

# Differential Vehicle Incidents

## Safety Alert

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### Enform

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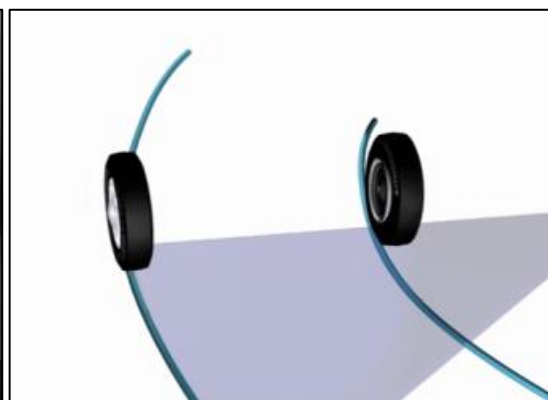
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## Description of Incident:

Recently a service company experienced two separate vehicle incidents involving the use of differential axle locks. While travelling on snow-covered icy roads, drivers of two tractor trailers engaged the driver controlled differential lock to allow the unit to run on a single set of tire chains on the rear axle. The drivers also engaged the inter-axle differential lock. This combination of differential locks enables all sets of wheels to travel at the same speed, which works on straight roads or soft ground at low speeds, but does not allow the vehicle to make curves or corners. This differential lock requires slippage in order to travel through a turn. In both incidents the vehicles could not make the curve or corner and drove into the ditch causing significant damage to the vehicles.



Damaged truck cab located in ditch



Outer wheel has to travel farther and therefore turn faster during a turn

## What Caused It?

The inter-axle differential lock was engaged and did not allow the tractor to turn through the curve or corner.

## Contributing Factors:

- Drivers were not familiar with the roadway
- Limited knowledge of how the differentials work within tractor/trailers
- Inadequate training on when and where to engage the differential locks

## Corrective/Preventative Actions:

- Train all tractor trailer drivers on the appropriate conditions for use of both driver controlled and inter-axle differential lock devices

By industry, for industry

