IB-9.2.7-3
ISSUE A

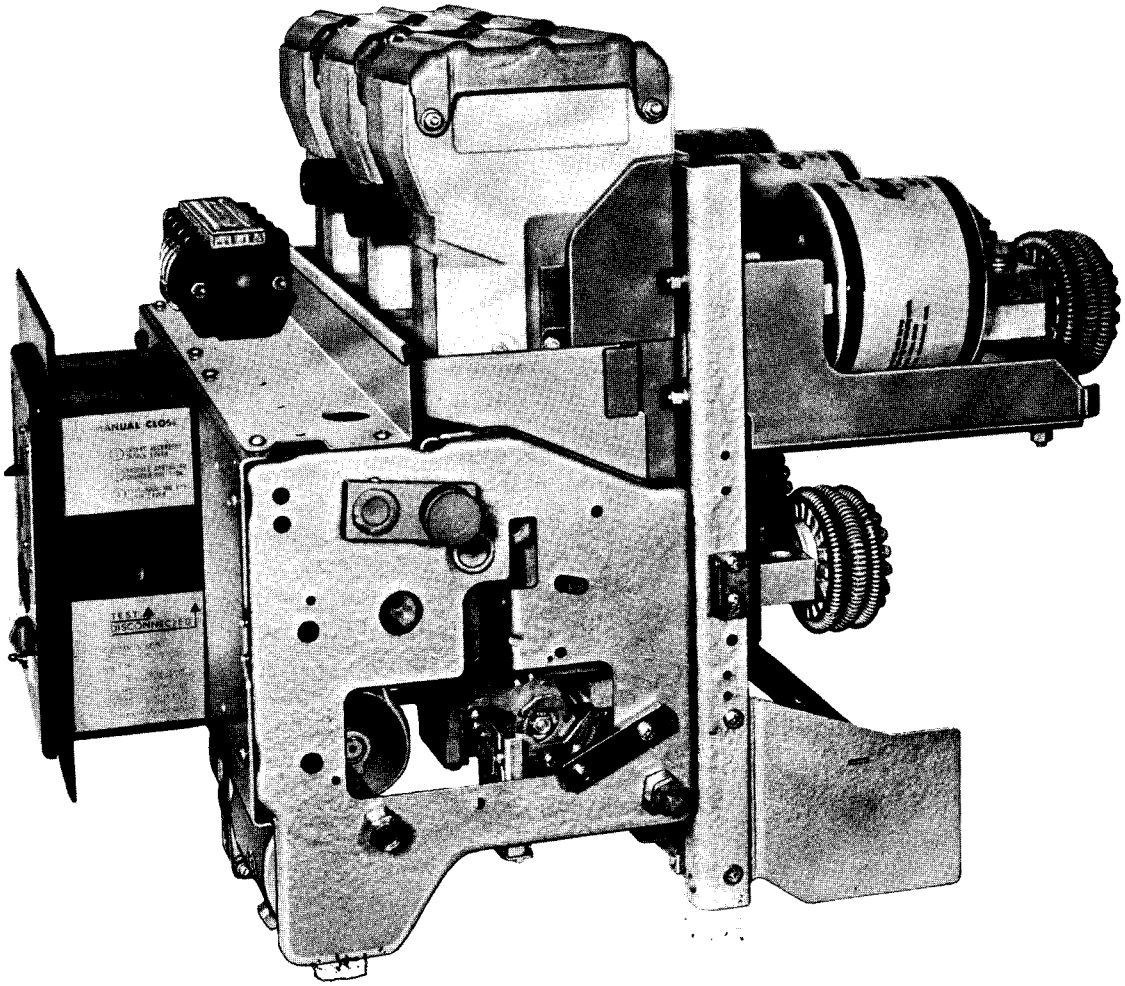
FUSED LOW-VOLTAGE POWER CIRCUIT BREAKERS

INSTRUCTIONS

OPERATION & MAINTENANCE SUPPLEMENT

K-DON®-600 AND K-DON-1600 FUSED CIRCUIT BREAKERS

Drawout Switchboard Mounted



I-T-E IMPERIAL CORPORATION

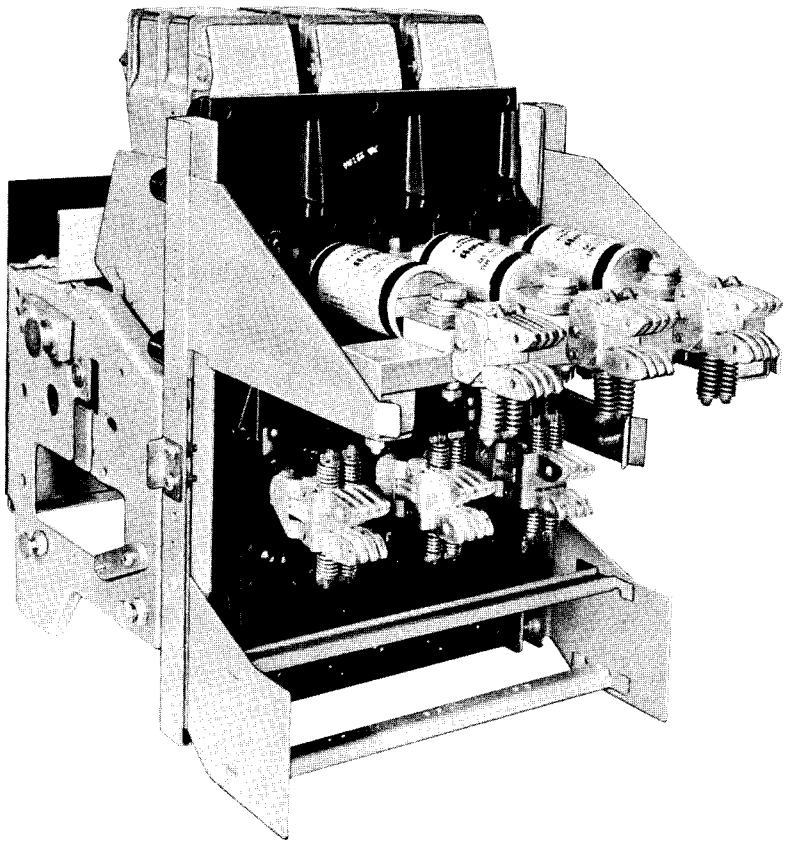


Fig. 1

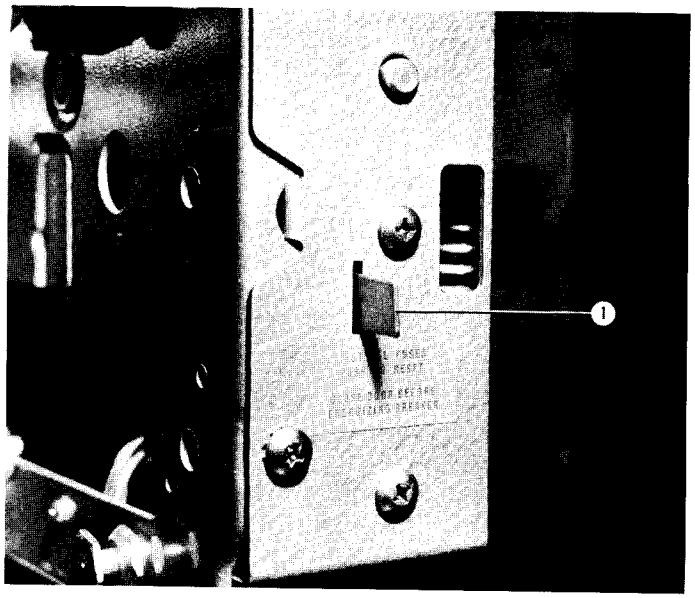


Fig. 2

OPERATION & MAINTENANCE SUPPLEMENT FOR K-DON-600 AND K-DON-1600 FUSED CIRCUIT BREAKERS

Drawout Switchboard Mounted

INTRODUCTION

K-Don-600 and K-Don-1600 fused circuit breakers are assemblies of the basic K-Line® circuit breakers, with the addition of integral current-limiting fuses and an anti-single-phase device to provide a coordinated protective device. The K-Don® circuit breakers are supplied in drawout arrangement only and should never be used in stationary mounting.

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

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 mounted on the K-Don circuit breaker are a special Chase-Shawmut type with the continuous current rating dependent on the coordination between the fuses, the direct-acting trip device and the other protected equipment. The maximum continuous current rating of the fuses is limited as noted on the circuit-breaker nameplate.

When a fault occurs to open a fuse or fuses, the K-Don circuit breaker will automatically open by operation of the anti-single-phase device.

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 circuit breaker should be withdrawn from its compartment and conveniently located so that the fuses are readily accessible. Fuse replacement 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 circuit breaker to isolate the fuse from the paralleled coil of the device.

Replacement fuses MUST be the current-limiting type and are to be the Chase-Shawmut Catalog, Type 55AK of the same continuous current rating as previously installed so that coordination is not affected. Any other type fuse, even if modified for mounting, will not necessarily provide proper coordination and protection.

ANTI-SINGLE-PHASE DEVICE

The anti-single-phase device, supplied on 3-pole circuit breakers, provides automatic opening of the circuit breaker 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 circuit breaker.

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 circuit breaker 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. If the automatic trip indicator is extended but the anti-single-phase device indicator is not, then the circuit breaker opened from direct-acting trip device operation because of a small overload which did not operate the fuses.

If the anti-single-phase device indicator is extended, the circuit breaker will be held in the trip-free position so that it cannot be reclosed. If the indicator is inadvertently reset and the circuit breaker reclosed before the fuses are replaced, the circuit breaker 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 circuit-breaker mechanism. The fused circuit breaker 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.

BASIC INSTRUCTION AND RENEWAL PARTS BULLETINS

Type	Instructions	Repair Parts
K-Don-600 and K-Don-1600	IB-9.1.7-6	RP-9.1.8-1
Urelite® Enclosure	IB-9.4.7-2	None

IB-9.2.7-3
ISSUE B

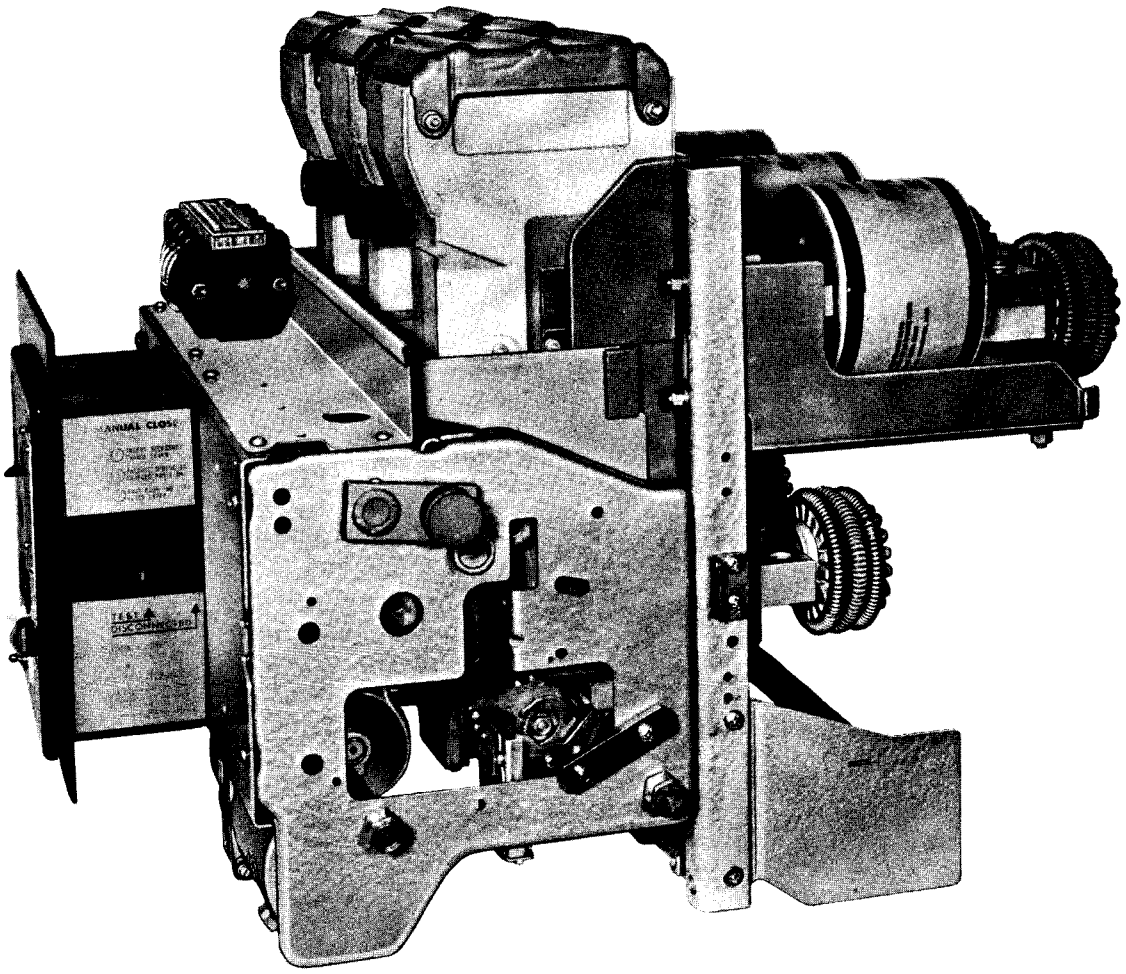
FUSED LOW-VOLTAGE POWER CIRCUIT BREAKERS

INSTRUCTIONS

OPERATION & MAINTENANCE SUPPLEMENT

K-DON®-600, 1600, 600S, 1600S FUSED CIRCUIT BREAKERS

Drawout Switchboard Mounted



I·T·E Imperial Corporation

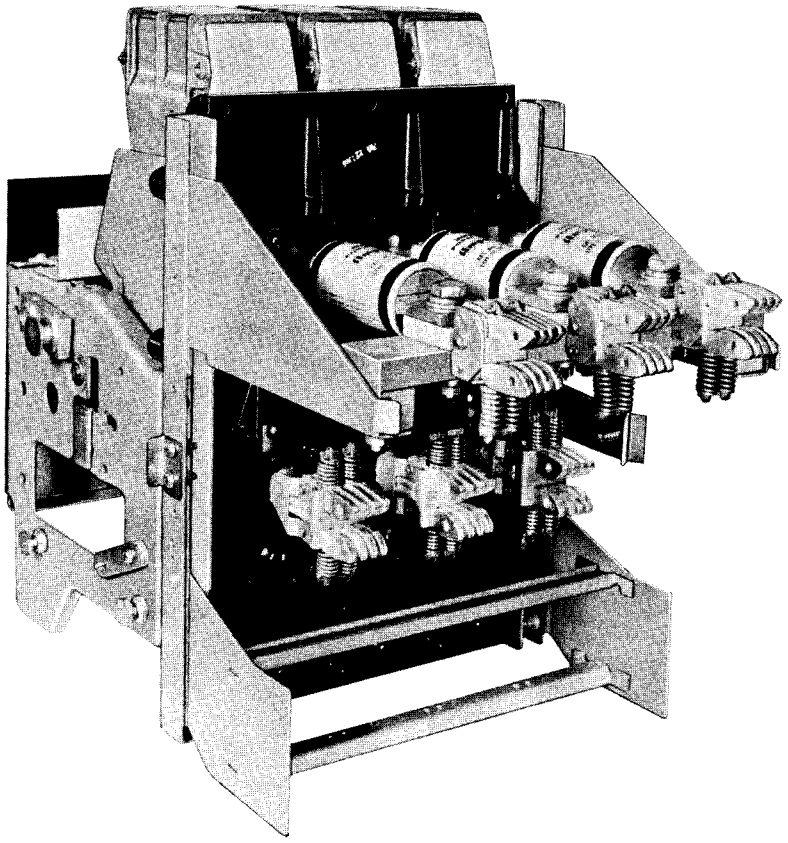


Fig. 1

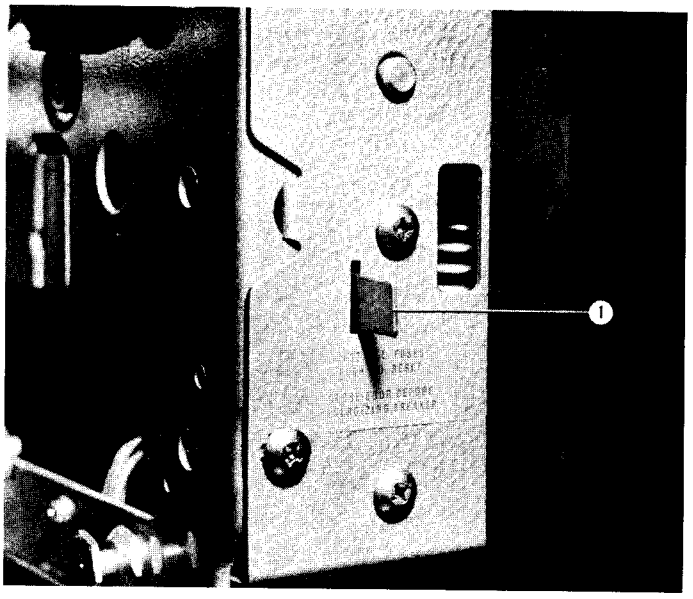


Fig. 2

OPERATION & MAINTENANCE SUPPLEMENT FOR K-DON-600, 1600, 600S, 1600S FUSED CIRCUIT BREAKERS

Drawout Switchboard Mounted

INTRODUCTION

These fused circuit breakers are assemblies of the basic K-Line® circuit breakers, with the addition of integral current-limiting fuses and an anti-single-phase device to provide a coordinated protective device. The K-Don® circuit breakers are supplied in drawout arrangement only and should never be used in stationary mounting.

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

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 mounted on the K-Don circuit breaker are a special Chase-Shawmut type with the continuous current rating dependent on the coordination between the fuses, the direct-acting trip device and the other protected equipment. The maximum continuous current rating of the fuses is limited as noted on the circuit-breaker nameplate.

When a fault occurs to open a fuse or fuses, the K-Don circuit breaker will automatically open by operation of the anti-single-phase device.

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 circuit breaker should be withdrawn from its compartment and conveniently located so that the fuses are readily accessible. Fuse replacement 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 circuit breaker to isolate the fuse from the paralleled coil of the device.

Replacement fuses MUST be the current-limiting type and are to be the Chase-Shawmut Special Purpose Type 55AL, UL listed, of the same continuous current rating as previously installed so that coordination is not affected. Any other type fuse, even if modified for mounting, will not necessarily provide proper coordination and protection.

ANTI-SINGLE-PHASE DEVICE

The anti-single-phase device, supplied on 3-pole circuit breakers, provides automatic opening of the circuit breaker 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 circuit breaker.

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 circuit breaker 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. If the automatic trip indicator is extended but the anti-single-phase device indicator is not, then the circuit breaker opened from direct-acting trip device operation because of a small overload which did not operate the fuses.

If the anti-single-phase device indicator is extended, the circuit breaker will be held in the trip-free position so that it cannot be reclosed. If the indicator is inadvertently reset and the circuit breaker reclosed before the fuses are replaced, the circuit breaker will safely open again, when there is load current, 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 circuit-breaker mechanism. The fused circuit breaker 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.

BASIC INSTRUCTION AND RENEWAL PARTS BULLETINS

Type	Instructions	Repair Parts
K-Don-600, 1600, 600S, 1600S	IB-9.1.7-6	RP-9.1.8-1
Urelite® Enclosure	IB-9.4.7-2	None