

Rapid Lesson Sharing

Event Type: Crew Carrier Tire Failure

Date: July 3, 2016

Location: Interstate 10 just outside
Tucson, Arizona

***“I had no way of stopping the vehicle
from hitting the guardrail.”***

Crew Carrier Driver

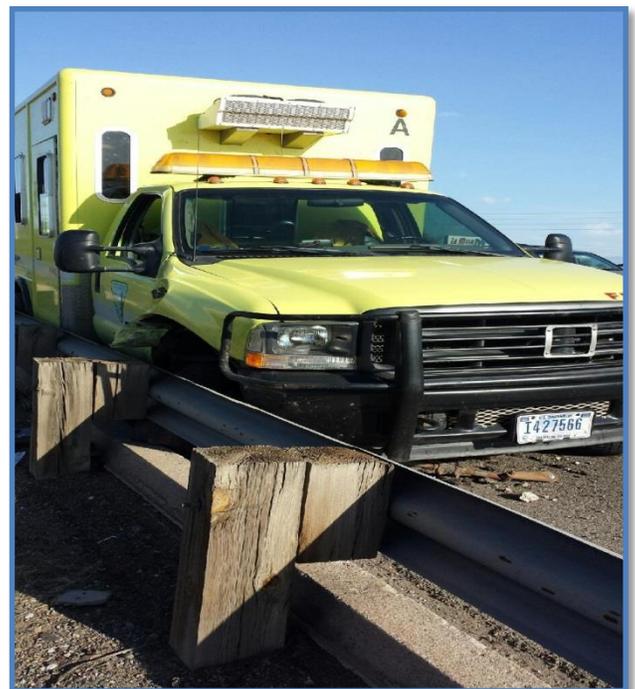
NARRATIVE

On July 3 at approximately 1730, while traveling to a fire assignment in Nevada, the BLM Arizona Type 2 Initial Attack Hand Crew (Aravaipa) experienced a tire failure on the front passenger side of a 2002 Ford F-550 crew carrier.

Traveling westbound on Interstate 10 in the right-hand lane at approximately 65 mph, just outside of Tucson, AZ, the driver heard a loud “Bang!” followed by the vehicle immediately pulling extremely hard to the right side of the highway. Due to the loss of operational control, the driver was not able to keep the crew carrier from striking the guardrail.

Guardrail Protects Crew Carrier from 12-Foot Drop Off

The crew was extremely fortunate the carrier came into contact with the guardrail. This prevented the vehicle from exiting the highway, which was running parallel to a 12-foot drop off. At the time of the accident, three firefighters were in the rear of the crew carrier and two were inside the main cab.



The guardrail prevented the crew carrier from going off the highway into a 12-foot drop off.



After the crew carrier’s right front quarter panel struck the guardrail two or three times, the vehicle remained in constant contact with the guardrail until it came to a complete stop—approximately 40 feet from the last strike. Once stopped, the driver turned on the hazard lights and exited the vehicle through the driver’s door.

The front passenger exited through the passenger side window and began surveying the damage. The crew carrier’s main cabin door was inoperable due to it being pinned shut by the guardrail; therefore, all rear passenger crewmembers were forced to egress through the emergency exit.

A local law enforcement officer witnessed the accident, pulled over, and proceeded to notify the Department of Public Safety.

No One is Injured

Immediately following the accident, the front passenger notified his supervisor of the incident. Upon arrival, the supervisor (who is a qualified EMT) assessed the condition of all passengers and determined no further medical attention was necessary.

All of the individuals were wearing seat belts. No injuries occurred. It was approximately one hour from the time of the accident to the time of scene departure.



Photo on left shows the tire that triggered this incident had adequate tread depth, but the photo on right also shows the presence of dry cracking.

Crew Carrier's Tires had Adequate Tread Depth, But Also Showed Alignment Wear and Dry Cracking

After further inspection of the crew carrier, it was determined that while the current set of tires had adequate tread depth (14/32 inches), they also showed moderate signs of alignment wear and some dry cracking.

According to the Department of Transportation's (DOT) 11 digit code printed on the side of the failed tire, the tires were five years and four months old. It was also noted the vehicle was stored outside during the winter months for extended periods of time with minimal use.

[Failed tire information: Bridgestone V-Steel Max M729 225/70R19.5 DOT Code: Y7AD3CP1011.]



Federal rules mandate that the tire's DOT code be clearly branded or etched on the side of each tire. For most tires, the DOT number is typically 11 digits. **For more information on how to find a tire's DOT Number:**

<https://www.youtube.com/watch?v=OldB4o9RgG8&feature=youtu.be>

LESSONS

Numerous studies written by or for the National Highway Traffic Safety Administration (NHTSA) support a finding that tires degrade after several years of extensive use regardless of tire tread depth.

These studies conclusively conclude the following:

- ✓ Tires begin to weaken and fall apart as they age.
- ✓ The tire aging process happens regardless of whether a tire is on a vehicle or in a temperature-controlled room.
- ✓ Studies have shown that most tires begin to significantly degrade around five years from the date of manufacture.
- ✓ Tire oils begin to draw to the bottom of the tire when parked for a significant period of time. This can result in the drying of the tire, reducing the tire's structured integrity.
- ✓ Asphalt pavement can reach temperatures 50 degrees higher than the ambient air temperature. As a result, asphalt temperatures in the desert Southwest can reach upwards of 155 degrees on a normal 105 degree day in the summer months. High pavement temperatures in combination with frequent off road use can severely impact tire structure and life cycle.
- ✓ Be proactive and thorough when completing Preventive Maintenance (PM) checks.

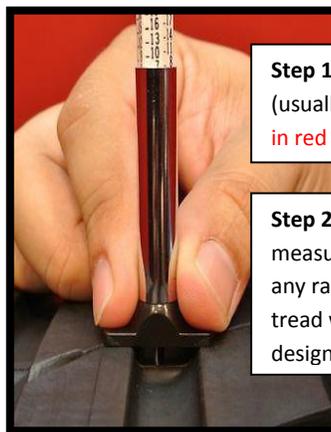
It should be noted that all NHTSA studies are related to normal operating conditions. Operating in a wildland fire environment can drastically alter the life expectancy of tires.

Inspections

Consider removing from service if any of the following are identified:

- ✓ Tires are not uniform in size and manufacture/model.
- ✓ Tire pressure – over/under inflation.
Reference the "Tire and Loading" information placard found on the driver's side door edge or in the owner's manual when determining proper inflation. Do not use the max PSI rating listed on the sidewall of the tire.
- ✓ Improper tire rotation.
- ✓ 4/32 inches or less tread depth.

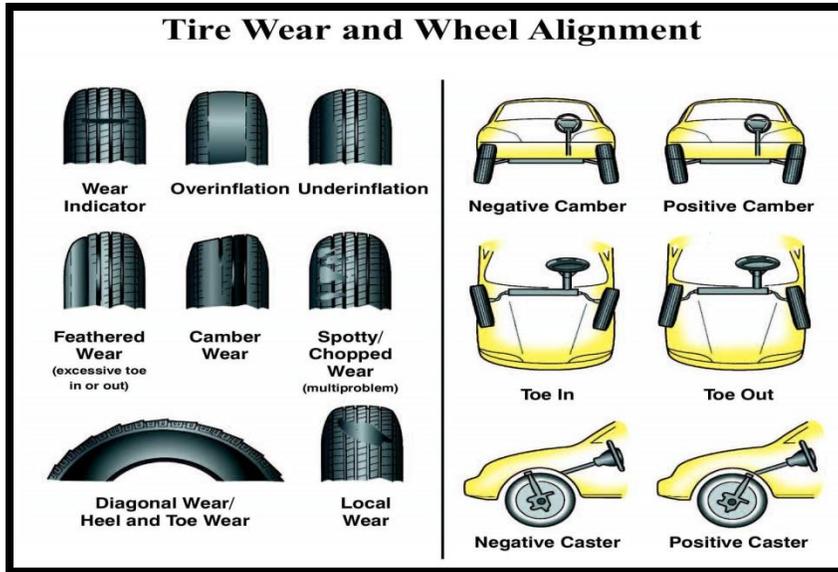
How to Properly Use a Tire Depth Gauge



Step 1. Verify you are using 32 inch (usually black writing) and not mm (usually in red writing).

Step 2. Place gauge over tread (do not measure or place the depth tread gauge on any raised surfaces, middle indicators or tread wear bar indicators of the tread design).

- ✓ Presence of dry cracking.
- ✓ Date of Manufacture (DOM) exceeds the NHTSA standard recommendation for tire longevity.
- ✓ Vehicle has been sitting for extended periods of time with no use.
- ✓ Excessive tire wear from alignment and/or balancing.



Wheel alignment maximizes the life of your tires and prevents your vehicle from veering to the right or left when driving on a straight, level road.

Purchasing

- ✓ Do not purchase new tires older than two years from the DOM. (Certain dealers may attempt to sell new tires that were manufactured several years prior to purchase date.)
- ✓ Record DOT code in the vehicle logbook and annotate when the tires meet recommended expiration.
- ✓ Register all tires once purchased into a recall database (see resource links below).

Resource Links

<http://www.tiresafetygroup.com/>
<http://www.tireregistration.com/index.html>
http://www.safercar.gov/tires/pages/tires_buying.html
<http://www-odi.nhtsa.dot.gov/owners/SearchSafetyIssues?prodType=T>
<http://www.nhtsa.gov/Research/Vehicle+Research+&+Testing+%28VRTC%29/Tires>

This RLS
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