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Brief introduction of proof tests for ASEP and ECE R51



CHINA AUTOMOTIVE TECHNOLOGY & RESEARCH CENTER

The reasons for proof tests

- ASEP training
- OICA ASEP model
- Germany and OICA GRB document
- China noise standard system
- GB 1495
- China test cycle
- Simplification of ECE R51-03
- Japan documents

What kinds tests we have done

- ECE R51-03 method B
- GB 1495-201X
- ASEP tests
- Influence of test mass on method B
- Simplification methods
- Method B with median speed China test cycle normal distribution
- Typical noise tests at the speed with related China test cycle gears
- Engine noise
- Tyre rolling noise
- Cruise tyre noise
- Partial throttle test and cruise test of ASEP and method B
- Starting noise

Description of test details

- ECE R51-03 method B and GB 1495-201X

There will be some difference between them, especially in low power and high power vehicles.

- ASEP tests

Not so difficult or time consumption.

- Influence of test mass on method B

m_{kerb} , $110\%m_{\text{kerb}}$, $120\%m_{\text{kerb}}$, $120\%m_{\text{kerb}}$ will lead to big changes on acceleration especially for low power vehicles.

- Simplification methods of (method B + ASEP)

vehicle speed: 30, 50, 70km/h and corresponding gears: $(1+X/2)/2$, $X/2$, $(X/2+X)/2$.

Description of test details

- Method B with median speed China test cycle normal distribution

Test method is the same to method B, but with test speed of 40km/h.

- Typical noise tests at the speed with related China test cycle gears

Test speed of 50, or 60 70, with the 4th, 5th or 6th gears, for purpose of delete the cruise test and

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- Engine noise (proximity and far field)

Farfield test is possible if the background noise is extremely low.

A unique formula between proximity and farfield needed.

- Tyre rolling noise
- Cruise tyre noise

Description of test details

- Cruise tyre noise

Good opportunity to Check the gears situation during really driving condition of test cycles.

- Partial throttle test and cruise test of ASEP and method B

Controlled by both driver or technology is possible.

- Starting noise

Normal start or strong start

Change the gears or insist the first gear.

Plans for next step

- Finish all the tests for the first step
- Finish the initial analysis before March
- Delete some test procedure according to the initial analysis and OICA plan
- Decide the new test plans for future
- Focus on AT vehicles



National Automotive Standardization Technical Committee



Thanks for your attention



Web site: www.catarc.org.cn

