Partial Load Test

ASEP IWG #7
March 2018
Changchun

JASIC
Partial Load Test (R51-03 Supplement 4) has been agreed in GRB.

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<td>External Programming for partial load acceleration **</td>
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Acceleration** shall be between $a_{urban}$ and $a_{wot,ref}$, not exceeding 2.0 m/s².

For ASEP**, the anchor point parameter are calculated by:

$$L_{anchor} = \left( L_{test} - k_p \cdot L_{crs} \right) / (1 - k_p)$$

with $k_p = 1 - a_{test} / a_{wot,ref}$

and $a_{wot,ref}$ according to 3.1.2.1.2.4., but not higher than 2.0 m/s².

$$n_{anchor} = n_{bb, test} \cdot \frac{3.6}{v_{bb, test}} \cdot \left( a_{test} \cdot (20 + 2 \cdot l_{vel}) + 192.9 \right)^{0.5}$$

**** Applicable only to Pure Electric Vehicle (PEV) as defined in UN R83.07 Revision 5, paragraph 2.30.

Proposal for extending the other vehicle than EV

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**** Applicable to vehicles except for vehicles with manual transmission, automatic transmissions, adaptive transmissions or CVTs tested with locked gear ratios.
Example car No.1 (P-HEV)

There is no possibility to control to avoid more than 2.0 m/s², because the car has only one gear ratio.

$L_{urban}$ by partial load test is similar result to $L_{urban}$ by current Annex3 test.

![Graph showing acceleration vs. SPL with annotations for αurban, αwotref, PMR, and load test types.]
Confirmation of Current ASEP

Negative slope for slope assessment. So $L_{urban}$ assessment should be used. $L_{urban}$ assessment is complied.

Question; Locked or Non-locked gear for this car?

In case of non-locked conditions, if $Slope_\kappa < 0$, the selected transmission setup is not valid. But the other case...?

- All the cases of negative slope as well as non-locked gear case should not be valid.
- In this case $L_{urban}$ Assessment should be used.
Example car No.2 (Series HEV)

There is no possibility to control to avoid more than 2.0m/s², because the car has only one gear ratio. $L_{urb\text{an}}$ by partial load test is similar result to $L_{urb\text{an}}$ by current Annex3 test.
In this case, no valid set of data due to engine speed exceeds $n_{BB, ASEP}$. It is similar to typical CVT characteristics that is narrow range of engine speed for $n_{BB}$ at P1~P4.
Demonstration of Sound model for new ASEP

ASEP Sound model for example car No.1
The sound model made by ASEP IWG works well.
Demonstration of Sound model for new ASEP

ASEP Sound model for example car No.2
The sound model made by ASEP IWG works well.
Summary

- **Proposal** for partial load test
  Should extend the other vehicle than EV

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**** Applicable to vehicles except for vehicles with manual transmission, automatic transmissions, adaptive transmissions or CVTs tested with locked gear ratios.

- **Information** of ASEP sound model
  The sound model which is discussing in ASEP IWG works for HEV.