Global Technical Regulation

55TH GRRF 3 – 6 Feb. 2005

ETRTO proposal
Global Technical Regulation

• Background

• Some Ideas to Kick-off the GTR-Tyre.
BACKGROUND

1958 Agreements - Geneva - (UN- ECE)
   - Adopt uniform technical prescriptions for wheeled vehicles, equipment, and conditions for reciprocal recognition of approval granted on the basis of these prescriptions

• 1998: Global agreement -Geneva- (UN- ECE)
   - Establish Global Technical Regulation for wheeled vehicles, equipment and parts which can be fitted or used on wheeled vehicles
1998 - Global agreement

GTR ’s (Global Technical Regulation) :

- Lighting and light-signalling devices
- Tyres ➔ Frozen
- Frontal impact
- Braking
- Vehicle classification, Weights and Dimensions
- Test cycles for gaseous emissions
- Etc....
Septembre 2002 GTR - Tyres was frozen

Reasons:

• USA TREAD Act
  
  Current FMVSS has to be reviewed

Consequences for not having a GTR???
# Proliferation of Test requirements

## Tests (Pass. Car tyres)

<table>
<thead>
<tr>
<th>Tests</th>
<th>ECE (1958)</th>
<th>UE D.92/23</th>
<th>DOT 109 139</th>
<th>ADR</th>
<th>SASO</th>
<th>CCC</th>
<th>NIS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Speed test</td>
<td>X1</td>
<td>X1</td>
<td>X2</td>
<td>X3</td>
<td>X4</td>
<td>X5</td>
<td>X6</td>
<td>6</td>
</tr>
<tr>
<td>Endurance</td>
<td></td>
<td>Y1</td>
<td>Y2</td>
<td>Y3</td>
<td>Y4</td>
<td>Y5</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Breaking Energy</td>
<td></td>
<td>Z1</td>
<td>Z2</td>
<td>Z3</td>
<td>Z4</td>
<td>Z5</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Low pressure Perf.</td>
<td></td>
<td>L1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Bead Unseating</td>
<td></td>
<td>U1</td>
<td>U2</td>
<td>U3</td>
<td>U4</td>
<td>U5</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

*5 different « safety » tests*

## 22 different test methods for a worldwide approval for the same tyre design

## Physical dimensions

<table>
<thead>
<tr>
<th>Physical dimensions</th>
<th>M1</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
</table>

*6 different methods for the same tyre design*

## Specific Sidewall Markings

<table>
<thead>
<tr>
<th>Specific Sidewall Markings</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>COST</th>
<th>?</th>
</tr>
</thead>
</table>

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Some Ideas to reactivate GTR-Tyres.

• **1- Use only the framework of 1958 agreements**

  **Advantages:**
  – The frame exists
  – It is attractive to incite other countries to participate in ECE WP 29 in Geneva
  – Initiate a harmonisation process based on a set of standardised tests (menu)
  – Protect national sovereignty (choice of optional requirements in the «menu»)

  **Disadvantages:**
  – Excludes self certification procedure (3rd party principle cannot be revised)
  – Long term actions
  – USA, Canada, are excluded (non contracting parties of the 58 agreement)
Some Ideas to reactivate GTR-Tyres.

2- Restart in the framework of 1998 agreement

The basis will be a Menu including:
- a main frame (mandatory) current Reg 30 & 54 ....
- Optional requirements

Advantages:
- Can adopt an existing frame
- Will be open for additional regulatory tests
- USA, Canada, … will not be excluded (contracting parties of the 98 agreement)
- Optimizes the number of tests procedures used in developing global technical regulations thus reducing time & costs.
- self certification & 3rd party principle can co-exist

Once harmonized or developed, global technical regulations will be established in a Global Registry, which will serve as a repository of global technical regulations that could be adopted by countries from around the world.

Disadvantages: Associated difficulties
How to reduce test proliferation?

The concept:

- Reduce the proliferation of tests methods by setting a unique tests menu in the frame of WP29.

- Legal authorities will select tests within the menu.

- All countries can add regulatory prescriptions to cope with specific geographical zones condition.

- World-Wide Agreement to use only the tests part of the tests menu approved in the WP29 agreement.

- Menu & tests evolutions will stay in the frame of WP29.
# GTR - TYRES

A non exhaustive list for standardised tests

<table>
<thead>
<tr>
<th>Mandatory frame</th>
<th>Physical Dimensions</th>
<th>M*</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANDATORY FRAME</td>
<td>High Speed Endurance⇔ SS</td>
<td>X*</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTIONAL FRAME</th>
<th>Endurance</th>
<th>e</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Breaking energy</td>
<td>b</td>
</tr>
<tr>
<td></td>
<td>Bead Unseating</td>
<td>u</td>
</tr>
<tr>
<td></td>
<td>Wet Grip</td>
<td>w*</td>
</tr>
<tr>
<td></td>
<td>Rolling Sound</td>
<td>s*</td>
</tr>
<tr>
<td></td>
<td>Rolling Resistance</td>
<td>r*</td>
</tr>
</tbody>
</table>
**PROPOSAL for GTR**

*A list of standardised tests decided by regulatory authorities in the frame of WP29*

<table>
<thead>
<tr>
<th>General frame</th>
<th>EU</th>
<th>CHINA</th>
<th>USA</th>
<th>X ...</th>
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</thead>
<tbody>
<tr>
<td><strong>COMMON FRAME</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Tyre Geometry</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>High Speed</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tyre endurance ↔ SS</td>
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<td></td>
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<tr>
<td>Rolling Resistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Endurance**: e e
- **Breaking energy**: b b
- **Wet Grip**: w
- **Rolling Sound**: s
- **Rolling Resistance**: r

Environmental requirements
ETRTO Proposal

A GTR program for tyres than can probably lead to a reduction of the test methods from 22 to a minimum of 6 to 8.

We are interested to develop this concept for GTR for tyres.
Optimized Tyre Marking

The optional homologations can be managed via type approval extensions.

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Tyre Marking – Reg. updates

- «w » Wet Grip
- « r » Rolling Resistance
- «S» Noise

Separate Regulations

E2 022349 s01 w r01