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**PROBLEM WITH TWO BREAKER
TRIPPING SCHEMES**

PROBLEM WITH TWO-BREAKER TRIPPING SCHEMES

An operational problem can occur with switching schemes such as ring bus and breaker-and-a-half schemes that require the tripping of two circuit breakers to clear a line fault.

In the early 1970's, a circuit breaker in a 100-kV ring bus was standing closed with disconnect switches on either side open, isolating the breaker for maintenance when a fault occurred on its associated line. The companion breaker tripped to clear the fault, but an "a" contact in the breaker under clearance prevented the line relay

seal-in circuit from resetting, thereby preventing initial attempts to close the breaker that tripped.

Clearance procedures for breakers of these two-breaker schemes should include the removal of these "a" contacts from service. The preferred method to prevent this problem is to install control switches to permit isolating the circuit breaker auxiliary switch contacts without circuit breaker auxiliary switch contacts without disconnecting leads.