



Airworthiness Directive

D-1998-055R3

Luffahrt-Bundesamt

Airworthiness Directive Section
Hermann-Blenk-Str. 26
38108 Braunschweig
GERMANY

This Airworthiness Directive supersedes the Airworthiness Directives 1998-055/2 of 24 July 2003

Rolls-Royce

Effective Date: 15 December 2003

Affected:

Kind of aeronautical product: Aircraft Engine
Manufacturer: Rolls-Royce plc., Derby, United Kingdom
Type: Tay 620, Tay 650
Models affected: Tay 611-8, Tay 620-15, Tay 620-15/20 and Low Pressure Compressor Modules M01100AA and M01100AB.
Tay 650-15, Tay 650-15/10, Tay 651-54 and Low Pressure Compressor Modules M01300AA and M01300AB.
German Type Certificate No.: 6327, 6328

Subject:

Undetected root cracks in low pressure compressor rotor blades.

Note:

The LBA Airworthiness Directive 1998-055 was based on the CAA Airworthiness Directive 008-10-97. At that time the British aviation authority CAA was the responsible authority for the publication of Airworthiness Directives for these engines. After transfer of the TC for the Tay engines from Rolls-Royce plc. to Rolls-Royce Deutschland Ltd. & Co. KG on 7 January 2002, the LBA has taken over the responsibility for the post certification activities in accordance with ICAO Annex 8 for these engine models.

Reason:

With the introduction of Non-Modification Service Bulletin TAY-72-1442 in 1997 and the publication of the UK CAA Airworthiness Directive 008-10-97 an ultrasonic inspection of the Low Pressure (LP) compressor rotor blades has been required for every shop visit. Non-Modification Service Bulletin TAY-72-1442 Revision 2 has been issued to extend the effectivity for inspections at shop visits to the Tay 611-8 and Tay 620-15 engines and Revision 3 has been issued to amend the effectivity date and introduce an alternative fan blade removal procedure at shop visit. Rolls-Royce informed us that they do not have evidence that the engines listed under Action 2 of this Airworthiness Directive have been through a shop or that an ultrasonic inspection has been done for another reason. Therefore it must be considered that the LP compressor rotor blades have not been inspected yet. To minimise the potential of the LP compressor rotor blades being operated with undetected root cracks this Airworthiness Directive instructs an inspection of the LP compressor rotor blades, which are installed on the engines listed under Action 2. The actions specified by this Airworthiness Directive are intended to prevent multiple low pressure compressor blade failures, which can result in an uncontained engine failure and damage to the airplane.

Action:

The following actions are required by this Airworthiness Directive:

1. Perform ultrasonic inspections on the LP compressor rotor blades as defined in Non-Modification Service Bulletin TAY-72-1442 Revision 3.
2. For the Tay 650-15 engines 17201, 17202, 17226, 17253, 17341, 17356, 17428, 17450, 17457, 17458, 17497, 17530, 17622, 17643, 17655, 17678, 17709, 17751, 17755, 17805 and 17806 perform an ultrasonic inspection on the LP compressor rotor blades as defined in Non-Modification Service Bulletin TAY-72-1591 Initial Revision. Operators who can prove that the subject inspection had already been accomplished are exempt from these requirements.

Compliance:

1. The inspection must be repeated as defined in Non-Modification Service Bulletin TAY-72-1442 Revision 3.
2. This one-off inspection must be accomplished before next flight.

If any signs of cracks are detected the complete LP compressor rotor blade set including the disk must be removed from service before further flights.

Technical publication of the manufacturer:

Rolls-Royce Service Bulletins TAY-72-1442 Revision 3, dated 26 November 2003 and TAY-72-1591 Initial Revision, dated 08 May 2003. These Service Bulletins becomes herewith part of this AD and can be obtained from:

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Service Engineering
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G E R M A N Y
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EASA-Approval

Approved by EASA under Approval-No. 1869 on 15 December 2003

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