



Tire troubles

Learning to properly work on and around tire assemblies can prevent explosions.

The accident: A mechanic replacing a worn-out brake system on a scraper was attempting to remove the brakes from the hub. Unable to remove them, he used a cutting torch to heat the brake assembly and cut the drum into three sections. The tire attached to the wheel exploded, launching the tire, wheel, hub and brake assembly 15 feet into the air. The mechanic was pronounced dead at the scene from blunt force trauma injuries.

The bottom line: The victim failed to remove or even deflate the tire prior to working on the brake and drum system. The cutting torch produced enough heat to ignite the tire and produce combustible vapors, causing the explosion. Further investigation determined leaving tires mounted and inflated during repair and maintenance was a common practice for the victim's employer.

Simple steps

Preventing maintenance-related injuries is merely a matter of following your company's tire safety program. When working with heavy equipment tires, take the following precautions:

- Before beginning, look for tire damage that could cause separation or an explosion, such as cracked, broken or bent components, pitting or structural damage.
- Deflate and remove a tire prior to performing work on or near it. Removing the valve stem from the tire valve during work prevents pressure build-up in the tire. Run a piece of wire through the valve stem to ensure the stem is not plugged. Wait for the tire to fully deflate prior to demounting.
- During deflation, stay outside the potential area of trajectory of a tire assembly when possible.

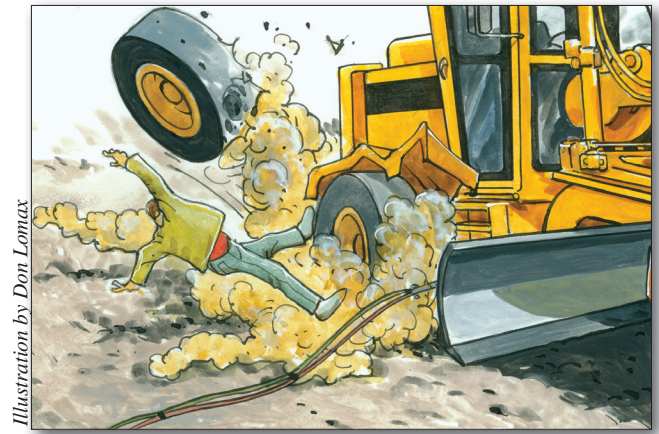


Illustration by Don Lomax

- Recognize that even a deflated tire can explode in certain situations. Heat sources such as welding, fire, electric arcing, dragging brakes and excessive brake use can be sufficient to cause tire decomposition, allowing explosive gases to build within the tire.
- Never perform welding, brazing or cutting on any tire assembly. Recognize that tire assemblies with reworked components are a hazard; replace with new parts instead.

Take advantage of training

Your employer will provide tire and rim safety training for all personnel working on or around heavy equipment tires. No one who has not completed the program should perform repair or maintenance on a tire assembly. After this training, you should be fully competent in mounting and demounting tires, inspecting and identifying components, tire inflation and deflation, and use of required restraining devices or barriers. **EW**

Information for this safety watch came from an accident report, the CDC's NIOSH Fatality Assessment and Control Evaluation Program, OSHA standard 29 CFR and MSHA's

Tire and Rim Safety Awareness Program. It is for general information only.