

## SECTION 16 LOGS

- 16.1 Transportation
- 16.2 Rail Loading Information
- 16.3 Loading Restraints
- 16.4 Load Placement**
- 16.5 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:** e.g. pulp
- ➔ **Minimum Log Length: 3.7 m (for all logs)**

### 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
<b>PKL</b>	<b>4</b>	<b>41.0</b>

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**:

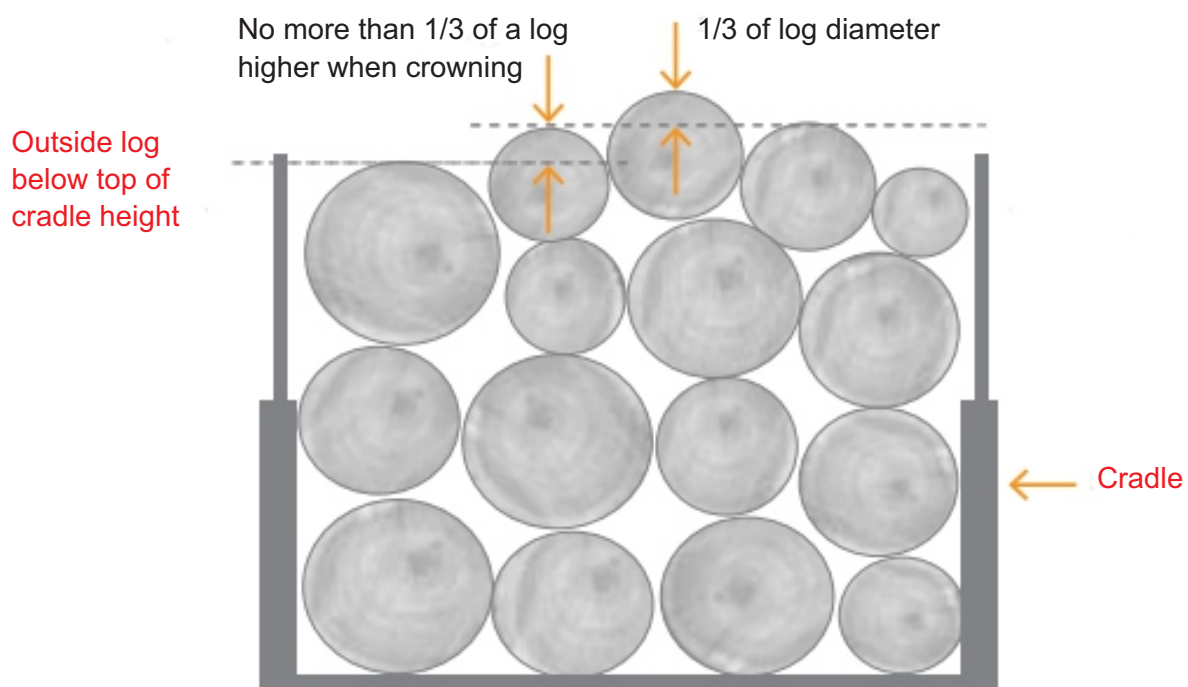
- ➔ **All outside logs**, including all those of the top layer, **must protrude** at least **150mm beyond** the outer end of each cradle supporting the load. Note that Murupara long trains have more stringent rules for tail end wagons. See Murupara long Train Log Wagon Loading Rules M9203/82
- ➔ Logs **must not protrude outside** the cradle edges.
- ➔ Outside logs on the top layer **must not** exceed the cradle height
- ➔ **Logs of any length may be 'crowned' above cradle height as in Diagram 16.1**  
**NOTE:** Crowning is not permitted on log wagons ex Murupara.
- ➔ 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.

## 16.4 LOAD PLACEMENT

- ➔ No part of the outside logs of the load shall be loaded above the top of the cradle
- ➔ Logs loaded in the middle of the load shall not have more than one-third of the diameter of the log above the adjacent logs (see diagram 16.1).
- ➔ The top of the load shall be rounded so that the stop will contact as many logs as possible

The below diagram is contained in and can be referenced in the *Approved Code of Practice for Safety and Health in Forest Operations* and has had some labels (in red) amended to reflect KiwiRail's terminology

**DIAGRAM 16.1**  
**MAXIMUM PERMITTED LOG HEIGHTS WITH CROWNING**



## 16.5 BELLY STROPS

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

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

- ➔ Logs are moving across Cook Strait on rail.
- ➔ Eucalyptus logs are being conveyed.
- ➔ **Required by KiwiRail (e.g. long trains departing Murupara)**

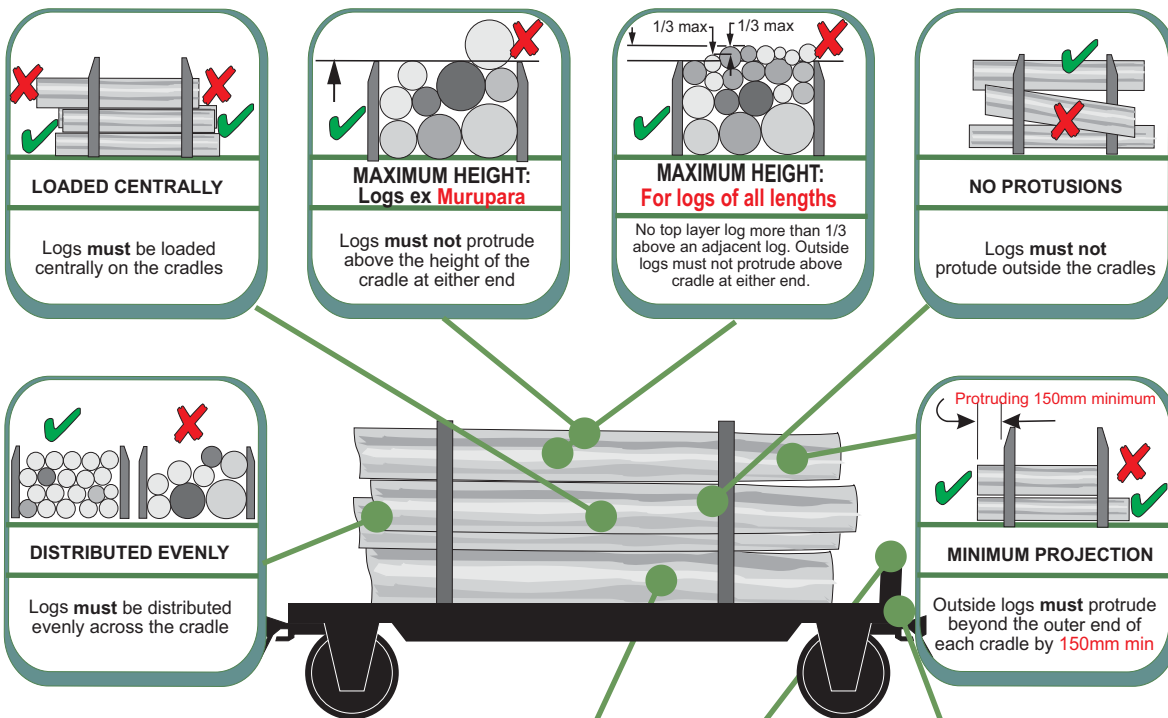
Belly strops when applied **must**:

- ➔ Go around all logs.
- ➔ **Be tight around each bundle.**
- ➔ Be positioned inside the cradles.
- ➔ Be fitted centrally between the cradles and parallel to the cradles.
- ➔ **Where possible**, 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 16.2 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
<b>PKL</b>	<b>4</b>	<b>41.0</b>

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
- Nestling short logs

**BELLY STOPS MUST BE APPLIED**  
Belly stops must be applied on all wagons

**HAND GRIP CLEARANCE**  
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 supported 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.

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

**RANDOM LENGTH LOGS**  
(e.g. pulp)

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 shorter than 3.7 metres in length are not permitted