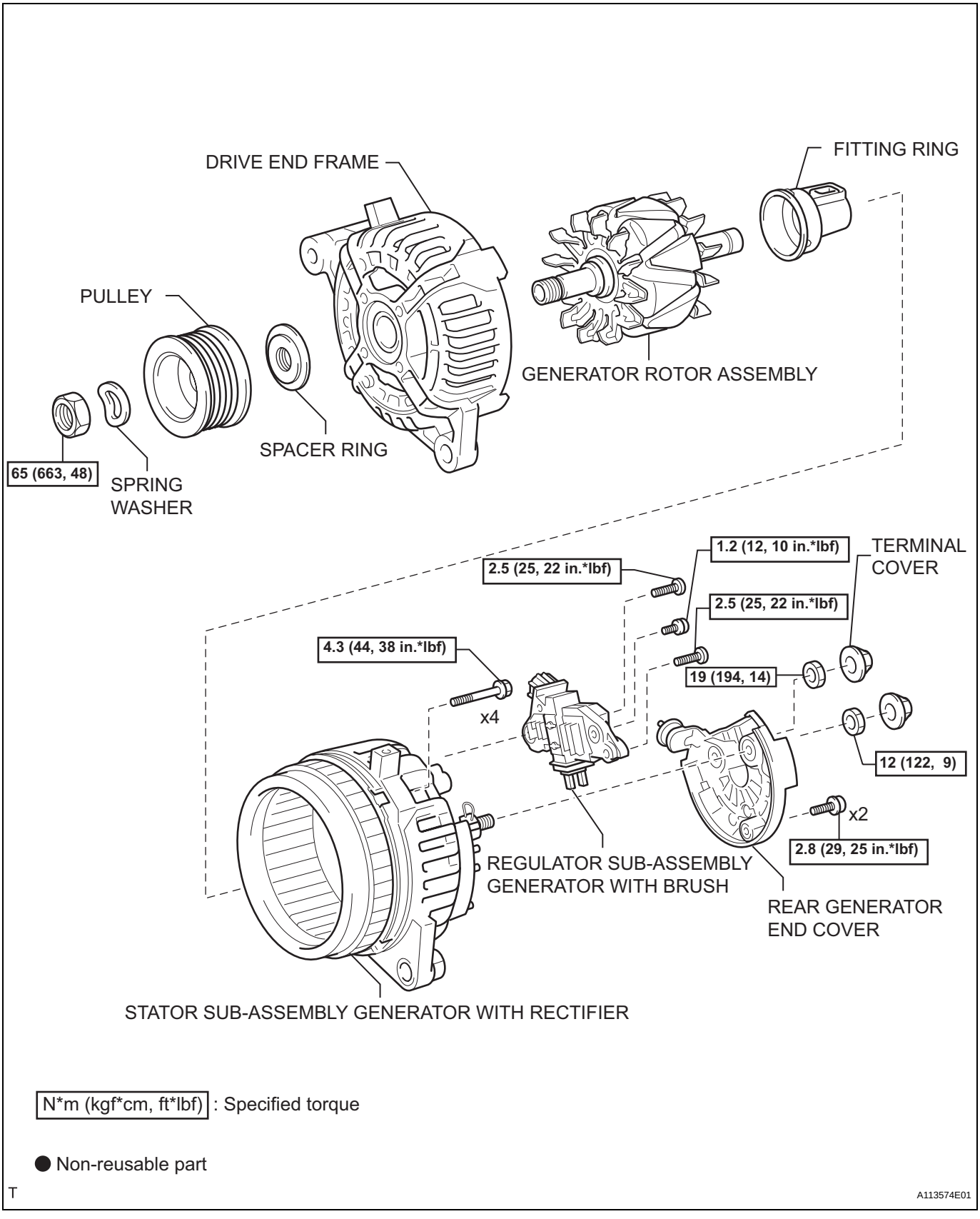
GENERATOR (for BOSCH Made)

COMPONENTS



CH

N*m (kgf*cm, ft*lbf) : Specified torque

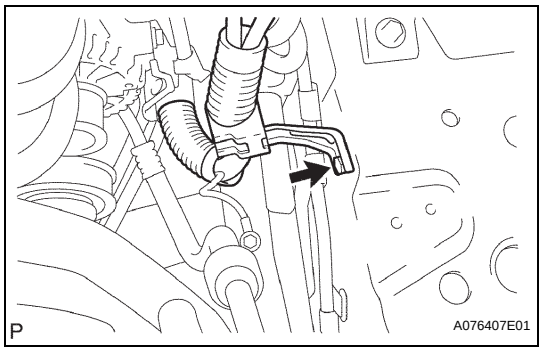
● Non-reusable part

T

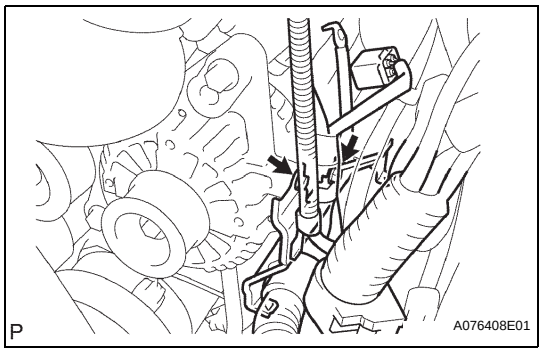
A113574E01

REMOVAL

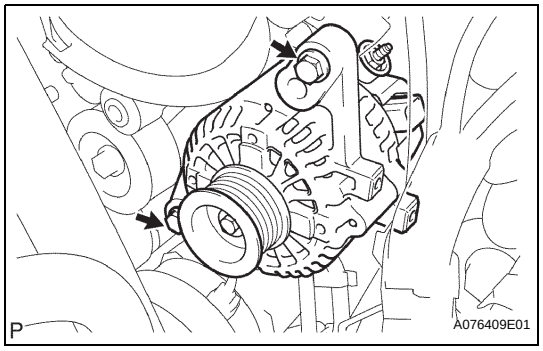
1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **REMOVE V-BANK COVER (See page ES-414)**
3. **REMOVE RADIATOR SUPPORT TO FRAME SEAL LH (See page CO-15)**
4. **REMOVE FAN SHROUD (See page CO-15)**
5. **REMOVE GENERATOR ASSEMBLY**
   (a) Disconnect the wire harness.
      (1) Remove the bolt and wire harness stay.
      (2) Disconnect the connector from the generator assembly.
      (3) Remove the terminal cap and nut.
      (4) Disconnect the wire harness from terminal B.



   (b) Remove the 2 bolts, then separate the wire harness clamp bracket from the generator assembly.

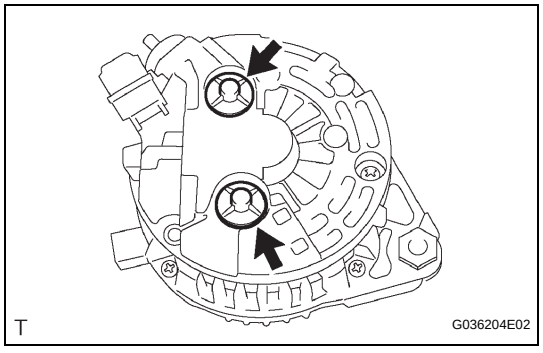


   (c) Remove the 2 bolts, then remove the generator assembly.

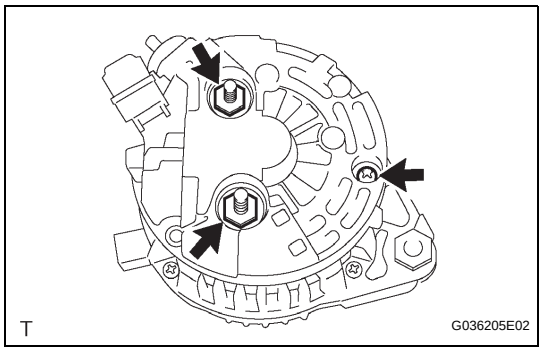


DISASSEMBLY

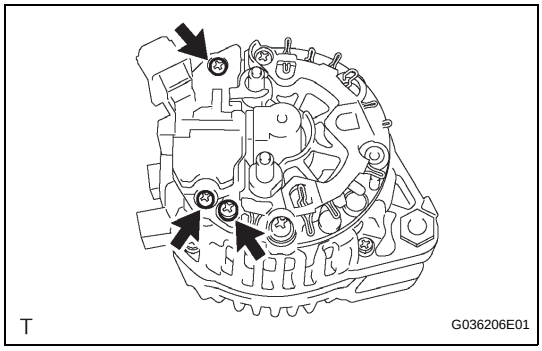
1. **REMOVE REAR GENERATOR END COVER**
   (a) Remove the 2 terminal covers by turning them counterclockwise.



CH

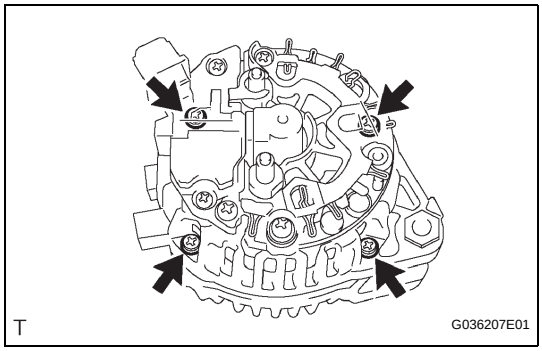


(b) Using a 15 mm socket wrench, remove the 2 nuts from the generator rear end cover.
(c) Remove the screw, then remove the generator rear end cover.



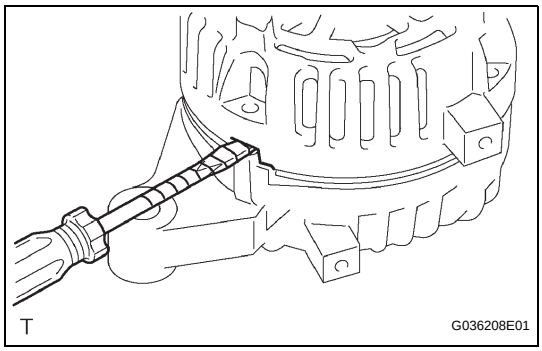
2. REMOVE REGULATOR SUB-ASSEMBLY GENERATOR W/BRUSH

(a) Remove the 3 screws, then remove the regulator generator with brush.

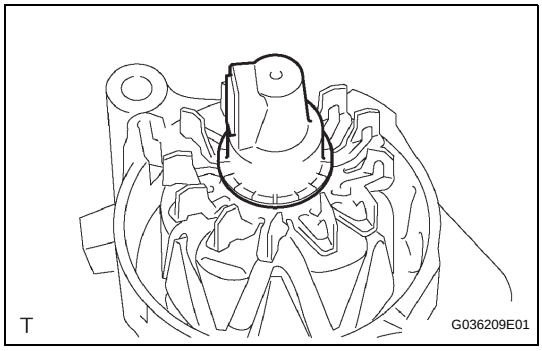


3. REMOVE STATOR SUB-ASSEMBLY GENERATOR W/ RECTIFIER

(a) Remove the 4 screws.



(b) Using a screwdriver, pry out the stator generator with rectifier.

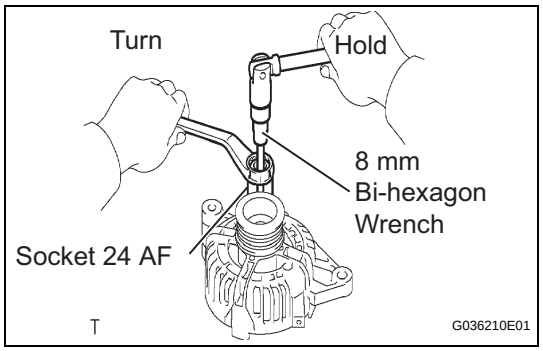


4. REMOVE BEARING SET GENERATOR

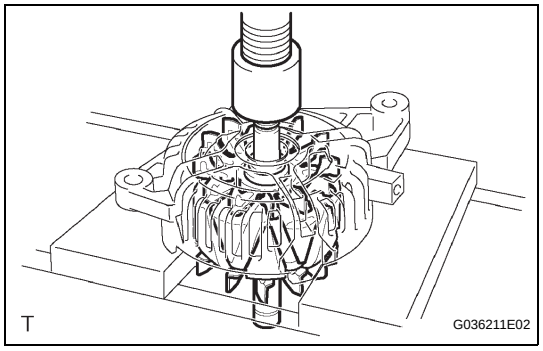
5. REMOVE PULLEY SET GENERATOR

(a) Clamp the swivel arm in a vise.
NOTICE:
Do not clamp the generator rotor in a vise.

CH



(b) Using a socket 24 AF and 8 mm bi-hexagon wrench, remove the nut and spring washer, then detach the pulley.



6. REMOVE GENERATOR ROTOR ASSEMBLY

(a) Using a press, press out the generator rotor assembly and spacer ring.

INSPECTION

1. INSPECT GENERATOR ROTOR ASSEMBLY

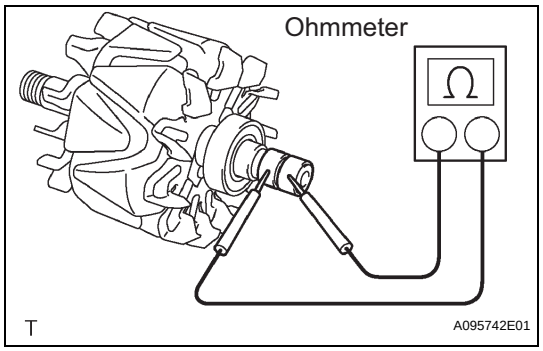
(a) Inspect the generator rotor assembly for an open circuit.

(1) Using an ohmmeter, measure the resistance between the slip rings.

Standard:

1.8 to 2.8 Ω at 20°C(68°F)

If the result is not as specified, replace the generator rotor.



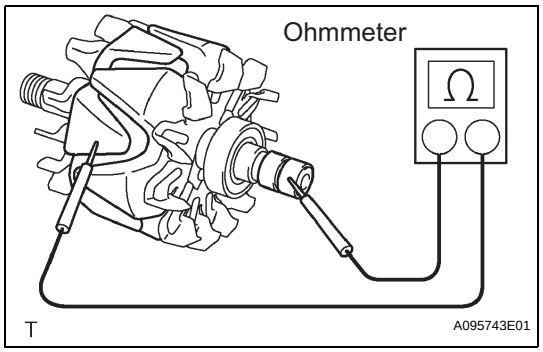
(b) Inspect the generator rotor assembly for ground.

(1) Using an ohmmeter, measure the resistance between the slip ring and generator rotor assembly.

Standard:

10 kΩ or higher

If the result is not as specified, replace the generator rotor.



(c) Check the appearance.

(1) Check that the slip rings are not rough or scored.

If rough or scored, replace the generator rotor.

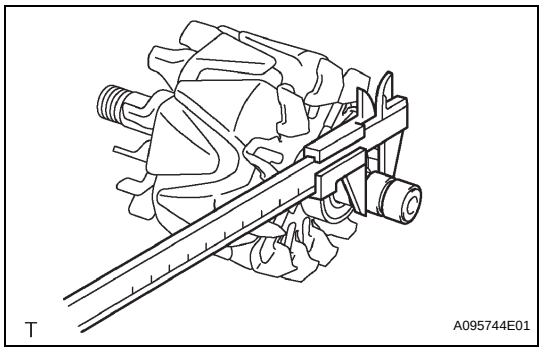
(2) Using vernier calipers, measure the slip ring diameter.

Standard diameter:

15.3 to 15.5 mm (0.602 to 0.610 in.)

Minimum diameter:

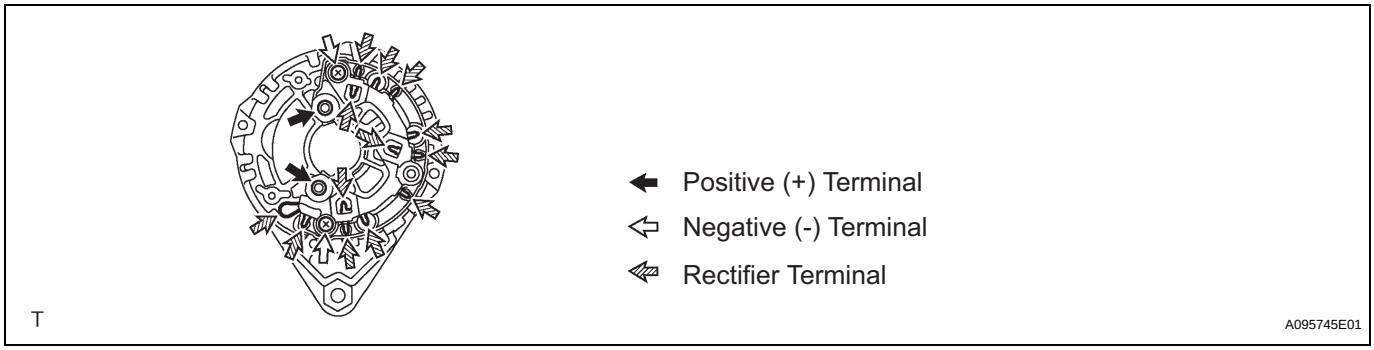
14.9 mm (0.587 in.)

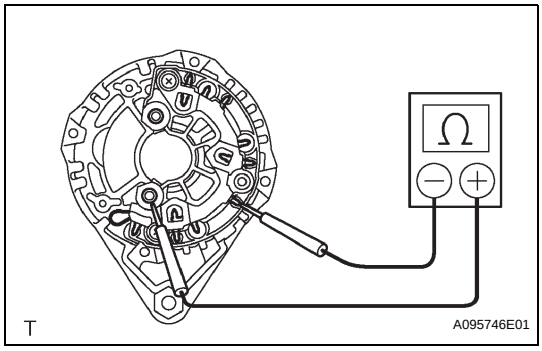


If the diameter is less than the minimum, replace the generator rotor.

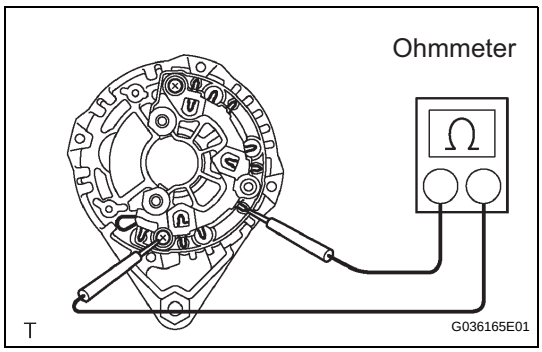
2. INSPECT STATOR SUB-ASSEMBLY GENERATOR WITH RECTIFIER

HINT:
For terminal positions of the stator generator, refer to the illustration below.





(a) Inspect the positive (+) rectifier.
HINT:
Inspect the positive terminal after pulling it up.
(1) Using an ohmmeter, connect the positive (+) tester probe to the positive (+) terminal and the negative (-) tester probe to each rectifier terminal.
(2) Measure the resistance between the positive (+) terminal and rectifier terminal.
Standard:
Below 1 Ω
If the result is not as specified, replace the stator generator.
(3) Reverse the polarity of the tester probes and repeat step (1).
(4) Measure the resistance between the positive (+) terminal and rectifier terminal.
Standard:
10 kΩ or higher
If the result is not as specified, replace the stator generator.

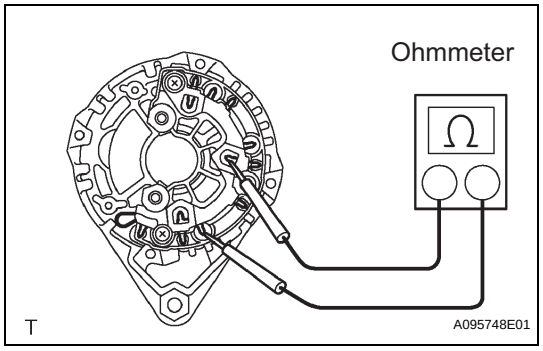


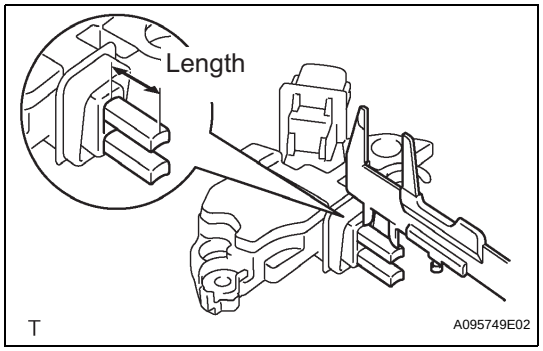
(b) Inspect the negative (-) rectifier.
(1) Using an ohmmeter, connect the positive (+) tester probe to each negative (-) terminal and the negative (-) tester prove to each rectifier terminal.
(2) Measure the resistance between the negative (-) terminal and rectifier terminal.
Standard:
10 kΩ or higher
If the result is not as specified, replace the stator generator.
(3) Reverse the polarity of the tester probes and repeat step (1).

CH

(4) Measure the resistance between the negative (-) terminal and rectifier terminal.
Standard:
Below 1 Ω
If the result is not as specified, replace the stator generator.

(c) Inspect the stator for an open circuit.
(1) Using an ohmmeter, measure the resistance between the rectifier terminals.
Standard:
Below 1 Ω
If the result is not as specified, replace the stator generator.

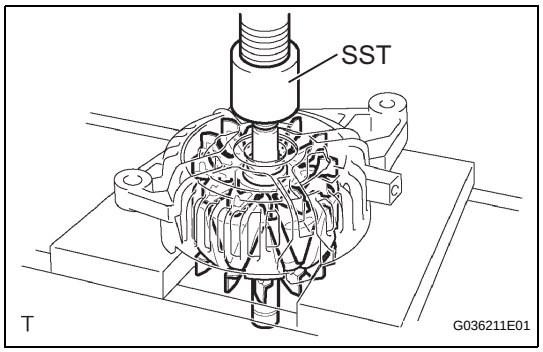




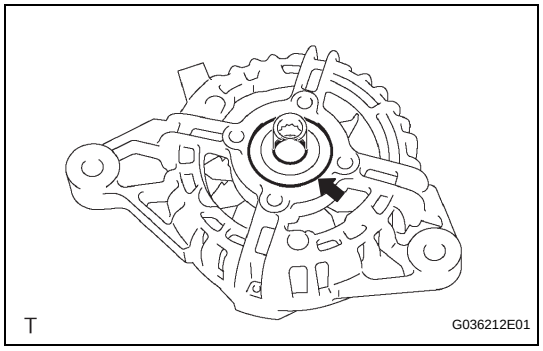
3. INSPECT BRUSH
(a) Using vernier calipers, measure the brush length.
Exposed length on new brush:
13.2 mm (0.520 in.)
Minimum exposed length:
6 mm (0.236 in.)
If the exposed length is less than the minimum, replace the voltage regulator and brush assembly.

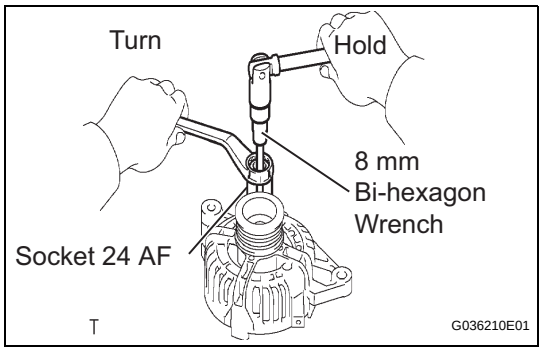
REASSEMBLY

1. INSTALL GENERATOR ROTOR ASSEMBLY
(a) Using SST and a press, press in the generator rotor assembly.
SST 09285-76010
NOTICE:
Avoid misalignment during pressing.

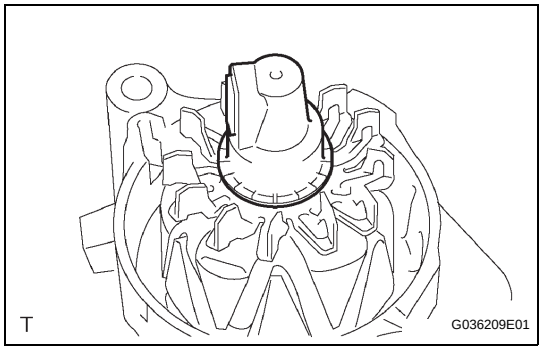


2. INSTALL PULLEY SET GENERATOR
(a) Install the spacer ring.



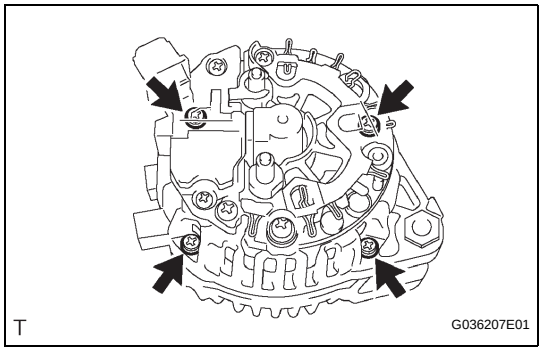


(b) Using a socket 24 AF and 8 mm bi-hexagon wrench, install the pulley with the spring washer and nut.
Torque: 65 N*m (663 kgf*cm, 48 ft.*lbf)



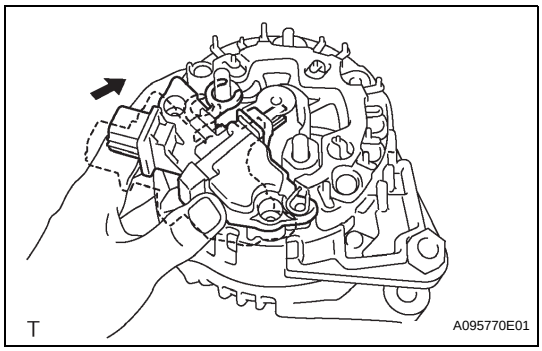
3. INSTALL BEARING SET GENERATOR

(a) Align the 3 cutouts of the bearing set generator with the stator generator with rectifier.



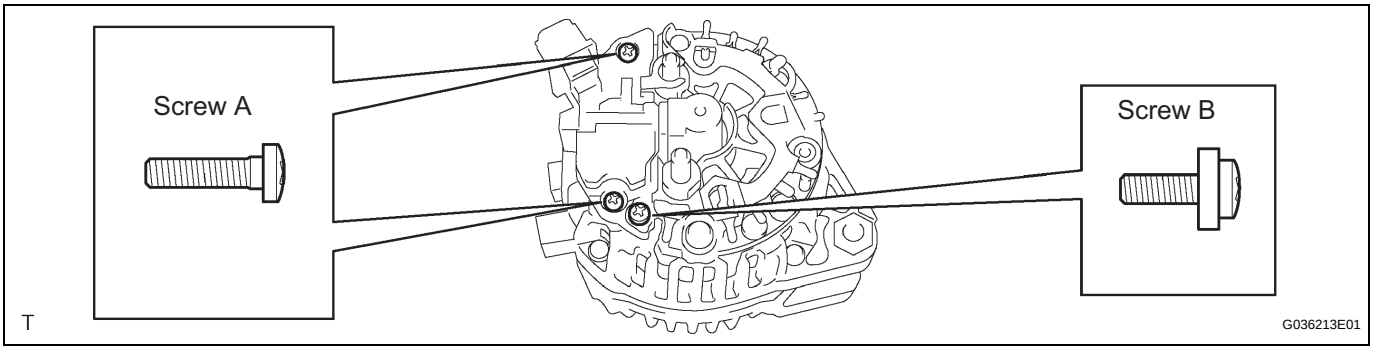
4. INSTALL STATOR SUB-ASSEMBLY GENERATOR WITH RECTIFIER

(a) Align the key of the drive end frame with the keyway of the stator sub-assembly generator with rectifier.
(b) Install the stator generator with rectifier with the 4 bolts.
Torque: 4.3 N*m (44 kgf*cm, 38 in.*lbf)

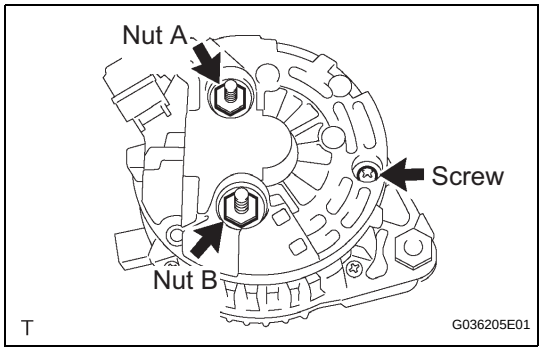


5. INSTALL REGULATOR SUB-ASSEMBLY GENERATOR WITH BRUSH

(a) Attach the brushes and terminals to the rectifier end frame of the regulator generator with brush.
(b) Install the regulator generator with brush with the 3 screws.
HINT:
Install the screw B into the position shown in the illustration.



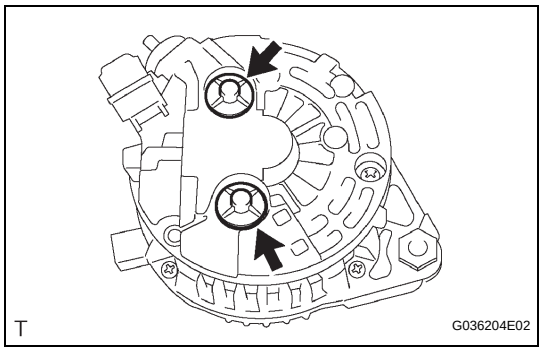
Torque: 2.5 N*m (25 kgf*cm, 22 in.*lbf) for screw A
1.2 N*m (12 kgf*cm, 11 in.*lbf) for screw B



6. INSTALL REAR GENERATOR END COVER

(a) Install the generator rear end cover with the 2 nuts and screw.

Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf) for nut A
12 N*m (122 kgf*cm, 9 ft.*lbf) for nut B
2.8 N*m (29 kgf*cm, 25 in.*lbf) for screw



(b) Install the 2 terminal covers by turning them clockwise.