

The effects of material transfer in relays diagnosed by voltage measurement¹

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Abstract-- The effect of material transfer can be measured recording the voltage curve during switching. Before starting a life-test, the correlation between make-time/opening-time and contact distance has to be measured. The material transfer either reduces or increases the effective contact distance. The knowledge of the actual values of make-time and opening-time allows to calculate the actual effective contact distance and to recognize obstructed opening, resp. Thus, the effect of material transfer can be measured without modifying and hence damaging the relay.

Index Terms-- Electrical Contacts, Material Transfer, Relays