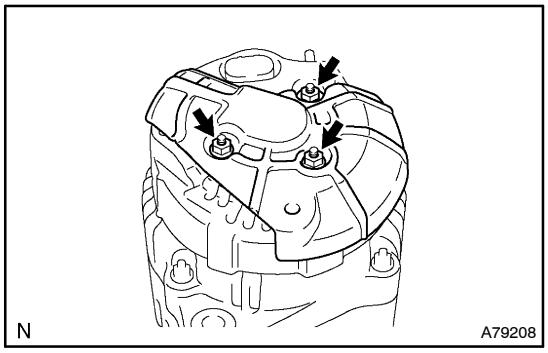
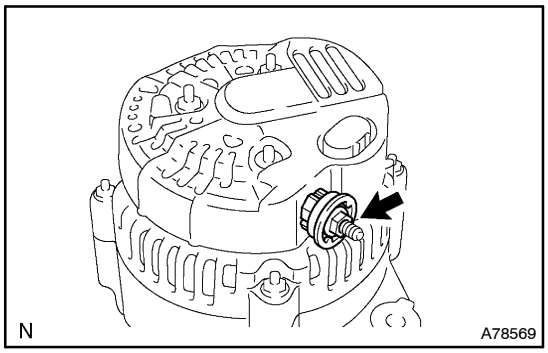
190LQ–01

OVERHAUL



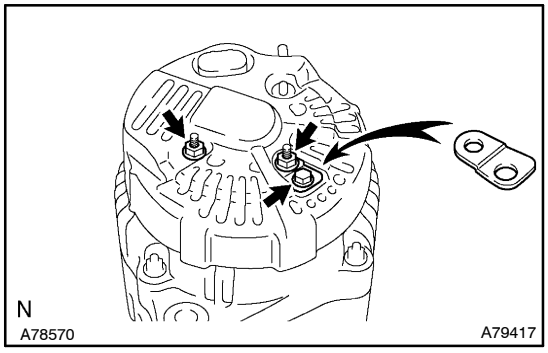
1. REMOVE REAR END COVER NO. 2

(a) Remove the 3 nuts and end cover.

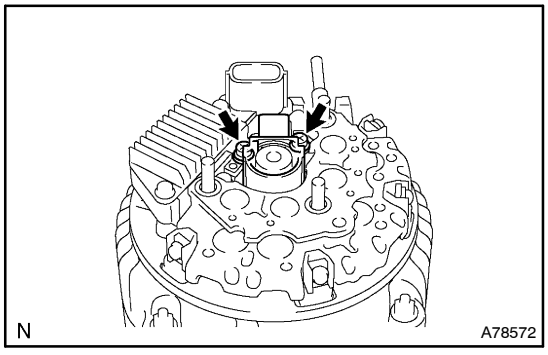


2. REMOVE REAR END COVER

(a) Remove the nut and terminal insulator.

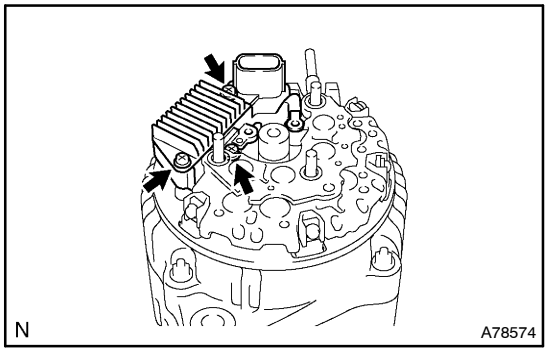


(b) Remove the bolt, 2 nuts, plate terminal, end cover and brush holder cover.



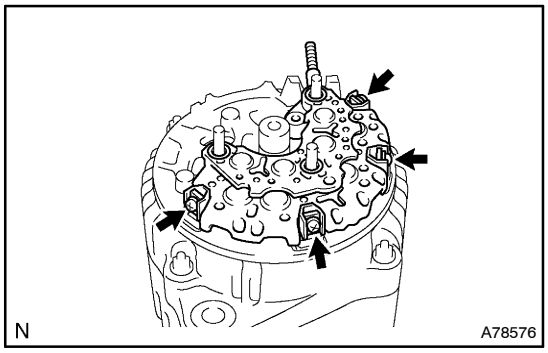
3. REMOVE GENERATOR BRUSH HOLDER ASSY

(a) Remove the 2 screws, brush holder and seal plate.



4. REMOVE VOLTAGE REGULATOR

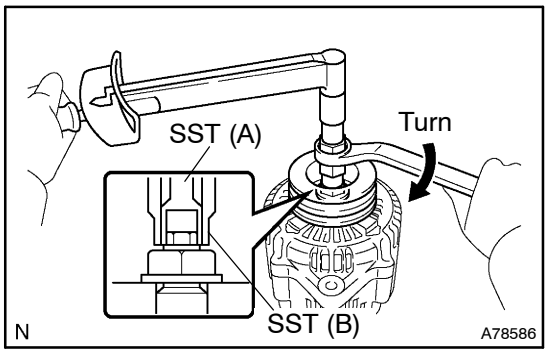
(a) Remove the 3 screws and voltage regulator.



5. REMOVE GENERATOR HOLDER W/ RECTIFIER

(a) Remove the 5 screws and generator holder.

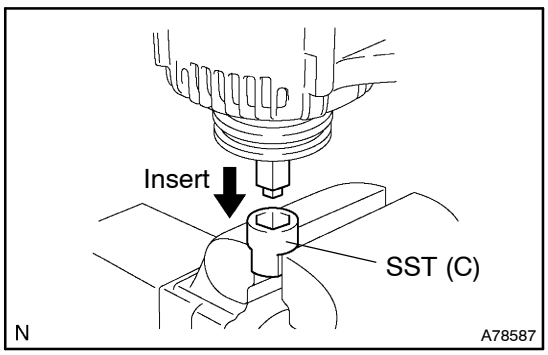
(b) Remove the 4 rubber insulators.



6. REMOVE GENERATOR PULLEY

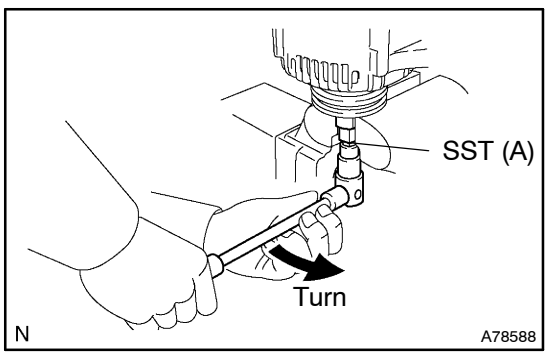
(a) SecurelyInstall SST (A) and (B) to the shaft of the rotor.
SST 09820–63010

(b) Hold SST (A) with a torque wrench and tighten SST (B) clockwise.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)



(c) Mount SST (C) in a vise.

(d) Insert the SST (A) and (B) into SST (C) and attach the pulley nut to SST (C).

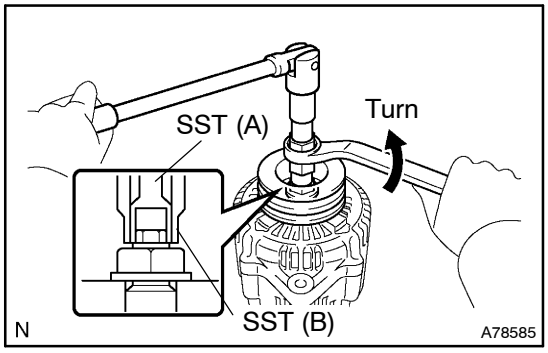


(e) In order to loosen the pulley nut, turn SST (A), as shown in the illustration.

NOTICE:

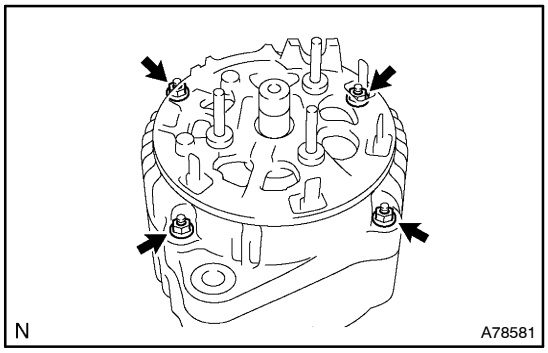
To prevent damage to the rotor shaft, do not loosen the pulley nut more than one–half of a turn.

(f) Remove the generator from SST (C).



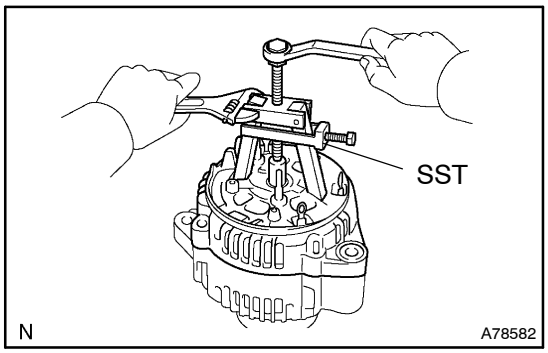
(g) Turn SST (B) and remove SST (A) and (B).
SST 09820–63010

(h) Remove the nut and pulley.



7. REMOVE RECTIFIER END FRAME

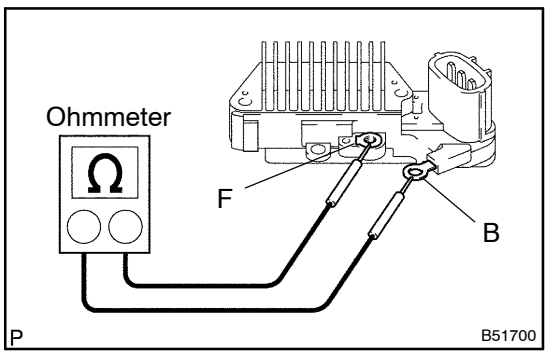
(a) Remove the 4 nuts.



(b) Using SST, remove the end frame.
SST 09820–00021

(c) Remove the generator washer.

8. REMOVE GENERATOR ROTOR ASSY



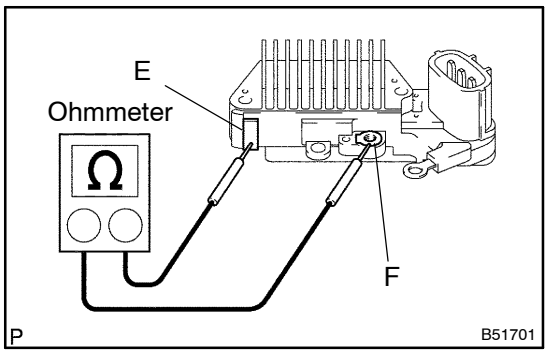
9. INSPECT VOLTAGE REGULATOR

(a) Using an ohmmeter, check the continuity between terminals F and B.

Standard:

When the positive and negative poles between terminals F and B are exchanged, there is continuity in one way but no continuity in another way.

If the continuity is not as specified, replace the voltage regulator.

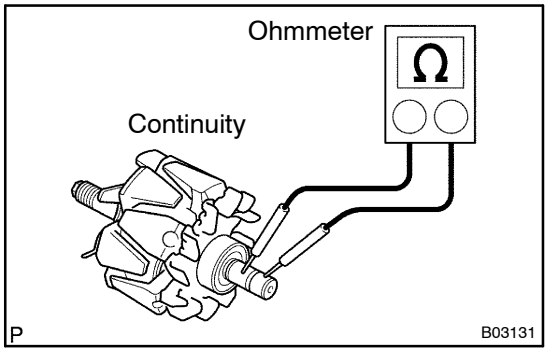


(b) Using an ohmmeter, check the continuity between terminals F and E.

Standard:

When the positive and negative poles between terminals F and E are exchanged, there is continuity in one way but no continuity in another way.

If the continuity is not as specified, replace the voltage regulator.



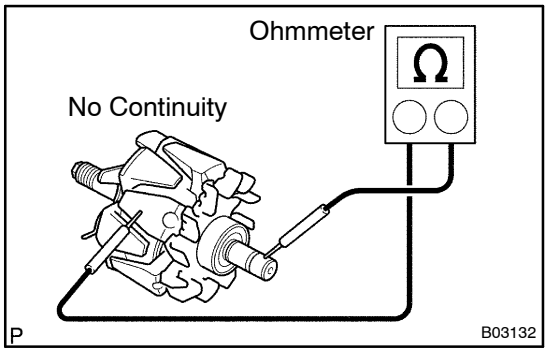
10. INSPECT GENERATOR ROTOR ASSY

(a) Check for open circuit.

(1) Using an ohmmeter, check that there is continuity between the slip rings.

Standard resistance: 11.8 – 12.2 at Ω 20°C (68°F)

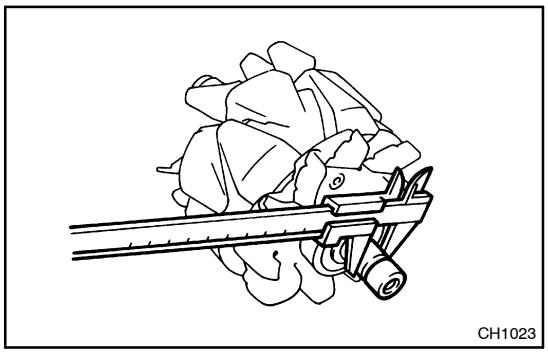
If there is no continuity, replace the rotor assy.



(b) Check for ground.

(1) Using an ohmmeter, check that there is no continuity between the slip rings and rotor body.

If there is continuity, replace the rotor assy assy.



(c) Check the slip rings.

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

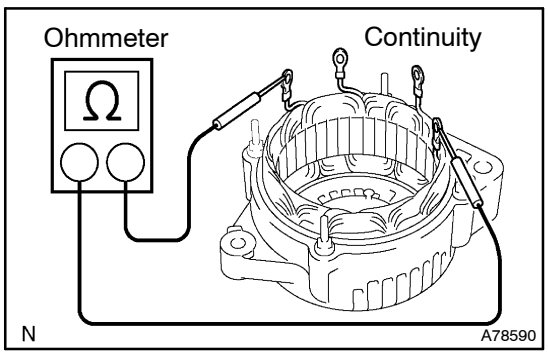
If the slip rings are rough or scored, replace the rotor.

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

Standard diameter: 14.2 – 14.4 mm (0.559 – 0.567 in.)

Minimum diameter: 14.0 mm (0.551 in.)

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

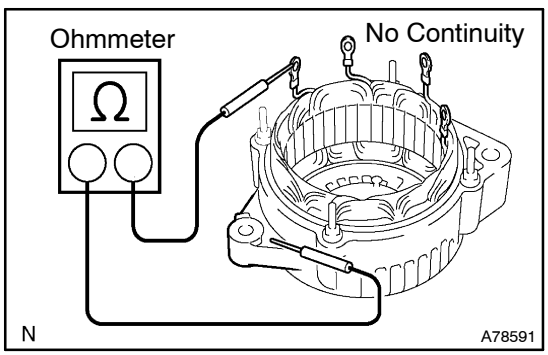


11. INSPECT DRIVE END FRAME (STATOR)

(a) Check for open circuit.

(1) Using an ohmmeter, check that there is continuity between the coil terminals.

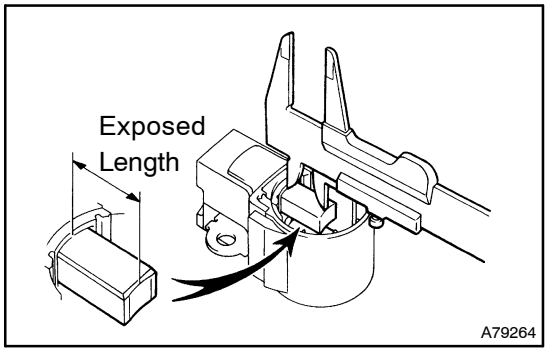
If there is no continuity, replace the drive end frame.



(b) Check for ground.

(1) Using an ohmmeter, check that there is no continuity between the coil terminals and end frame.

If there is continuity, replace the drive end frame.

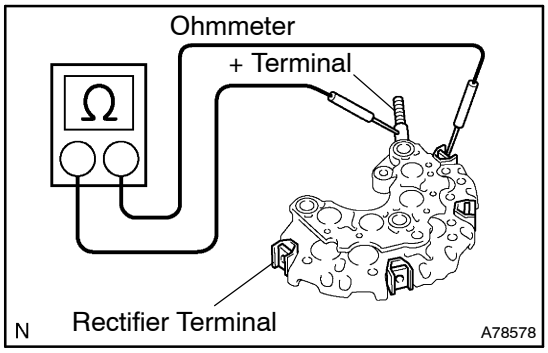


12. INSPECT GENERATOR BRUSH HOLDER ASSY

(a) Using vernier calipers, measure the exposed brush length.

Standard exposed length:
9.5 – 11.5 mm (0.374 – 453 in.)
Minimum exposed length: 1.5 mm (0.059 in.)

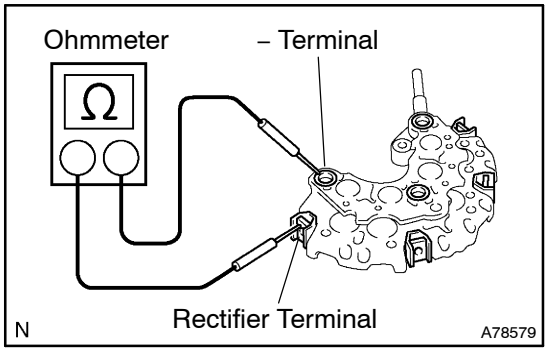
If the exposed length is less than the minimum, replace the brush holder assy.



13. INSPECT GENERATOR HOLDER W/ RECTIFIER

(a) Check the positive rectifier.
  (1) Using an ohmmeter, connect one tester probe to the positive (+) terminal and the other to each rectifier terminal.
  (2) Reverse the polarity of the tester probes and perform step (1).
  (3) Check that one shows continuity and the other shows no continuity.

If the continuity is not as specified, replace the holder w/ rectifier.



(b) Check the negative rectifier.
  (1) Using an ohmmeter, connect one tester probe to each negative (–) terminal and the other to each rectifier terminal.
  (2) Reverse the polarity of the tester probes and perform step (1).
  (3) Check that one shows continuity and the other shows no continuity.

If the continuity is not as specified, replace the holder w/ rectifier.

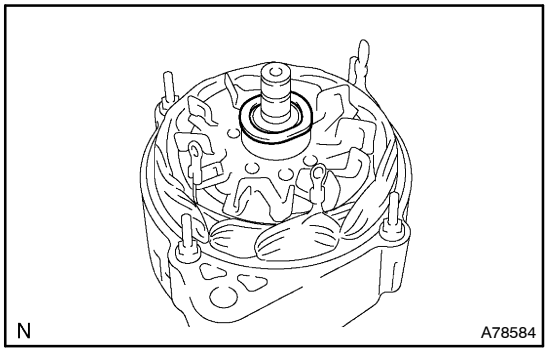
14. INSPECT BEARING

(a) Check that the drive end frame bearing and rotor bearing are not rough or worn.

If the bearings are rough or worn, replace the drive end frame (front bearing) or rotor assy (rear bearing).

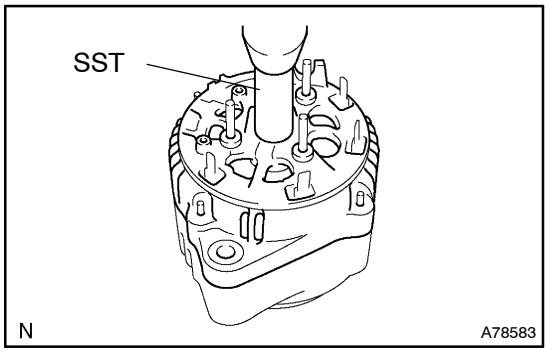
15. INSTALL GENERATOR ROTOR ASSY

(a) Place the drive end frame on the pulley.
(b) Install the rotor to the drive end frame.

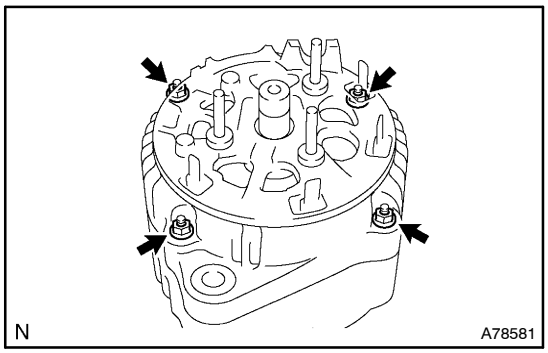


16. INSTALL RECTIFIER END FRAME

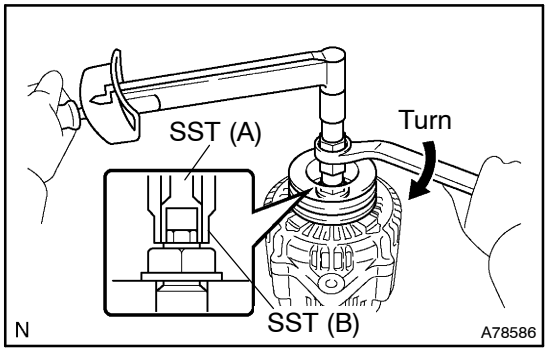
(a) Place the generator washer on the rotor.



(b) Using SST and a press, slowly press in the rectifier end frame.
SST 09820–00030



(c) Install the 4 nuts.
Torque: 4.5 N·m (46 kgf·cm, 40 in.·lbf)

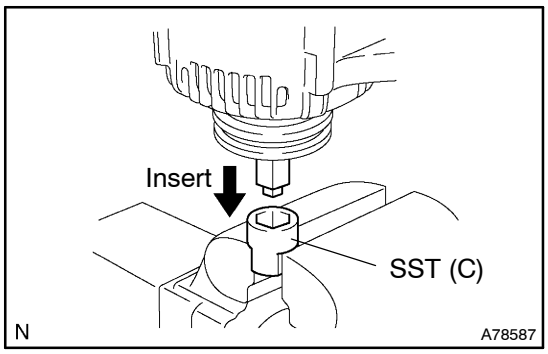


17. INSTALL GENERATOR PULLEY

(a) Install the pulley to the shaft of the rotor and tighten the nut by hand.

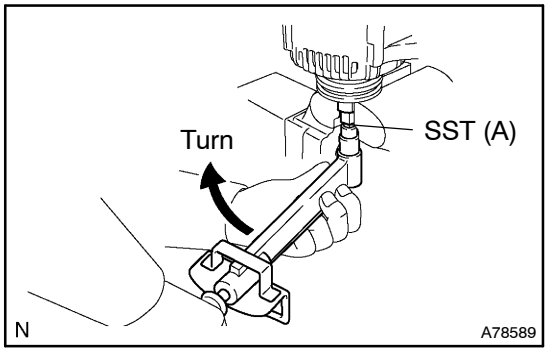
(b) Securely install SST (A) and (B) to the shaft of the rotor.
SST 09820–63010

(c) Hold SST (A) with a torque wrench and tighten SST (B) clockwise.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)



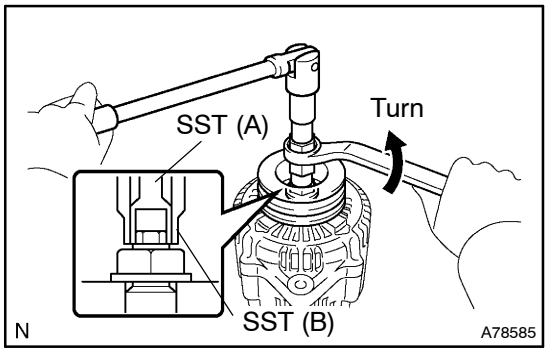
(d) Mount SST (C) in a vise.

(e) Insert SST (A) and (B) into SST (C) and attach the pulley nut to SST (C).

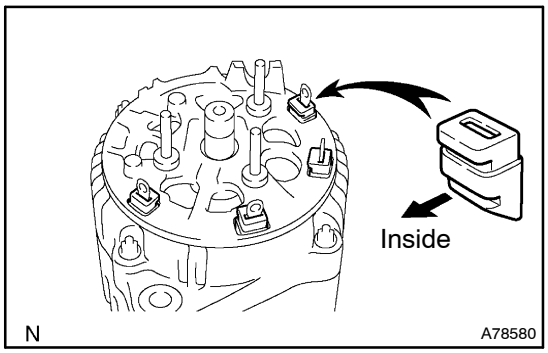


(f) In order to tighten the pulley nut, turn SST (A), as shown in the illustration.
Torque: 110.5 N·m (1,125 kgf·cm, 82 ft·lbf)

(g) Remove the generator from SST (C).



(h) Turn the SST (B) and remove SST (A) and (B).
SST 09820–63010

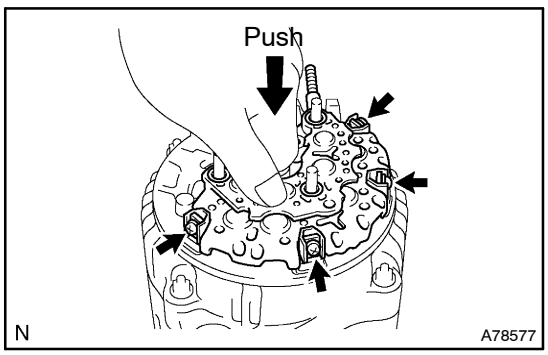


18. INSTALL GENERATOR HOLDER W/ RECTIFIER

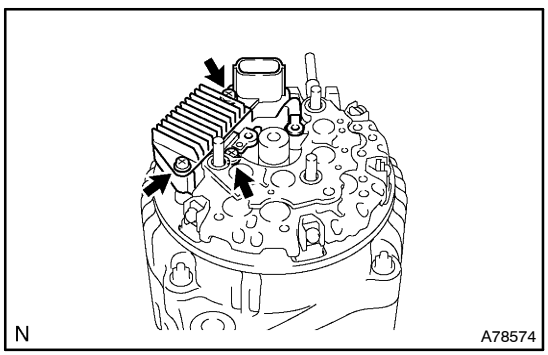
(a) Install the 4 rubber insulators to the lead wires.

NOTICE:

Be careful of the rubber insulators installation direction.

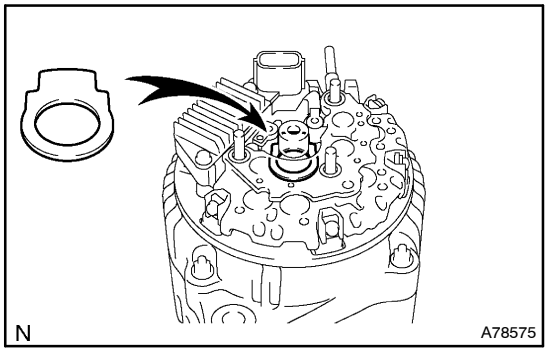


(b) Install the generator holder while pushing it with the 4 screws.
Torque: 2.94 N·m (30 kgf·cm, 26 in.·lbf)



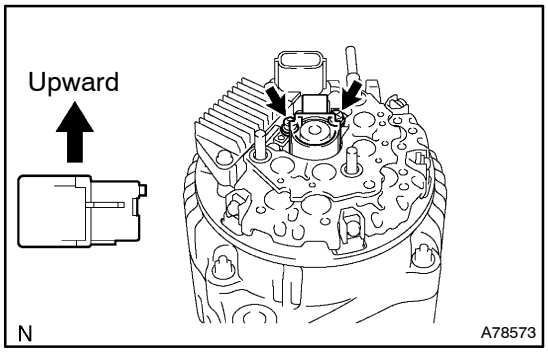
19. INSTALL VOLTAGE REGULATOR

(a) Install the voltage regulator with the 3 screws.
Torque: 1.96 N·m (20 kgf·cm, 17 in.·lbf)



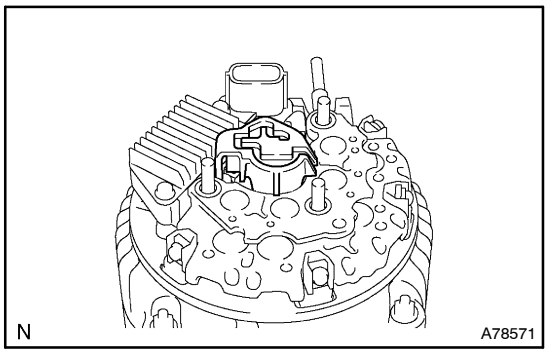
20. INSTALL GENERATOR BRUSH HOLDER ASSY

(a) Place the seal plate on the rectifier end frame.



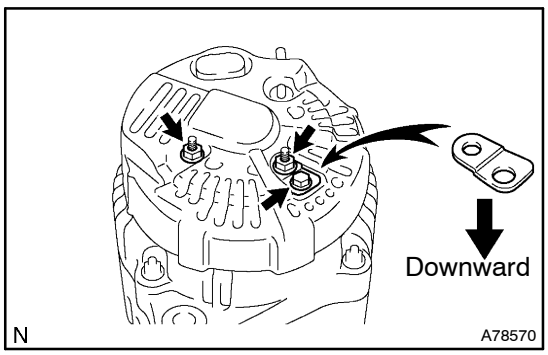
(b) Install the brush holder with the 2 screws.
Torque: 1.96 N·m (20 kgf·cm, 17 in.·lbf)

NOTICE:
Be careful of the brush holder installation direction.



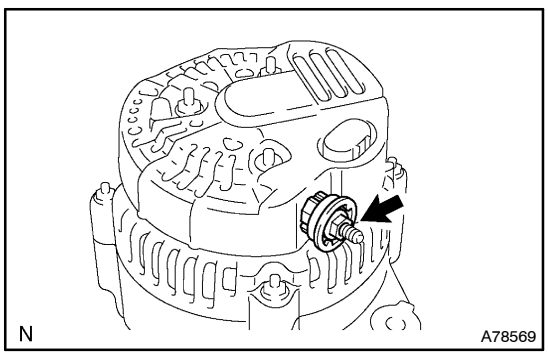
21. INSTALL REAR END COVER

(a) Place the brush holder cover on the brush holder.

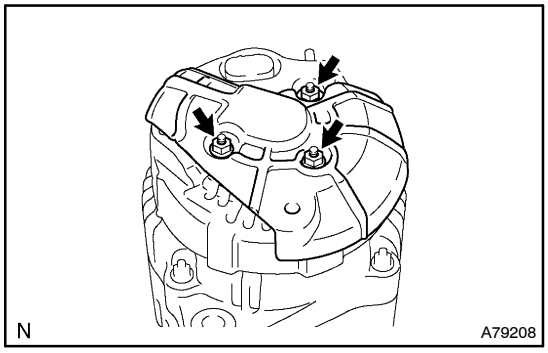


(b) Install the end cover and plate terminal with the bolt and 2 nuts.
Torque:
3.85 N·m (39 kgf·cm, 34 in.·lbf) for bolt
4.4 N·m (45 kgf·cm, 39 in.·lbf) for nut

NOTICE:
Be careful of the plate terminal installation direction.



(c) Install the terminal insulator with the nut.
Torque: 4.1 N·m (41.5 kgf·cm, 36 in.·lbf)



22. INSTALL REAR END COVER NO. 2

(a) Install the end cover with the 3 nuts.
Torque: 4.4 N·m (45 kgf·cm, 39 in.·lbf)

23. INSPECT GENERATOR ASSY

(a) Check that the pulley smoothly rotates.