Installation Test Procedures for Breakers having Integral Ground Fault Protection (Type SPB, SPCB, Seltronic)

1. The inter-connected ground fault system shall be evaluated on initial installation and periodically thereafter with equipment assembler's detailed instructions. This evaluation is to be undertaken by qualified personnel.

2. The proper location of the sensors around the bus of circuit to be protected shall be determined. This can be done visually, with knowledge of which bus is involved.

3. The polarity of all sensor connections must agree with equipment assembler's detail instructions to avoid improper operations following apparently correct simulated test operations. When a question exists, consult the specifying engineer and/or equipment assembler.

4. The grounding parts of the system shall be verified to determine that ground paths do not exist that would bypass the sensor. The use of high-voltage tests and resistance bridges may be employed.

5. As a minimum check, it is recommended that a simulated test be conducted by qualified personnel using a low voltage (0 to 10 V) high current source. The procedure below is for residual/source ground or zero sequence type ground fault schemes. Custom ground fault schemes, i.e., multi-source, multi-ground type, will require reviewing of equipment assembler's job shop drawings before test program can be undertaken.

CAUTION: The test simulation method suggested does not check for a nuisance trip condition (on residual 3ϕ, 4 wire systems) due to neutral sensor wiring polarity being reversed.

WARNING: THERE IS A HAZARD OF ELECTRICAL SHOCK OR BURN WHENEVER WORKING IN OR AROUND ELECTRICAL EQUIPMENT. ALWAYS TURN OFF POWER SUPPLYING BREAKER BEFORE CONDUCTING TESTS.

I. SYSTEM TYPE – Residual (3ϕ 4 Wire) source ground or zero sequence

A. Bar Type Neutral Current Sensor/Source Ground Sensor

Using the low voltage current source, apply a test current of 125 percent of ground fault pickup setting directly through the current sensor. The circuit breaker associated with this current sensor should trip via ground fault function and if alarm/indicator is supplied, this also should operate.

B. Window Type Current Sensor

Perform similar test procedure as "A" above, except either a single turn or multiple loop must be fed through the current sensor opening to simulate a ground fault current.

II. SYSTEM TYPE – 3ϕ 3 Wire (Residual)

A test current of 125 percent ground fault setting must be applied directly through one pole of the circuit breaker to operate the ground fault trip.

CAUTION: Check circuit breaker for ground fault labels for any specific test instructions before conducting tests.

CAUTION: Any temporary connection made for the purpose of conducting breaker tests should be restored to proper operating conditions before returning the breaker to service.

See Reverse Side

Effective May, 1981 Supersedes I.S. 15374 dated November, 1980

Ground Fault Test Record should be retained by those in charge of the building's electrical installation in order to be available to the authority having jurisdiction.

GROUND FAULT TEST RECORD FORM

Test Date	Circuit Breaker No.	Results	Tested By

Westinghouse Electric Corporation
Distribution and Control Equipment Divisions, Beaver, Pa. 15009

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