Tire Killers

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Tread wear and road impacts aren't the only things that can shorten the life of a tire. There are several other tire killers, and a few can attack even when a vehicle is sitting in the station. Here are some that you should watch for.

Ultraviolet radiation. Sunlight is the primary source and it attacks the rubber in the tires. The sidewalls are the most vulnerable. Most rubber compounds include ultraviolet inhibitors, but they can't stand up to constant exposure over long periods. If a vehicle is parked outside, or if sunlight shines on it through a window, you may want to consider blocking the direct rays.

Petroleum. Gasoline, motor oil, greases and other petroleum compounds can also attack the rubber in tires. It can happen when leaks or spills come in contact with the tires in the station, or when the tires pass through these compounds on the roadway. Rinsing the tires with a mild soap and water after contact can help reduce the effects.

Ozone. This harmful gas is present in areas with high smog levels and near electric motors. There is little you can do to protect against it outside, but inside, you can make sure that air compressors, fans and other devices with electric motors are kept away from vehicles. You should also store spare tires away from electric motors.

Underinflation. Major truck fleets have found that operating tires 20 psi under the rated pressure for as little as one hour at highway speeds can cause so much sidewall flex that the tires are ruined. Fire vehicles usually don't see that kind of service, but the warning is the same — underinflation can cause excessive sidewall flex and significantly reduce the tire life.

Age. Most modern tires are expected to wear out after a few years of service. As a result, tire manufacturers formulate the rubber accordingly. Older low-mileage vehicles, such as many fire apparatus, may have tread that looks fine, but can suffer sudden tire failures because of age. The current NFPA 1911, Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, requires that all tires must be replaced at least every seven years.

Tires are an important part of any vehicle. They carry the load and allow the vehicle to start, stop and turn. They are also critical safety components that can prevent, or sometimes cause, vehicle accidents. Proper tire care should be an important part of any vehicle maintenance program.