



Powell Apparatus Service Division

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Service Advisory 209

AT Breaker Main Contact Erosion Gap Indicator

Date: September 20, 2001

Powell Electrical MFG. Co. has earned an excellent reputation for reliability. This notice is intended to help our customers maximize the operating life of their Powell equipment.

PRODUCT: All Powell PV system 38 "AT" vacuum circuit breakers, manufactured prior to June 1, 2001. This includes all voltage and interrupting ratings.

CONDITION: Powell has identified a possible operating condition, in which the contact erosion indicator, may decrease without actual contact erosion or wear. This measurement is commonly called the "over travel", "nut gap" or "bias" adjustment. This dimension has been discovered on installed equipment, to be outside of the limits defined in the instruction bulletin for a new circuit breaker.

The instruction bulletin defines this measurement for a new breaker to be between 0.180" & 0.188". The original design limits contact erosion is 0.100". This limits the minimum contact erosion indicator measurement to 0.080". Field commissioning personnel have occasionally reported readings as low as 0.130". Through extensive testing and field experience, we have determined that the original contact erosion indicator limits, were not practical. The recommended erosion allowance of 0.100" has proven too conservative for the application.

CAUSE: In addition to normal wear, other factors contribute to this reduction. Primarily, the breaker frame and vacuum interrupter deflection may cause a slight reduction in over travel. We have also discovered in rare cases, movement of the adjusting nut on the loading spring of the push rod.

INSPECTION: The inspection requirement is classified as low priority. Contact erosion indicator measurements, unless below the minimum allowable measurement, are only important when recorded for maintenance records.

The occurrence of this condition can be checked during a routine maintenance period. This period should be established by specific application and experience. The general rule however, is once annually or every 2000 operations, whichever occurs first.

CORRECTIVE ACTION: Powell has modified the recommendation for a "new" breaker contact erosion indicator to a minimum 0.150". The minimum allowable dimension of the contact erosion indicator will remain at 0.080". Powell has also added a second "jam" nut to the "nut gap" adjusting nut to limit unintentional movement. We have modified the instruction bulletin clarifying the erosion gap dimensions. This instruction bulletin is available on the powellservice.com web site. No corrective action is required if the circuit breaker is operated within the erosion gap dimensions defined above.

SAFETY:

Powell does not anticipate safety concerns if the breaker is properly commissioned and maintained in accordance with the instruction bulletin.

Sincerely,

DENNIS R. THONSGARD

MANAGER - POWELL APPARATUS SERVICE DIVISION