red paint, which matched the fuel cans from which he habitually filled the aircraft. It was not apparent how the sediment had reached the float bowls but further inspection showed that the replaceable element in the Purolator fuel filter assembly (Figures 1 and 2) had not been fully screwed home and could therefore 'rock' in place, allowing the flow of dirty fuel past the filter element.

The pilot also considered that, in retrospect, he should have refuelled through a proper external strainer to filter the fuel into the tank, rather than using a simple 'jerry can' and siphon-tube arrangement. He also noted that the filter assembly did not indicate that the replaceable element should be screwed fully home and that, in this aircraft, the fuel supply to the engine primer is drawn from the fuel tank 'sight glass', which is not filtered.



Figure 1

G-CCBZ - fuel filter assembly



Figure 2

G-CCBZ - fuel filter components