

# TREAD Act Mandate to Revise and Update FMVSS 119

RMA/TIA/TRMG/NHTSA  
Joint Meeting  
October 22, 2002



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## Industry Representatives

Rubber Manufacturers Association

Tire Industry Association

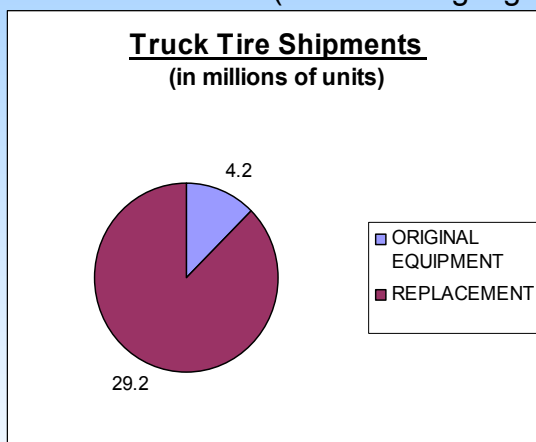
Tread Rubber/Tire Repair Materials  
Manufacturers Group



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# Truck Tire Shipments

(Not Including Light Truck)



- Original Equipment approx. 4.2 million
- Replacement approx. 29.2 million
- Retread tires account for slightly more than half of replacement tires shipped in U.S.



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## TREAD Act Mandate

Section 10 – Endurance and  
Resistance Standards for Tires

*“The Secretary shall revise and update  
... the truck tire standards published at  
49 CFR 571.119.”*



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# Current FMVSS 119

- Scope/Application
- Requirements
  - Endurance
  - Strength
  - High Speed\*
  - Tread Wear Indicators
  - Tire Marking
  - Maximum Load Rating

\*Not Applicable to Medium / Heavy Truck Tires



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# Truck Tires Today Perform Better Than Ever

- Commercial tires are designed to meet customer-specific requirements
  - Short haul vs Long haul
    - For a variety of services (e.g. waste and P & D)
- Fleets increasingly tend to have regular professional vehicle inspection and maintenance
  - After labor and fuel, tires are # 1 operating cost
  - Sophisticated tire performance records
  - Rapid feedback from fleets to tire manufacturers
  - Commercial vs Light Vehicles



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# Truck Tires Today Perform Better Than Ever

- Few complaints from truck / bus lines
- Few recalls
- Economically efficient
  - Designed for longer life
  - Improved fuel economy
  - Increased retreading capability (recycling)
  - Overall cost containment



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# Rubber-on-the-Road

- ATA Technology & Maintenance Council (TMC)
  - Tire Debris Survey (1998)
  - Tire Inflation Study (2002)
- State of Arizona Study (1999)
- Commonwealth of Virginia Study (2000)



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# Tire Debris Surveys

- TMC Debris
  - 86% of pieces caused by underinflation
- State of Arizona Study
  - Tire debris is primarily a maintenance problem
  - Recommended inflation monitoring/CTI of truck tires
  - Problems can be solved without government action
- Commonwealth of Virginia
  - Conducted their own debris survey
  - Concluded regulations were not needed



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# TMC Inflation Study 2002

- 35,000 tires checked  
(trucks, tractors, trailers, motor coaches)
- Only 43.62% of tires were +/- 5 psi of target
- 21.75% of all vehicles had 1 tire underinflated by 20% or more
- 4.32% had a tire underinflated by 50 psi



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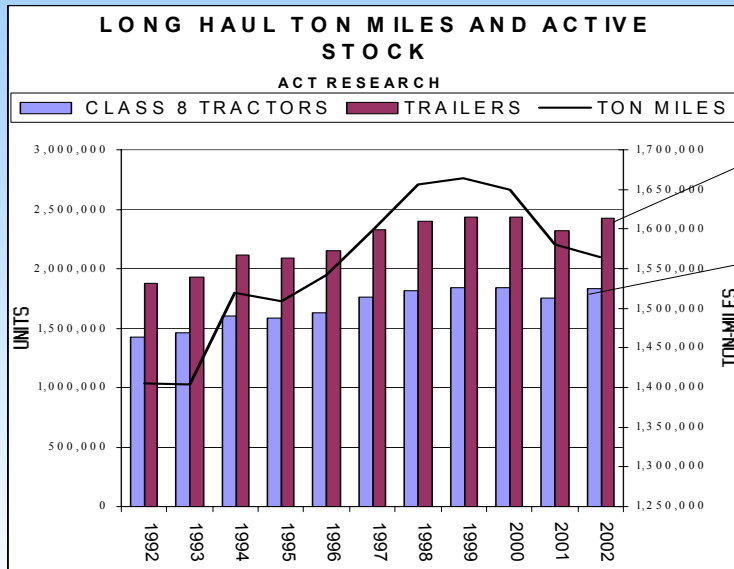
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## AZ, VA & TMC Studies' General Conclusions

- Tire debris is primarily a maintenance problem
  - Example: TMC Debris Study indicated 86% of pieces caused by underinflation
- Government regulations not needed

## Tractor – Trailer Populations

- Proportional changes over last 10 years
- What this means for truck tire maintenance



**41%  
Trailer  
Increase**

**21%  
Tractor  
Increase**

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## Effect of Trailer Population Increase on Trailer Tire Maintenance

- Trailers are less often at a fleet maintenance facility
- Tire pressures are less frequently checked
- Tire condition inspections are less frequently made
- Tires fail at an increased level as a consequence

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# Preventative Measures

## (Rubber-on-the-Road)

- Maintenance
  - Proper Inflation Pressure
  - No Overload on Tire
  - Regular Inspection of Tire
  - Technology Available
    - Central Tire Inflation
    - Tire Pressure Monitoring System
- Stakeholder Cooperation
  - Fleet Maintenance Programs
  - Industry Recommended Practices



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# FMVSS 119

## Revise and Update

- Scope/Application
  - Light Truck Tires (through LR E) under FMVSS 139
  - Consider Retread Tires
- Requirements
  - Major revisions not required
  - Jointly explore opportunities for global harmonization



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# NHTSA Study on Truck Tire Performance

- Tire Selection and Application
- Tire Inspection (Pre/Post Test)
- Test Conditions
  - 1.7m Road Wheel Curved Surface Versus Real World Flat Surface
  - Test Results should Reflect Real World Failure Modes



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## Summary

- Truck tires are performing safely today
- Address rubber-on-the-road by regular maintenance, stakeholder cooperation, and available technology
- 119 update should consider retreads and explore global harmonization
- Test requirements must be reflective of real world tire selection and application
- Test conditions and tire failure modes must correlate with real world experience



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# ASTM Task Groups

## F-09 Tires

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### ASTM Task Group Tire Temperature Measurement

- Chairperson:
  - Dr. John Baldwin - Ford
- Objectives:
  - Develop a test standard to measure a tire's temperature under specified test conditions. (to be a 'standard practice' more than a standard test)
- Activity:
  - John Baldwin to propose two draft procedures for dynamic, 'real time' temperature measurement:
    - Infrared (IR) procedure for surface temperature
    - Thermocouple procedure for internal belt-edge temperature
  - An attempt will be made to correlate the two methods through a temperature gradient.
  - No activity will be pursued using probes as this can not be accomplished dynamically.

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