AAIB Bulletin No: 9/93 **Ref: EW/G93/05/17** **Category: 1c**

Aircraft Type and Registration:	Druine D.31 Turbulent, G-BGBF
No & Type of Engines:	1 Volkswagen 1600 piston engine
Year of Manufacture:	1980
Date & Time (UTC):	12 May 1993 at 1606 hrs
Location:	Kempcutt Farm near Brize Norton, Oxfordshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Aircraft overturned with minor damage
Commander's Licence:	Commercial Pilot's Licence (New Zealand) Private Pilot's Licence (UK)
Commander's Age:	28 Years
Commander's Flying Experience:	750 hours (of which 2 were on type) Last 90 days - 85 hours Last 28 days - 25 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and AAIB telephone enquiries

The pilot reported that the aircraft, which was an early home built version operating under a Permit-to-Fly, had left the Brize Norton zone for a general handling exercise and had flown a standard Burford recovery at 1,300 feet QNH. Brize Norton ATC instructed the pilot to hold north of the airfield due to an inbound RAF VC10 aircraft. However, during the third orbit the engine RPM decreased to a level insufficient to maintain level flight. A disused airfield (Broadwell) was selected for a forced landing. The pilot's attempts to recover engine power were unsuccessful and Brize Norton ATC was advised of his intentions. The approach into the disused airfield was conducted as planned except that at about 300 feet agl a ditch was seen and the pilot 'cut the corner' onto final approach in order to touch down beyond it, which he duly accomplished satisfactorily. However the surface of the field was both hard and uneven, and the aircraft rolled for a short distance before it overturned as the landing gear contacted a step in the surface. The pilot was uninjured and escaped the cockpit without difficulty. There was no fire.

Subsequent examination of the aircraft fuel system showed that the fuel cock was the source of the power loss. It was a push-off/pull-on type in which a threaded rod actuated a piston across an aperture in the fuel line. The threaded rod had unwound, possibly due to vibration, so that even when in the 'ON' position the associated piston had obstructed fuel-flow to the engine.