

U I C C O D E
Leaflet to be classified in Volume: VI — TRACTION

617-3
OR

1st edition 1-1-1962
 Brought up to date on
 1-1-67, 1-1-87

**REGULATIONS CONCERNING THE POSITION,
TYPE AND DIRECTION OF OPERATION
OF THE MAIN CONTROL EQUIPMENT**

ON ELECTRIC TRACTIVE STOCK

NUMERISATION DANS
L'ETAT DU DOCUMENT

1. Scope of application

- 1.1. These regulations shall apply to railcars, railcar sets and electric locomotives.
- 1.2. These rules are:
 - of an *obligatory* character for stock yet to be constructed for use on international services and referred to in 1.1 above,
 - of a *recommendatory* character for all other stock.

2: Movements to be carried out by means of the controls

- 2.1. The purpose of the master controller shall be to regulate the various components in the power circuit.

(Reprint of 1-10-1987)

2.1.1. The master controller shall normally consist of:

- the control switchgroup for regulating:
 - the motive power,
 - the electric braking power, where this is provided,
 - shunting, where applicable, for the purpose of varying the excitation field of the tractive motors.
- the reverser control switchgroup used for controlling the direction of running,
- where applicable, a separate switchgroup to regulate the shunting of the tractive motors.

2.1.2. The reverser control switchgroup can be provided with several intermediate positions for special purposes distinct from the direction of running, which are situated between the two extreme positions corresponding to the running direction.

2.1.3. The main control switchgroup, the reverser control switchgroup and the shunting control switchgroup can be arranged to facilitate interlocking.

2.2. The purpose of the driver's brake handle shall be to operate the automatic continuous brake.

2.3. The purpose of the direct-acting brake handle shall be to operate the direct-acting brake.

2.4. The purpose of the hand brake shall be to operate mechanically the whole or part of the brake.

3. Position of the control equipment inside the driving cab

3.1. The control equipment shall be arranged either on the left or the right hand side of the driving cab, in such a way that the driver can operate the master controller and the brake handles, even when watching the rear of the train through the adjacent window.

3.2. The master controller shall be placed either opposite the driver's seat or on the side opposite to the adjacent window.

- 3.3. The brake handles shall be placed between the master controller and the adjacent side window.
- 3.4. The position of the hand brake in the cab shall be such that it is easily accessible.

4. Constitution of the parts for operating the control equipment

- 4.1. In the case of locomotives, the device for operating the main control switchgroup shall consist of a wheel; in the case of railcars and trailers with driving cabs, it can consist either of a wheel or a handle.
- 4.1.1. The axis of rotation of the wheel shall be vertical or slightly inclined.
- 4.1.2. When use is made of a handle, the full degree of application of the latter, from "zero" to the maximum tractive effort — or, in cases when the switchgroup also enables braking efforts to be applied, from the maximum braking position to that of maximum tractive power — shall not exceed 150°, and the arc described by the handle shall be such as to render the operation as simple as possible.
- 4.1.3. The main control switchgroup shall be arranged in such a manner that the driver can readily ascertain the position of the operating device, both by reason of the visibility of the marks, and the form itself of the device, which can be determined by the sense of touch, in relative darkness.
- 4.1.4. If the main control switchgroup provides for the development of a braking effort, the "zero" position shall be clearly indicated by means of a device obliging the driver to exert considerable pressure on the part involved, in order to bring it to the initial braking position.
- 4.1.5. If use is made of a wheel, it is recommended that the "zero" position be arranged in the longitudinal plane passing through the centre of the wheel, and on the side nearest to the driver.
- 4.2. The operating device for the reverser switchgroup shall consist of a single arm handle.
- 4.2.1. The axis of rotation of the single-arm handle shall be vertical or slightly inclined.

- 4.2.2. The operating device can be arranged in such a manner that it can be moved to one of the intermediate positions (centre or zero position).
- 4.3. If the master controller is provided with a separate switchgroup for shunting, the operating device of this latter shall consist of a single arm handle.
- 4.3.1. The axis of rotation of the single arm handle shall be vertical or slightly inclined.
- 4.4. The operating device for the brake valves shall consist of :
- either a handle, the axis of rotation of which is vertical or slightly inclined,
 - or a lever, the axis of rotation of which is horizontal and perpendicular to the longitudinal axis of the vehicle.
- 4.5. The operating device for the handbrake shall consist of a wheel or a handle.
- 4.5.1. The axis of rotation of the wheel or the handle shall be horizontal or vertical.
- 4.5.2. It must be possible to immobilise the operating device for the hand brake in the "on" position.

5. Direction of operation of control equipment

- 5.1. If the operating device for the main control switchgroup consists of a wheel, the increase in the tractive effort must be obtained by turning the wheel in a clockwise direction; any braking effort must be obtained by turning the wheel in the opposite direction, starting from the zero position.
- 5.2. If the operating device for the switchgroup consists of a handle, the increase in the tractive effort must be obtained by moving the operating handle forward and away from the driver, in either direction of rotation; any braking effort must be obtained by pulling the operating handle back, i.e. towards the driver, from the zero position.
- 5.3. The operating device for the reverser must be pushed forward, i.e. away from the driver, for forward running and pulled backwards,

i.e. towards the driver, for reverse running.

- 5.4. If a separate switchgroup is provided for shunting, the field weakening shall be obtained by moving the handle provided in the "increase in tractive effort" direction of the main control switchgroup.
- 5.5. The application of the automatic brake and of the direct acting brake shall be ensured :
- in the case of a handle, by moving the latter in an anti-clockwise direction,
 - in the case of a lever, by pulling the latter to the rear, i.e. towards the driver.
- 5.6. The application of the hand brake shall be ensured by moving the operating device in a clockwise direction.

APPLICATION

With effect from 1 January 1962 for obligatory provisions (see point 1) (from 1 January 1967 for paragraph 4.4, 3rd sub-paragraph and paragraph 5.5, 3rd sub-paragraph).

The provisions of this leaflet are only valid for vehicles designed up to 31.12.85. In case of major transformation work on these vehicles, every effort must be made to apply the provisions of Leaflet 651. The provisions to be observed for vehicles designed as from 1-1-86 are those contained in Leaflet 651.

All Railways in the Union.

RECORD REFERENCES

Latest heading under which the question has been studied:

- Question 5/A/FIC - Revision of leaflets (Traction and Rolling Stock Committee, Dublin, June 1985; Paris, June 1986 - Sub-Committee for Motive Power Units, Paris, January 1986, January 1987).