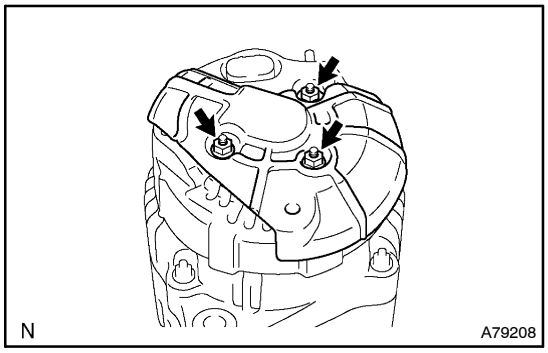
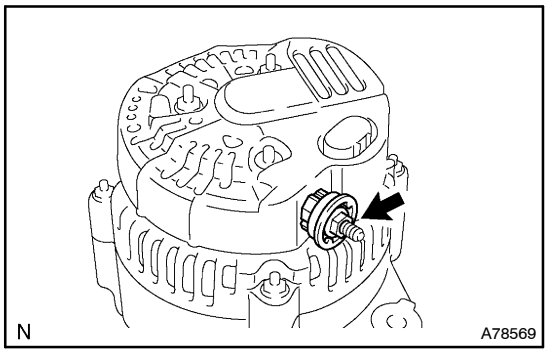
190YU–01

OVERHAUL



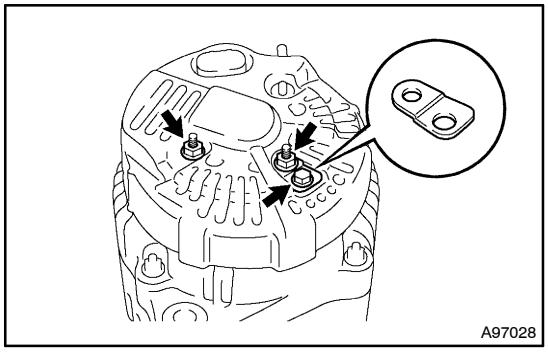
1. REMOVE REAR END COVER NO. 2

(a) Remove the 3 nuts and end cover.

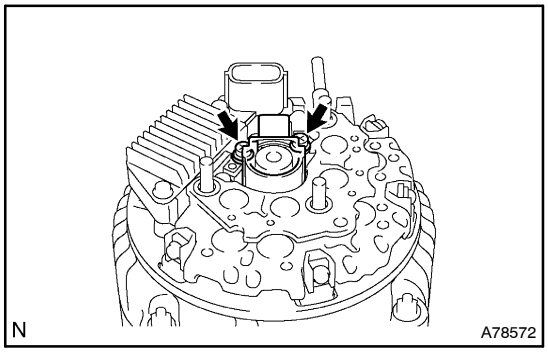


2. REMOVE REAR END COVER

(a) Remove the nut and terminal insulator.

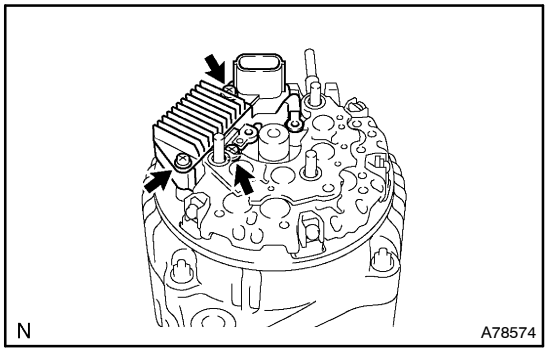


(b) Remove the bolt, 2 nuts, plate terminal, end cover and brush holder cover.



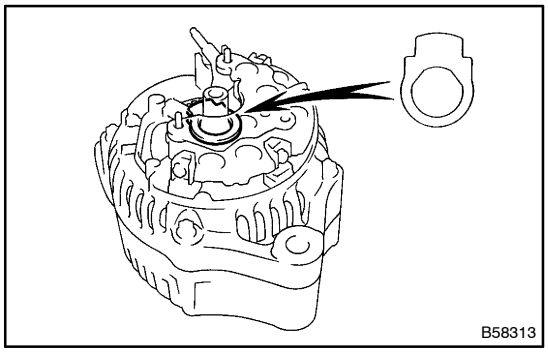
3. REMOVE GENERATOR BRUSH HOLDER ASSY

(a) Remove the 2 screws and brush holder.

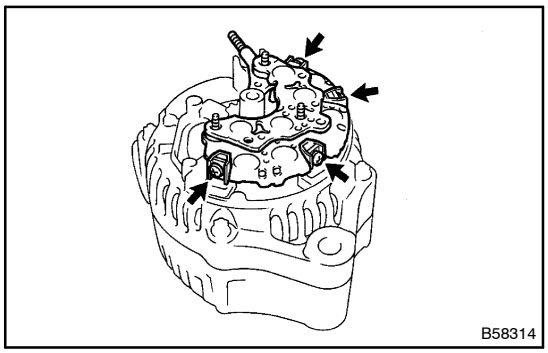


4. REMOVE VOLTAGE REGULATOR

(a) Remove the 3 screws and voltage regulator.

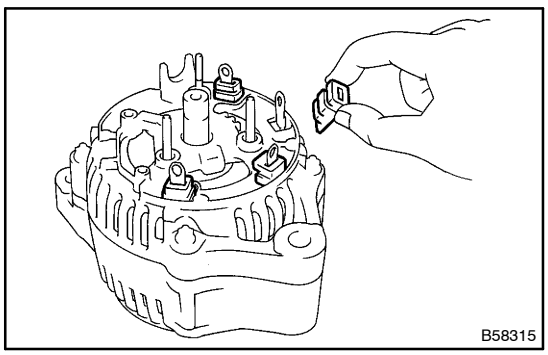


(b) Remove the plate seal from the rectifier end frame.

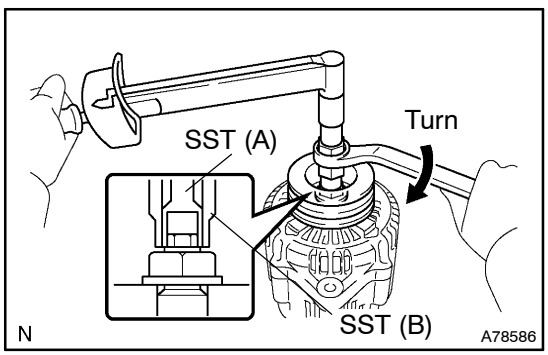


5. REMOVE GENERATOR HOLDER W/ RECTIFIER

(a) Remove the 4 screws and generator holder.



(b) Remove the 4 rubber insulators.

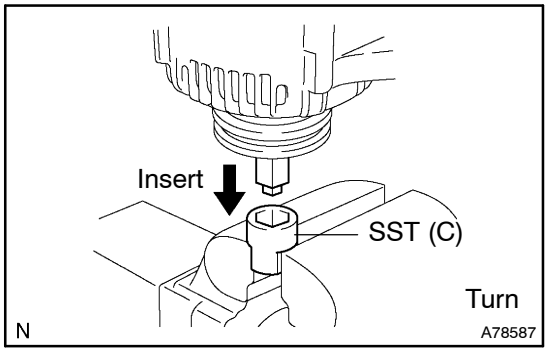


6. REMOVE GENERATOR PULLEY

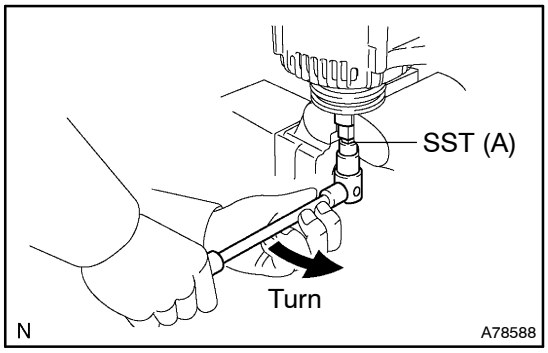
(a) Hold SST (A) with a torque wrench, and tighten SST (B) clockwise to the specified torque.

(b) Check that SST (A) is secured to the rotor shaft.

SST 09820–63010 (09820–06010, 09820–06020)



(c) As shown in the illustration, mount SST (C) in a vise, and attach the pulley nut to SST (C).



(d) To loosen the pulley nut, turn SST (A) in the direction shown in the illustration.

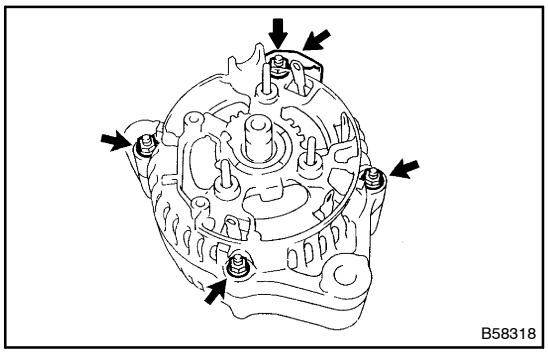
NOTICE:

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

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

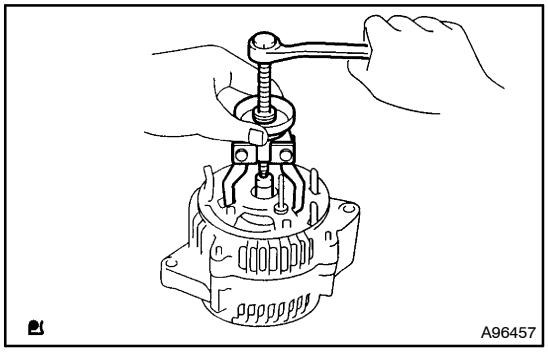
(f) Turn SST (B), and remove SST (A and B).

(g) Remove the pulley nut and pulley.

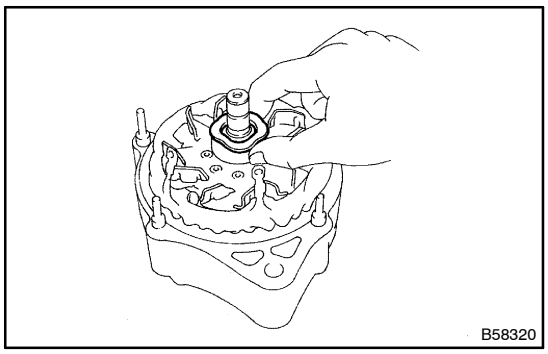


7. REMOVE RECTIFIER END FRAME

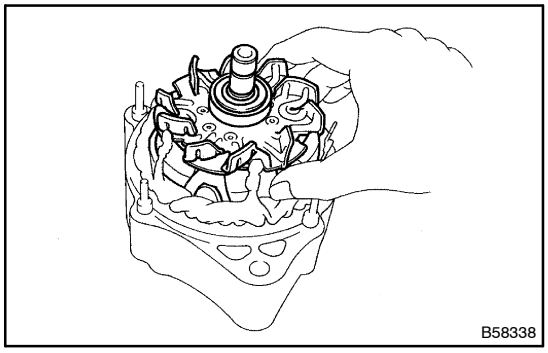
(a) Remove the 4 nuts and cord clip.



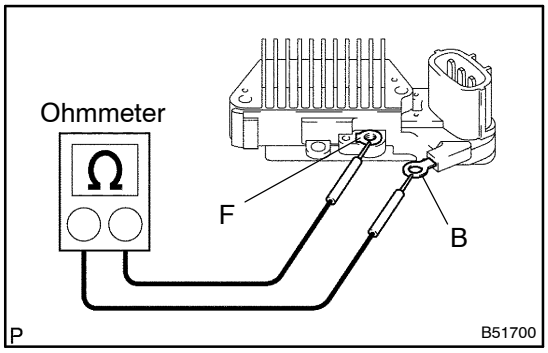
(b) Using a bearing puller, remove the rectifier end frame.



(c) Remove the generator washer and bearing cover.



8. REMOVE GENERATOR ROTOR ASSY



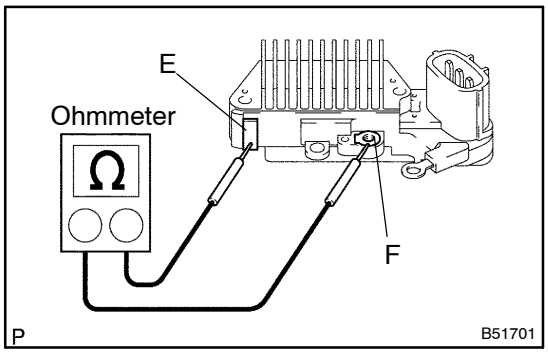
9. INSPECT VOLTAGE REGULATOR

(a) Measure the resistance between terminals F and B.

Standard:

The resistance between terminals F and B should be below 1 Ω when the probes are connected one way, and 10 kΩ or higher when the probes are reversed.

If the result is not as specified, replace the regulator.

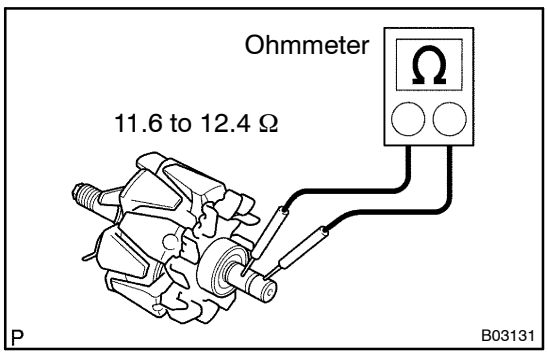


(b) Measure the resistance between terminals F and E.

Standard:

The resistance between terminals F and E should be below 1 Ω when the probes are connected one way, and 10 kΩ or higher when the probes are reversed.

If the result is not as specified, replace the regulator.



10. INSPECT GENERATOR ROTOR ASSY

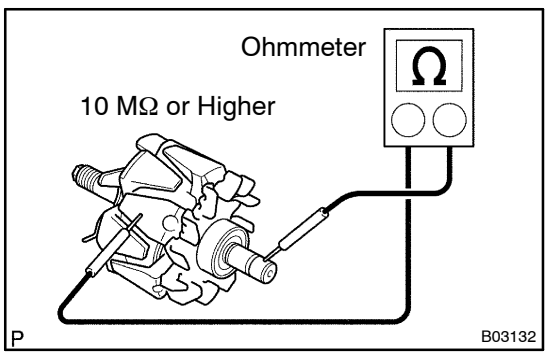
(a) Check the rotor for an open circuit.

(1) Measure the resistance between the slip rings.

Standard:

11.6 to 12.4 Ω at 20°C (68°F)

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



(b) Check the rotor for ground.

(1) Measure the resistance between the slip ring and rotor.

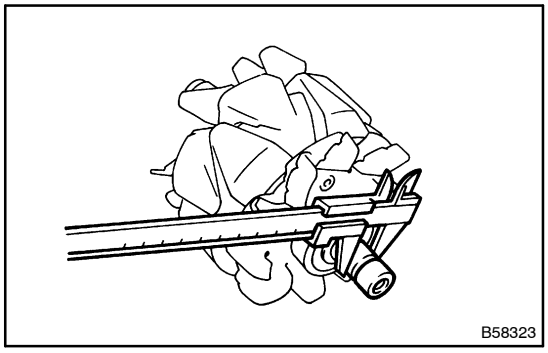
Standard:

10 MΩ or higher at 20°C (68°F)

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

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

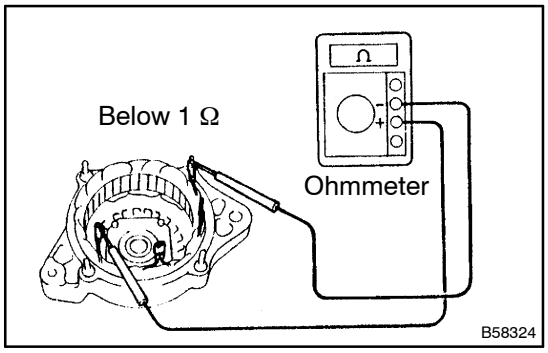
If rough or scored, replace the rotor.


B58323

(d) Using a vernier caliper, measure the slip ring diameter.
Diameter:

Standard	14.2 to 14.4 mm (0.559 to 0.567 in.)
Minimum	12.8 mm (0.504 in.)

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

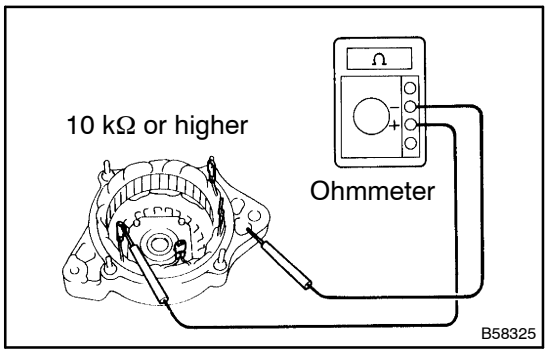


B58324

11. INSPECT DRIVE END FRAME

(a) Check if the drive end frame has an open circuit.
(1) Using an ohmmeter, measure the resistance between the coil leads.
Standard: Below 1 Ω

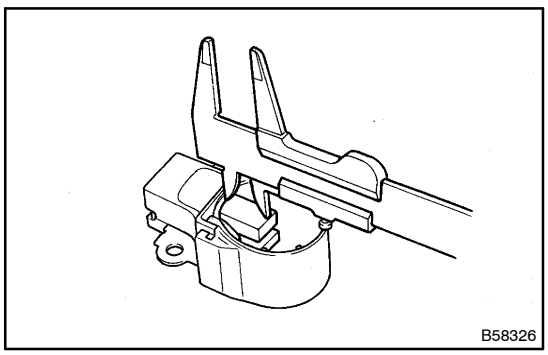
If the result is not as specified, replace the drive end frame.



B58325

(b) Check if the drive end frame is grounded.
(1) Measure the resistance between the coil lead and drive end frame.
Standard: 10 kΩ or higher

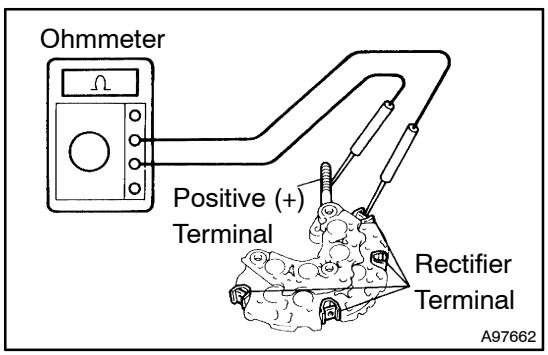
If the result is not as specified, replace the drive end frame.


B58326

12. INSPECT GENERATOR BRUSH HOLDER ASSY

(a) Using a vernier caliper, measure the exposed brush length.
Standard exposed length:
9.5 to 11.5 mm (0.374 to 0.453 in.)
Minimum exposed length: 1.5 mm (0.059 in.)

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



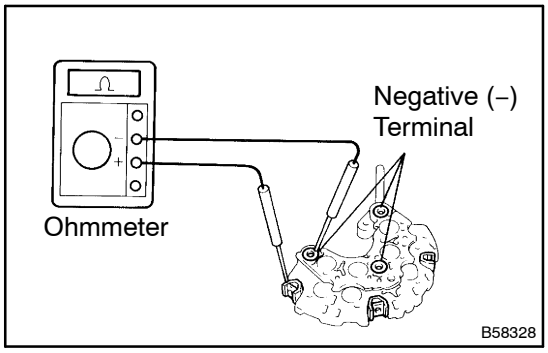
A97662

13. INSPECT GENERATOR HOLDER W/ RECTIFIER

(a) Check the positive (+) rectifier.
(1) Connect an ohmmeter probe to the positive (+) terminal and the other probe to a rectifier terminal. Measure the resistance.
(2) Reverse the tester probes and measure the resistance again.
(3) The resistance should be below 1 Ω when the probes are connected one way, and 10 kΩ or higher when the probes are reversed.

(4) Repeat steps (1) to (3) for each rectifier terminal.

If the result is not as specified, replace the rectifier holder.



(b) Check the negative (–) rectifier.

(1) Connect an ohmmeter probe to the negative (–) terminal and the other probe to a rectifier terminal. Measure the resistance.

(2) Reverse the tester probes and measure the resistance again.

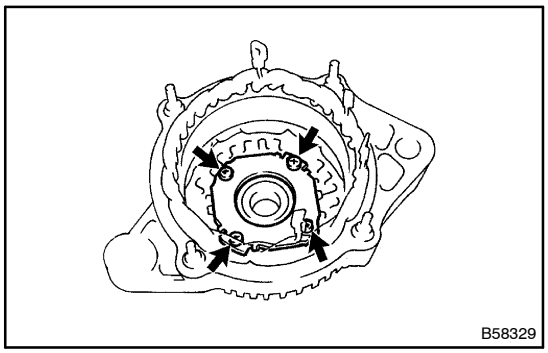
(3) The resistance should be below 1 Ω when the probes are connected one way, and 10 kΩ or higher when the probes are reversed.

If the result is not as specified, replace the rectifier holder.

14. INSPECT BEARING

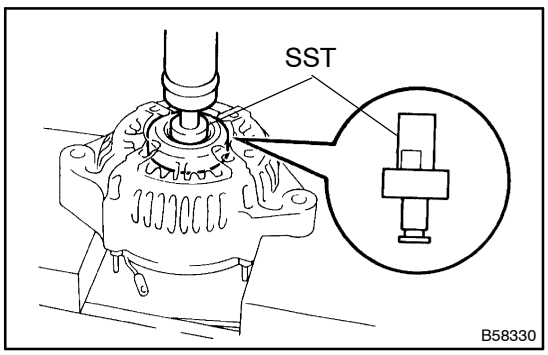
(a) Check that the bearing is not rough or worn.

If necessary, replace the bearing.



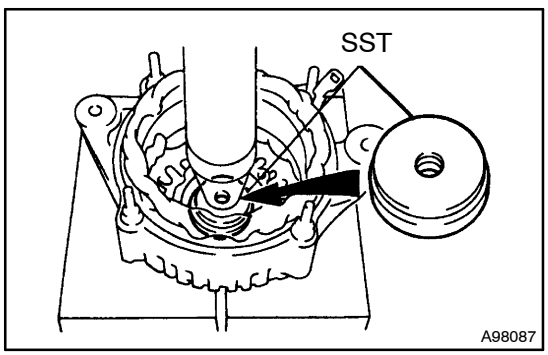
15. REMOVE GENERATOR DRIVE END FRAME BEARING

(a) Remove the 4 screws and bearing retainer.



(b) Using SST and a press, press out the bearing.

SST 09950–60010 (09951–00270), 09950–70010 (09951–07100)



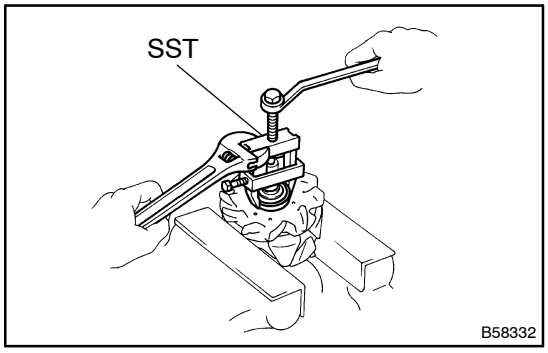
16. INSTALL GENERATOR DRIVE END FRAME BEARING

(a) Using SST and a press, press in a new bearing.

(b) Install the bearing retainer with the 4 screws.

Torque: 2.9 N·m (30 kgf·cm, 26 in.·lbf)

SST 09950–60010 (09951–00500)

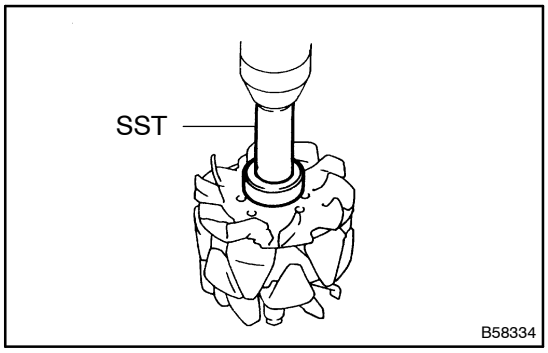


17. REMOVE GENERATOR ROTOR BEARING

(a) Using SST, remove the bearing cover and bearing.
SST 09820–00021

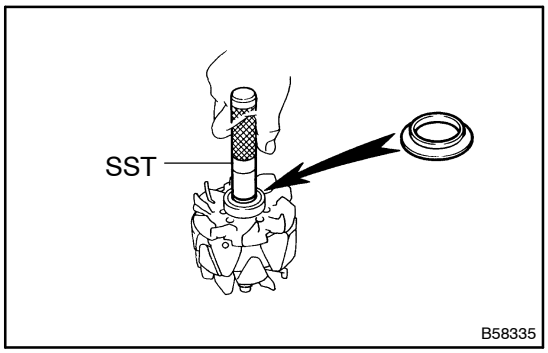
NOTICE:

Be careful not to damage the fan.

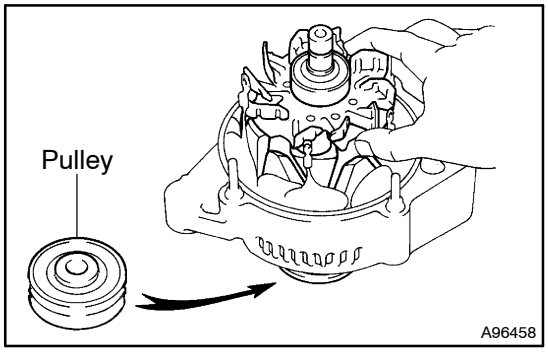


18. INSTALL GENERATOR ROTOR BEARING

(a) Using SST and a press, press in a new bearing.
SST 09820–00031



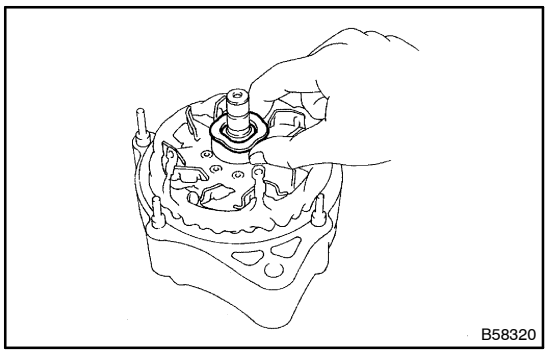
(b) Using SST, push in the bearing cover.
SST 09285–76010



19. INSTALL GENERATOR ROTOR ASSY

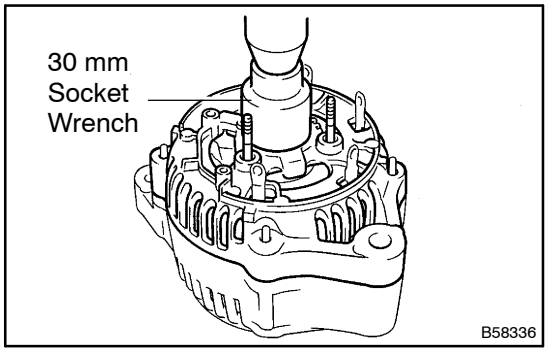
(a) Place the drive end frame on the pulley.

(b) Install the rotor to the drive end frame.

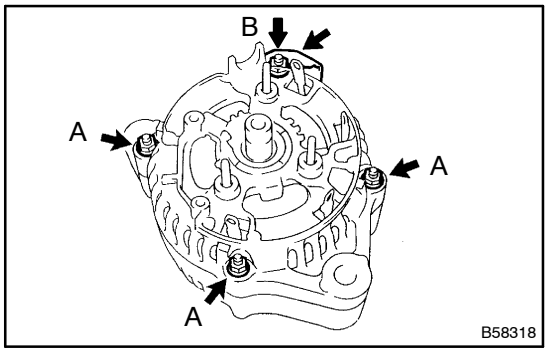


20. INSTALL RECTIFIER END FRAME

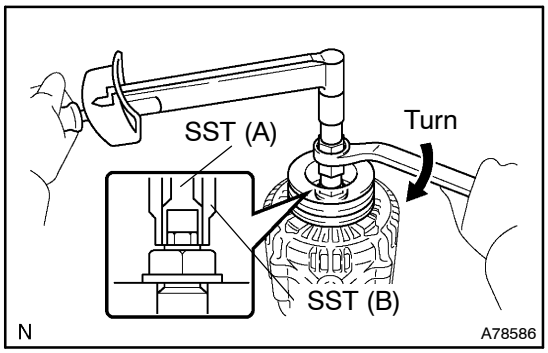
(a) Place the generator washer on the rotor.



(b) Using a 30 mm socket wrench and press, slowly press in the rectifier end frame.



(c) Install the cord clip and 4 nuts.
Torque:
4.5 N·m (46 kgf·cm, 40 in.·lbf) for nut A
5.4 N·m (55 kgf·cm, 48 in.·lbf) for nut B

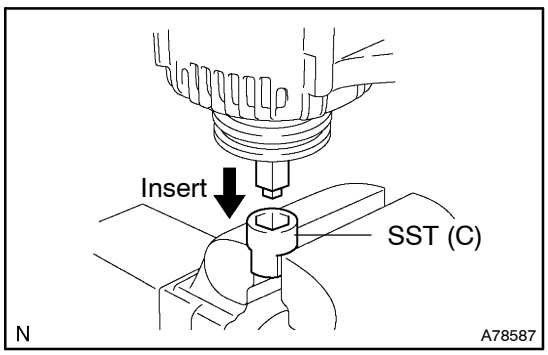


21. INSTALL GENERATOR PULLEY

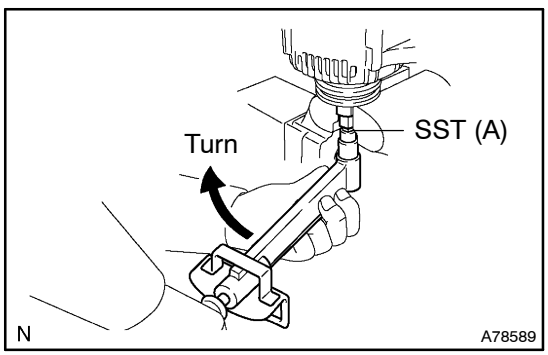
(a) Install the pulley to the rotor shaft by tightening the pulley nut by hand.

(b) Hold SST (A) with a torque wrench, and tighten SST (B) clockwise to the specified torque.
SST 09820–63010 (09820–06010, 09820–06020)
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

(c) Check that SST (A) is secured to the pulley shaft.

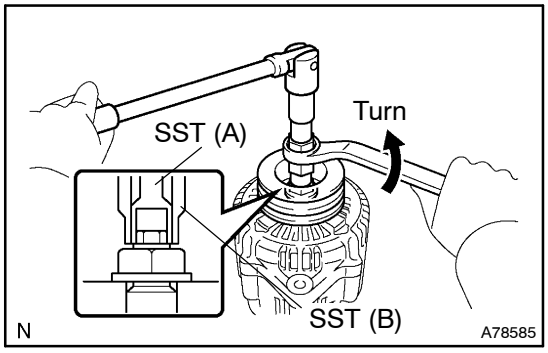


(d) As shown in the illustration, mount SST (C) in a vise and attach the pulley nut to SST (C).

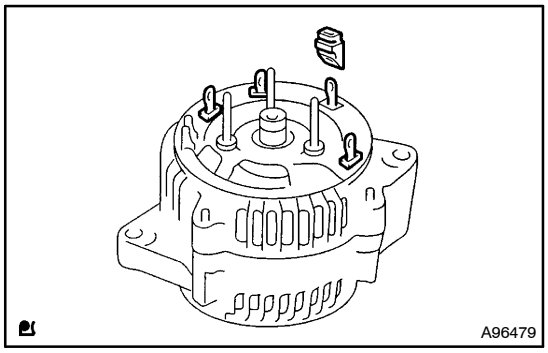


(e) To torque the pulley nut, turn SST (A) in the direction shown in the illustration.
Torque: 111 N·m (1,131 kgf·cm, 82 ft·lbf)

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



(g) Turn SST (B) and remove SST (A and B).

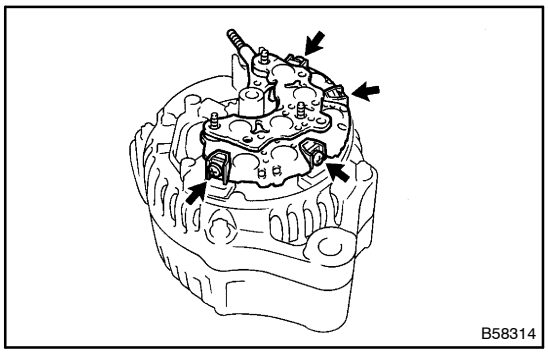


22. INSTALL GENERATOR HOLDER W/ RECTIFIER

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

NOTICE:

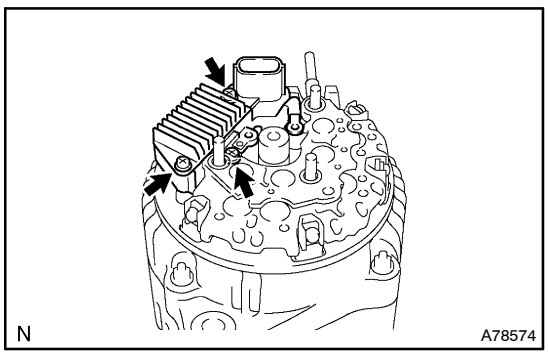
Make sure each rubber insulator is oriented as shown in the illustration.



(b) Place the rectifier holder on the rectifier end frame.

(c) Push the rectifier holder down and install it with the 4 screws.

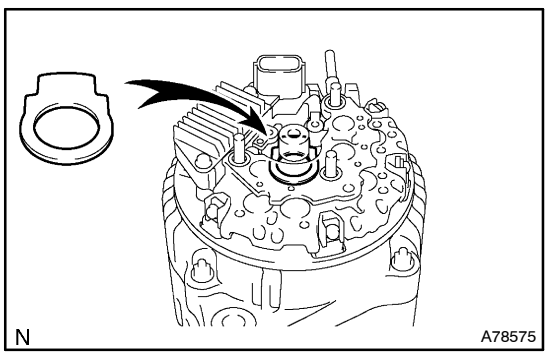
Torque: 2.9 N·m (30 kgf·cm, 26 in.·lbf)



23. INSTALL VOLTAGE REGULATOR

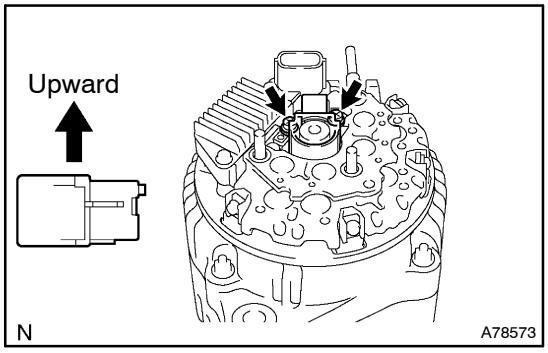
(a) Install the voltage regulator with the 3 screws.

Torque 2.0 N·m (20 kgf·cm, 18 in.·lbf)



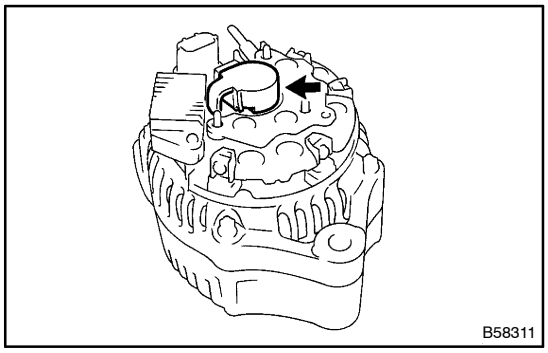
24. INSTALL GENERATOR BRUSH HOLDER ASSY

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



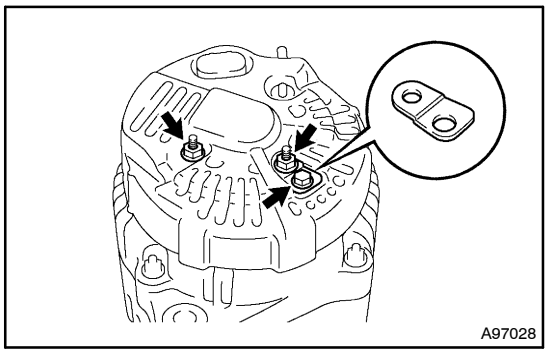
(b) Install the brush holder with the 2 screws.
Torque: 2.0 N·m (20 kgf·cm, 18 in.·lbf)

NOTICE:
Be careful of the holder installation direction.

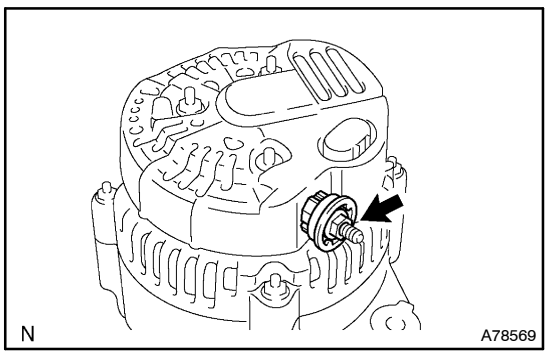


25. INSTALL REAR END COVER

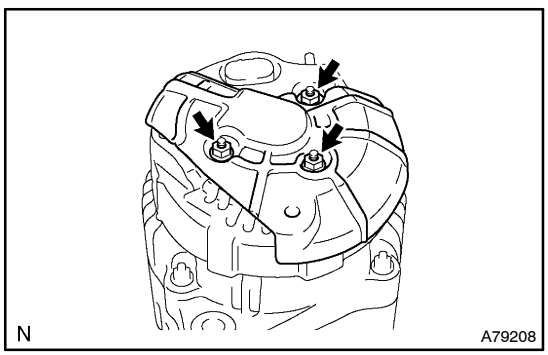
(a) Place the brush holder cover on the brush holder.



(b) Install the rear end cover and terminal plate with the 2 nuts and bolt.
Torque:
3.9 N·m (39 kgf·cm, 35 in.·lbf) for bolt
4.4 N·m (45 kgf·cm, 38 in.·lbf) for nut



(c) Install the terminal insulator with the nut.
Torque: 3.6 N·m (37 kgf·cm, 32 in.·lbf)



26. INSTALL REAR END COVER NO. 2

(a) Install the generator rear end cover with the 3 nuts.
Torque: 4.4 N·m (45 kgf·cm, 38 in.·lbf)

(b) Turn the pulley and check that the pulley moves smoothly.