Westinghouse Electric Corporation
Engineering and Instrumentation
Services Division
875 Greentree Road, Bldg. No. 8
Pittsburgh, Pennsylvania 15220

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New Information
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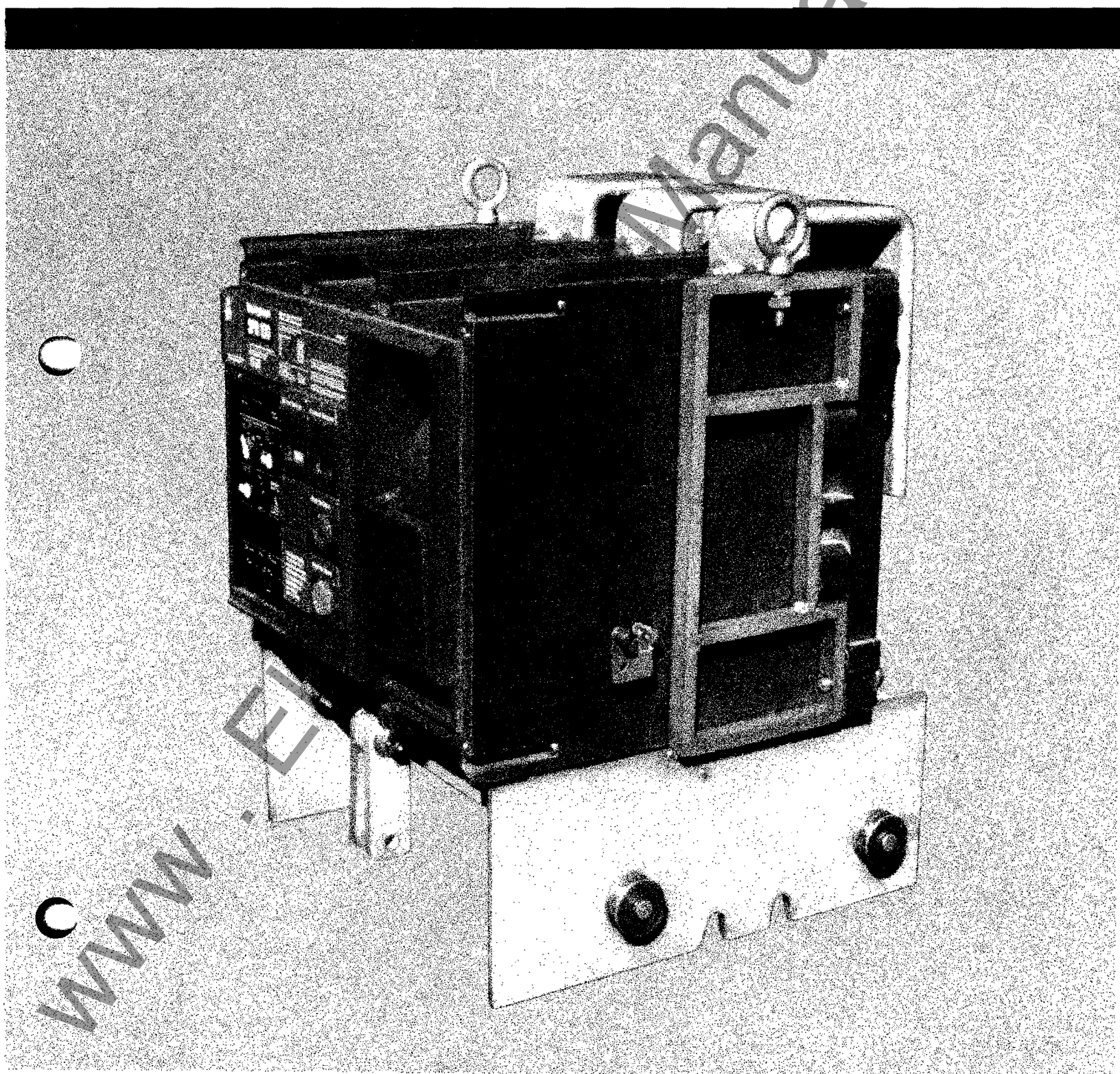
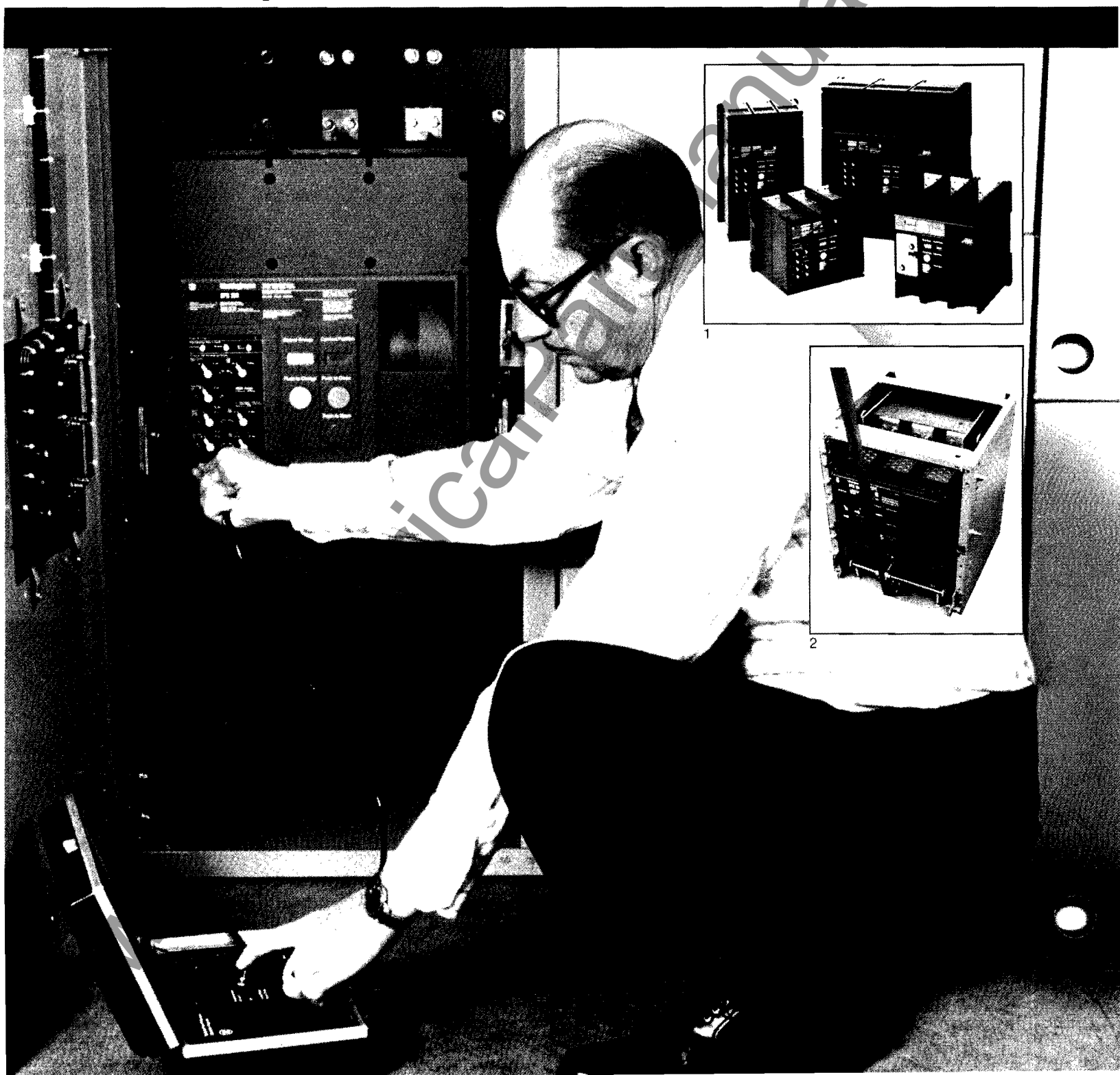
Low Voltage Breaker Replacement



Low Voltage Breaker Replacement

Main: Westinghouse low voltage circuit breaker replacement offers like-new levels of performance while simplified testing of solid-state trips reduces maintenance and improves safety.
1. Current production, solid-state Westinghouse breakers allow for continuous operation at 100% of frame rating and increased interrupting capacity.
2. Breaker replacement utilizes existing structures, cables, cubicles and control schemes yielding a substantial savings over total switchgear replacement.



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Innovative Modernization Techniques from Westinghouse Engineering & Instrumentation Services

The Westinghouse Engineering & Instrumentation Services Division (E&ISD) is one of the largest and most experienced industrial service organizations in the nation. With more than 80 fully-staffed Engineering Service Offices throughout the continental U.S., E&ISD has complete local capabilities to provide a wide range of electrical and mechanical equipment services in three broad categories: installation, physical maintenance, and engineering advisory services.

At E&ISD, we have established an ongoing program to identify emerging customer needs, and evolve effective service technologies and procedures to meet them. Low Voltage Breaker Replacement is just one of many new capabilities we have developed in order to enhance both the quality and scope of service options available to our customers.

Low Voltage Breaker Replacement by Westinghouse affords all the benefits of total solid-state retrofit at 40% of the cost of new installed equipment. In addition to providing solid-state tripping and coordination, this package allows for increased interrupting capacity of up to 100,000 AIC. Moreover, replacement breakers fit easily into existing cells with minimal modifications to either the cubicles or the control scheme.

State-of-the-Art Breaker Replacement for Enhanced Tripping Performance and System Flexibility

Vintage 600V metal-enclosed air circuit breakers must ultimately be replaced, either as rated interrupting capacity is exceeded (due to increasing utility available short circuit) or as breakers approach the limits of the manufacturer's recommended operating life.

The Westinghouse Low Voltage Circuit Breaker Replacement package restores breaker performance to like-new levels through replacement with current-production Westinghouse SPB 100% rated encased power breaker units. Replacement breakers are solid-state, totally enclosed devices that fit into the existing breaker cell and are readily interchangeable between compatible breaker frames. Units are available in continuous ratings from 250A.

Features:

Upgrade switchgear breakers to state-of-the-art, solid-state trip devices—Extends unit life, enhances tripping performance and minimizes nuisance tripping through increased coordination capability. Availability of current renewal parts reduces costly inventory requirements by 60%. In addition, breaker replacement also yields the following advantages:

- *Promotes extended switchgear life:* Replacement with solid-state trip SPB breakers begins a new life cycle of up to 8,000 operations.
- *Permits rating upgrades:* Usually, both amperage ratings and interrupting capacities are increased, with minimal cell modification.
- *Allows continuous operations at 100% of frame rating:* Westinghouse SPB breakers are suitable for continuous 100% operation, eliminating the need for oversizing.
- *Continuous rating:* Replacement breakers feature rating plugs which establish nominal maximum continuous ampere ratings. These plugs are available in a wide range of amperage ratings to permit quick changes of continuous ampere ratings.
- *Safety interlocking:* State-of-the-art SPB replacement breakers feature multiple layers of protective interlocking to ensure on-line performance at specified ratings and to prevent tampering.
- *Improved coordination:* Coordination is enhanced through a 30% increase in the range of adjustments on the solid state trip system.
- *Improved trip accuracy:* SPB breakers improve tripping repeatibility from 20% to 2%.
- *Reduced maintenance:* Encased design of SPB breakers resists mechanical shocks and harsh operating environments. Systems troubleshooting time is reduced by 30% through a visual display which indicates the trip problem for each interruption.
- *Anti-pump provisions:* Unique SPB breaker design features built-in safeguards against unwanted closing or reclosing operations.

Retention of existing structure, cables, cubicles and control scheme—Minimizes interruption to customer operations. Yields substantial costs savings over total unit replacement, and affords faster turnaround.

Upgrade for added ground fault protection—Meets NEC requirements and affords added operating safety.

Greater range and repeatability—Improves coordination of electrical distribution system and reduces downtime due to nuisance tripping.

Westinghouse Engineering Service Locations*

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Birmingham 35209
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* The offices which appear above represent a partial listing of Westinghouse Engineering Service offices located in the United States. For a complete list contact your closest office or call the Westinghouse Engineering Information Center at 800-441-3134. Outside of the continental U.S. call 412-928-2559.

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