



Informal document GRB-58-07
(58th GRB, 2-4 September 2013,
agenda item 3(a))

Two, three or others?

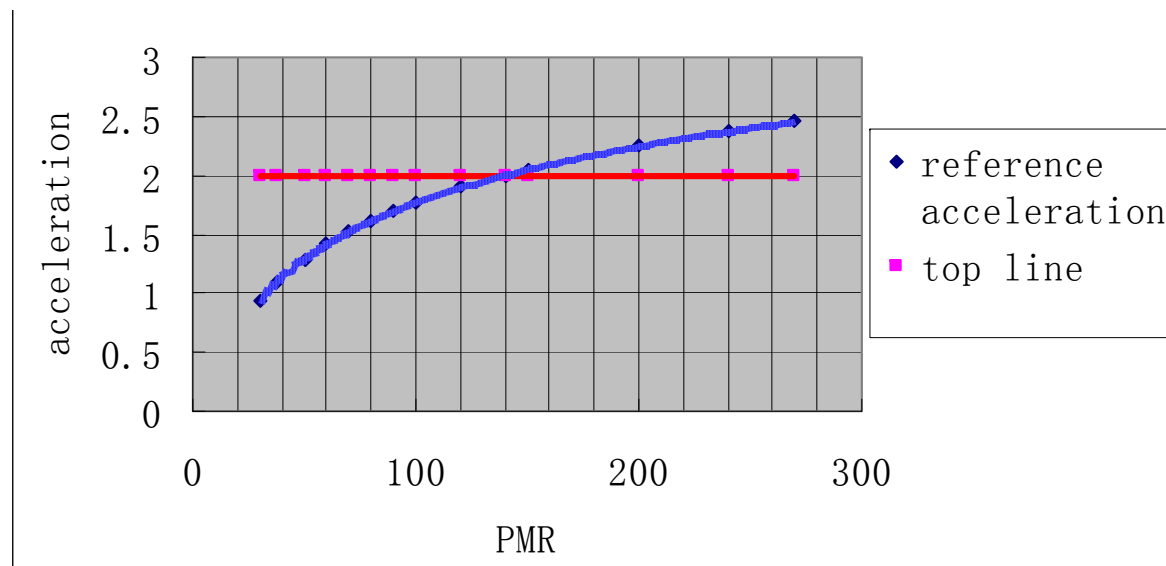
China Automotive Technology and Research Center

Summary

- The top borderline for the test acceleration of M1 and N1 categories is 2.0m/s^2 at the beginning, which is changed in to 3.0m/s^2 one years ago and is now planning to change back into 2.0m/s^2 .
- That's funny to make the changes twice which has taken the attention of China, and maybe China has some better solutions.

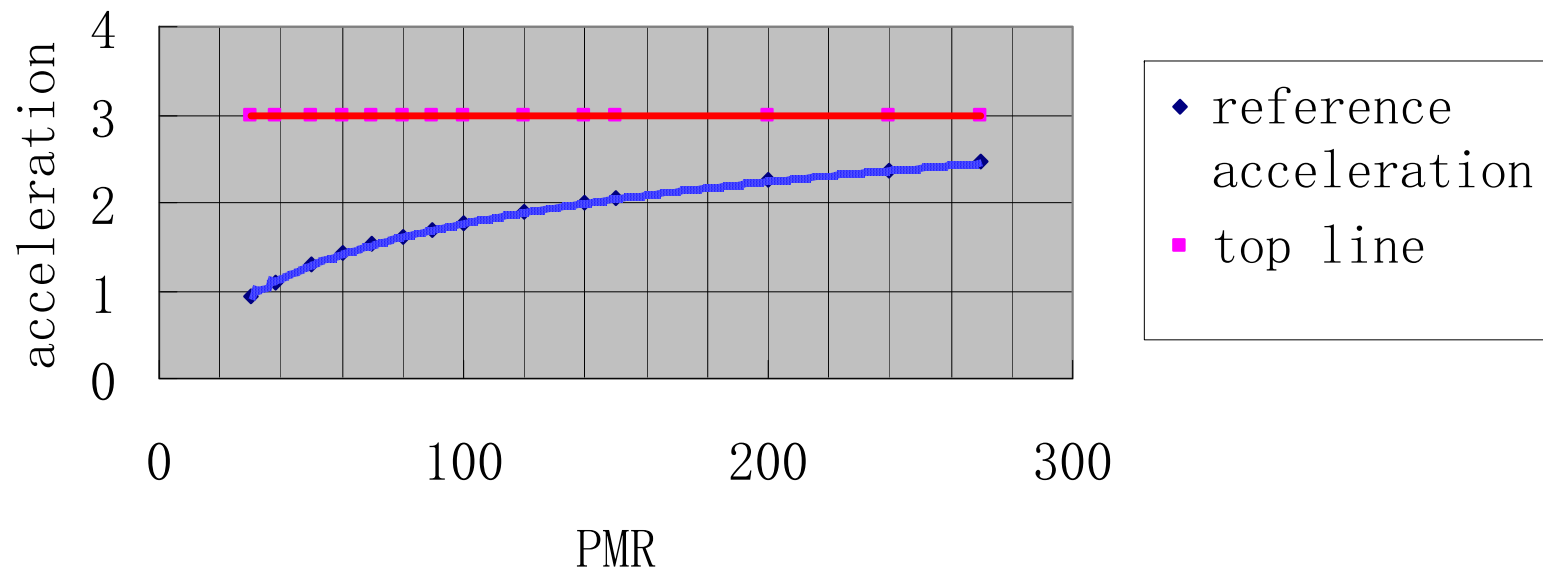
The top border-line “2.0 m/s²”

- For powerful vehicle: too low, the vehicle with engine displacement 2.0 liters always can produce acceleration higher than 2.0m/s², some powerful vehicle can even use the second highest gear to reach such kind of acceleration.
- For low power vehicle: too high, for the 0.8, 1.0 or 1.2 liter engine, even 2.0m/s² is too high for them.

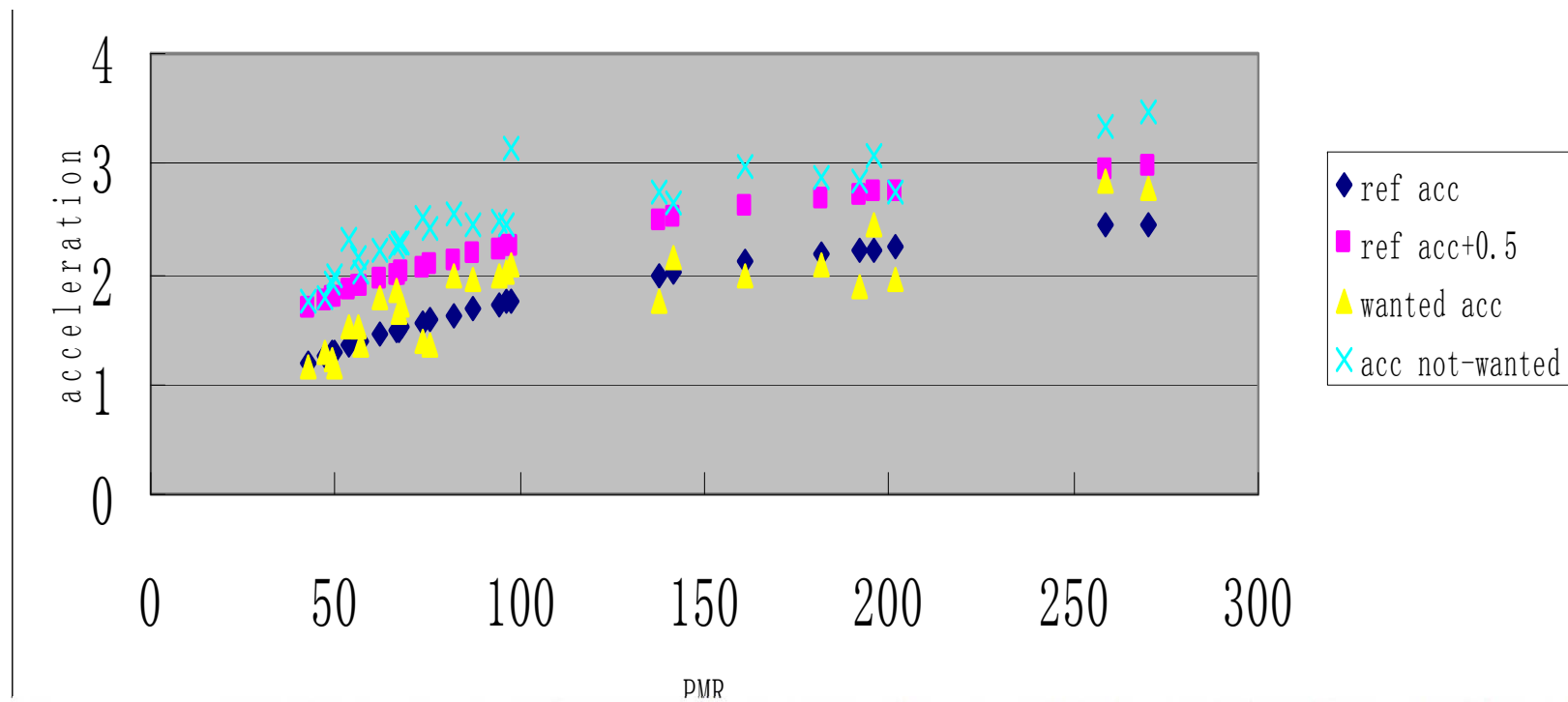


The top border-line “3.0 m/s²”

- For powerful vehicle: too high, some powerful vehicle also need to use the second or third gear for the test which is not ordinary during actually use.
- For low power vehicle: just change the top line as you want, I’m just here, no influence.



Relationship between different acceleration



2.14. "Reference acceleration" means the required acceleration during the acceleration test on the test track.

2.13. "Target acceleration" means acceleration at a partial throttle condition in urban traffic and is derived from statistical investigations.

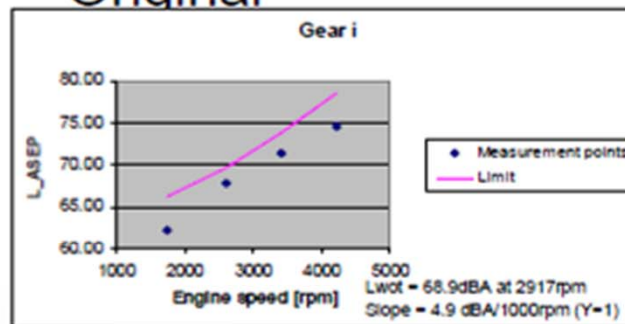
The flexible limit value of ASEP

(ECE- TRANS-WP29-GRB-55-inf11e)

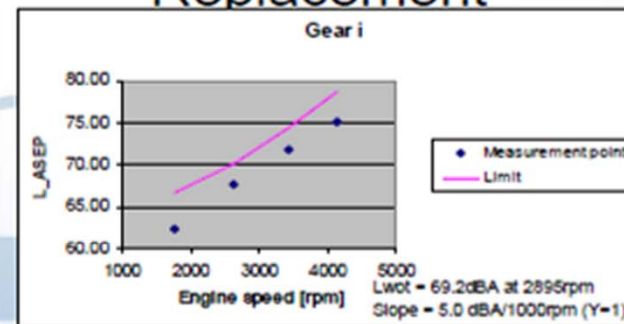


ASEP: Vehicle A

Original



Replacement



Set the same top line for different vehicles
is not appropriate



- This sports car has 515kW engine with 355/25 ZR21 tire.



- This car has 26kW engine with 145/70 R12 tire.

Our suggestion

- Our opinion is not use 2.0m/s^2 or 3.0m/s^2 as the top line for acceleration, but use a formula which is related to a_{ref} :
- The top borderline for acceleration should be
 - **$(a_{\text{ref}}+0.5) \text{ m/s}^2$**
- This kind of thought comes from the spirit of ASEP, and the a_{ref} is the acceleration we really want to get during WOT noise test, so the purpose of the top border line should also helpful to make the test acceleration of vehicle close to the a_{ref} .

2.14. "Reference acceleration" means the required acceleration during the acceleration test on the test track.