



Securing loads for transport in the parcel carrying industry

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1. Introduction

PCSA recognises companies operating in our industry are presented with goods of all shapes and sizes to be transported through networks using a variety of vehicle types and sizes. This is frequently undertaken within time critical windows to meet the delivery expectations of both our customer's and their recipients'.

Load optimization on vehicles is key to a successful operation but this must be achieved using suitable load restraint methods in order to minimise the risk to drivers, vehicle loaders, other road users and the public.



Given the variety of loads, vehicles and operating conditions it is impossible to provide specific guidance on how all loads should be secured for transport. However, there is one key message and that is all loads should be secured. Vehicle loading and unloading operations should be subject to a risk assessment that is specific to the vehicle, load and operating environment.

This guidance document provides an overview of the issues encountered by PCSA members in relation to securing loads for transport on vehicle types most commonly used in the industry.

2. When Should Loads Be Secured?

Loads may be transported without restraint if the load completely fills the load bed to the headboard, rear doors and sides and the body of the vehicle is strong enough to contain the load. This is known as positive fit.

The load however must be stable and not shift during transport. This will help to ensure the stability of the load (and vehicle) and prevent damage and injury to persons who unload the vehicle at the destination point. To achieve this, operators should consider the following:

- Can the load slide or topple forwards or back?
- Is the load unstable?
- Can the load or any part of the load fall off the vehicle?

If the answer to any of these questions is 'yes' then further action is required to adequately secure the load.

The following section looks at the various vehicle types and typical problems encountered

3. Boxed Vehicles and Trailers

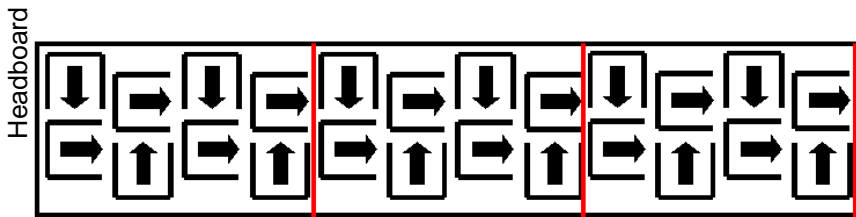
These trailers are constructed with rigid side panels, can incorporate single or double decks, can be used to transport containers or can be loose loaded with items, to maximize trailer fill and increase efficiency.



Container Loading

PCSA members use a variety of container types for freight transport including cages (with or without wheels), cages, Magnums, crates and wheeled “Dollies”.

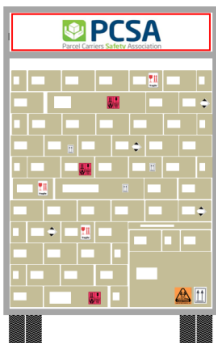
Operators must plan the load and ensure that personnel are trained in the correct loading sequence to reduce the risk of movement in transit.



Wheeled containers should have the brakes applied when loaded into the trailer. Containers should be secured using load lock poles or load restraint straps as shown in red in the diagram above and the adjacent photographs, to prevent excess movement.



Loose Loading



In order to minimize the potential for loads to shift in transit vehicle loaders take care to ‘build’ the trailer in a controlled way following a few simple rules. Heavier items should be loaded on the floor at the base of the stack in order to prevent smaller, lighter items from being damaged and collapsing the stack.

When loading a trailer with parcels they should be overlapped or interlocked in a similar way to constructing a brick wall as this provides greater stability by avoiding the creation of parcel towers.

Incompatible Freight

These are loose items of a bulky or irregular nature that are too large to be placed in containers and do not lend themselves to being stacked easily. Where practicable they should be separated from the load profile.

Vehicle loaders must consider the stability of large, bulky items before loading and where necessary secure such items to pallets using banding or pallet wrap. They should also be placed on the floor at the rear of the trailer and should be loaded as close to one another as possible to reduce the potential for movement whilst in transit.

Operators need to consider what measures they should put in place to prevent loaders/unloaders being injured when opening vehicle doors/shutters in the event a load has shifted whilst in transit.

4. Boxed Double Deck Trailers

Operators of boxed double deck trailers must consider the above issues but they should also consider the implications of placing a load on the upper deck. A variety of deck configurations are available for box vehicles including fixed full length decks, moving twin decks, $\frac{3}{4}$ length mobile decks with full height or split loading area at the headboard.



In vehicles with twin or $\frac{3}{4}$ length mobile decks the headboard area should be loaded first and secured to enable safe loading of the main upper deck. The rear safety gate should be closed throughout this operation. Once loaded the upper deck should be secured and raised in order that the lower section can be loaded safely. Operators and loaders must take care to prevent items falling from the upper or lower deck when the rear doors are opened.

Operators must ensure the Safe Working Load (SWL) for the upper deck is not exceeded. Load planning and distribution is crucial to maintain an appropriate centre of gravity and ensure that the trailer remains stable while in motion. Lighter loads should always be placed on the upper deck and loads on both decks should always be secured.

5. Curtain-sided Vehicles and Trailers

Curtain-sided vehicles and trailers provide additional flexibility as they can be loaded from the rear or the side. As such, they can accommodate large, long or bulky items that cannot be easily loaded on a box vehicle or trailer. Operators of curtain sided vehicles and trailers must consider all of the issues highlighted in relation to boxed vehicles and trailers but must also consider the implications of not having rigid side panels to secure the load on the vehicle or trailer.

Unless specifically designed and manufactured for the task, the curtain should NEVER be used to restrain a load – it is purely for weather protection. If load shift (i.e. movement) occurs during transit there is a risk that the curtain could fail and the load fall from the vehicle or trailer when the curtain is opened. Drivers and loaders should be instructed on what to do in the event the load has shifted in transit.

Operators must ensure they meet the Department for Transport 50% guideline load restraint requirements, so even where an XL rated vehicle and the positive fit method of loading are used, additional load restraint may be required.



A variety of methods are available for securing loads on curtain sided vehicles or trailers which are described in the following section.

6. Load Restraint Systems

PCSA Member companies use a variety of load restraint systems dependent on the types of vehicles they operate. These include webbing, nets, load straps and load poles. Each of these systems is briefly described and operators should consider which system is most effective for them based on the features of their vehicles and trailers, the nature of their freight and the outcome of the operator's risk assessment.

Whatever system of load restraint is selected, its combined strength must be sufficient to withstand a force not less than the total weight of the load forward and half the weight of the load backwards and sideways.

Load Poles

When moving containers, member companies use load poles to prevent excess movement of the load. Load poles are sturdy telescopic poles that affix to the side wall of the trailer via location slots or movable sockets. Ratchet extension poles are also available which extend out to brace against either trailer wall.



Load poles must be correctly rated for the load to be restrained and should be regularly inspected for signs of defect. When not in use, load poles should be laid horizontally and stored safely and securely to prevent injury and damage unless they can be adequately secured in the upright position.



Webbing and Nets

Webbing and nets with rated integral strapping can be used either as internal containment curtains, to separate the load, or at the rear of the vehicle or trailer to secure loose loaded parcels. They can reduce the potential for load shift and can prevent loose loaded parcels from falling when the vehicle doors are opened.



Load Straps

Load straps must be of the appropriate strength to retain the load being transported. The strength capability of any strap can be determined from the attached label although it may also be determined from the stitch pattern of certain straps.



Load straps can be used to secure the load within rigid vehicles or trailers by affixing the end hooks to the internal rail. Operators should take care not to over tighten the strap and damage the rail.

Load Straps Continued

In order to secure loads on curtain sided trailers using load straps it is essential to use the lashing rings or raves provided. Attach the strap hook to the lashing ring on either side of the vehicle and ratchet the strap until secure.



Wherever possible, an extension pole should be used to place the strap in position but if such a device is not available and the strap has to be thrown over the load, it is essential that the area around the vehicle or trailer is clear of personnel.

Operators should take care not to over tighten the ratchet as this could make it difficult to remove and damage the load.

Where internal load straps are provided on a vehicle or trailer, they should only be used in conjunction with another load restraint system. Drivers and loaders should check that the straps move freely along the rail. Straps should be moved one at a time and positioned as close to the load as possible before tightening.

7. Maintenance and Care

Drivers and loaders must take care to protect load restraint systems from damage during vehicle loading operations. Nets, straps and load poles can easily be damaged by sharp edges and poorly loaded freight. Load straps are particularly susceptible to damage from sharp edges when tightened and their condition should be carefully monitored.

Even the slightest damage to a load restraint system can reduce the strength of that system significantly. Damaged or defective load restraint equipment must be removed from use immediately. Drivers and loaders should be reminded not to use bent poles or knotted straps and to ensure that ratchets on load straps remain in good working order.

8. Collection and Delivery Operations (Multi-drop)

PCSA Members use a variety of panel vans for multi-drop collection and delivery operations, many with a gross vehicle weight \leq 3.5 tonne or up to 7.5 tonne GVW. While some of these vehicles are specified with internal shelving or cage structures, we recognise that many have an empty load space to provide flexibility and cost effective operation.



Delivery vehicle loading operations differ throughout member companies. In some cases the load is laid out ready for the driver to check and scan the goods before loading their own vehicle. Drivers should plan their load effectively to ensure it remains stable and that items scheduled for early delivery are easily accessible.

In other organisations the vehicle is loaded on behalf of the driver ready for departure upon their arrival. In this case there must be effective communication between loaders and drivers to ensure the vehicle is loaded effectively and securely. Drivers should check the load before departure to ensure they are satisfied with the safety and security of the load.

Throughout the day the vehicle load fluctuates as deliveries are completed and collections are made. This in conjunction with the stop start nature of multi-drop collection and delivery operations increases potential for the load to shift in transit.

Operators must ensure that drivers effectively manage their load throughout the day, ideally following each collection or delivery. Drivers should 'trim' their load, spreading it across the floor of the vehicle to ensure that it remains as stable as possible and does not collapse or shift in transit. Drivers must also ensure that they maintain access to their next item for delivery, when managing their load, to prevent slips, trips and falls in the rear of their vehicle or injuries through overreaching and poor manual handling.

For further information, please visit www.parcelcarriersafety.com or on Twitter  [@safetyparcel](https://twitter.com/safetyparcel)