

OPERATIONAL SEQUENCE
AIR COOLED SETS - MAGNETO IGNITION
SINGLE AND THREE PHASE GENERATORS
TRANSFER PANEL SERIES ATS & RTS
ELECTRICALLY OPERATED & HELD ON EMERGENCY
MECHANICALLY HELD ON NORMAL

Normal Power Fails:

1. When power fails, relay "IV" loses voltage and contacts "IV1" and "IV2" close. (Selector switch in "auto" position.)
2. The closing of "IV1" contacts applies battery voltage to coil "SC" through contacts "SW2" (A1) "OC", "SR", and LO, also to "MR" coil which closes contacts "MR2" and opens contacts "MRI" removing ground from magneto.
3. Voltage to "SC" coil closes contacts "SC" which applies battery voltage to "SS" coil to close contacts "SS". The closing of "SS" energizes starting motor and completes cranking circuit.
4. If engine fails to start in 45-60 seconds, the overcranking cutout "OC" opens to stop cranking. "OC" must be manually reset after fault is corrected.
5. As the engine starts and accelerates, voltage is produced by the emergency standby generator. When the voltage reaches 12-14 volts "SR" contacts open disconnecting starting circuit.
6. The engine continues to accelerate and generator voltage builds up. When the voltage reaches 90% of rated value, relay coil "LO" opens contacts "LO2" in series with "SR", removing "SR" from circuit. "LO1" contacts in the engine starting circuit also open to prevent re-energizing of the starter by closing of "SR" contacts. "LO2" contacts in series with "IV2" contacts close ("IV2" contacts closed in Step #1) completing circuit to "CE" solenoid coil.
7. The "CE" solenoid operates and holds main contactor in emergency position, thus transferring load to the emergency standby generator set.

Normal Power Restored:

1. When normal power is restored "IV" coil is energized, opening contacts "IV1" and "IV2".
2. "CE" is de-energized and transfer switch returns to normal position.
3. "MR" relay circuit opens, contacts "MRI" close grounding engine magneto and emergency standby generator set shuts down.

Note: Various time delay relays are offered (See Accessories Price List). All relays must time out before each function is completed. When optional delays etc. are included, an additional wiring diagram is furnished which is a direct overlay to the circuit that is revised.