ACCIDENT

Aircraft Type and Registration:	Thorp T-18, G-BSVN
No & Type of Engines:	1 Lycoming O-290-G4 piston engine
Year of Manufacture:	1967
Date & Time (UTC):	9 October 2005 at 1430 hrs
Location:	Near Ashcroft Airfield, Winsford, Cheshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Undercarriage frame and bulkhead distorted, propeller damaged
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	79 years
Commander's Flying Experience:	1,026 hours (of which 256 were on type) Last 90 days - 0 hours Last 28 days - 0 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

During a test flight from Ashcroft Airfield for the purpose of renewing the aircraft's Permit to Fly, the pilot noticed that spots of oil were appearing on the windscreen and attempted to return to the airfield to investigate the problem. On final approach to grass Runway 27, the aircraft stalled and touched down in a farm field approximately 50 m short of the runway threshold. The pilot's assessment of the cause was that, pre-occupied by the need to land immediately, he had allowed the airspeed to decay during the final approach and the aircraft stalled before he was able to initiate an effective recovery. When he inspected the aircraft immediately after the accident, the pilot found that the return oil pipe had become detached from a recently fitted air/oil separator. He determined that this was probably the cause of oil contamination on the windscreen.

History of the flight

On levelling at 2,500 ft in preparation for a series of manoeuvres, the pilot noticed spots of oil gathering on the windscreen. He decided to return to the airfield immediately to investigate the problem. He reported that on final approach to the grass Runway 27, his attention became pre-occupied with the increasing amount of oil on the windscreen and the need to land immediately. At approximately 50 ft agl the left wing dropped suddenly. The pilot recalled that he glanced at the ASI, which

indicated an airspeed of approximately 60 kt, causing him to apply power and possibly a right aileron input. The aircraft continued to descend and it touched down heavily in a field approximately 50 m short of the runway threshold. The heavy landing inflicted damage to the main landing gear 'A' frame and the fuselage bulkhead to which it was attached. The pilot was uninjured and vacated the aircraft unaided.

The aircraft was recovered immediately to Ashcroft Airfield where the owner assessed the damage.

Meteorological conditions

An unofficial weather report provided by the airfield indicated a wind of 10 kt from 230º with good visibility, air temperature 17ºC and dew point 11ºC. The QNH measured locally was 1013 hPa.

Aircraft information

The Thorp T-18 is a high performance, homebuilt, two-seat monoplane with tail wheel landing gear. The stalling characteristics of individual aircraft vary, but are generally characterised by an abrupt stall with little warning, during which a wing may drop. Some have 'V'-section stall strips fitted to the inboard wing leading edges in order to promote a more predictable stall, but the subject aircraft was not so equipped. Information obtained from several owner organisations indicated that a stalling speed of between 50 and 56 kt is representative for the type.

The owner maintained the aircraft himself and operated it under the supervision of the PFA. The most recent certificate of validity of the aircraft's Permit to Fly expired in July 2005. The aircraft was inspected by a PFA accredited engineer on 26 September 2005 and issued with a Permit Flight Release Certificate allowing it to undertake the test flight.

During maintenance in preparation for the permit renewal, a replacement air/oil separator had been fitted and secured using jubilee clips. The owner stated that when he inspected the aircraft immediately after the accident, he noticed that the return oil pipe from the exit side of the air/oil separator was detached. Although it was not possible to establish whether this had occurred at or prior to impact, the owner stated that he had not encountered similar difficulties with this aircraft before the accident flight.

Conclusion

The aircraft had been maintained, operated and certificated in accordance with standards published by the PFA. It is likely that the return oil pipe detached from the exit side of the recently fitted air/oil separator before or during the accident flight, allowing oil to contaminate the windscreen. During the approach to the airfield, the pilot became pre-occupied with the need to land the aircraft and allowed its airspeed to decay to such an extent that the left wing stalled. The application of power and the right aileron input probably exacerbated the left wing drop and the aircraft hit the ground before effective recovery action could be initiated.