

Avoid Air Line Failure in Extreme Winter Weather Conditions

Cold weather can wreak havoc on vehicle equipment causing safety hazards. Winter weather effects on air lines are especially important, because this can impair a vehicle's brake system performance. Not only is this a safety concern, but damaged air lines can also put a driver at risk of a CSA violation.

Effects of Cold Temperatures on Air Lines and Gladhands

For safety, and per SAE regulations, air lines need to be able to stretch and recoil properly. When air lines can stretch to a proper working length, force on the coupled gladhands is avoided. When they recoil properly they remain off the deck plate.

If temperatures are too cold and drop below a coiled air line's working temperature, the air lines can lose their ability to stretch, as well as recoil. If air lines lose their ability to stretch, force is applied to the gladhands and can separate or even completely pull away, causing a loss in air pressure to the brake system. Inflexibility in air lines can also cause kinking, which can block air to the brake system as well as permanently damage air lines. If air lines are over-extended in extreme cold, they can fail to recoil back to their original state and sag. This creates the potential for damage due to dragging on the deck plate. In very extreme cases, tubing can crack and/or even come apart at the fitting.

Air lines are also susceptible to damage when gladhands freeze together. If an air coil does not have grips, a driver may place too much force on the lead when pushing down or pulling up when trying to uncouple the gladhands. This can create kinking and even possible chaffing on the tubing. Other methods of disconnecting frozen gladhands include hitting the gladhands with something hard, such as a wrench. If the gladhand is missed and the air lines are accidentally struck, this can also cause damage to the air lines as well.

Preventing Air Line Damage

A solution would be to use air lines that are made specifically for severe weather conditions, which are able to remain flexible in extreme cold. Another protective measure would be to select air lines with grips or easily add gladhand extension grips to your existing assemblies. Extension grips provide better leverage to help prevent applying too much force when coupling and uncoupling.



Air Coils Designed for Extreme Temperatures

Gladhand Extension Grips for Better Leverage

Air line damage in the winter can be prevented with a couple of easy changes. This winter stay safe and CSA violation free by using air lines made to perform in severe cold and harsh weather conditions.

Have technical questions? Get the latest tips from a skilled Phillips engineer! Call: 888-959-0995
OR e-mail: techtips@phillipsind.com

TIPS

- Nylon air coils lose their ability to stretch in severe weather conditions that are below their working temperature. This can lead to too much force on the gladhands causing a separation between the gladhand or complete pull-away.
- Extreme temperatures cause a loss of recoil memory, and if coils are extended too far, the airlines will sag and drag on the deck plate.
- To prevent damage, use air lines designed specifically for severe weather conditions as well as grips to offer better leverage when coupling and uncoupling.

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