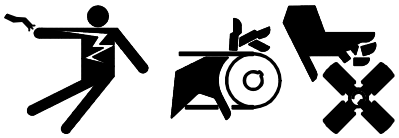
SERVICE BULLETIN

Original Issue Date: **10/97**
Model: **20-300 kW**
Market: **Industrial**
Subject: **Line Circuit Breaker Service**

Temperature changes and generator set vibration might loosen the lug connections on line circuit breakers. Loose circuit breaker lug connections may cause excessive terminal heating resulting in nuisance tripping or severe property damage.

As part of a routine preventative maintenance program perform the following checks, inspections, and tests.

⚠ WARNING



Accidental starting.
Can cause severe injury or death.

Disconnect battery cables before working on generator set. (Remove negative (–) lead first when disconnecting battery. Reconnect negative (–) lead last when reconnecting battery.)

Disabling generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: 1) Turn the generator set master switch to OFF position. 2) Disconnect power to battery charger. 3) Remove battery cables (remove negative (–) lead first). Reconnect negative (–) lead last when reconnecting battery. Follow these precautions to prevent starting of generator set by an automatic transfer switch or remote start/stop switch.

⚠ WARNING

Hazardous voltage.

Moving rotor.

Can cause severe injury or death.

Operate generator set only with all guards and electrical enclosures in place.

Grounding generator set. Hazardous voltage can cause severe injury or death. Electrocution is possible whenever electricity is present. Open main circuit breakers of all power sources before servicing equipment. Configure the installation to electrically ground the generator set and electrical circuits when in use. Never contact electrical leads or appliances when standing in water or on wet ground, as the chance of electrocution increases under such conditions.

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NOTE

Perform all tests on de-energized, and disconnected circuit breakers to prevent accidental contact with live parts.

Molded case circuit breakers contain factory-sealed and calibrated elements. Do not break the seal and tamper with molded case circuit breakers. Replace entire faulty circuit breaker.

Inspection Intervals

Inspect circuit breaker six months after initial installation, annually thereafter.

Terminal Inspection and Retorquing

Visually inspect connections to circuit breaker for discoloration from overheating. If discoloration appears disassemble the joint and clean surfaces before reinstallation. Add anti-oxidation coating if required.

Retorque terminal connections per specification listed on the circuit breaker.

NOTE

Expect a certain amount of torque relaxation over time. The circuit breaker torque rating takes relaxation into consideration in its torque value.

If unable to meet the required torque specification listed on the circuit breaker, or if there is significant discoloration of lugs and/or terminals contact the Generator Service Department.

Terminal Cleaning

Remove any dust and dirt that has accumulated on the surface of circuit breaker and terminals. Do not remove the anti-oxidation coating if used.

Mechanical Check

Manually operate circuit breaker to verify its correct operation.

Insulation Resistance Tests

Perform an insulation resistance test on circuit breakers subject to severe operating conditions per the National Electrical Manufacturers Association (NEMA) standard publication no. AB1. An insulation resistance test determines the insulation quality between phases and phase to ground.

Electrical Tests

These electrical tests require specialized test equipment for conducting pole resistance, overcurrent, and instantaneous tripping in accordance with NEMA standard publications no. AB1. These tests are not within the scope of normal field operation.