WLTP-10-19-rev1

Dyno load setting –
time between warm up and coastdown
M. Bergmann, AUDI

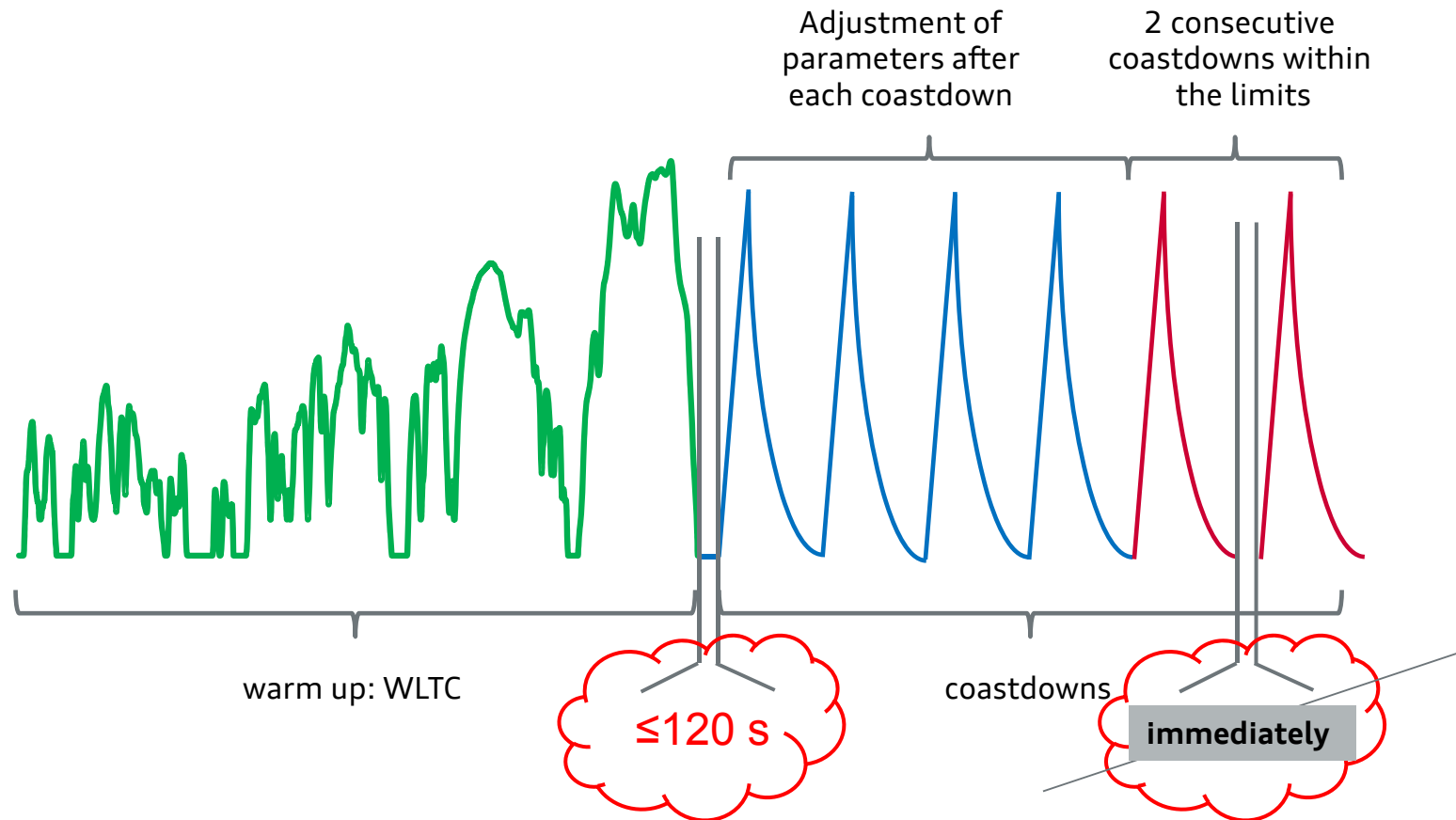# Time between warm up and coastdown - current gtr text

8.1.2.   Coastdown

The coastdown test on the chassis dynamometer shall be performed with the procedure given in paragraphs 4.3.1.3.1. and 4.3.1.3.2. of this Annex.

4.3.1.3.1.   Following the vehicle warm-up procedure (paragraph 4.2.4. of this Annex), and immediately prior to each test measurement, the vehicle may be driven at the highest reference speed up to a maximum of one 1 minute. The vehicle shall be accelerated to at least 5 km/h above the speed at which the coastdown time measurement begins $(v_i + \Delta v)$ and the coastdown shall be started immediately.

4.3.1.3.2.   During coastdown, the transmission shall be in neutral, and the engine shall run at idle. Steering wheel movement shall be avoided as much as possible, and the vehicle brakes shall not be operated until the speed drops below $(v_j - \Delta v)$.

► Time between warm-up procedure and actual coastdown and inbetween individual coastdown runs is not defined

M. Bergmann, AUDI

Audi
Vorsprung durch Technik

Proposal – number of coastdowns

Adjustment of parameters after each coastdown

2 consecutive coastdowns within the limits

warm up: WLTC

≤120 s

coastdowns

immediately

▶ Time between warm up and coastdown to start automation system, dynamometer, autopilot (...) shall be as short as possible.

Audi
Vorsprung durch Technik

Draft text – time beween warm up and coastdown

- Proposed text
  - 8.1.2. Coastdown
    The coastdown test on the chassis dynamometer shall be performed with the procedure given in paragraphs **8.1.3.2.1.** and **8.1.3.2.2.** of this Annex **and shall start at latest 120 s after completion of the warm up procedure.** ~~The time between consecutive coastdown runs shall not exceed 60 s.~~ **Consecutive coastdown runs shall be started immediately. At the request of the manufacturer and with approval of the responsible authorities, the time between the warm up procedure and coastdowns of the iterative method can be extended to ensure a proper vehicle setting for the coastdown. The manufacturer has to give evidence to the responsible authorities, that** ~~the~~ **additional time is needed and does not affect the parameters for the chassis dynamometer load setting (e.g. coolant/oil temperature, force on a dynamometer).**

- Justification:
  - A certain time between warm up and coasting may be needed to set the dyno, automation system, coastdown mode and/or autopilot to load setting mode

Backup

▶ 8.1.3.2.1.   Fixed run method

   ▶ For the fixed-run procedure, the dynamometer software shall automatically run three coastdowns adjusting the set coefficients for each run using the difference between the previous run's measured and target coefficients. The final set coefficients shall be calculated by subtracting the average of the vehicle coefficients obtained from the last two runs from the target coefficients. Optionally, a single stabilization coastdown may be performed before beginning the 2 run averaging sequence.

▶ 8.1.3.2.2.   Iterative method

   ▶ The calculated forces in the specified speed ranges shall be within a tolerance of ± 10 N after a least squares regression of the forces for two consecutive coastdowns.

   ▶ If an error at any reference speed does not satisfy the criterion of the method described in this paragraph, paragraph 8.1.4. below shall be used to adjust the chassis dynamometer load setting.

Audi
Vorsprung durch Technik