

**AAIB Bulletin No: 3/94**      **Ref: EW/G93/10/05**      **Category: 1.3**

**Aircraft Type and Registration:** SNS-7 Hiperbipe, G-HIPE

**No & Type of Engines:** 1 Lycoming IO-360-B1E piston engine

**Year of Manufacture:** 1980

**Date & Time (UTC):** 8 October 1993 at 1105 hrs

**Location:** 1 mile west of Dullatur, Cumbernauld

**Type of Flight:** Private

**Persons on Board:** Crew - 1      Passengers - None

**Injuries:** Crew - None      Passengers - N/A

**Nature of Damage:** Substantial damage to landing gear, propeller, engine, cowling, lower wings and fuselage

**Commander's Licence:** Private Pilot's Licence

**Commander's Age:** 61 years

**Commander's Flying Experience:** 257 hours (of which 32 were on type)  
Last 90 days - 32 hours  
Last 28 days - 4 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilot, telephone inquiries to insurance assessor and maintenance organisation; fuel system examination

The pre-flight checks, including water drain checks, were normal and the engine started without difficulty. The takeoff was uneventful and the initial climb normal, with the engine developing full power. However, at a height of approximately 350 feet agl, and as the pilot was attempting to bring back the power to 25 inches of manifold pressure, the engine lost power and ran down to flight idle. Attempts to increase power using the throttle had no effect, making a forced landing inevitable, and the pilot put out an abbreviated 'MAYDAY' call on the Cumbernauld Aerodrome frequency. The terrain is comprised mainly of small undulating fields containing livestock and other obstructions, and it was found that the steep glide angle due to the high wing loading further limited the choice of landing fields. The aircraft touched down in the chosen field, on a rising slope, and after a ground roll of approximately 70 metres collided with a dry stone wall and came to rest. The pilot was unhurt and exited the aircraft without difficulty, attributing his lack of injury to the five-point harness fitted to the aircraft.

The 'MAYDAY' call was received by the AFISO at Cumbernauld, who saw the aircraft descend and alerted both the airfield and the local emergency services, giving them his estimated position of the crash. In addition, a helicopter manoeuvring south of the area located the scene within a matter of minutes and was able to give an accurate report on the aircraft's position.

The wreckage of the aircraft was subsequently recovered to Cumbernauld Aerodrome. It was examined by an insurance assessor who was able to establish that there was an adequate supply of fuel in both tanks and within the fuel system, through to the engine injector unit. However, the injector pump outlet, the injector lines and manifold valve appeared to be largely devoid of fuel. The throttle connecting linkage between cockpit and engine was intact and appeared to function normally. Based on a limited examination, the magnetos and spark plugs appeared to be serviceable.

The fuel system, comprising the mechanical fuel pump, the injector unit, manifold valve, fuel lines and fuel nozzles were removed from the aircraft and sent to the AAIB for detailed examination. Rig testing of these items at an authorised agency revealed no evidence of defects or malfunction, and all components were found to perform within the manufacturer's specification. In particular, investigation of the fuel injector unit showed that it was fully serviceable, and that the fuel flow metering function was satisfactory. Dismantling of the mechanical fuel pump, injector unit and manifold valve to check the condition of the diaphragms and valve assemblies revealed no evidence of abnormality.