



MSHA's Accident Prevention Program Safety Idea

Safety and
Health are
Values!

Hydraulic Hose Life

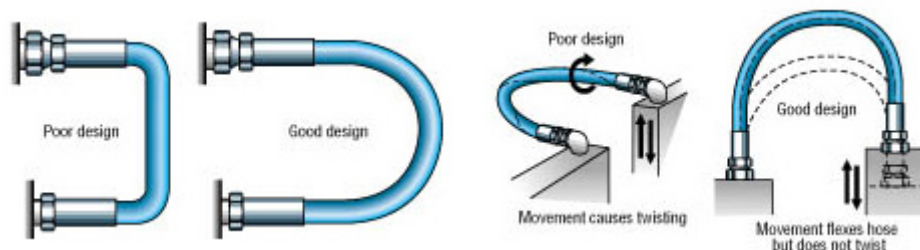
A 51-year-old front-end loader operator with 29 years' mining experience was fatally burned when a fire developed on the front end loader he was operating. This fire was due to a leak in a hydraulic hose that sprayed fluid onto hot engine components.

Hydraulic hoses have a limited life span (as indicated by the manufacturer).

That piece of used equipment you just bought might have been a deal, but make a thorough inspection of the hydraulic hoses before it is placed in service. The rubber in hydraulic hoses ages and deteriorates. Hoses that have been in service for several years may need to be replaced.

Hose life is reduced by factors that include:

- **Environment** - Temperature extremes, UV light, chemicals, ozone, etc. will degrade the rubber used in hydraulic hoses.
- **Abrasion and Cuts** - Wear against other hoses or objects will wear off the outer cover and lead to corrosion of the reinforcing mesh.
- **Extreme Pressure Fluctuations** - Pressure surges above the hose working pressure will damage hose components.
- **Vibration** - Cyclic loading of hoses can damage hose components even when motion seems relatively small.
- **Improper Length/Routing** - Forcing a hose into an improper geometry causes high stresses in the hose components that may also reduce pressure capacity (avoid multi-plane bending, small bend radii, tension in hose, etc.). Hose life can be reduced by 90% when subject to these type of stresses.



See the following links for more information on hydraulic hose safety: The links below are provided for informational purposes only. MSHA does not endorse, take responsibility for, and exercises no control over the organization or its views, or contents, nor does it vouch for the accuracy of the information contained on the destination web site.

- [Parker Hose Safety Page](#)
- [Gates Corporation Hydraulic Hose Safety Page](#)
- [Hose Life Article](#)
- [Hydraulic System Safety Article](#)

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