

Quad-axle group semi-trailers and B-doubles

Fact Sheet



Moving heavy loads safely and efficiently

Semi-trailers and B-doubles fitted with quad axle groups can carry heavy loads more safely on a defined road network

The wider adoption of quad axle groups on semi-trailers and B-doubles form part of the Council of Australian Governments' (COAG) national reform agenda for transport. The Australian Transport Council (ATC) approved the reform in March 2007.

Productivity benefits

This reform will improve the international cost-competitiveness of transport for Australian manufacturers and primary producers. Heavy loads such as meat, wine, grain and produce are often loaded below the trailer's available capacity to ensure the truck's axles are not overloaded. This can become a weak link in the global logistics chain.

By spreading the weight over more axles, trucks can carry heavier loads safely. Closer alignment of road and rail axle weight limits also allows intermodal operators to transport containers more efficiently by rail.

Community impacts

Fewer, safer trucks are needed to carry heavy loads, which will reduce road trauma and cut engine emissions. Safer and more efficient vehicles are the best option to meet future growth in the road freight task.

Quad-axle group trucks are designed and built to meet tough safety standards for stability, braking and turning. Several successful trials have been completed without incident and were generally well received by local councils.

Road wear impact

Field trials and research has determined the quad axle loads which cause the same road wear effects as a tri-axle. Potential road pricing issues are being considered as part of a separate NTC project.

Load equivalencies for a common pavement type

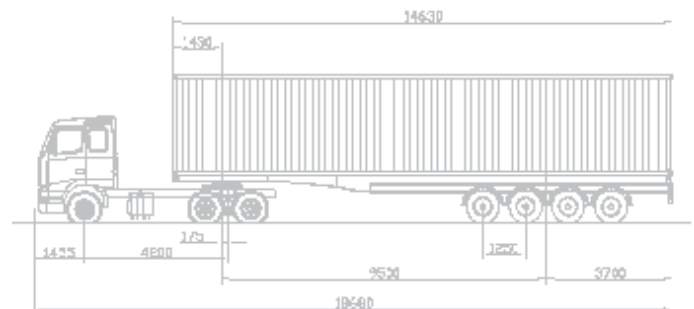
	Triaxle Group Dual Tyres	Quad Axle Group Dual Tyres
HML axle group load	22.5 tonnes	27.0 tonnes



Quad axle semi-trailer

A quad axle group semi-trailer can have a gross mass of up to 50 tonnes (or 50.5 tonnes¹). Proposed maximum axle group loads are:

- steer axle – 6 tonnes (or 6.5 tonnes¹);
- tandem drive axle group – 17 tonnes; and
- quad axle group – 27 tonnes.



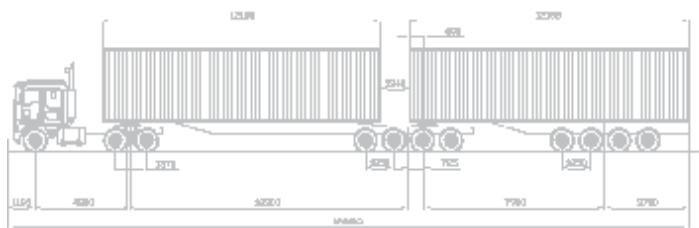
Quad-axle B-double

B-double combinations can be configured to carry the equivalent of two 40 foot containers, with a gross mass of up to:

- 72.5 tonnes (or 73.0 tonnes¹) if one quad axle group is fitted; and
- 77.0 tonnes (or 77.5 tonnes¹) if two quad axle groups are fitted.

Proposed maximum axle group loads are:

- steer axle – 6 tonnes (or 6.5 tonnes¹)
- tandem drive axle group – 17 tonnes;
- triaxle group – 22.5 tonnes; and
- quad axle group – or 27 tonnes.



NOTE:

¹ Some vehicles qualify for an additional 0.5 tonne steer axle mass under the safety package recently approved by the Australian Transport Council.

Gaining vehicle approval

'Blueprint' designs for quad-axle semi-trailers and B-doubles have been pre-approved to Performance Based Standards (PBS) and made available to the trucking industry. Operators can use these 'blueprints' to apply for state-based permits on a network to be defined by State/Territory and local governments. Other requirements include:

- dual tyres on quad axle groups;
- a steerable rear axle with at least +/- 12 degrees steering articulation and an effective centring mechanism (or another system acceptable to the registration authority);
- a load sharing system at least as effective as for a tri-axle group;
- road-friendly certified suspension (refer Vehicle Standards Bulletin 11);
- (optional) 'lift axles' complying with ADR 43/04;
- NHVAS or equivalent mass and maintenance accreditation; and
- the Intelligent Access Program (IAP) as a potential tool for route compliance.

The full range of blueprint dimensions and specifications are available for download on the NTC website www.ntc.gov.au. If operators want to develop a different quad-axle group vehicle design, its safety must be assessed under the PBS reform.

Regulations will be developed by the end of 2008; subject to a review of the reform and further research on road wear and bridge loading impacts. This approach is intended to build confidence in quad axle group trucks and further improve utilisation of the road network.

Network mapping

Quad axle group trucks will operate primarily on freight routes to shuttle high density loads, or to move heavy container between ports, railheads and freight centres. Mapping/gazetting a strategic road network for quad axle groups through assessments and upgrades by governments is critical to the reform's success.

