

Guidelines for replacement of wheelsets

Revision	Date	Description
00	04/04/17	First release.
01	10/07/18	Added list of wheelsets types and instructions for T3000 wagons.
02	19/03/20	LS B46 wheelset type added; use of LL306 wheelsets extended to wagon series 4552; reference to SNCF maintenance plan removed.
03	06/05/20	Use of 9073 wheelsets extended to wagon series 4908
04	09/06/21	Use of LL306 wheelsets extended to wagon series 4555, 4575, 4961 and 4962
05	27/08/21	Update and improved exposure paragraph 2) Rules for replacement of wheelsets

NOTE: the changes introduced in this revision are highlighted on the right side of the page.

Introduction

The rail fleet owned by MERCITALIA INTERMODAL is composed of different types of freight vehicles, with different Maintenance Plans (henceforth **MP**), largely based on the maintenance rules of country in which they had been registered (Italy: “Trenitalia” or “TI”, Switzerland and France: VPI).

In order to unify the maintenance rules of the fleet, the application of a new MP, based on VPI (*Vereinigung der Privatgüterwagen-Interessenten*) rules, is in progress on all wagons of the fleet.

This process will require some years and, during this time, wagons of the same series but with different MP will coexist.

The possible maintenance plans applied on the MERCITALIA INTERMODAL wagons is summarized into the following table:

Series	MP	Wheelsets types
31 85 4552 xxx - x	VPI	LL306 - BA004 (*)
33 83 4555 xxx - x	TI or VPI	LL306 - LSB46 - B46 UR/m (**)
33 83 4575 xxx - x	TI or VPI	LL306 - LSB46 - B46 UR/m (**)
33 83 4908 xxx - x	TI or VPI	9073- 9064FS (***)
33 87 4909 xxx - x	VPI	9064 fr - 9064B - 9073
33 83 4932 xxx - x	TI or VPI	38 Urm
(33/37) 85 4956 xxx - x	VPI	LL306 - BA004 (*)
33 83 4961 xxx - x	TI or VPI	LL306 - LSB46 - B46 UR/m (**)
33 83 4962 xxx - x	TI or VPI	LL306 - LSB46 - B46 UR/m (**)

(*) see point n°3 - (**) see point n°4 – (***) see point n°5

Considering that each MP contains different rules regarding the wheelsets, the purpose of this Technical Note is to describe the Guidelines for replacement of wheelsets.

Rules for replacement of wheelsets

1) Compatibility between MP of wagon and MP of the wheelsets

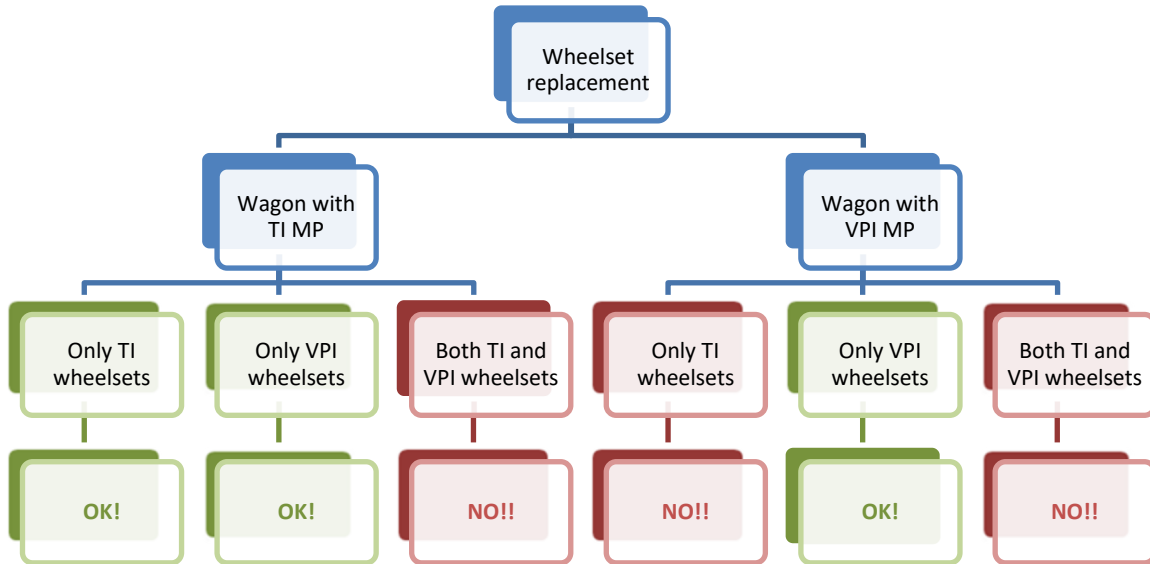
All the wheelsets mounted on a wagon must have been revised with the same MP (eg. all VPI wheelsets) and their maintenance plan must be compatible with the MP of the wagon.

In other words:

- **VPI wagons:** only VPI wheelsets can be mounted.

- **TI wagons:** it is possible to mount both TI and VPI wheelsets, provided that all wheelset on the wagon have been revised according the same MP (ie. all TI or all VPI wheelsets).

These cases are exemplified into the following scheme:



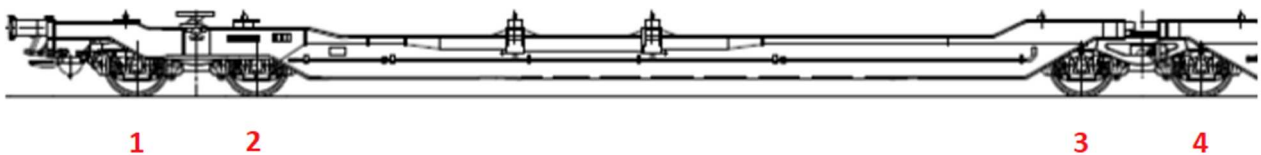
Usually MERCITALIA INTERMODAL communicates to their suppliers which wheelsets must be mounted on a certain wagon, through the information contained into the delivery note of the spare parts. Sometimes these information can be communicated by another ways (e.g. email).

In absence of these indications, before replacing the wheelsets on a wagon, the supplier must ask to MERCITALIA INTERMODAL which wheelsets must be mounted.

2) *Compatibility between the diameters of the wheelsets mounted on the same wagon*

Usually, the difference between the diameter of the wheelsets must not be greater than:

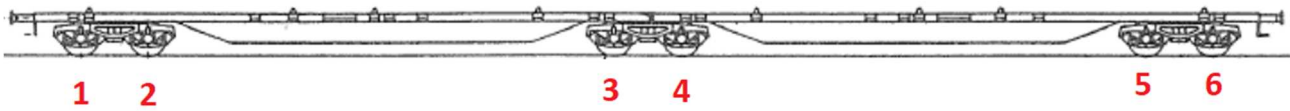
- 10 mm for the wheelsets on the same bogie
- 20 mm for the wheelsets mounted on the different bogies
(this condition also applies to non-adjacent bogies for wagons with 3 or 4 bogies)



Eg 1, here dimensions to be observed for the above configuration (D = wheelset diameter):

DELTA (D1,D2) between $\pm 10\text{mm}$

DELTA [min (D1,D2); max (D3,D4)] between $\pm 20\text{mm}$



Eg 2, here dimensions to be observed for the above configuration (D = wheelset diameter):

DELTA (D1,D2) between $\pm 10\text{mm}$

DELTA [min (D1,D2); max (D5,D6)] between $\pm 20\text{mm}$

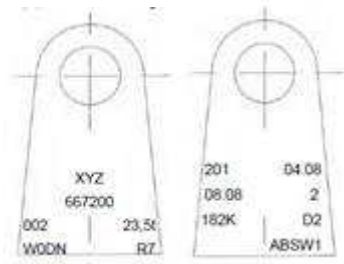
Any exceptions to this rule, must be agreed with MERCITALIA INTERMODAL and can not be in contrast with the MP of the wagon.

Recognition of the MP of a wheelset

The MP of a wheelset can be recognized according the following rules::

VPI wheelsets

On the axlebox of each VPI wheelset there are 2 plate, one containing the data of the wheelset and the other containing the information about last maintenance (IS1, IS2 or IS3+IL).



TI wheelsets

On the axlebox of each TI wheelset there is a circular plate, containing the information about last maintenance.



3) Double pocket wagons “T3000” (4956 series) and Sgnss flatwagons (4552 series)

Both BA004 (not thermostable) and LL306 (thermostable) wheelsets can be mounted on 4552 (flatwagon) and 4596 series (T3000 wagons).

However, all the wheelsets mounted on the wagon must be of the same type (BA004 wheelsets or LL306 wheelsets).

The type of wheelset can be easily identified by the plate on the axlebox. The BA004 wheelset, moreover, do not carry the white stripes on the axlebox cover.

BA004 type (the plate contains the marking “004”, the axlebox cover has no white stripes)



LL306 type (the plate contains the marking “LL306”, the axlebox cover has 2 vertical white stripes)



4) Flatwagons (4555 and 4575 series) and double-flatwagons (4961/2 series)

The Sgnss 4575 series, equipped with “K-type” C810 brake blocks and DAKO pneumatic brake, must be equipped only the LS B46 wheelsets (thermostable).

B46 UR/m (not thermostable), LS B46 (thermostable) and LL 306 (thermostable) wheelsets can be mounted on 4555/4575/4961/4962 series equipped with cast iron or “LL-type” brake blocks.

However, all the wheelsets mounted on the wagon must be of the same type (B46 UR/m wheelsets or LS B46 or LL 306).

The type of wheelset can be easily identified by the plate on the axlebox, as shown in the following figure:



The B46 UR/m wheelset (on the right), moreover, do not carry the white stripes on the axlebox cover.

5) “Multifret” wagons (series 4908)

Both 9064FS (not thermostable) and 9073 (thermostable) wheelsets can be mounted on 4908 series. However, all the wheelsets mounted on the wagon must be of the same type (9064FS wheelsets or 9073).

The type of wheelset can be easily identified by the plate on the axlebox, as shown in the following figure:



The 9064FS wheelset (on the right), moreover, do not carry the white stripes on the axlebox cover and has a lower axle load (18 t) than 9073 type (20 t).