INCIDENT

Aircraft Type and Registration:	PA-28R-201 Cherokee Arrow III, G-BYYO
No & Type of Engines:	1 Lycoming IO-360-C1C6 piston engine
Category:	1.3
Year of Manufacture:	1994
Date & Time (UTC):	13 July 2005 at 1128 hrs
Location:	Stapleford Aerodrome, Essex
Type of Flight:	Training
Persons on Board:	Crew - 2 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Scrape to wing tip, wing step damaged
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	63 years
Commander's Flying Experience:	9,572 hours (of which 4529 were on type) Last 90 days - 126 hours Last 28 days - 55 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot, and AAIB enquiries

The pilot reported that on arrival back at Stapleford she selected the landing gear to 'down' but only two green lights illuminated. She flew past the radio operator and was advised that the right main landing gear was not extended. The pilot decided to leave the circuit to troubleshoot the problem, and reports that she selected the gear emergency extension lever to 'down', yawed the aircraft and pulled some 'g', all without effect. She also tried swapping the indicator bulbs.

With the right main gear still retracted, she elected to land on the grass Runway 22. She carried out a flapless approach and touched down on the left main gear, holding the right wing up as long as possible. During the landing the aircraft yawed to the right, however the landing had been well executed and the only damage to the aircraft was to the step behind the right wing.

The PA-28R-201 Arrow has a hydraulically operated landing gear and also has an emergency landing gear extension system. This is operated by holding down an emergency extension lever which is mounted between the front seats. When operated it allows hydraulic fluid to recirculate across the jacks and therefore allows the landing gear to be lowered by gravity irrespective of the landing gear switch selection or hydraulic pressure. The gear is locked down by spring forces. There are no uplocks, hydraulic pressure being used to maintain the

gear in the retracted position. The main landing gear is partly enclosed when retracted, with a single gear door attached to each main landing gear oleo. There are no separate doors to cover the main wheels. Many of these aircraft also have an automatic back up gear extender system which will extend the gear normally if the speed is sufficiently low and the throttle is retarded. G-BYYO was not so equipped, however.

The aircraft was jacked up and the right main landing then gear extended and locked down without difficulty. The Chief Engineer advised that the aircraft was towed to a hangar and repeated checks of the normal and emergency extension systems were made without any malfunction of the gear being observed. During these checks, no evidence of any interference between the landing gear and anything in or around the landing gear bay was observed. The aircraft was returned to service and has since flown in excess of 200 hours without any recurrence of this malfunction.