Aviation Safety Investigation Report 199804030

British Aerospace Plc BAe 146-200-11

23 June 1998

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Occurrence Number: 199804030 Occurrence Type: Incident

Location: 74km S Broome, Aerodrome

State: WA Inv Category: 4

Date: Tuesday 23 June 1998

Time: 2037 hours Time Zone WST

Highest Injury Level: None

Aircraft British Aerospace Plc

Manufacturer:

Aircraft Model: BAe 146-200-11

Aircraft Registration: VH-JJS Serial E2093

Number:

Type of Operation: Air Transport Domestic High Capacity Passenger

Scheduled

Damage to Aircraft: Nil

Departure Point: Broome WA

Departure Time:

Destination: Perth WA

Approved for Release: Friday, October 2, 1998

While climbing through FL 210 on route from Broom to Perth, the aircraft's No 1 engine experienced a sudden failure. The crew shut the engine down and diverted the aircraft to Newman where it landed safely.

The engine examination revealed extensive secondary damage to the High Pressure Turbine (HPT) section caused by failure in the HPT Stage 2 area. All Stage 2 blades had failed. The blade fracture surfaces contained small area of fatigue at the trailing edges. The fatigue area was not large enough the cause failure of the blades.

It is suspected that the Stage 2 nozzle honeycomb abraidable material partially separated from the nozzle, initiating a one per revolution vibration that resulted in fatigue propagating through majority of the Stage 2 blades. The engine failure was probably caused by a section of the honeycomb separating and causing blades failure.