

SECTION 16 LOGS

- 16.1 Transportation
- 16.2 Rail Loading Information
- 16.3 Loading Restraints
- 16.4 Belly Straps

For equivalent guidelines in respect of road transportation see Section 3 of this Manual.

This Section provides the requirements for the safe transportation, loading and securement of logs. In the event that any wagon cannot be loaded to meet these requirements, then loading **MUST NOT** commence, and the problem referred to the Customer Service Centre, phone 0800 351 351, for resolution.

16.1 TRANSPORTATION

For conveyance purposes, logs are defined as follows:

- ➔ **Short export logs:** Length below 4.5 m, uniform length, diameter size matched logs.
- ➔ **Standard export logs:** Length 4.5 m & above, uniform length, diameter size matched logs.
- ➔ **Random size/length logs:** Includes pulp, firewood etc.

16.2 RAIL LOADING INFORMATION

The following table defines the number of cradles for each wagon type, and describes the maximum loading capacity for each wagon type.

Wagon Type	Number of Cradles	Max. Loading Capacity (Tonnes)
UKL	4	36.0
UKN	6	33.0
ULA	4	38.0
ULB	4	38.0
ULE	4 / 6	38.0
USL	4	38.0
FC	4	53.0
FE	6	41.0
FEG	4	41.0
FES	8	40.0
FG	4	41.0
FGS	6	41.0
LTF	3	19.5

Check the Quick Operating Guide or Fleet Diagram for each wagon type for further restrictions / loading conditions

16.3 LOADING RESTRAINTS

The following requirements apply to **all types of logs**:

- **All outside logs**, including all those of the top layer, **must protrude at least 100mm (one hand width) beyond** the outer end of each cradle supporting the load. Note that Murupara long trains have more stringent rules for tail end wagons. See Murupara long Train Log Wagon Loading Rules M9203/82
- Logs **must not protrude outside** the cradle edges.
- Outside logs on the top layer **must not exceed the cradle height**
- Only logs under 4.5 m length are allowed to be 'crowned' above cradle height.
NOTE: Crowning is not permitted on log wagon ex Murupara.
- Maximum **total** 'Crowned' height above the cradle tips for logs under 4.5 m is 200 mm
- Logs **must be loaded centrally** on the cradles.
- Logs **must be distributed evenly** across the cradle.
- Logs **must** be at least 150 mm **clear of all handgrips**.
- Logs **must not overhang** the wagon ends.

The following additional requirements apply to the various types of logs as shown:

- **Short export logs (under 4.5 m):** All **top layer** logs **must be restrained at one end of the cradle** by either another log or the cradle to stop sideways movement. **No more than 1/3 of any top layer log may be above an adjacent top layer log and outside logs must not exceed the cradle height. The top layer must not contain loose logs.**
- **Standard export logs (4.5 m and above):** The **top layer** of logs **must be nestled** at one end of the cradle in the 'V' of the layer of logs below, or supported by either another log or the cradle to stop sideways movement.
- **Random length logs (including pulp, firewood etc):** The **top layer** of logs **must be supported** at one end of the cradle by either another log or the cradle to stop sideways movement. **No more than 1/3 of any top layer log may be above an adjacent top layer log and outside logs must not exceed the cradle height. The top layer must not contain loose logs.** Logs shorter than cradle length **must be nestled** into the centre of the load.

16.4 BELLY STROPS

A minimum of **two** belly strops **must** be used when:

- ➔ Logs are moving across Cook Strait on rail.
- ➔ Eucalyptus logs are being conveyed.
NOTE: Only one belly strop is required from North Auckland to Kawerau.
- ➔ Required by the Forestry Business Unit.

A minimum of **one** belly strop **must** be applied around each bundle to contain all logs when conveying:

- ➔ Short logs under 5.8 m on FC wagons.
- ➔ Short logs under 4.5 m on all other log wagons.

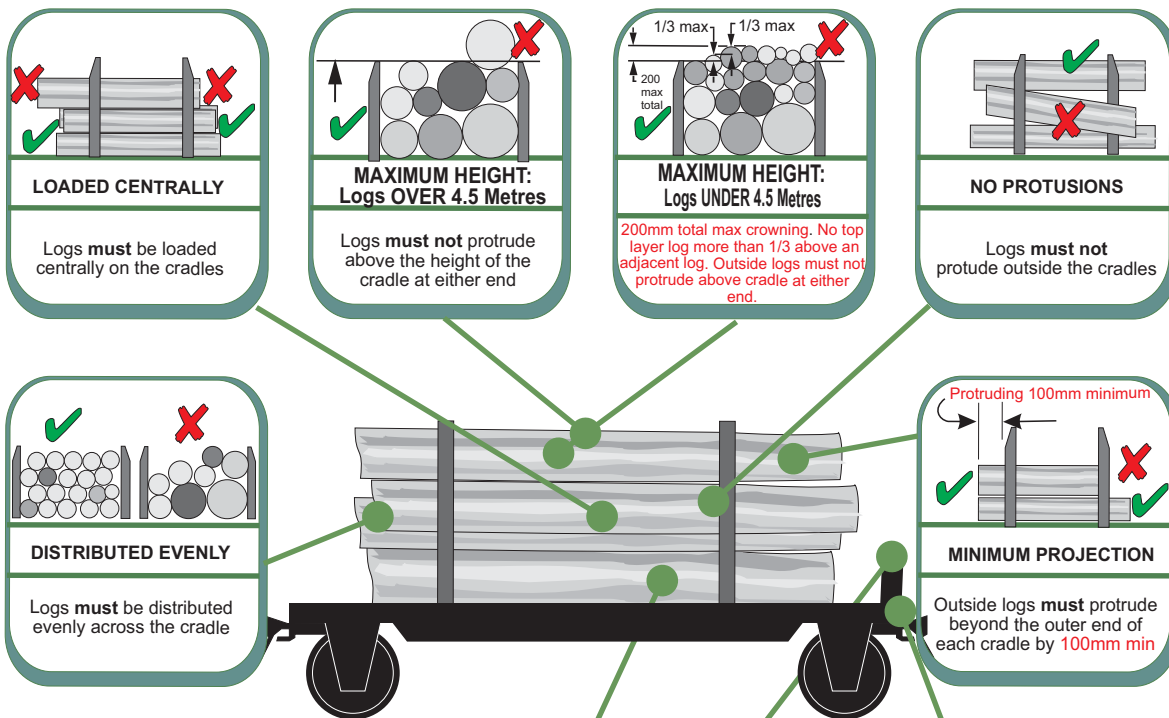
Belly strops when applied **must**:

- ➔ Go around all logs.
- ➔ Be positioned inside the cradles.
- ➔ Be fitted centrally between the cradles and parallel to the cradles.
- ➔ Have all twists in the webbing removed before feeding the strop end through the ratchet.
- ➔ Have both ratchet keeper plates fully engaged and the handle in the locked position.
- ➔ Have excess strop ends over 1m tied off.

Belly strops when applied **must not**:

- ➔ Be put over knots or other sharp edges which may cause rapid wear.
- ➔ Have damaged ratchets or cut webbing.
- ➔ Be removed if the load is insecure or moved past the cradle until secured by a Log Loader.

DIAGRAM 16.1 GENERAL LOG LOADING RULES



RAIL LOADING DATA		
Wagon Type	Number of Cradles	Maximum Loading Capacity (Tonnes)
UKL	4	36
UKN	6	33
ULA	4	38
ULB	4	38
ULE	4/6	38
USL	4	38
FC	4	53
FE	6	41
FEG	4	41
FES	8	40
FG	4	41
FGS	6	41
LTF	3	19.5

Refer to Quick Operating Guides and Fleet Diagrams for each wagon type for further restrictions / loading conditions

Log Length
The length of logs that can be loaded is governed by the rules for:
Minimum projection
Handgrip clearance
Wagon overhang
Nesting short logs

Belly stops must be applied around all the logs, when:

- 1 Logs are under 4.5 m (under 5.8 m on FC wagons).
- 2 Top layer contains loose logs.
- 3 Eucalyptus logs are being conveyed.

HAND GRIP CLEARANCE
150 mm min.
Logs must have a minimum clearance to handgrips of 150 mm.

NO OVERHANG
Logs must not overhang the ends of the wagon.

SHORT EXPORT LOGS
(uniform length, matched logs below 4.5 Metres in length)

The top layer of logs must be supported at one end of the cradle by either another log or the cradle to stop sideways movement.

Logs must have at least **ONE** belly stop.

STANDARD EXPORT LOGS
(uniform length, matched logs 4.5 metres in length and above)

The top layer of logs must be nested at one end of the cradle in the "vee" of the layer below, or the cradle to stop sideways movement.

Logs are **NOT** to be loaded above cradle height.

RANDOM LENGTH LOGS
(includes pulp, firewood etc.)

The top layer of logs must be supported at one end of the cradle by either another log or the cradle to stop sideways movement, and for logs shorter than the cradle length, these logs must be nested into the centre of the load.