


EASA	COMMENT RESPONSE DOCUMENT
	EASA PAD No. 10-087 [Published on 30 September 2010 and officially closed for comments on 31 October 2010]

Commenter 1 : Korean Air – Kim Seon Ho – 1/10/2010
Comment # 1

We already implement one thrust reverser by the SB 737-78-1079 R1. FAA NPRM says the reverser modified and inspected by SB 737-78-1079 R0 & R1 are acceptable for the compliance. So we want to add some comments on previously incorporated reverser.

EASA response:

Comment not agreed. EASA does not consider the original issue and Rev 1 as acceptable equivalents to the current Rev 2 of SB 737-78-1079. Since release of PAD 10-087, EASA has become aware that Rev 2 contains errors and will be replaced by Rev 3, which will not be available until early 2011. Based on this information, EASA no longer considers SB 737-78-1079 Rev.2 as an acceptable alternative to the required actions.

Consequently, this alternative [was: paragraph (3) of PAD 10-087] has been deleted from the Final AD for this subject, pending availability of SB 737-78-1079 Rev 3. The Final AD may be revised to include that SB as an acceptable alternative action to the requirements of the AD.

The required actions remain those described in SB 737-78-1082 and SB 737-78-1088. Operators can apply for approval of an EASA AMOC to gain credit for work previously done under SB 737-78-1079.

Commenter 2: Spirit AeroSystems (Europe) Ltd. – Stuart McPhaetor – 5/10/2010
Comment # 2

In reference to PAD No.: 10-087 there would appear to be a minor discrepancy between paragraphs (1) & (2) as noted below, could some clarification be given on this?

Under the heading "Required Action and Compliance Times" paragraph (1) refers to accomplishing inspection IAW Boeing SB737-78-1082, this Service Bulletin only states **"This service bulletin gives instructions to add a cooling hole and bushing in the inner wall"**, whereas SB 737-78-1088 quoted in paragraph (2) as "accomplish the actions as specified in Boeing SB 737-78-1088, actually states **"This service bulletin gives instructions for an inspection of the inner walls of the thrust reverser halves and the number 2 and 3 upper compression pads for signs of heat damage."**

EASA response:

Comment agreed. Paragraph (1) included an incorrect representation of the required action(s) and the Final AD has been amended accordingly.

Commenter 3: Easyjet Airline Company Ltd. – Graham Pearce – 12/10/2010**Comment # 3**

Can you please clarify the paragraph “Required Action(s) and Compliance times:”

“(1) within 18 months accomplish the inspections and, depending on findings, associated corrective actions in accordance with .. Boeing SB 737-78-1082”

However, SB 737-78-1082 seems to just be a modification, not an inspection

Should this say - “the inspections and, depending on findings, associated corrective actions in accordance with .. Boeing SB 737-78-1088” - instead of -1082, or “...the inspections IAW Boeing SB 737-78-1088 and, depending on findings associated corrective actions in accordance with .. Boeing SB 737-78-1082” – because 737-78-1088 is an inspection and repair of any damage found, and 1082 is an improvement modification.

I also wonder if Required Action(s) and Compliance times item (2) should say “within the compliance time specified in Table 1,.....accomplish the actions required in Boeing SB 78-1082” - instead of 1088 - for the same reasons.

EASA response:

Comments agreed; suggested changes not agreed. See also comment #2 above. Paragraph (1) included an incorrect representation of the action(s) specified in SB 737-78-1082 and the Final AD has been amended accordingly.

Commenter 4: Scandinavian Airline System – Joakim Söderblom – 27/10/2010**Comment # 4**

The FAA NRPM compliance time is 24 months from “effective” date for accomplishment of SB 737-78-1082.

SAS Proposal: Subject EASA PAD compliance time is 18 months from effective date for accomplishment of SB 737-78-1082 ([para 1](#)) or SB 737-78-1079 rev.2 ([para3](#)) should be changed to 24 months in order to correlate with FAA NPRM.

EASA response:

Comment/proposal not agreed. If EASA had agreed with the NPRM compliance time(s), there would be no need for a deviating EASA action; the FAA Final Rule AD would then be adopted instead, per the provisions of [ED Decision 02/2003](#). The reason for the EASA (Proposed) AD is the fact that EASA is of the opinion that this safety problem must be resolved sooner rather than later. In addition, it should be considered that the related service bulletins have been published by Boeing in March (737-78-1082) and May (737-78-1088) of 2010, which, on the expected effective date of the EASA Final AD, will be some 6-8 months in the past. Both SBs include a clear signal statement that “The Federal Aviation Administration (FAA) will possibly release an Airworthiness Directive related to this service bulletin”. Finally, it should be noted that the FAA Final Rule AD (which is not yet published) may not actually become effective for some months, which will cause another shift of compliance time. Taking all these facts into consideration, EASA has decided there is insufficient reason to adopt the FAA Final Rule AD, which would even extend the compliance time(s) by more than 6 months, as the effective date is not yet known.

No changes will be made to the Final AD in response to this comment.

Commenter 5: KLM Royal Dutch Airlines – Erwin Groot – 27/10/2010**Comment # 5****References:**

/A/ EASA PAD No.: 10-087

/B/ FAA NPRM 2010-NM-183-AD

/C/ Boeing SB 737-78-1082

/D/ Boeing SB 737-78-1088

KLM received the ref /A/ EASA PAD for inspection/repair and modification of the thrust reverser inner walls on B737NG A/C. KLM agrees with the intent of the EASA PAD and FAA NPRM however we do have some comments on the proposed compliance period of the ref /C/ SB in the EASA PAD.

Where the ref /B/ NPRM allows operators to comply with the ref /C/ within 24 months, the ref /A/ EASA PAD proposes to use a compliance time of 18 months.

The KLM maintenance C-check interval of the B737NG A/C equals to 24 months. The accomplishment of the ref /C/ SB requires all 4 T/R's to be removed from the A/C. The lead time of the modification per ref /C/ SB is 24 hours, which is equal to the downtime of a scheduled A-check. Removal/installation of the thrust reversers in combination with the lead time of the modification requires more downtime than available during a scheduled A-check.

In order to prevent additional unscheduled downtime during A-checks for A/C that do not have a C-check scheduled within the 18 months compliance period, we kindly request the EASA to reconsider the accomplishment date in the final rulemaking.

Revising the compliance date of the ref /C/ SB to 24 months, which is equivalent to the compliance time which the FAA proposes in the ref /B/ NPRM, from effective date would allow us to modify all KLM B737NG T/R's during our current C-check schedule.

EASA response:

Comment not agreed. See answers to comment #4 above. No changes will be made to the Final AD in response to this comment.

Commenter 6: CAA of The Netherlands – Dirk-Jan de Lange – 28/10/2010**Comment # 6**

I suppose the -700C should be added: it is basically the same AC as the -700.

EASA response:

Comment not agreed. The 737-700C is not validated in Europe. Consequently, if a validation application is made to EASA for that Model, the requirements of this AD will be added to the certification basis, when that is established. After validation, the Model 737-700C would be added to TCDS EASA.IM.A.120 and any aeroplanes of that Model to be registered in Europe after that, including second-hand, would have to meet the established certification standard, prior to issuance of a C-of-A.

No changes will be made to the Final AD in response to this comment.

Commenter 7: The Boeing Company – G.K. Dial – 28/10/2010**Comment # 7** [Boeing Comment 1]

Extract from Letter Ref. B-H210-10-00675 to Mr. Robert Breneman of the FAA containing Boeing Comments to EASA PAD #10-087:

Reason: “This condition, if not detected and corrected, leads to deterioration of the structural integrity of the thrust reverser, possibly causing failure of the TR or loss of components, which could result in damage to the aeroplane and injury to occupants and/or persons on the ground”.

Boeing would like to reiterate that it does not consider [] thermal overheat on 737NG thrust reverser inner walls to be a safety issue. Although deterioration of the structural integrity of the inner wall may occur due to pre-cooler air ingress behind the blankets, the Boeing Safety Review Board has determined that this does not constitute a safety hazard to either the airplane or to persons on the ground. Support data for this determination includes a Safety Assessment, a Full Scale Test demonstration, and a Structural Analysis.

Although Boeing has determined that the thermal overheat is neither an airplane, [nor a] personal safety issue, Boeing still offers its full support in the implementation of both the FAA's and EASA's planned regulatory actions.

EASA response:

Comment not agreed. EASA considers thermal overheat of the affected P/N thrust reversers on 737NG aeroplanes to constitute an unsafe condition.

No changes will be made to the Final AD in response to this comment.

Commenter 8: The Boeing Company – G.K. Dial – 28/10/2010**Comment # 8** [Boeing Comment 2]

Extract from Letter Ref. B-H210-10-00675 to Mr. Robert Breneman of the FAA containing Boeing Comments to EASA PAD #10-087:

Required Action (1): “Within 18 months after the effective date of this AD, accomplish the inspections and, depending on findings, associated corrective actions in accordance with the instructions of Boeing SB 737-78-1082”.

Operators have been developing their fleet implementation plans for SB 737-78-1082 on the understanding that the compliance period would be 24 months, following issuance of an AD. Those operators have been looking to the Federal Register and to Boeing for indication of when the AD will [be issued]. Based on that information, they will be ready to proceed. In the meantime, operators have been accomplishing SB 737-78-1079 on as many aircraft as possible in order to minimize the number of aircraft that must be touched twice. Boeing believes that it will be a burden on operators to shorten the compliance time from the previously agreed-upon period of 24 months to the current proposal of 18 months.

Additionally, Boeing procures parts based on forecast need and we currently only have sufficient parts to support the level of demand that exists in the absence of an AD. Like operators, Boeing also keys off the Federal Register to ensure that sufficient, but not excessive, parts are on hand. Boeing has planned the larger parts purchase to meet the projected demand of a 24 months implementation, and was expecting to place the order for those parts once the directive is closer to issuance. A shortened compliance period of 18 months could be hampered by parts availability issues.

For the reasons stated above, Boeing requests that the compliance period for SB 737-78-1082 be 24 months.

EASA response:

Comment not agreed; See answers to comment #4 above. No changes will be made to the Final AD in response to this comment.

Commenter 9: The Boeing Company – G.K. Dial – 28/10/2010
Comment # 9 [Boeing Comment 3]

Extract from Letter Ref. B-H210-10-00675 to Mr. Robert Breneman of the FAA containing Boeing Comments to EASA PAD #10-087:

Required Action (4): “After modification of an aeroplane as required by paragraphs (1) and (2) of this AD, or in accordance with the alternative method as specified in paragraph (3) of this AD, as applicable, do not install a TR with a P/N 315A2295-202 or less on that aeroplane, unless it modified in accordance with the requirements and within the applicable compliance time as specified by P/N in Table 1 of this AD”.

Currently, there is no language in SB 737-78-1079, -1082, or -1088 that references completion of the modifications on a by-airplane basis. Instead, all required work is performed against thrust reverser part number. Boeing believes that it would be a burden on [] operators [under EASA responsibility] to have the additional requirement of tracking modification incorporations by airplane, as well as by thrust reverser part number.

Further, the Required Action could potentially be interpreted in a way that would restrict the interchangeability of thrust reversers between airplanes. As written, an operator might believe that once all the thrust reversers on a given airplane have been modified per SB 737-78-1079 or -1088, an unmodified thrust reverser cannot be installed on that airplane. This would be a burden to operators and could result in AOGs.

For the reasons stated above, Boeing recommends that the implementation of the directive be levied against thrust reverser part number, and that all the references to specific airplanes be removed from the directive.

EASA response:

Comment partially agreed. Boeing makes reference to a text that was in an earlier (unpublished) draft of the Proposed AD. The current text of paragraph (4) clearly allows operators (within the specified compliance time) to install unmodified thrust reversers, thereby avoiding unnecessary AOGs.

The comment on aeroplane vs. thrust reverser P/N is not agreed. The intent of this requirement is to prohibit (intentional or inadvertent) de-modification of an aeroplane by installation of a P/N thrust reverser for which the compliance time has already expired.

No changes will be made to the Final AD in response to this comment.

Commenter 10: The Boeing Company – G.K. Dial – 28/10/2010
Comment # 10 [Boeing Comment 4]

Extract from Letter Ref. B-H210-10-00675 to Mr. Robert Breneman of the FAA containing Boeing Comments to EASA PAD #10-087:

Applicability: “Model 737-600, 737-700, 737-800, 737-900 and 737-900ER series aeroplanes”.

The 737-900 ER model is not affected by the thermal overheat issue. Configuration control prevents intermix of affected thrust reversers into -900 ER airplanes. This model should not be included in the AD.

EASA response:

Comment agreed. The Model 737-900ER will be removed from the Final AD.

Commenter 11: Malév Hungarian Airlines – Gyorgy Ujlaki – 18/11/2010**Comment # 11**

Please consider to have the same compliance time in PAD 10-087 for SB 737-78-1082 – i.e. 24 months – as proposed by Boeing in [the] SB and by FAA in a proposed AD (NPRM 2010-NM-183-AD).

Reason: The 24 months compliance time in most cases matches the usual C check calendar time interval, i.e. 24 months.

EASA response:

Comment not agreed. See answers to comment #4 above. No changes will be made to the Final AD in response to this comment.