THE INFLATION SYSTEM

# COMMERCIAL FLEET TIRE DIGEST

*An authoritative guide from Pressure Systems International to help reduce costs, increase safety and improve operational efficiencies associated with tires.*

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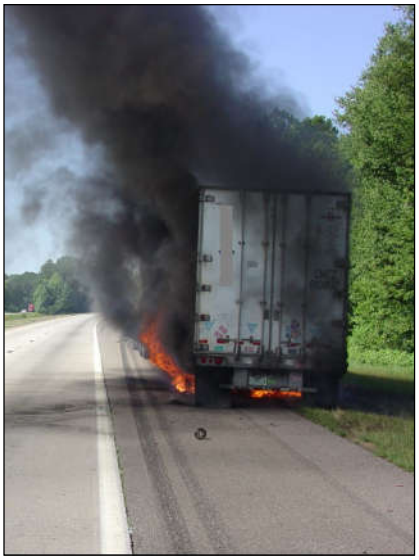
## Wheel-end Thermal Event Root Causes

One catastrophic wheel-end thermal event can lead to total loss of your trailer and cargo, costing well over $100K. But how do you determine the root cause when everything is burned to a crisp?

Forensics after a wheel-end thermal event can be very difficult to determine the root cause and, in many cases, inconclusive. Making it even more difficult is that the evidence may have been destroyed by the thermal event. There are many potential contributors to consider plus there could be a combination of these influences involved. For example; Was their sufficient wheel-end lubrication? Was the lubrication contaminated? Were the bearings adjusted correctly? Were the brakes dragging? Was there an issue with the brake valving? Was the tire flat? Was the tire rubbing on the trailer? Did the operator have an influence? Did road debris get lodged causing an issue with the brakes or free rotation of the wheel-end? And the list goes on and on….

TMC's S6 committee, which focuses on chassis and brake systems, assembled a task force at the request of TMC members to investigate the causes of trailer wheel-end thermal events. In effort to gather information a survey was sent to 640 fleets asking for input on their fleet operations as well as specifics on any, and all, thermal events the fleet may have experienced. Of the 640 surveys sent, only 26 surveys were completed and returned. A summary of the 26 completed surveys was reported to the members in March at TMC18 Annual Meeting and Transportation Technology Exhibition in Atlanta, GA. This led to much discussion about the components involved, the responsibility of the drivers and the operational characteristics of the systems as well as some members sharing their thoughts on the potential root cause(s) of their particular wheel-end thermal event. Given the high level of interest expressed by the fleets in attendance, and the low initial response from the first survey, the group decided to send the surveys again in hopes of gathering more data. We at PSI encourage the fleets to complete and return their survey when received.

As the industry continues to focus on gathering information in hopes of preventing these thermal events, a good place for the fleets to focus is ensuring they have adequate pre-trip inspection procedures that their drivers are completing and documenting. This could prove to be very important to help rule out potential contributors if you find yourself trying to establish a root cause to a wheel-end thermal event.



Tires are not prone to self-ignition, as a tire must be heated to at least 400°C (750°F) for a period of several minutes prior to ignition.

Source: Wikipedia

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## Q&A PSI ANSWERS YOUR QUESTIONS

**Q.** How can you help prevent your tires from potentially contributing to a wheel-end thermal event?

**A.** Underinflated tires will cause the tire to operate at higher temperatures. Maintaining proper tire inflation will help your tires operate within the intended temperature range.