



# INSTRUCTIONS

GEK-7273A  
Supersedes GEK-7273  
(Supplement to GEK-7142)

## VACUUM CIRCUIT BREAKER

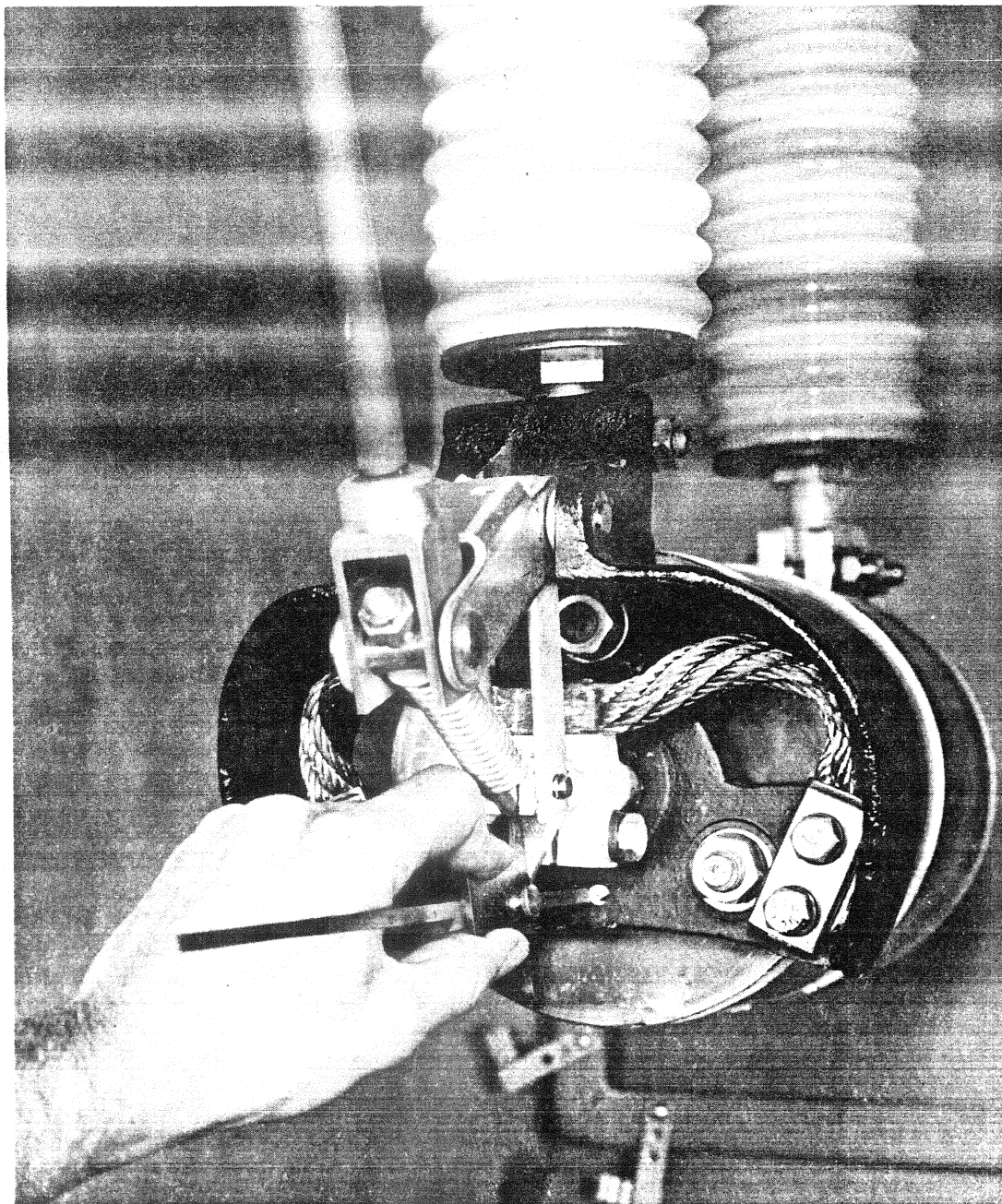
### TYPE

**VIB - 15.5 - 12,000-3**

POWER CIRCUIT BREAKER DEPARTMENT

**GENERAL  ELECTRIC**

PHILADELPHIA, PA.



# Vacuum Circuit Breaker

## Type

### VIB -15.5 - 12,000-3

The VIB - 15.5 - 12,000-3 is similar to the VIB - 15.5 - 12,000-2 except that the interrupter has been changed to a type PV-01B. This interrupter has concave end plates which cannot be used for making reference dimension measurements. The reference dimensions on the VIB - 15.5 - 12,000-3 interrupters are taken from the front of the interrupter support instead of from the interrupter end plate as shown in Fig. 10 of GEK-7142.

A yellow dot is painted on the front of the interrupter support on the vertical center and  $\frac{1}{4}$  inch above the lower edge.

Refer to photograph on preceding page.

When taking a reference dimension the breaker should be in the CLOSE position and the gage under the locknut at the end of the movable contact rotated approximately 20 degrees to left or right from its vertical position. The measurement taken between the gage and the center of the yellow dot is the reference dimension.

A pipe and cap have been added on the dashpot in place of the dashpot oil level checking plug (Fig. 3, item 31) to provide additional oil reservoir. Adjustment of the dashpot is as described in RE-CLOSER OPEN under SUMMARY OF ADJUSTMENTS. The dashpot oil level should be at the top of the pipe. This can be checked by removing the cap.

The fourth paragraph of the section titled "INTERRUPTER" on page 11 of GEI-7142 is changed to read as follows:

A continuity check should be made with the breaker closed. A 35-kv 60-cycle hipot or 40-kv d-c maximum hipot across the open contact should be made for one minute on each interrupter to make sure the vacuum within the unit is satisfactory. If the vacuum is lost, the unit will repeatedly cause the hipot tester to trip below 35-kv at 60 cycles.

#### HIPOT TESTING

Hipot testing, in addition to careful visual inspection, provides the best means of verification of the interrupter's condition. This hipot test procedure should also be observed after the interrupter is mounted in place in its mechanism and prior to being put into actual service.

Prior to actually applying any voltage to the interrupter the surface of its insulating envelope should first be wiped clean of any surface contaminants, acquired during shipping, storage, or manual handling. Normally, wiping the surface with methanol poured on a clean cloth or industrial wiper is sufficient for this purpose. The contact gap is set to the rated stroke using a suitable guide on the movable operating rod.

A hipot voltage source is then connected across the interrupter contacts and the voltage slowly increased to the test voltage. A withstand of 35-kv (rms) or 40-kv d-c is adequate to establish that the interrupter is in serviceable condition.

**CAUTION:** Although the procedure in hipotting a vacuum interrupter is similar to that of any other electrical device,

there are two areas which require the exercise of extra caution.

1. During any hipotting operation the main shield inside the interrupter can acquire an electrical charge which is usually retained even after the hipot voltage is removed. This shield is attached to the midband ring of the insulating envelope and a grounding stick should always be used to discharge the ring before touching the interrupter or removing it from the circuit.

2. High voltage applied across open gaps in a vacuum can produce X-radiation which can constitute a health hazard on prolonged exposure at close range unless the source is adequately shielded. No X-radiation is emitted in the normal current-carrying mode since there are no open contacts. When the contacts are open in service within the rated 15.5 kv class normal line voltage, X-radiation at one meter is below the level of concern at the recommended contact gap (see the specifications for each model number). The patented internal metallic shield of the General Electric vacuum interrupter contributes to X-radiation control by providing a measure of radiation shielding.

As with any open contacts in a vacuum, hazardous X-radiation can be produced if the voltage exceeds a certain level, or if the contact gap is reduced; therefore, DO NOT operate 15.5 kv class vacuum interrupters with personnel closer than one meter, at voltages higher than

*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.*

the rated insulation withstand test voltages specified in USASI C37.06-1966 and C37.09-1964, or at less than the recommended gap, unless appropriate measurements and procedures against possible hazards of X-rays are followed. The 110 kv impulse test per USASI C37.06-1966 should not exceed a rate of 10 impulses per hour (or 40 impulses per hour with personnel no closer than two meters). DC test voltages should not ex-

ceed 40 kv.

When performing insulation withstand tests per USASI C37.09-1964 (75% of the rated low frequency withstand voltage applied for one minute) on circuit breakers after delivery to the user or after fault duty, all normal metallic panels should be installed on the breaker to take advantage of the added shielding afforded by the steel enclosure. Equivalent pre-

cautionary measures should be taken when a steel enclosure is not available. The equipment manufacturer should specify to the user that the insulating withstand tests per USASI C37.09-1964 on circuit breakers after delivery to the user should be performed with normal metallic panels installed on the breaker or with equivalent precautionary measures when a steel enclosure is not available.

### REPLACEMENT PARTS

FIG. NO.	CATALOG NO.	DESCRIPTION
1	0143B7994G01	Interrupter Type PV-01B
1	0104B3736G02	Dashpot Complete