Jodel DR 221, G-GOSS

AAIB Bulletin No: 2/2004	Ref: EW/G2003/08/23	Category: 1.3
Aircraft Type and Registration:	Jodel DR 221, G-GOSS	
No & Type of Engines:	1 Lycoming 235 CR piston engine	
Year of Manufacture:	1968	
Date & Time (UTC):	3 August 2003 at 2000 hrs	
Location:	Bidford on Avon, Warwickshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	41 years	
Commander's Flying Experience:	348 hours (of which 17 were on type)	
	Last 90 days - 3 hours	
	Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and AAIB enquiries	

The aircraft was flying at 2,700 feet to the west of Evesham when there was a smell of fuel in the cockpit. Shortly after this the engine began to misfire; the misfiring continued and the fuel low pressure light came on. By using carburettor heat the pilot was able to bring the aircraft within range of Bidford Airfield, where an emergency landing was carried out. When the aircraft came to rest the cockpit filled with smoke and the pilot and passenger rapidly evacuated the aircraft, whereupon it became engulfed in flames and was destroyed. Subsequently the pilot was informed that fire had been clearly visible underneath the aircraft during the approach.

Determination of the source of the fire was made difficult by the degree of damage sustained in the resulting ground fire, however the maintenance organisation advised that there appeared to be a 'hot spot' in the vicinity of the fuel pressure transmitter. This is fitted forward of the firewall in the lower cowling where a fuel pipe from the engine driven pump connects to the carburettor. A fuel leak in this area would have allowed fuel to reach the exhaust system. The fuel pressure transmitter had been wire-locked and the hose from the pump was found to be charred but otherwise intact. The aluminium banjo fitting however, which connected the hose to the carburettor and fuel pressure transmitter, was melted. Some three flying hours earlier, work had been carried out on the aircraft brakes but there had been no reason to disturb the engine or its systems and no work in these areas was recorded.

The maintenance organisation advised that small fuel leaks in the region of the fuel pressure transmitter had been known to occur because of loose couplings but there was no history of a resulting fire. A fire, more likely to result from a large fuel leak than a small one, originating around the exhaust might not spread to the airframe if a slipstream were present, but could do so once an aircraft came to rest.

Records, held by the UK CAA, on similar occurrences involving fires for all Jodel and Robin aircraft types, showed that there were no similar cases recorded. Although this appears, therefore, to be either a very rare or an isolated case, the severity of the event, as described by the pilot, is such that loss of the aircraft in flight was possible.

(Details of this accident will be further publicised in a forthcoming edition of the CAA's General Aviation Safety Information Leaflet (GASIL)).