

**AAIB Bulletin No: 10/93**      **Ref: EW/G93/06/21**      **Category: 1.3**

**Aircraft Type and Registration:** Piper PA-34-220T Seneca III, G-WIZO

**No & Type of Engines:** 2 Continental TSIO-360-KB piston engines

**Year of Manufacture:** 1981

**Date & Time (UTC):** 22 June 1993 at 1803 hrs

**Location:** Elstree Aerodrome, Hertfordshire

**Type of Flight:** Private

**Persons on Board:** Crew - 2                      Passengers - None

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

**Nature of Damage:** Left propeller, left flap, left aileron, left main landing gear, left rear fuselage underside, left tailplane tip

**Commander's Licence:** Commercial Pilot's Licence with Instrument and Instructor ratings

**Commander's Age:** 31 years

**Commander's Flying Experience:** 1,462 hours (of which 45 were on type)  
Last 90 days - 47 hours  
Last 28 days - 30 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilot and subsequent examination of failed component by AAIB Engineering Investigator

The commander/instructor reported that on return from a detail of instrument flying refresher training, a normal approach was made to Runway 08 at Elstree. The touchdown was reported as smooth and the initial roll was normal. The student then noticed that the left wing was dropping. He applied control inputs to pitch the aircraft up and roll it to the right, calling for the instructors assistance as he did so.

The instructor stated that he called for control and that the student began to apply power at the same time. The aircraft gained about 20 feet at which point it was observed that the airspeed was low, two stages of flap were set and the left propeller had struck the ground. The instructor therefore elected to remain on the runway and closed the throttles. After touchdown, the aircraft travelled initially down the runway before turning to the left and coming to rest on the grass. The instructor reported that he feathered the two propellers and closed the mixture controls before the aircraft came to rest and that he called to the student to turn off the magneto and master switches before both pilots left the aircraft.

It was determined that the trunnion of the left main landing gear had failed. The AAIB therefore requested that the maintenance company send them the failed components. Examination confirmed that the left main trunnion had fractured approximately 3 inches from its lower end, ie in exactly the same position as the failures previously seen on the PA 34 aircraft listed below ;

G-BBZJ	5 April 1987	See Bulletin 9/87
G-CJWS	6 July 1991	See Bulletin 10/91
G-TEST	25 August 1991	See Bulletin 10/91
G-FILE	15 June 1992	See Bulletin 11/92
G-BORH	30 April 1993	See Bulletin 8/93

Although some smearing of the fracture faces occurred, partially obscuring the origin area, the fracture on G-WIZO appeared on visual inspection to be in all significant respects similar to those seen on each of the above 5 aircraft.

CAA AD 002-01-88 requires this component to be inspected at 100 hour intervals using procedures described in Piper SB 787 A. The aircraft's maintenance company state that this inspection was last implemented 71 flying hours before the accident.

In October 1991 the AAIB made a safety recommendation (arising from the accident to G-TEST.) that:-

"The CAA review the requirements of AD 002-01-88 with particular reference to the quality of the required inspection, its periodicity and re-protection of the affected area after each inspection."

This was re-iterated in Bulletin 11/92 following the accident to G-FILE. The recommendation was accepted by the CAA in 1991 but at the time of writing action is still outstanding. Following the accident to G-BORH, a similar but expanded recommendation was made to the authority as follows:-

"The CAA review the requirements of AD 002 -01-88 with particular reference to the quality of the required inspection and re-protection of the affected area after each inspection and consider modifying its periodicity by calendar time considerations in addition to those of flying time."

The CAA is currently liaising with the aircraft manufacturer and preparing for Airworthiness Directive action.