

Airbus A321-231, G-OJEG

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Category:
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INCIDENT

Aircraft Type and Registration: Airbus A321-231, G-OJEG

No & Type of Engines: 2 IAE V2533-A5 turbofan engines

Year of Manufacture: 1999

Date & Time (UTC): 16 November 2001 at 0810 hrs

Location: Luton, Bedfordshire

Type of Flight: Public Transport

Persons on Board: Crew - 9
Passengers - 220

Injuries: Crew - None
Passengers - None

Nature of Damage: Failure of No. 1 engine

Commander's Licence: Airline Transport Pilot's Licence

Commander's Age: 48 years

Commander's Flying Experience: 11,313 hours (of which 890 were on type)

Last 90 days - 91 hours

Last 28 days - 30 hours

Information Source: Aircraft Accident Report Form submitted by the pilot and further information from the aircraft engineering company

The aircraft was engaged on a service from Luton to Tenerife and this was the first flight since the installation of a recently reworked engine at the No. 1 position. (The engine had been bulk stripped

after 8,357 hours and 2,950 cycles to repair a combustor). There was an engineering note in the Technical Log requesting that TOGA (Take-Off/Go-Around) thrust be used for this take-off and the crew complied with this request. Everything was normal in the take-off up to the point of rotation, when an ECAM (Electronic Centralized Aircraft Monitoring) Master Warning occurred, with the caption 'ENG 1 OIL LO PR'. This was followed a few seconds later by a loud bang and a significant jolt felt through the airframe. The crew noticed the instrument indications from the No. 1 engine beginning to decrease. The commander considered the apparent engine surge so severe that he ordered the first officer to close the thrust lever for the No. 1 engine. As the thrust lever was retarded it became apparent from the instruments that this engine had suffered a major malfunction and the crew completed the ECAM actions for Engine Severe Damage.

Subsequent analysis of data from the aircraft's QAR (Quick Access Recorder) broadly confirmed the crew's recollection, with normal engine parameters until the appearance of the low oil pressure warning as the aircraft became airborne. The data confirmed that this was followed by the rundown of the No 1 engine, with the N2 (high pressure spool speed) decreasing and an increase of EGT from 510°C at rotation to 810°C 46 seconds later, during which time the engine was secured.

The commander diverted to London Stansted Airport instead of returning to Luton Airport because of its longer runway and the landing there was uneventful. After the landing a number of passengers reported to the crew that, at about the time the engine failed, they saw a very bright orange flame flash from the intake of the No. 1 engine. The initial visual inspection showed that there was a significant amount of metallic debris in the engine jetpipe but the engine failure had been 'contained', with no damage to any other part of the aircraft. There was no visible evidence of a birdstrike or foreign object damage.

This engine was removed from the wing and has been the subject of a thorough investigation by the engine manufacturer. The examination showed extensive internal damage within the engine, including disruption of the downstream stages of the high pressure compressor, with evidence of a titanium fire. There was also heat damage to the vanes and blades of the high pressure and low pressure turbines and damage to the No. 4 bearing compartment. It was not apparent which was the initiating event and the investigation by the manufacturer is continuing in an attempt to identify the cause of the engine failure.