### National Aeronautical Laboratory Documentation Sheet

**Title**: Damage to the Propeller Blades of HPT-32 Aircraft X-2518

**Author(s)**: A.C. Raghuram, S. Radhakrishnan, R.V. Krishnan & V. Ramachandran

**Division**: Materials Science

**External participation**: NAL Project No. MT-9-861, MT-1-167

**Sponsor**: Aeronautics R & D Board

**Sponsor's Project No.**: Aero/RD-134/100/10/

**Approval**: A.C. Raghuram 84-85/394

**Contents**: 6 pages incl. 6 figures

**Document No.**: PD MT 8660

**Date of issue**: Dec. '86

**No. of copies**: 12

**Keywords**: HPT-32 aircraft, Propeller blades, Impact failure, Rearward bending, Engine idling

**Abstract**:

A HPT-32 aircraft was involved in an accident during an engine idling exercise. The aircraft was powered by a twin blade propeller engine. The blades had bent backwards. One of the blades had fractured at a location one third from the tip. The blade pitch angle was at the fine pitch stop. The rearward bending of the blades and the fine pitch of the blade angle indicate propeller rotation at the time of impact, with low or no power. It was learnt that the engine had problems of cutting off at idling speed on several occasions in the past. As the sortie involved an engine idling exercise, it could well be possible that it had cut off.