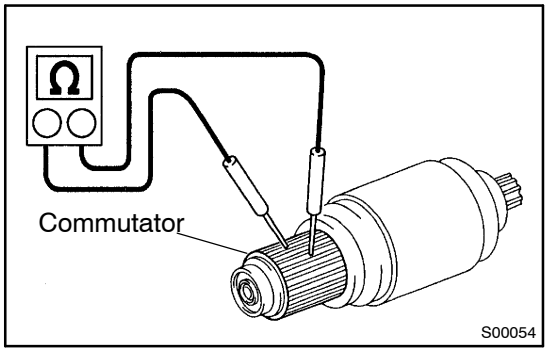
ST0OJ–01

INSPECTION

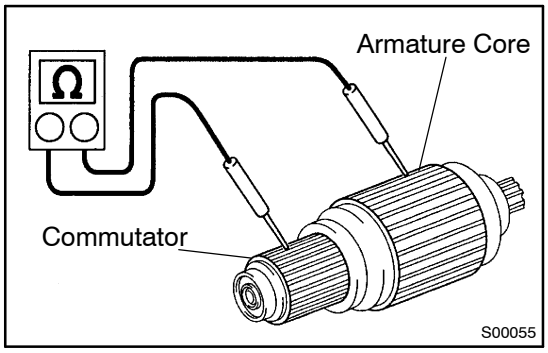
1. INSPECT ARMATURE COIL



(a) If the surface of the commutator is dirty or burned, polish the part with sandpaper (#400) or replace the armature.

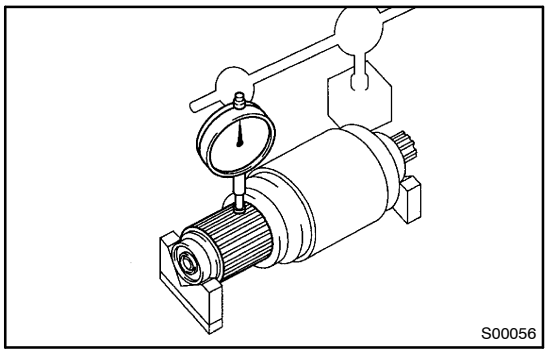
(b) Check the commutator open circuit.
Using an ohmmeter, check that there is continuity between the segments of the commutator.

If there is no continuity between any segment,replace the armature.



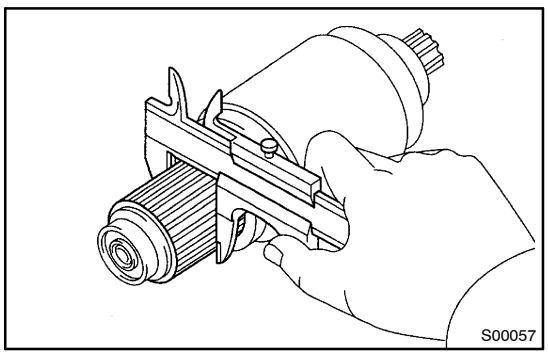
(c) Check the commutator for ground.
Using an ohmmeter, check that there is no continuity between the commutator and armature core.

If there is continuity, replace the armature.



(d) Check the commutator circle runout.
(1) Place the armature on the V–blocks.
(2) Using a dial gauge, measure the circle runout.
Maximum circle runout: 0.05 (0.0020 in.)

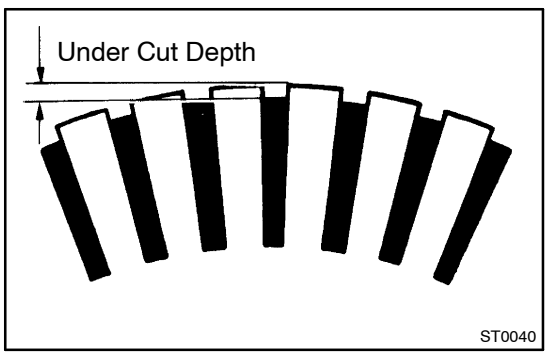
If the circle runout is gerter than maximum, correct it with sandpaper (#400) or replace the armature.



(e) Using vernier calipers, measure the commutator diameter.
Diameter:

Standard	35.0 mm (1.378 in.)
Minimum	34.0 mm (1.338 in.)

If the diameter is less than the minimum, replace the armature.



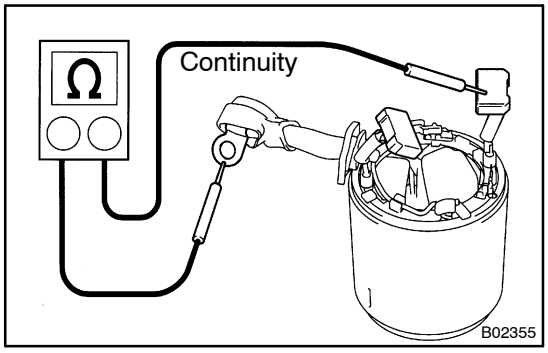
(f) Measure the undercut depth of commutator.
Depth:

Standard	0.7 mm (0.028 in.)
Minimum	0.2 mm (0.008 in.)

If the undercut depth is less than the minimum, correct it with a hacksaw blade.

2. INSPECT STARTER BEARING

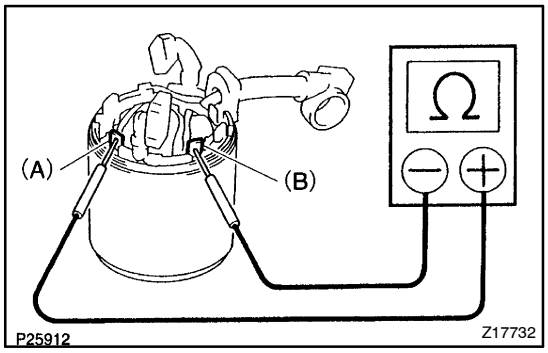
Check that the bearings rotate smoothly.



3. INSPECT STARTER YOKE

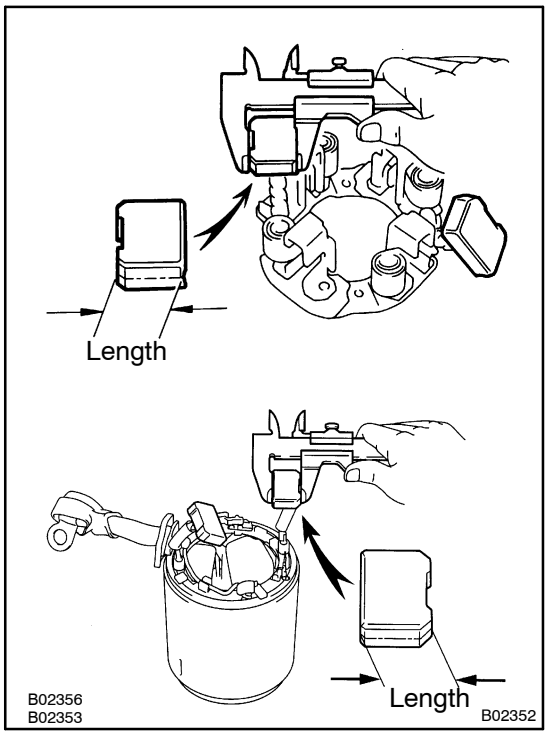
(a) Inspect for open circuit.
Check that there is continuity between the terminal C wire and brushes.

If there is no continuity, replace the starter yoke.



(b) Inspect the shunt coil for open circuit.
Measure the resistance between terminals.
Standard resistance:1.5 – 1.9 Ω at 20 °C (68°F)

If the resistance is not as specified, replace the starter yoke.



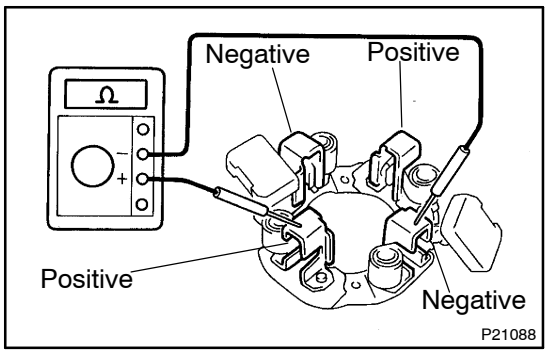
4. INSPECT BRUSHES

Using vernier calipers, measure the brush length.

Brush length:

Standard	15.0 mm (0.591 in.)
Minimum	9.0 mm (0.354 in.)

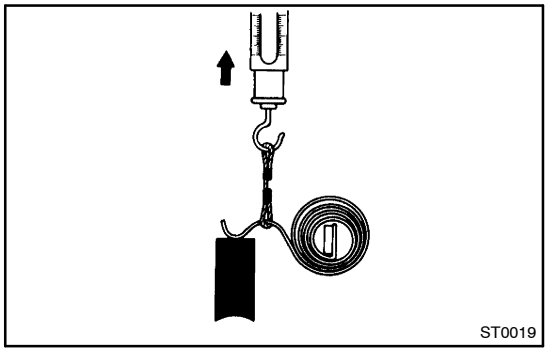
If the length is less than minimum, replace the brush holder and starter yoke.



5. INSPECT BRUSH HOLDER

Using an ohmmeter, check that there is no continuity between the positive and negative brush holders.

If there is continuity, replace the brush holder.



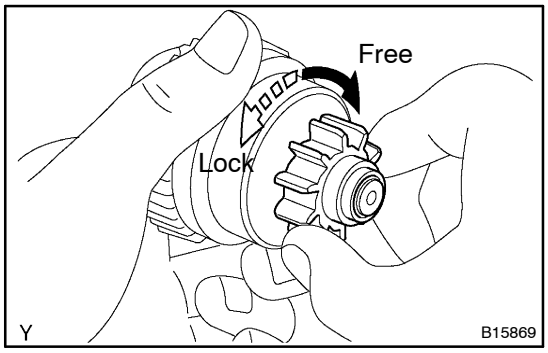
6. INSPECT BRUSH SPRING

Using a pull scale, measure the brush spring load.

Spring load:

Standard	21.5 – 27.5 N (2.2 – 2.8 kgf, 4.9 – 6.2 lbf)
Minimum	12.7 N (1.3 kgf, 2.7 lbf)

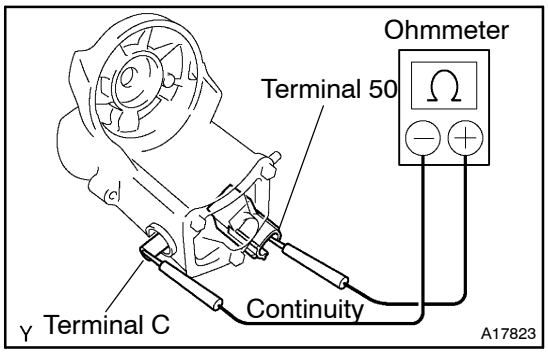
If the spring load is less than the minimum, replace the brush spring.



7. INSPECT CLUTCH AND GEAR

Check that the starter clutch operates.

If the starter clutch is does not operate, replace it.

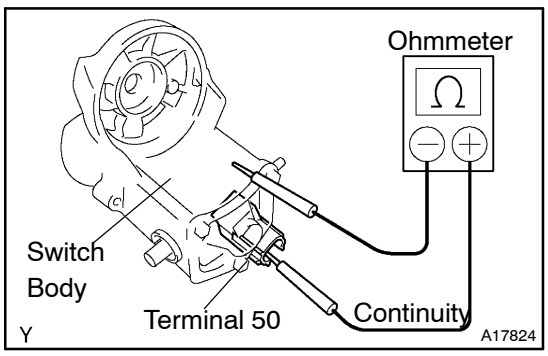


8. INSPECT MAGNETIC SWITCH

(a) Check the pull–in coil continuity.

Using an ohmmeter, check that there is continuity between terminals 50 and C.

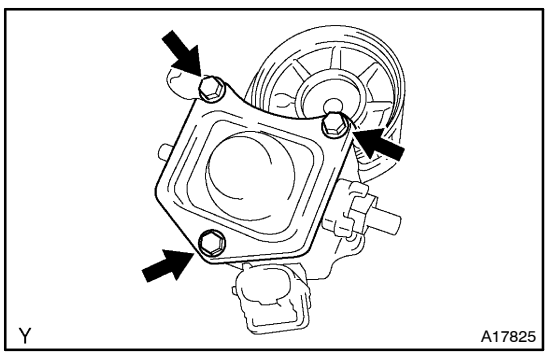
If there is no continuity, replace the magnet starter switch assembly.



(b) Check the holding coil continuity.

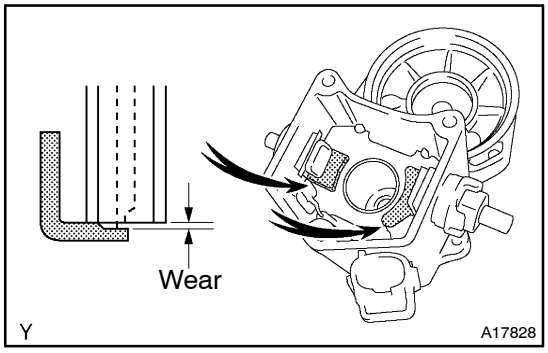
Using an ohmmeter, check that there is continuity between terminal 50 and switch body.

If there is no continuity, replace the magnet starter switch assembly.



9. REPLACE MAGNETIC SWITCH TERMINAL KIT PARTS

(a) Remove the 3 bolts, end cover, gasket and plunger.



(b) Using vernier calipers, measure the contact plate for depth of wear.

Maximum wear:0.9 mm (0.035 in.)

If the depth of wear is greater than the maximum, replace the terminal kit parts.

(c) Install a new gasket, plunger, and the end cover with the 3 bolts.