Piper PA-28-151, G-BCTA

AAIB Bulletin No: 12/98 **Ref: EW/G98/05/31** **Category: 1.3**

Aircraft Type and Registration:	Piper PA-28-151, G-BCTA
No & Type of Engines:	1 Lycoming O-320-E3D piston engine
Year of Manufacture:	1974
Date & Time (UTC):	22 May 1998 at 1410 hrs
Location:	Nr Ripple Village, Deal, Kent
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers - 1
Injuries:	Crew - Minor - Passengers - None
Nature of Damage:	Substantial
Commander's Licence:	Private Pilot's Licence with Night Rating
Commander's Age:	42 years
Commander's Flying Experience:	805 hours (of which 80 were on type) Last 90 days - 17 hours Last 28 days - 6 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot. Conversations with the Chief Engineer of aircraft's maintenance company. Examination and testing of certain aircraft components carried out under AAIB supervision

The aircraft was returning to Manston from Le Touquet, normal full and free control checks having been carried out during the pre-departure checks. During the flight, the low voltage warning light illuminated and although electrical loads were reduced and full power briefly selected, the light did not extinguish. The pilot reported that the ammeter indication remained normal and no other electrical services appear to have been affected.

The autopilot was used to maintain heading towards the Dover VOR. Just short of the VOR the auto-pilot was disengaged and a descending turn was made onto a northerly heading. Shortly after

this, the pilot became aware that the control yoke movement was restricted, no movement being available to the right from the neutral position whilst limited movement to the left remained. The autopilot was checked and confirmed to be disengaged. The passenger (also a PPL holder) checked his controls and confirmed the restriction was present. The pilot reported that even with considerable force, it was not possible to move the yoke to the right, although full control of rudder and elevators appeared to remain available. The decision was taken to make a precautionary landing in the nearest suitable field. At approximately one mile from the selected field houses and power lines were seen at the threshold, resulting in the touchdown point being further into the field than originally intended. As the aircraft flew over the houses the pilot realised that the field had a considerable up-slope with a mature hedge on the far side. However, he was committed to landing, the mixture control having been positioned to ICO before the unsuitability of the field was identified. Once on the ground, the pilot managed to turn the aircraft through some 45 degrees before it struck the hedge and bank, tearing the left wing from the fuselage.

The wrecked aircraft was subsequently examined in detail by the Chief Engineer of its maintenance company. He reported that he could see no evidence in the flying control system to account for the control restriction. AAIB requested that the components of the autopilot system be removed and forwarded to them for detailed examination. Upon receipt, the units were taken to the premises of an overhaul agency for the type of equipment. Functional testing was carried out with particular reference to the action of the unit's controls during disengagement. It was found that the on-off switch was not always positive in its action with a tendency to stick in both the 'on' and 'off' positions.