



RUBBER
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NTSB Tire Symposium

TIRE AGING AND SERVICE LIFE

Tracey Norberg and Dan Zielinski
Rubber Manufacturers Association

Tires

Critical Safety System

Highly Engineered

Technologically Advanced

Deliver Thousands Of Miles Over
Several Years

Tire Service Life

➤ Use

➤ Maintenance

➤ Storage

Tire Service Life

- Tires are composed of various materials, including rubber, having performance properties essential to the proper functioning of the tire.
- These component properties evolve over a combination of time, service and storage conditions.
- For each individual tire, this change is affected by many elements such as temperature, storage conditions, and conditions of use (e.g., load, speed, inflation pressure, impacts and road hazard injury.)
- Since service and storage conditions vary widely, accurately predicting the actual serviceable life of any specific tire based on simple calendar age is not possible.
- RMA is not aware of reliable and accurate scientific or technical data that establishes a specific minimum or maximum service life for passenger and light truck tires.

Consumer Role in Tire Maintenance

- Tires should be removed from service for several reasons, including tread worn down to minimum depth, signs of damage (cuts, cracks, bulges, vibration, etc.) or signs of abuse (under inflation, overloading, etc.).
- Tires, including spares, should be inspected regularly. A monthly maintenance inspection should focus on proper inflation pressure, tread wear and tire damage.
- Monthly inspection should be supplemented by rotation, balancing and alignment services.
- Tire condition should be assessed regularly to determine if there are any tactile or visual signs of damage that make replacement necessary.

Consumer Role in Tire Maintenance

- Consumers are strongly encouraged to be aware not only of their tires' visual condition but also of any change in dynamic performance such as increased air loss, noise or vibration.
- Such a change in performance could be an indication of an internal condition that might dictate removing the tires from service immediately to prevent a tire failure.
- In these cases, RMA recommends that consumers consult a tire service professional.

Tire Storage

- Tires should always be stored in a clean, dry, cool, well-ventilated place. Avoid storing tires in areas that are dirty, wet, poorly ventilated, contain petroleum-based products (such as gasoline or oil) as well as other volatile or corrosive solvents/substances, extremely hot or cold temperatures, direct sunlight, and/or in same area as electric motors, battery chargers, generators, welding equipment, or other ozone-generating sources.
- If outdoors, do not store tires in contact with black asphalt or other heat absorbent or reflective surfaces.
- Also, do not store tires in exposed outdoor areas.

Spare Tires

- If a vehicle is fitted with a matching full-size spare tire (same size and type as other in-service tires) the consumer should follow the vehicle manufacturer's recommendation for rotating the spare tire.
- When any spare tire is installed in a wheel position on a vehicle, its inflation pressure must be checked immediately.



RMA Actions

- Tire Service Life statement – initially developed in 2006 to provide tire manufacturing industry view
- Scrap tire study – 14,000 tires recently removed from service were examined. No pattern observed to suggest that chronologically older tires are removed from service at a greater rate than “younger” tires.
- RMA claims data review – Tens of thousands of claims over a 10 year period were aggregated. Rate of claims was steady for tires through 11 years of age.
- Scrap tire information and claims data review submitted to NHTSA’s tire aging docket (NHTSA 2005-21276)

NHTSA Tire Aging Summary

In its report dated March 2014 and released in May, the National Highway Traffic Safety Administration's (NHTSA) said **“the agency does not believe it is necessary for motor vehicle safety”** to initiate a tire aging regulation. The report noted the following reasons for this decision:

- Tires are more robust and more resistant to degradation than ever before.
- Light vehicle tires are performing better on the road as reflected in NHTSA's most recent crash data.
- Tire Pressure Monitoring Systems have helped alert consumers to under inflation which is also known to degrade tires faster.

Data Does Not Support Expiration Dates

- RMA Claims Data: Aggregate claims data shows no correlation between chronological age and tire safety performance.
- NHTSA Tire Aging Report: More than a decade of study, testing, evaluation and analysis concluded with no regulatory action because the agency believes “it is not necessary for motor vehicle safety...”
- NHTSA Crash Data: NHTSA crash data shows tire-related crashes, fatalities and injuries **DECREASING** at a **GREATER RATE** than all crashes, fatalities and injuries.

Data Supports Focus on Maintenance and Education

2012 NHTSA Report: Tire Related Factors in the Pre-Crash Phase

- When tires are underinflated by 25 percent or more, tires are 3 times as likely to be cited as critical events in the pre-crash phase than tires that are properly inflated.
- When tires have tread depth between 0-2/32nds inch, tires are 3 times as likely to be cited as critical events in the pre-crash phase than tires with tread depth between 3-4/32nds inch.

Tire Maintenance

- RMA promotes consumer tire maintenance through a national program



**be tire
smart**

**play your
PART**
PRESSURE • ALIGNMENT • ROTATION • TREAD

Other Tire Issues

- Unsafe Used Tires
- Improper Tire Repair

Unsafe Used Tires

- Worn-out, damaged, improperly repaired tires sold nationwide
- Increased risk to motorist safety
- Only two states with any restrictions on unsafe used tires sales

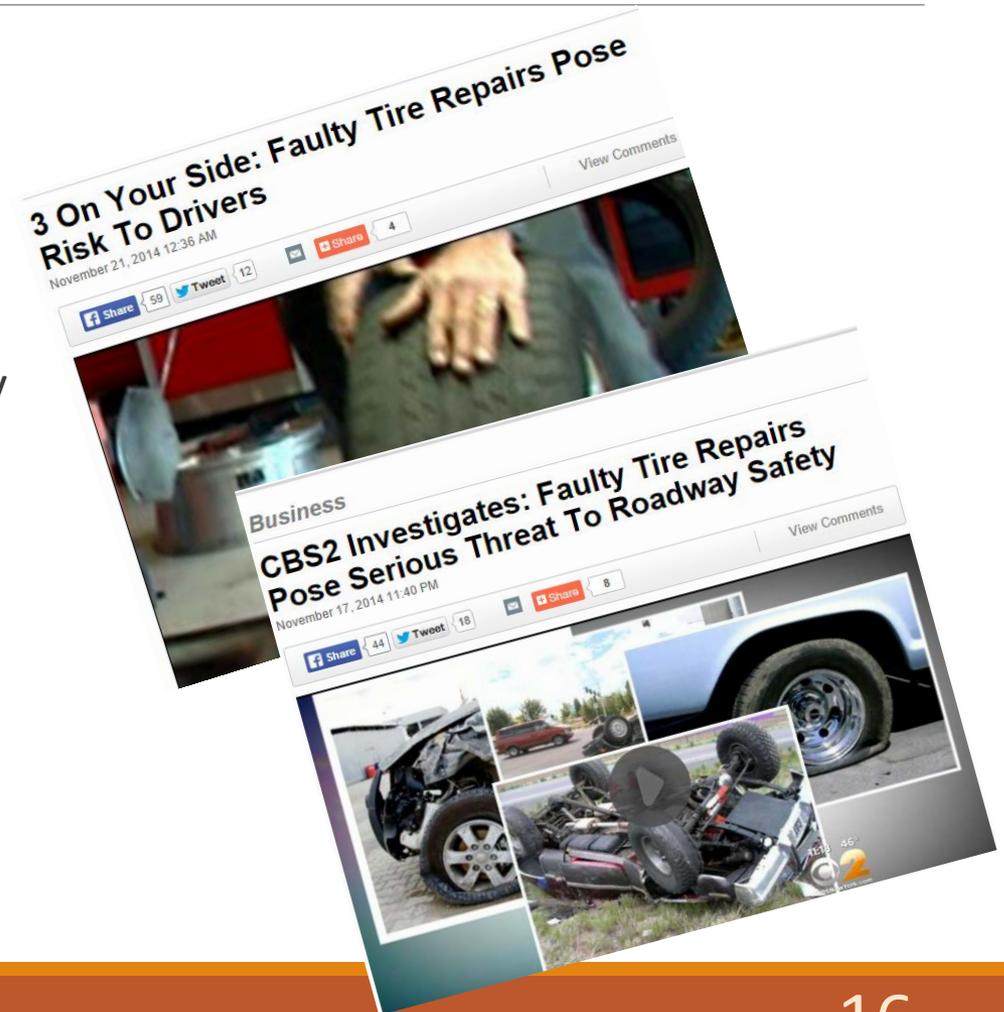
RMA advocating state unsafe used tire laws



- Tread depth 2/32nds inch or less
- Damage exposing reinforcing plies of tire
- Improper repairs
- Inner liner or bead damage
- Indication of internal separation (bulges or areas of irregular tread wear)

Tire Repair

- RMA established the industry standard for proper tire repair.
- Following industry repair standard reduces risk of inflation pressure loss; fully addresses damage from the inner liner through to the tire tread surface and; prevents tires with structural damage (sidewall, belt-edge area) from returning to service.



RMA Recommendations

- Data does not support tire expiration dates.
- States should enact unsafe used tire legislation.
- State highway safety offices should incorporate tire maintenance education messages with other driver safety efforts.