



## COMMENT RESPONSE DOCUMENT

EASA PAD No. 18-117

[Published on 17 August 2018 and officially closed for comments on 14 September 2018]

**Commenter 1: Jet Airways (India) Ltd. – Debapriya Chatterjee – 21/08/2018**

### Comment # 1

Please review the following in PAD No. 18-117:

A. Definition of ECI : In the PAD it is mentioned 'Eddy current inspection (ECI) in accordance with task 72-21-01-200-001'.

Comments: We feel that subtask 72-21-01-220-091 should also be mentioned against task 72-21-01-200-001 to give more clarity and direction and make it as , 'Eddy current inspection (ECI) in accordance with Subtask 72-21-01-220-091 of task 72-21-01-200-001'.

B. Definition of Serviceable fan blade: A new line has been introduced in PAD which is confusing to understand. It says 'or an affected fan blade which failed an inspection in accordance with the instructions of the S/B, or of CFM56-7B S/B 72-1019, or of CFM56-7B S/B 72-1024, but passed (no defects found) an in-shop ECI.'

Comments: Does it mean to say failed an inspection on-wing and passed ECI in shop? Please Clarify.

Comments: Also, the word 'an' is confusing. It should be deleted.

C. Credit: Since it is mentioned in para 5 'Inspections and corrective actions on an engine, accomplished before the effective date of this AD ' does that mean that in case of a situation , where we receive an engine after effective date and find that S/B 72-1019, or S/B 72-1024 has been accomplished instead of S/B 72-1033 Revision 2 , do we consider the engine in compliant to the AD requirement?

D. In Reference Publications:

Comments: Task 72-21-01-200-001 should also be included.

### EASA response:

**A. Comment not agreed: the format used by CFM in the associated SBs are followed, retaining the task reference only.**

**B. The understanding is correct. EASA consider a simplification however would lead to loss of necessary detail.**

**C. The understanding is correct.**

**D. Comment agreed: CFM International ESM rev 54 will be added to the list of Ref. Publications.**

**No changes have been made to the Final AD in response to comments 1.A, 1.B and 1.C**



**Commenter 2: Ryanair DAC – John Linnane – 11/09/2018****Comment # 2**

Paragraph 2 of PAD 18-117 states:

“For an effected Fan blade that, on the effective date of this AD, has already exceeded 1 600 FC since the initial inspection as required by Paragraph 1 of this AD, the next inspection can be deferred until 2 months after the effective date of this AD, but not exceeding 3 000 FC since last inspection of that blade.”

Ryanair is concerned that fan blades with a life close to, but have not exceeded, the 1 600 FC on the effective date of the AD would require immediate inspections per the above clause. For example, if a blade had accumulated 1 590 FC since last inspection as of the effective date of the AD, the operator would have to inspect that blade within 10 FC of the effective date to be compliant with the AD.

Ryanair proposes paragraph 2 is amended as follows:

(2) For an affected fan blade that, (a) on the effective date of this AD, has already exceeded 1 600 FC since the initial inspection or (b) will exceed 1 600 FC within 2 months of the effective date of this AD, as required by paragraph (1) of this AD, the next inspection can be deferred until 2 months after the effective date of this AD, but not exceeding 3 000 FC since last inspection of that blade.

**EASA response:**

**Comment agreed, Final AD has been updated accordingly.**

**Commenter 3: KLM Royal Dutch Airlines – Ber Overkamp – 13/09/2018****Comment # 3**

Thank you for allowing us to provide you with our input regarding the subject PAD 18-117, which reduces the present interval from 3200 FC to 1600 FC for the repetitive inspection on the Fan Blades.

KLM agrees with your concern to maintain a safe operation. It is however not understood why the established interval now needs to be reduced again to half its cycle limit.

This new interval of 1600 FC is a large burden for the operators as it does not coincide with any aircraft layover of appreciable length in downtime. It does not even coincide with a yearly interval in our present schedules.

We therefore urge you to reconsider this new imposed interval and ask you to consider an interval of at least 2100 FC.



This , to be able to schedule the inspection in standard base maintenance checks, instead of being forced to perform it during extended night stops or at an unreasonable low interval in A-checks.

**EASA response:**

**Comment not agreed: The reduced inspection interval is unfortunate for operators but it is adjudged by the Authority to be necessary following further evidence of fan blade cracking found in-service. No changes have been made to the Final AD in response to this comment.**

**Commenter 4: Japan Airlines – Shunsuke Yamaguchi – 14/09/2018**

**Comment # 4**

We would like to know, regarding the disposition of the fan blades, which have operated just before 1,600 flight cycle since initial inspection. For example, in the case that the fan blades have operated 1,590 flight cycle since initial inspection on the effective date of this AD, must the first repeat inspection of the fan blades be performed within 10 flight cycle after the effective date of the AD? We consider that the fan blades in this case must be performed the first repeat inspection until November 30th, 2018 or 3,000 flight cycles since initial inspection whichever comes first. Please provide us with EASA's comments regarding the disposition of the fan blades which have operated just before 1,600 flight cycle since initial inspection.

**EASA response:**

**See answer to comment 2.**

**Commenter 5: All Nippon Airways – Takehiro Oga – 14/09/2018**

**Comment # 5**

A. The paragraph "Definitions".

The PAD mentions that one of serviceable fan blade is the blade which, within the last 1,600 FC before installation, passed an on-wing inspection in accordance with the instruction of "the S/B", or ....

However "the S/B" represents S/B 72-1033 Revision 2 only in the paragraph, "Definitions:" .

There must be many operators which had already performed USI according to the S/B Original or Revision 1.

AD issuance will make these fan blades unserviceable.



I believe "the S/B" should be "Revision 1 and later".

B. The paragraph "Inspection".

"Only" an affected fan blade that, on the effective date of the AD, had already exceeded 1,600 FC since the initial inspection is allowed to defer the next inspection until 2 months after the effective date of the AD.

On the other hand, the blade that is about to exceed (not yet) 1,600 FC on the effective date of the AD has to be inspected even if these blades are almost the same FC.

I believe the first inspection after the effective date of the AD should be "by 1,600 FC or 2 month after the effective date of the AD whichever comes later" considering the grace period.

***EASA response:***

***A. The AD paragraph (5) addresses this (previous inspections to earlier SB's are generally acceptable).***

***B. See answer to comment 2.***

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

***Commenter 6: Somon Air – Shukhrat Aslamshoev – 18/09/2018***

***Comment # 6***

A. Is PAD mandatory and must be performed with other EASA and FAA ADs or it becomes mandatory after publication of the final rule?

B. As the PAD 18-117 supersedes EASA AD 2018-0109 – should we keep the status for all three AD 2018-0109, PAD 18-117 and Final AD on PAD18-117?

***EASA response:***

***A. It becomes mandatory after publication of the final rule.***

***B. When PAD 18-117 it issued as a final AD it will be no longer required to record compliance to AD2018-0109.***

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

***Commenter 7: Azur Aviation – Oğuzhan BOSTAN – 26/09/2018***



**Comment # 7**

A. Clarification on the “Serviceable fan blade” definition of PAD 18-117 is kindly requested.

According to current “Serviceable fan blade” definition, there are five ways to identify a fan blade as serviceable which are as follows,

1. A fan blade that is not an affected fan blade; OR,
2. an affected fan blade which is new; OR,
3. an affected fan blade which has accumulated less than 20 000 flight cycles (FC) since new (first installation on an engine); OR,
4. an affected fan blade which, within the last 1 600 FC before installation, passed an on-wing inspection (no defects found) in accordance with the instructions of the S/B, or of CFM56-7B S/B 72-1019, or of CFM56-7B S/B 72-1024, or an in-shop ECI; OR,
5. an affected fan blade which failed an inspection in accordance with the instructions of the S/B, or of CFM56-7B S/B 72-1019, or of CFM56-7B S/B 72-1024, but passed (no defects found) an in-shop ECI.

Fourth and fifth definitions may lead confusion as follows,

**Fourth Definition**

The S/B is defined as “CFM International CFM56-7B Service Bulletin (S/B) 72-1033 Revision 2” in the PAD specifically. If we use this definition, we can see such a sentence for defining serviceable blade,

“An affected fan blade which, within the last 1 600 FC before installation, passed an on-wing inspection (no defects found) in accordance with the instructions of the **CFM International CFM56-7B Service Bulletin (S/B) 72-1033 Revision 2**, or of CFM56-7B S/B 72-1019, or of CFM56-7B S/B 72-1024, or an in-shop ECI”

At this point, original issue and/or revision 1 of CFM56-7B Service Bulletin (S/B) 72-1033 may seem unacceptable for following this way to define the affected fan blade as a serviceable fan blade.

**Fifth Definition**

On this definition, there is no cycle restriction. I can reach the below judgement with current definition,

“An affected fan blade which failed an inspection in accordance with the instructions of the S/B, or of CFM56-7B S/B 72-1019, or of CFM56-7B S/B 72-1024, but passed (no defects found) an in-shop ECI **is a serviceable fan blade.**”

With such definition, it is allowed to define an affected fan blade which failed the inspection iaw S/B 72-1019 and passed an in-shop ECI, and then it has accumulated 2,000 FC since the ECI.

However it should not be correct, it also has conflict with the fourth definition. Correct definition must be as follows,



“An affected fan blade which failed an inspection in accordance with the instructions of the S/B, or of CFM56-7B S/B 72-1019, or of CFM56-7B S/B 72-1024, but passed (no defects found) an in-shop ECI, **within the last 1 600 FC before installation**, is a serviceable fan blade.”

Please consider adding “**within the last 1 600 FC before installation**” wording to fifth definition.

B. Additionally same problem with the definition of **the S/B**, refers only revision 2, is also may lead the confusion on the fifth definition of serviceable fan blades.

C. Lastly, there may be a typo error on the Note 1 of the PAD. “Installation” is specified in paragraph **(6)** of this AD, not in paragraph (5).

***EASA response:***

***A. Comment agreed, Final AD has been updated accordingly***

***B. Comment agreed, Final AD has been updated accordingly***

***C. Comment agreed, Final AD has been updated accordingly***

