

Truck tipping safety



Details of incident

A Superdog tipping trailer, with a 13.8m³ tray and undercarriage combination, rolled over on an unsealed road.

The trailer was spreading gravel on the road surface when the incident occurred.

An inspection of the chassis by a structural engineer after the rollover highlighted the damage sustained: a detached hydraulic ram, deformed angle rails and pivot points for the ram, impact marks to the chassis tail plate and structural deformation of the chassis rails. The tray suffered superficial damage to the sides and fixtures.

Contributing factors

A number of factors could have contributed to the incident:

- *maintenance regime*: A structural engineer inspected the company's remaining fleet of tip trucks and dumpsters and found a series of structural cracks under the tray proximate to the ram socket including the supporting angle rails, the welding joints of the tray cleats, cross beams and transverse angle stiffeners. This would suggest insufficient maintenance
- *camber of road and centre of gravity*: The condition of the load combined with the camber of the road can lead to instability. A wet load may slide unevenly from the rear of the tray, therefore shifting the centre of gravity. Camber inclines of 3% have resulted in roll-overs nationally

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- *unsafe tipping practices*: These include exceeding the load parameters, which can result in wheel-jacking, where the front wheels are lifted up off the road when tipping. It can also result in the decoupling of the trailer from the prime mover, due to downward pressures and a failure to engage brakes. Another unsafe tipping practice is hoisting the tray to full tilt without regard for the operating parameters of the truck or trailer.



This photo shows the undercarriage angle rails

Recommendations

To reduce the risk of possible injury from a roll-over:

- conduct a risk assessment of each tipping job before starting, taking into account the condition of the load, the camber of the road, and the operating parameters of the tip truck or trailer
- from this risk assessment, develop and implement safe work procedures
- develop a maintenance schedule. This must include regular checks of all hydraulic systems (including brakes and hoists), the mounting points for the ram, the rail and beam supports, and all welding joints for structural cracks. Maintenance must be carried out to a standard equal to or better than the manufacturer's specification
- ensure the operator of the vehicle is trained and aware of the safe operating limits of the tray and the hydraulic hoist.

If you would like further information contact Workplace Standards Tasmania on:
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