NRSPP

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NRSPP Thought Leadership:
How to Safely Load & Secure Heavy Vehicle Trailers in 4 Steps

Every day, trucks and trailers in Australia transport a staggering amount of freight. According to the Truck Industry Council, 75% of all freight was transported through roadways with a total of 463,000 registered trucks (with a GVM > 3,500 kg) in 2017. The enormous amounts of cargo and money involved make it all the more incredible that the vast majority of that cargo makes it to its destination safe and undamaged.

That level of safety is possible because of the well-established and well-enforced set of rules governing how freight must be loaded, positioned, and secured. Most shippers use an established logistics company for trailer transportation, and these companies will have their own regulations, in addition to Heavy Vehicle National Law (HVNL) and Work Healthy and Safety (WHS) regulations. However, if you're handling your own logistics, it's useful to have a quick summary of the basics.

Use these four simple steps as a framework for understanding the key regulations and best practices of freight transport. Naturally, you'll need to do research specific to your situation—but the concepts below will help you understand the essential processes, decisions, and responsibilities of loading and securing trailer freight.

1. *Understand the vehicle's transport capabilities and your cargo's needs.*

The first piece of information you'll need to know is the weight of the cargo you plan to ship. If the cargo was shipped to your facility from somewhere else, check its original bill of lading. If you don't have this information, you'll need to use a cargo scale. You can either use a public scale or purchase your own from the many available online.

A vehicle's gross vehicle weight rating, also known as GVWR, is its maximum safe total weight. Exceeding the GVWR is a recipe for trouble and also against National Transport Commission's (NTC) regulations. The trailer and the tow vehicle will each have their own GVWR determined by the manufacturer. Be sure to check the Heavy Vehicle (Mass, Dimension and Loading) National Regulation for the general mass limits of different vehicles.

You'll need to determine any special transportation needs that your cargo might have. If it's a hazardous material you will want to follow the Australian Code for the Transport of Dangerous Goods by Road & Rail. Additionally, make sure you have a solid understanding of all the NTC heavy vehicle shipping regulations.

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In addition, consider the capabilities of the trailer unit you're planning to use. Depending on the weight and characteristics of what you're shipping, you might not need an actual "big rig."

Smaller "smooth-sided" trailers assembled using high-bond acrylic tape like 3M™ VHB™ Tape or SilverTape™ offer excellent performance, including superior vibration resistance and weatherproofing, not to mention a clean and professional image. They're also easier to maneuver and often don't equire a driver with a Commercial Drivers License, or CDL.

2. Make a loading and positioning plan, then load the vehicle.

An enormous number of factors determine the load positioning needs for safe cargo transport. For a smaller trailer, there's a general "60-40 rule": concentrate approximately 60% of the load toward the front of the trailer, and 40% toward the back. When you're loading a larger vehicle, such as a semi-trailer, there are numerous methods of loading pallet goods to choose from. The following factors will affect which one will work best for you:

- Distance the cargo is traveling
- The type of goods you're shipping
- How stable and how tall the pallets are
- Resources available at the cargo's origin and destination (forklifts, pallet jacks, etc.)

If you're planning on doing heavy-duty shipping in the near future, or if you're shipping a large variety of different items, a software can be a smart investment.

3. Ensure that the load is properly secured at all points.

There are several NTC-approved methods of securing a load inside a trailer. In most cases, you'll want to use a combination of multiple methods to provide failsafes. These methods include:

Blocking and Bracing: Unless your trailer is completely full, front-to-back shifting will occur almost every time the driver brakes or accelerates. Thus, it's common practice to use wooden or metal beams in a so-called "block and brace" arrangement to prevent front-to-back cargo shifting.

Dunnage: Dunnage is the practice of "filling in the gaps" when packing a trailer. Gaps between cargo are filled in using wood, foam, or, most commonly today, air-filled plastic pillows. It's particularly common when shipping oddly shaped cargo, such as machinery, that can't be packed tightly together, as pallets or boxes can.

4. Follow procedures for ensuring that the load remains safely secured.

The NTC Load Restraint Guide nicely lays out 10 steps to follow for driving and restraining a heavy load. Some additional thing to keep in mind include:

- Remember that your vehicle will require significantly longer stopping distance with the trailer attached. Use the rule of seconds to calculate the minimum safe distance.
- Take turns slow and wide, keeping in mind that your vehicle is long and needs a lot of space to turn.
- Wherever possible, try to park in a space where you can pull out rather than backing out, such as a remote area of a parking lot.
- Practice driving in reverse so that you don't jackknife your trailer if you do have to back out. Take it very slowly and, if you do feel the jackknife start to happen, stop, pull back up, and try again.
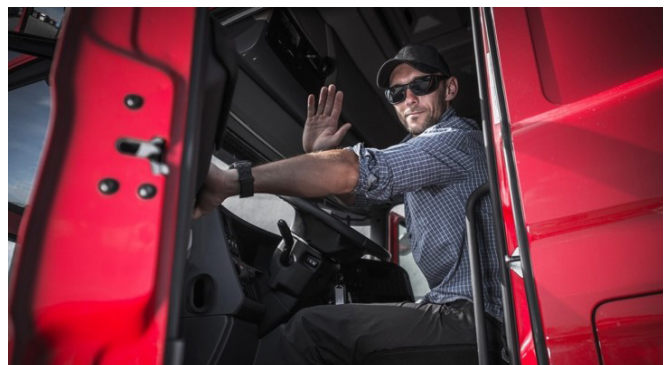
Doing your own trailer shipping can seem intimidatingly complicated. But, if you're careful, do your homework, and don't cut corners, there's no reason to fear. Just remember to follow the rules, and yours will be one of the hundreds of thousands of cargo loads that arrives safely every day!