

ETSO Workshop 2018

Seat Industry (Ad Hoc Committee) Presentation

Minor Changes Under ETSO & Other Topics

Cologne, Germany

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Presented by:

Airbus

ACRO Aircraft Seating

Adient Aerospace

Boeing

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HAECO Cabin Solutions

RECARO Aircraft Seating

Rockwell Collins

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Zodiac Seats

Minor Changes under ETSO

Current Status

- FAA issued PS-AIR100-9/8/2003 in 2003 as part of the congressionally mandated Seat Streamlining effort which was a joint effort among FAA and seat industry.
- This memo is used by all European seat manufacturers in addition to EASA Part 21.A.91. It is used throughout industry as the criteria to determine whether a change is minor.
- FAA included $HIC \leq 1000$ under TSO MPS for TSO-C127b. EASA agreed with this change and published ETSO-C127b.
- EASA Parts & Appliances Section is concerned that minor changes under (E)TSO affect HIC compliance under aircraft installation.
- EASA has accepted the action to provide clarification on EASA presentation (on ETSO major/minor policy) made to the Seat Industry webex on 22-June-2017.
- Some of EASA's perspective on minor change was recently shared at the SAE Seat Committee meeting in August 2018 at Cologne. New terms "Minor Anticipated" and "Minor Non-Anticipated" were introduced (not currently in Part 21).

Minor Changes under ETSO

Issues

- ➔ EASA expressed that if a change must be substantiated by a dynamic test then the change could be classified as major. Per FAA PS-AIR100-9/8/2003 dynamic testing can be used to substantiate TSO minor changes.
- ➔ EASA is limiting ETSO approvals to specific LOPAs and requiring new data submittals to EASA for seat and installation changes. This should not be required as IIL is used to specify the installation limitations.

Minor Changes under ETSO

Issues

- EASA sometimes requires major change after a small number of minor changes. Industry practice is to create multiple minor changes **referenced directly to original test data**. This is accepted by the OEMs and the FAA. Industry **does not** reference minor changes to seats that have been created by a minor change.
- Per EASA presentation during August, 2018 SAE Committee:
"for the time being, EASA will tend to identify design changes affecting HIC compliance as either minor non-anticipated or major."
How 'anticipated' and 'non-anticipated' changes will be determined and What would be the implication of 'non-anticipated' changes on ETSO approved part numbers?

Minor Changes under ETSO

Requests from Seat Industry

- Primary philosophy of the FAA memo is that testing must be done, when necessary, to show compliance for minor changes. However, seat model number and TSO authorization to be decided by design philosophy, not by need for testing.
- Could EASA share in details with Industry their concerns with the philosophy of current FAA major/minor change policy (PS-AIR100-9/8/2003)?
- Seat industry would like to work with EASA to address their concerns regarding the existing FAA policy memo and propose necessary improvements.
- EASA, FAA and Seat Industry agree on harmonized position to continue utilization of the FAA policy memo (or an improved version).

Minor Changes under ETSO

Requests from Seat Industry

- Utilization of IIL (latest approved revision) instead of ETSO approval for specific LOPA revision.
- When multiple minor changes are made referencing baseline test data, they should not be classified as a major change.
- If EASA plans to formally implement 'anticipated' and 'non-anticipated' changes to classify major/minor then these two classifications should be defined in details.

Other Topics

Issues

- Dual review of same document within EASA (ETSO & Installation) that might create delay and resource constraints at EASA.
- EASA's perspective on definition and selection of seat family (per AC 25.562-1B, Change 1) for premium seats with adapter plates is not always well understood by applicants.
- $HIC \leq 1000$ has been included under E/TSO-C127b MPS.
In case of head impact on a non-ETSO component (such as 9g furniture, front partition or galley, backrest IFE monitor, ...), who would be responsible to evaluate design changes in regard to HIC? Should ETSO applicant follow AC 21-49?

Other Topics

Requests from Seat Industry

- How dual review of same document could be eliminated within EASA?
- Development of clear definition and process for seat family selection for premium seats with adapter plates.
- Please clarify EASA's position and direction on utilization of AC 21-49 for ETSO applications.

Thank You for your attention