

**INCIDENT**

<b>Aircraft Type and Registration:</b>	Piper PA-18-150, G-SUPA	
<b>No &amp; Type of Engines:</b>	1 Lycoming O-320-A2B piston engine	
<b>Year of Manufacture:</b>	1957	
<b>Date &amp; Time (UTC):</b>	23 June 2005 at 1500 hrs	
<b>Location:</b>	Headcorn, Kent	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Main landing gear support frame failure	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	52 years	
<b>Commander's Flying Experience:</b>	1283 hours (of which 479 were on type) Last 90 days - 11 hours Last 28 days - 6 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

**Synopsis**

As a result of a missing bush from the left side of the main landing gear V section support frame, the end of the frame failed at its attachment to the airframe, which resulted in the wing dropping gently to the ground.

**History of flight**

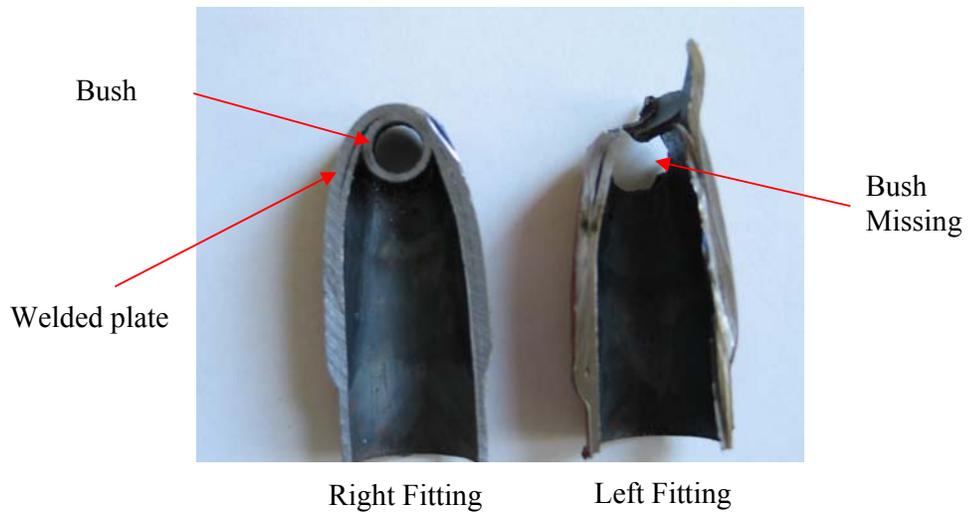
Whilst taxiing to the hanger, following an uneventful landing, the right wing slowly dropped until it rested on the ground. The engine was shut down and the propeller remained clear of the ground. An examination of the aircraft revealed that the left side of the V section support frame, which supports the main undercarriage suspension units, had failed across the hole where it is bolted to the airframe mounting lug, see Figure 1.

## **Discussion**

The landing gear support frame is manufactured from two steel tubes welded together to form a V section. The airframe attachment at the end of each tube consists of a bush mounted on the end of the tube, which is held in place by a shaped plate welded around the end of the tube. A comparison of the left and right attachment fittings, which were sectioned to facilitate inspection, revealed that the bush on the left fitting was missing, see Figure 2. The repair agency for the aircraft confirmed that the bush was not attached to the securing bolt that remained fitted to the aircraft. Witness marks inside the tube indicate that a bush had originally been fitted to the leg, which suggested that the bush might have come out when the frame had been removed from the aircraft. Reassembly of the V section frame without a bush installed would have left the securing bolt in contact with the welded plate, which then appears to have failed in overload during normal operations. The frame was last inspected during the annual maintenance undertaken six months and eight flying hours prior to the accident. Whilst there was no requirement during this inspection, to remove the fitting from the aircraft and inspect the bolt holes, the maintenance organisation have stated that the assembly felt secure with no sign of excess movement at that time.



**Figure 1** Undercarriage V Section Frame Failure



**Figure 2** Sectioned V section frame end fittings