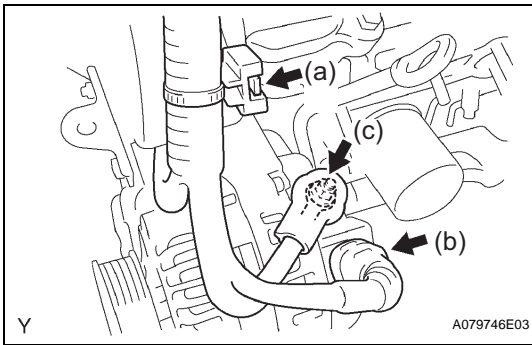


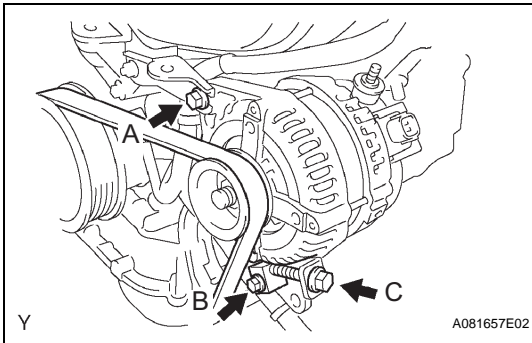
REMOVAL

1. REMOVE GENERATOR ASSEMBLY

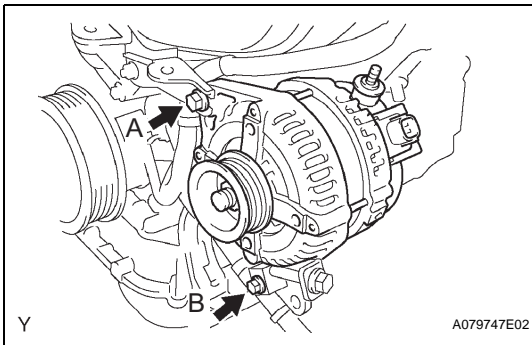
- (a) Remove the wire harness clamp.
- (b) Disconnect the generator connector.
- (c) Open the terminal cap, remove the nut and disconnect the generator wire.



- (d) Loosen bolts A and B.
- (e) Loosen bolt C to lessen the tension of the V belt No. 1.



- (f) Remove bolts A and B, and then remove the generator.

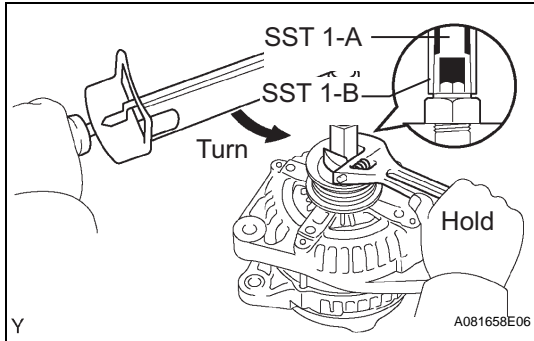


DISASSEMBLY

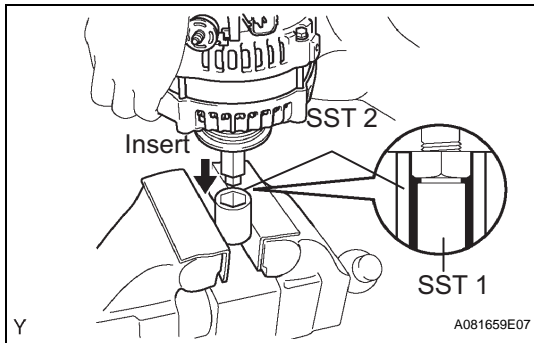
1. REMOVE GENERATOR PULLEY

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

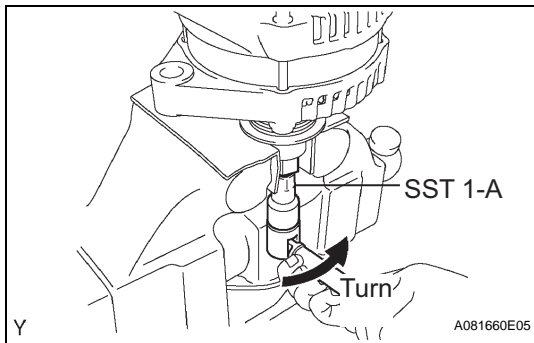
SST 1-A and B	09820-06010
SST 2	09820-06020



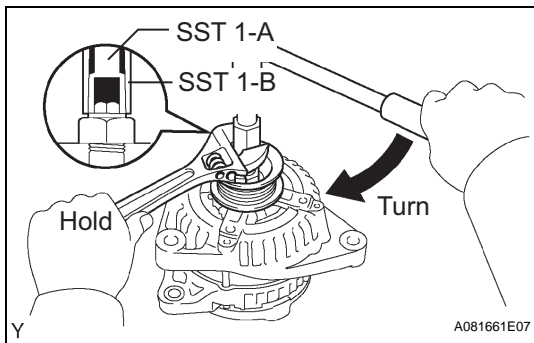
- (a) Hold SST 1-A with a torque wrench, and tighten SST 1-B clockwise with the specified torque.
Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)
NOTICE:
Check that SST is secured to the rotor shaft.



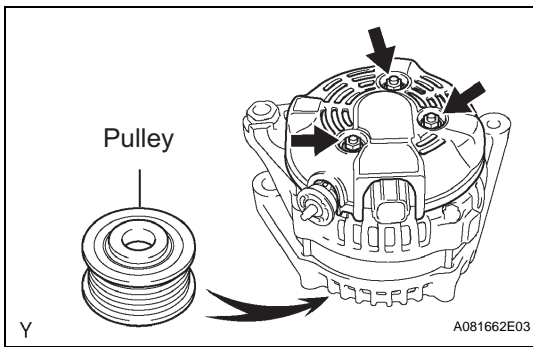
- (b) Clamp SST 2 in a vise.
 (c) Insert SST 1-A and B into SST 2, and attach the pulley nut to SST 2.



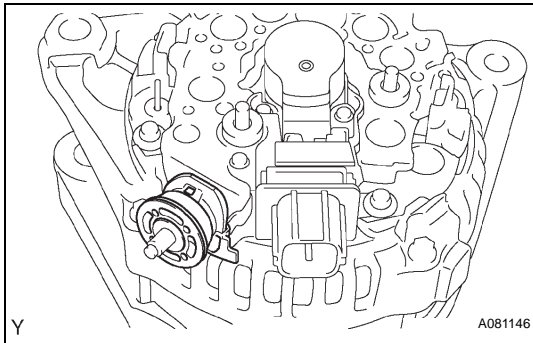
- (d) To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.
NOTICE:
To prevent damage to the rotor shaft, do not loosen the pulley nut more than one-half turn.
 (e) Remove the generator from SST 2.



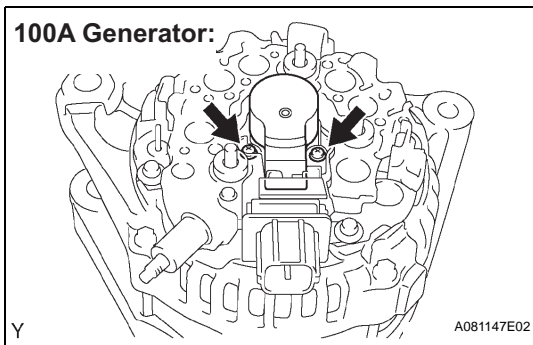
- (f) Turn SST 1-B, and remove SST 1-A and B.
 (g) Remove the pulley nut, and then remove the generator pulley.

**2. REMOVE GENERATOR REAR END COVER**

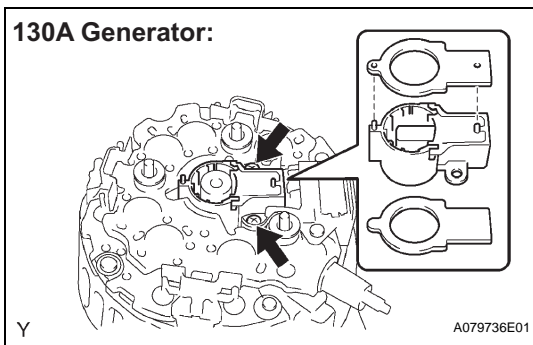
- (a) Place the generator on the generator pulley.
- (b) Remove the 3 nuts, and then remove the generator rear end cover.

**3. REMOVE TERMINAL INSULATOR**

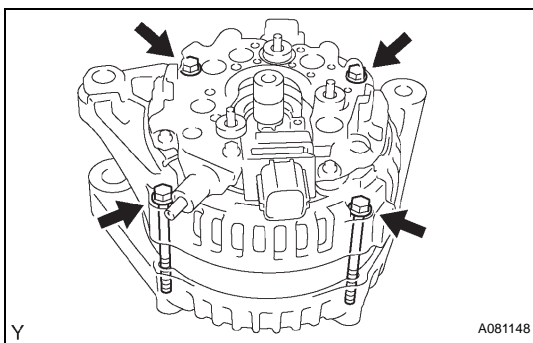
- (a) Remove the terminal insulator from the generator coil.

**4. REMOVE GENERATOR BRUSH HOLDER ASSEMBLY**

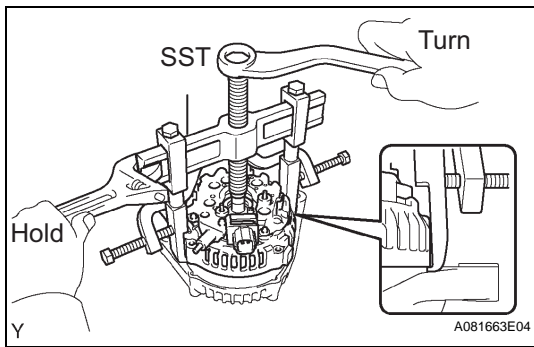
- (a) 100A Generator
 - (1) Remove the 2 screws, and then remove the generator brush holder.



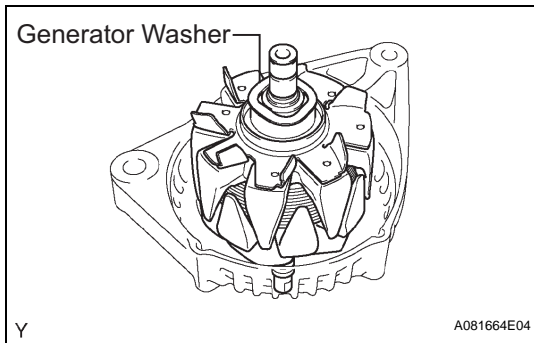
- (b) 130A Generator
 - (1) Remove the generator plate seal.
 - (2) Remove the 2 screws, and then remove the generator brush holder.
 - (3) Remove the generator plate seal.

**5. REMOVE GENERATOR COIL ASSEMBLY**

- (a) Remove the 4 bolts.

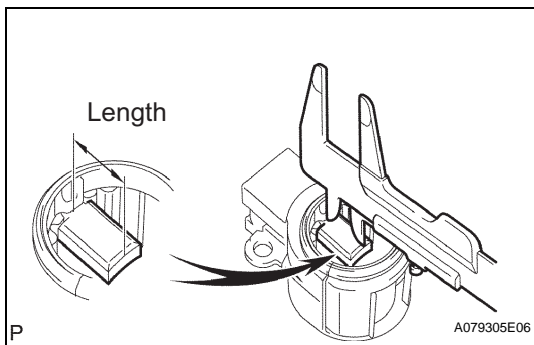


- (b) Using SST, remove the generator coil.
SST 09950-40011 (09951-04020, 09952-04010, 09953-04020, 09954-04010, 09955-04071, 09957-04010, 09958-04011)



6. REMOVE GENERATOR ROTOR ASSEMBLY

- (a) Remove the generator washer and the generator rotor.



INSPECTION

1. INSPECT GENERATOR BRUSH HOLDER ASSEMBLY

- (a) Check the brush length. (100A Generator)
 (1) Using vernier calipers, measure the exposed brush length.

**Standard exposed brush length:
 10.5 mm (0.413 in.)**

**Minimum exposed brush length:
 4.5 mm (0.177 in.)**

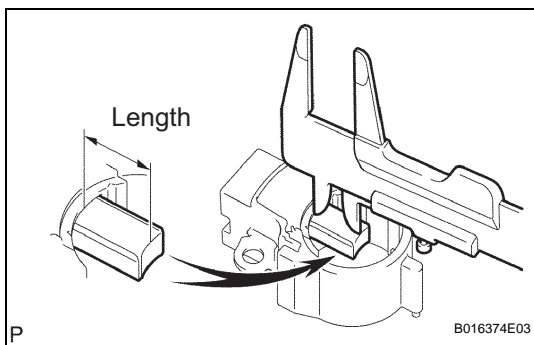
If the exposed brush length is less than minimum, replace the generator brush holder.

- (b) Check the brush length. (130A Generator)
 (1) Using vernier calipers, measure the exposed brush length.

**Standard exposed brush length:
 10.5 mm (0.413 in.)**

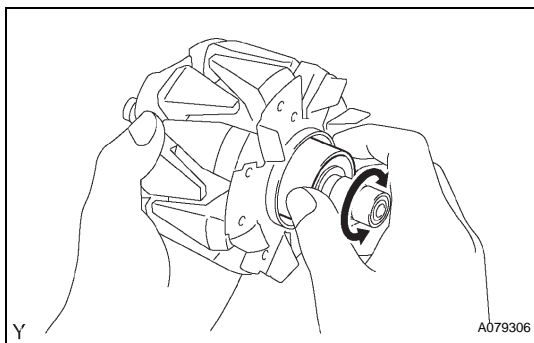
**Minimum exposed brush length:
 4.5 mm (0.177 in.)**

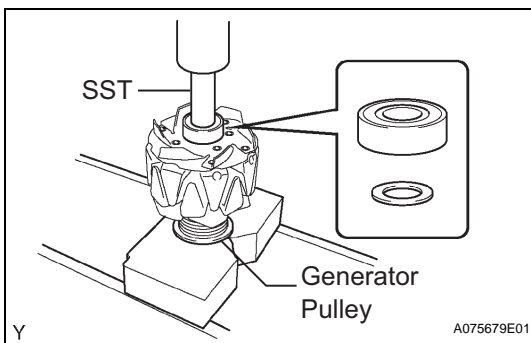
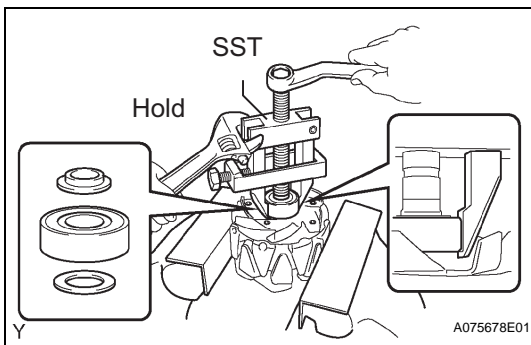
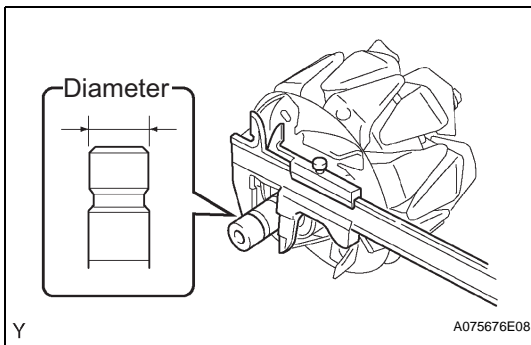
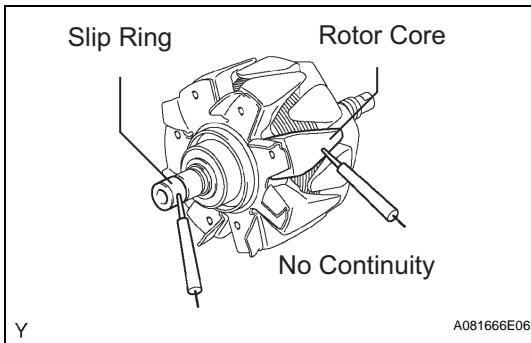
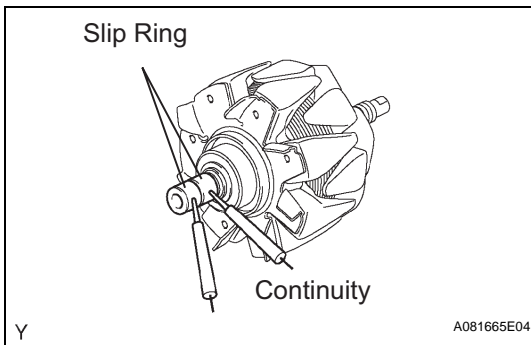
If the exposed brush length is less than minimum, replace the generator brush holder.



2. INSPECT GENERATOR ROTOR ASSEMBLY

- (a) Check that bearing is not rough or worn.
 If necessary, replace the generator rotor. (100A Generator)
 If necessary, replace the generator rotor bearing. (130A Generator)





- (b) Check if the rotor has open circuit.
- (1) Using an ohmmeter, measure the resistance between the slip ring.
- Resistance:**
2.3 to 2.7Ω at 20°C (68°F) for 100A Generator
1.5 to 1.9Ω at 20°C (68°F) for 130A Generator
- If the resistance is not as specified, replace the generator rotor.

- (c) Check if the rotor has ground.
- (1) Using an ohmmeter, check that there is no continuity between the slip ring and rotor core. If there is continuity, replace the generator rotor.
- (d) Inspect slip rings.
- (1) Check that the slip rings are not rough or scored. If rough or scored, replace the generator rotor.

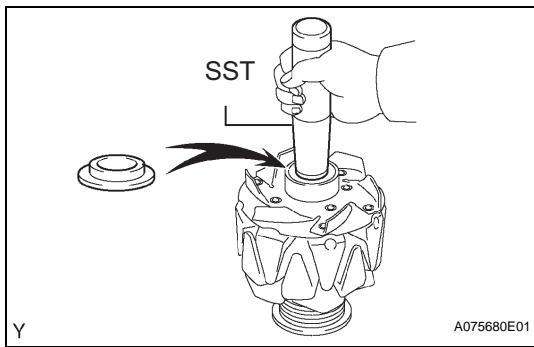
- (e) Check the slip ring diameter.
- (1) Using vernier calipers, measure the slip ring diameter.
- Standard diameter:**
14.2 to 14.4 mm (0.559 to 0.567 in.)
Minimum diameter:
14.0 mm (0.551 in.)
- If the diameter is less than minimum, replace the generator rotor.

3. REMOVE GENERATOR ROTOR BEARING

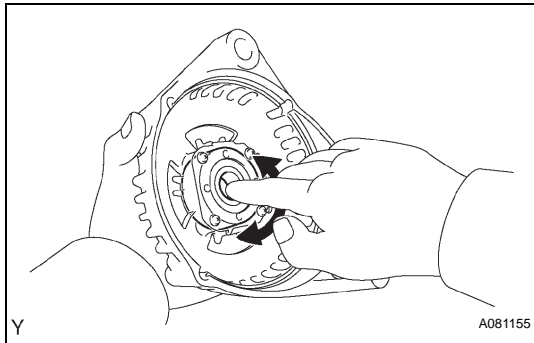
- (a) 130A generator
- (1) Using SST, remove the generator bearing cover (outside) and bearing.
- SST 09820-00021**
- NOTICE:**
Be careful not to damage the fan.
- (2) Remove the generator bearing cover (inside).

4. INSTALL GENERATOR ROTOR BEARING

- (a) 130A generator
- (1) Place the generator rotor on the generator pulley.
 - (2) Install the generator bearing cover (inside).
 - (3) Using SST and a press, press in a new bearing.
- SST 09820-00031**

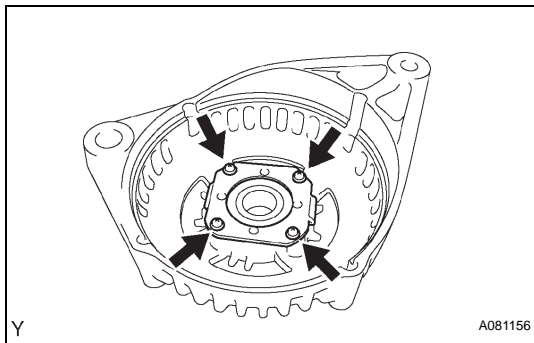


- (4) Using SST, push in the generator bearing cover (outside).
SST 09285-76010



5. INSPECT GENERATOR DRIVE END FRAME BEARING

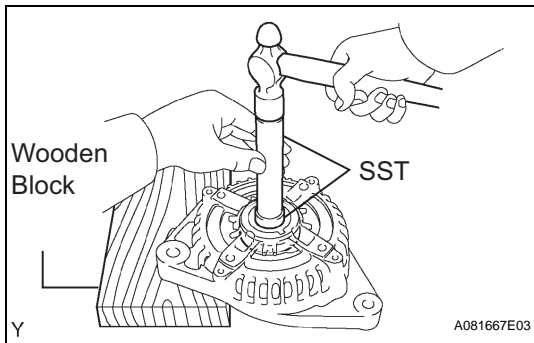
- (a) Check that bearing is not rough or worn.
 If necessary, replace the bearing.



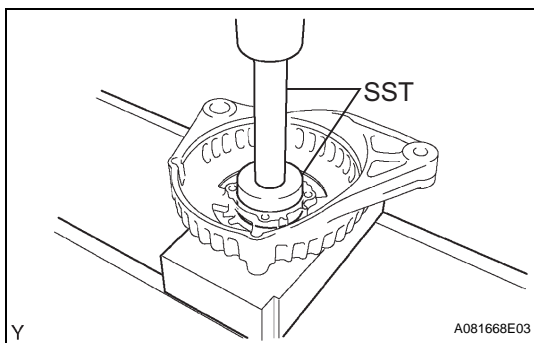
REASSEMBLY

1. REMOVE GENERATOR DRIVE END FRAME BEARING

- (a) Remove the 4 screws, and remove the retainer plate.

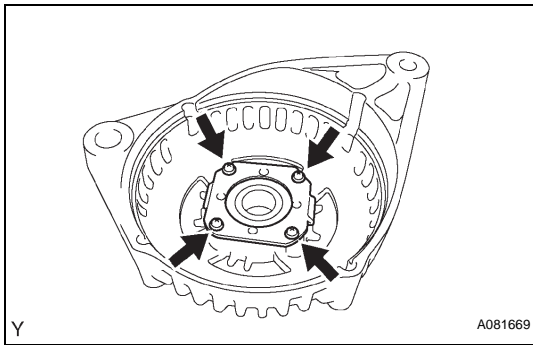


- (b) Using SST, tap out the bearing.
SST 09950-60010 (09951-00250), 09950-70010 (09951-07100)

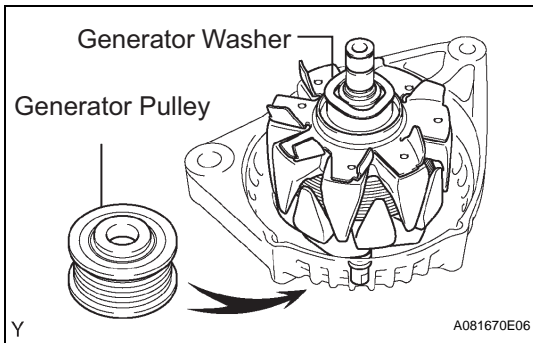


2. INSTALL GENERATOR DRIVE END FRAME BEARING

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

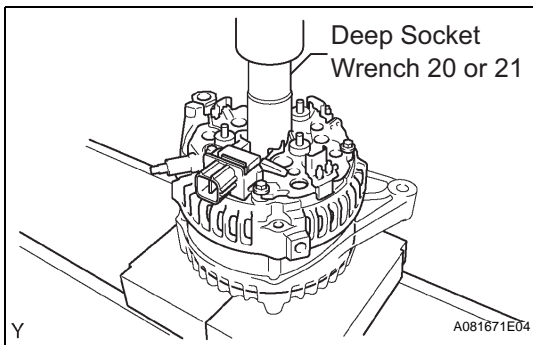


- (b) Install the retainer plate with the 4 screws.
Torque: 2.3 N*m (23 kgf*cm, 20 in.*lbf)
SST 09950-60010 (09951-00470), 09950-70010 (09951-07100)



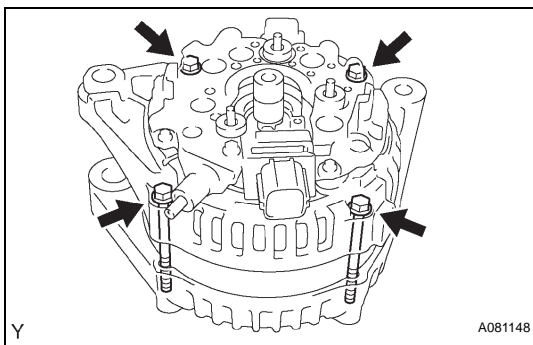
3. INSTALL GENERATOR ROTOR ASSEMBLY

- (a) Place the generator drive end frame on the generator pulley.
 (b) Install the generator rotor and the generator washer.

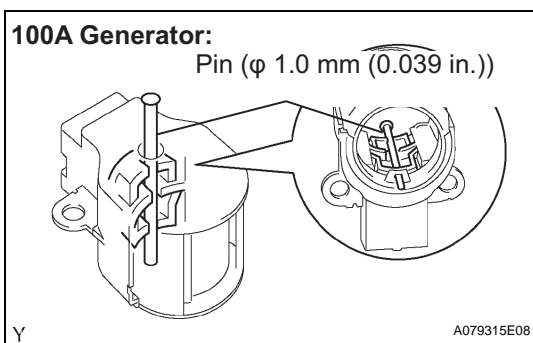


4. INSTALL GENERATOR COIL ASSEMBLY

- (a) 100A Generator
 (1) Using deep socket wrench 21 and a press, press in the coil carefully.
 (b) 130A Generator
 (1) Using deep socket wrench 20 and a press, press in the coil carefully.



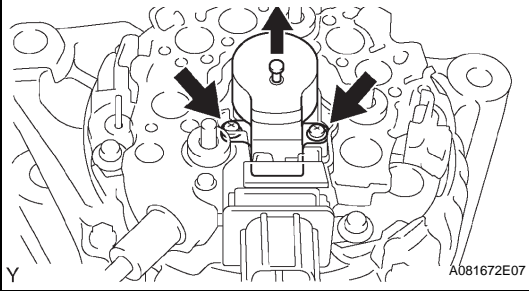
- (c) Tighten the 4 bolts.
Torque: 5.8 N*m (59 kgf*cm, 51 in.*lbf)



5. INSTALL GENERATOR BRUSH HOLDER ASSEMBLY

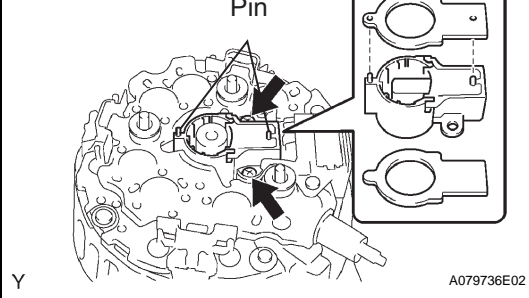
- (a) 100A Generator
 (1) While pushing the 2 brushes to inside the brush holder, insert a pin (φ1.0 mm (0.039 in.)) into the brush holder hole.

100A Generator: Pin (ϕ 1.0 mm (0.039 in.))

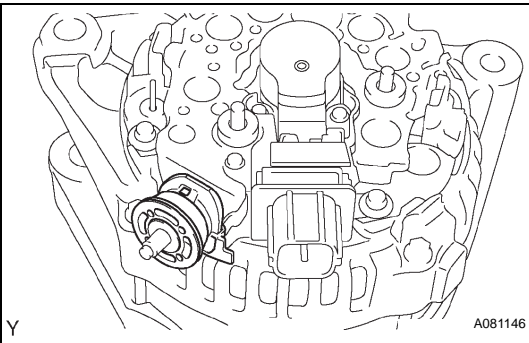


- (2) Install the generator brush holder with the 2 screws.
Torque: 1.8 N*m (18 kgf*cm, 16 in.*lbf)
- (3) Pull out the pin (ϕ 1.0 mm (0.039 in.)) from the generator brush holder.

130A Generator:

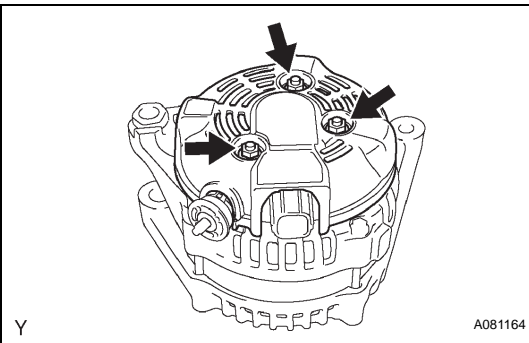


- (b) 130A Generator
 - (1) Install the generator plate seal (inside).
 - (2) Place the generator brush holder with the pin facing upward.
NOTICE:
Be careful of the generator brush holder installing direction.
 - (3) Tighten the 2 screws.
Torque: 1.8 N*m (18 kgf*cm, 16 in.*lbf)
 - (4) Align the pins of the generator brush holder with the holes of the generator plate seal (outside), and install the generator plate seal (outside).



6. INSTALL TERMINAL INSULATOR

- (a) Install the terminal insulator.
NOTICE:
Pay attention the mounting orientation of the terminal insulator.



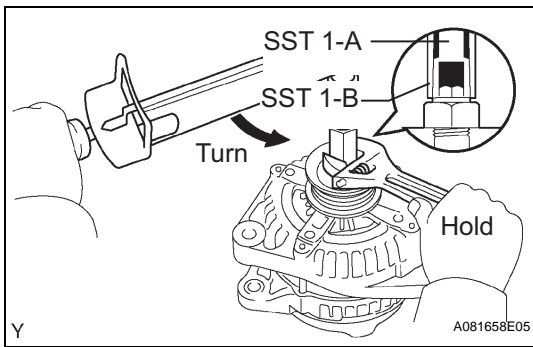
7. INSTALL GENERATOR REAR END COVER

- (a) Install the generator rear end cover with the 3 nuts.
Torque: 4.6 N*m (47 kgf*cm, 41 in.*lbf)

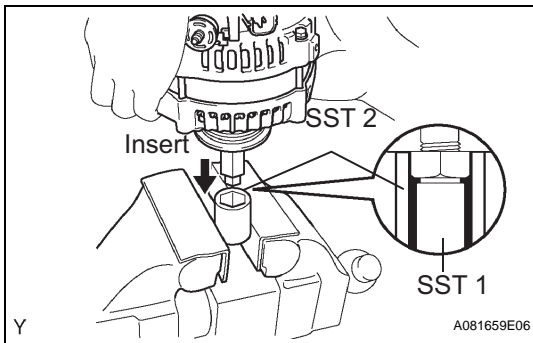
8. INSTALL GENERATOR PULLEY

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

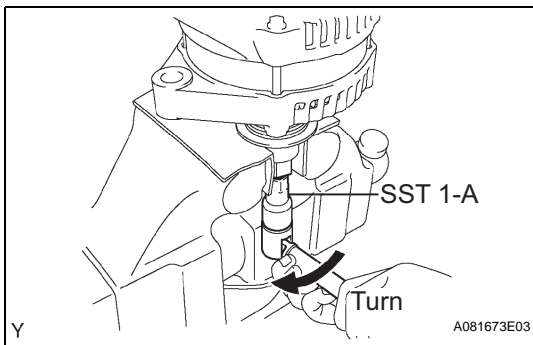
SST 1-A and B	09820-06010
SST 2	09820-06020



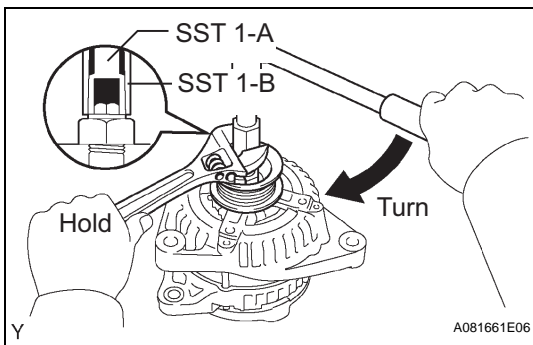
- (a) Install the generator pulley to the rotor shaft by tightening the generator pulley nut by hand.
- (b) Hold SST 1-A with a torque wrench, and tighten SST 1-B clockwise with the specified torque.
Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)
NOTICE:
Check that SST is secured to the rotor shaft.



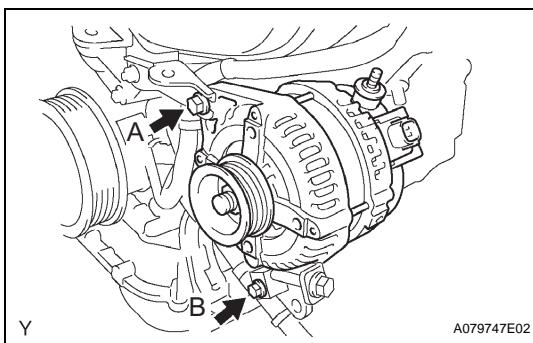
- (c) Clamp SST 2 in a vise.
- (d) Insert SST 1-A and B into SST 2, and attach the generator pulley nut to SST 2



- (e) Tighten the generator pulley nut by turning SST 1-A in the direction shown in the illustration.
Torque: 111 N*m (1,125 kgf*cm, 81 ft.*lbf)
- (f) Remove the generator from SST 2.



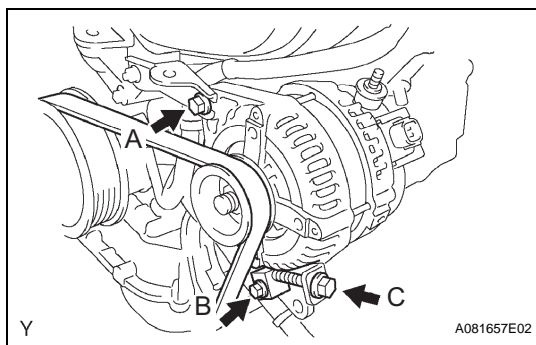
- (g) Turn SST 1-B, and remove SST 1-A, B.
- (h) Turn the generator pulley, and check that the generator pulley moves smoothly.



INSTALLATION

1. INSTALL GENERATOR ASSEMBLY

- (a) Temporarily install the generator with bolts A and B.



- (b) Adjust the V belt No. 1 tension by tightening bolt C
(See page [EM-1](#)).
- (c) Tighten bolts A and B
Torque: Bolt A
58 N*m (592 kgf*cm, 43 ft.*lbf)
Bolt B
18 N*m (184 kgf*cm, 13 ft.*lbf)
- (d) Install the generator wire with the nut.
Torque: 9.8 N*m (100 kgf*cm, 7 ft.*lbf)
- (e) Connect the generator connector.
- (f) Install the wire harness clamp.

2. INSPECT DRIVE BELT (See page [EM-1](#))