No: 12/90 **Ref: EW/G90/07/33** **Category: 1c**

Aircraft Type and Registration:	Socata TB20, G-BLYD
No & Type of Engines:	1 Lycoming IO-540-C4D5D piston engine
Year of Manufacture:	1985
Date and Time (UTC):	27 July 1990 at 1125 hrs
Location:	Biggin Hill Airport, Kent
Type of Flight:	Private
Persons on Board:	Crew - 2 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to nose landing gear, cowling and propeller
Commander's Licence:	Commercial Pilot's Licence with IMC and Instructor ratings
Commander's Age:	32 years
Commander's Total Flying Experience:	3,795 hours (of which 200 were on type)
Information Source:	Aircraft Accident Report Form submitted by the pilot and discussion with maintenance organisation

A normal take-off was made from runway 11. At 200 feet, the landing gear was retracted but the pilot noticed that the gear unlocked light remained illuminated. The landing gear was recycled to "down", following which only the two main landing gears indicated down-and-locked. The nose landing gear light did not illuminate and the associated gear unlocked light remained on. The emergency landing gear lowering system was used but these indications remained.

A flypast of the tower was requested. The tower confirmed that the noseleg appeared to be hanging at about 45 degrees and the nose wheel was twisted to the right. Attempts were made to lock the nose landing gear by the application of "g" and yaw, without success. The pilot informed Biggin ATC that he intended to land.

After a brief delay while the emergency services were called, a normal approach was made to runway 21. The approach was made with 10 degrees of flap and just prior to the flare the mixture was set to lean and the fuel turned off. A normal landing was made and the nose wheel held off as long as possible. As the speed decayed, the propeller stopped and the second pilot was able to use the starter to level the propeller blades, after which he switched off the magnetos. The nose then contacted the runway and the aircraft rolled about another 100 yards before coming to rest. The crew vacated the aircraft without injury as the emergency services arrived.

Damage to the aircraft was limited to the front lower cowling, air intake, exhaust, heat exchanger and one propeller tip. Further examination showed that the lugs which attached the actuating mechanism to the noseleg had both separated at the welds, thus preventing retraction or extension.

The failed parts were returned to the manufacturer for investigation, who reported that the failure was not a common occurrence and referred the maintenance organisation to the inspections contained in the Maintenance Manual and to the requirements of Service Bulletin No. 45, "landing gear actuator stays". The maintenance organisation noted that no sign of long standing corrosion was seen on the fracture surfaces and stated that later aircraft have strengthened lugs. Enquiries failed to uncover any recent heavy landings.