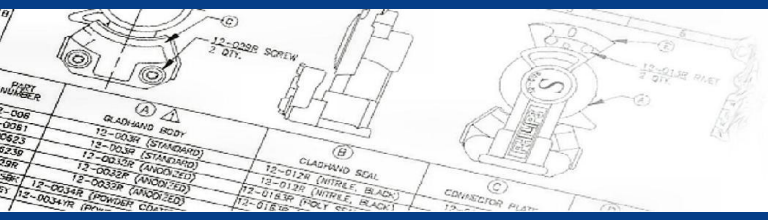
PHILLIPS



QWIK TECH TIPS

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Protect Your Vehicle This Winter From Cold Weather Damage and Corrosion

Corrosion and wet weather go hand-in-hand in this industry, especially when hydroscopic de-icing chemicals are introduced. Ordinary salt (sodium chloride) was used to de-ice wintery roads until the 1990's when new forms of chemical de-icers, magnesium chloride and calcium chloride, were introduced. The molecular size of calcium and magnesium chloride are about half the size of ordinary salt (sodium chloride) and are highly soluble in water, creating a finer mist of spray that coats the vehicle, and fits into tighter spaces and cracks. These chemicals are known as 'hygroscopic'. This means they can absorb moisture from any source, including the air in low humidity conditions. Once dried, ordinary road salt on a vehicle generally will not start corroding until it becomes wet. However, because hygroscopic chemicals can pull moisture out of the air, they keep doing damage even after the winter months have passed.

If proper precautions are not taken, an overabundance of wet weather combined with hygroscopic de-icing chemicals will have devastating effects year-round.

The following tips will help protect those areas on a vehicle most susceptible to damage and corrosion during the winter weather to help keep a vehicle on the road all year long.

In General

- Wash trucks frequently and thoroughly, especially the underside of the chassis and places where dirt and water can accumulate. If left unclean, 'hygroscopic' chemicals will remain on the vehicle and continue to cause corrosion, even during dry weather.
- Do not power wash as water can be forced into areas it cannot escape from, leading to corrosion.
- Be cautious of soaps containing degreasers. Degreasers that come in contact with electrical connections increase the corrosion reaction.
- Consider stainless steel parts where affordable, and minimize specs combining dis-similar metals, which can cause corrosion when they touch, even without the help of damaging de-icers.
- Keep mud flaps in good repair to minimize salt spray.
- Look for components with corrosion-resistant material.

Electrical

- Clean electrical connectors, on both the tractor and trailer ends, every 3-6 months or more if needed, using a plug and socket brush with water (NOT SOAP).
- After every cleaning re-apply dielectric grease on plug and socket pins.
- Use heat shrink tubing or heat shrink connectors on all electrical connections.
- Always make sure the ground leads directly to the negative battery post. Grounding to the chassis or engine will lead to corrosion, poor contacts and faulty electrical operations.
- Replace or repair damaged cables and wires.
- Never pierce wire jacketing as holes can create paths for contaminants to "wick" their way into the wiring system, corroding wires from the inside out.

Air

- Use gladhands with anodized bodies, stainless steel or stainless steel powder coated connector plates.
- Always check for corrosion on the detent plate rivets, which will cause the plate to loosen and break off making coupling impossible.
- An important place to watch for corrosion is the interior cavity of a gladhand. If corrosion buildup begins to chip away, it will enter the air brake system.
- During the winter months, use air lines made specifically for sever weather conditions, which will remain flexible in extreme cold.

TIPS

- Chemical de-icers, such as calcium and magnesium chlorides, can wreak havoc on a vehicle all year long because they are hydroscopic chemicals.
- Hygroscopic chemicals pull moisture out of the air, even in low humidity conditions. This means even in warm weather they can continue to do damage after winter months have passed.
- Hydroscopic chemicals are small and can settle into tighter spaces and cracks. Vehicles should be washed frequently and thoroughly to avoid corrosion build up.

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