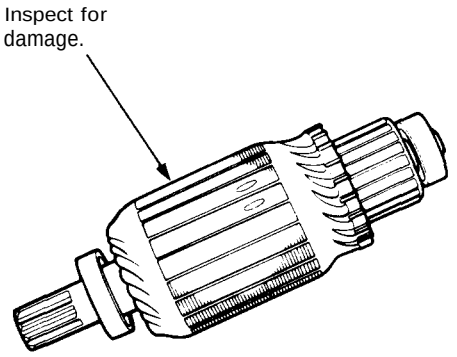
Starting System

Armature Inspection and Test

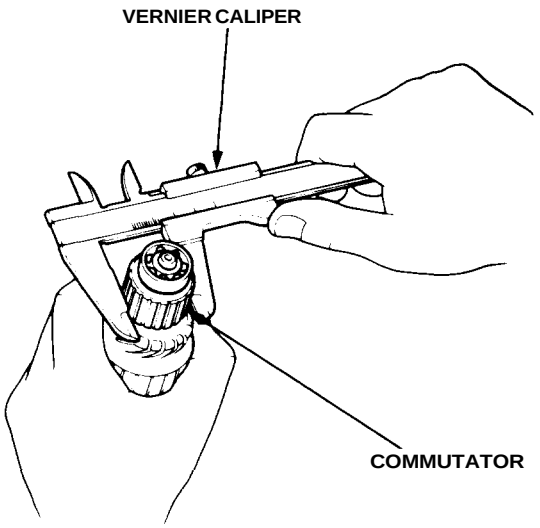
1. Inspect the armature for wear or damage due to contact with the field coil magnets.



2. A dirty or burnt commutator surface may be resurfaced with emery cloth or a lathe within the following specifications.

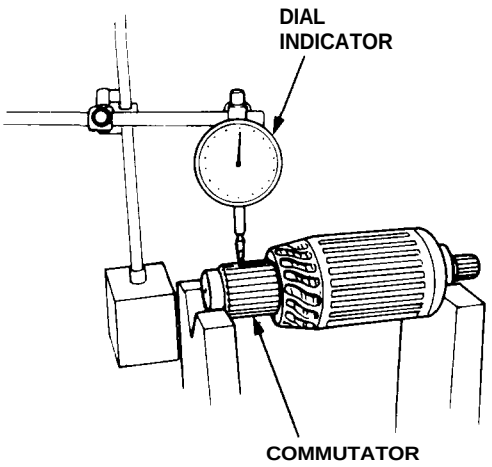
Commutator Diameter

Standard (New): 29.9—30.0 mm (1.177-1.181in)
Service Limit: 29.0 mm (1.142 in)



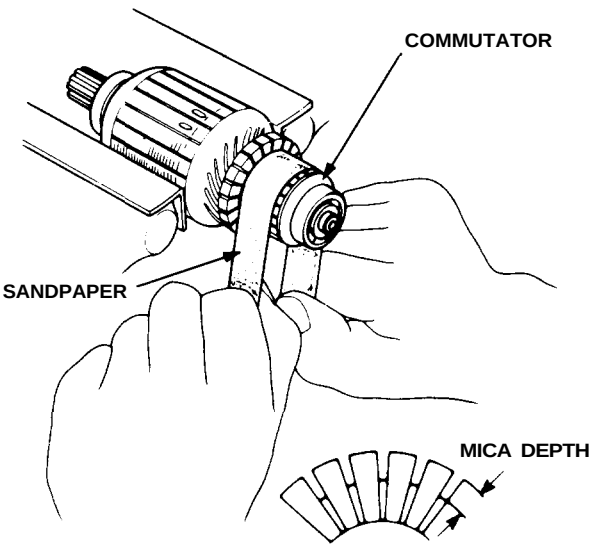
Commutator Runout

Standard (New): 0-0.02 mm (0-0.0008 in)
Service Limit: 0.05 mm (0.002 in)



3. If the commutator runout and diameter are within limits, check the commutator for damage or for carbon dust or brass chips between the segments.

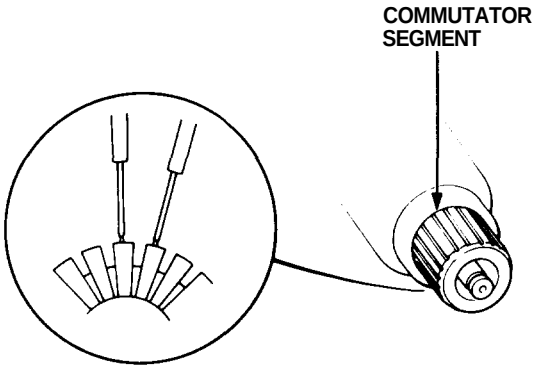
4. If the surface is dirty, recondition it with a #500 or #600 sandpaper. Then, check mica depth. If necessary, undercut mica with a hacksaw blade to achieve proper depth.



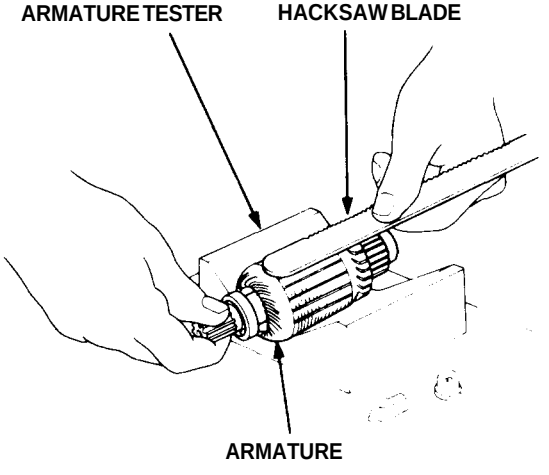
Commutator Mica Depth

Standard (New): 0.5-0.8 mm (0.02-0.03 in)
Service Limit: 0.2 mm (0.008 in)

5. Check for continuity between the segments of the commutator. If an open circuit exists between any segments, replace the armature.



6. Place the armature on an armature tester. Hold a hacksaw blade on the armature core.



If the blade is attracted to the core or vibrates while the core is turned, the armature is shorted. Replace the armature.

7. With an ohmmeter, check that no continuity exists between the commutator and armature coil core, and between the commutator and armature shaft. If continuity exists, replace the armature.