SECTION D

DRIVING LADEN VEHICLES

CONTENTS

Section D - Driving Laden Vehicles

This Section describes how the driver of a laden vehicle can ensure its safety by safe driving and correct load restraint. It includes the following:

- Vehicle Dynamics
- Checking The Load
- Do's and Don'ts

The following are your responsibilities:

- It is the responsibility of the driver to take into account the effect of the load on the steering, cornering and braking performance of a laden vehicle.
- It is the responsibility of the driver to periodically check to ensure the load remains properly restrained during a journey.

Truck drivers should refer to the '*Australian Truck Drivers Manual*' (see Section J), for a comprehensive guide to safe driving of load carrying vehicles.

The following requirements relate only to the effects of the load and its restraint on the safe driving of laden vehicles.

1 VEHICLE DYNAMICS

Loads can vary significantly in weight, size, shape and distribution on the vehicle. Different loading combinations can cause large variations in the way a vehicle drives.

The driver of a laden vehicle must take into account any changes in the vehicle's stability and steering and braking caused by the type of loading on the vehicle.

Steering and cornering can be affected by the weight and distribution of the load, and the vehicle's speed.

Vehicles carrying high and 'live' loads are more likely to overturn on corners, especially if the corners are cambered the wrong way. 'Live' loads include bulk liquids, livestock, hanging meat, wet concrete, motor vehicles and large rubber-tyred equipment.

High wind speeds, which can occur on high bridges, in valleys and between high buildings, can reduce vehicle stability or blow the load off.

Braking performance is affected by the weight of the load and its distribution. When axles are lightly loaded, wheel lock-up and skidding can occur. This reduces braking efficiency and steering ability.

The braking forces can be greater at low speed than at high speed because of the grabbing or 'spike' effect at low speed.

Drivers should travel slower during cornering and on rough roads, where increasing speed increases the forces that cause the load to shift.

When a vehicle turns a corner its 'swept-path' on the road surface is wider than its actual width. Generally, the longer the vehicle combination, the wider the swept-path.

2 CHECKING THE LOAD

During a journey, some loads can settle and shift. Lashings can loosen and objects can fall off.

During a journey the driver must periodically check such loads and lashings to ensure that the load does not fall off. The amount of checking required depends on many factors, including the type of load, the type of restraint system, the roughness of the road and how well it is packed.

In practice, some loads require the lashings to be checked and re-tensioned after only a very short distance. A few kilometres might be too late for some loads, whilst others require checking only during routine vehicle stops. Drivers must become familiar with the characteristics of the load and know how often to check the load during a journey.

3 HIGH AND WIDE LOADS

Make allowances for high and wide loads when driving around corners, under bridges, under electric cables, near power poles, traffic lights and other obstructions.

4 DOs AND DON'Ts

DO remember that the size, type and position of your load will affect the handling of your vehicle.

DO remember that loads can settle and shift during a journey, causing lashings to slacken.

DO check your load before moving off.

DO check your load every time an item is added or removed during the journey.

DO check your load periodically and at routine stops.

DO check your load after emergency braking or swerving.

DON'T take risks.

Two ropes and the pipe loading rack in front won't restrain this load of tiles and battens.

The side curtain could not restrain these pallets of cooking oil.

This load required more than plastic wrapping and a tarpaulin to restrain it on the trailer.

A metal pipe fitting dislodged from a vehicle and hit the bonnet and roof of this car. *(Photo courtesy Beaudesert Times)*

Lengths of timber slipped sideways after the load had settled on packing strips that separated the timber. *(Photo courtesy Queensland Transport).*

The product is well contained in the crates, but the crates aren't restrained on the truck. *(Photo courtesy John Brentnall).*

Bulk bags must be restrained. Tie-down is seldom effective because the contents can settle during a journey and allow the lashings to loosen. Containing the bags on the vehicle with properly designed sides or gates is a better option. *(Photo courtesy John Brentnall).*

This inadequately restrained 12 tonne stainless steel coil rolled forward onto the chassis, over the top of the unbraced loading rack. The extra weight caused a front tyre to burst.

These slabs of broken concrete could easily fall from the tipper. The base of each item of load should be well below the top of the sides to ensure that it won't dislodge on bumps or rough roads.

This load of broken tiles is higher than the sides and is therefore not properly restrained. In such cases the load should be covered with a strong tarpaulin or cargo net designed to prevent any small piece of the load from dislodging from the vehicle.

This crane stabilising leg, which was not locked in position, slid out and collided with a parked car, pushing it into a suburban front yard (see photo inset). In this case, the stabilising leg was considered to be an unrestrained load.

Remember to use the stabilising legs when using the crane for loading or unloading. The weight of the load on the crane arm has overbalanced the truck. *(Photo courtesy Mick Simpson, Wales Truck Repairs).*

Loads must not cover number plates, lights and reflectors.

These concrete pots had no restraint at all! *(Photo courtesy John Brentnall).*

The tracked excavator hit a power pole and slid off the trailer. When carrying high or wide loads always allow for the extra clearance needed to clear obstructions.

Load restraint accidents can happen at any speed. Note the 60 km/h speed sign in the centre of the photograph and in the photo insert.