

A Look at 1993 Infinity J30

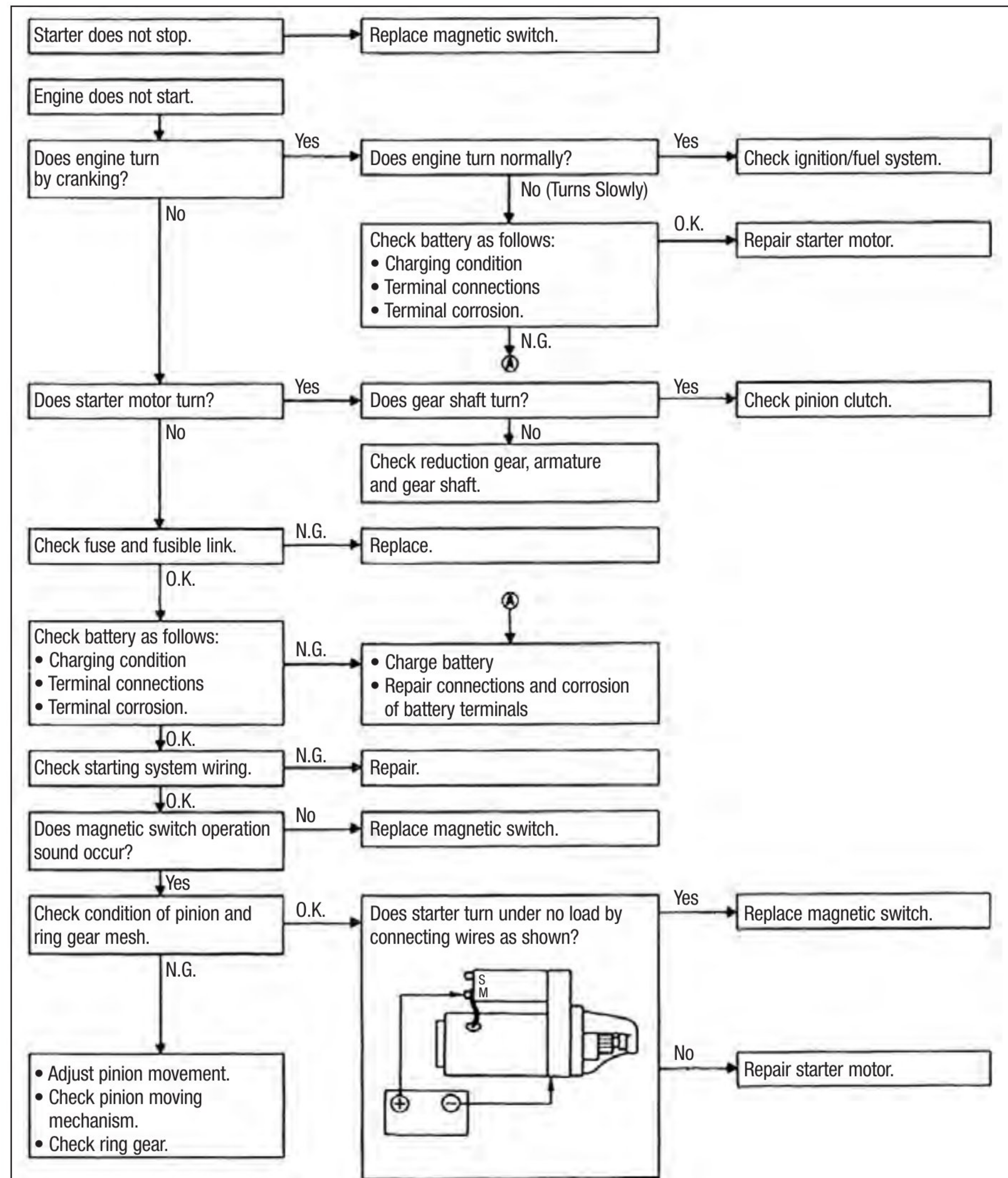
Electrical Systems

Part II

Nissan Motor Company, Ltd.

Starting System Troubleshooting

If any abnormality is found immediately disconnect battery negative terminal.



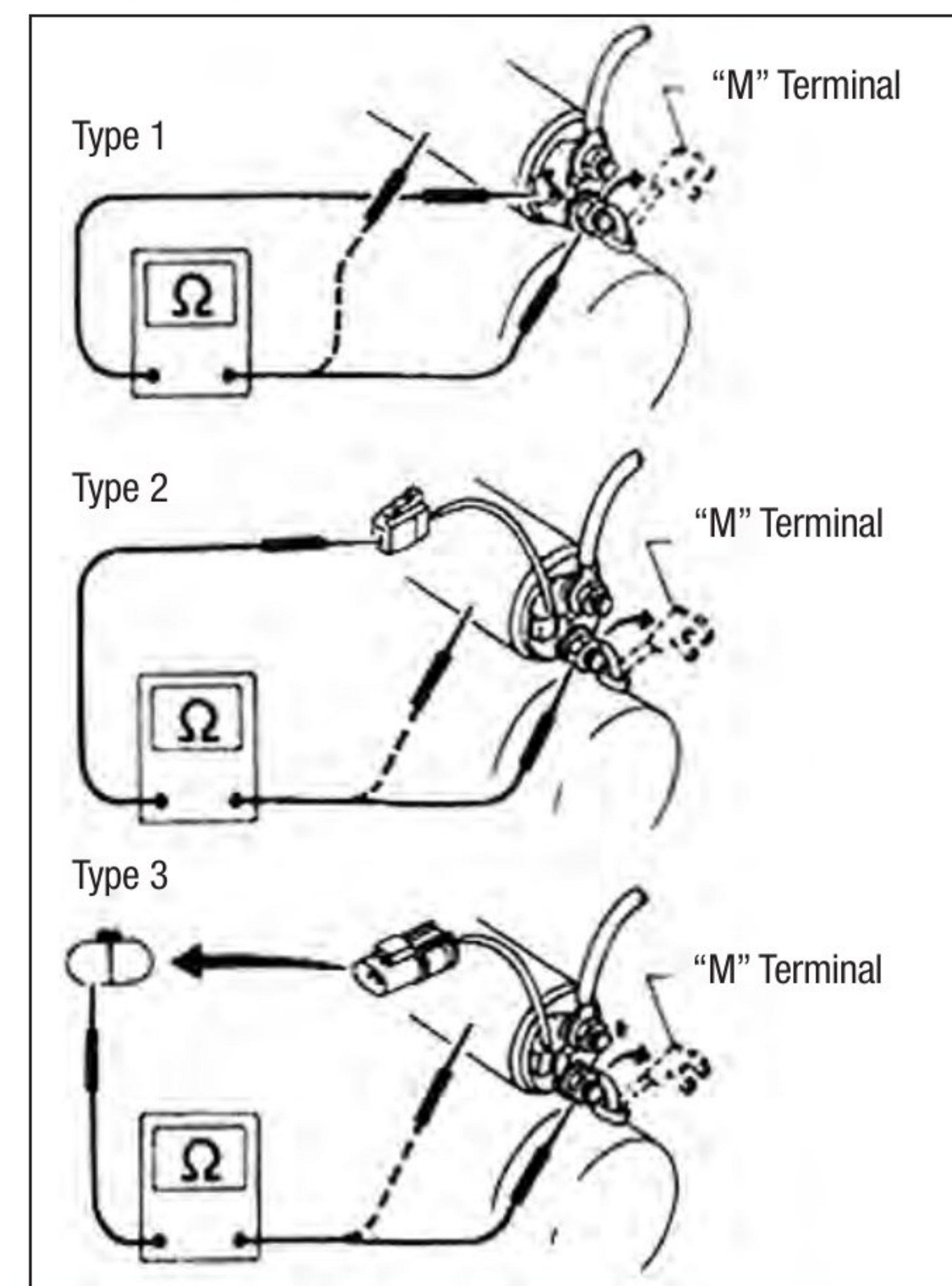
Starting System Construction

Magnetic Switch Check

Before starting to check, disconnect battery ground cable. Disconnect “M” terminal of starter motor.

Perform continuity test (between “S” terminal and switch body). If no continuity, replace.

Perform continuity test (between “S” terminal and “M” terminal). If no continuity, replace.



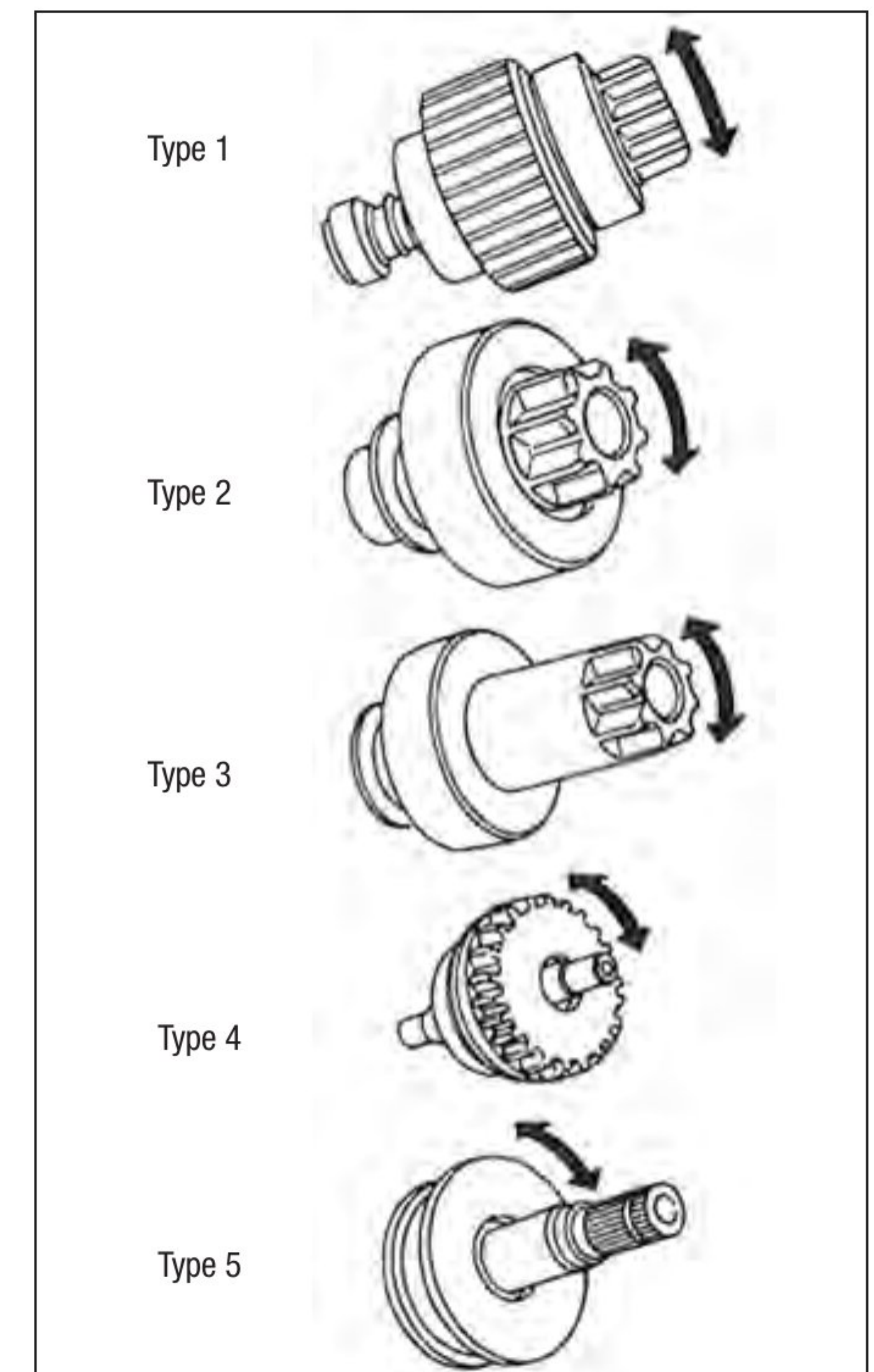
Pinion/Clutch Check

Inspect pinion teeth. Replace pinion if teeth are worn or damaged. (Also check condition of ring gear teeth.)

Inspect reduction gear teeth. Replace reduction gear if teeth are worn or damaged. (Also check condition of armature shaft gear teeth.)

Check to see if pinion locks in one direction and rotates smoothly in the

opposite direction. If it locks or rotates in both directions, or unusual resistance is evident, replace.



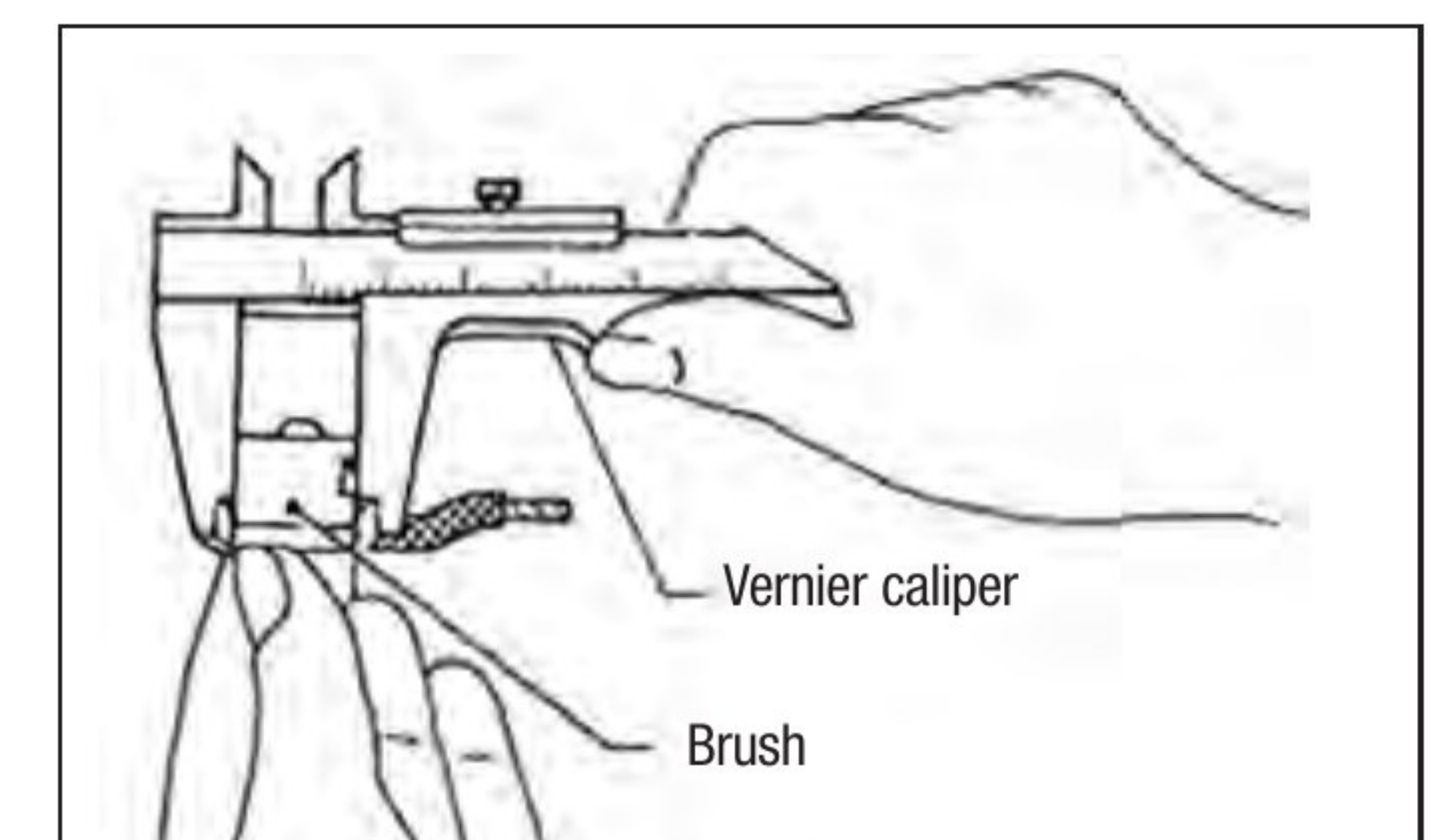
Brush Check

Brush

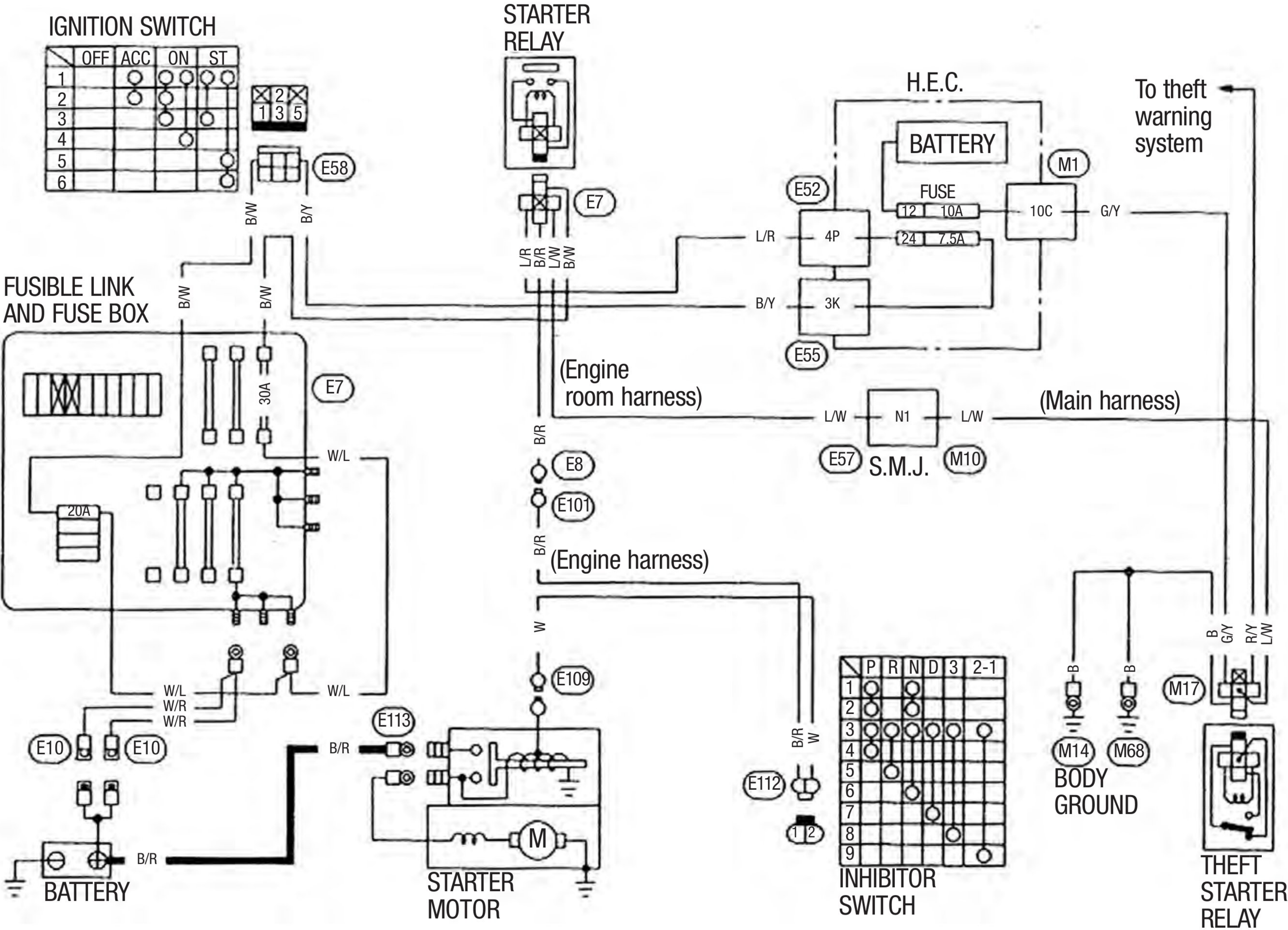
Check wear of brush.

Wear limit length: Refer to S.D.S.

Excessive wear, replace.



Starting System Wiring Diagram

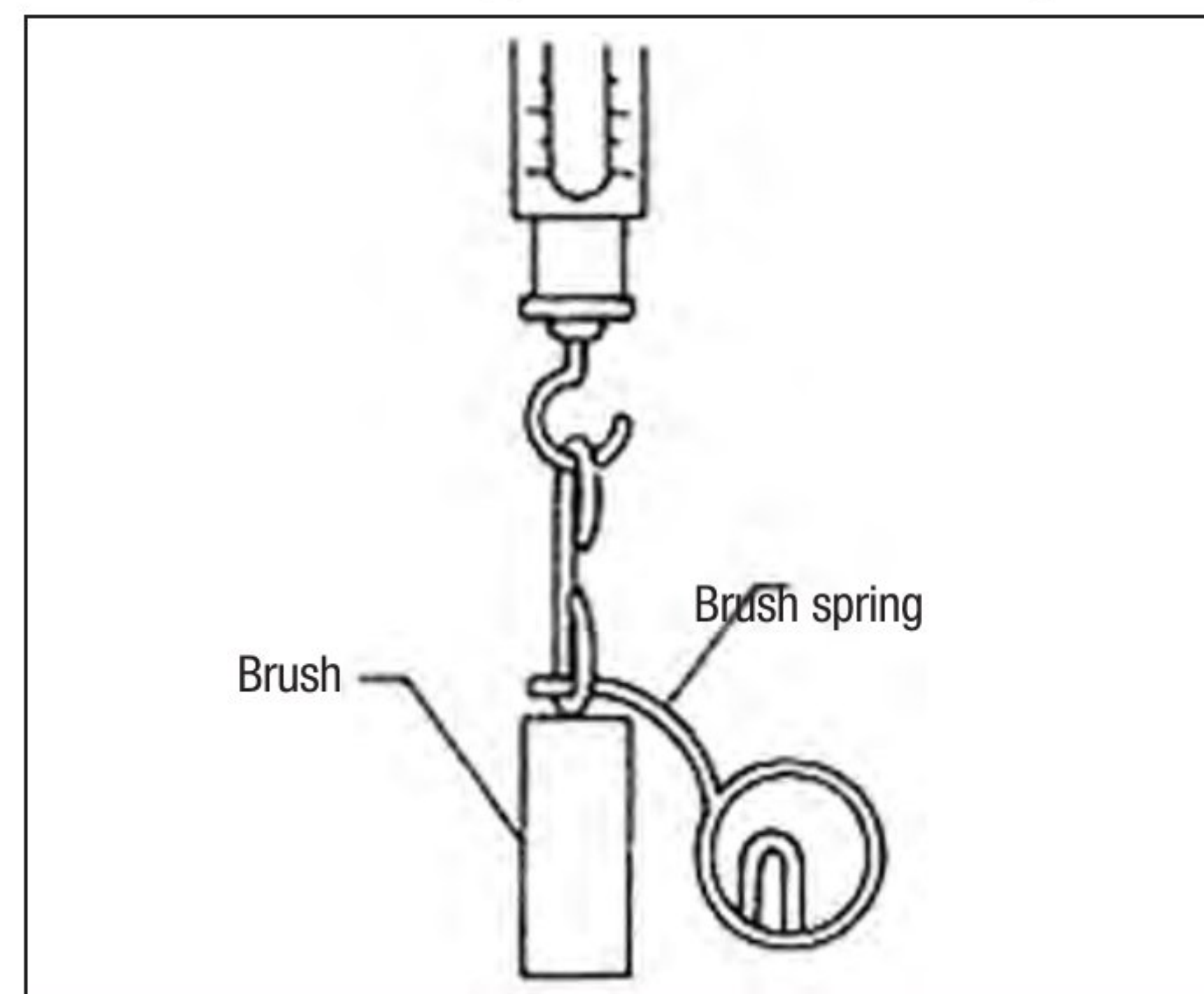


Brush Spring Pressure

Check brush spring pressure with brush spring detached from brush.

Spring pressure (with new brush):
Refer to S.D.S.

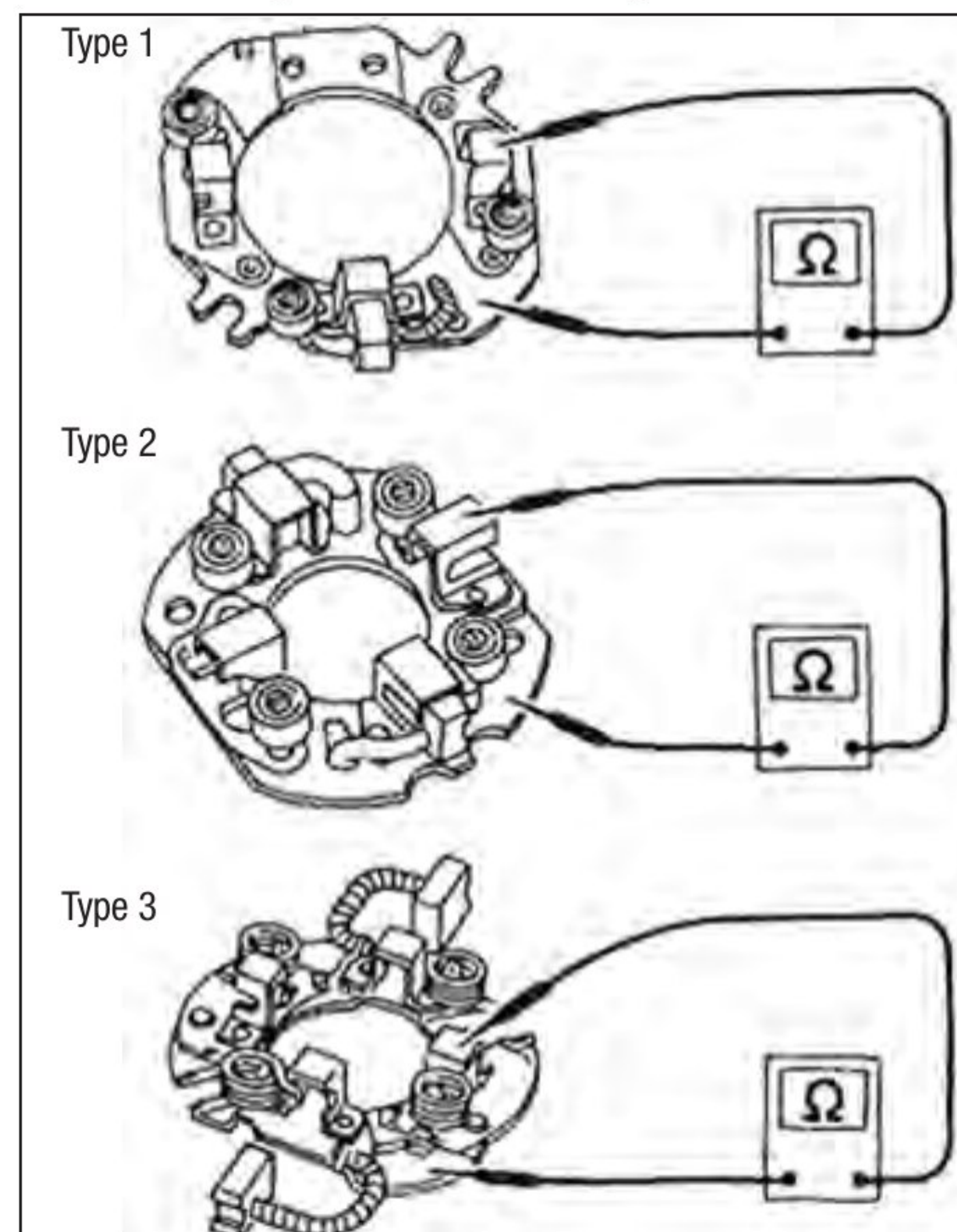
Not within specified values, replace.



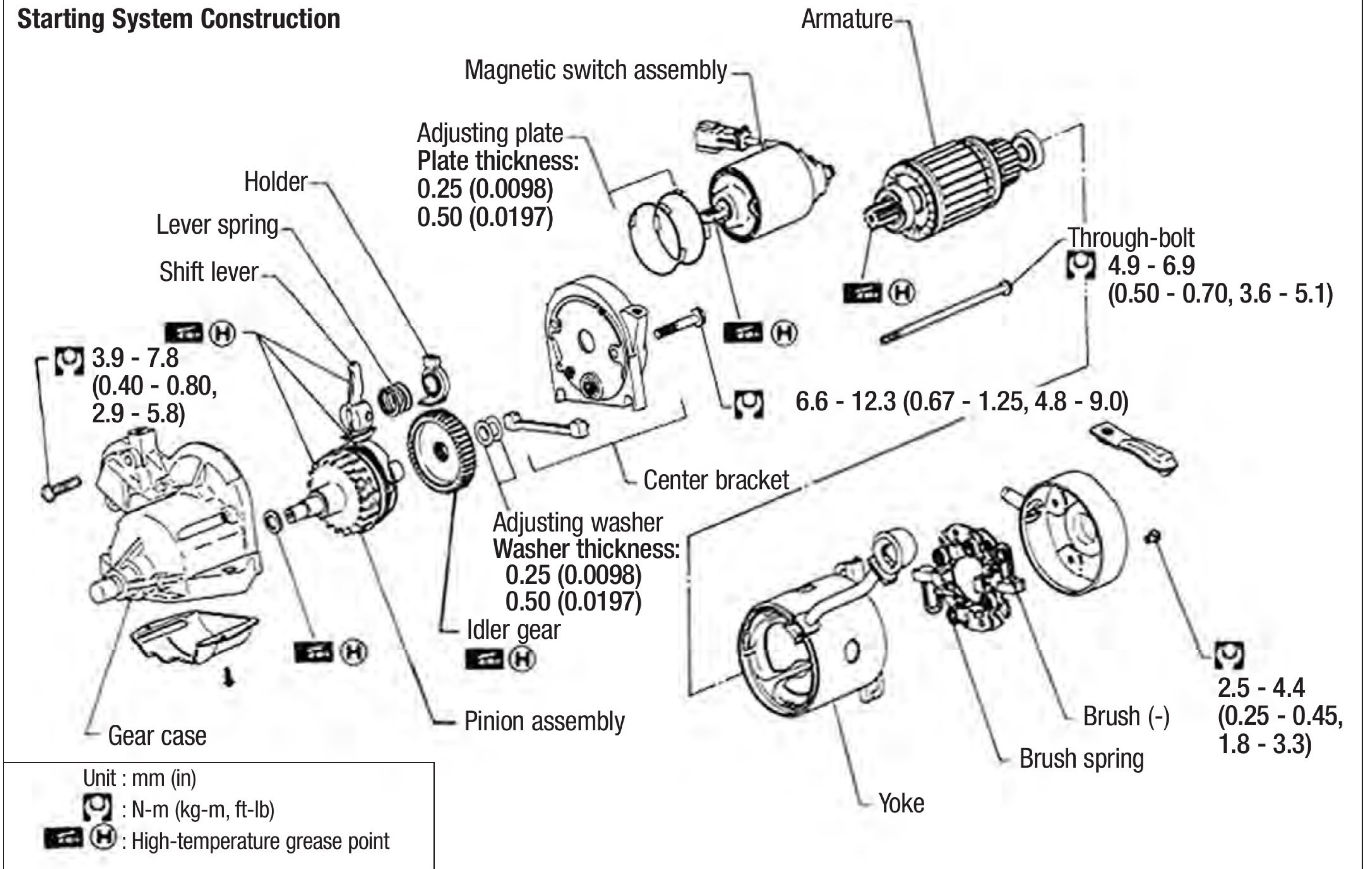
Brush Holder

Perform insulation test between brush holder (positive side) and its base (negative side). If continuity exists, replace.

Check brush to see if it moves smoothly. If brush holder is bent, replace it; if sliding surface is dirty, clean.



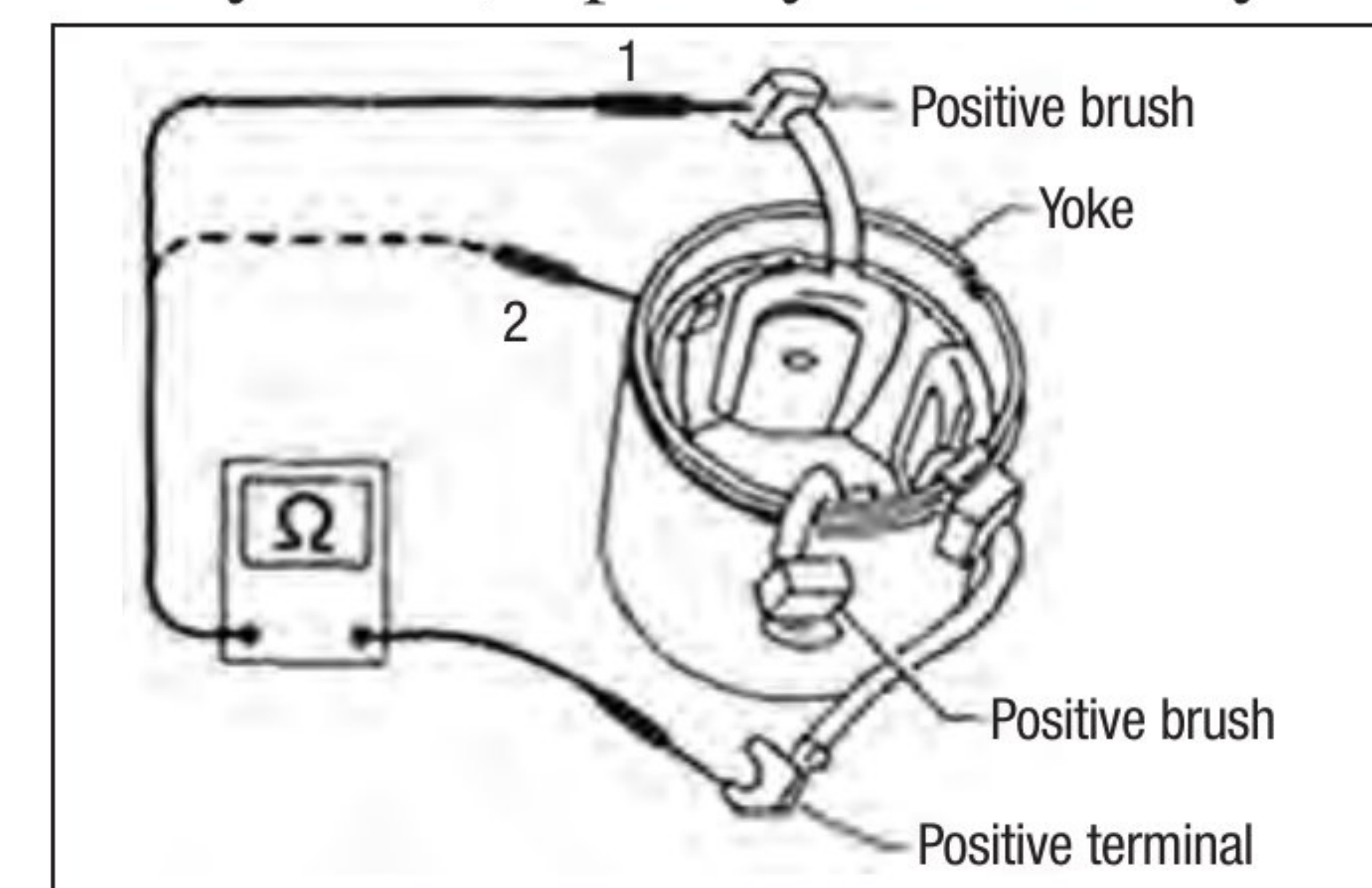
Starting System Construction



Yoke Check

Perform continuity test (between field coil positive terminal and positive brushes). If no continuity, replace yoke assembly.

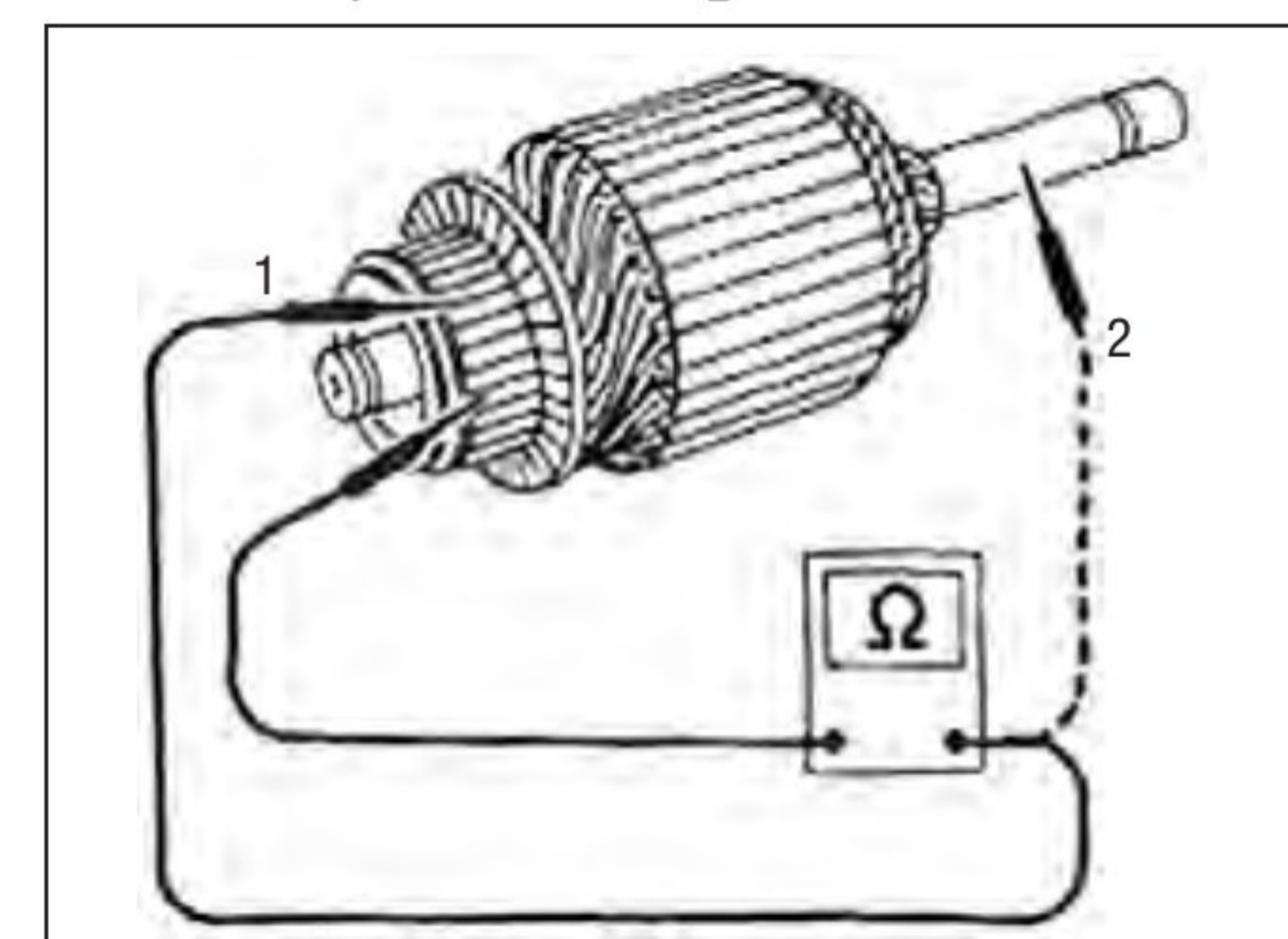
Perform insulation test (between field coil positive terminal and yoke). If continuity exists, replace yoke assembly.



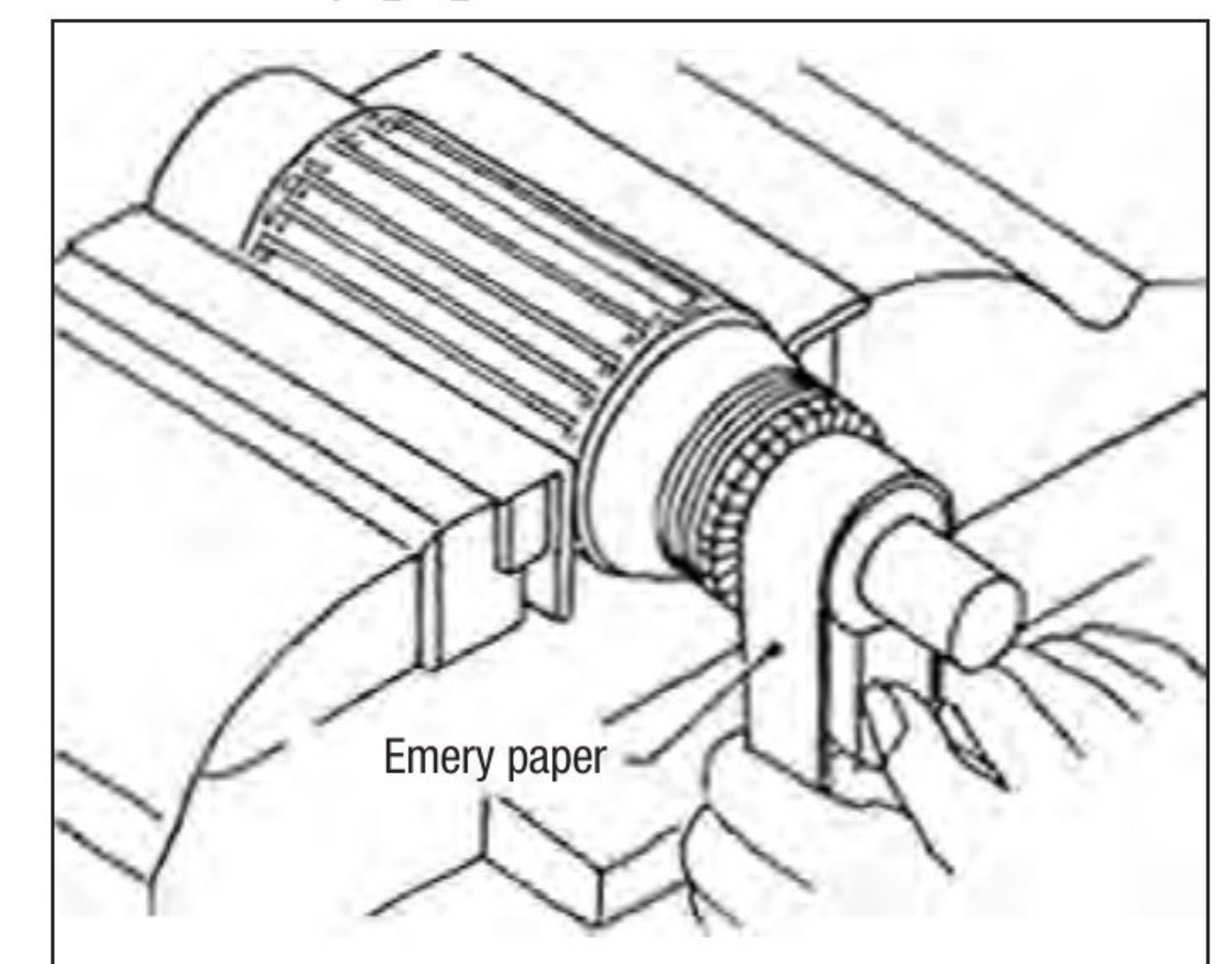
Armature Check

Perform continuity test (between two segments side by side). If no continuity, replace.

Perform insulation test (between each commutator bar and shaft). If continuity exists, replace.

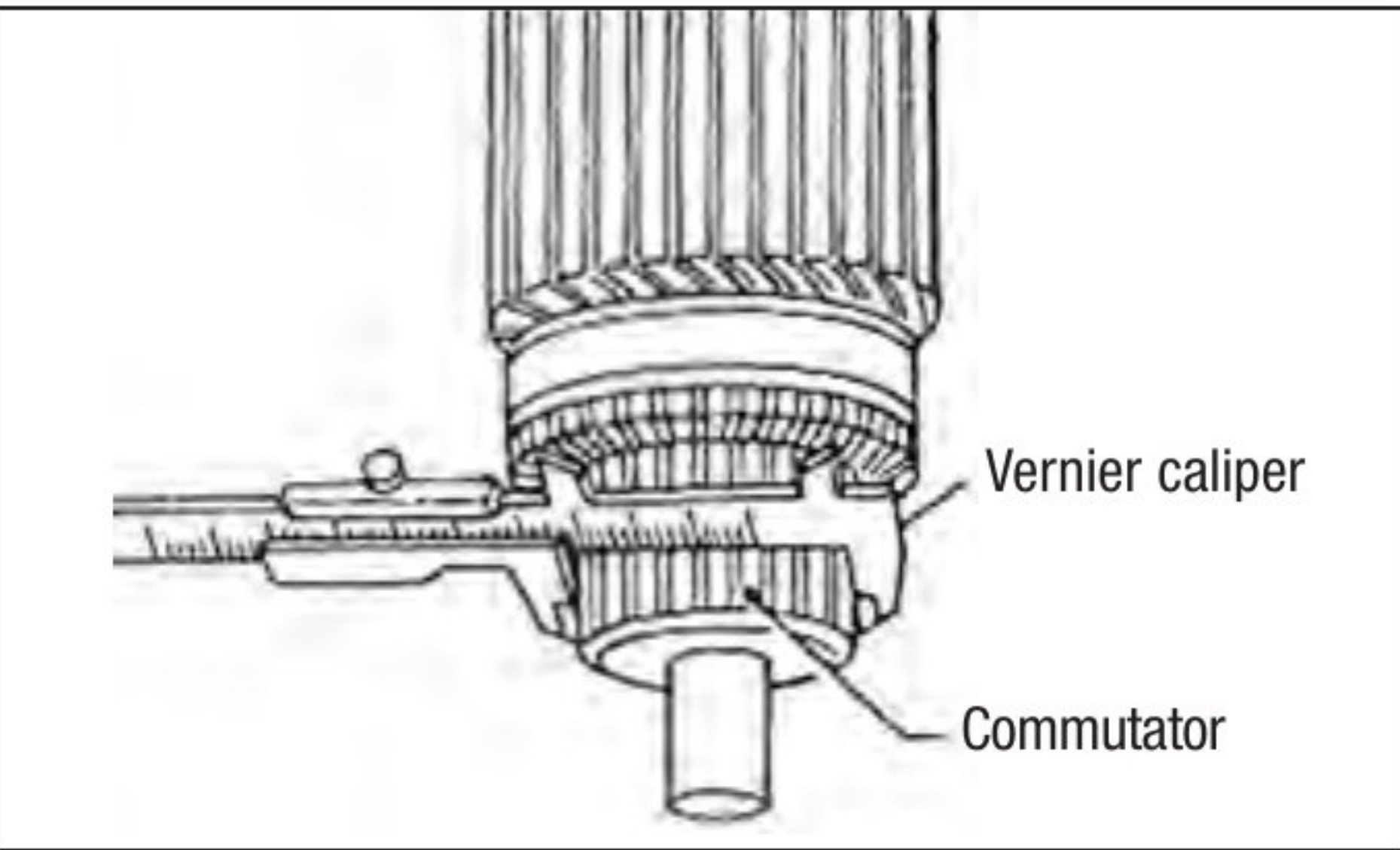


Check commutator surface. If it is rough, sand lightly with no. 500 to no. 600 emery paper.

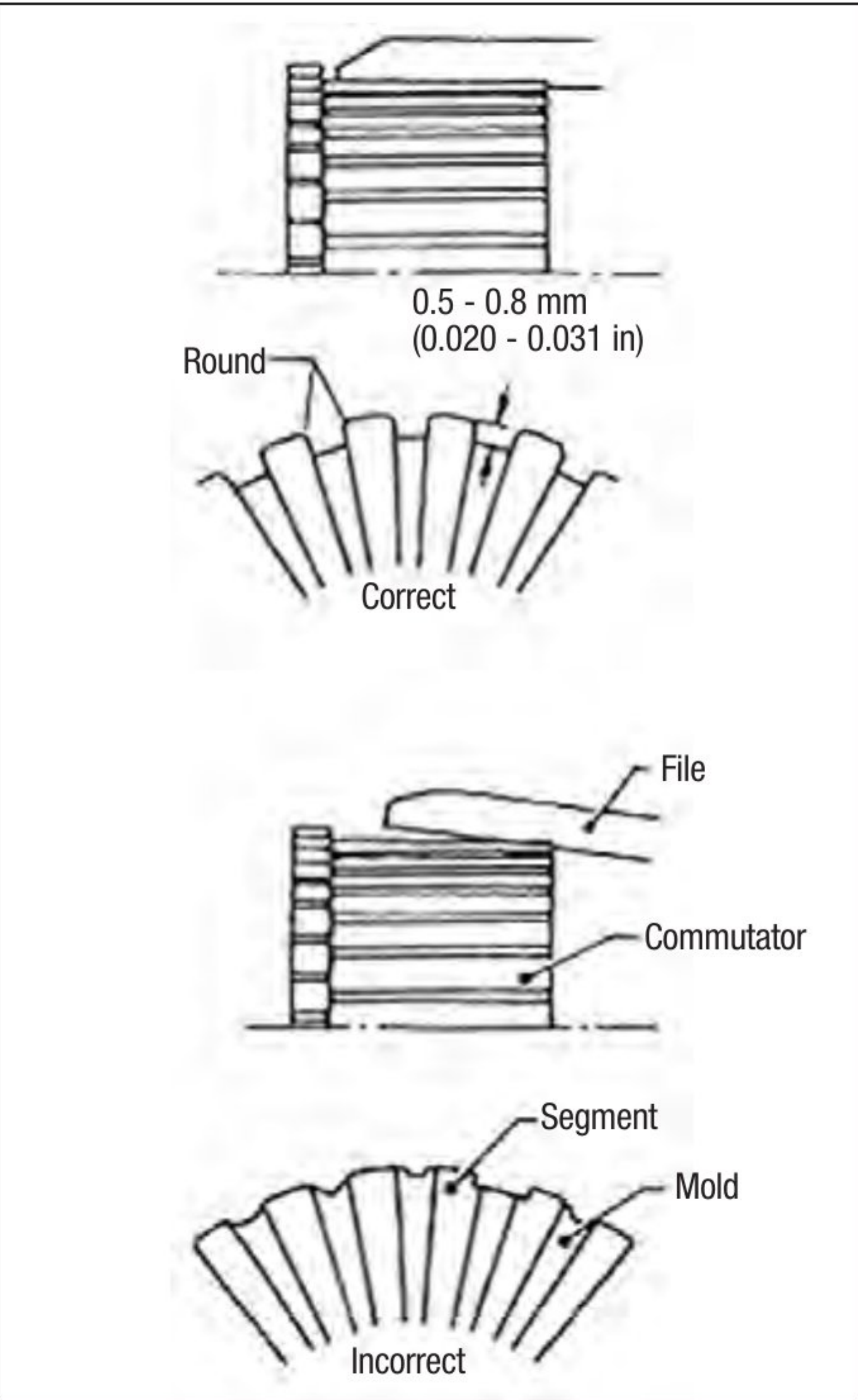


Check diameter of commutator.

Commutator minimum diameter:
Refer to S.D.S.
If less than specified value, replace.

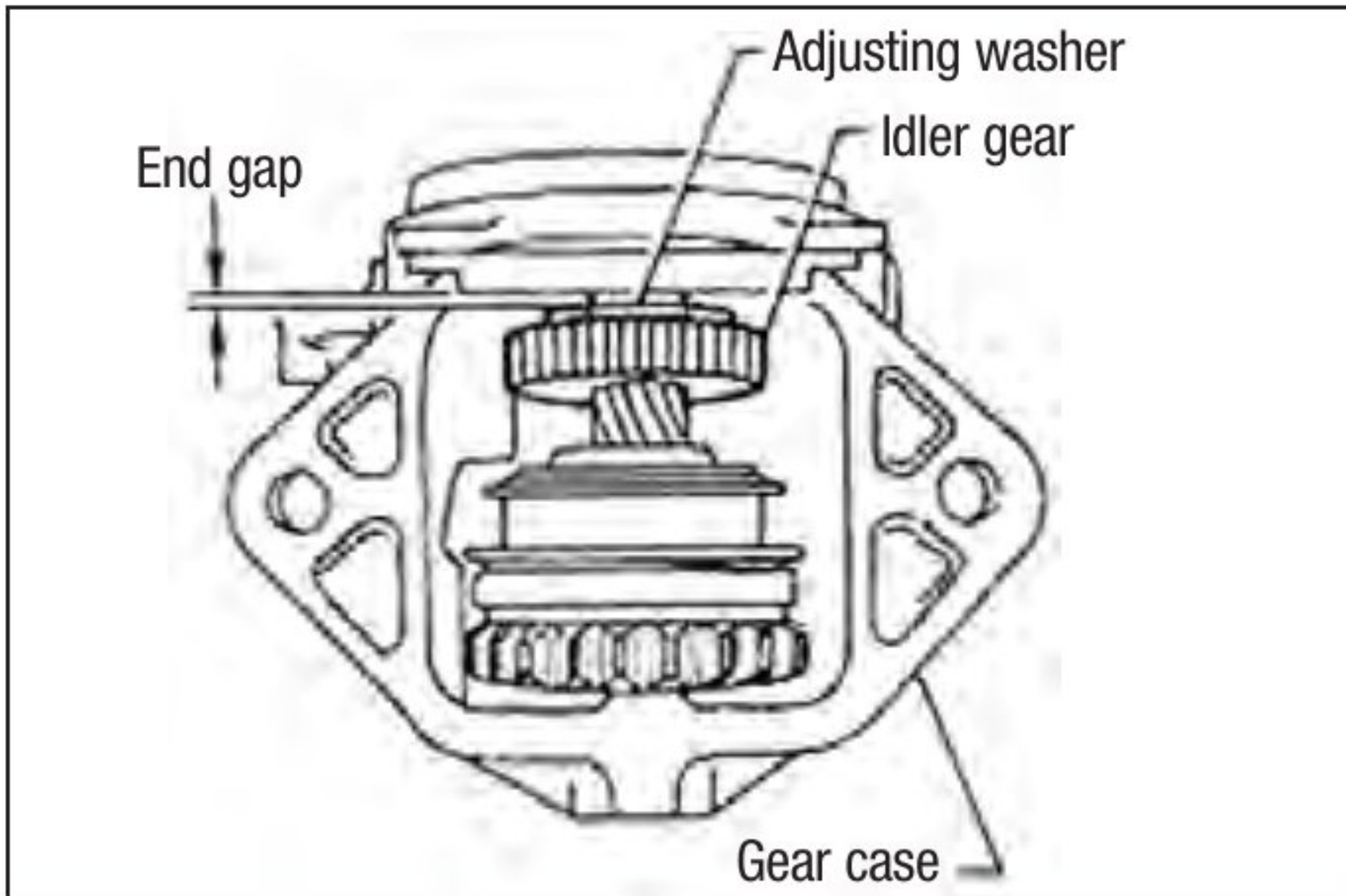


Check depth of insulating mold from commutator surface. If less than 0.2 mm (0.008 in.), undercut to 0.5 to 0.8 mm (0.020 to 0.031 in.).



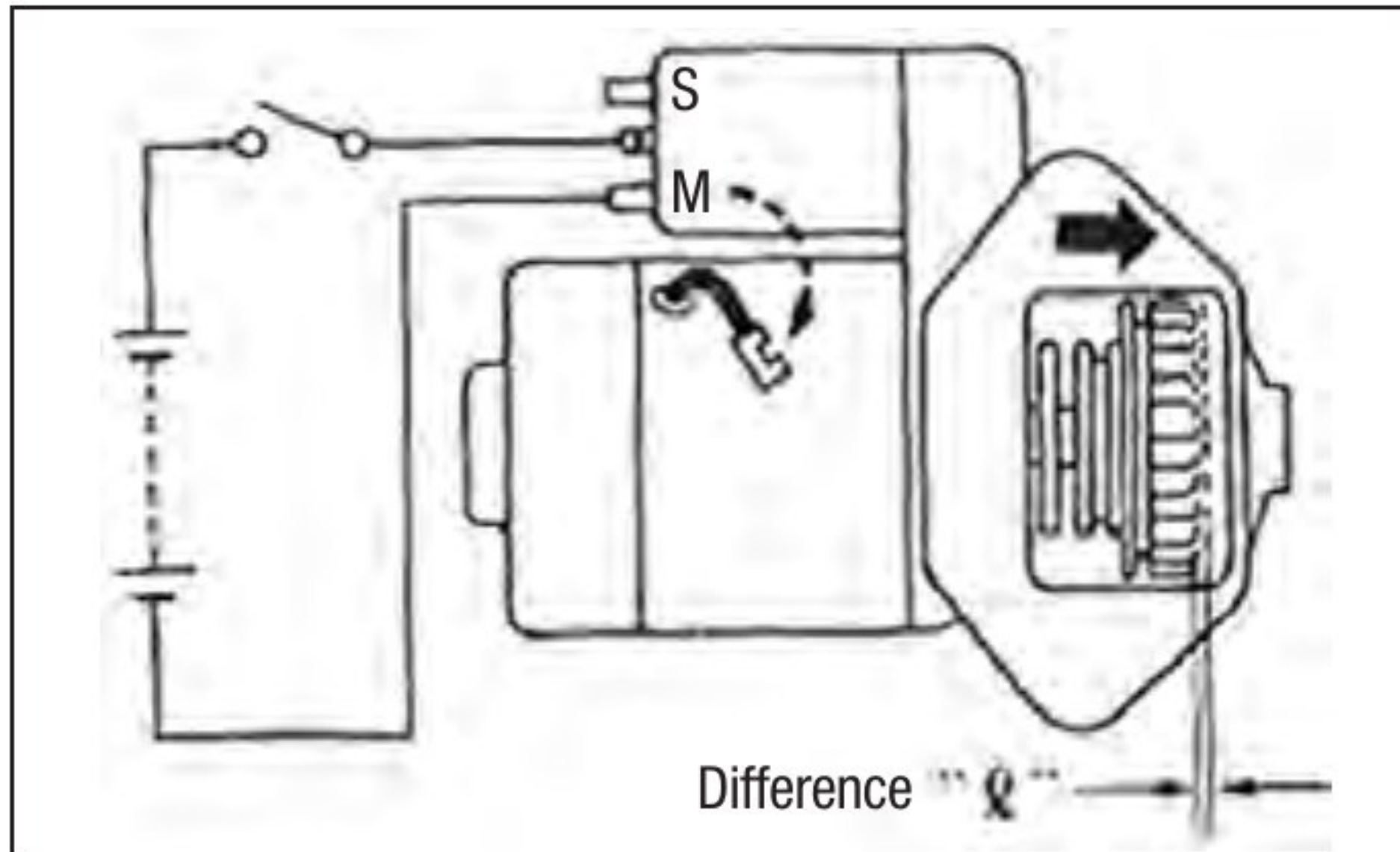
Assembly
Apply high-temperature grease to lubricate the bearing, gears and frictional surface when assembling the starter. Carefully observe the following instructions.

End Gap Adjustment
Check end gap by turning idle gear in axial direction.
End gap: 0.1 to 0.5 mm (0.004 to 0.020 in.).
If not in the specified value, adjust by adjusting washer.

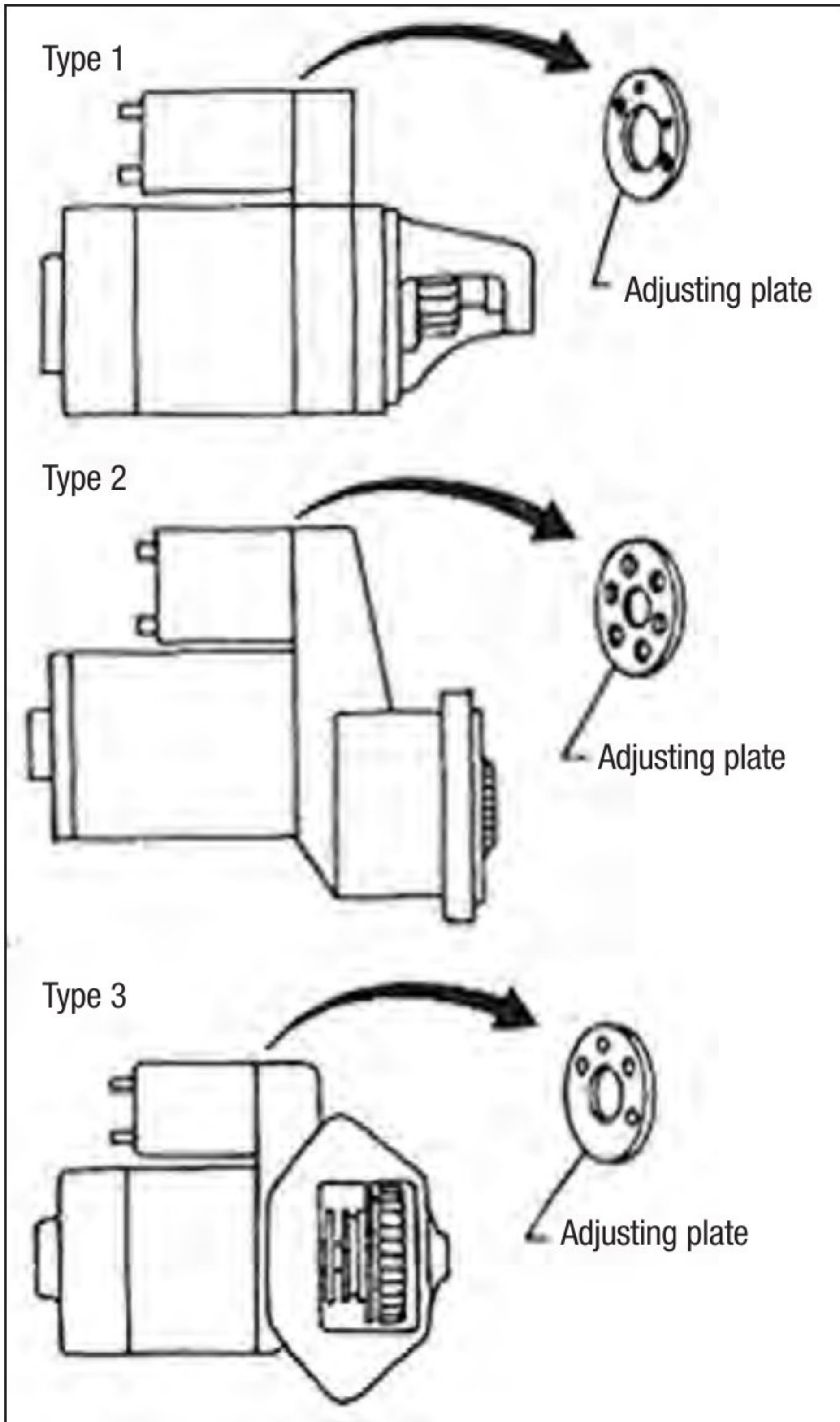


Pinion Protrusion Length Adjustment
Measure difference in height "ℓ" of pinion assembly front edge when pinion

assembly is forced out by the magnetic switch and then when it is pulled out by hand.
Difference "ℓ": Refer to S.D.S.



If not in the specified value, adjust by adjusting plate.



See Part III in the September edition.

Service Data and Specifications (S.D.S.)
Starter

Type		M2T25281	
		Reduction Gear	
System voltage		V	12
No Load	Terminal voltage	V	11.0
	Current	A	70
	Revolution	rpm	More than 2,000
Minimum length of brush		mm (in)	11.5 (0.453)
Brush spring tension (With new brush)		N (kg, lb)	13.7 - 25.5 (1.4 - 2.6, 3.1 - 5.7)
Minimum diameter of commutator		mm (in)	31.4 (1.236)
Difference "ℓ" in height of pinion assembly		mm (in)	0.3 - 2.0 (0.012 - 0.079)