

Technical Support – Rotating Machines

Sparking

FAULTY COMMUTATING CONDITIONS, WHICH INCLUDE THE FOLLOWING:

- Incorrect or unequal brush pressure
- Unequal brush spacing around commutator
- Faulty brush alignment (see note)
- Imperfect bedding of the brushes
- Commutating poles of incorrect strength
- Machine fault such as low IR
- Neutral point set incorrectly
- Machine overload or overspeed
- Unsuitable grade of brush
- Air gaps of unequal length because of wear of bearings

FAULTS IN ARMATURE:

- Projecting mica on commutator
- Out of balance
- Bad joints in winding or equalisers
- Commutators flatted or otherwise out of true
- Loose commutator bars

BRUSH HOLDERS:

- Brushes sticking in their boxes
- Brush clearance in boxes too great
- Holders set too far from commutator or brushes too long
- Incorrect brush holder alignment

MISCELLANEOUS:

- Brush held off commutator by short or too stiff flexibles
- Loose connection in brush gear or field system.
- Vibration from external source.
- Chatter or brushes

NOTE

Some of the brushes on each brush holder spindle are sometimes deliberately set in advance of the remaining brushes on the same spindle. This is called “circumferential stagger”. When a machine is delivered with brushes set in this way the arrangements should not be interfered with. Fuller information is available in the Morgan publication on brush stagger.