



COMMENT RESPONSE DOCUMENT

EASA PAD No. 16-031

[Published on 29 February 2016 and officially closed for comments on 28 March 2016]

Commenter 1: American Airlines – Tim Cory – 24/03/2016

Comment # 1

- A) PAD 16-031, as written, states under REASON: “Inspection of Trent 800 engines returned from service revealed flame eroded areas and axial cracking on the rear Stage 3 disc of the High Pressure Compressor (HPC) Stage 1-4 drum. This is considered to be the result of a localized fire originating from an excessive rub at the stage 3-4 forward seal fin.”

Based on the Rolls-Royce modification SB, 72-J195, the following reason is provided for the issue of the modification:

“The rear face of the HP compressor stage 3 disc dovetail slot is susceptible to cracking. This is due to material release from the seal fins into the pocket between the dovetail slot and the front seal fin. The problem is attributed to the insufficient cold build clearance between the stage 3 disc seal fins and the inner shroud liners that leads to excessive rub between the components.”

AAL would suggest EASA would consider language that would be more aligned with the Rolls-Royce reason description.

- B) In PAD 16-031 paragraph 1.2, instructions are to “Inspect the affected HPC stage 3 circumferential dovetail slot 7A & 7B (see Note 3 of this AD) for cracking and/or evidence of flame erosion. Accomplishment of this inspection in accordance with the applicable EM, Section 17, Sub-task 72-41-31-220-193 (for loading slot focus inspection areas, see Figure 72-41-31-990-008), is an acceptable method.” However, review of this section of the EM provides no inspection criteria for flame erosion. Has there been a coordinated effort between EASA and Rolls-Royce to provide a way of identifying flame erosion and providing damage limits associated with this type of damage? AAL envisions potential difficulty in disposition should an unidentifiable condition arise as part of this inspection.

EASA response:

- A) Comment not agreed. The Reason section of the AD is established based upon EASA understanding of the issue and root cause. This has been discussed and agreed with the TC holder.**
- B) Comment noted. EASA requested a NMSB from the TC holder including damage limits to assist operators in evaluating the problem. However, the TC holder reviewed the inspection requirements of sub-task 72-41-31-220-193 and concluded that they were sufficiently robust. An NMSB was therefore not provided by the TC holder. As such, if there are any findings outside of the Engine Manual criteria (due to flame erosion or otherwise), the drum is subject to rejection.**

No changes have been made to the Final AD in response to this comment.



Commenter 2: The Boeing Company – K. R. Guiley – 31/3/2016**Comment # 2**

Boeing has reviewed the subject Notification of a Proposal to Issue an Airworthiness Directive and concurs with the content of the proposed rule. Therefore, no additional comments will be forthcoming.

EASA response:

Comment noted and appreciated. No changes have been made to the Final AD in response to this comment.

