

Aircraft Type and Registration:	Beagle B121 Series 2 Pup, G-AXNN	
No & Type of Engines:	1 Lycoming O-320-A2B piston engine	
Year of Manufacture:	1969	
Date & Time (UTC):	18 September 1993 at 1515 hrs	
Location:	Shoreham Airport, Essex	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Distorted main gear support structure; distorted pilot's seat; creased belly skin and longeron; sheared rivets	
Commander's Licence:	Private Pilot's Licence with IMC and Night Ratings	
Commander's Age:	36 years	
Commander's Flying Experience:	288 hours (of which 170 were on type) Last 90 days - 43 hours Last 28 days - 3 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot plus telephone enquiries	

The pilot was practising forced landings (PFLs) onto Runway 07 using the 'constant aspect' method; the surface wind was from the east at 10 to 15 kt. His first PFL had to be abandoned because of conflicting traffic on finals. He commenced his second PFL from 1,700 feet overhead the runway and turned left to start a continuous curving approach towards the threshold of Runway 07. During the turn he inadvertently allowed the airspeed to reduce below the correct glide speed and the rate of descent increased markedly. In order to reach the runway threshold, the pilot approached it at an angle of about 60° with the intention of aligning the aircraft on short finals. He completed the late turn and achieved a touchdown on and in line with the runway some 100 feet beyond the threshold but the turn was too late and too low to permit a proper flare. The aircraft landed heavily on the left main gear but the remainder of the landing roll was completed normally.

Human factors which may have influenced the pilot were:

- 1 During his PPL training, he had been taught the square pattern with key heights method for forced landings. He had taught himself the 'constant aspect' method for judging a forced landing from a magazine article.

- 2 He omitted to trim the aircraft for the correct gliding speed.
- 3 He was more familiar with the Piper Cub than the Beagle Pup. The gliding speed he inadvertently used was appropriate to the Piper Cub but too slow for the Beagle Pup.
- 4 He felt that he needed to practice the final stages of a PFL in order to gain confidence in his ability to cope successfully with a real forced landing.
- 5 Because of recent litigation, he believed that forced landing practice in open country had to be terminated by 500 feet agl if prosecution for illegal low flying was to be avoided. He felt that terminating a PFL at 500 ft significantly diminished its training value. He therefore decided to practice forced landings at recognised airfields which, in turn, constrained his training opportunities to the point where he felt out of practice.
- 6 At Shoreham, circuit flying takes priority over forced landing practice. He persisted with the PFL, even though he knew it was not proceeding as he had intended, because the opportunities for landing off a PFL were infrequent due to the normal density of circuit traffic at Shoreham.