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UNION OF RAILWAYS

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**SHUNTING, UNLOADING, LIFTING AND RERAILING**

**APPLIANCES FOR WAGONS (1)**

(1) Obligatory provisions are preceded by an asterisk : ★

504

OR

- 2 -

## REVISIONS

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| Leaflet 504, 5th Edition, 1-1-78 |            |           |      |
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## N O T E

This leaflet is part of a set which also includes:

- Leaflet 505-1 : Kinematic gauge for powered units used on international services.
  - Leaflet 535-2 : Standardisation and positioning of steps, end platforms, gangways, handrails, tow hooks, automatic coupler and brake valve controls on wagons in connection with the fitting of the automatic coupler on the UIC Member Railways and the OSJD Member Railways.
  - Leaflet 536 : Tow hooks for wagons.
  - Leaflet 581 : Wagons - Lifting - Rerailing.
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0 - GENERAL

0.1 - This leaflet sets out the conditions to be observed in the construction and use of appliances for shunting, unloading, lifting and rerailing wagons, in order to avoid damage to wagons being caused or initiated by the use of such appliances.

The following regulations are therefore restricted, from the point of view of construction, to those details affecting the action of the appliance on the wagon.

\* 0.2 - The following appliances are prohibited :

- propelling appliances, acting on :
  - . the coupling hook,
  - . the axle shaft,
  - . the headstock end of wagons fitted with the automatic coupler;
- appliances gripping the wagon by lifting it beneath the buffers;
- appliances used for tipping bogie wagons by lifting them by one or more axle shafts.
- appliances used for weighing wagons by lifting them by the axle shaft.

**Section 1 - SHUNTING****1 - HAULING AND PROPELLING**

**1.0 - Appliances acting on towing hooks, draw and buffing gear of wagons in a normal manner by means of similar gear, require no special regulations.**

Apart from these conventional types, there are in existence a great variety of appliances, of a stationary or mobile nature, self-propelled or cable-driven, which run either on the same track as the wagon, inside this track, or along a side track.

These are referred to below in relation to the part of the wagon which they engage or with which they are in contact.

**1.1 - By the coupling hook****1.1.1 - Construction regulation**

The appliance may be off-centre in relation to the wagon.

**★ 1.1.2 - Regulations for use :**

On straight level track, a wagon may be hauled, in relation to its centre-line, at a maximum angle of :

- 30° on the horizontal plane,
- 25° on the vertical plane.

**★ 1.2 - By the towing hook****1.2.1 - Construction regulation**

The tractive effort must be restricted to 30kN by an automatic safety device.

**1.2.2 - Regulations for use**

It is forbidden to haul the wagon by any part other than the hook (1) provided for this purpose.

On level track, the mass of the raft of wagons to be shunted may not exceed :

- 240 t in the case of a standard hook,
- 120 t in all other cases.

Hauling may be effected at a maximum angle of 30° in relation to the wagon centre-line.

The towing speed of the winch used for hauling wagons must not exceed 1m/s.

**★ 1.3 - By raising the wagon beneath the headstock****1.3.1 - Construction regulations**

The vertical force must be restricted to 30 kN when the appliance engages the wagon by means of a connecting platform secured to the headstock.

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(1) or the towing ring on certain existing wagons.

In addition, the appliance must be designed to maintain a certain loading on the wagon suspension during movement, irrespective of its load.

The appliance must bear an indication of the minimum radius of the curves over which it may run without danger to the wagon. This radius shall be determined by carrying out tests prior to the acceptance of the appliance.

Wagons fitted with the automatic coupler (to be added later).

### ***1.3.2 - Regulations for use***

The use of the appliance is only authorized on curves with a radius equal to or greater than that shown on the appliance .

## **★ 1.4 - By propelling the wagon on the end of the headstock**

### ***1.4.1 - Construction regulation***

The appliance must be able to make contact with the wagon without impact ; its propelling force must be restricted to 50 kN.

## **★ 1.5 - By rollers running on the running tread or on top of the flange of the wheel tyres**

### ***1.5.1 - Construction regulations***

A tractive device running inside or outside the rails propels or brakes the wheel train by means of one or more rollers.