

MT-300 EARTHING RAIL EQUIPMENT FOR THIRD RAIL CONFIGURATION

OPERATION AND MAINTENANCE
MANUAL



Introduction

This equipment is designed to permit safe earthing and short-circuiting of railway systems with lateral current rail.

It allows the earthing of the lateral current rail when it is switch off.

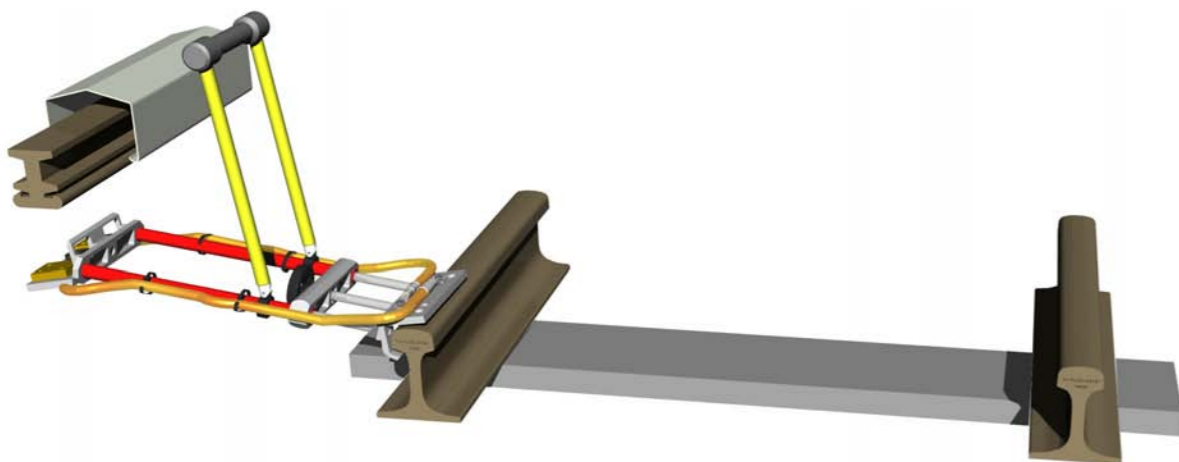
BEFORE EACH USE, IT IS CRUCIAL TO CHECK THE ABSENCE OF VOLTAGE*

When the equipment is installed according to instruction for use, it can withstand the earth and short-circuiting current of 85 kA during 30 msec thus provide the draining of the fault current and safety to the operators.

*To do this operation, it is recommended to use a DC voltage detector with the adequate level of voltage.

Instruction for use

In case of maintenance and repair work on railway network, the MT300 will earth the current rail by short-circuiting to the running rail.



Packing

Before use, examine the equipment for eventual transport damage and if visible damage appears to contacts, connections or cables the equipment should be removed from use and repair by specially trained personnel or return for repair to CATU.

After unpacking and checking, it is recommended to store the equipment on clean, dry and folded condition.

To transport the equipment along the rail it exist a back bag reinforced.

This bag is especially made for this equipment and permits an easier transportation of it. Ref: CM-301



Guarantee

For the guarantee this equipment is following our general sales conditions and is also applicable on the basis of the respect of this instruction for use, maintenance and storage.

On both cases operation of exchange has to be carried out only by specially trained personnel.

Wearing parts have to be dismantled and remounted in accordance with the original position.

The torque of screwing shall be:

M8 : 20N.m

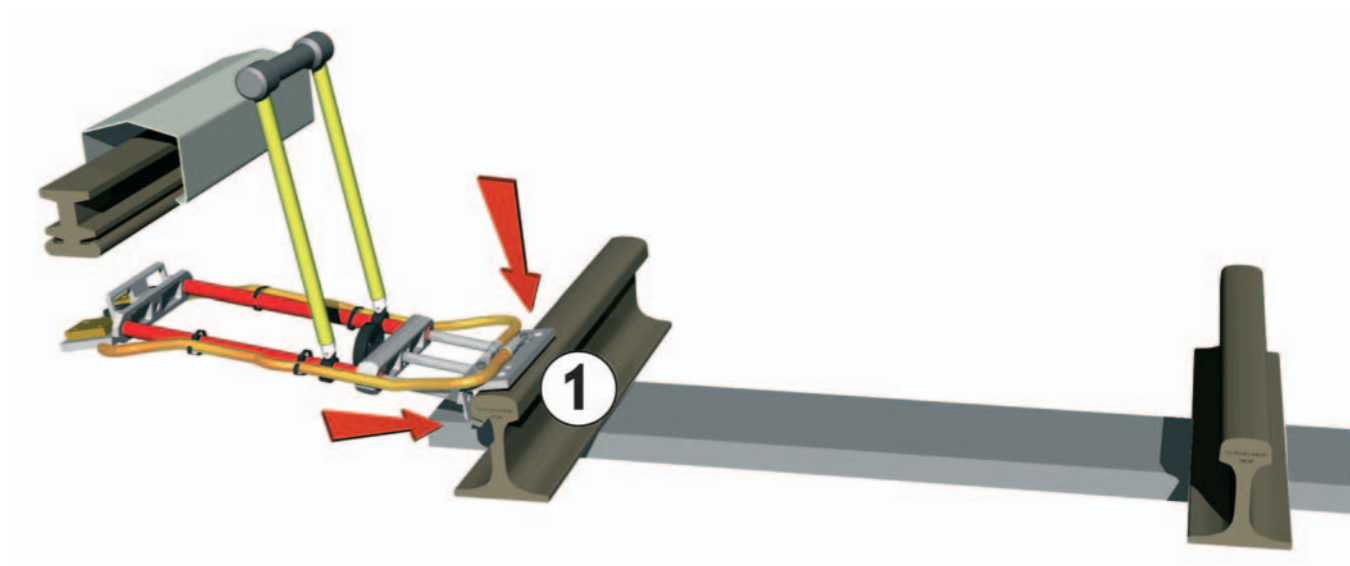
M12 : 69N.m

! WARNING:

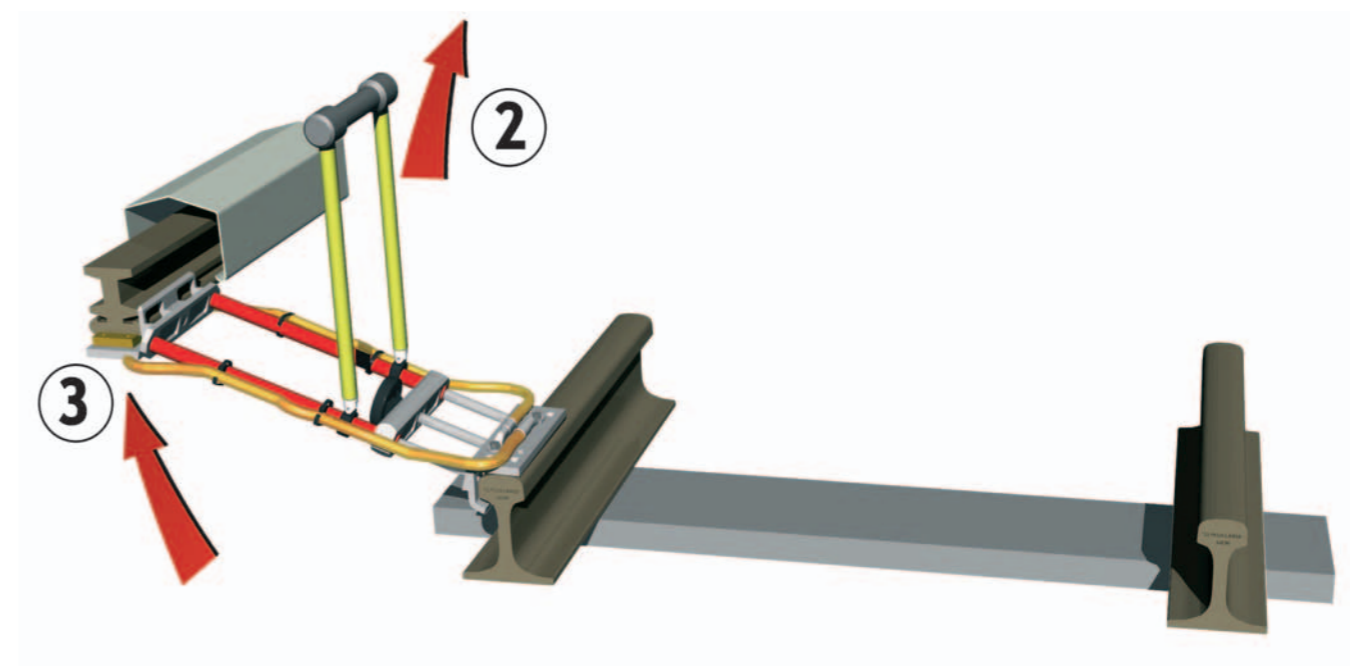
Equipment that has been exposed to short-circuit current should be disposed unless it is proved by thorough investigation, calculation and inspection, that the exposure has been too moderate to give any negative mechanical or thermal effects. If there is any doubt as to the perfect condition of the device, it should be disposed of.

Operating Instructions

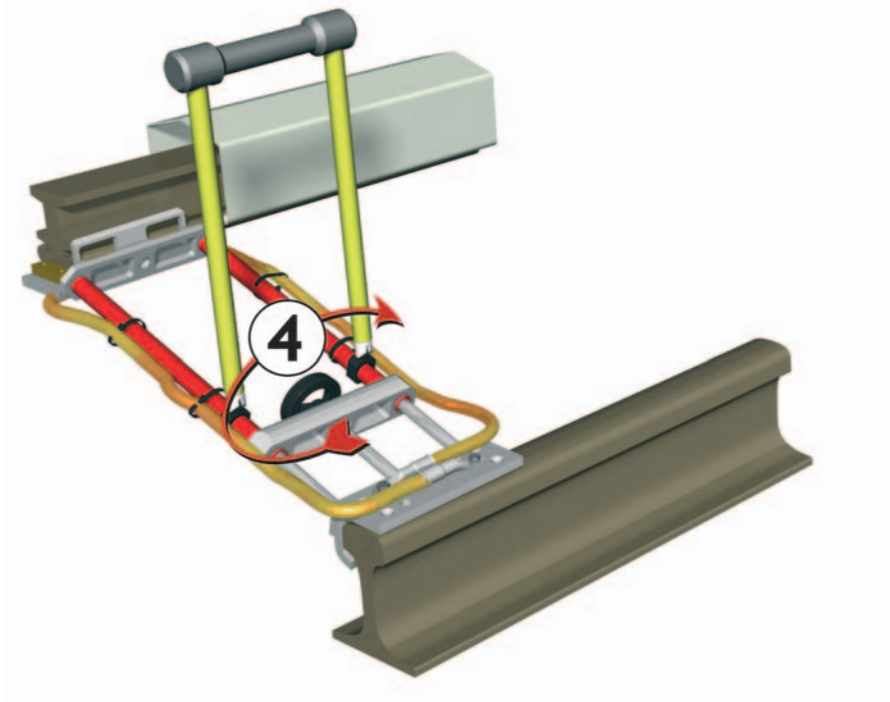
1. The operator should position between the running rails and install the contact block on the nearest rail of the current rail **1**.



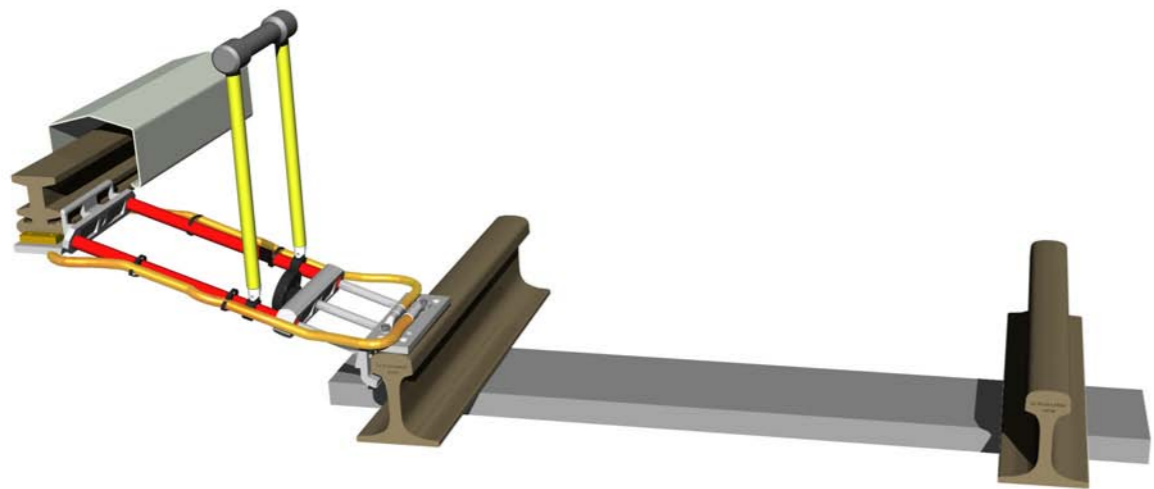
2. Pull up the system by the handle **2** until the magnetized contact block has been fixed on the current rail **3**.



3. Turn the knob in order to firmly fix the earthing system ④.



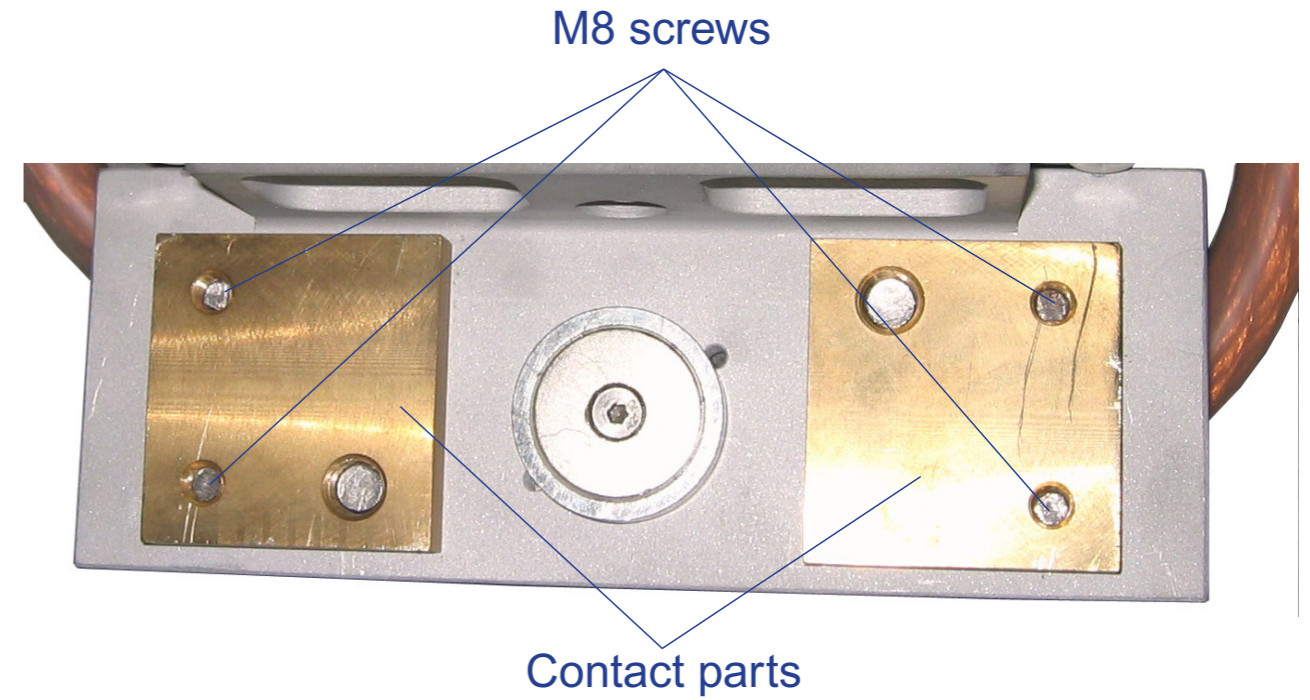
4. The short-circuiter is in place and work on railway can start under safety condition.



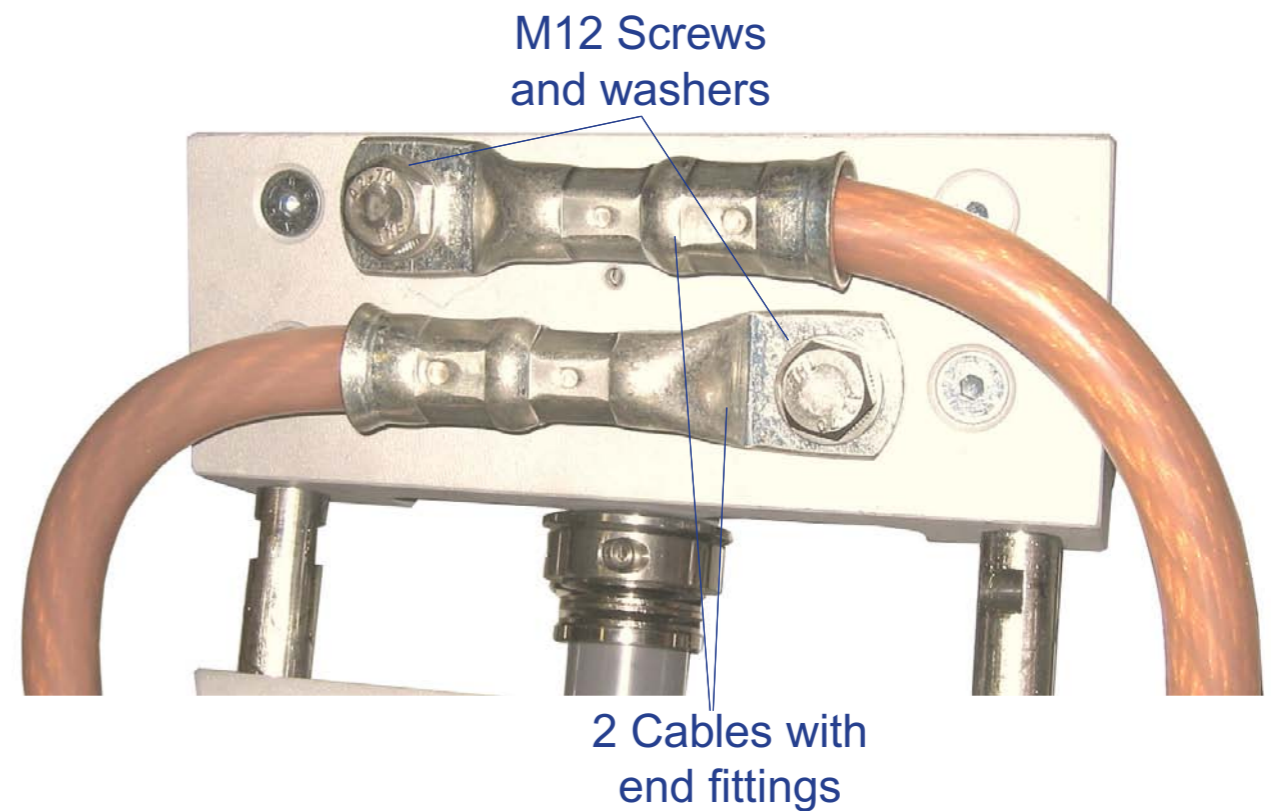
2- Maintenance of wearing parts

They are two major wearing parts:

1- Set of two Contact pieces in brass with their screws (ref M 62-656).



2-Set of two cables equipped with end fitting and screws (ref M95-2261).



Characteristics

- Foldable handle according to IEC 60855 standards, 32 mm dia. foam filled tube.
Approx: length: 600 mm.
- Adjustable frame in 45 mm insulated polyester glass fibre tube.
- Extra flexible braided multi-strand copper cables - 95 mm² - with transparent silicon sheath resistant to temperature variations (-40°C to +70°C) according to IEC 61138 standards.
- Aluminium contact block for running rail with guiding magnet and brass plate.
- Aluminium contact block for current rail with guiding magnet and brass plate.
- Knob for frame adjustment and running rail tightening.
- $I_{cc} = 85 \text{ kA}/30 \text{ ms}$
- Total dimensions in neutral position:
 - length: 900 mm,
 - wide: 300 mm,
 - height: 125 mm.
- Weight: 10 kg.

Maintenance

There are two types of Maintenance:

Routine Maintenance & Maintenance of wearing parts.

1- Routine maintenance

According to IEC 61230 standard (portable equipment for earthing or earthing and short-circuiting) on an informative annex C:

1.1 Verification before use

For safety reasons, earthing and short-circuiting equipment should be handled with great care. It should be thoroughly inspected visually before each use.

Visible damage to contacts, connections, cable insulation or the exposure of bare conductor should be regarded as serious defects and the equipment should be removed from use.

Before use, inspection of the surface contact should be done and the contact of the connection point should be cleaned by brushing all deposit remaining in order to obtain good electrical contact either for transit current or for short-circuit.

1.2 Periodic inspection and in-service testing

The users should develop their own guidelines for proving the integrity of the device and define the according time interval for periodic inspection which may include the in-service testing of the equipment.