

COMMENT RESPONSE DOCUMENT

EASA PAD No. 20-132

[Published on 04 September 2020 and officially closed for comments on 02 October 2020]

Commenter 1: S7 Airlines – Andrey Zandberg – 08/09/2020

Comment # 1

PAD applicability is restricted only to A320 CEO and do not include NEO. However the MOD 34804 was embodied on NEO+CEO.

Does this mean that this modification is sufficient and no additional inspection is required for NEO fleet?

Please, clarify.

EASA response:

The need for inspection of NEO models is currently under review. No changes have been made to the Final AD in response to this comment

Commenter 2: Virgin Australia Airlines – Raj Nunkoo – 08/09/2020

Comment # 2

As per Paragraph 1 E. (2) of Airbus SB A320-25-1BKJ Rev.02:

Table 1 on Page 58 (which is Config. 001 on the SB – equivalent to Group 1 on the PAD), mentions a threshold of 19500 FC with a Grace Period of 500 FC.

Similarly Table 4 on Page 75 (which is Config. 004 on the SB – equivalent to Group 4 on the PAD), mentions a threshold of 19500 FC with a Grace Period of 500 FC.

Can EASA please confirm if the final AD will mention provisions for those grace periods?

EASA response:



Comment agreed, Final AD has been amended accordingly.

Commenter 3: Bangkok Air – Paklaramon Laohasawad – 17/09/2020

Comment # 3

According to PAD 20-0132; ATA 25 – Equipment / Furnishing – 80VU Rack Attachments – Inspection / Repair, we would like to express our comment about the reporting section paragraph 3.

For the requirement of the reporting section, this PAD requires operators to report every inspection result (including no finding) to Airbus. This can cause the operators much more burden due to the repetitive inspection interval of this PAD is 500 FC or 1000 FC. For instance, Bangkok Airways(BKP) has 25 aircrafts in the Airbus fleet. Then, BKP has to report the inspection results of 25 aircrafts to Airbus in every 500 FC or 1000 FC.

Is it necessary for the operators to comply with this requirement? How about report back to Airbus when the operators perform the inspection and found damage? Please re-consider this section requirement.

EASA response:

Comment partially agreed. The final AD has been amended, requiring reporting in case of no findings only for the initial inspection. Reporting is always required in case of findings.

Commenter 4: Air Canada – Jack Szeto – 17/09/2020

Comment # 4

Item 1 – It is noted that PAD 20-132 Compliance Interval for Group 1 and Group 2 aircraft differs from existing inspection interval of SBA320-25-1BKJ Rev 2 CONFIG 001 and 002.

- SBA320-25-1BKJ Rev 2 has three separate SDIs (1. Lower Lateral Fittings 2. Lower Central Support 3. Central Post and Shelves Attachments)
- For Group 1 aircraft of PAD (CONFIG 001 of SB), the Central Post and Shelves Attachments repetitive interval defined in Paragraph 1E Table 3 is 1000FC, contrary to 500FC per PAD



- For Group 2 aircraft of PAD (CONFIG 002 of SB), the Central Post and Shelves Attachments repetitive interval defined in Paragraph 1E Table 3 is 1000FC, contrary to 500FC per PAD
- 4A) Has EASA imposed an inspection interval that is more strict than SBA320-25-1BKJ Rev 2 for Central Post and Shelve Attachments (500FC vs 1000FC)?
- Item 2 – It is not stated in PAD20-132 whether Group 1 aircraft becomes Group 3 aircraft following accomplishment of SBA320-53-1215 & SBA A320-25-1557.
- 4B) Can a note be added to state Group 1 aircraft becomes Group 3 aircraft following accomplishment of SBA320-53-1215 & SBA A320-25-1557?
- Item 3 – Regarding Note 1 of PAD20-132, it is unclear whether the 19500FC inspection threshold after SBA320-53-1215 is valid, or the 1000FC repetitive inspection is immediately valid for [aircraft that were CONFIG 002 and becomes CONFIG 003 following accomplishment of SBA320-53-1215].
- 4C) Can EASA provide additional clarification on next inspection threshold/interval after a Group 1 or Group 2 aircraft accomplishes SBA320-53-1215? Is the next SDI required within 19500FC or within 1000FC?

EASA response:

4A) After review with Airbus, a typographical error has been confirmed in the Service Bulletin. No changes have been made to the Final AD in response to this comment

4B) Comment agreed. Note 1 in the Final AD has been updated accordingly

4C) Comment noted. After accomplishment of both Service Bulletins, next due inspection is required within 19 500 FC. The Notes of the final AD have been updated accordingly.

Commenter 5: easyJet – Andrew Knight – 21/09/2020

Comment # 5

I have reviewed the subject PAD and only have one comment. Regarding the 500FC grace period for aircraft greater than 19500FC old / time since accomplishment of SB A320-25-1557/A320-53-1215, easyJet kindly requests that consideration is made to extend this to 750FC grace period to align with the aircraft maintenance program for A check / Phase check inputs. This will prevent a lot of Out Of Phase inputs and could then be captured on routine maintenance inputs.

EASA response:



Comment not agreed, available data does not support the proposed change. No changes have been made to the Final AD in response to this comment.

Commenter 6: Cathay Pacific Airways / Cathay Dragon – Hyphen Choi – 30/09/2020

Comment # 6

CPA / HDA have reviewed the PAD 20-132 and have comments about the inspection interval quoted in PAD Paragraph (1) and (3).

HDA operates Group 3 and 4 aircrafts, which has repeat inspection interval at 1000FC as per PAD Para 1. However, based on SB A320-53-1BKJ Rev 02 Config 3 & 4 compliance Table 01, for a/c accomplished the repair per the SB, the threshold of repeat inspecting the “Lower Lateral Fittings” per Task A320-A-25-XX-1BKJ-01ZZZ-93BZ-A is 19500FC.

Repair Instruction accomplished	Repeat the inspection of the Lower Lateral Fittings in accordance with Ref. Task set A320-A-25-XX-1BKJ-01ZZZ-93BZ-A	After 19500 Flight Cycle(s)

6A) EASA please confirm the post SB repair aircraft is with repeat inspection interval at 1000FC at the “Lower Lateral Fittings”, and no credit can be granted with the SB repair instruction accomplished.

6B) PAD Para (3) requires SB reporting after inspection, which the inspection interval is at 1000FC without terminating action. EASA please reconsider if this stringent SB reporting is really an airworthiness requirement. If not, please try to remove it from the AD or extend the reporting period to 180 days after repair. Note that CPA will do the SB reporting even the requirement is not stated in the AD, however it will induce extra QA work if SB reporting is an AD requirement.

EASA response:

6A) EASA confirm your understanding is correct. Next due inspection is due within 19 500 FC from RI application, then repeat at intervals not exceeding 1 000 FC. No changes have been made to the Final AD in response to this comment.

6B) See EASA answer to comment 3



Commenter 7: Lufthansa Technik – Thorsten Koch – 01/10/2020**Comment # 7**

Summary: DLH/LHT conclude that the SB A320-25-1BKJ and PAD 20-132 contain inconsistencies with the requirements of the EASA AD 2012-0134, which should prevent publishing an AD in the current wording, since it is unclear and would provoke undue burden for operators with no additional safety benefit.

Background:

DLH/LHT have a year-long experience with rack 80VU attachment issue from the very beginning, since we were the first to discover the problem in 2006. We were involved in the technical discussions with Airbus and EASA to establish the inspection program. During this activity, we have seen - and monitored - the onset and propagation of the damage in-service of the lower lateral fittings (from lightly worn bolt holes up to completely broken fitting flanges), the lower central support (from tiny isolated cracks up to multiple converging cracks in pyramid top sheet) and other parts of the rack (e.g. worn upper rod fittings). Most of the damage types/scenarios described in the inspection SB today, as well as thresholds and intervals were prompted by our finding reports and statistical analysis.

The general setup of EASA AD 2012-0134 was to have separate inspections for

- a. the lower lateral fittings (Paragraph 1) in PRE MOD 34804 and PRE SB 25-1557 condition:
 - i. within 20,000 FC from first flight, or
 - ii. within 20,000 FC from the last repair/replacement of the lower lateral fittings i.a.w. SB A320-25A1555 (Rev. 00 thru 02)
 - iii. Corrective Action: simultaneous embodiment of SB 25-1557 and 53-1215 (i.a.w. SB 25A1555 at Rev. 03).
- b. The lower central support (Paragraph 2) in PRE MOD 34804 and PRE SB 53-1215 condition:
 - i. within 20,000 FC from first flight, or
 - ii. within 20,000 FC from the last repair/replacement of the lower central support i.a.w. SB A320-25A1555 (Rev. 00 thru 02), or
 - iii. within 20,000 FC after replacement of the 80VU rack lower central support i.a.w. SB A320-25-1557 at Revision 00 or 01.
 - iv. Corrective Action: simultaneous embodiment of SB 25-1557 and 53-1215 (i.a.w. SB 25A1555 at Rev. 03).

There was an important change compared to EASA AD 2007-0276 at original issue, which permitted either a repair i.a.w. SB 25A1555 (no terminating action), or embodiment of SB 25-1557 as an optional terminating action for the lower lateral fittings. Whereas, for the lower central support, the corrective action was a replacement with unmodified parts (original design) i.a.w. SB 25A1555 (Rev. 00 or 01); the AD did not include the Mod SB 53-1215, since this SB was not yet published at that time!



The AD 2007-0276 revision 01 retained the requirements of the original EASA AD 2007-0276, introducing the SB 53-1215 as an optional terminating action for the lower central support.

The simultaneous modification i.a.w. SB 25-1557 and 53-1215 as mandated corrective action was later introduced later by EASA AD 2012-0134 (SB 25A1555 Rev. 03).

However, this AD properly addressed the fact that inspection requirements changed over the course of time (SB 25A1555), and corrective actions changed also over the course of time:

- From Nov 2006 to Jun 2007, the only action available was to replace damaged parts by new parts of the same design; no SB available
- Jun 2007 introduced ISB 25A1555 and MSB 25-1557 (optional terminating action for lower lateral fittings)
- MSB 53-1215 as optional terminating action for lower central support was not available before Nov 2008. At that time, MSB 53-1215 Rev. 00 and MSB 25-1557 Rev. 02 recommended simultaneous embodiment of the modifications. Neither these SBs, nor EASA AD 2007-0276R1, nor ISB 25A1555 Rev. 02 required simultaneous embodiment, yet still allowed to repair damaged parts i.a.w. ISB 25A1555 instructions.
- Prompted by our recommendations, SB 53-1215 included inspection of the central posts, shelves and upper attachments.
- The concurrent embodiment requirement as the sole accepted corrective action was introduced by EASA AD 2012-0134 and ISB 25A1555 Rev. 03. However, both the SB and the AD reflected the fact that many aircraft operate in POST MSB 25-1557 and PRE 53-1215 condition. In this case, inspection of the lower central support was required (not of modified lower laterals); and in case of findings, the embodiment of MSB 53-1215 was required, which did NOT include the requirement to replace the already modified lower lateral fittings.

Please refer to the attached XLS spreadsheet, which lists aircraft operated by multiple operators over the past years, for which DLH/LHT provided CAMO-engineering services. The list demonstrates that the non-simultaneous embodiment of the MSBs is not an unlikely situation, while all aircraft on the list are fully compliant with AD 2012-0134. Out of the 87 affected aircraft operated by DLH in the past (some aircraft have been retired or transitioned to other operators), 56 aircraft had different embodiment times for the two SBs. MSB 53-1215 was embodied either as corrective action for cracked lower central supports, or preventively. The FC-delta between the MSB accomplishments ranges from only 551 FC up to 24,351 FC, with an average of 15,151 FC. Please note that our engineering orders for MSB 53-1215 by default included a SDI of the POST 25-1557 lower lateral fittings! DLH/LHT have not received a single report of damaged POST 25-1557 lower lateral fittings during the MSB 53-1215 embodiments. Evidence can be provided upon request.

As a conclusion: Both TC holder instructions for continued airworthiness and EASA airworthiness directives published during the past 14 years and until recently approved the non-simultaneous embodiment of the two MSBs due to the history of the issue, and accepted the fact that the inspection programme needs to reflect this.

Comments on PAD 20-132:



7A) Based on the background described before, SB A320-25-1BKJ and PAD 20-132 do not properly reflect the situation in the worldfleet: They require for Group 3 aircraft the full inspection at a Threshold of 19,500 FC after embodiment of A320-25-1557 and SB A320-53-1215, i.e. Group 3 inherently assumes that both SBs have always been applied at the same time. We prove that this is not the case.

We thus cannot concur with the inspection threshold. We insist it must be acceptable to have both SBs embodied at different FC counters, as explained above. We propose to amend the thresholds for Group 3 to

- a. 19,500 FC after SB 53-1215 embodiment for the lower central support, and
- b. 19,500 FC after SB 25-1557 embodiment for the lower lateral support, and
- c. 19,500 FC after SB 53-1215 embodiment for the central posts, shelves and upper attachments.

to be in line and consistent with the requirements of AD 2012-0134.

7B) The inconsistency continues in the further PAD instructions: PAD Note 1 explains that embodiment of MSB 53-1215 converts an aircraft from Group 2 to Group 3. But if this happens, the aircraft will coercively have different embodiment times of the two MSBs! This cements the need to amend the Group 3 threshold as described in comment #1.

7C) The compliance time for Group 3 does also not consider repairs of the lower lateral fittings i.a.w. ISB 25-1BKJ (ref. R53113174000 and R53113174001). In case of a required corrective action on the lower lateral fittings, the re-inspection next due is 19,500 FC (not 1000 FC), but only for the repaired/replaced parts (e.g. lower lateral fittings versus lower central support), while the rest (undamaged/unrepaired) remains at the 1000 FC interval. This is a further “split”, which requires further amendment of Group 3 compliance times:

- a. 19,500 FC after SB 53-1215 embodiment for the lower central support, and
- b. 19,500 FC after SB 25-1557 embodiment for the lower lateral support or 19,500 FC after repair in accordance with RI R53113174000 and R53113174001, whichever comes later, and
- c. 19,500 FC after SB 53-1215 embodiment for the central posts, shelves and upper attachments.

We consider it acceptable, that potential corrective actions due to findings on the lower central support, central posts, shelves and upper attachments will be covered by Airbus repair instructions promulgated in SRM or by RDAS, which may include instructions for continued airworthiness that supplement the AD requirements.

7D) For the reasons described in comments #1, 2, 3, the Group 3 definition should read “Airbus mod 34804 not embodied in production, and Airbus SB A320-53-1215 and SB A320-25-1557 embodied in service; OR Airbus mod 34804 not embodied in production, and Airbus SB A320-53-1215 and Repair Instruction (RI) Number R53113174000 (LH) and RI Number R53113174001 (RH) embodied in service”.

7E) The compliance time for Group 4 has the same problem as described in comment #3. It should be amended as follows:

- a. 19,500 FC from first flight for the lower central support, and



- b. 19,500 FC from first flight for the lower lateral support, or 19,500 FC after repair in accordance with RI R53113174000 and R53113174001, whichever comes later, and
- c. 19,500 FC from first flight for the central posts, shelves and upper attachments.

7F) Based on the already mentioned in-service experience, DLH/LHT oppose the proposed corrective actions for Group 2 aeroplanes: SB 25-1BKJ Para. 1.E Table CONF 002 Table 02 states that crack damages on the lower central support requires simultaneous embodiment of SB 53-1215 and R53113174000 and R53113174001. In discussions with Airbus over the past months (Ref. TechRequest Dossier 80688384), Airbus asserted that the in-service performance of the 80VU lower attachments in POST 25-1557 and PRE 53-1215 condition is not known well enough, and therefore the replacement of the lower lateral fittings POST MSB 25-1557 should be conservatively required, regardless if these are damaged or not.

DLH/LHT do not concur with Airbus in this assessment: In fact, as demonstrated by attached XLS, Config/Group 2 is and was the condition of the majority of the listed aircraft over many (sometimes more than 12) years. MSB 53-1215 was embodied on 56 aircraft up to 24,351 FC later than 25-1557, with an average of 15,151 FC between the two SBs. Our engineering orders for MSB 53-1215 included visual inspection of the lower lateral fittings (POST SB 25-1557) prior installation of MSB 53-1215. We have not received a single report of worn/damaged lower lateral fittings POST SB 25-1557.

In addition, six DLH aircraft on the list are still in POST 25-1557 and PRE 53-1215 condition (Group 002). These have already been re-inspected multiple times i.a.w. ISB 25A1555 (lower central support). Even if this inspection does not explicitly inspect the lower lateral fittings, we know by experience that heavily worn lateral fittings make the rack 80VU “shaky”; none of such reports was received so far.

By our experience, the wear initiation on the lower lateral fittings and crack initiation on the lower central support sheets cannot be statistically correlated. We know that crack propagation rates in the pyramid top sheet may be higher when the lower lateral fittings are heavily worn (please note that in the very early phase of the 80VU issue, Airbus and DLH/LHT decided to fly with known cracks under short-interval monitoring). However, we have never seen a severe damage on the lower lateral fittings, which had not been initiated by bush migration, followed by wear on the fork fitting and rack fitting flanges. In other words, no matter how severe the damage on the pyramid was, as long as the bush was in place in the lower lateral fittings, these were still in nominal condition. As this statement is true for PRE 25-1557 fittings, it should be likewise for POST 25-1557 fittings, which by design have less risk of wear initiation.

The corrective actions in ISB 25-1BKJ are also technically inconsistent: If the lower lateral fittings are worn, but not cracked, the repair/replacement (R53113174000 and R53113174001) plus SB 53-1215 embodiment can be postponed for up to 4500 FC. This means, it is acceptable to fly with (even heavily) worn lateral fittings and a PRE MOD 53-1215 pyramid for up to 4500 FC. But if the pyramid is damaged, it is not acceptable to fly with POST 25-1557 lower lateral fittings which have been inspected and found in perfect condition during MSB 53-1215 installation? This is not reasonable.

As a conclusion, we have a high confidence that the Config 002 performs satisfactorily over more than ten thousand flightcycles. We see absolutely no reason to question the structural performance of the POST SB 25-1557 fittings, as long as the bush is in place and no wear has been initiated.



Consequently, the ISB 25-1BKJ should urgently be revised to require for Group 2 only MSB 53-1215 in case of findings on the lower central support, not the repair/replacement of lower lateral fittings (R53113174000 and R53113174001) if found undamaged. Anything else would be undue burden for operators with no added safety. It should be noted the corrective action we propose will not reduce the level of safety: the further condition monitoring of the lower lateral fittings is well covered by the ISB 25-1BKJ.

Some operators may deliberately decide to replace undamaged lower lateral fittings (R53113174000 and R53113174001) during MSB 53-1215 for economical reasons, provided this resets the threshold for the lower lateral fitting inspection as detailed in our comment #3. But this should be left to the operator's discretion, and not mandated by AD without technical need or safety benefit.

7G) PAD applicability does not include A320Fam NEO series, despite they are technically Group 4.

7H) AD Paragraph 3 reporting requirements are extremely restrictive: Does EASA really consider it necessary that Airbus receives 2-5 reports annually from 8800+ aircraft in the world fleet?! The intent to get a statistically significant set of data of the current in-service behavior should be sufficiently covered by a wording

a. Within 90 days after accomplishment of the initial SDI as required by paragraph (1) of this AD, report the inspection results (including no findings) to Airbus

Similar was accepted by EASA for other ADs.

Please rest assured that we take the 80VU very seriously, and very conservatively, since the very beginning. Since this is a very complicated matter and difficult to discuss in writing, we offer to EASA and to Airbus a Webex to discuss the different opinions and potential solutions before the SB 25-1BKJ is eventually mandated by EASA. Please let us know if EASA would support such an approach.

EASA response:

7A) Comment partially agreed. Final AD has been amended accordingly

7B) See EASA answer to comment 4B

7C) Comment partially agreed. Final AD has been amended accordingly

7D) Comment agreed. Final AD has been amended accordingly

7E) Comment agreed. Final AD has been amended accordingly

7F) Comment agreed. Final AD has been amended accordingly. After review with Airbus it is expected that the SB will be revised accordingly.

7G) See EASA answer to comment 1

7H) See EASA answer to comment 3



Commenter 8: United Airlines – Ali Nowrouzi– 01/10/2020**Comment # 8**

In reference to EASA PAD 20-132, dated 04 September 2020, United Airlines (UAL) recommend that the new EASA AD to include the following:

8A) PAD 20-132 in Table 1, for group 3 and group 4 airplanes requires to accomplish an SDI per instructions of SB at intervals not to exceed 1000FC. Some of these repetitive inspections at 1000FC must be accomplished at over-night stations.

We request EASA to revise repetitive inspections from not to exceed 1000FC intervals to 2,750FC. This will make it possible for operators to accomplish the SDI at C-check intervals and to mitigate long out of service and potential for AOG due to fallouts as result of SDI.

8B) PAD 20-132 in Table 1 for group 3 and group 4 airplanes requires within 19,500 FC after Airbus SB A320-25-1557 and SB A320-53-1215 embodiment accomplish an SDI of the affected parts, in accordance with instructions in SB A320-25-1BKJ Rev. 02.

We request EASA to add a paragraph to the proposed AD for operators to have an option to perform modification per SB A320-25-1557 and SB A320-53-1215 again so repetitive inspections per SB A320-25-1BKJ Rev. 02 could be pushed out for another 19,500FC.

8C) PAD 20-132 in Paragraph 3, Reporting require Within 90 days after accomplishment of each SDI as required by paragraph (1) of this AD, report the inspection results (including no findings) to Airbus.

We request EASA to delete the requirement to report SDI with no findings to Airbus.

Please note that any aircraft with findings will be reported to Airbus. Therefore, mandating operators with large fleet to report inspection results with no finding adds additional burden to the operators with no added value.

EASA response:

8A) Comment not agreed available data does not support the proposed change. No changes have been made to the Final AD in response to this comment.

8B) See EASA answer to comment 7

8C) See EASA answer to comment 3

