INTERNATIONAL UNION OF RAILWAYS

UIC CODE
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VI - TRACTION

650 O

5th Edition, 1-1-1983

STANDARD DESIGNATION OF AXLE ARRANGEMENT ON LOCOMOTIVES AND MULTIPLE-UNIT SETS

(Reprint, 1-4-90)

REVISIONS

Leaflet 650, 5th Edition, 1-1-83			
Amendment		Amendment	
No.	Date	No.	Date

1 - DESIGNATION OF AXLES BELONGING TO THE SAME UNDERFRAME

1.1 - If there are carrying axles, they are designated by Arabic figures, the value of which indicates the number of successive axles of this kind.

Examples : 1 designates one carrying axle,

2 designates two successive carrying axles,

etc...

1.2 - Driving axles are designated by capital Roman letters, without an index if they are mechanically coupled, and with the index «0» (zero) when separate. The order of these letters in the alphabet shows the number of successive axles of this kind.

Examples : B designates two mechanically-coupled driving axles,

Bo designates two separate successive driving axles,

C designates three mechanically-coupled driving axles,

Co designates three separate successive driving axles,

etc.....

1.3 - In the same underframe, the successive groups of axles of the same kind are designated by placing the characteristic symbols of these groups one after another.

Example : 2B designates a group of two carrying axles, followed by a group of two mechanically-coupled driving axles, all placed in the same underframe. In this underframe, there are no carrying axles after the group of driving axles,

etc....

1.4 - Axles used as carrying axles, which may, with the addition of an auxiliary mechanism, also be used as driving axles, are designated by small letters.

2 - DESIGNATION OF AXLES OF A VEHICLE WITH SEVERAL DIFFERENT UNDERFRAMES

2.1 - The designations referred to in Paragraph 1 apply, without any modification, to axles or groups of axles belonging to the main underframe of a vehicle.

2.2 - The designations referred to in Paragraph 1 also apply to axles or groups of axles belonging to the same auxiliary underframe of a vehicle. The notation of these axles are, however,

- either followed by an apostrophe, if it includes one figure or one letter,

- or shown between brackets if it includes more than one figure or letter.

Examples : 1' designates one carrying axle independent from the main underframe (e.g. Bissel),

2' designates two carrying axles independent from the main underframe (e.g. bogie),

B' designates two mechanically-coupled driving axles in a bogie independent from the main underframe,

(1Ao) designates an auxiliary underframe including one carrying axle and one driving axle,

(1C) designates an auxiliary underframe including one carrying axle and three mechanically-coupled driving axles.

etc.....

2.3 - As regards vehicles made up of several units which can be uncoupled and displaced independently, their respective symbols shall be separated by the sign +.

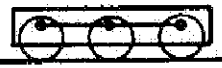
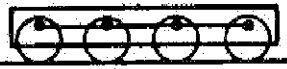
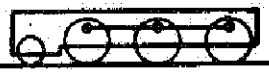
2.4 - Articulated vehicles have at least one auxiliary underframe, on which two successive main underframes rest. The sign — is shown above the symbolic designation of the auxiliary underframes situated at right angle with the articulations.

Example : 8'o designates an auxiliary underframe (with two separate driving axles), common to two main underframes.

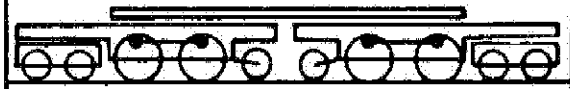
3 - EXAMPLES OF SYMBOLS

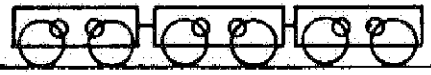
3.1 - The symbols of various locomotives and multiple-unit sets are shown on the sketches printed on the following pages. In these sketches, the arrow indicates the preferential direction of running, in the case of asymmetric vehicles.

TABLES OF EXAMPLES

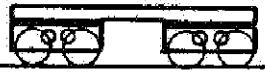
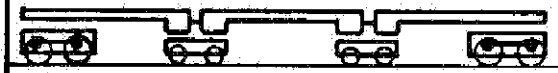
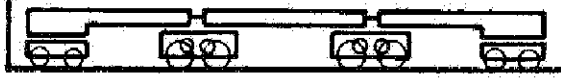
LOCOMOTIVES	
← Axle arrangement	UIC designation
1 	C
2 	D
3 	1C
4 	1'C
5 	2B
6 	1'1B
7 	2'B
8 	2B'
9 	2'B'
10 	B'B'

LOCOMOTIVES	
← Axle arrangement	UIC designation
11 	C'C'
12 	1C1
13 	1'C1'
14 	1BB1
15 	1'BB1'
16 	1(BB)1
17 	(1B)(B1)
18 	1B(B1)
19 	(1'B)(B1')
20 	1'B'B'1'

LOCOMOTIVES	
← Axle arrangement	UIC designation
21 	2'C 1'
22 	2'Dα'
23 	2'C 2'
24 	2'B B 2'
25 	(2'B1)(1B 2')
26 	2'(B1)(1B)2'
27 	(2'B1')(1'B 2')
28 	2'B1' 1'B 2'
29 	2'B1(B2')
30 	C+C

LOCOMOTIVES	
← Axle arrangement	UIC designation
31 	1C+C1
32 	1'C+C1'
33 	B+B+B
34 	B'B'B'
35 	B' $\bar{B}$' B'
36 	B'o B'o B'o
37 	B'o $\bar{B}$'o B'o
38 	Bo + Bo + Bo
39 	B'o B'o
40 	1'Co 1'

LOCOMOTIVES	
← Axle arrangement	UIC designation
41 	1'Do 1'
42 	C'o C'o
43 	(1'Bo)(Bo1')
44 	(Ao1Ao)(Ao1Ao)
45 	2'B'o 2'
46 	Co+Co
47 	1Bo+Bo1
48 	1'Co+Co1'
49 	(1'Co)(Co1')
50 	(2'Co)(Co2')

MULTIPLE-UNIT SETS	
← Axle arrangement	UIC designation
51 	(1Ao)2'
52 	(1Ao)(Ao1)
53 	B'o B'o
54 	B'o 1+12'
55 	B'o 2'+2'B'o
56 	B'o 2'+B'o 2'+2'B'o
57 	B'o $\bar{2}$'2'
58 	B'$\bar{2}$'$\bar{2}$'B'
59 	B'2'+2'2'+2'B'
60 	2'$\bar{B}$'o $\bar{B}$'o 2'

APPLICATION

With effect from 1 January 1983.

All Railways in the Union.

RECORD REFERENCES

This leaflet was numbered «104» until 1952 and «612» until 1981.

Headings under which the question has been dealt with :

- Standardisation of symbols showing the mechanical arrangement of electric locomotors.
(5th Committee-E. : Lugano, April 1932. - Board of Management : November, 1932).

- Standardisation of symbols showing the mechanical arrangement of rail motor vehicles.
(5th Committee -E.- : Warsaw, June 1935. - Board of Management : November, 1935).

- Extension of Leaflet 104 to locomotors of all types.
(5th Committee -E-. : Copenhagen : June 1936. - Board of Management : November 1936).

- Enquiry into the symbols which might have to be added to Leaflet 104 due to the extension of this leaflet to locomotors of all types.
(5th Committee -E-. : Paris, June, 1937. - Board of Management : November, 1937).

- Revision of UIC Leaflets.
(5th Committee -E- : Lausanne, June 1952. - Board of Management : November 1952).

- Revision of UIC leaflets.
(Sub-Committee for electric motive power units : Paris, January 1979 and January 1980).

- Other business.
(Sub-Committee for Motive Power units : Paris, January 1982).