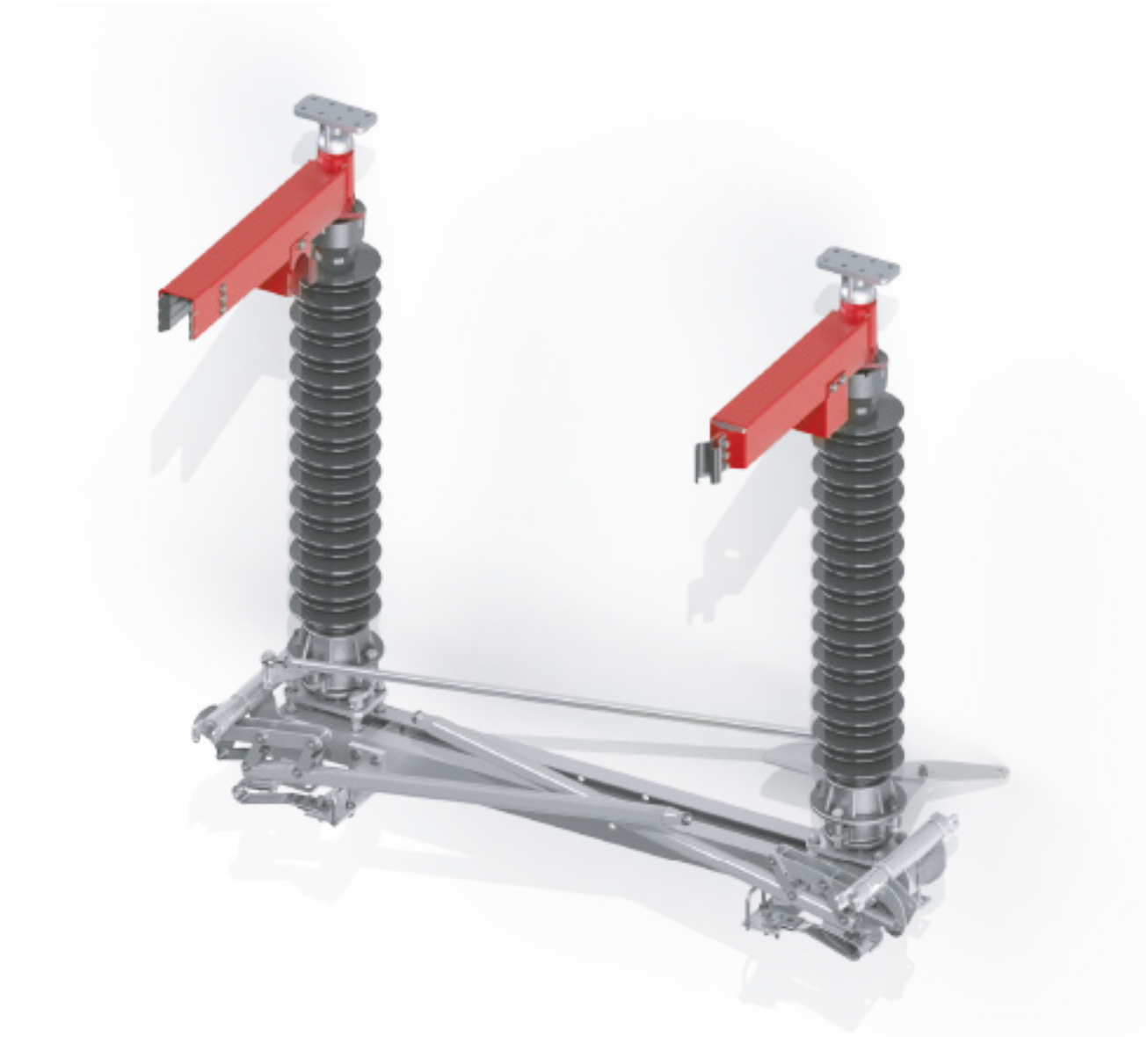
Zakład Wytwórczy Aparatów Elektrycznych Sp. z o.o.

Disconnectors assembly manual



ONIII

Horizontal centre-break disconnector

Manual No DTR.01.15.01.EN

We connect with ENERGY

Table of Contents

CAUTION

During the operation of electrical equipment, certain parts of these devices are normally under dangerous voltage, and mechanical parts, also remotely controlled, can move quickly.

Failure to follow the warning instructions can result in serious personal injury or material damage.

Only suitably qualified personnel can work on or near the device. This personnel must know exactly all safety rules and rules for maintaining the device in accordance with these instructions.

The problem-free and safe operation of this device requires proper transport, proper storage, construction and assembly as well as careful service and maintenance.

1. DELIVERY METHOD

ONIII-123 outdoor disconnectors are delivered to the customer partially assembled. The bases of individual disconnector poles, current paths, coupling elements, drives and structures for suspending the drives are placed in a wooden crate (1 crate contains 3 disconnector poles). The insulators are delivered in a separate wooden box.

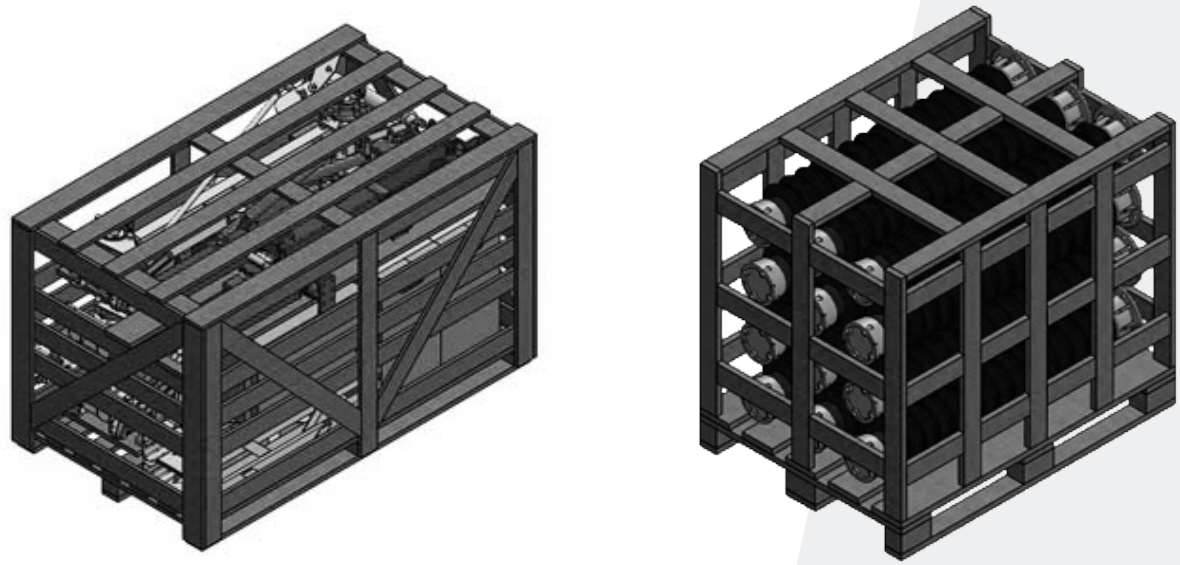


Fig. 1, 2. Shipping crates. Left – disconnectors' parts, right – insulators

2. DISCONNECTOR'S RECEIPT

Check if the disconnector and the accessories, meet the shipping specifications. You should also check if the delivery is not mechanically damaged. In the event of any non-compliance or damage, notify the manufacturer immediately.

3. MOVING

Crates with ONIII-123 disconnector parts can be safely moved with a forklift. It is allowed to lift the crates one at a time, by the pallet base, on either side of the crate.

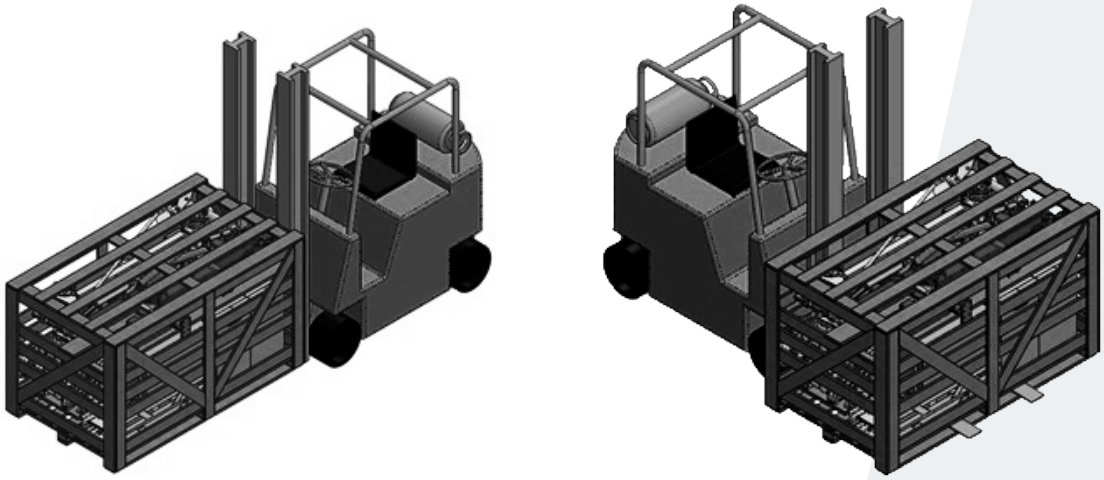


Fig. 3, 4. Permitted method of lifting transport crates

It is advisable to leave disconnectors in the crates as long as possible and move them together to the final installation location. When stacking, pay special attention to the support points in the corners of the crates overlapping each other. It is allowed to stack two levels of crates.

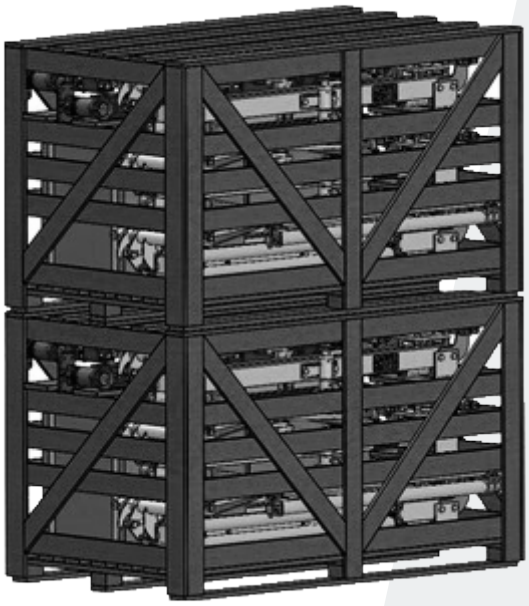


Fig. 5. Permitted method of stacking the transport crates

4. UNLOADING

The box with disconnector elements should be opened by removing the lid and then the side wall, where the operating mechanisms are packed.

Fig. 6. The method of opening the transport crate

Then, all available elements should be manually removed from the box: current paths, operating mechanisms, supporting structures, shafts and coupling rods, and the remaining side walls should be dismantled.

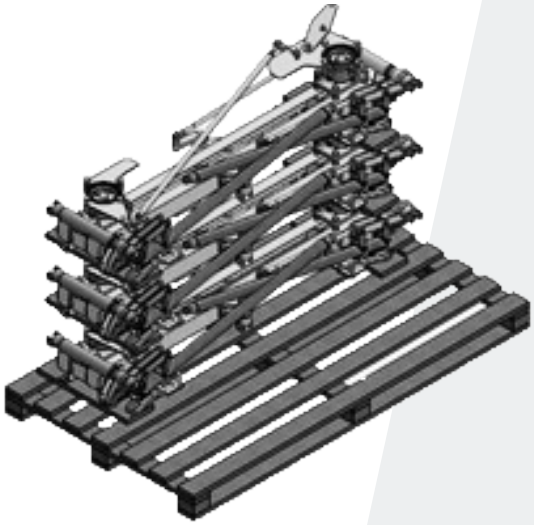


Fig. 7. Unloading the transport crate

To unload the disconnector bases, use a forklift again. Remove the bases one at a time.

Fig. 8. The way of lifting the disconnector base

5. ASSEMBLY

To each of the bases, tighten the diagonal tie, freely suspended for the time of transport (marked in blue below)..

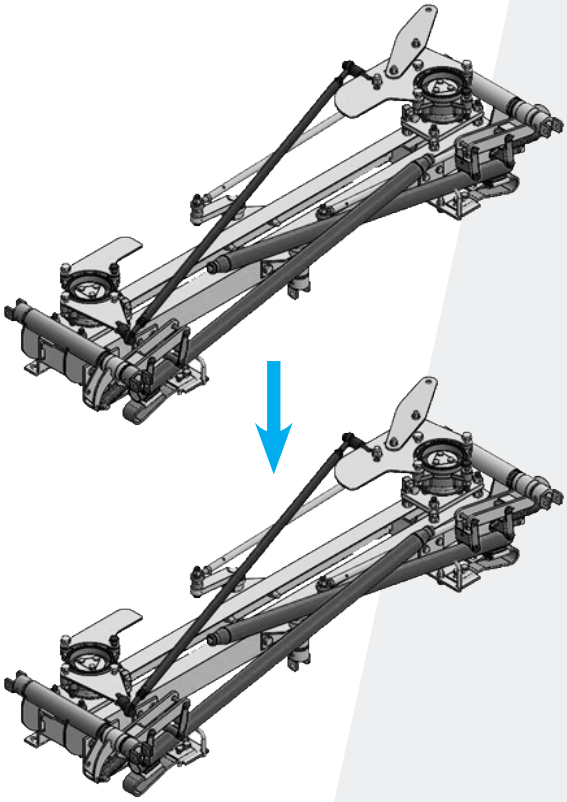


Fig. 9. Assembly of the diagonal tie

Attach the insulators to the base. Use three M16x70 bolts and one M16x90 bolt for each of the insulators. Pay attention to the correct positioning of the bolts, especially the stop bolt.

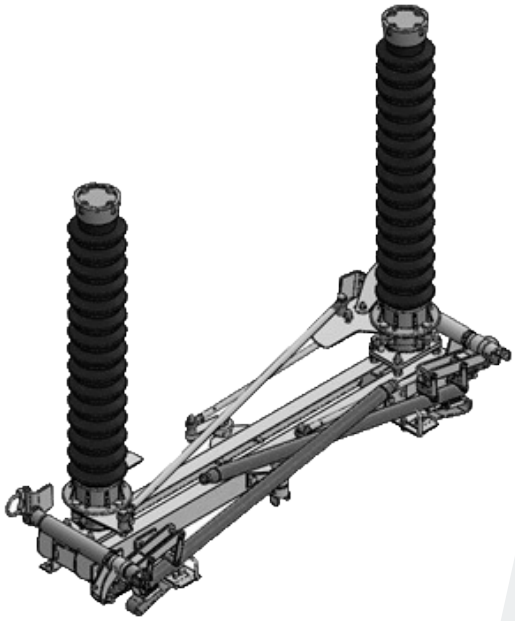
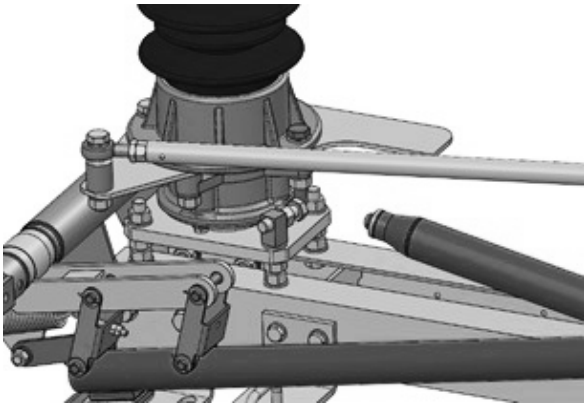


Fig. 10. Insulators installation



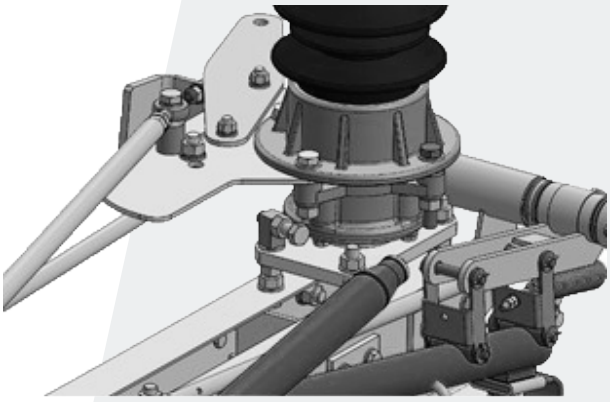


Fig. 11, 12. The position of the M16x90 stop bolt on the left and right side

Screw the halves of the current path. Use M16x35 bolts. Pay attention to the assembly sides of the paths: path with male contact - on the right side, path with female contact - on the left side.

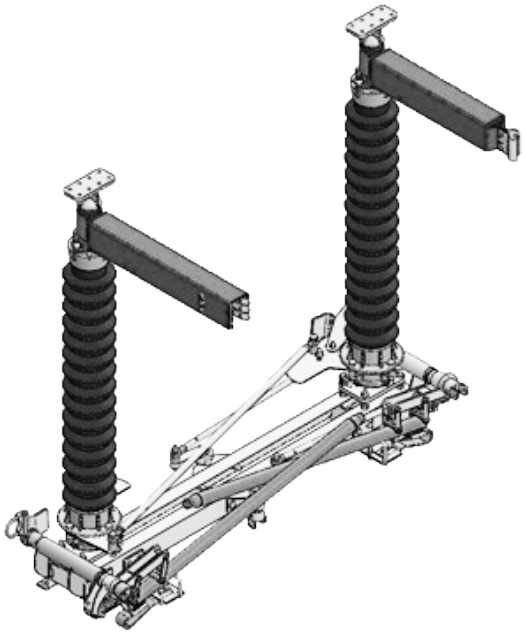


Fig. 13. Current paths assembly

The diagonal tie (shown in Fig. 9) should be adjusted in such a way that when closing the disconnector, the gap between the female contact and the entering, male contact is within 3 - 5 mm.

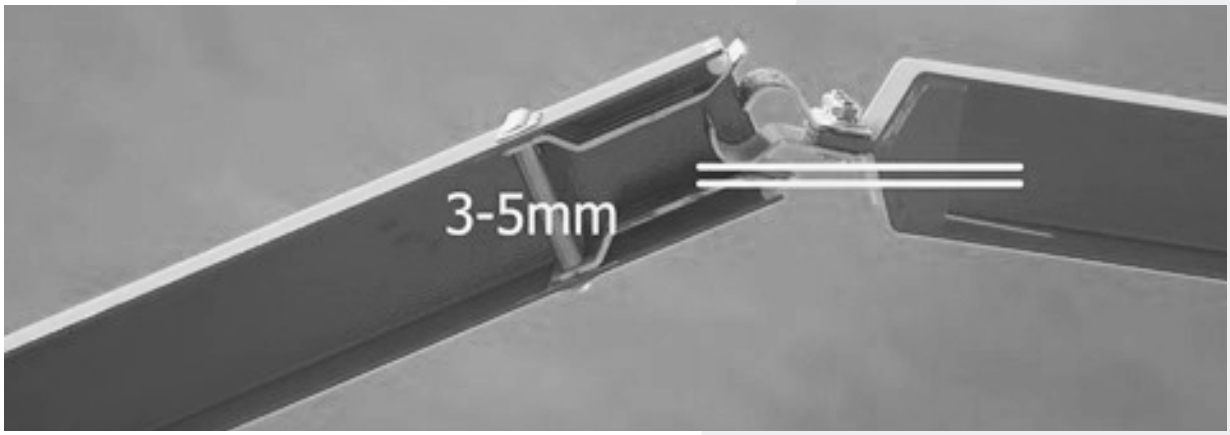


Fig. 14. Correctly adjusted diagonal tie

The mutual closing depth of the contacts should also be checked. If it is smaller than shown in Fig. 15, correct the positioning of the insulators using the screws below the rotary foot of the disconnector.

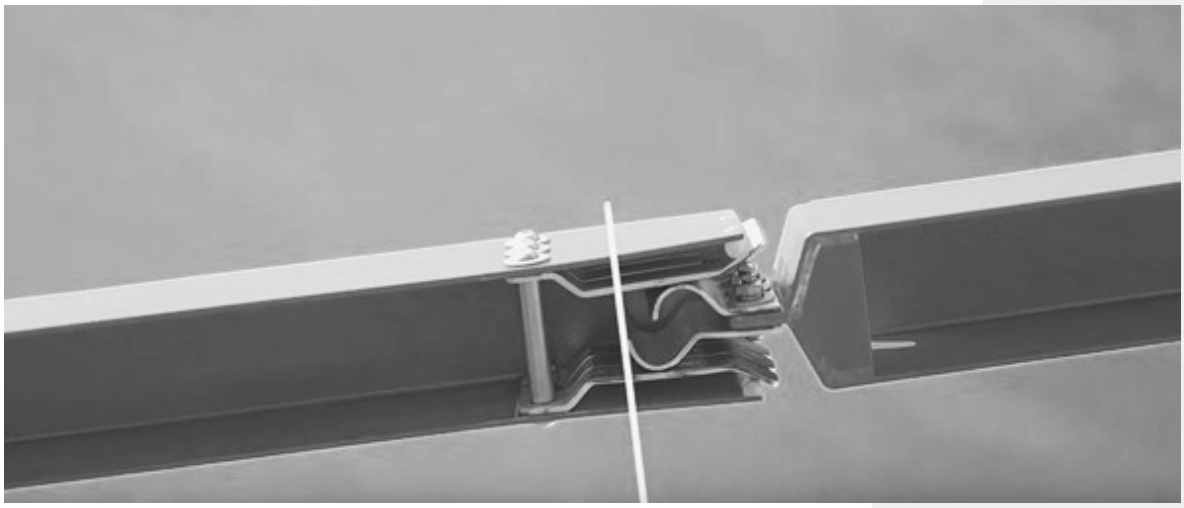


Fig. 15. Correct closing depth of the current path

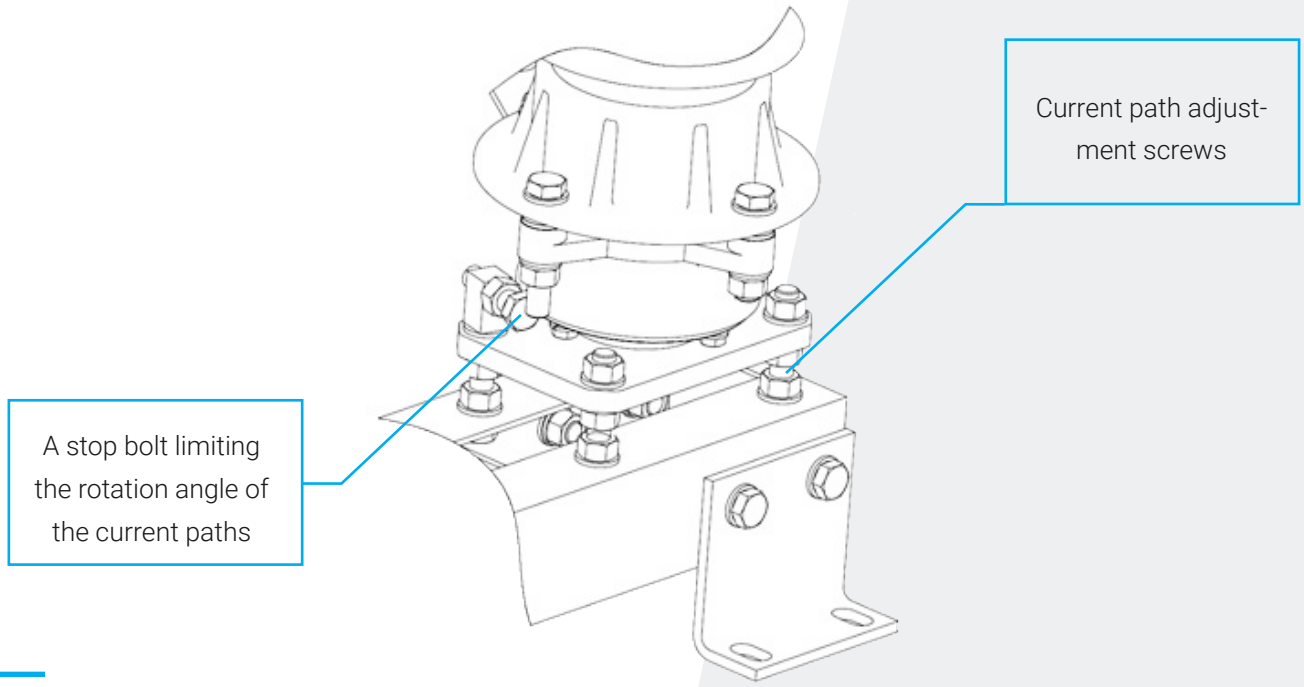


Fig. 16. Disconnector adjustment points

In the next step, the tie rod connecting the disconnector's operating crank with the lever on the side of the right earthing switch should be adjusted. The tie is marked in blue in Fig. 17.

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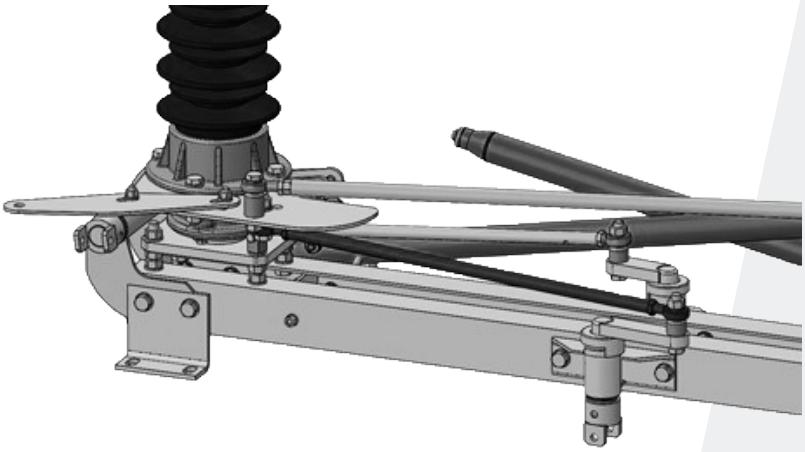

Fig. 17. Disconnector operating tie

Adjust the tie in such a way that after closing the disconnector, both halves of the current path will be in one line.

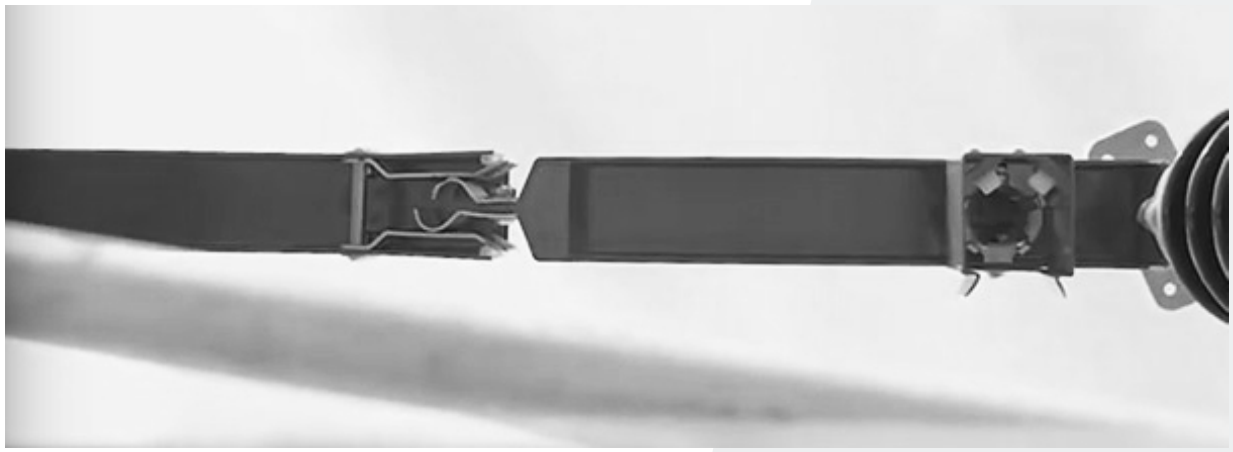

Fig. 18. Correct closing of the disconnector's current path

In this position, tighten and lock the stop bolt.

Fig. 19. Correct setting of the stop bolt

Similarly, set the second of the stop bolts with the disconnector fully open.

For a disconnector with two earthing switches, you should additionally pay attention that the driving crank of the left earthing switch does not collide with the knife of the right earthing switch throughout the entire range of motion, as shown in Fig. 20.

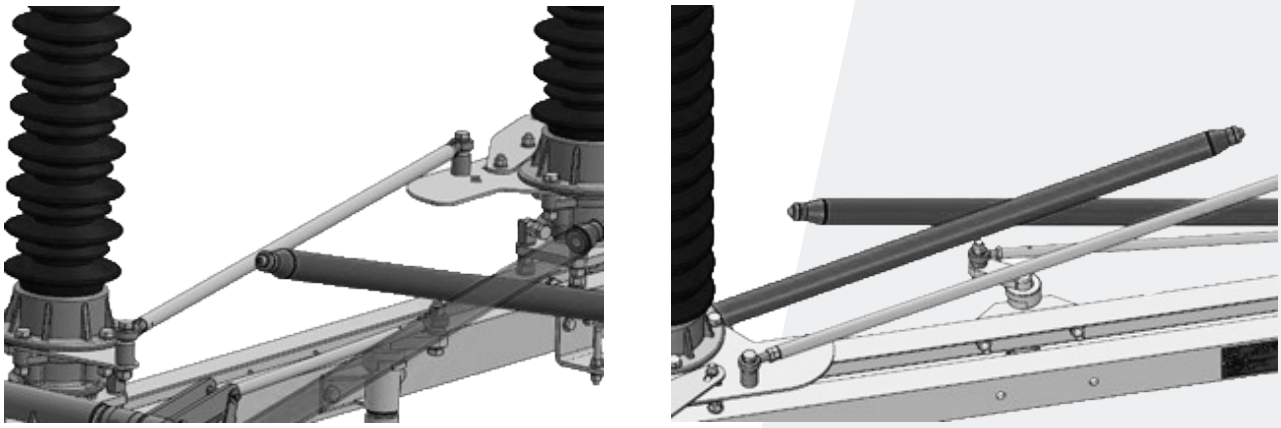

Fig. 20. Correct operation of the left earthing switch driving crank

If the crank touches the earthing switch knife, its low position should be raised by adjusting the knife support, marked in blue in Figure 21.

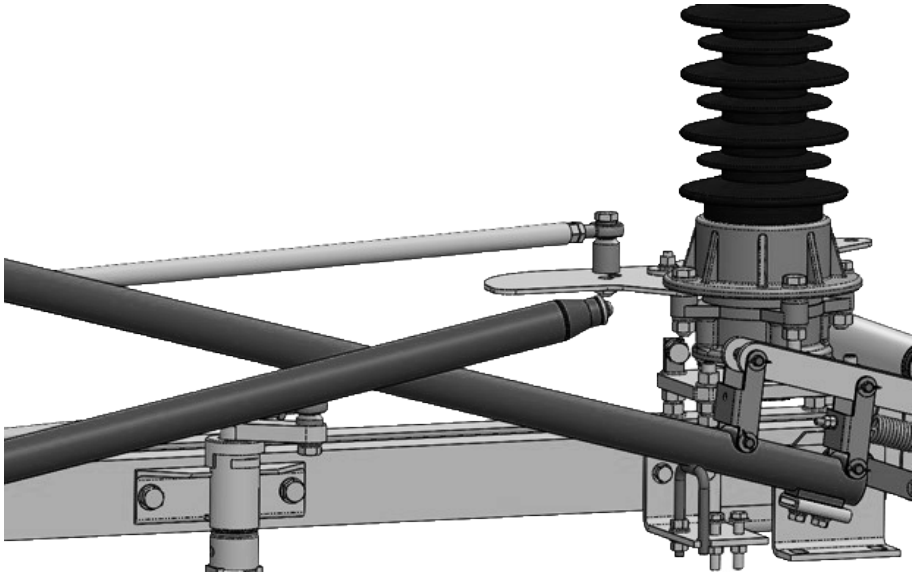

Fig. 21. Adjusting the position of the earthing switch in the open state

Please carry out other assembly and adjustment steps in accordance with Manual No DTR 01.02.08, Chapter 3.

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