



## MINISTRY OF DEFENCE

### Military Aircraft Accident Summary

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Aircraft:	Bulldog T MK1 XX669
Date of accident:	6 September 1988
Crew:	One
Casualties:	One slight

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#### Circumstances

1. On 6 September 1988 a University Air Squadron (UAS) student pilot took-off for a solo circuit detail. The sortie was briefed and authorised to consist of normal and glide circuits, with 2 normal circuits to be flown first. The weather was good with a little cloud, but a light crosswind gave a 4 kt tailwind component on the runway in use. At the end of the downwind leg of the first circuit, the pilot reduced power and turned towards his pre-selected '400 ft point'. He reached this position at about 450 ft and, with wings level, selected full flap and aimed at the runway 'numbers'. The pilot assessed that he was high, reduced power, and accepted the steeper angle of approach and higher speed, intending to land as if from a glide circuit. At about 200 ft the aircraft appeared to be on a glide approach with the engine throttled back but, after little or no flare, the aircraft struck the runway nosewheel first, followed immediately by both mainwheels. The aircraft bounces back into the air, whereupon the pilot applied full power and climbed away. There were no audible signs of an engine problem and to all witnesses the aircraft appeared undamaged. However, recall action was initiated on the advice of the chief engineer who saw the incident.

2. After selecting flaps up, the pilot was aware that the engine note was abnormal and that the climb rate was poor. He noticed that the engine RPM had fallen and, at about 350 ft, he became conscious that the aircraft was about to stall so he lowered the nose to increase airspeed. The pilot assessed that there were no suitable landing areas ahead so he turned back towards the airfield with power applied. The speed increased to 75 kts and when lined up with the grass adjacent to the runway, the pilot closed the throttle and descended to about 50 ft. However, flap was not selected and the speed increased to around 100 kts. Unable to land within the airfield perimeter, he banked and climbed slightly to avoid some trees and selected a stubble field for landing. The aircraft hit the ground port wing first and the undercarriage collapsed. After bouncing 3 times, the aircraft slewed left through 100 degrees and 190 ft from the initial impact point. The pilot transmitted that he was unhurt, opened the canopy normally, undid his seat harness and moved away from the aircraft to a safe distance. The rescue services arrived some 30 seconds later, confirmed that there were no signs of fire and made the aircraft safe.

### **Cause**

3. The investigation considered it probable that a combination of three factors led to a steepening final approach and the initial heavy landing; a slight tailwind component, slow appreciation by the pilot of changes to his secondary visual cues, and fixation on his selected point of touchdown. The investigation established that the heavy landing caused an uncontained vertical movement of the nose oleo leg which damaged the propeller Constant Speed Unit. Propeller pitch control was lost and the subsequent loss of power and lack of suitable landing areas ahead led the pilot to initiate a limited power turn back to the airfield. The final landing on rough ground caused the undercarriage to collapse.

### **Claims**

4. To be inserted by PL(LS) Claims.