



Off-Road Tire Fires

Two recent fires occurred that involved front-end loaders. These fires proved very dangerous to miners and fire fighters because the off-road tires exploded, resulting in a dangerous release of energy. Large off-road tires can throw debris 900 feet when they explode. Although the exploding tires did not injure anyone during these accidents, one front-end loader operator received burns and injuries when he jumped from the loader.

Fires can also start inside tires when torches or welders are used in the dangerous practice of heating wheel components while the tire is still mounted. Several years ago, two internal tire fires and subsequent explosions resulted in a fatality in both accidents.

Miners and firefighters must be aware of the danger and know how to properly respond to a fire involving large off-road tires. SAE International, a standards developing organization consisting of technical experts from government, industry, regulatory agencies, and academia, has published an informational report that "provides guidelines to help prevent tire fires, provide guidance for immediate action by equipment operators and subsequently by firefighting personnel." SAE J2828, Off-Road Tire Fire Handling Guidelines provides specific information to help ensure the safety of the machine operator, rescue personnel, and firefighters in the event of an off-road tire fire. It also provides information on the causes of tire fires and ways to reduce the likelihood of tire fires.

SAE J2828 is available from [SAE, International](#). MSHA is also providing a limited number of copies of this report, free of charge, to mine fire brigades and local fire departments that respond to machine fires on mine properties. Please contact Jim Angel at 304-547-2064 or Angel.James@DOL.GOV.

In addition to explosions of burning tires, hydraulic accumulators can also violently explode during a fire. To reduce the risk of tire and accumulator explosions, and machine fires in general, mine operators should evaluate machines for hazards that can cause a fire. MSHA encourages mine operators to regularly inspect machines for potential fire hazards such as abraded hydraulic hoses, exposed electrical conductors, and accumulations/leaks of combustible material/liquids. More information is available on machine fire risks at the [NIOSH Mining](#) website. Please see: [IC 9467, Analyses of Mobile Equipment Fires for All U.S. Surface and Underground Coal and Metal/Nonmetal Mining Categories, 1990-1999](#).

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