

COMMENT RESPONSE DOCUMENT

EASA PAD No. 22-104

[Published on 29 July 2022 and officially closed for comments on 26 August 2022]

Commenter 1: Jetstar Airways Japan – Hiroaki Fujita – 04/08/2022

Comment # 1

Regarding title, we want to confirm definition of “Affected MLG sliding tube B”.

PAD 22-104 has defined as below for “Affected MLG sliding tube B”:

//// QUOTE ////

Affected MLG sliding tube B:

MLG sliding tubes, having a P/N as identified in Safran SB 200-32-321 Revision 04 or SB 201-32-68 Revision 04, except those that have passed the inspection (i.e. without burrs found) in accordance with the instructions of Safran SB 200-32-321 (any Revision) or SB 201-32-68 (any Revision), as applicable, or that have been repaired, following that inspection (i.e. burrs found), in accordance with approved instructions provided by Safran.

///// UNQUOTE /////

It means, if PN of sliding tube are affected to Safran SB 200-32-321, it is classified as “Affected MLG sliding tube B” with any SN.

On the other hand, EASA AD 2018-0135R1 has defined for “Affected MLG sliding tube” as below:

///// QUOTE /////

Affected MLG sliding tube:

MLG sliding tubes, having P/N and s/n as identified in Appendix B of Safran SB 200-32-321 Revision 02, or SB 201-32-68 Revision 02, except those that passed an inspection in accordance with the instructions of Safran SB 200-32-321 (any revision), or SB 201-32-68 (any revision), as applicable, and those that, after that inspection, have been repaired, as applicable, in accordance with approved instructions provided by Safran.

///// UNQUOTE /////

It has differential for definition of “Affected MLG sliding tube” between EASA AD 2018-0135R1 and PAD 22-104.

If formal issue contents of PAD 22-104, huge number of sliding tube are affected because PAD 22-104 do not have SN identification.

And Airbus SB A320-32-1441 Rev.1 has instructed to check PN and SN for sliding tube. If affected, perform inspection. If no, no further action required. If almost our fleet affected to Affected MLG sliding tube B because we have sliding tube PN 201371304. It is huge impact. And we should also to be prepared to replace sliding tube if defect found during DET inspection.

And Airbus does not issue Airbus SB A320-32-1441 rev.2 as of today.

///// inquiry /////

1. Could you please advice us why EASA should expand number of affected MLG sliding tube?
2. Could you please advice us when issue PAD and Airbus SB A320-32-1441 Rev.2?
3. We have completed to perform inspection in accordance with Airbus SB A320-32-1441 Rev.1 but it is only check PN and serial number.

In this case, can we use credit as first inspection required item (5) of the PAD? Because item (9) of PAD allow to use first inspection.

4. If yes, we can't understand why we should perform DET inspection each 10,000FC otherwise first inspection just only check PN and SN. Could you please advice us why we should change inspection from read out PN and SN only to DET inspection?

5. Could you please advice us Airbus SB A320-32-1441Rev.2 will include read out PN and SN still?

/// End of Inquiry /////

EASA response:

Comment 1: Additional cases of cracking (at the same location) were reported on MLG sliding tubes not listed in Safran SB 200-32-321 up to Revision 03 or SB 201-32-68 up to Revision 03, and therefore not affected by AD 2018-0135R1. The inspection requirement is now extended to all MLG sliding tubes listed in Safran SB 200-32-321 Revision 04 or SB 201-32-68 Revision 04.

Comment 2: Airbus SB A320-32-1441 Revision 2 was issued on 23 August 2022.

Comment 3: AD paragraph (5) does not require a specific method to determine the MLG sliding tube P/N and s/n, it requires a DET of each affected part. If a MLG sliding tube B – Batch 2 was previously not inspected (because not affected under AD 2018-0135R1) no credit can be taken under paragraph (9) of the AD for a DET. However, if the check of MLG sliding tube P/N and s/n has been accomplished before the effective date of this AD, that information can be used to determine if the part is now affected (i.e. is a MLG sliding tube B – Batch 2).

Comment 4: The DET is now also required for additional parts (i.e. MLG sliding tubes B – Batch 2) because it has been identified that the unsafe condition may also exist on those parts.

Comment 5: For AD accomplishment, any method is acceptable to determine the P/N and s/n of affected MLG sliding tubes B (Batch 1 and Batch 2), provided that method can be relied upon.

No changes have been made to the final AD further to these comments.



Commenter 2: Jetstar Airways Australia – Paraic Dooley – 05/08/2022**Comment # 2**

1. When will SB A320-32-1441 R02 be released?
2. Echoing Jetstar Japan's query, why the NEW requirement of DET 10,000 FC?
3. VSB 201-32-68 R4 & 200-32-321 R04, Removes Appendix B of affected SN, are all SN now affected?
4. Under above VSB's:

(2) Safran Landing Systems recommend at overhaul you do:

- (a) A one time only visual inspection of the sliding tube for burrs in the lower slave link bracket lug holes.

(3) Safran Landing Systems tells you that you must complete the proforma in Appendix A to report results of the inspection. Return the proforma to the address shown in Appendix A.

(a) The information to be recorded is:

- 1 Any results showing no evidence of burrs.
- 2 Any results showing evidence of burrs.

ii Compliance

(1) Safran Landing Systems recommend that you do this inspection at overhaul. Refer to Airbus SB A320-32-1441 Rev 02 or later.

- a. Will Credit be given for all previously Overhauled Sliding Tubes?
- b. Will all remaining Sliding Tubes be credited until next scheduled Overhaul if not a previously affected SN from Appendices in VSB 200-32-321 R03 & 201-32-68 R03 and earlier?

EASA response:

Comment 1: Airbus SB A320-32-1441 Revision 2 was issued on 23 August 2022.

Comment 2: AD 2018-0135R1 required a DET for affected MLG sliding tubes B – Batch 1 at 5 000 FC. The DET requirement has now been extended to affected MLG sliding tubes B – Batch 2, but the inspection interval for both Batch 1 and Batch 2 affected parts has been increased to 10 000 FC.



Credit can be taken under AD paragraph (9) for DET previously on Batch 1 affected parts, so that the next inspection is due within 10 000 FC after the previous inspection.

Comment 3: It is confirmed that all s/n of the affected P/N are now affected, since it has been determined that the unsafe condition could also exist on those parts.

Comment 4: The AD requires the next DET for any MLG sliding tube B (Batch 1 and Batch 2) within 10 000 FC since last MLG sliding tube overhaul (unless threshold A or C in Table 1 of the AD occurs later).

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

Commenter 3: Cathay Pacific – Bharat Yadav – 10/08/2022

Comment # 3

1. There is no Appendix B in the VSB 200-32-313 & VSB 201-32-68. The EASA AD should refer to the latest revision number rather than each revision number of each VSB?
2. What is the part number of the affected sliders? The VSB is not clear. So to be clear the Affected MLG Sliding tube B is the P/N affected and not S/N specific?
3. Are new sliders of the same part number deemed as serviceable units or must they have the VSB performed to be deemed serviceable? Will the manufacturer require these inspections done at production?

It is worth pointing out that due to the length of this PAD that it is absolutely critical to ensure that the affected and not affected units are clearly identifiable to ensure compliance to the AD.

EASA response:

Comments 1 and 2: Appendix B has been removed from Safran SB 200-32-321 Revision 04 and SB 201-32-68 Revision 04 because it has been determined that all s/n of affected parts could be affected by the unsafe condition. Thus, an affected MLG sliding tube B is any P/N listed in Safran SB 200-32-321 Revision 04 or SB 201-32-68 Revision 04, regardless of the s/n. Batch 1 parts are those affected (and inspected) under AD 2018-0135R1, with a s/n listed in Appendix B of Safran SB 200-32-321 up to Revision 03 and SB 201-32-68 up to Revision 03. Batch 2 parts are those affected with the new AD.



Comment 3: 'Serviceable part B' defines that an affected P/N MLG sliding tube B may be installed if it has accumulated less than 10 000 FC since new, or has passed a DET per Airbus SB A320-32-1441 (any revision) within the last 10 000 FC. After installation, the affected part must be inspected as required by paragraph (5) of the AD.

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

Commenter 4: American Airlines – Ben Niaki – 10/08/2022

Comment # 4

EASA PAD 22-104 references Airbus SB A320-32-1441 Revision 02 in two locations under DET SB and Ref. Publications.

However, Airbus SB A320-32-1441 Revision 02 has not yet been released and can not be examined. We request that this SB revision not be referenced in the upcoming EASA AD if it has not yet been published.

EASA response:

Comment noted: Airbus SB A320-32-1441 Revision 2 was issued on 23 August 2022.

No comments have been made to the final AD in response to this comment.

Commenter 5: Singapore Airlines – Soh Kian Ann – 17/08/2022

Comment # 5

Regarding PAD 22-104, SIAEC has 2 queries which needs EASA's clarification:

1. Paragraph (7) of PAD 22-104 mentions:

Part Replacement / Terminating Action:

(7) Within the compliance time as defined in Table 2 of this AD, as applicable, replace each affected MLG sliding tube B with a **non affected MLG sliding tube (A nor B)**. Installation of **non affected MLG sliding tubes (A nor B)** on an aeroplane constitutes terminating action for the repetitive inspections as required by paragraph (5) of this AD for that aeroplane (see Note 3 of this AD).



Table 2 – MLG Sliding Tube B Replacement

Compliance Time	
Batch 1	Within 10 years after 10 July 2018 [the effective date of EASA AD 2018-0135]
Batch 2	Within 10 years after the effective date of this AD

Note 3: Replacement of an MLG on an aeroplane with an MLG that does not have an affected MLG sliding tube (A nor B) installed is an acceptable method to comply with the requirements of paragraph (7) of this AD for that aeroplane.

Can EASA advise whether **non affected MLG sliding tube (A nor B)** is defined as:

- a) **Affected MLG sliding tube A** having a P/N and s/n as listed in Safran SB 200-32-313 for A318, A319 and A320 aeroplanes, or in Safran SB 201-32-62 for A321 aeroplanes **that have passed (i.e. no damage detected) a Special Detailed Inspection (SDI) as required by paragraph (2) of this AD**, or
- b) **Affected MLG sliding tube B** having a P/N as identified in Safran SB 200-32-321 Revision 04 or SB 201-32-68 Revision 04 **that have passed the inspection (i.e. without burrs found) in accordance with the instructions of Safran SB 200-32-321 (any Revision) or SB 201-32-68 (any Revision), as applicable, or that have been repaired, following that inspection (i.e. burrs found), in accordance with approved instructions provided by Safran**, or
- c) **MLG sliding tube A or B with P/N or SN not listed in Safran SB 200-32-313, Safran SB 200-32-321 Revision 04 or SB 201-32-68 Revision 04.**

2. Under definition, Affected MLG shock absorber is defined as Main landing gear (MLG) shock absorbers, equipped with a sliding tube having a Part Number (P/N) and serial number (s/n) as identified in Safran SB 200-32-286 for A318, A319, and A320 aeroplanes, or in Safran SB 201-32-43 for A321 aeroplanes. As per Safran SB 200-32-286 for A318, A319, and A320 aeroplanes, the following Main Landing gear, MLG Leg and Dressings and MLG Leg PN are listed as affected unit that can installed with the affected sliding tube. Can EASA confirms only the Main Landing gear, MLG Leg and Dressings and MLG Leg PN listed in Safran SB 200-32-286 are able to installed with the affected sliding tube PN and SN.



SERVICE BULLETIN

LANDING GEAR - MAIN LANDING GEAR - INSPECTION OF THE SLIDING TUBE FOR CRACKS

1. Planning Information

A. Effectivity

Aircraft affected: A318-100
A319-100
A320-200

Unit affected: Main Landing Gear
Part/Type Nos.: 201376 Series
201581 Series
which includes:

Unit Affected: Main Landing Gear Leg and Dressings
Part/Type Nos.: 201375 Series
201582 Series
which includes:

Unit affected: Main Landing Gear Leg
Part/Type Nos.: 201371 Series
201540 Series
which includes:

Unit affected: Sliding Tube Subassembly
Part/Type Nos.: 201371202
201371205
201371208
201371213
201371219
201371222
201371265
201371270
which includes:

Unit affected: Sliding Tube
Part/Type Nos.: 201160302
201160324
201371300
201371301
201371302
201371304

B. Concurrent Requirements

(1) None.

Service Bulletin No. 200-32-286

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EASA response:

Comment 1 noted. A non-affected MLG sliding tube A is a part that has a P/N and/or a s/n not listed in Safran SB 200-32-313 for A318, A319 and A320 aeroplanes, or in Safran SB 201-32-62 for A321 aeroplanes; or a part that has a P/N and a s/n listed in those SBs and that has passed an SDI in accordance with the SDI SB. A non-affected MLG sliding tube B is a part that has a P/N which is not listed in Safran SB 200-32-321 Revision 04 or SB 201-32-68 Revision 04; or a part that has a P/N listed those SBs and that has passed an inspection per Safran SB 200-32-321 (any Revision) or SB 201-32-68 (any Revision), or that has been repaired, following that inspection, per approved instructions provided by Safran.

Comment 2: After review with Airbus, it is confirmed that the Safran SBs list all eligible sub-parts for installation on the two listed MLG series.

Commenter 6: Delta Air Lines – Alexandra Kidd – 24/08/2022
Comment # 6

Reference:

(A) EASA Proposed Airworthiness Directive (PAD) No. 22-104, dated 29 Jul 22

(B) Airbus Service Bulletin (SB) A320-32-1441 Rev 02 (**Updated - publication expected in October 2022**)

1. Extend consultation period of PAD Ref (A) to allow operators to review and comment on Airbus Service Bulletin (SB) A320-32-1441 Rev 02.

SB Ref (B) has not been released by Airbus. Rev 01 is the latest revision of Airbus SB. With the absence of SB Ref (B), this does not give opportunity for operators to give full review of PAD Ref (A) to address the potential for required AMOCs.

DAL contacted Airbus requesting an advance copy of SB Ref (B), after the expected publication date of July 2022 indicated under “Ref. Publication” of the PAD Ref (A) was not meet. However, Airbus declined the request and informed DAL that SB Ref (B) is expected to be released October 2022.

PAD Ref (A) “Remarks”:

Change paragraph (1), by extending the consultation period to allow operators the opportunity to review and provide comments on Ref (B) which is expected to be released October 2022.

2. Modify PAD Ref (A), Parts Installation Paragraph (4) to include reference to Parts Installation Paragraph (10) and (12).

Paragraph (4) “Part Installation” of PAD Ref (A) states to “Refer to paragraph 11”. Paragraph (11) of PAD Ref (A) includes instructions for restricted part installation, Paragraphs (10) and (12) of PAD Ref (A) also include similar instructions for restricted part installation, as the three paragraphs are located under the “Part Installation” section of the PAD Ref (A).



Modify Paragraph (4) to read: "[REFER TO PARAGRAPH 10, 11 AND 12]".

EASA response:

Comment 1 noted. Airbus SB A320-32-1441 Revision 2 was issued on 23 August 2022. Consultation of PAD 22-104 ended on 26 August 2022.

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

Comment 2 partially agreed. Paragraph (4) of AD 2018-0135R1 provided installation instructions for MLG sliding tubes A only. In the final AD, paragraphs 11 and 12 have been reversed to keep the previous AD numbering, with paragraph (4) of AD 2018-0135R1 becoming paragraph (12).

Commenter 7: EasyJet – Geremi Mattei – 07/09/2022 (late comment)

Comment # 7

With reference to subject PAD 22-104 although the term for comments has expired I would like to bring to your attention the below points:

1. There is a spelling mistake "nor" should be "or"

Paragraph 7

Within the compliance time as defined in Table 2 of this AD, as applicable, replace each affected MLG sliding tube B with a non affected MLG sliding tube (A **nor** B). Installation of non affected MLG sliding tubes (A **nor** B) on an aeroplane constitutes terminating action for the repetitive inspections as required by paragraph (5) of this AD for that aeroplane (see Note 3 of this AD).

Note 3: Replacement of an MLG on an aeroplane with an MLG that does not have an affected MLG sliding tube (A **nor** B) installed is an acceptable method to comply with the requirements of paragraph (7) of this AD for that aeroplane.

Paragraph 8

An aeroplane on which Airbus modification (mod) 161202 or mod 161346 has been embodied in production is not affected by the requirements of paragraphs (1), (2), (5) and (7) of this AD, provided it is determined that no affected MLG shock absorber and no affected MLG sliding tube (A **nor** B) is installed on that aeroplane.

2. Would be possible to have a reference of terminating action for Sliding Tube B as per note below reported only in the Airbus SB A320-32-1441 rev 02?

Inspection of the sliding tube for burrs as per "Special detail inspection" instructions of Ref. CMM 32-11-33 (K0654) at revision No. 71, Sept 2020 or later, Ref. CMM 32-12-25 (K0654) at revision No. 61, Mar 2020 or later is an acceptable terminating inspection.



EASA response:

Comment 1 agreed: The spelling has been corrected in the final AD.

Comment 2 agreed: The definition of ‘affected part B’ has been amended to include reference to affected MLG sliding tubes B that have passed a Special Detailed Inspection in accordance with the instructions of the respective CMM tasks.

Commenter 8: Asiana Airlines – Yunseok Hong – 08/09/2022 (late comment)
Comment # 8

I have query for New PAD requirement and serviceable part B.

Please kindly review if is compromising to AD.

Q.1 Refer to SB 32-1441, CMM special detail inspection is acceptable as terminating inspection.

Does PAD also compromising in this NOTE ?

NOTE: Inspection of the sliding tube for burrs as per “Special detail inspection” instructions of Ref. CMM 32-11-33 (K0654) at revision No. 71, Sept 2020 or later, Ref. CMM 32-12-25 (K0654) at revision No. 61, Mar 2020 or later is an acceptable terminating inspection.

Q.2 Generally overhaul document only recorded as “overhauled per CMM” like below.

Does overhaul per CMM does include CMM “special detail inspection” without VSB?



1. Approving Competent Authority / Country EASA		2. AUTHORISED RELEASE CERTIFICATE EASA FORM 1			3. Form Tracking Number EASA 21/44801	
4. Approved Organisation Name And Address: Safran Landing Systems Services Singapore Pte. Ltd. Business Registration No. 198803518H 21 Loyang Crescent Singapore 508985				5. Work order / Contract / Invoice 123285.1.21 370141632		
6. Item	7. Description	8. Part No	9. Qty	10. Serial No	11. Status Work	
1	SLIDING TUBE S/A	201371270	1	11B8178X15777	OVERHAULED	
12. Remarks						
1. OVERHAULED IAW SAFRAN LS A320 CMM 32-12-25 REV.65 DATED 18/JUN/2021. 2. TSN: 17499.77, CSN: 17546, TSO: 0:00, CSO: 0 3. REFER DELIVERY REPORT NO. 123285.1.1 FOR COMPLIANCE STATUS OF SB/SL AND AD. 4. BASIC P/N: 201371304 S/N: 11B8178X15777						

EASA response:

Comment 1 agreed. Please see the answer to question 2 from Commenter #7 above.

Comment 2 noted. A MLG sliding tube B overhauled in accordance with CMM task 32-11-33 (K0654) at Revision 71 dated September 2020 or later, OR CMM task 32-12-25 (K0654) at Revision 61 dated March 2020 or later is not an affected MLG sliding tube B. The above form 1 lists CMM 32-12-25 rev 65 which is therefore acceptable. No further action is required if no burrs were found, if burrs were found, contact SAFRAN for further instructions (case by case evaluation).

