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| EASA | COMMENT RESPONSE DOCUMENT |
|  | <p>EASA PAD No. 14-148</p> <p>[Published on 13 October 2014 and officially closed for comments on 10 November 2014]</p> |

Commenter 1: Singapore Air – Eugene Chan – 14/10/2104

Comment # 1

We have an enquiry with regard to PAD 14-148. In the PAD, Para (1) requires Operators/MROs to inspect the engine fan cowl door hinge to determine the s/n and if the s/n is found to be between 10029001 and 11092003 (inclusive), accomplish a SDI in accordance with Airbus SB A320-71-1062.

- (1) Within 24 months after the effective date of this AD, inspect the engine fan cowl door hinge to determine the serial number (s/n) in accordance with the instructions of Airbus Service Bulletin (SB) A320-71-1062.

A review of the aeroplane records is acceptable in lieu of the required inspection, provided those records are reliable and the s/n of the engine fan cowl door hinge can be positively determined from that review.

- (2) For an aeroplane with a fan cowl door hinge, identified as required by paragraph (1) of this AD, having a s/n between 10029001 and 11092003 (inclusive), within 24 months after the effective date of this AD, accomplish a special detailed inspection (SDI) of the engine fan cowl door hinge nuts in accordance with the instructions of Airbus SB A320-71-1062

However, in Goodrich SB RA32071-151, which was referenced in Airbus SB A320-71-1062, the effectivity covers "All Fan Cowl S/N between 10029001 to 11092003", instead of the fan cowl door hinge.

NACELLE - FAN COWL - DOOR HINGE LOCK NUT INSPECTION AND REPLACEMENT

1. PLANNING INFORMATION

A. Effectivity

- (1) Airplane: A319/A320/A321
- (2) Engine: CFM56-5A/5B
- (3) All Fan Cowl S/N's 10029001 - 11092003.

Therefore, we would like to verify if the effectivity of the PAD in Para (1) & (2) should be limited to the S/N of the engine fan cowl instead of the engine fan cowl door hinge.

EASA response:

Comment accepted. The Final AD has been amended to refer to the (s/n of the) fan cowls (doors), rather than the hinges.

Commenter 2: Virgin America – Krista Dial – 14/10/2014

Comment # 2

Below, please find our comments on the proposed AD.

1. The PAD refers to a fan cowl door hinge S/N range but the Goodrich SB RA32071-151 refers to a fan cowl S/N range. Please update the PAD to correct the language from "fan cowl door hinge" to "fan cowl".
2. A revision to the Goodrich SB RA32071-151 is in work but SB A320-71-1062 does not refer to a revision level of the Goodrich SB. To avoid the necessity for AMOCs to use specific later revisions of the RA32071-151 SB, please add a statement to the AD to allow such future revisions or ensure that the Airbus SB is updated to refer to a specific Goodrich SB revision. The current revision of the Goodrich SB RA32071-151 has a disconnect between the 'Materials Necessary to Implement SB' paragraph and the Accomplishment Instructions paragraph 3 in that they are different. The revision to Goodrich SB RA32071-151 will correct this.
3. The Airbus SB A320-71-1062 Figure A-FSAAA - Sheet 01 view C shows 6 nuts outlined as the areas to be inspected. The Goodrich SB RA32071-151 Figure 1 shows a possibility of 8 locations (6 locations + 2 locations) that could be inspected. Please make it clear in the AD which nuts need inspecting.
4. The Goodrich SB RA32071-151 has requirements for retaining removed discrepant nuts for 6 months. Is this retention part of the AD?
5. The Goodrich SB RA32071-151 has requirements for filling out the Data Collection Sheet. Is this retention part of the AD?

EASA response:

Point 1. Accepted. See answer to Comment #1 above.

Point 2. Accepted. The Final AD has been amended accordingly.

Point 3. Eight (8) locations have to be inspected. Airbus SB A320-71-1062 is expected to be revised accordingly.

Point 4. That action is part of the SB instructions, but the AD does not require any 'off aircraft' action. The purpose of the AD is to restore the aeroplane to a safe condition – to inspect, remove and replace the affected parts. Goodrich and Airbus may modify these instructions as a commercial issue in a next SB revision.

Point 5. See answer to point 4.

No changes have been made to the Final AD in response to points 3, 4 and 5 of this comment.

Commenter 3: Brussels Airlines – Youssef Aamara – 14/10/2014

Comment # 3

After review of PAD 14-148 ,we found that there is a minor mistake in the wording of this Para.1 : inspect the engine fan cowl door hinge to determine the serial number (s/n) in accordance with the instructions of Airbus Service Bulletin (SB) A320-71-1062.

- A. We assume that the engine fan cowl (S/N) that needs to be inspected & not the hinge. Can you please advise if our assumption is correct or not?
- B. With ref to VSB RA32071-151 reporting sheet in attachment, we think that there is a mistake on the part description ,it should be LEFT FAN COWL / RIGHT FAN COWL i.s.o LEFT THRUST REVERSER/RIGHT THRUST REVERSER.

EASA response:

Point A. Accepted. See answer to Comment #1 above.

Point B. This comment concerns the Goodrich (V)SB, not the EASA PAD. It should therefore be addressed to Goodrich and/or Airbus. No changes have been made to the Final AD in response to this comment.

Commenter 4: Air Malta – Kevin Sammut – 15/10/2014*Comment # 4*

References:

Ref. /1/: PAD 14-148

Ref. /2/: Airbus SB A320-71-1062

Ref. /3/: Goodrich SB RA32071-151

Background: Air Malta has reviewed Ref. /1/ and would like to note the following:

- (1) In paragraph (1) of Ref. /1/ it is being instructed to inspect and determine the engine fan cowl door hinge serial number (s/n) in accordance with the instructions of Ref. /2/. AMC would like to note that neither Ref. /2/ and nor Ref. /3/ provide any instructions to perform a S/N check / inspection. So paragraph (1) of Ref. /1/ seems to be unclear / incorrect.
- (2) In Ref. /1/ Paragraphs (1) & (2) reference is being made to the engine fan cowl door hinge the serial number (S/N). Ref. /1/ is also quoting the S/N 10029001 - 11092003 as being the S/Ns of the engine fan cowl door hinge. However when one refers to Ref. /3/, Section 1.A (EFFECTIVITY) these same S/Ns are for the Fan Cowls and not for the hinges. Air Malta is of the understanding that the S/Ns being quoted are of the Fan Cowl and therefore Ref. /1/ should make reference to the fan cowl S/Ns and not to the fan cowl door hinge S/N.
- (3) In addition to the above the PAD does not seem to address anything about spares. One of the repairs (Repair 4) in the Goodrich CMM 71-13-27, it still allows the use of the older nuts (P/N MS21042L4) that are being addressed in Ref. /1/, Ref. /2/ and Ref. /3/. So it is not clear if:
 - The defective nut batches were all used up at production by Goodrich and therefore only particular Fan Cowl are affected. This seems to be in line with Ref. /3/.
 - If any of these defective nuts were released into the market as spares and therefore would have been available for MROs and operators for procurement. In this case Ref. /1/ does not seem to be addressing this issue.

Queries:

- (a) Can it be confirmed that the wording in Ref. /1/ will be corrected to reflect that the S/N to be inspected is that of the Fan Cowl and not that of the fan cowl door hinge? Also in view that neither Ref. /2/ or Ref. /3/ actually call up an inspection of the S/N, is EASA coordinating with the OEMs to have these SBs revised to include this S/N inspection?
- (b) Can it please be confirmed that the S/Ns being quoted in Ref. /1/ Paragraph (2) are those of the Fan Cowl and not of the fan cowl door hinge?
- (c) Can EASA please clarify as to whether any of the defect nut (P/N MS21042L4) batches were release on the market as spares or if these were all used by the OEM during production?
- (d) If EASA confirms that defective nuts could have been procured by MROs and operators as spares, could EASA please confirm that this issue will be also addressed in the AD? NOTE: In this case Air Malta is of the understanding that the affected batch numbers would have to be quoted in the AD so that one would be able to refrains from procuring and installing these nuts in the future.

Thank you for your support.

EASA response:

Q.(a) – Accepted. See answer to Comment #1 above. Goodrich SB RA32071-151 already lists (under ‘EFFECTIVITY’) the affected Fan Cowl (door) s/n (group), which are the same as those mentioned in the PAD.

Q.(b) – Accepted. See answer to Comment #1 above.

Q.(c) – It is confirmed that defective nuts have only been used in OEM production.

Q.(d) – See answer to Q.(c) above.

No changes have been made to the Final AD in response to questions (c) and (d) of this comment.

Commenter 5: SAUDIA MRO – Mohammed S. Basaif – 20/10/2014

Comment # 5

When reviewing the PAD No.: 14-148, it observed that UTAS Service Bulletin No.RA32071-151 is not included in the Ref. Publications.
Is there any objection to include UTAS Service Bulletin No.RA32071-151?

EASA response:

Comment accepted. The Final AD has been amended accordingly.

Commenter 6: Zhejiang Loong Airlines Co., Ltd. – 冯晓 (Xiao Feng) – 22/10/2014

Comment # 6

During evaluation of PAD No. 14-148 ref/A/, we have one request as follow:

1. Refer to the Applicability of PAD No. 14-148 ref/A/, the effectivity are including Airbus A318-111, A318-112, A319-111, A319-112, A319-113, A319-114, A319-115, A320-211, A320-212, A320-214, A320-215, A320-216, A321-111, A321-112, A321-211, A321-212 and A321-213 aeroplanes, all manufacturer serial numbers.

Required actions in accordance with the instruction of SBA320-71-1062 ref/B/.

2. Refer to SR SEMBN-2014-1086170 ref/D/, AIRBUS recommend the Operator to identify from their files which Single Aisle Aircraft fitted with CFM56-5A / -5B engines have the Fan Cowl Doors from S/N's 10029001 up to 11092003 installed, and to perform the inspection as per SB RA32071-151 ref/C/ instructions.
3. Refer to the Para 1.A.(3) of SB RA32071-151 ref/C/, the effectivity is for "All CFM56-5A/5B Fan Cowl S/N's between 10029001 and 11092003".

Because Goodrich has received reports of cracked cadmium plated lock nuts. The cracking occurs shortly after installation. The cause has been attributed to improper manufacturing procedure. In order to avoiding various meanings, we request to define the applicability of PAD No. 14-148 ref/A/ on Fan Cowl S/N refer to SB RA32071-151 ref/C/ but not on aeroplanes .

Request:

1. Please kindly review and advise the request is correct or not.
2. If 1 is not, please advise.

EASA response:

Comment partially accepted. As the affected engines, on which the affected fan cowl doors (s/n batch as identified in Goodrich SB) are installed, can be moved from one aircraft to another, the AD must apply to 'all' aircraft. Only aircraft on which – to be determined by inspection or other method – an affected engine (fan cowl door) is installed need further (corrective) action(s). Latest information from Airbus indicates that only fan cowl doors on CFM56-5B engines are affected. Goodrich and Airbus SBs are expected to be revised accordingly at the next scheduled revision.

The Final AD has been amended to remove certain aircraft Models, on which a CFM56-5B engine cannot be installed, from the Applicability.

Commenter 7: UTC (UTAS Aerostructures) – Sergio Rodriguez – 29/10/2014

Comment # 7

UTAS Aerostructures provides the Fan Cowl Assy for the subject Power Plant. We have reviewed PAD No. 14-148 and have some comments (reproduced below).

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| Airbus A318-111, A318-112, A319-111, A319-112, A319-113, A319-114, A319-115, A320-211, A320-212, A320-214, A320-215, A320-216, A321-111, A321-112, A321-211, A321-212 and A321-213 | to attach hinges to the door | |
| <p>In-service findings have been reported of cracked cadmium plated lock nuts. This cracking occurs shortly after installation. Investigation results attribute the cause to an improper manufacturing procedure of the nuts. It was determined that the affected batch of lock nuts was used on the fan cowl door hinges on CFM56-5A and -5B engines only.</p> <p>This condition, if not corrected, could lead to failure of the fan cowl door hinge, possibly resulting in in-flight loss of a fan cowl door, with consequent damage to the aeroplane and/or injury to persons on the ground.</p> <p>For the reasons described above, this AD requires a one-time inspection of the fan cowl door hinge nuts and, depending on findings, replacement of the affected nuts.</p> | <p>separation of the hinge from the fan cowl door,</p> | <p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 24 months after the effective date of this AD, inspect the engine fan cowl door hinge to determine the serial number (s/n) in accordance with the instructions of Airbus Service Bulletin (SB) A320-71-1062.</p> <p>A review of the aeroplane records is acceptable in lieu of the required inspection, provided those records are reliable and the s/n of the engine fan cowl door hinge can be positively determined from that review.</p> <p>(2) For an aeroplane with a fan cowl door hinge identified as required by paragraph (1) of this AD, having a s/n between 10029001 and 11092003 (inclusive), within 24 months after the effective date of this AD, accomplish a special detailed inspection (SDI) of the engine fan cowl door hinge nuts in accordance with the instructions of Airbus SB A320-71-1062</p> |
| [TBD: 14 days after final AD issue date] | | |

EASA response:
Comments accepted. See also answer to Comment #1 above.

Commenter 8: Brussels Airlines – Youssef Aamara– 25/11/2014

Comment # 8

After the review of PAD 14-148 R000, we have the following question for you :

Can you please advise what are the requirements for the spare or new ordered parts after the effective date, in case if they are affected by this AD?

In my opinion, it is necessary to add a paragraph to take in consideration any parts ordered after the effective date of the AD, and to add the requirements that they have to be inspected in accordance with the AD before installation on aircraft if affected.

EASA response:

Comment not accepted. No spare nuts have been provided to operators. See also answer to Comment #4 Q.(c) above. The nuts from the defective batch have been identified and removed from production line. Only in-service fan cowl doors with S/N mentioned in the PAD and in the Goodrich SB are potentially affected. It is confirmed that no new ordered parts are affected.

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