

Infrastructure Plant Manual

Module P518 – Loading trailers

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0.1 Job roles

This module is applicable to the following job roles, you must familiarise yourself with all of the clauses contained within it to understand your personal responsibilities. If you intend to carry out any of these roles you must hold the relevant Sentinel competency:

- Machine Operator
- Crane Controller
- Machine Controller
- COSS
- ES
- Planner
- Plant Operator License Holders
- Trailer manufacturers
- Slinger

0.2 Risk mitigation

This module helps mitigate the following high level risks:

- a) compliance with legislation (LOLER, PUWER, HASAW);
- b) runaway/failure to stop on demand, e.g. OTP running away on a gradient;
- c) damage to assets, e.g. RRV or its load hitting a passing train during ALO operation;
- d) derailment, e.g. trailer being loaded incorrectly;
- e) staff injuries, e.g. Operator being trapped between machine and infrastructure or machine and machine.

0.3 Competence

Persons planning and executing the loading of trailers shall have knowledge of:

- a) assessing weight of materials and equipment and their centre of gravity;
- b) infrastructure hazards, obstructions and W6a loading gauge;
- c) capabilities of the trailers, limitations on the Certificate of Engineering Acceptance and manufacturers instructions;
- d) load behaviour and principles of uniformly distributed loads (UDL);
- e) load restraining devices and principles;
- f) characteristics of different load materials (e.g. steel on steel);
- g) use of chocks and dunnage.

1 General principles

When loading trailers, or planning the use of trailers, take into account:

- a) the maximum carrying capacity of the trailer;
- b) any stated requirements for loading, unloading or distributing the load on the trailer (see Section 4 of this module);
- c) the effect that cant and/or gradient may have on the trailer and load;
- d) the effect that track geometry and switches and crossings may have on the load when travelling;
- e) the effect that start up acceleration forces and braking may have on the load;
- f) any limitations applied by the Certificate of Engineering Acceptance;

Loads carried by trailers shall:

- a) be kept as low as possible to maintain maximum stability (see Section 3);
- b) be uniformly distributed about the centre of the loading area to reduce the risk of derailment.

When trailers are loaded, a competent person shall verify that:

- a) the load is stable and will not shift or fall;
- b) the load will not present a risk of collision with persons, trains, or the infrastructure whilst travelling.

Give special consideration to loads:

- a) that exceed W6a gauge (see Section 5);
- b) that overhang or are carried over multiple trailers (see Section 6);
- c) that may be subject to external forces (see Section 8);
- d) that is hazardous (see Section 9).

Personnel are to be transported in accordance with NR/PLANT/0200/module P505.

Speed of movements, display of head and tail lights and forward visibility shall be in accordance with GE/RT8000/HB15 - *Rule Book; Handbook 15 Duties of the machine controller (MC) and on-track plant operator*. If an overhanging load obscures any light, an alternative is to be provided to maintain compliance with GE/RT8000 - *Rule Book*.

Make sure the load carrying area is free from debris before loading trailers.

Only use fibre straps when strapping rail down for transportation purposes.

2 Trailer types

There are two main trailer types that can affect the load distribution on a trailer.

- a) A three point suspension arrangement with one oscillating axle where the load is concentrated as shown in Figure 1;
- b) A four point suspension arrangement where the load is distributed evenly as shown in Figure 2.