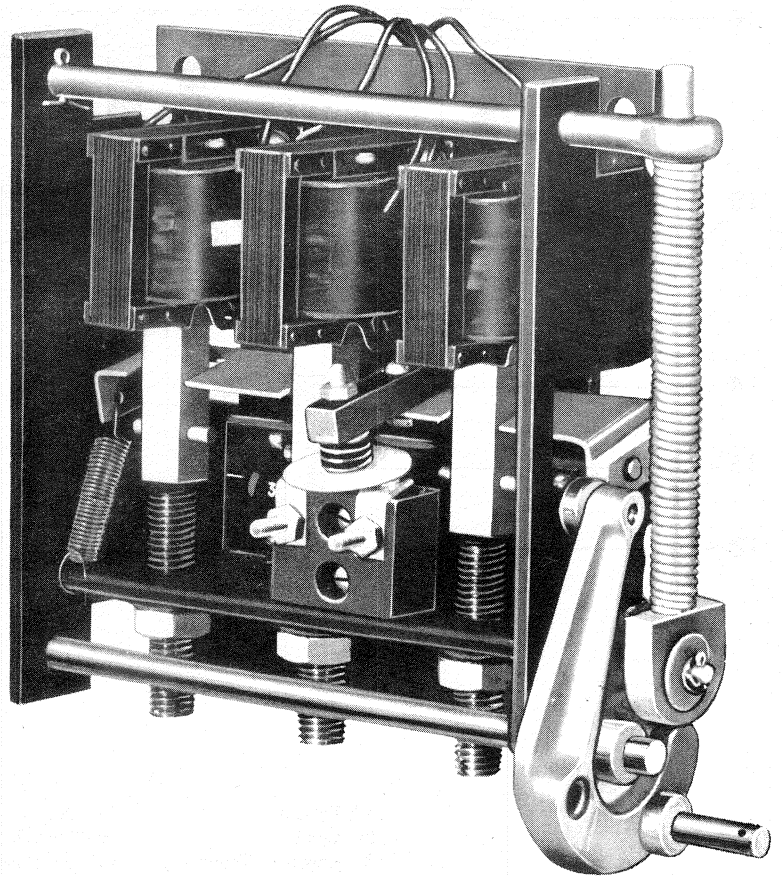


INSTRUCTIONS

Switchgear

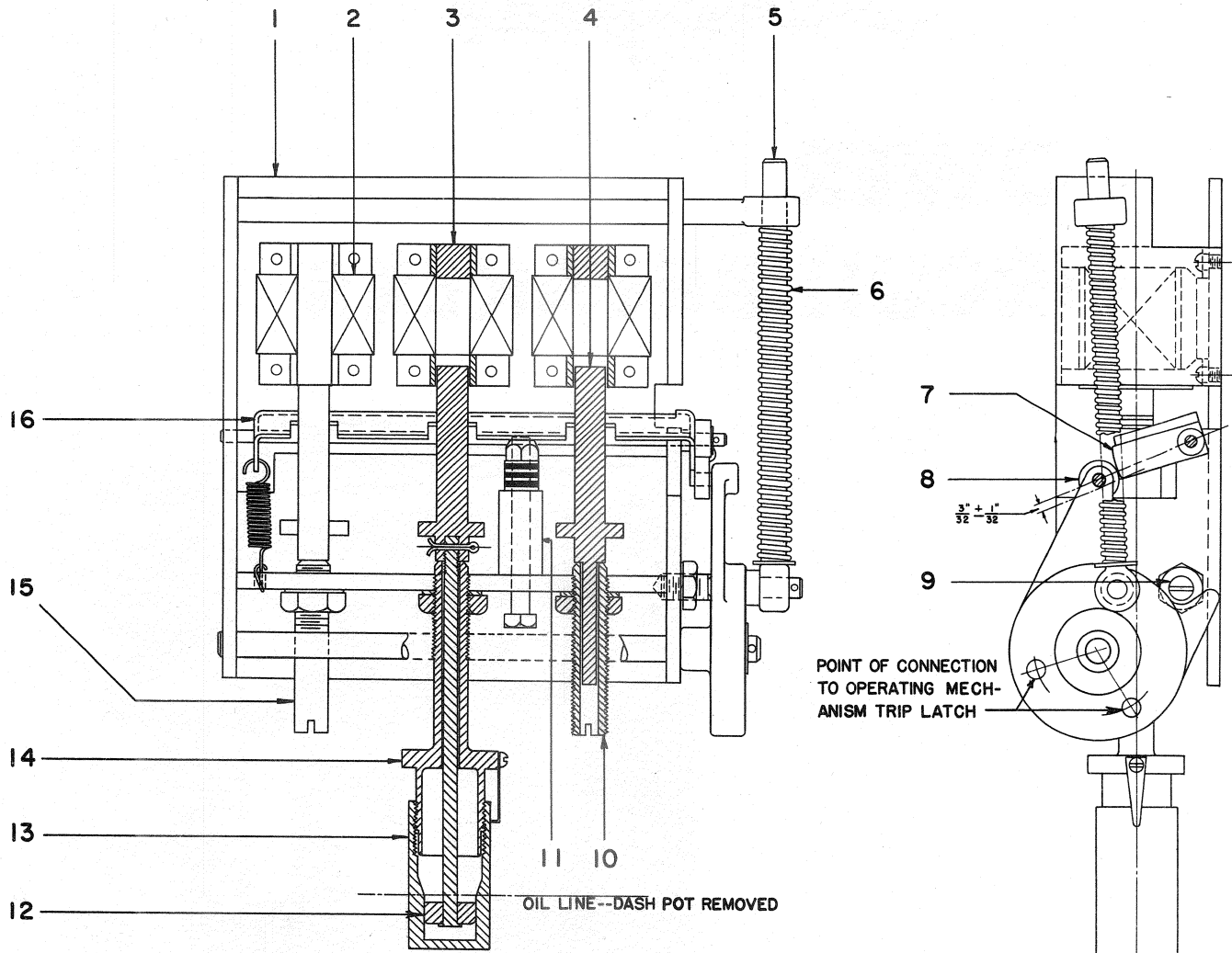
POWER CIRCUIT BREAKERS



Impact Trip Mechanism

GENERAL  ELECTRIC

GEI-9340A Impact Trip Mechanism



- | | |
|--------------------|-------------------------------|
| 1. Frame | 9. Stop |
| 2. Coil | 10. Calibrating Screw |
| 3. Magnet Frame | 11. Buffer Stop |
| 4. Armature | 12. Piston |
| 5. Eyebolt | 13. Dash Pot |
| 6. Tripping Spring | 14. Inverse Time Delay Device |
| 7. Latch | 15. Instantaneous Trip Device |
| 8. Roller | 16. Trip Pan |

Fig. 1 Impact Trip Mechanism

IMPACT TRIP MECHANISM

DESCRIPTION

The impact trip mechanism is an electrically released spring device for use in tripping the operating mechanism of oil circuit breakers when only limited tripping power is available. It is self-contained unit, mounted adjacent to the mechanism to be tripped, and connected to it by linkage suited to the specific mechanism.

The opening springs of the oil circuit breaker are utilized to reset the device by a connection to a part of the operating mechanism that moves in

conjunction with the breaker. This resetting operation recharges the tripping spring and returns the roller (8) to a position where it is held by the latch (7). Damage to a device due to overtravel is prevented by using a compression spring on the resetting link to compensate for any additional travel.

Raising the trip pan (16) remove the latch (7) from the roller (8) which releases the tripping spring (6). This spring in discharging trips the oil circuit breaker through a connection to the operating mechanism latch.

RECEIVING, HANDLING AND STORAGE

Each mechanism is carefully inspected and packed by workmen experienced in the proper handling and packing of electrical equipment. Immediately upon receipt of a mechanism an examination should be made for any damage sustained during

shipment. If injury or rough handling is evident, a damage claim should be filed at once with the transportation company and the manufacturer notified promptly.

INSTALLATION AND MAINTENANCE

When the device is ordered with the oil circuit breaker operating mechanism, it is installed, properly adjusted, and tested at the factory. When it is supplied separately, it must be installed in accordance with the drawings furnished with the device and properly adjusted. The drawings will show any additional drilling required to mount the device and

the mechanical connections that are necessary to make it operative.

The device should be kept clean and in general the maintenance instructions listed in the operating mechanism instruction book followed.

ADJUSTMENTS

The device is thoroughly tested at the factory before shipment, but it is recommended that the adjustments be checked before it is put into service.

MECHANISM

In some cases separate links will be used to trip the operating mechanism and reset the device while in others one link will perform both functions. In either case, the procedure for adjusting the equipment will be identical.

With the operating mechanism open, adjust the length of the resetting links so that the device is reset and prevented from further rotation in a counter clockwise direction by the stop (9). In making this adjustment, care must be taken not to compress the spring on the resetting link solid since this spring is provided to prevent damaging the trip mechanism due to over-travel during the

opening stroke of the operating mechanism. With this adjustment correctly made there should be a clearance of approximately $1/32''$ between the roller (8) and the latch (7). This adjustment has been made at the factory by filing the edge of the rotating member adjacent to the stop when additional rotation was required during resetting.

With the operating mechanism in the closed position and the impact trip mechanism reset, adjust the length of the trip link to provide a clearance of not less than $1/8''$ before striking the operating mechanism trip latch when the roller (8) is released by the latch (7). A clearance at this point is required in order to obtain an impact for tripping.

The buffer stop (11) is adjusted so that the centerline between the roller (8) and latch (7) is $3/32''$, plus or minus $1/32''$ from the lower edge of

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.

GEI-9340A Impact Trip Mechanism

the latch when the spring is charged. This adjustment has been made by increasing or decreasing the number of metal and felt washers in the buffer assembly.

After the above adjustments have been made, lifting the armature (4) slowly by hand should trip the device. Where insufficient motion has been obtained, due to the armature striking the pole piece, the upper end of the armature has been filed to provide additional travel.

ELECTRICAL CALIBRATION

After the mechanical adjustments have been made, the coils are calibrated for the correct pick-up. The calibrating screw (10) is moved in or out until the coil picks up the armature and trips the device at the desired value.

In cases where the impact trip device is used in conjunction with the capacitance trip device a special calibration is required. A standard 250 volt D.C. trip coil is used under this condition and the calibrating screw (10) is moved up until there is a clearance of 1/32" between the trip pin and the trip pan. Under this condition the energy stored in the capacitor is utilized to the best advantage.

When time delay dashpots are used they should be filled with GE #21 oil to the top of the straight section at the bottom of the pot. The time delay is increased by screwing the dashpot (13) up, which increases the travel of the piston (12) through the oil.

Dashpots for the time delay device should be removed twice a year and cleaned in carbona or its equivalent. Allow to dry, then fill with GE-21 oil in accordance with the preceding paragraph.

RENEWAL PARTS

When ordering renewal parts, address the nearest sales office of the General Electric Company.

Refer to this Instruction book (GEI-9340A), the name of the part and reference number, and all the information that appears on the Nameplate of the mechanism.

Specify the quantity of each part required.

If available, furnish also the requisition under which the mechanism was purchased.

RECOMMENDED RENEWAL PARTS

The following is a list of the renewal parts and the quantities of each that we recommend should be

stocked. These parts are those most subject to wear in ordinary operation, and to damage or breakage due to possible abnormal conditions. When continuous operation is a primary consideration, more renewal parts should be carried, the quantity depending upon the severity of the service and the time required to secure replacements.

ILLUSTRATION

			Recommended Stock	
Name of Part	Units Per Device	Ref. No.	For 1 Device	For 5 Devices
Coil	1-2 or 3	2	0	1