



**Airworthiness  
Directive  
2002-090R1**

**Luffahrt-Bundesamt**  
Airworthiness Directive Section  
Hermann-Blenk-Str. 26  
38108 Braunschweig  
G E R M A N Y

*This Airworthiness Directive supersedes the Airworthiness Directives 2002-090 of 23 May 2002*

**Rolls-Royce Deutschland**

Effective Date: 15 October 2004

**Affected:**

Kind of aeronautical product: Aircraft Engine  
Manufacturer: Rolls-Royce plc, Derby, United Kingdom  
Type: TAY650  
Models affected: TAY650-15 and TAY651-54  
Serial numbers affected: All  
German Type Certificate No.: 6328

**Subject:**

Possible fan blade failures because of exceedance of reverse thrust operating limitations

**Reason:**

Two Tay 650-15 low pressure (LP) compressor multiple fan blade failures have occurred since 1997. The last failure occurred on 15 September 2001 and resulted in the release of the LP compressor assembly. The fuselage was penetrated resulting in a fatality. The failures are thought to have been caused by cracking of the fan blades initiated under conditions of fan flutter. After the first multiple fan blade failure in order to protect against this condition, revised operating limitations have been approved, which were issued in the engine operating instructions for Fokker 100 aircraft. Because of the same fan blade design in the Tay 651-54 engines similar operating limitations were read across to the Boeing 727 operation.

**Action:**

The following actions are required by this Airworthiness Directive:

1. Introduction of new operating restrictions for thrust reversers.
2. Execution of inspections on fan blades, if the new permissible operation limits of the thrust reversers were exceeded.
3. Exchange of the complete set of fan blades and the fan rotor if cracks on fan blades have been found during the inspections.

All necessary measures must be accomplished in accordance with the mentioned service bulletin of the manufacturer.

**Compliance:**

All necessary actions become mandatory on the effective date of this Airworthiness Directive.

**Technical publication of the manufacturer:**

Rolls-Royce Deutschland Service Bulletin TAY-72-1447 Revision 5 on 12 August 2004. This Service Bulletin becomes herewith part of this AD. This service bulletin can be obtained from:

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**EASA-Approval**

Approved by EASA under Approval-No. 2004-9948 on 28 September 2004