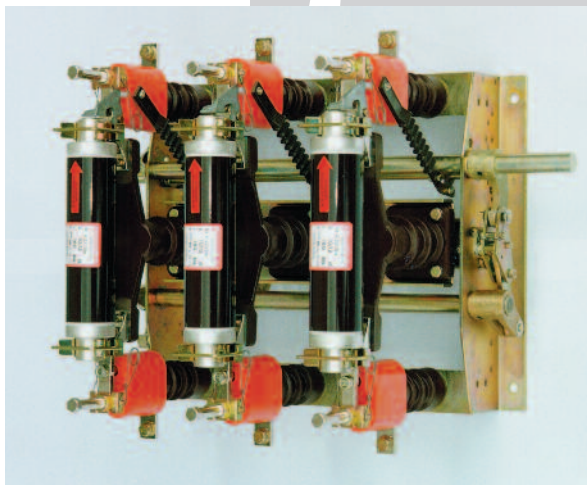


**Instructions for Assembly, Operation and Maintenance of
DRIESCHER - Indoor
Transformer - Load-Break Switch
Type M 3007**

- Rated voltage
12 kV, 24 kV and 36 kV
- Rated current 400 A



M3007

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Transport and storage

Once you have received the delivery please carefully unpack the switching devices and check for any transportation damage. Should you determine any damage please report this immediately and indicate the carrier.

After unpacking, clean the switching devices and accessories to remove any contamination from packing material and protect against moisture and contamination prior to installation. To transport the switching devices only hold at the frame and never touch the contact blades etc.

Thoroughly clean the switches and actuator elements prior to putting into operation to remove dust and installation swarf and wipe all insulating parts with a clean dry cloth.



All switches with trip-free mechanism (EA, SEA versions) are provided in switched On condition. The securing cord applied to the lagging contacts should not be released until just before commissioning in order to avoid unintentional switching Off.

Operating conditions

The switches are designed for normal operating conditions in compliance with EN 62271-1 Class "Minus 5 Indoor".

The max. ambient temperature is 40°C; the average value over 24 hours is max. 35°C. The values on insulation strength are related to sea level.

For altitudes of up to 1000 m any reduction in insulation caused by the reduced insulating property of the

air is insignificant and can be ignored.

For installation at altitudes above 1000 m it is necessary to correct the values given for the rated power-frequency withstand voltage and the rated lightning impulse withstand voltage.

According to VDE 0670 / Part 6 the insulating property of the clearance at an altitude of e.g. 2000 m is reduced by the factor 0.81.

Assembly



Unless otherwise specified the switches are designed for vertical frame or wall mounting. Switches for horizontal installation or for mounting on roofs are appropriately adjusted and marked.

For the assembly of the switch-disconnector H 22 always observe the following:

- Make sure not to distort the base frame of the switch when tightening the fixing screws.
- Do not fasten wall-mounting switching devices directly to the wall as its surface is usually uneven. We recommend mounting the switches on accurately aligned cross arms set up in front of the wall or to accurately adjust the switching devices on four ragbolts inserted in the wall, using two lock nuts respectively.
- When connecting cables and rails make sure to avoid any tension, thrust or torsion at the connecting contacts.

- If using circular conductors with conical terminals the clamping cones must be tightened **prior** to connections with the connecting contacts.
- The arcing chambers are not to be distorted, otherwise the central striking of the lagging contacts in the arcing chambers is no longer guaranteed.
- Hold the fixing screws in place with a second wrench when tightening the nuts.

When touching up any damaged paint surfaces, always make sure not to apply paint to bearings and joints, springs and plastic parts or parts with galvanized protective coating.

When switching on and off in wall-mounted switching devices, the applied operating mechanism must reach the stop position without causing any overtravel in the operating mechanism.

Observe direction of rotation! (see brochure 774)

Commissioning and operation

The operation or ON and OFF switching of the disconnecting switch and earthing switch is by means of an operating mechanism which can be optionally installed to the right or to the left of the operating shafts (Fig. ②, ⑦). For instructions on the actuation of all operating mechanisms please refer to 774 (Actuators) and 776 (Motor-Operated Mechanisms).

The switching instant has already been correctly adjusted prior to delivery.

Each and every switch is adjusted and tested prior to leaving the factory!

Nevertheless, satisfactory operation of the switch should be checked prior to commissioning.

When doing this, please observe the following points:

Commissioning and operation

1. The stops of the operating shafts must always reach the respective limit stop ⑥. The switching angle for load-break and earthing switches is 90° (for wall-mounted switchgears).
2. The earthing blade contacts ⑧ of the earthing switch must strike centrally in the arcing chamber.
3. The main contact ⑩ of the switch and earthing switch must strike exactly in the provided finger con-tacts ⑮.
4. Test the proper functioning of the build-in tripping coil and signalling contacts.

5. For Load-break switches with fuses, h.v.h.b.c. fuses with 80 N striker impact force is used. **However, a functional test of the fuse tripping must be carried out with a DRIESCHER dummy cartridge with 70 N striker impact force.**



All switches with the trip free mechanism are delivered in the switched ON condition. It is essential to pay attention that the switch could be actuated on unintentional contact with the tripping mechanism. ③ ⑪ ⑫

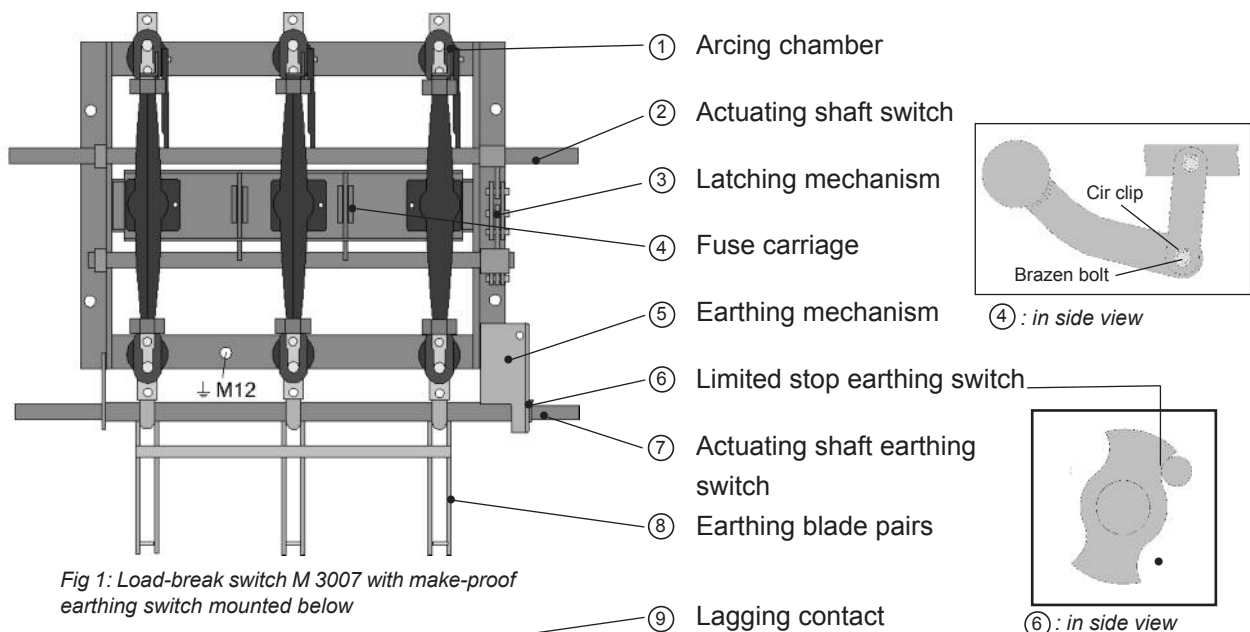


Fig 1: Load-break switch M 3007 with make-proof earthing switch mounted below

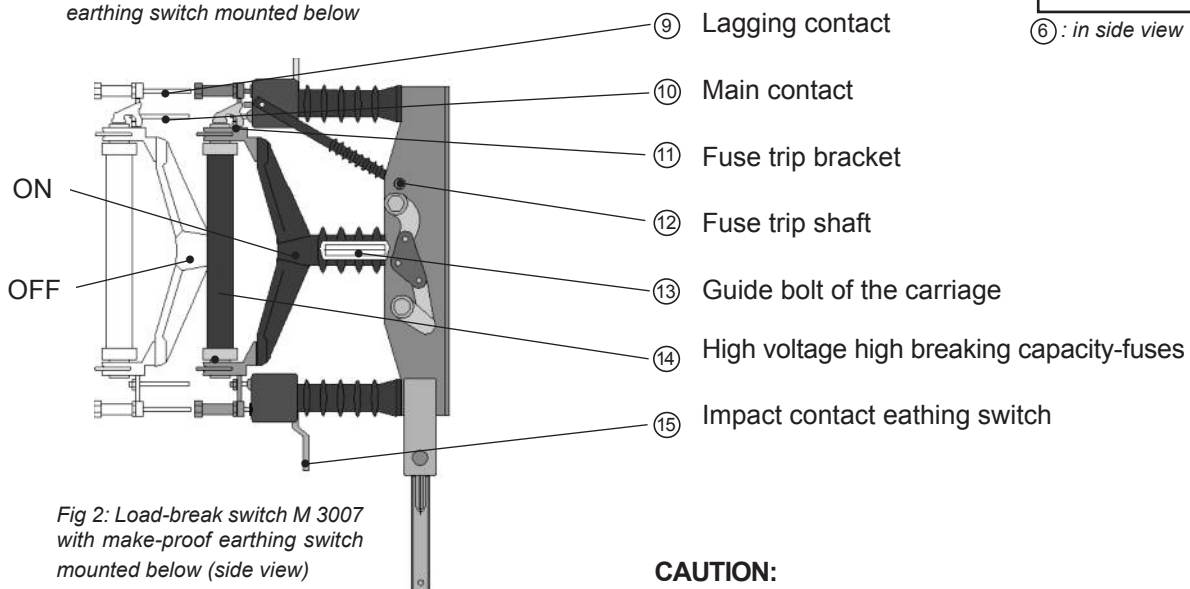


Fig 2: Load-break switch M 3007 with make-proof earthing switch mounted below (side view)

Note:

To assure the proper functioning of the load break switch, please contact DRIESCHER-Service before adjusting or mounting of accessories.

CAUTION:

The auxiliary switches are factory set and tested on all functions. A function check is to be done after the assembly works. Supposed that an auxiliary switch is mistakenly adjusted during transport or assembly works, it is to be checked and if necessary readjusted. Please contact DRIESCHER-Service.

General

Our products have been on the market for many years and hundreds of thousands of these switching devices are used successfully. We are able to say that the quality of our products is distinguished by a high level of ruggedness and operational safety and reliability. To guarantee that the requirements put to the switching devices are met and to avoid any possible power failures, appropriate maintenance, inspection and possible repair measures are necessary to provide a reliable power supply, wherein the measures taken depend on the age of the switching devices, its switching frequency and the level of the operated rated current.


Inspection

Inspection should be carried out on disconnecting and earthing switches after approx. 10 years of operation in addition to annual visual checks, even if the switch is only operated with small loads and not very often. Shorter intervals between inspections may be necessary in the event of:

negative impact from the environment, such as:

- corrosive atmospheres, air with a high dust content, damp plant facilities etc.
- high switching frequency

Maintenance (see Fig 1 and 2)

 **Only mount and remove switch parts and accessories after disconnecting the switch and after isolating and safeguarding the working area in accordance with DGUV V3 regulations.**

- a) The arcing chamber ① and the lagging contacts ⑨ does not need require any maintenance.

- b) Contacts (⑩, ⑮) must be cleaned with a degreasing agent (for egs. Industrial alcohol).


The main contact ⑩ and the earthing switch blade contacts ⑧ must be lubricated with a thin layer of lubricant Rivolta S.K.D. 4002 (Company - Bremer & Leguil)

- c) All the bearings and joints must be checked for smooth-running. Please pay special attention to the fuse trip shaft ⑫ and the latching mechanism ③ in every load-break switch.
- d) Clean the Insulators.
- e) In case of extreme pollution or sluggish operation of the switch:
1. Remove the h.v.h.b.c. fuses ⑭.
 2. Remove the brazen bolt by removing the circlip ④.
 3. Remove the carriage.
 4. Clean the guide bolt of the carriage ⑬ and lubricate it with Rivolta.
 5. Mount the switch by following the steps 4 to 1 in the reverse direction.
- f) Check the switch for proper functioning by performing a number of test switchings.

Repair

Worn parts are not to be repaired or reworked, they must be replaced!

Only DRIESCHER original parts and accessories are to be installed or parts that we have approved and tested for safety, function and suitability.

 **Disassembly as well as removal and installation of the switch (parts) are only to be carried out by DRIESCHER-Service or appropriately authorized skilled personnel, this being due in particular to the expertise required for the correct adjustment.**

Insertion and replacement of HV-HBC fuse links

Switch off the switch-disconnector positioned above the fuse links.

Take up the HV-HBC fuse links with handling tongs (Order no. 77212001, List 773) and insert in the fuse mounting contacts in such a way that the striker pin can

operate the tripping mechanism.

(Observe marking on HV-HBC fuse link)

When a HV-HVC fuse blows we recommend also replacing the two other fuses due to possible ageing caused by overcurrent.

You can reach our DRIESCHER-Service at any time, also outside office hours, under Phone +49 87 61 6 81-0, for assistance in troubleshooting or information on compatibility, assembly or maintenance.

Maße, Gewichtsangaben, Abbildungen und Beschreibungen in dieser Broschüre sind unverbindlich. Änderungen bleiben jederzeit vorbehalten.

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