

# gtr for Tyres: Update

February 2009



# The GTR objective (3y working programme)

For GTR Compliance at least the mandatory requirement plus either module 1 or 2 are required. (Compliance with both modules is permitted.)

## **Mandatory Minimum Requirement**

- 1.1 Marking
- 1.2 Dimensions
- 1.3 Harmonised High Speed Safety Test
- 1.4 Endurance/Low Pressure Test
- 1.5 Tyre Wet Grip Adhesion

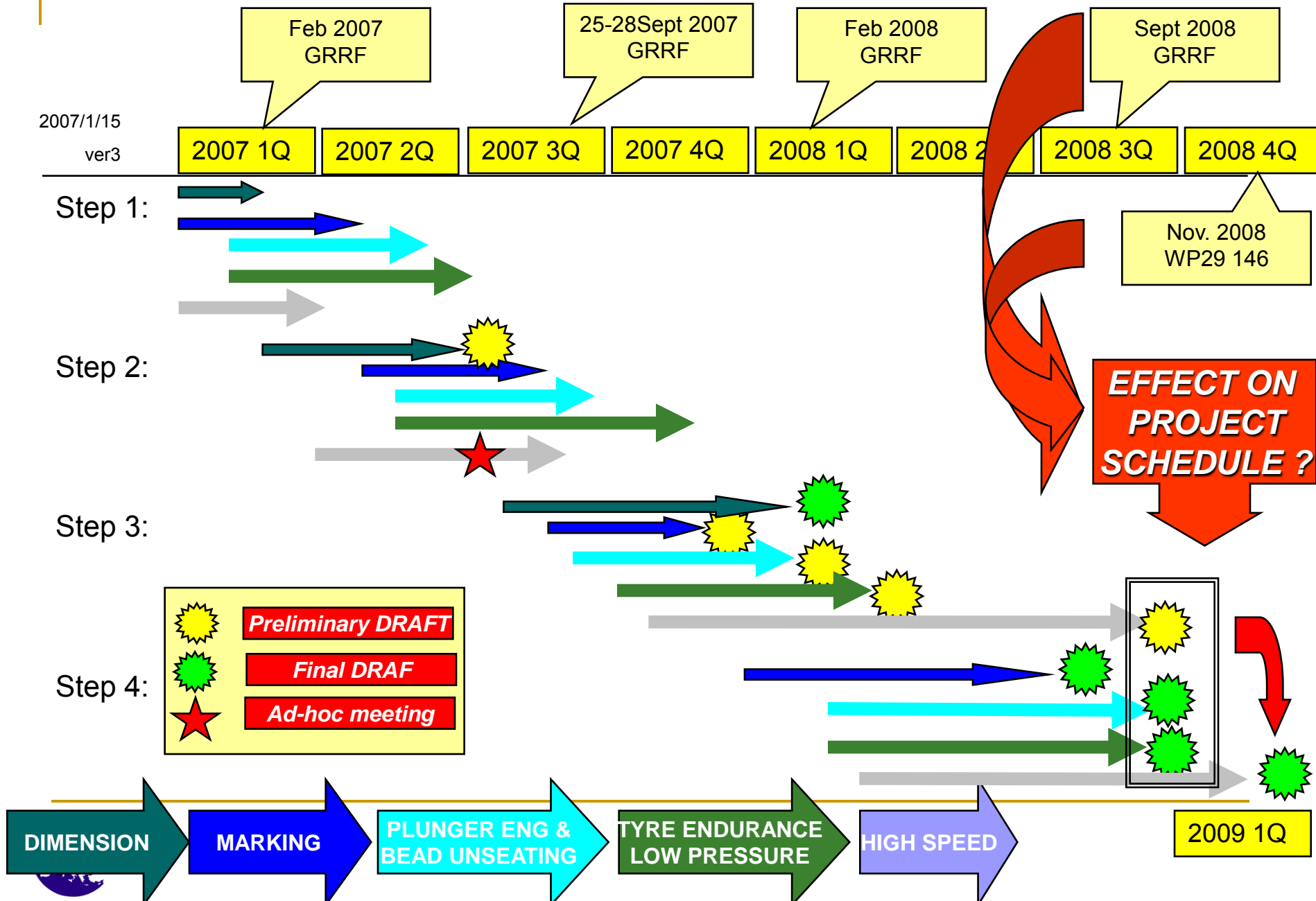
## **Module 1 – Permissive Requirement**

- 2.1 Plunger Energy Test
- 2.2 Bead Unseating test

## **Module 2 – Permissive Requirement**

- 3.1 Tyre rolling sound

# Road map for TYRE GTR – Technical Programme - PC tyres (base line Jan15'07)



# Scope – GRRF Chairman's compromise

- Harmonization of radial PC tyres (UNECE Reg30 and USA FMVSS139)
- Include Light Truck tyre types (C type tyres as per UNECE Reg.54 and LT type tyres), exactly as in the present USA FMVSS 139 as Contracting Party option
- Covers tyres fitted to light vehicles of max mass 4536kg or 10.000 pounds, exactly as in the present USA FMVSS 139

# Radial PC tyres - Harmonisation

- Harmonisation established for:
  - ❑ The physical dimensions test method
  - ❑ The high speed test between UNECE R30 and USA FMVSS 139
  
- All others tests are unique:
  - ❑ From USA FMVSS139: endurance/low pressure - breaking energy - bead unseating
  - ❑ From UNECE R117: noise and wet grip

# C and LT tyres - status

- Two different High Speed tests and two different Endurance tests need to be harmonized (from UNECE R54 and USA FMVSS139)
- Generally the test requirements (tyre's loads, inflations and/or speeds) are adjusted based on the tyre technical parameters

Difficult issues:

- For C tyres, the UNECE Reg.54 is referring to Speed Symbol and Load Index (e.g. 121 = 1450kg) for fixing testing conditions
- For LT tyres, the USA FMVSS 139 is referring to Load Range (letter C to E) for fixing testing conditions

# C and LT tyres - status

- Load Index and Load Range : there is NO correlation between them and therefore they are NOT harmonized parameters
- An ad-hoc Tyre Industry project will be developed to harmonise the Industry Standards (Load Range versus Load Index)
- Consequentially will be developed the harmonisation project of tests from UNECE R54 and FMVSS 139
- Another 3 years of work is foreseen, with major resources to be dedicated to the tests' harmonisation (high speed and endurance)
- Working plan will be presented at next GRRF Feb.09

# Scope

**This Regulation covers new radial pneumatic tyres designed [primarily] for vehicles in category 1-1, 1-2 and 2\*, all with a mass limit of 4.536 kg.**

**\*As defined in Special Resolution Number 1.**

- This regulation will include harmonized requirements for new radial pneumatic passenger car tyres.
- The regulation will also include non-harmonized provisions for light truck / commercial type tyres as a first step towards full harmonization. The time table for completing the harmonization of requirements for all tyres covered by this gtr is [three] years from [?]



# Marking

- The wording “Tubeless” must remain
- The wording “Radial” will disappear
- UNECE Type Approval marking and USA DOT Tyre Identification markings will be combined in a unique global tyre type identification marking sequence
- GLOBAL marking (logotype) to identify a tyre in compliance to the gtr provisions is also proposed – need for further assessment

# GTR framework proposal – 1 step

## Current UNECE Reg.s

- PC tyres
  - R30, R117
    - Physical dimensions
    - High Speed
    - Noise
    - Wet grip
- C tyres
  - R54, R117
    - Physical dimensions
    - High Speed
    - Endurance
    - Noise

## In the gtr

- PC and C + LT tyres
  - Harm. Physical dimensions
  - Harm. High Speed (PC)
  - High Speed + Endurance (C – UNECE R54)
  - High Speed + Endurance (LT – USA FMVSS139)
  - Endurance (PC)
  - Low Pressure Endurance
  - Noise
  - Wet grip (PC)
  - Breaking Energy
  - Bead Unseating

# Remaining Technical Tasks

- Include C and LT tyres
  - Define how to do it, taking into account Load Range and Load Index differences
  - Harmonise the tests (High Speed + Endurance)
    - No existing database
    - Considerable resources to be allocated
    - Estimated to take 3 years (to be confirmed)

# GTR framework proposal – 2 step

## Current UNECE Reg.s

- PC tyres
  - R30, R117
    - Physical dimensions
    - High Speed
    - Noise
    - Wet grip
- C tyres
  - R54, R117
    - Physical dimensions
    - High Speed
    - Endurance
    - Noise

## In the gtr

- PC and C + LT tyres
  - Harm. Physical dimensions
  - Harm. High Speed (PC)
  - *Harm. High Speed (C + LT)*
  - *Harm. Endurance (C+ LT)*
  - Endurance (PC)
  - Low Pressure Endurance
  - Noise
  - Wet grip (PC)
  - Breaking Energy
  - Bead Unseating

---

**Thank you for your attention.**