Socata TB10 Tobago, G-HALP, 23 November 1996

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INCIDENT

Aircraft Type and Registration:	Socata TB10 Tobago, G-HALP
No & Type of Engines:	1 Lycoming O-360-A1AD piston engine
Year of Manufacture:	1981
Date & Time (UTC):	23 November 1996 at 1615 hrs
Location:	Barnet Golf Club, Nr Elstree, Hertfordshire
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers - 1
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Minor damage to left-hand wing from contact with a small tree during ground roll
Commander's Licence:	Private Pilot's Licence with Night Rating
Commander's Age:	53 years
Commander's Flying Experience:	2,385 hours (of which 2 were on type)
	Last 90 days - 35 hours
	Last 28 days - 10 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft had been undergoing repairs for corrosion to thewings at a CAA approved maintenance organisation, following afive-year period during which the aircraft had flown for about2 hours. The pilot reports that extensive pre-flight inspectionshad been performed, including the draining down and refillingof the fuel tanks and particular attention was paid to the alternatorsystem, which had previously 'dropped off line' during one oftwo short flights from Elstree. The intention was to wait fora fine weather day to allow for a return cross-country flightto North Weald.

The pilot reports that the flight to North Weald, a distance ofsome 20 nm, was uneventful with the exception of the circuit breaker'popping' for the 'Comm 2' radio: this radio remained inoperativeand

the circuit breaker was not reset a second time. However,as the aircraft was departing from North Weald the primary radiofailed and the alternator warning light indicated that the alternatorwas 'off line'. The pilot made several attempts to reset the alternatorbut these were unsuccessful and he suspected that there was aproblem with the battery. He continued the climb but switchedoff electrical equipment, with the exception of the electric fuelpump, so as to conserve battery power. The pilot limited the climbto 1,400 feet QNH in order to remain below the Stansted CTA andthen turned off the electric fuel pump.

About 7 nautical miles from the departure airfield the enginesuddenly lost power without faltering or rough running, althoughthe propeller continued to turn in fine pitch. The pilot reportsthat he immediately selected a field for an emergency landing,applied carburettor heat, selected the electric fuel pump ON andchanged fuel tanks. The annunciator panel light for the fuel pumpwas flickering and a further attempt to bring the alternator backon line was successful; shortly afterwards the engine developedfull power again, with the ammeter showing a healthy charge fromthe alternator. The pilot climbed and resumed the cruise at 2,000feet QNH, now clear of the Stansted CTA.

The pilot established radio contact with Elstree, notifying thewatch officer that he would need a priority landing due to theelectrical fault and descended to 1,500 feet to keep sight ofthe emergency landing fields along the track. After a further5 miles the problem recurred, with sudden power loss and heavydistortion, and then loss, of the radio. The electric fuel pumpwas still ON from the previous power loss and the pilot againapplied carburettor heat. This time the pilot only had a shorttime to attempt the restart because of the necessity of findinga suitable landing site and the engine did not regain power. Thelack of time and the radio problem limited the pilot to a briefemergency transmission: the aircraft call sign followed by "Emergencylanding".

The pilot performed the close-down checks on the engine but judgednone of the available fields to be suitable for a forced landing,due to trees, pylons or livestock. The one field which did appearfavourable was too close and the pilot, with no flap availabledue to the lack of electrical power, could not establish a suitablerate of descent but he managed to land on a golf course, landingacross a fairway to avoid trees and a pond. The pilot consideredthe landing reasonable with damage limited to the left-hand wingdue to the wing striking a shrub and a marker post.

The account of the passenger, also the holder of a PPL, broadlyconfirms that of the pilot. She recalls that, as he was finishinghis pre-flight checks, the pilot had asked her to check the fueldrains and that the fuel samples had been clear and consistentwith 100LL AVGAS. She had not been requested to check the fuellevels in the tanks and did not do so as the fuel caps were locked.Her description of the flight was similar to that of the pilot.She had no ready explanation as to the cause of the engine's lossof power but commented that the symptoms would have been consistentwith interruption of the fuel supply to the engine and also that,at the time of the accident, the temperature and dew point "werewithin a couple of degrees of each other".

The ground engineer from the maintenance organisation was presentat the golf course on the following day to recover the aircraft.At this stage there were several gallons of fuel in the aircrafttanks and the engineer reports that the engine started easilyfor taxying approximately one mile to an area of hardstandingwhere the aircraft could be dismantled. The fuel was drained beforethe wings were removed and the fuel did not show any signs ofcontamination.

The pilot comments that, in the near future, the aircraft willbe reassembled and further tests conducted to determine the causeof the engine's loss of power.