

COMMENT RESPONSE DOCUMENT

EASA PAD No. 21-033

[Published on 02 March 2021 and officially closed for comments on 30 March 2021]

Commenter 1: Air Arabia – Sagar Thakkar – 04/03/2021 and 14/03/2021

Comment # 1

- A. We request that Point 10 should be converted to a Note. This will cause problems for airlines to demonstrate compliance to Regulatory and Quality Auditors.
- B. How would exact online ETM results be considered? For example, if the dielectric value is exactly 0.60 ma, or the insulation value is exactly 400 MOhms, please advise what should be considered in these cases. Should they be considered green, or should they be considered as Amber? Likewise, if the dielectric value is exactly 1.00mA, should it be considered Amber or should it be considered as RED?
- C. If during any inspection, the result was AMBER and after that, in next repeat inspection, if the result is recorded as GREEN, can the repeat interval be escalated from 750 FH/750 FC/4 Months to 7500 FH/7500 FC/24 Months?

EASA response:

1A) Comment not agreed. Reporting of inspections results (including no finding for the initial inspection only) is deemed required. According to EASA AD writing standards, a Note cannot provide requirements.

1B) Comment noted. In case of doubts, or in cases like the ones described above, the worst-case approach must be used (i.e., if in doubt between red and amber, it must be considered red).

1C) Comment noted. The condition described above is considered improbable, and not included explicitly in the AD to avoid overcomplicated wording. EASA can confirm anyway that the interval is based on the latest test results.

No changes have been made to the Final AD in response to these comments

Commenter 2: Tibet Airlines – Zheng Xiaojian – 03/03/2021 and 20/03/2021



Comment # 2

- A. Could you identify the compliance time for the spare in stock?
- B. Because to most of the windshield have to be inspected, the operator will have to buy much more sealant for restoration. However we are facing the scarcity of the sealant, especially for the quick-cured sealant. Could you assist us to push the sealant PPG 1425CF to be qualified by AIB? Tibet Airlines has already inspected a couple of the windshields recently. The big problem we are facing is that the curing time was much longer than we expected. More than 24 hours have to been taken for curing. This will have negative impact for us commercially, especially during the pandemic situation. As the pandemic situation going well this month, the number of TBA commercial flight are increasing to normal levels. However, TBA have to park the aircraft for more than 24 hours due to the scarcity of the quick curing sealant. TBA would appreciate if EASA could push AIB to certify more quick-curing sealant for the windshield inspection, or extend the inspection threshold and repetitive interval so that Airlines can make the parking schedule more easily.

EASA response:

2A) Comment not agreed. An AD cannot require actions on parts in stock. AD can only provide requirements on 'operated' items/products, including requirements for installation of parts.

2B) Comment noted. EASA cannot interfere with the a/c manufacturer decision on that matter, anyway your request. has been forwarded to Airbus. No changes have been made to the Final AD in response to these comments

Commenter 3: Individual Contributor – Dave Edward P. JANDUSAY – 06/03/2021**Comment # 3**

- A) Paragraphs (5) and (6) require replacement of the affected part before next flight. However, Paragraph (7) allows deferment of the replacement per the MMEL 30-42-03A or 30-42-03B (Windshield Heating).
- a. Should the wordings be revised instead to require replacement only for a failed ETM (Red Area) and not the DET (Actual Damage) “at the earliest maintenance opportunity but not later than the interval per MMEL 30-42-03A or 30-42-03B” and remove Paragraph (7); or
 - b. Should the MMEL relief be removed completely and replacement of the affected part be required before next flight.

Note: An immediate replacement of the affected part before next flight is perceived to address the identified risk, but it would also introduce burden on the supply chain and economics. On the other hand, a deferred replacement of the affected part would not



completely remove the identified risk, but it would allow leeway for the supply chain and economics. This may entail a risk-based decision-making process and what would be deemed as acceptable risk.

B) Further, referencing the MMEL also poses ambiguities:

- a. Most MMEL allows for extension of Repair Interval Category B, C and D Items. MMEL 30-42-03, being a Cat C Item has the potential to be further inadvertently extended if the requirements of this potential AD is not known. This seemed to be a potential risk.
- b. Since the present MMEL does not delineate between the different Windshield PNs and/or OEM, it would apply uniformly to all windshields qualified for the aircraft – whether or not they are impacted by this proposed AD. Hence, if the MMEL relief is retained, should the affected MMEL Items be revised as well to delineate between the different Windshield PNs and/or manufacturer, in order for the MMEL relief (and subsequent repair interval extensions, if ever) to be applied correctly.

EASA response:

3Aa) Comment not agreed. The proposed wording would allow normal operations with a component which did not passed an inspection, without keeping into account the additional instructions of the MMEL tasks

3Ab) Comment not agreed. Please note that compliance times identified in an AD are defined following the guidelines of AMC/GM to article 21.A.3 of Regulation (EU) 748/2012 (Part 21).

3Ba) Comment not agreed. Operators are expected to operate aircraft in accordance with existing applicable ADs.

3Bb) Comment noted. Possible future changes affecting those MMEL tasks will be classified and managed iaw with Part 21 regulation.

No changes have been made to the Final AD in response to these comments

Commenter 4: Emirates Engineering – Sachin Nithyan – 08/03/2021

Comment # 4

With reference to PAD 21-033, there are no part-installation restrictions noted for the affected SGS P/Ns in the PAD or Airbus SB A320-56-1022. Since the A319 IPC currently allows for the installation of the affected SGS windshield P/Ns in place of non-affected PNs, there is a very distinct possibility that an aircraft in GROUP B could become a GROUP A aircraft. If this installation happens after the compliance times mentioned in Table 2 of PAD 21-033, the aircraft would become immediately overdue for related inspections. Neither the PAD nor the SB currently addresses this particular possibility adequately.



To address the above observation, we request the AD compliance time to include provision for 'time since installation' as well. This will allow sufficient time for the operator to perform AD-mandated inspections after their previously GROUP B aircraft becomes a GROUP A aircraft, without the inspection task becoming overdue instantly. This is particularly pertinent for situations where the aircraft has the affected SGS windshield PN installed at an outstation or immediately prior to departure for defect resolution.

May you please consider our comments before setting the compliance time in the upcoming AD?

EASA response:

Comment agreed. Final AD has been amended accordingly. It has to be noted that a used affected part can be installed only if, before installation, passes the DET and ETM, as applicable. Next due test must be scheduled at intervals not exceeding the values as identified in the AD, as applicable.

Commenter 5: British Airways – Tom Wright – 10/03/2021

Comment # 5

Regarding the required action(s) and compliance times, BAW noted that an inspection is required within 750 FH, 750 FC or 4 months for Group A aircraft with Group 1 parts or Group 2 parts under certain conditions installed. This inspection, which is to be conducted in accordance with SBs A320-56-1022 or A320-56-1023 and VSB STA320-56-001, requires the partial removal of the windshield weather seal for the electrical test measurement (dielectric test). Upon completion of this the weather seal is to be repaired utilising sealant P/N PR1784 and primer P/N PR186 (CML items 06AFB1 and 06PAG1).

BAW has been in communication with suppliers to procure P/Ns PR1784 and PR186 and has been provided a lead time of 12-14 weeks because the items require manufacture due to zero stock. We have had confirmation from Airbus via tech request 80891188 that the sealant and primer manufacturer PPG have a delay in the production of these P/Ns in their plans due to Covid-19.

BAW also note that under CML items 06AFB1 and 06PAG1 alternative P/Ns are approved, these include Sealant P/N PR1425B & Primer P/N PR142. PPG have advised that sealant PR1425B has been discontinued as of March 2017 and replaced by PR1425CF & PR1829. Unfortunately none of these replacements are currently approved by Airbus and therefore are not in the CML at this time.

Due to these lead times and global supply issues meeting the compliance time of 750 FH, 750 FC or 4 months is very difficult.

BAW politely request:

1. That when EASA release the AD they take into consideration the supply chain issues discussed above.



2. That EASA review whether a detailed inspection without the electrical test measurement (dielectric test) be conducted on the first inspection call, then the electrical test is conducted at all subsequent calls. It should be noted that the acceptance limits detailed in the SB for bubbles and delamination are far more restrictive than the AMM.

EASA response:

Comment not agreed. The safety assessment does not allow a general agreement of the proposal. No changes have been made to the Final AD in response to this comment.

Commenter 6: Deutsche Lufthansa AG – Stefan Hermes – 11/03/2021

Comment # 6

PAD Paragraph (10) reporting requirements are extremely restrictive: Does EASA really consider it necessary that Airbus receives the reporting sheets within 30 days after accomplishment?!

DLH suggestion:

“Within 90 days after accomplishment of each DET and ETM as required by paragraph (1) to (4) of this AD, or after the effective date of this AD, whichever occurs later, report the inspection results (including no findings for the initial inspection only) to Airbus. Using the inspection report attached to the SB is an acceptable method to comply with this requirement.”

Similar solution was accepted by EASA for other ADs.

EASA response:

Comment partially agreed. Final AD has been amended accordingly.

Commenter 7: Qatar Airways – Yazeed Matouq – 15/03/2021 and 25/03/2021

Comment # 7

Further to the newly issued PAD 21-033, here below are QTR comments regarding the compliance time which is not clearly covered via the referenced PAD, and in case of positive feedback, those point should be clarified in the EASA AD:



A) Definition of Serviceable parts:

QTR is suggesting to replace the word “before next installation” to “before next flight” in the definition of the serviceable parts, as this would give operators more flexibility, especially because inspection of the affected parts before installation (while it is in the shop) needs different scope of approvals in terms of certification that would be issued for the part; such approvals might not be available and need time to be gained. Taking into consideration that the scope of inspection is achieved as the inspection content is the same for on-shop inspection or on-aircraft inspection.

B) Compliance time for parts installation as per paragraph (9) of the referenced PAD:

QTR would kindly ask to add further clarifications on the threshold and interval to do the inspection of the serviceable parts (the affected ones) in paragraph (9) as follows:

- a. A note should be added to highlight that compliance time is counted for windshields and not aircraft, as PAD applicability is set on aircraft level while the build-up for compliance is on windshields; this may cause confusion in understanding and applying the required actions.
- b. For new affected parts:

Paragraph (9) indicates that after the installation of an affected new part; the airplane is effectively Group A and should be inspected as per Paragraph(s) (1), (2), (3) or (4) (as applicable), however, the threshold and interval mentioned in paragraphs (1), (2), (3) and (4) doesn't consider the installation of new parts in the threshold and interval as follows:

- As per Paragraph (2) of the PAD, Table 3 is not applicable on new parts as checking the maintenance history is not valid in this case, hence an additional condition should be added in Table 3 for new affected parts, and the threshold is from time of installation.

C) PAD effectivity:

All required actions as specified in Paragraphs (1), (2), (3) or (4) are addressed for installed parts without any mention for actions to be taken for spare parts. Moreover the PAD applicability is on aircraft level, group definitions and all group definitions in addition to (1), (2), (3) and (4) started with Group “X” aeroplanes while the related threshold tables are addressed for affected parts.

This caused lots of confusion in addition to the point that we believe that action(s) for spare parts is not considered.

D) Moreover, we are sending you this email to draw your kind attention that even that up to the moment Airbus is still having logistics problems in providing the GSE tool 98D56003001000 needed for this mandatory inspection. Currently we are working with Airbus to solve this issue the soonest, however, this email is sent for your kind consideration that this kind of logistics issues are affecting the very tight schedule maintenance for such low compliance time inspection.

EASA response:



7A) Comment partially agreed. Final AD wording has been amended to allow accomplishment of the test either before installation, or before next flight after installation

7B) Comment partially agreed. See also EASA answer to Comment 4. It has to be noted that for a new part, the maintenance history is completely known (no maintenance accomplished).

7C) Comment not agreed: see EASA answer to comment 2A. No changes have been made to the Final AD in response to this comment.

7D) Comment noted and forwarded to Airbus. No changes have been made to the Final AD in response to this comment.

Commenter 8: Nile Air – Mohamed Emam– 15/03/2021

Comment # 8

Concerning PAD 21-033 which was issued on 2 March 2021, we have 2 affected P/Ns within Group 1. Kindly note that this AD requires very sophisticated and heavy work to be done every A-CHK, whereby we need to revise the interval to be minimum every 2 A-CHK as tasks would require high manhour and ground time compared to current circumstances.

EASA response:

Comment not agreed: Available data does not support an extension of the compliance time and intervals. No changes have been made to the Final AD in response to this comment.

Commenter 9: Juneyao Airlines – Zhang Shuo – 18/03/2021

Comment # 9



Ref A -



Ref B - A320 family -

SGSwindshieldsinspctgroup 002 - check of

As per question 19 in Ref. A quoted in AIRBUS & SGS webinar about the windshield inspection, operators are confused by the relationship between sensor fault occurrence time knot and the threshold of visual inspections & electrical tests.



As the described in Ref. B, only a sensor fault occurred before the one-off check of the maintenance history should be taken into account for determining the threshold of visual inspections & electrical tests, the sensor fault occurred after the one-off check of the maintenance history should be disregarded for the determination of inspection threshold.

Could EASA make an evaluation on this question and whether it is necessary to add a statement in PAD 21-033 which provide a clarification on the issue above?

EASA response:

Comment agreed: a note has been added in the Final AD

Commenter 10: Air Canada – Jack Szeto – 18/03/2021

Comment # 10

Air Canada has reviewed EASA PAD21-033, and has the following (1) question and (2) comment:

- A) Regarding “Serviceable Part” for replacement– For an Affected Part (not new) that has been inspected per Saint-Gobain Sully SB STA320-56-001, Air Canada would like EASA to confirm PAD21-033 Paragraph (8) implies that the threshold for “repeat inspection” is calculated AFTER the Windshield is installed on-wing. In other words, Group 001 and Group 002 Windshields that are pre-inspected per SGS STA320-56-001 can remain as “Serviceable Part” in Spares Inventory (will not require further SB inspections prior to installation), and the next Inspection threshold to be calculated once the Windshield is installed (i.e. 4 months/24 months from Date of Installation).
- B) With reduced Airline Operations due to impacts of Global Pandemic, the [4 months from Effective Date of AD] compliance threshold will likely be reached while many A319/A320/A321s are parked/stored at various airports/stations, and Inspections per SBA320-56-1022 will be due prior to their Return to Service. As EASA may be aware, Airbus has a global shortage of GSE Tooling (P/N 98D56003001000) and will only supply Airline Operators with QTY: 1 GSE Tool until further notice. Consequently, this means SBA320-56-1022 Inspections can only be carried out at 1 maintenance station. Air Canada is kindly requesting EASA to consider either or both of the following:
 - a. Compliance Times for Initial Inspection to be revised to “Within 750 FH, 750 FC, or 4 months, whichever occurs later after the effective date of this AD”. -This will allow parked or stored aircraft to have 750FC/750FH prior to initial inspection.
 - b. Additional Provision in PAD/AD to specify “Requirements of Paragraphs (1), (2), and (4) may be deferred in accordance with the applicable instructions and limitations of Master Minimum Equipment List (MMEL) item 30-42-03A or 30-42-03B”. -This will allow Operators to re-locate aircraft in an airworthiness condition (under MMEL) in order to carry out SB Inspection at a maintenance station with GSE tooling capability.

Please kindly confirm receipt of this email. If required, please feel free to contact me at this email or 1-647-300-6064 for any questions/clarifications.



EASA response:

10A) Comment agreed. Final AD has been amended accordingly.

10Ba) Comment not agreed: Available data does not support this proposal. No changes have been made to the Final AD in response to this comment.

10Bb) Comment not agreed: Repositioning of a/c to a place where an AD has to be accomplished can be managed (under EU rules) using a Permit to Flight, iaw part 21 Subpart P requirements. Using a Permit to Flight will allow defining specific, tailored limitation for each affected aircraft. No changes have been made to the Final AD in response to this comment.

Commenter 11: Avianca – Christian Camilo Gutierrez Cediel – 24/03/2021
Comment # 11

In accordance with VSB STA320-56-001 issue A, the in-shop inspection is not applicable to repaired windshield in shop and stock, that have an Authorized Release Certificate (Form One) granted by SAINT-GOBAIN SULLY.

In accordance with SB A320-56-1022 and SB A320-56-1023, if the spare windshield was installed before on a different aircraft a shop, inspection is necessary but does not mention the above exception.

Could you please validate and/or clarify this exception into the serviceable part definition of the PAD 21-033?

EASA response:

Comment partially agreed. Final AD has been amended accordingly.

Commenter 12: Ameco Beijing – Wang Zhimin – 25/03/2021
Comment # 12

CCA has a query about the definition of Serviceable part in PAD21-033.

For an affected part, the PAD only permits the new one or not new one but those that have passed the DET and ETM to be installed.



However, SGS SB STA320-56-001 states that “The in-shop inspection is not applicable to new or repaired windshield in shop and stock ,that have an Authorized Release Certificate (Form One) granted by SAINT-GOBAIN SULLY.” From what CCA understand, that means if an affected part has been repaired by SAINT-GOBAIN SULLY, the part is a Serviceable part and can be installed directly without any inspection. Could EASA please clarify whether the above understanding is correct or not? If yes, please amend the definition of Serviceable part accordingly.

EASA response:

See EASA answer to Comment 11.

Commenter 13: Spring Airlines Co. Ltd – Zhang Yi – 15/03/2021

Comment # 13

Please advise us on when the AD could be issued. Time is tight and your prompt reply would be highly appreciated by CQH.

Comment noted. The AD has been issued.

Commenter 14: Cathay Pacific Airways – Kevin Hsieh – 29/03/2021

Comment # 14

Cathay Pacific Airways has reviewed PAD 21-033 with the following comments (three total):

- A) Paragraph (1): “For Group A aeroplanes: Within the compliance times as specified in Table 2 of this AD, and thereafter, at intervals not exceeding 750 flight hours (FH), 750 flight cycles (FC) or 4 months, whichever occurs first, accomplish a DET followed by an ETM of each Group 1 affected part, as applicable, in accordance with the instructions of the SB.”

Comment 1: Can EASA specify that the repeat inspection is only applicable for ETM findings in either the “green” or “amber” areas?


- B) Paragraph (2 & 3): “For Group A aeroplanes: Within the threshold as identified in Table 3 of this AD, as applicable, and, thereafter, at intervals not exceeding 7 500 FH, 7 500 FC or 24 months, whichever occurs first, accomplish a DET followed by an ETM of each Group 2 affected part, as applicable, in accordance with the instructions of the SB.” / “If, during any ETM as required by paragraph (2) of this AD, the



results are found to be in the “amber area”, as identified in the SB, accomplish subsequent DET and ETM of that affected part at intervals not exceeding 750 FH, 750 FC or 4 months, whichever occurs first.”

Comment 2: For improved readability, can EASA combine paragraphs 2 & 3 into one paragraph? This is to state that the first condition is only applicable if the ETM findings are in the “green” area and the second condition is only applicable if the ETM findings are in the “yellow” area.

C) Airbus SB A320-56-1022 and SB A320-56-1023 provide an alternative method to identify whether Fault message "561000L(R) WINDSHIELD SENSOR" has been recorded, as shown in the photo below. Can this be added in the AD?



A318/A319/A320/A321

SERVICE BULLETIN

NOTE: A review of aircraft delivery and/or maintenance records is acceptable to make the determination of the part installed, provided those records can be relied upon for that purpose and the PN and SN of the part can be positively identified from that review.

NOTE: The paper ID plate bonded on the internal side of the windshield must be used. If the paper ID plate is not available, the metallic ID plate on the connector must be used.

- 1** If the PN of the LH side front windshield is STA320-1-7-1:
 - a** Do the inspection of the LH side front windshield for Group 1 in accordance with Ref. Task set A320-A-56-XX-1022-02ZZZ-93BZ-A.
- 2** If the PN of the LH side front windshield is STA320-1-8-2:
 - a** Do a check of the sensor fault history from the date on which the windshield has been first installed on the aircraft:

NOTE: To ease the review of sensor fault history and records, do a check if no ECAM warning amber "ANTI ICE L(R) WINDSHIELD (ATA 30-42)". If this ECAM warning is not found in the aircraft maintenance records, you can consider no sensor fault occurred.

<1> If fault message "561000 L WINDSHIELD SENSOR" has been recorded or if unknown maintenance history:



EASA response:

14A) Comment noted: according to paragraph (6), following a result in the “red area”, the affected windshield must be replaced; no inspection is therefore required for that part.

14B) Comment not agreed: combining the 2 paragraphs into one, differentiating the interval depending on previous test results, would result in a long and wordy paragraph, which could lead to misunderstanding. Furthermore, it would be difficult for operators to implement in the a/c maintenance schedule an interval depending on previous test results. The proposed wording requires a fixed interval for all, and a corrective action (“reduce interval”) depending on test result.

14C) Comment noted: The AD does not refer to any maintenance recording method. Any method, mentioned in the SB, can be used to review previous maintenance history of the affected part, unless otherwise required by the NAA, in charge for AD enforcement.

No changes have been made to the Final AD in response to these comments.

Commenter 15: Jetblue – Keimi Nuñez – 31/03/2021

Comment # 15**References:**

- /1/ EASA PAD No.: 21-033 (ATA 56 – Windows – Windshields – Inspection)
- /2/ Airbus SB A320-56-1022 (WINDOWS - FIXED WINDOWS - INSPECTION OF SAINT-GOBAIN SULLY FRONT WINDSHIELD ON CEO AIRCRAF)
- /3/ Airbus SB A320-56-1023 (WINDOWS - FIXED WINDOWS - INSPECTION OF SAINT-GOBAIN SULLY FRONT WINDSHIELD ON NEO AIRCRAFT)
- /4/ SGS SB STA320-56-001
- /5/ Airbus Technical Follow Up Ref: 56.11.00014_Dated Mar 02 2021

In review of the Ref/1/ PAD, and Ref/2/ & /3/ SBs the decision to require these repetitive inspections for 1 (one) event that occurred in 2018 is a burden for the operator.

The majority of our Airbus fleet (A320/ A321) are within the Ref/1/ Group 1 & Group 2 Effectivity. We currently have over 380 windshields in Group 1 or 2 which will require an initial and repetitive inspection of “750 FH, 750 FC, or 4 months” or “3 750 FH, 3 750 FC or 12 months” whichever occurs first, due to the P/N and age. With our experience of these windshields, JetBlue can assure you that the reliability of these SGS windows have performed above average.

We have very low defects, low removal rates, and low Pilot reports written, once we changed the majority of our fleet to SGS Group 2 windshields as compared to before where defects were a normal occurrence (example: Anti-Ice warning, heat sensor, cracks, delamination / bubbling, air leaks, etc.).



Our Current 12 month MTBURs (Mean Time Between Unscheduled Removals) for Group 2 P/N: STA320-1-8-2 & STA320-2-8-2 is 164,902 FH & 82,720 FH respectively.

Per the Ref/5/ TFU, the average finding rate is expected to be 15%. For our Airbus fleet, this amounts to 57 windshields that are expected to be replaced. Due to this aggressive schedule on the Ref/1/ PAD we ask that it be considered to use the Threshold (Within 7500 FH, 7500 FC or 24 months) regardless of the age/ FH/ FC of the windshields.

Jetblue's position is that the proposed Threshold will continue to mitigate risk while providing an acceptable level of Safety.

EASA response:

Comment not agreed: Even if Jetblue fleet data, as provided above, is reassuring, the overall available data does not support the proposed compliance time. No changes have been made to the Final AD in response to this comment.

