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Service book for permanent magnet motors (AP-80)

The life of the brushes is basically dependent upon operating conditions and upon the type of D.C. supply. However, we recommend an inspection between 1000 and 2000 hours running time. The interval between further inspections can be determined from the state of the brushes at the first inspection.

A DISMANTELING THE MOTOR

(before dismantling, mark the position of the flanges on the motor body)

- Remove the screws and washers on the brass bolts.
- Tap the end of the shaft at the front of the motor so as to free the rear flange and the armature.
- Dismantle the components: front flange (with bolts) body armature and rear flange. When dismantling the armature from the motor body, take care not to damage the magnets.
- Clean the components with compressed air in order to remove carbon dust. If the armature comes loose from the rear flange, do not forget to replace the elastic ring in the bearing seat.
- Check the state of the brushes. If the brushes are worn more than 60%, replace them. If you do have to replace them, bed them in by placing glass paper between each brush and the commutator and turning the armature alternately in each direction of rotation.
- Check that the four screws on the brush holders are properly tightened.

B RE-ASSEMBLING THE MOTOR

- Put the rear flange (with brush holders) on a table, making sure there is adequate clearance for the other end of the shaft. If the armature has been dismantled from the rear flange, ensure that the elastic ring is in position before replacing the armature, and take care not to damage the commutator adjacent to the brush holders.
- Take the motor body (large internal clearance below, at the commutator end) and refit the commutator by lowering the motor body on to it. At the same time, hold the shaft so as to lower it slowly, avoiding breaking the magnets.
- Fit the body to the rear flange.
- Present the front flange (with bolts) to the rear flange ensuring that the holes are lined up (motor present held horizontal).
- With a mallet, position the front flange on the body. Re-fit the washers and screws. Tighten them gently, making sure that the armature turns freely.
- Seal the screws.