TIRE STANDARD UPGRADE FOR LIGHT VEHICLES

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• HR 5164 signed into law on November 1, 2000
• Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act
• Three Sections of the TREAD Act relate to tire performance issues
SECTION 10 – ENDURANCE AND RESISTANCE STANDARDS FOR TIRES

- Revise and Update tire standards: FMVSS Nos. 109 and 119
- Rulemaking must be completed by June 1, 2002
SECTION 11 – IMPROVED TIRE INFORMATION

- **Tire Labeling**
  - Improve labeling for consumers to easily identify tires involved in a recall
  - Initiate rulemaking within 30 days
  - Complete rulemaking by June 1, 2002

- **Inflation Levels and Load Limits**
  - Consumer information on tire load limits
  - Consumer information on maintaining proper tire inflation levels
  - No statutory deadlines established
SECTION 13 - TIRE PRESSURE WARNING

• Require a warning system in the vehicle to indicate when the tire is significantly under-inflated
• Complete rulemaking by November 1, 2001
• Requirement must become effective 2 years after completion of rulemaking
NHTSA TIRE TESTING

- Purpose: To develop a new tire standard that focuses on high speed and endurance.
- Phase One Tests: 12 brands of different sizes and speed ratings.
- Shearography analysis: before and after testing
- Compare with baseline FMVSS 109 and the GTS-2000 proposal
9 P-METRIC TIRES TESTED

- Bridgestone Potenza RE92 P205/60R15 90H
- Pirelli P4000 P205/65R15 94H
- Michelin Energy MXV4 P205/65R15 92H
- Hankook Optimo Plus II P205/65R15 92H
- Dunlop D65 Touring P205/70R14 93T
- BFS Futura 2000 ATD P205/75R14 95S
- Firestone Wilderness AT P255/70R16 109S
- Cooper National XT 5000 P225/60R16 97S
- Firestone ATX P235/75R15 105S
3 LT TIRES TESTED

• Michelin XPC 4x4
  
  235/70R16  105H; Load Range C

• Goodyear Wrangler AT/S
  
  235/75R15;  Load Range C

• Yokohama Geolander H/T
  
  225/75R16  110S;  Load Range D
SUMMARY OF ENDURANCE TEST MATRIX

- Baseline Endurance Test
- Similar to GTS-2000 proposal
  - Test Speed (km/h): 80
  - Inflation Pressure (kPa): 180
  - Load (%): 100, 110, 115
  - Duration (hours): 4, 6, 24
  - Ambient Temperature (°C): 38
• Endurance Test Parameters
  • Test Speed (km/h): 120, 140
  • Inflation Pressure (kPa): 160, 200
  • Load (%): 100, 115, 125
  • Duration (hours): 8, 10, 32
  • Ambient (°C): 38
SUMMARY OF HIGH SPEED TEST MATRIX

- Baseline High Speed Test
- FMVSS 109 for LT tires
- P-Metric tested to GTS-2000 proposal, except for speed at final step
  - Load (%): 80
  - Inflation Pressure (kPa): 260(S), 280(T,H)
  - Test Speed (km/h): ITS, +10, +20, +30
  - Duration (minutes): 10, 10, 10, 20
  - Ambient Temperature (°C): 25
• High Speed Test Parameters
  • Load (%):  80, 90, 100
  • Inflation Pressure (kPa):  180, 210, 240
  • Test Speed (km/h):  ITS, +10, +20, +30
  • Duration (minutes):  10, 20, 30
  • Ambient (°C):  38
SUMMARY OF ENDURANCE TESTS

• Agency plans to place test results in the public docket when NPRM is published.
• All tires completed baseline Endurance test
• As expected, more failures occurred at higher speed and at lower inflation pressure
• Next Step: Publish NPRM for Tire Standard
SUMMARY OF HIGH SPEED TESTS

• All tires completed baseline High Speed test (GTS-2000 proposal)

• As expected, more failures occurred at combination of high load, low inflation and long duration

• Failures included tread separation, belt separation, sidewall blowout, chunking

• A second phase of tire testing is underway.
POSSIBLE TIRE PERFORMANCE PROPOSALS

• A single Light Vehicle Tire Standard for vehicles up to a specified GVWR

• High Speed Test

• Endurance Test

• Bead Unseating Test

• Road Hazard Impact Test

• Accelerated Aging Test

• Shearography Analysis
POSSIBLE TIRE LABELING PROPOSALS

• Updated Labeling requirements—ANPRM issued on December 1, 2000
• Modified Tire Identification Number
• More consumer-friendly Load Limits/Load Index and Maximum Inflation Pressure
• Conducting nationwide focus groups
• Next Step: Publish Tire Labeling NPRM
• Considering a new stand-alone TPMS FMVSS
• Defining “significantly under-inflated”—aware of issues relating to disagreement in industry
• Evaluating candidate indicators to driver—ISO telltale symbols
• Considering TPMS requirement for heavy vehicles
• Next Step: Publish TPMS NPRM
SUMMARY

• Three NPRMs to be published
  - Tire Performance Standard
  - Tire Labeling and Consumer Information
  - Tire Pressure Monitoring System (TPMS)

• TPMS—Final Rule: November 1, 2001

• New Tire Standard and Tire Labeling—Final Rules: June 2002