

COLLECTOR AND GROUNDING BRUSHES



Carbon brushes are used to transfer current to the generator field and to remove residual AC & DC current from the rotor train. Continuous monitoring and preventative maintenance of these systems are key for reliability and safety. Spare parts should always be on-hand to facilitate planned or emergent needs.

Technical Information

Generators with static exciters feature stationary carbon brushes to transfer current to the generator field collector rings.

All generators use a shaft-grounding system to provide a safe path to ground for residual AC & DC current from the rotor train. The two common arrangements feature carbon brushes or copper braids to maintain contact with the rotor.

The carbon brushes are sacrificial and made to wear down during operation. The design of these systems is intended to allow inspection and replacement of brushes during unit operation.

Daily, weekly, monthly, & outage inspection recommendations as well as crucial safety information may be found in GEK116362K.

Risk

Improper maintenance of the collector brushes will result in damage to the collector ring surface and insulation. Operating conditions & defective brushes may have an impact on the capability of the system. If

operation continues in a compromised condition the resulting damage will culminate in a flashover event. A flashover event poses catastrophic risk to the unit as well as the health and safety of site personnel. Please refer to GEK116362K for more information on this event.

GE Vernova Recommendations

GEK Guidance: Review GEK116362K for operational, maintenance, and safety information regarding the collector brush system.

Preventative Maintenance: Continue daily, weekly, & monthly preventative maintenance activities and address any abnormal findings right away.

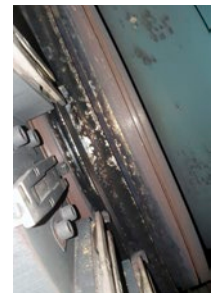
Parts Planning: At minimum it is imperative a full set of collector & shaft grounding brushes be kept on-hand at all times. It is recommended to stock multiple sets of brushes in case of emergent findings.



New Brush & Holder



Severely Damaged Brush Holders



Potential Generator Damage

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