No: 5/90 **Ref: EW/G90/02/06** **Category: 1c**

Aircraft Type and Registration:	Clutton FRED Series 2, G-BKAF
No & Type of Engines:	1 Volkswagen 1835 (Peacock) piston engine
Year of Manufacture:	1983
Date and Time (UTC):	22 February 1990 at 1100 hrs
Location:	Rochester Airport, Kent
Type of Flight:	Private (pleasure)
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Left main landing gear failed.
Commander's Licence:	Private Pilot's Licence
Commander's Age:	46 years
Commander's Total Flying Experience:	230 hours (of which 195 were on type)
Information Source:	Aircraft Accident Report Form submitted by the pilot

The pilot taxied to the hold for runway 20 at Rochester Airport and completed his final before take-off checks. Having received clearance to line up and having taxied onto the runway, he felt some vibration in the airframe and the aircraft then tilted over onto the left wing. The pilot turned off the fuel and the electrical switches and evacuated the aircraft without injury.

Inspection of the aircraft showed that the left main landing gear had folded upwards. In this design of aircraft, the main landing gear is of welded steel-tube construction: on each side there is a fabricated and pivoting 'V' arm, mounted low on the fuselage, and a shock strut, grounded at the upper fuselage, is attached close to the main-wheel outboard of the drag-strut member of the 'V' arm. The failure, in this case, had occurred on the main member of the 'V' arm, outboard of the attachment point for the drag-strut and inboard of the the shock-strut attachment. The pilot states that, from the state of the fracture, it appeared that the crack had been progressing for some time. The fracture was repaired by inserting an inner steel sleeve and re-welding.

The Popular Flying Association (PFA) report that they have no record of previous failures of this type with this aircraft design. Although it was not possible to examine this particular fracture, the PFA stress the importance of avoiding overheat in welded steel fabrication: overheating during welding can result in the formation of crystalline areas within the fabrication, and these areas will later be more susceptible to cracking.