

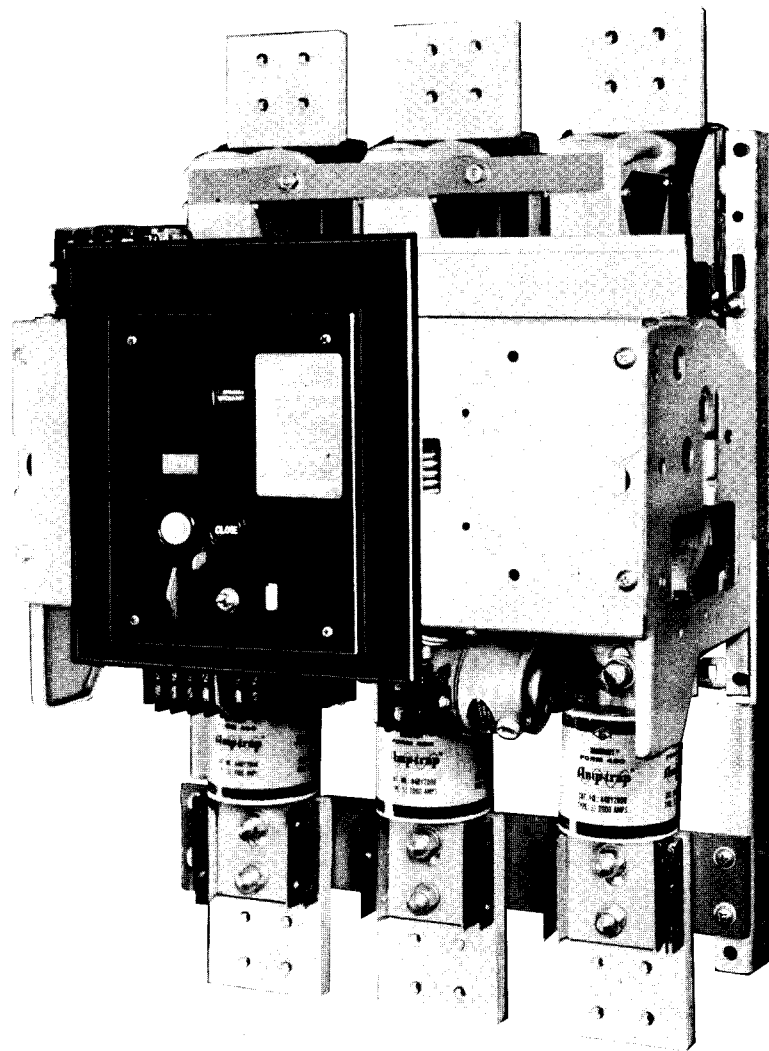
LOW-VOLTAGE POWER SERVICE PROTECTORS

INSTRUCTIONS

OPERATION & MAINTENANCE SUPPLEMENT

KSP-1200TM, KSP-1600, KSP-2000
KSP-3000 AND KSP-4000
POWER SERVICE PROTECTORS

Stationary Switchboard Mounted



I-T-E CIRCUIT BREAKER COMPANY

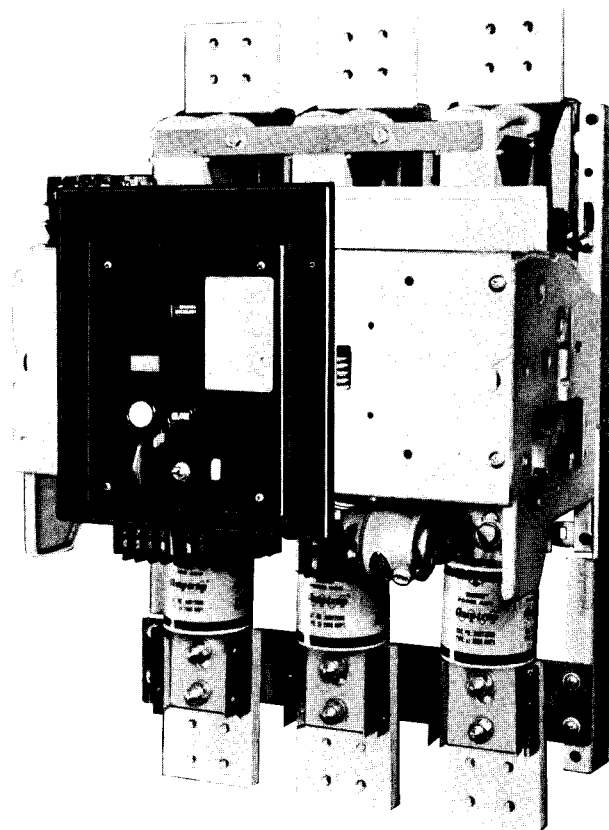


Fig. 1

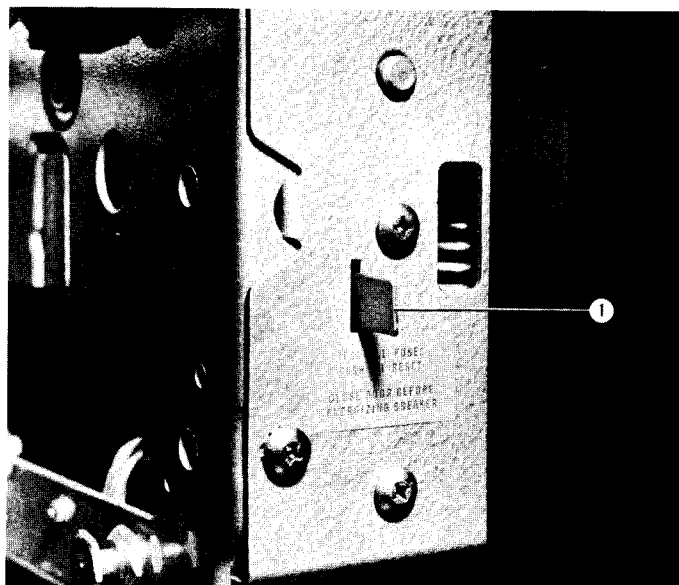


Fig. 2



**OPERATION & MAINTENANCE SUPPLEMENT FOR
KSP-1200, KSP-1600, KSP-2000, KSP-3000 AND KSP-4000
POWER SERVICE PROTECTORS**

Stationary Switchboard Mounted

INTRODUCTION

The KSP-1200, KSP-1600, KSP-2000, KSP-3000 and KSP-4000 power service protectors are modified basic K-Line® circuit breakers, without direct-acting trip devices, and are supplied for stationary mounting only.

The power service protectors have three added features as follows:

1. Current-limiting fuses, Class L Type.
2. Anti-single-phase device (when ordered).
3. Mechanism interlock extension to lock door closed when device is in closed position.

All instructions pertaining to installation, operation and maintenance of basic K-Line circuit breakers also apply to the power service protectors.

Refer to the basic instruction and renewal parts bulletins as listed at the bottom of this page.

CURRENT-LIMITING FUSES (See Fig. 1)

The current-limiting fuses normally supplied with the power service protector are the Chase-Shawmut Class L Type, and the continuous current rating is equal to the frame size of the particular power service protector. It should be noted that special blocking is provided on the power service protector such that fuses of a continuous current rating higher than that of the protector cannot be installed.

When a fault occurs to open a fuse or fuses, the power service protector will not open unless it is equipped with an anti-single-phase device. If not so equipped, other means must be used to determine circuit conditions so that the device may be opened to prevent single-phasing of protected equipment.

When a fuse or more than one fuse has blown, it is recommended that all three fuses be replaced regardless of apparent condition because the time-current characteristic of an unblown fuse could be affected and thus system coordination would be affected.

To replace the fuses, the power service protector should be opened and padlocked in the open position for safety to insure that it cannot be closed during this fuse replacement. Replacing the fuses is a simple mechanical procedure, and the one basic requirement

is that the bolts should be retightened to a torque value of 85 ft./lbs.

NOTE: When replacing the fuses, do not remove the wires from the anti-single-phase device. If it is necessary to check individual fuse continuity, the fuses must be removed from the service protector to isolate the fuse from the paralleled coil of the device.

Replacement fuses **MUST** be the current-limiting type and are recommended to be the Chase-Shawmut Type, Catalog AB4Y, Type 55, of the appropriate continuous current rating. Any Underwriters' Laboratories, Inc. listed Class L fuse may be used if necessary, however.

ANTI-SINGLE-PHASE DEVICE

The anti-single-phase device, supplied on 3-pole service protectors, provides automatic opening of the protector to prevent single-phasing of protected equipment when one or more fuses open.

The device consists of three voltage coils with one coil wired in parallel with each fuse. The coils operate on the voltage produced by the fuse during interruption and cause mechanical tripping of the protector.

When the anti-single-phase device operates, an indicator (1, Fig. 2) will extend through the front of the mechanism mounting plate providing indication that the protector has opened due to fuse operation. This is visible only with the door open. Further, the automatic trip indicator on the escutcheon will also have extended providing visible external indication of automatic opening.

When the anti-single-phase device indicator is extended, the protector will be held in the trip-free position so that it cannot be reclosed. If the indicator is inadvertently reset and the protector reclosed before the fuses are replaced, the protector will safely open again, but this practice is not recommended.

After the fuses have been replaced and the fault removed, both trip indicators should be pushed in to reset the service-protector mechanism. The power service protector may then be closed and service resumed.

The design of the anti-single-phase device is such that no maintenance or adjustment is necessary on this device for its normal operating life.

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 I-T-E Circuit Breaker Company.

BASIC INSTRUCTION AND RENEWAL PARTS BULLETINS

Type	Installation & Operation	Maintenance	Repair Parts
KSP-1200, KSP-1600, KSP-2000	IB-9.1.7-1	IB-9.1.7-3	RP-9.1.8-1
KSP-3000, KSP-4000	IB-9.1.7-4	IB-9.1.7-4	RP-9.1.8-2



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