U.S. Department of Labor
MSHA
Mine Safety and Health Administration

MSHA's Accident Prevention Program
Miner's Tip

Safety and Health are Values!

Tire Explosion Hazards Due to Heat

Heating a mounted tire and rim assembly, intentionally or not, can cause the tire to explode. Causes include:

- Welding, cutting, or grinding on the rim.
- Heating the wheel hub or brake drum.
- Malfunctioning wheel bearings or dragging brakes shoes.
- Lightning strikes or contact with power lines.

Truck tire exploded after bed contacted overhead power conductor.

Any one of these can produce sufficient heat to increase the pressure within the tire. Extreme heat can also cause the tire material itself to decompose and produce a combustible gas/air mixture within the tire which could ignite. Either situation can cause the tire to explode without any warning. Even tires with the valve stem removed can explode if heating initiates the decomposition process inside the tire.

In situations where a tire assembly has been heated:

- If a fire or overheating is suspected, move away quickly to a safe location. Trajectory hazards are greater to the sides of the tire assembly, but debris can be blown in any direction.
- Keep all persons a safe distance from the tire assembly.
- Keep in mind that there can be a significant time delay until an explosion occurs. Depending on the level of heat exposure, this time delay may be several hours.

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