Informal document **GRB-54-10**
(54th GRB, 19-21 September 2011,
agenda item 6)

Rolling Resistance Standards Work at ISO (TC31 WG6)

Prepared for GRB Review
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Background and Purpose

From Annotated Provisional Agenda for the 54th Session of GRB:

6. Regulation No. 117 (Tyre rolling noise and wet grip adhesion)

GRB agreed to resume consideration of an updated proposal by the expert from the Russian Federation, if available. GRB may wish to be informed by the expert from International Organization for Standardization (ISO) about the corresponding work in progress on measuring the rolling resistance of tyres (see ECE/TRANS/WP.29/GRB/51, paras. 19-22). GRB may also wish to consider proposals submitted by the European Tyre and Rim Technical Organisation (ETRTO) to amend provisions of Regulation No. 117.

Documentation

ECE/TRANS/WP.29/GRRF/2011/29, ECE/TRANS/WP.29/GRRF/2011/30

Background and Purpose

19. The expert from ETRTO introduced ECE/TRANS/WP.29/GRB/2011/4 proposing to correct the formula for measuring the reproducibility of rolling resistance. GRB adopted the document as amended below and requested the secretariat to submit it to WP.29 and AC.1, as Corrigendum 2 to 02 series of amendments to Regulation No. 117, for consideration at their June 2011 sessions.

In paragraph 2.18.9., foonote [9], correct "can be estimated" to read "**shall** be estimated".

ECE/TRANS/WP.29/GRB/51

20. GRB noted the submission by the expert from the Russian Federation of a Corrigendum (ECE/TRANS/WP.29/GRB/50/Corr.1) to the report of the previous session to clarify his position to use, in the existing test method, as parameter the "deceleration of the test drum and tyre assembly in the approximate form $\Delta\omega/\Delta t$ or in the exact form $d\omega/dt$".

21. The expert from the Russian Federation presented GRB-53-07 and GRB-53-11 aimed at improving the test provisions for measuring the rolling resistance of tyres. GRB noted some support of these proposals. The expert from the Russian Federation was invited to prepare a consolidated proposal for amendments to Regulation No. 117, for consideration as an official document at the next GRB session.

22. The Chair invited the expert from ISO to review, also in this respect, the corresponding ISO standards.

ISO TC31 WG6

- Established in 1997 by TC31 (Technical Committee on Tyres, Rims and Valves)
- Participating (voting) Members from 21 countries in TC31
- Important distinction
  - Member countries nominate 1 or more individual experts for each WG
  - Individuals do not represent their countries or their organizations, but participate as technical experts in field of study
- Currently 25 participating members from 12 countries in WG6
- Active Working Group: Since 2004, 38 meetings

- Angela Wolynski named Convenor in 2009

Key Dates for ISO Standards

- ISO 18164:
  - 1999: Initiated consolidated standard based on ISO 8767, ISO 9948 and ISO 13327
  - 2004: Standard Approved (Published in 2005)
  - 2004: New Work Item Opened to Amend ISO 18164: N683 "RR deceleration method based on time-distance variables“
- ISO 28580:
  - 2006: New Work Item Opened in WG6 based on ETRTO: N715 “ETRTO RR reference method”
    - Interlaboratory alignment
    - Appropriate as basis for regulations
  - 2009: Standard Published

Reg 117 under Consideration

ECE/TRANS/WP.29/GRB/47

ECE/TRANS/WP.29/GRB/2010/8 - (EC)
ECE/TRANS/WP.29/GRB/2010/3 - (EC)

ECE/TRANS/WP29/GRB/2011/11e (RF)
ECE/TRANS/WP.29/GRB/2011/4 - (ETRTO)

→ What is the ISO Status on the Work Item to Amend ISO 18164: N683 "RR deceleration method based on time-distance variables"?

Note: Only key Formal documents are referenced here. Informal documents were also submitted for consideration during the timeframes referenced.

Status of N683: ISO 18164 Amendment: RR deceleration method based on time-distance variables.

New Work Item Proposed	• Approved 12/2004
First Committee Draft Prepared	• Required by 12/2006 • Completed 12/2006
Committee Draft Balloted	• Completed 04/2007
DIS Draft Prepared	• Required 12/2008 • Completed 12/2008
DIS Balloted	• Completed 08/2009
Final Draft Prepared	• Required 06/2010 • Project Suspended 05/2010 TC31 Plenary Meeting

Why was Work Item Time-Distance Method Suspended?

- April 2010: 8 unresolved technical concerns and Final Draft due in June 2010

- May 2010: ISO indicated that the project was at risk of being cancelled due to failure to meet ISO development track rules.
- ISO TC31 Chairman and Secretary, with the guidance of the ISO Technical Program Manager, recommended that TC31 consider a proposal to suspend the work item, allowing Project Leader more time to address the open issues and avoid automatic cancellation of the project.
- A resolution to that affect was offered to TC31 and approved.
- The work item was suspended, with the agreement that the project could be reinstated when the open items were addressed.

After the suspension, communication has continued

- June 2010: Project Leader was urged to propose a face to face meeting with WG6 members, but he declined.
- September 2010: ISO Central Secretariat's office participated in GRB to explain the project suspension. Electronic (web-enabled) meetings were suggested as a method of communication. (ECE/TRANS/WP.29/GRB/50 and /Corr.1 – para 18)
- February 2011: Project Leader was asked whether any actions were planned to address the open issues.
- April 2011: Project Leader requested Vote for Reinstatement of his work item, indicating there was no need for a meeting to discuss.
- May 2011: Supporting documents were circulated to WG6 members.
- July 2011: WG6 held a web-enabled phone and teleconference meeting. Project Leader participated, and jointly reviewed 9 open issues. Differing views were captured in minutes.
- July 2011: Ballot for WG6 recommendation for reinstatement was conducted.

TC31 WG6 Ballot results

- Is the project ready to be reinstated into the WG6 Program of Work?
  - Yes: 2
  - No: 14
  - Conclusion: WG6 has not recommended the project be reinstated into the Program of Work; it remains suspended.
- All negative votes were required to have technical justifications.

Examples of Technical Justifications provided by WG6 members

- Recent data should be used to validate newly revised test methodology for **repeatability and reproducibility**.
- Data from multiple test machines and different tire sizes/categories has not been provided for the newly revised test methodology as evidence of **correspondence** of values obtained from proposed RR **to** the values obtained using one or more **existing RR methods**.
- Data has not been provided for the newly revised test methodology to demonstrate that thermal equilibrium of the tire is maintained during the test sequence.
- I have failed to see the fundamental difference between proposed method and the deceleration method except the additional complexities, and variability of the proposed method.
  - Claims that it adds machine independence is unsupported and we have seen that it is not the case.
  - Extra equipment required for deceleration required not that significant
  - Thermal and aerodynamics impact of a transient test with large speed variations
  - **Lack of supporting evidence with updated method**.
- I believe this proposal is not yet ready for re-instatement :
  - The **software does not yet work, even with the data samples provided** with it. In consequence its relevancy cannot be assessed.
  - Data are needed to appreciate the repeatability and reproducibility with the latest evolutions of the method.
  - Data are needed to appreciate the **thermal evolution** of the tyre during measurement with the latest evolutions of the method.
- The proposed test method has not been completed and validated.
- The software algorithm issues have not been resolved. The test method repeatability on different machines has not been resolved. The working group is not obligated to develop this new test method; the person initiating the proposal should develop and validate the method. With all other ongoing global rolling resistance activities, my company does not have the resources to devote to this test development effort. Once the test method has been fully developed, I would consider reinstating this program of work.
- Etc.

Based on expert opinion

- The time-distance method of measuring Rolling Resistance is not sufficiently validated and should not be included in the Reg 117 Series of Amendments.

- (ECE/TRANS/WP.29/GRB/2011/11e) should NOT be accepted

Particularly problematic:

- Annex 6, paragraph 4.6.1. Skim test reading
  - Skim loads are reduced to the point where current known measurement methods are impacted and many machines made inoperative (force, torque and power techniques).
- Annex 6, paragraph 5.1.5 and paragraph 5.2.5
  - Approximations are suppressed, making existing deceleration machines inoperative for users of ISO 18164 and ISO 28580 deceleration measurement technique

Thank you for your attention!