System Power Determination

Status of GTR Drafting
and Open Issues for EVE Discussion

28th EVE, Ottawa, October 2018
Drafting group

• Current membership:
  • Chair – Mike Safoutin – US EPA
  • Samarendra Tripathy – Renault
  • Elena Paffumi – JRC
  • Jiamiao Li – PSA Group
  • Matthis Naegeli – VW
  • Norbert Klein – Hyundai
  • Heinz Steven
  • Kendelle Anstey – Canada
  • Masao Kubodera – Japan
  • Shinichi Abe – Japan

• Six teleconferences held to date:
  • 21 Nov 2017
  • 13 Dec 2017
  • 20 Mar 2018
  • 24 Apr 2018
  • 7 May 2018
  • 23 Aug 2018

• Face-to-face drafting sessions:
  • 6 Jun 2018 (Geneva)
  • 18 Oct 2018 (Ottawa)
Status of Draft GTR

- Draft was made available at EVE 27 (Geneva)
  - [https://wiki.unece.org/display/trans/Power+Determination+GTR+Drafting+Group](https://wiki.unece.org/display/trans/Power+Determination+GTR+Drafting+Group)
- Drafting session took place Wed 6 June in Geneva
  - Resultant changes and clarifications have been entered into document
- Access to full ISO FDIS 20762 became available in September
  - GTR draft will be accordingly updated in drafting session in Ottawa
- List of primary open issues (as seen by drafting group) to be discussed
Open issues - draft GTR

• Standalone GTR or Annex?
  • The current draft presumes an Annex to GTR No. 15
    • It contains references to GTR No. 15
    • It can remain silent on many specifics because GTR No. 15 will apply
  • “Standalone” may mean different things to different parties:
    • For example, the Evap GTR is “standalone”
      • It has its own number
      • Yet it frequently references GTR No. 2
    • If “standalone” also means “easy to transpose to a UNR”:
      • Can a UNR refer to a GTR?
      • If not, then either the drafting group or transposition group will have to identify and incorporate all relevant provisions of GTR No. 15
      • e.g., the complex flowcharts for identifying Predominant Mode
      • This has not been a focus of the drafting group
Open issues – draft GTR (continued)

• Does 6.5 “Initial charge of REESS” apply only to OVC-HEV?
• Is the process for identification of speed of maximum power intended to be part of the test procedure? Is more detail required?
• VDA procedure for including “specific data of the tires” for TP2, using RRC class and dynamic rolling radius
• Set of issues raised by Matthias regarding need for fuel flow measurement
Issues raised in validation testing

• How rapidly to press accelerator pedal / “modulate” pedal
• Recommended rate for regeneration of SOC after conditioning
• Cooling fan requirements are different in ISO and WLTP
• Conditioning may not be sufficient for transmission oil temperature to stabilize
• Procedure is silent on run-in mileage
Issues raised in validation testing (continued)

• Procedure is silent on possibility of gear shifting
  • JARI report explored effect of gear position (Vehicle B, 2015 Honda Fit)
  • “Shift the gear down” implies uses of paddle shifters
  • Maximum power was 5.5 kW greater in 4th gear than in 2nd gear
  • If transmission is automatic, is it appropriate to control the gear for this purpose?

• Choice of CD or CS mode for OVC-HEV
  • Currently, manufacturer specifies whether power is greater in CD or CS mode
  • However, a vehicle with a large AER may operate mostly in CD mode
  • While a vehicle with short AER and high power in CS may operate mostly in CS
  • Is the mode with higher power always the right choice for the purpose of the procedure?