



COMMENT RESPONSE DOCUMENT

EASA PAD No. 16-133

[Published on 15 September 2016 and officially closed for comments on 13 October 2016]

Commenter 1: Monarch Airlines – Andy Todd – 23/09/2016

Comment # 1

With reference to PAD 16-133, could I request that required actions paragraph (4) is clarified? It currently states the following:

During the next shop visit, when the HPT blades are accessible, replace each HPT blade P/N FW63853 (RR SB 72-G275 modification standard) with a serviceable HPT blade P/N KH15741 in accordance with the instructions of RR SB 72-H114.

Does this mean:

Next shop visit, or

Next shop visit that the HP module is removed from the engine, or

Next shop visit that the HP turbine disk is removed from the engine, or

Next shop visit that the HP turbine blades are removed from the disk?

EASA response:

Agreed: The intent of the AD is to mandate the replacement of HPT blades when the affected blades are removed from the HPT disc. Clarification have been added.

Commenter 2: All Nippon Airways – Rie Sota – 13/10/2016

Comment # 2

1. All past events of HPT blades have resulted in only high N3 vibration, not engine IFSD (In Flight Shutdown). ANA considers the probability of single engine IFSD led by HPT blade damage is extremely low. ANA believes the potential unsafe condition written in this PAD is “Dual Engine Shutdown”. In case of the “extremely low” probability of single engine IFSD, the “Dual Engine Shutdown” will never happen. Therefore, HPT blade damage/subsequent damage does not meet the unsafe condition.

What is the predicted rate of a single Engine IFSD led by the HPT blade damage and the predicted rate of dual Engine IFSD?



Could you show us the clear definition of potential unsafe condition?

2. The improved blades (P/N: KH15741, Post SB 72-H114) were no more supplied and the new HPT blade (P/N: KH60816, Post SB72-J249) is released. In future, later modified HPT blades will be released too. Therefore, please do not restrict just only one part number (PN: KH15741) for the replacement and/or please allow us to install later configuration.

3. The statement of “during the next shop visit, when the HPT are accessible” written in PAD is not clear. For example, when an engine comes to shop without HPT blades damage due to other removal reason, do we have to replace HPT blades in accordance with this definition? Could you clarify the exact timing when we have to replace the affected HPT blades (PN: FW63853)?

EASA response:

1: Partially agreed. It is a commanded IFSD which possibly reduces control of the aeroplane. The number of occurrences have been taken into account and triggered the decision to mandate the inspection / replacement of HPT blades.

2: Agreed. The wording of the final AD is updated revising the existing paragraph (4) – allowing a possibility to replace the HPT blade P/N FW63853 (RR SB 72-G275 modification standard) either with a serviceable HPT blade P/N KH15741 in accordance with the instructions of RR SB TRENT 1000 72-H114 or with a serviceable HPT blade P/N KH60816 in accordance with the instructions of RR TRENT 1000 SB 72-J249. Paragraph.(5) is added specifying that installation of a later approved HPT blade standard is acceptable to comply with the safety intent of the AD and specifying under which condition is acceptable the later approved HPT blade standard.

3: Agreed: Clarification have been added, see Comment #1.

Commenter 3: LATAM Airlines Group – Ricardo J. Calvo – 13/10/2016

Comment # 3

Nowadays LATAM is carrying out Quick Turn shop visit (SV) in order to replace the IPT Blades of the TRENT 1000 engines. During this SV it is necessary to remove the LPT module (module 08) and the IPT module (module 05) from the engine to be able to perform a level 2 check & repair in the module 05; once the module 05 is removed from the engine, level 1 access to the HPT Blade is obtained, more specifically, it is possible to see the HPT Blades trailing edge at this point. Based on this LATAM have the following questions:

1. Due to the level 1 access to the HPT blades mentioned above, could the HPT blades considered as “accessible” under this condition?, if Yes;

2. Will be required to replace the HPT blades during this Quick Turn SV iaw PAD required actions paragraph (4) instructions? (bellow the paragraph referred)

“(4) During the next shop visit, when the HPT blades are accessible, replace each HPT blade P/N FW63853 (RR SB 72-G275 modification standard) with a serviceable HPT blade P/N KH15741 in accordance with the instructions of RR SB 72-H114.”

EASA response:

Agreed: Clarification have been added, see Comment #1.

