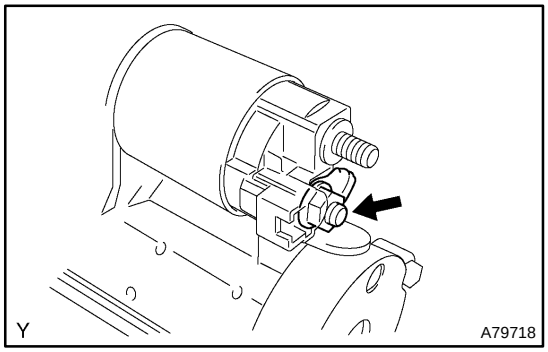
STARTING SYSTEM (3MZ-FE)

190SE-01

INSPECTION



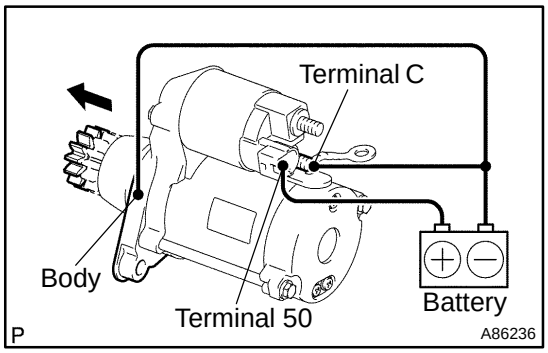
1. INSPECT STARTER ASSY

NOTICE:

These tests must be performed within 3 to 5 seconds to prevent burnout of the coil.

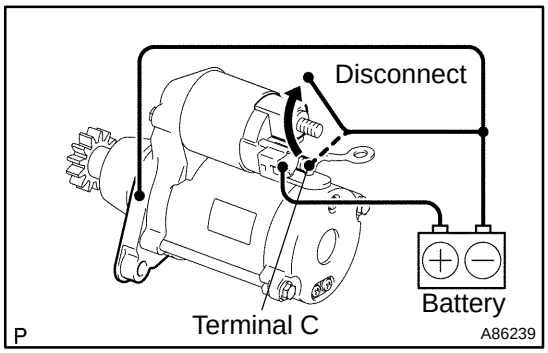
(a) Perform the pull-in test.

(1) Remove the nut, then disconnect the lead wire from terminal C.



(2) Connect the battery to the repair service starter kit as shown in the illustration. Check that the clutch pinion gear is extended.

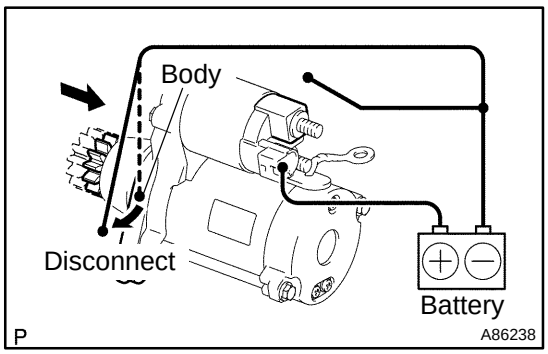
If the clutch pinion gear does not move, replace the starter magnetic switch.



(b) Perform the hold-in test.

(1) Disconnect the negative (-) lead from terminal C with the lead wire disconnected from terminal C. Check that the clutch pinion gear remains extended.

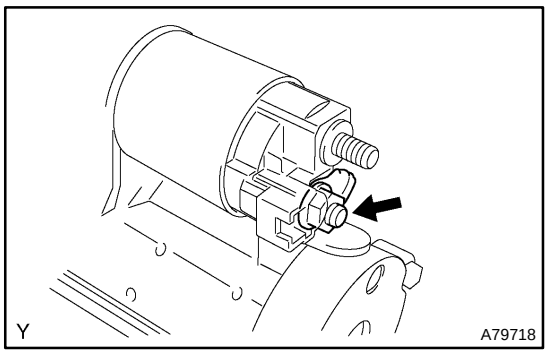
If the clutch pinion gear returns inward, replace the starter magnetic switch.



(c) Check the operation.

(1) Disconnect the negative (-) lead from the switch body. Check that the clutch pinion gear returns.

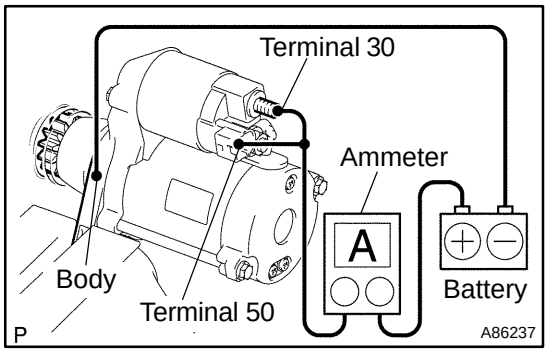
If the clutch pinion gear does not return inward, replace the starter magnetic switch.



(d) Perform the no-load performance test.

(1) Connect the lead wire to terminal C. Make sure that the lead is not grounded.

Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)



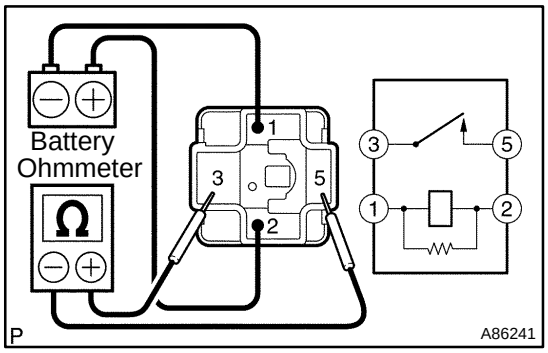
(2) Clamp the starter in a vise.

(3) Connect the battery and an ammeter to the starter as shown in the illustration.

(4) Check that the starter rotates smoothly and steadily with the clutch pinion gear extended. Check that the ammeter reads the specified current.

Specified current: 90 A or less at 11.5 V

If the current is not as specified, replace the starter.



2. INSPECT STARTER RELAY ASSY

(a) Inspect the resistance.

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

Standard:

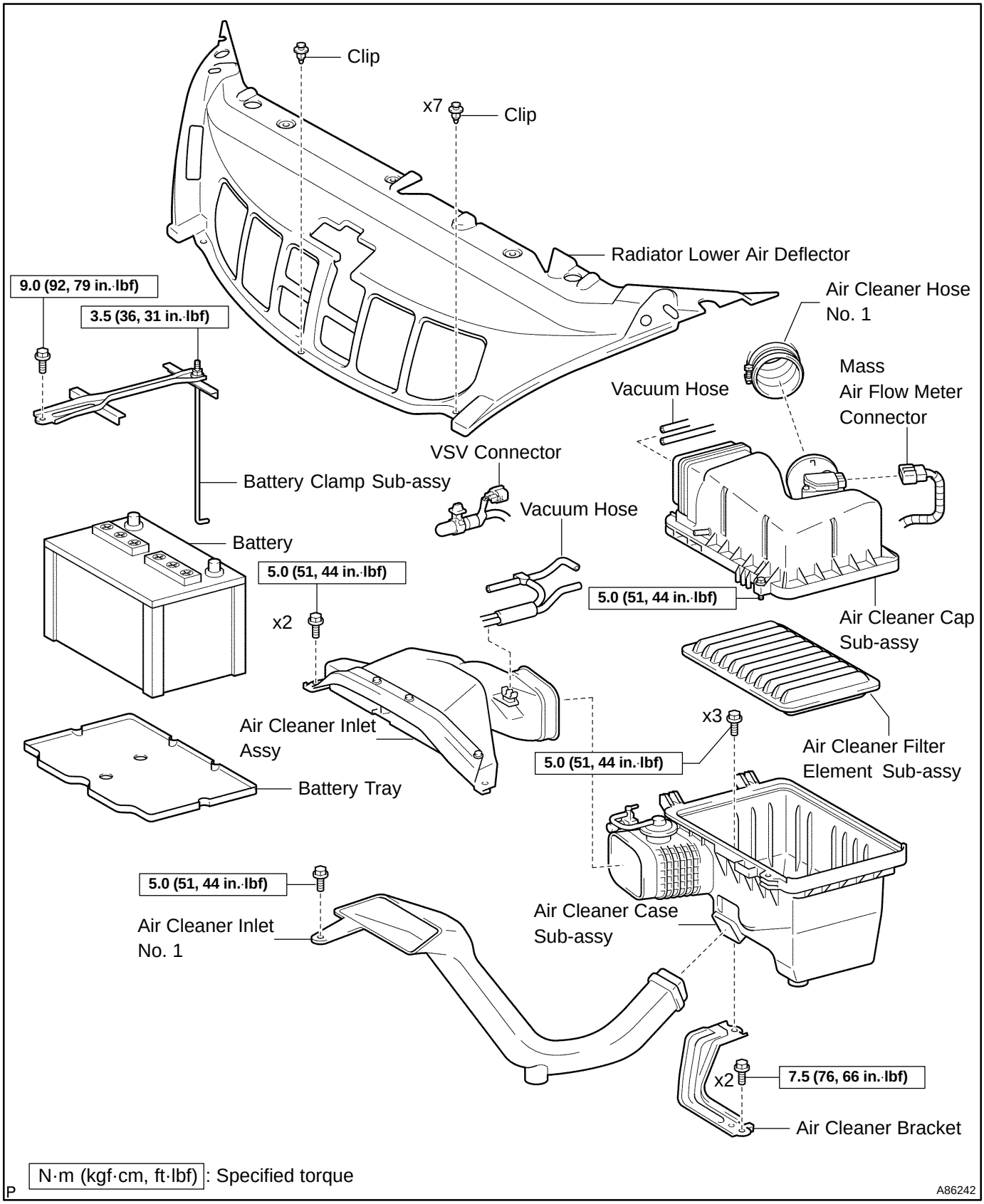
Tester Connection	Specified Condition
3 - 5	10 kΩ or higher
3 - 5	Below 1Ω (Apply battery voltage to terminals 1 and 2

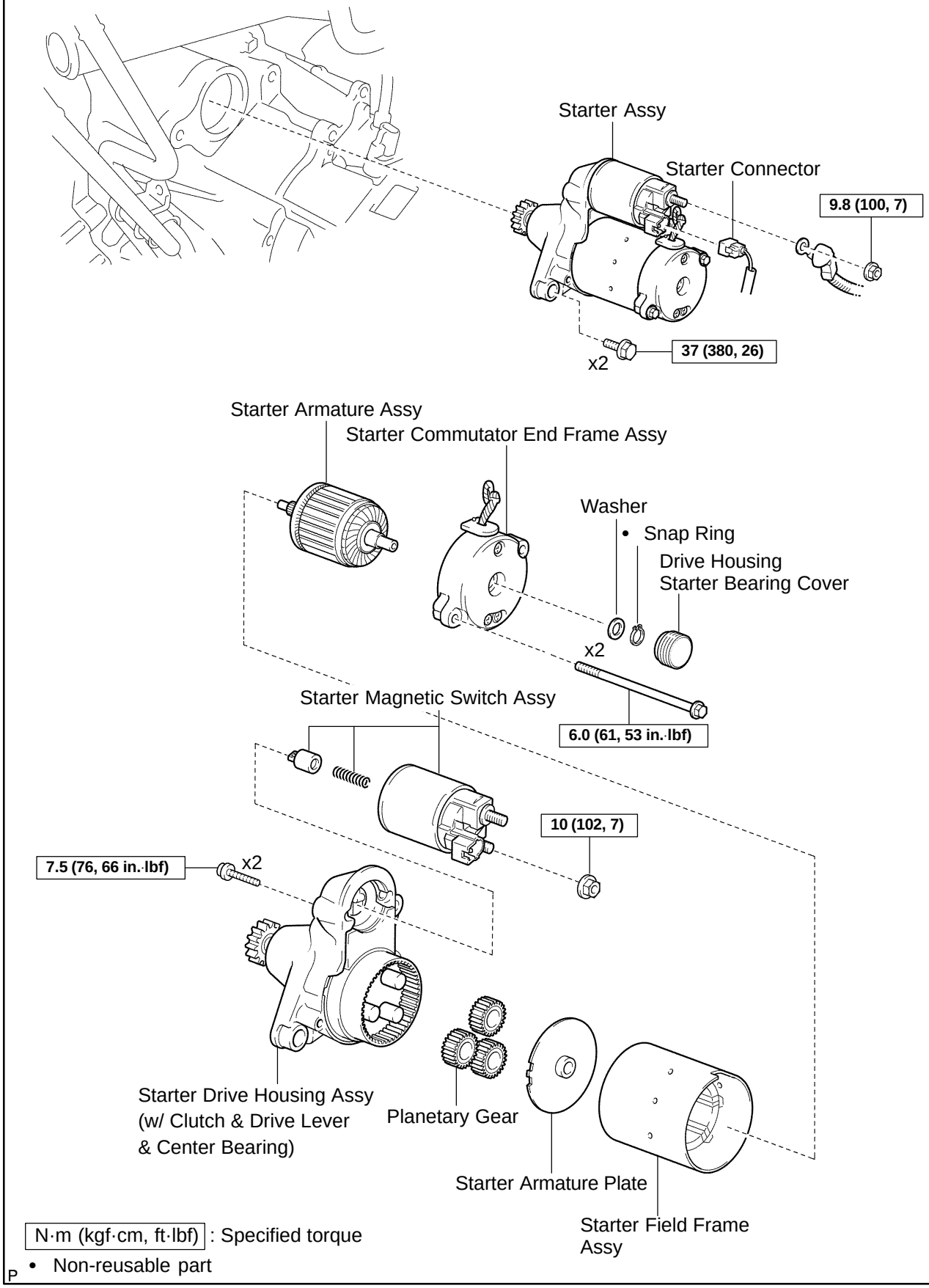
If the result is not as specified, replace the starter relay.

STARTER ASSY (3MZ-FE)

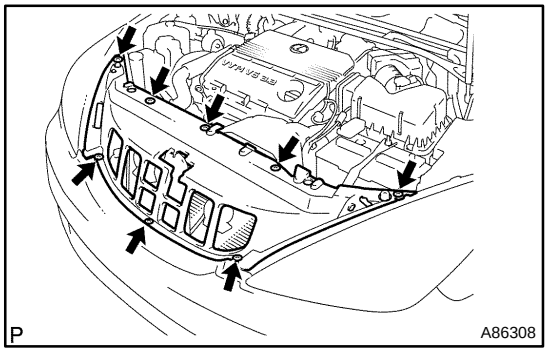
COMPONENTS

190SF-01



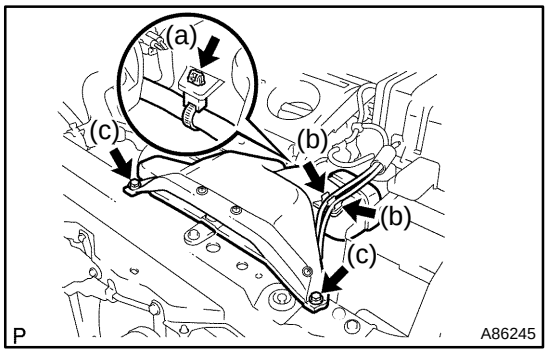

Starter Assy
Starter Connector
9.8 (100, 7)
37 (380, 26)
x2
Starter Armature Assy
Starter Commutator End Frame Assy
Washer
• Snap Ring
Drive Housing
Starter Bearing Cover
x2
Starter Magnetic Switch Assy
6.0 (61, 53 in.·lbf)
10 (102, 7)
7.5 (76, 66 in.·lbf)
x2
Starter Drive Housing Assy
(w/ Clutch & Drive Lever
& Center Bearing)
Planetary Gear
Starter Armature Plate
Starter Field Frame
Assy
N·m (kgf·cm, ft·lbf) : Specified torque
• Non-reusable part
P
A86243

REPLACEMENT



1. REMOVE RADIATOR SIDE DEFLECTOR RH

(a) Remove the 8 clips, then remove the radiator lower air deflector.

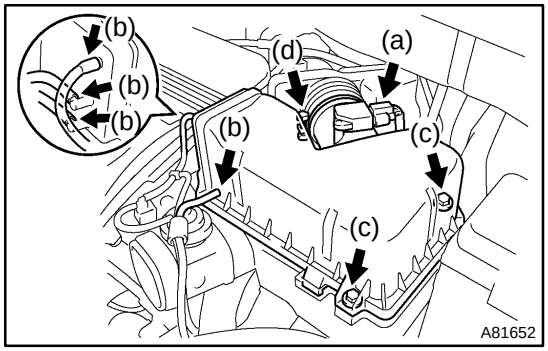


2. REMOVE AIR CLEANER INLET ASSY

(a) Remove the wire harness clamp.
(b) Remove the 2 vacuum hoses from the hose clamp.
(c) Remove the 2 bolts, then remove the air cleaner inlet.

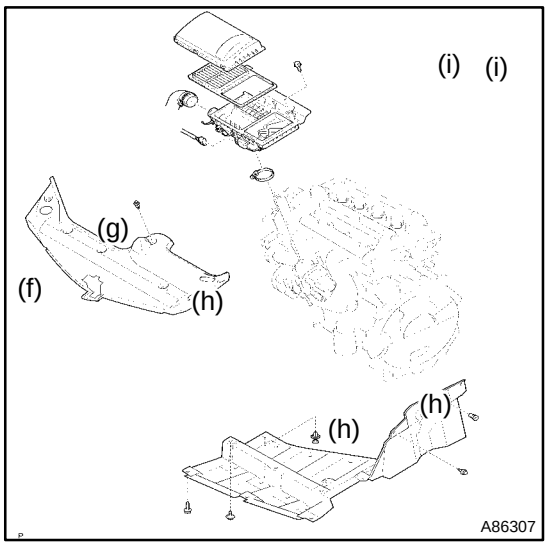
3. REMOVE BATTERY

4. REMOVE BATTERY TRAY

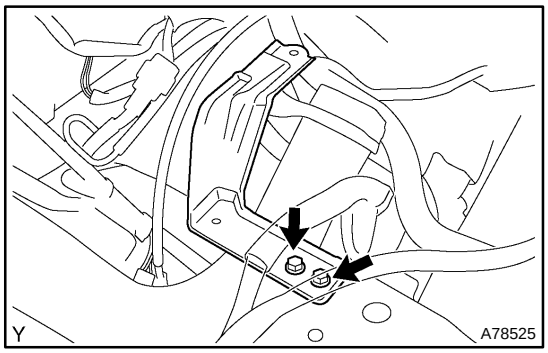


5. REMOVE AIR CLEANER ASSY

(a) Disconnect the mass air flow meter connector.
(b) Disconnect the 4 vacuum hoses.
(c) Loosen the 2 air cleaner cap bolts.
(d) Loosen the air cleaner hose clamp bolt, then remove the air cleaner cap.
(e) Remove the air cleaner filter element.

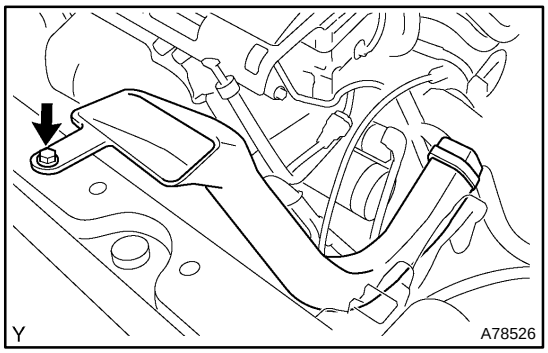


(f) Disconnect the VSV connector.
(g) Disconnect the vacuum hose.
(h) Remove the 3 bolts.
(i) Remove the wire harness from the 2 wire harness clamps, then remove the air cleaner case.



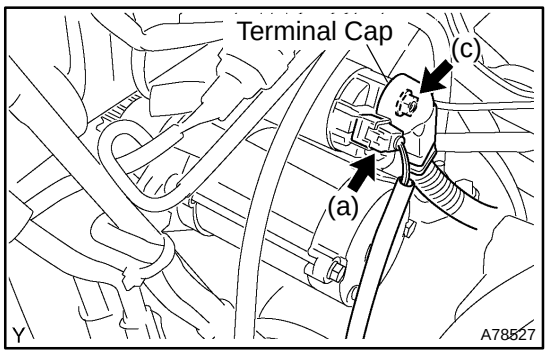
6. REMOVE AIR CLEANER BRACKET

(a) Remove the 2 bolts, then remove the air cleaner bracket.



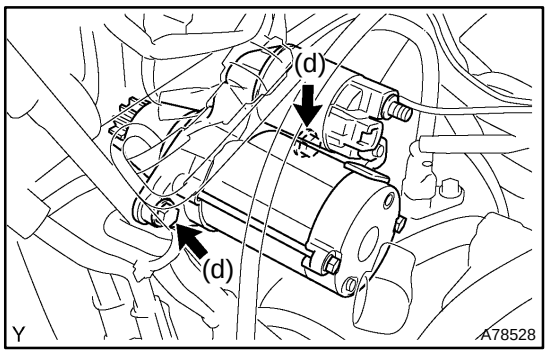
7. REMOVE AIR CLEANER INLET NO.1

(a) Remove the bolt, then remove the air cleaner inlet No. 1.



8. REMOVE STARTER ASSY

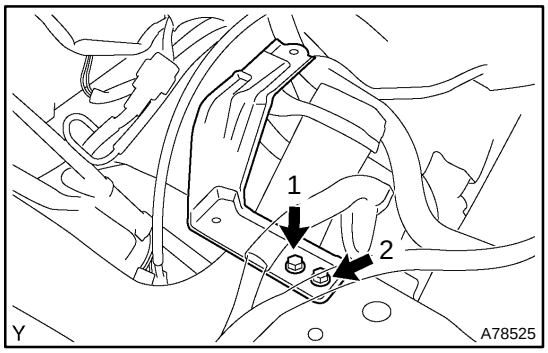
(a) Disconnect the starter connector.
(b) Open the terminal cap.
(c) Remove the nut, then disconnect the starter wire.



(d) Remove the 2 bolts, then remove the starter.

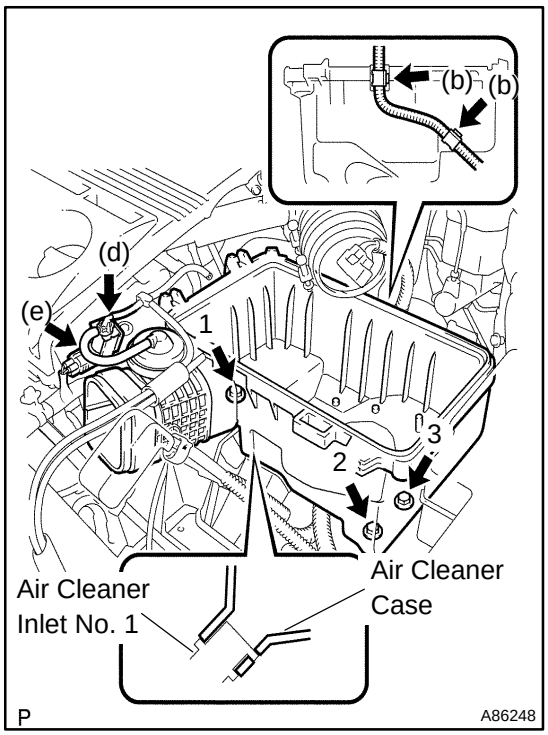
9. INSTALL STARTER ASSY
Torque:
37 N·m (380 kgf·cm, 26 ft·lbf) for bolt
9.8 N·m (100 kgf·cm, 7 ft·lbf) for nut

10. INSTALL AIR CLEANER INLET NO.1
Torque: 5.0 N·m (51 kgf·cm, 44 in.·lbf)



11. INSTALL AIR CLEANER BRACKET

(a) Install the air cleaner bracket with the 2 bolts. Using several steps, tighten the bolts uniformly in the sequence shown in the illustration.
Torque: 7.5 N·m (76 kgf·cm, 66 in.·lbf)



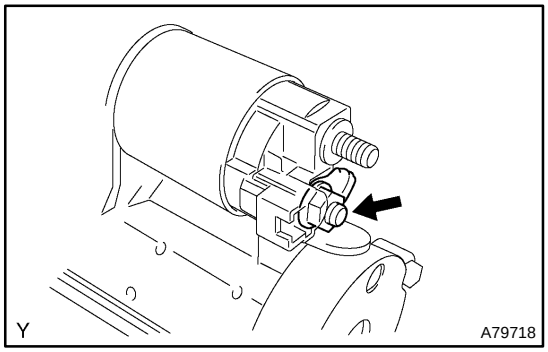
12. INSTALL AIR CLEANER ASSY

(a) Install the air cleaner case to the air cleaner inlet No. 1 as shown in the illustration.
(b) Install the wire harness to the 2 wire harness clamps.
(c) Using several steps, tighten the 3 bolts uniformly in the sequence shown in the illustration.
Torque: 5.0 N·m (51 kgf·cm, 44 in.·lbf)
(d) Connect the vacuum hose.
(e) Connect the VSV connector.
(f) Install the air cleaner filter element.
(g) Install the air cleaner cap, then tighten the air cleaner hose clamp bolt.
(h) Tighten the 2 air cleaner cap bolts.
Torque: 5.0 N·m (51 kgf·cm, 44 in.·lbf)
(i) Connect the 4 vacuum hoses.
(j) Connect the mass air flow meter connector.

13. INSTALL BATTERY TRAY
14. INSTALL BATTERY
Torque:
9.0 N·m (92 kgf·cm, 79 in.·lbf) for bolt
3.5 N·m (36 kgf·cm, 31 in.·lbf) for nut
5.4 N·m (55 kgf·cm, 48 in.·lbf) for terminal
15. INSTALL AIR CLEANER INLET ASSY
Torque: 5.0 N·m (55 kgf·cm, 44 in.·lbf)
16. CHECK CONNECTION OF VACUUM HOSE (See page 14-29)
17. INSTALL RADIATOR SIDE DEFLECTOR RH
18. SYSTEM INITIALIZATION (See page 19-15)

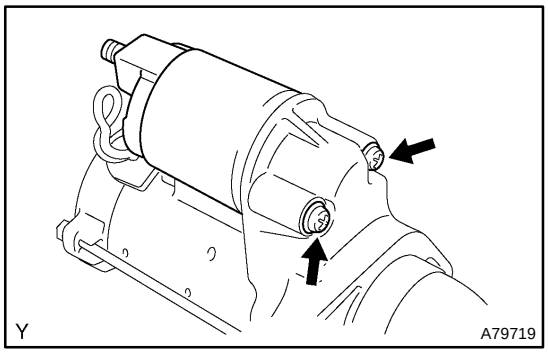
190SH-01

OVERHAUL



1. REMOVE STARTER MAGNETIC SWITCH ASSY

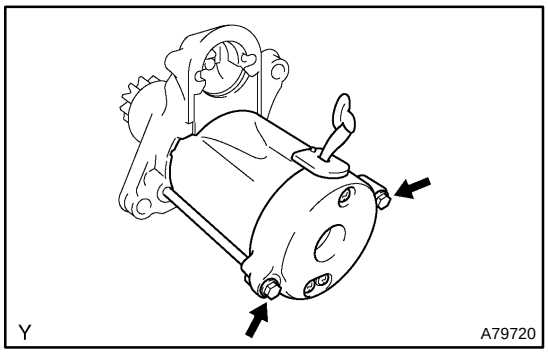
(a) Remove the nut, then disconnect the lead wire from terminal C.



(b) Remove the 2 screws which secure the starter magnetic switch to the starter drive housing.

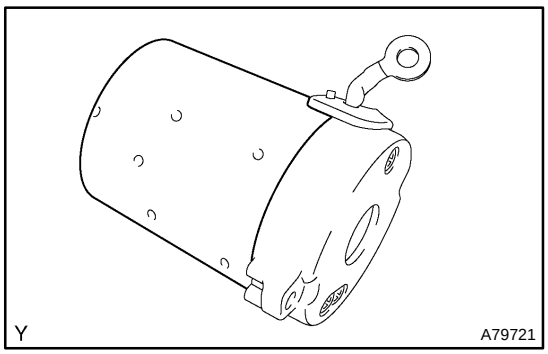
(c) Remove the starter magnetic switch.

(d) Remove the return spring and plunger from the starter drive housing.

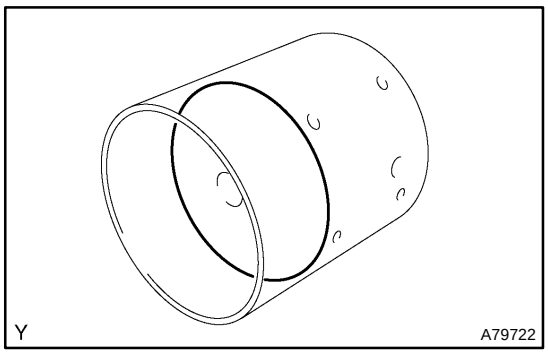


2. REMOVE STARTER FIELD FRAME ASSY

(a) Remove the 2 through bolts, then pull out the field frame together with the starter commutator end frame.

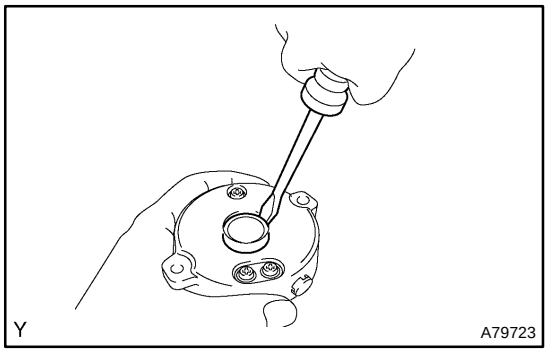


(b) Remove the starter field frame from the starter commutator end frame.



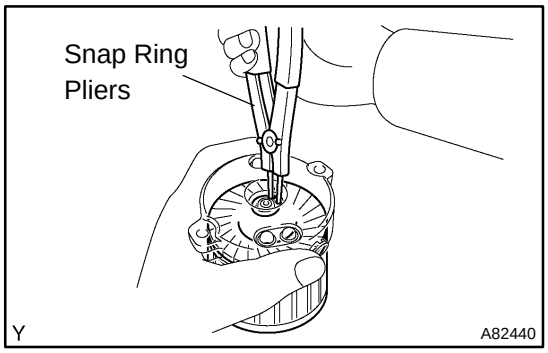
3. REMOVE STARTER ARMATURE PLATE

(a) Remove the starter armature plate from the starter field frame.



4. REMOVE STARTER COMMUTATOR END FRAME COVER

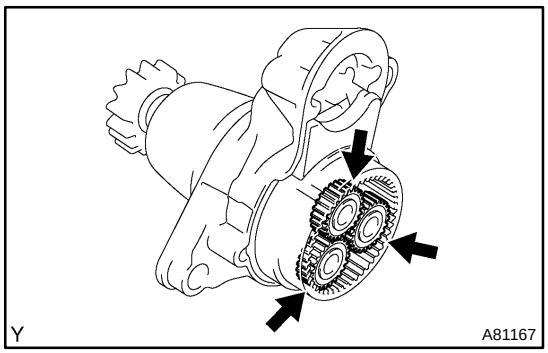
(a) Using a screwdriver, remove the starter commutator end frame cover.



5. REMOVE STARTER ARMATURE ASSY

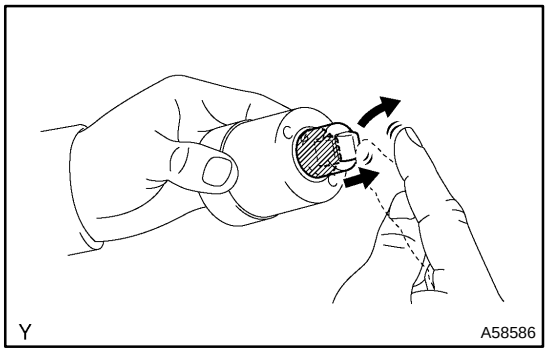
(a) Using snap ring pliers, remove the snap ring and plate washer.

(b) Remove the starter armature from the commutator end frame.



6. REMOVE PLANETARY GEAR

(a) Remove the 3 planetary gears from the starter drive housing.

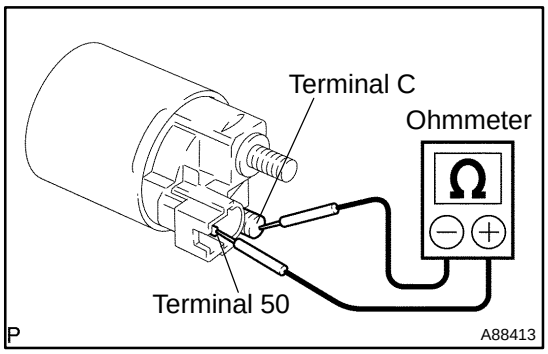


7. INSPECT STARTER MAGNETIC SWITCH ASSY

(a) Check the operation.

(1) Push in the plunger, then check that it returns quickly to its original position.

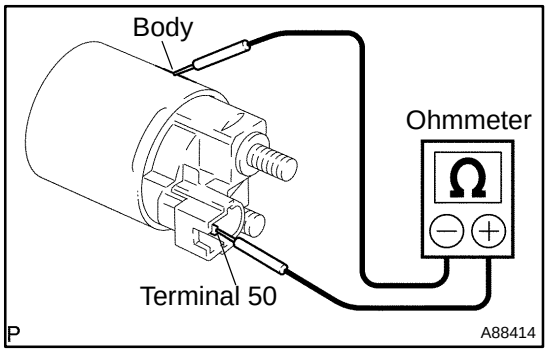
If necessary, replace the starter magnetic switch.



(b) Check the continuity.

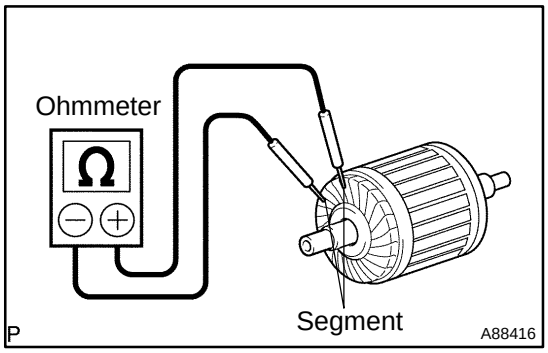
(1) Using an ohmmeter, check that there is continuity between terminals 50 and C.

If there is no continuity, replace the starter magnetic switch.



(2) Using an ohmmeter, check that there is continuity between terminal 50 and the body.

If there is no continuity, replace the starter magnetic switch.

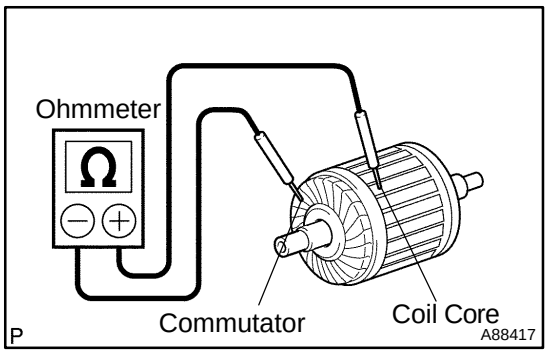


8. INSPECT STARTER ARMATURE ASSY

(a) Check the continuity.

(1) Using an ohmmeter, check that there is continuity between the segments of the commutator.

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



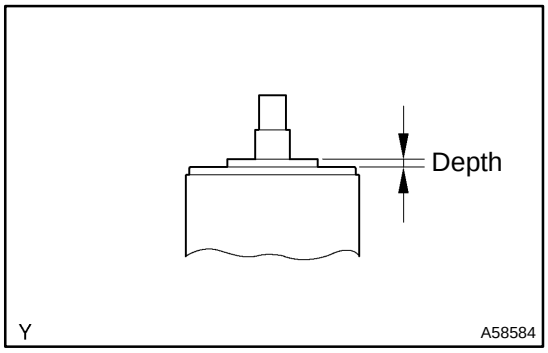
(2) Using an ohmmeter, check that there is no continuity between the commutator and armature coil core.

If there is continuity, replace the starter armature.

(b) Check the appearance.

(1) Check the commutator surface for dirt or burn.

If the surface is dirty or burnt, smooth the surface with 400-grit sandpaper or a lathe.



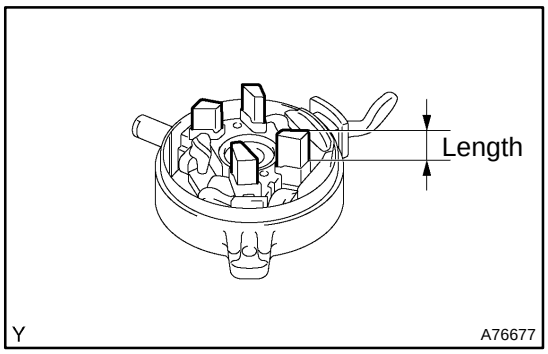
(c) Inspect the depth.

(1) Using vernier calipers, measure the commutator depth.

Standard depth: 3.1 mm (0.122 in.)

Maximum depth: 3.8 mm (0.150 in.)

If the depth is greater than maximum, replace the starter armature.



9. INSPECT STARTER COMMUTATOR END FRAME ASSY

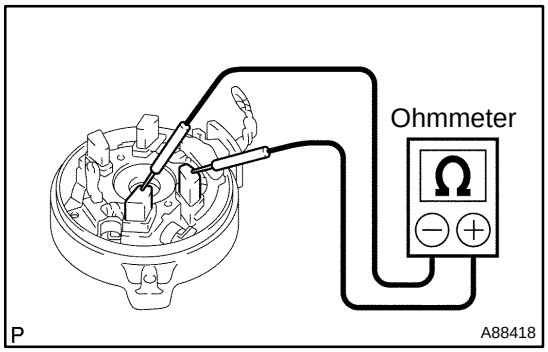
(a) Inspect the length.

(1) Using vernier calipers, measure the brush length.

Standard length: 9.0 mm (0.354 in.)

Minimum length: 4.0 mm (0.158 in.)

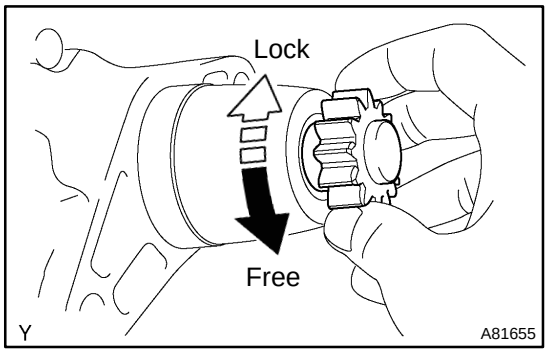
If the length is less than minimum, replace the starter commutator end frame.



(b) Check the continuity.

(1) Using an ohmmeter, check that there is no continuity between the positive (+) and negative (-) brushes.

If there is continuity, repair or replace the starter commutator end frame.

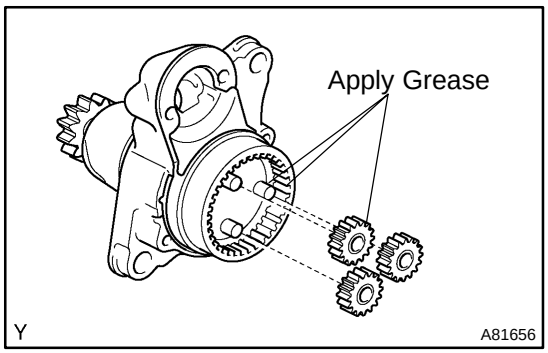


10. INSPECT STARTER DRIVE HOUSING ASSY (W/ CLUTCH & DRIVE LEVER & CENTER BEARING)

(a) Check the operation.

(1) Rotate the clutch pinion gear counterclockwise, then check that it turns freely. Try to rotate the clutch pinion gear clockwise and check that it locks.

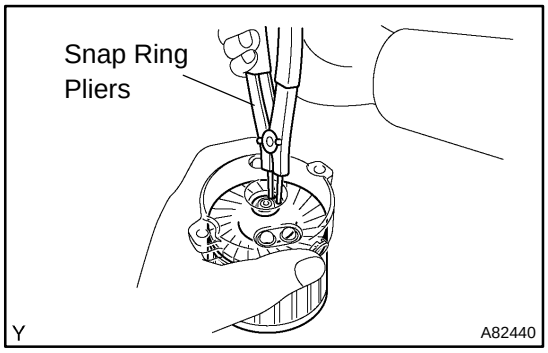
If necessary, replace the starter drive housing.



11. INSTALL PLANETARY GEAR

(a) Apply grease to the planetary gears and pin parts of the planetary shaft.

(b) Install the 3 planetary gears to the starter drive housing.

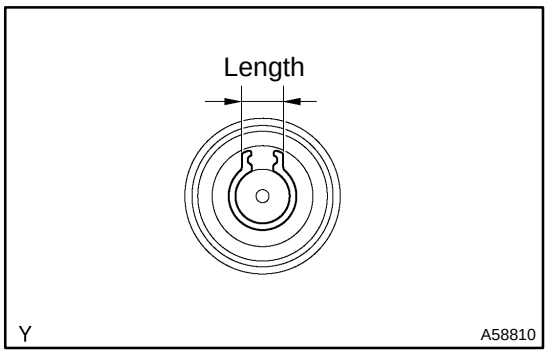


12. INSTALL STARTER ARMATURE ASSY

(a) Apply grease to the plate washer and armature shaft.

(b) Install the starter armature to the starter commutator end frame.

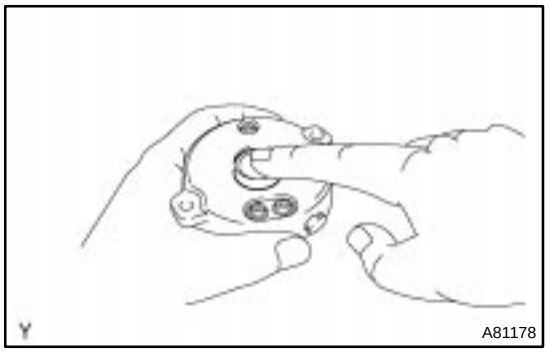
(c) Using snap ring pliers, install the plate washer and a new snap ring.



(d) Inspect the length.
(1) Using vernier calipers, measure the snap ring length.

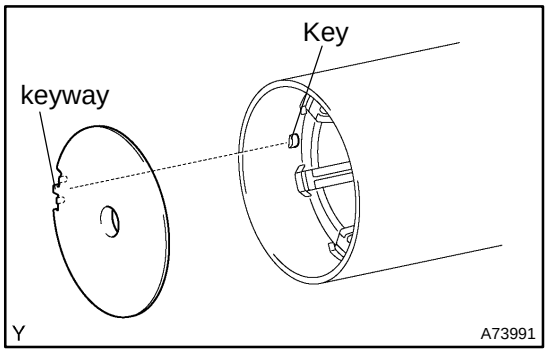
Maximum length: 5.0 mm (0.197 in.)

If the length is greater than maximum, replace it with a new snap ring.



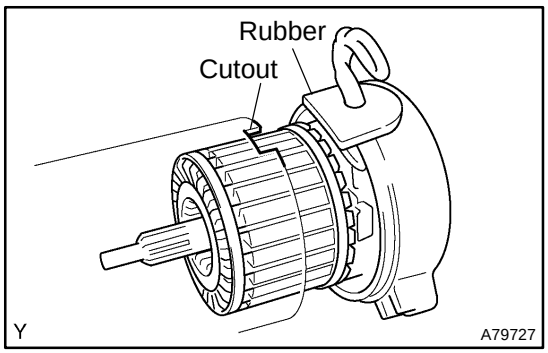
13. INSTALL STARTER COMMUTATOR END FRAME COVER

(a) Install the starter commutator end frame cover to the starter commutator end frame.



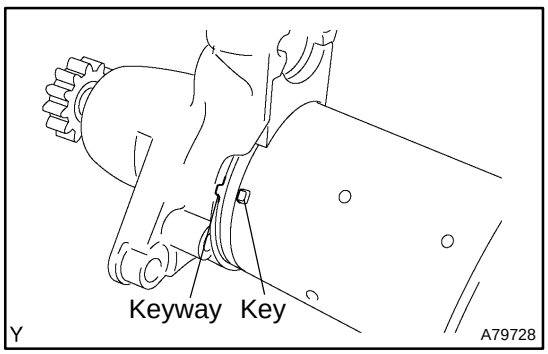
14. INSTALL STARTER ARMATURE PLATE

(a) Insert the starter armature plate to the starter field frame.
(b) Align the keyway of the starter plate with the key inside the starter yoke, then install the starter plate.



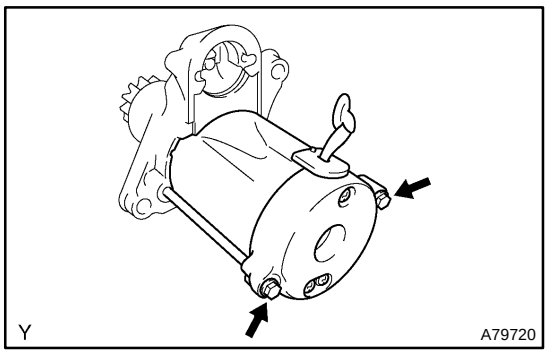
15. INSTALL STARTER COMMUTATOR END FRAME ASSY

(a) Align the rubber with the cutout of the starter field frame.
(b) Install the starter commutator end frame to the starter field frame.

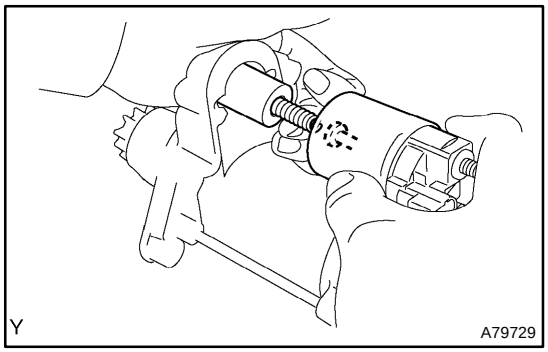


16. INSTALL STARTER FIELD FRAME ASSY

(a) Align the key of the starter field frame with the keyway of the starter drive housing.



(b) Install the starter field frame with the 2 through bolts.
Torque: 6.0 N·m (61 kgf·cm, 53 in.·lbf)

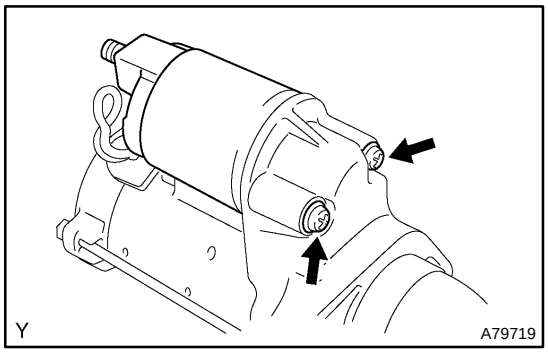


17. INSTALL STARTER MAGNETIC SWITCH ASSY

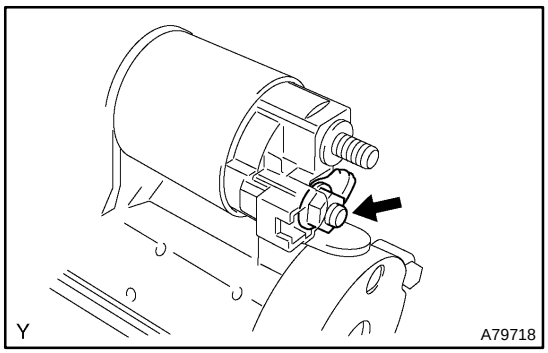
(a) Apply grease to the plunger and hook.

(b) Hook the plunger hook of the starter magnetic switch on the drive lever.

(c) Install the plunger and return spring.



(d) Install the starter magnetic switch with the 2 screws.
Torque: 7.5 N·m (76 kgf·cm, 66 in.·lbf)



(e) Connect the lead wire to terminal C with the nut.
Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)

CHARGING SYSTEM (3MZ-FE)

190SI-01

PRECAUTION

1. SYSTEM INITIALIZATION

NOTICE:

When disconnecting the negative (-) battery terminal, initialize the following systems after the terminal is reconnected.

System Name	See Page
Power Window Control System	05-1470
Sliding Roof System	74-8

2. Check that the battery cables are connected to the correct terminals.

3. Disconnect the battery cables if a quick charge is given to the battery.

4. Do not perform tests with a high voltage insulation resistance tester.

5. Never disconnect the battery while the engine is running.

6. Check that the charging cable is tightened on terminal B of the generator and the fuse box.

7. Do not check whether the alternator generates current or not with terminal F connected to the other terminals.

190SJ-01

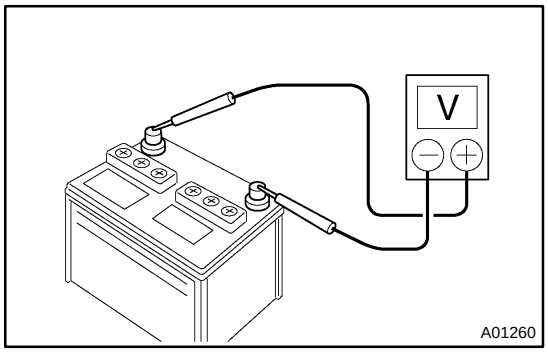
ON-VEHICLE INSPECTION

1. INSPECT BATTERY (MAINTENANCE- FREE BATTERY)

(a) Check the battery electrolyte level.

(1) Check the electrolyte quantity of each cell.

If the electrolyte quantity is below the recommended amount, replace the battery.



(b) Check the battery voltage.

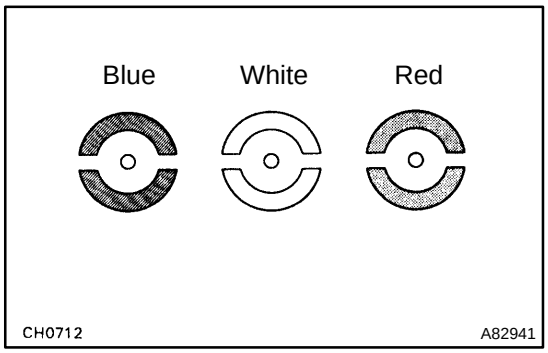
(1) If it has been less than 20 minutes since you stopped driving the vehicle or since the engine was stopped, turn the ignition switch and electrical systems (headlight, blower motor, rear defogger etc.) to the ON position for 60 seconds. This will remove the surface charge on the battery.

(2) Turn the ignition switch and electrical systems OFF.

(3) Using a voltmeter, measure the battery voltage between the negative (-) and positive (+) terminals of the battery.

Standard voltage: 12.5 to 12.9 V at 20°C (68°F)

If the voltage is less than the specification, charge the battery.



(c) Check the indicator as shown in the illustration.

HINT:

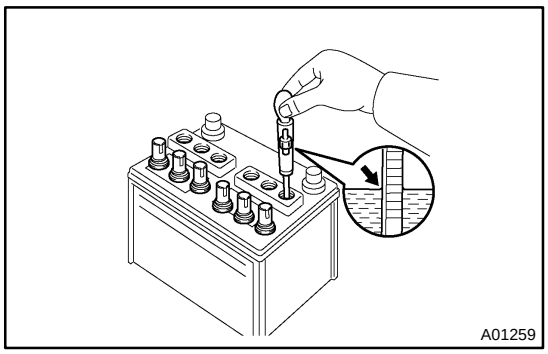
- Blue: OK
- White: Charging Necessary
- Red: Insufficient Water

2. INSPECT BATTERY (EXCEPT MAINTENANCE-FREE BATTERY)

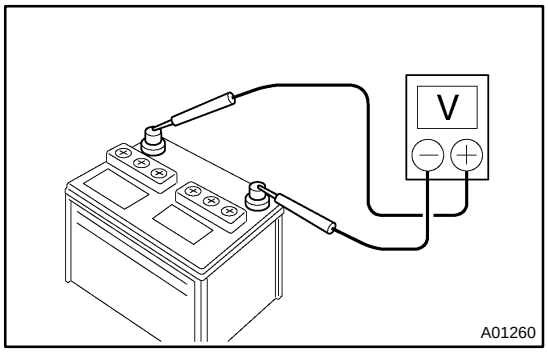
(a) Check the battery electrolyte level.

(1) Check the electrolyte quantity of each cell.

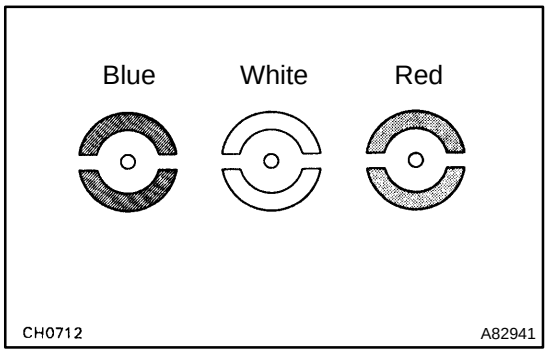
If the electrolyte quantity is below the recommended amount, add distilled water.



(b) Check the battery specific gravity.
(1) Check the specific gravity of each cell.
Standard specific gravity: 1.25 to 1.29 at 20°C (68°F)
If the specific gravity is less than specification, charge the battery.

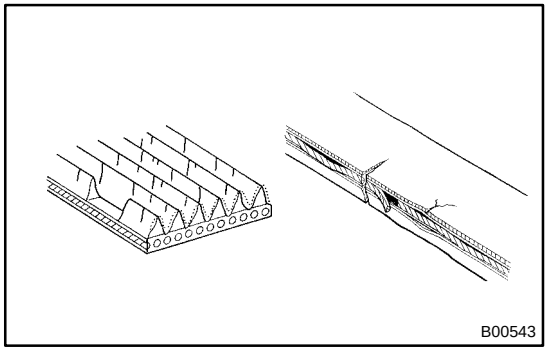


(c) Check the battery voltage.
(1) If it has been less than 20 minutes since you stopped driving the vehicle or since the engine was stopped, turn the ignition switch and electrical systems (headlight, blower motor, rear defogger etc.) to the ON position for 60 seconds. This will remove the surface charge on the battery.
(2) Turn the ignition switch and electrical systems OFF.
(3) Using a voltmeter, measure the battery voltage between the negative (-) and positive (+) terminals of the battery.
Standard voltage: 12.5 to 12.9 V at 20°C (68°F)
If the voltage is less than the specification, charge the battery.

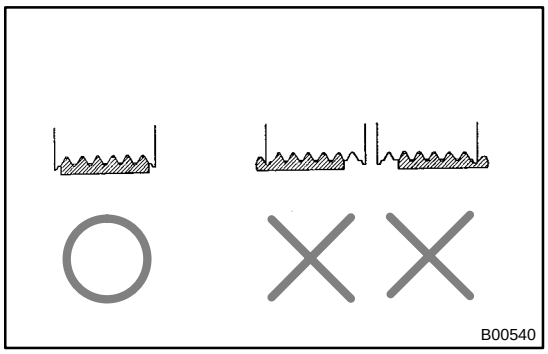


(d) Check the indicator as shown in the illustration.
HINT:
- Blue: OK
- White: Charging Necessary
- Red: Insufficient Water

3. INSPECT BATTERY TERMINALS, FUSIBLE LINK AND FUSES
(a) Visually check the battery terminals.
(1) Check that the battery terminals are not loosened or corroded.
(b) Visually check the fusible link and fuses.
(1) Check that there is continuity of the fusible links, high current fuses and regular fuses.



4. INSPECT V-RIBBED BELT
(a) Visually check the belt for excessive wear, frayed cords, etc.
- If any defects are found, replace the v-ribbed belt.
- Cracks on the rib side of the belt are considered acceptable.
  If the belt has chunks missing from the ribs, it should be replaced.



(b) Check that the belt fits properly in the ribbed grooves. Confirm that the belt has not slipped out of the groove on the bottom of the pulley by hand.

5. INSPECT GENERATOR WIRING

(a) Visually check the generator wiring.
  (1) Check that the wiring is in good condition.

6. INSPECT ABNORMAL NOISES

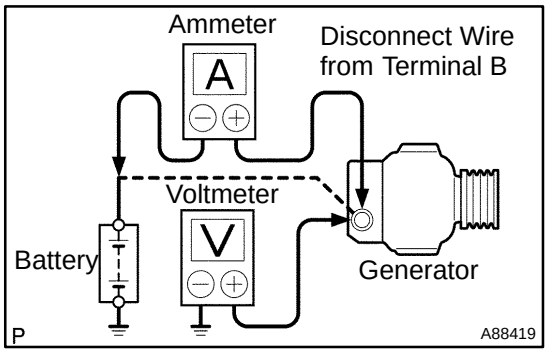
(a) Listen to abnormal noises from generator.
  (1) Check that no abnormal noise is heard from the generator while the engine is running.

7. INSPECT CHARGE WARNING LIGHT CIRCUIT

(a) Turn the ignition switch ON. Check that the charge warning light comes on.

(b) Start the engine, then check that the light goes off.

If the light does not operate as specified, troubleshoot the charge warning light circuit.



8. INSPECT CHARGING CIRCUIT WITHOUT LOAD

(a) If a tester is not available, connect a voltmeter to the charging circuit as follows.
  (1) Disconnect the wire from terminal B of the generator, then connect it to the negative (-) lead of the ammeter.
  (2) Connect the positive (+) lead of the ammeter to terminal B of the generator.
  (3) Connect the positive (+) lead of the voltmeter to terminal B of the generator.
  (4) Ground the negative (-) lead of the voltmeter.

(b) Check the charging circuit.
  (1) Keep the engine speed at 2,000 rpm, then check the reading on the ammeter and voltmeter.

  Standard amperage: 10 A or less

  Standard voltage: 13.2 to 14.8 V

9. INSPECT CHARGING CIRCUIT WITH LOAD

(a) With the engine running at 2,000 rpm, turn the high beam headlights ON and turn the heater blower switch to the ”HI” position.

(b) Check the reading on the ammeter.

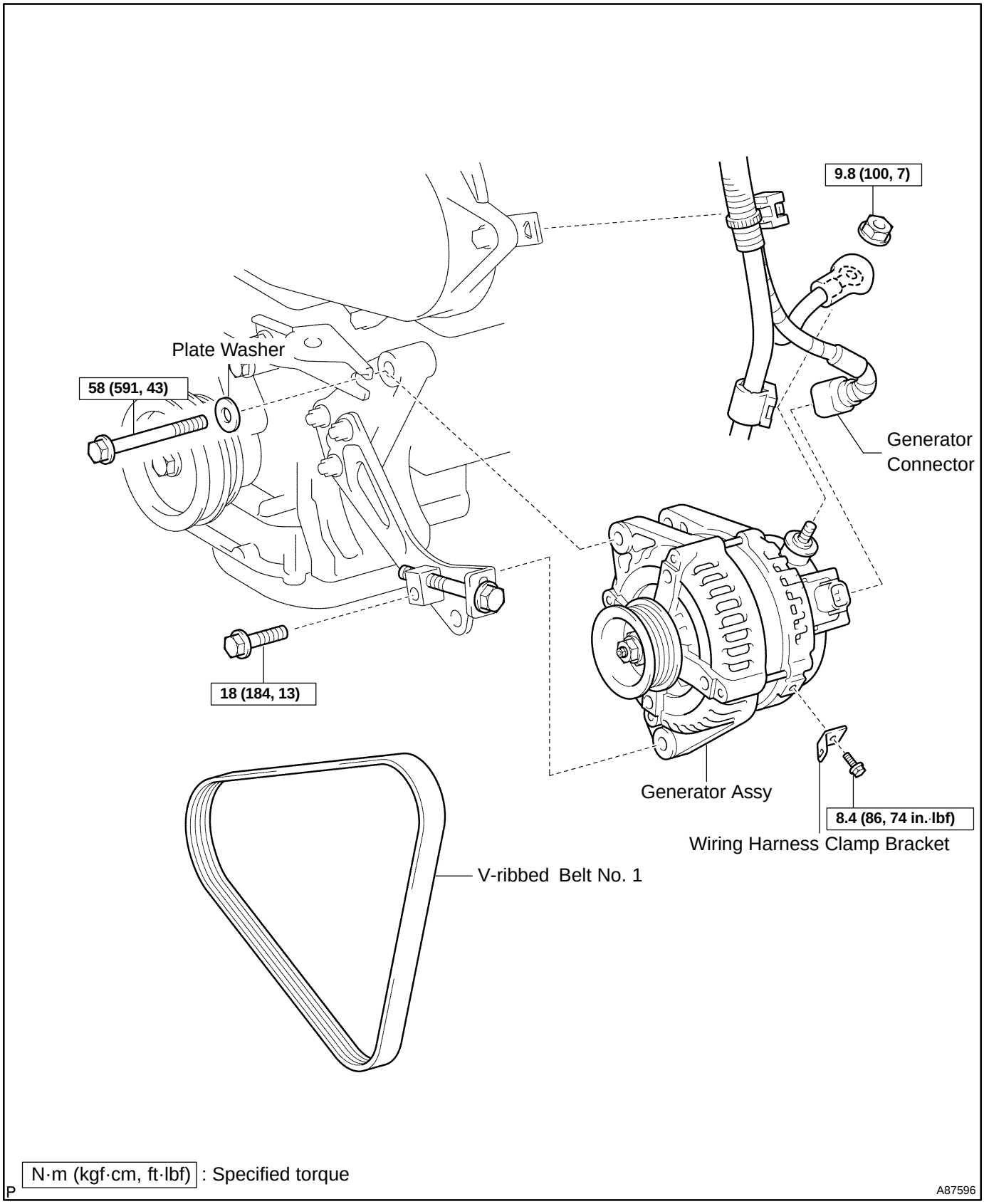
  Standard amperage: 30 A or more

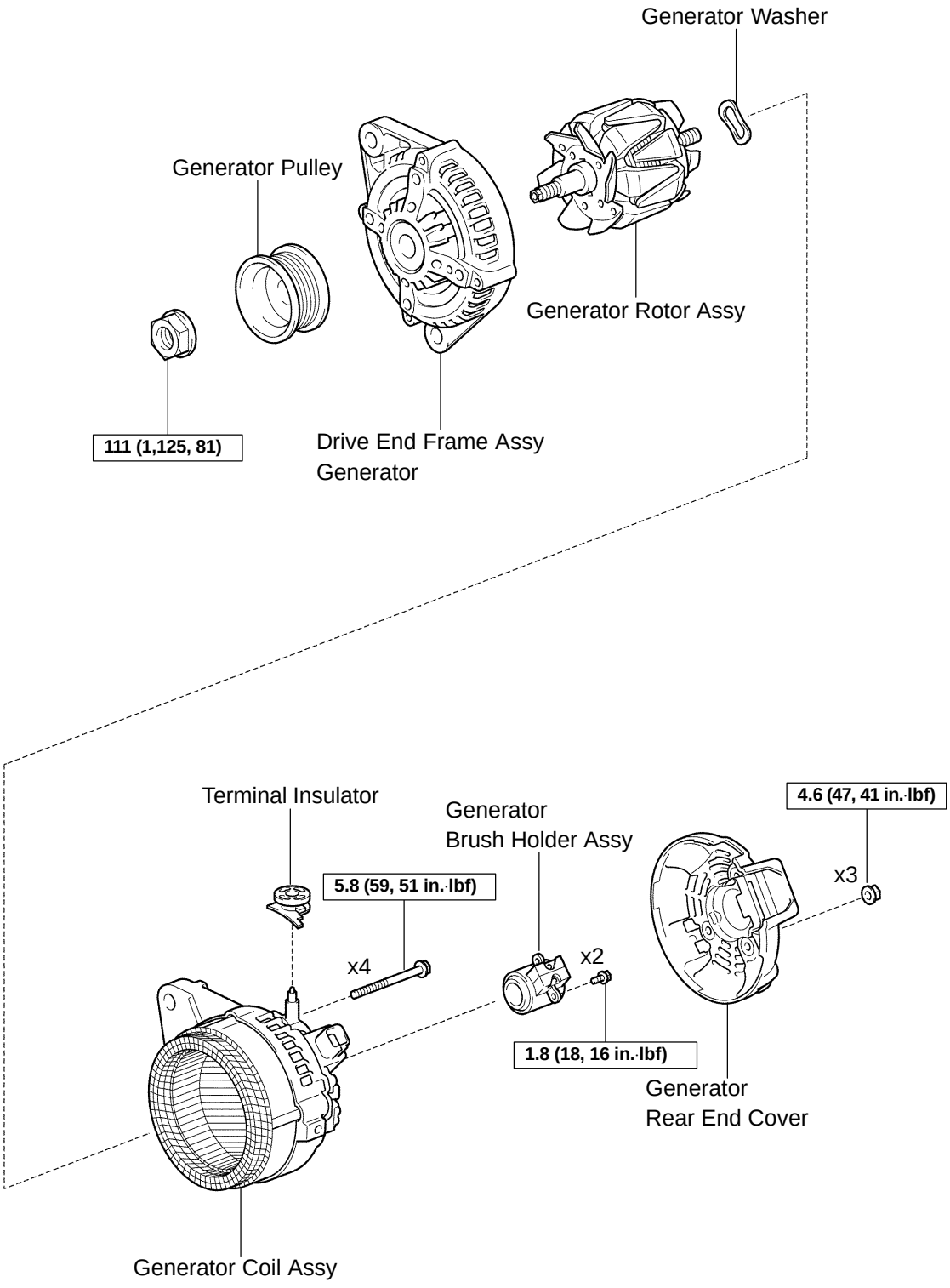
- If the ammeter reading is less than the standard amperage, repair the generator.
- If the battery is fully charged, the indication will sometimes be less than the standard amperage.

GENERATOR ASSY (3MZ-FE)

190SK-01

COMPONENTS





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

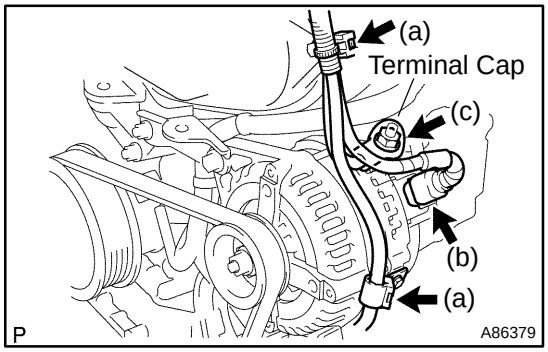
P • Non-reusable part

A86392

190SL-01

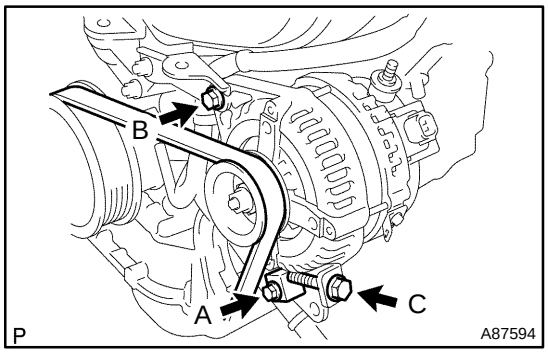
REPLACEMENT

1. DISCONNECT ENGINE WIRE NO. 3 (BATTERY NEGATIVE TERMINAL)

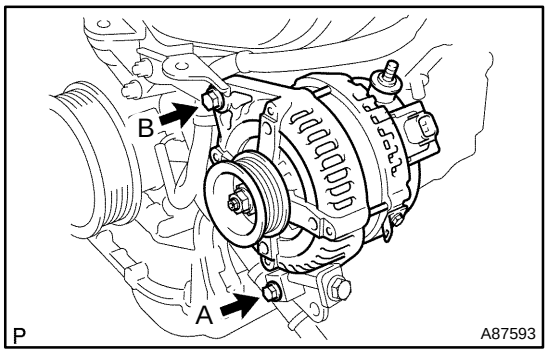


2. REMOVE GENERATOR ASSY

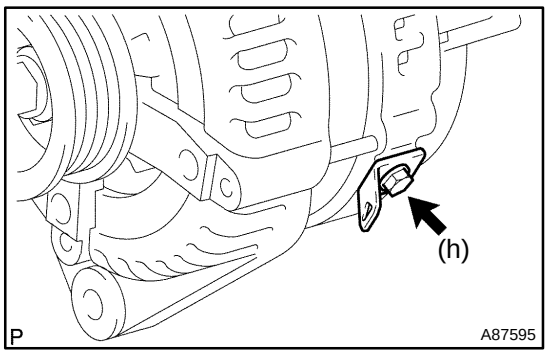
(a) Remove the 2 wire harness clamps.
(b) Disconnect the generator connector.
(c) Open the terminal cap.
(d) Remove the nut, then disconnect the generator wire.



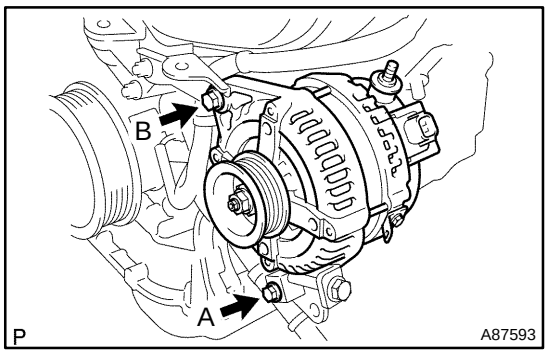
(e) Loosen bolts A and B.
(f) Loosen bolt C to lessen the tension of the V-ribbed belt No.1.



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



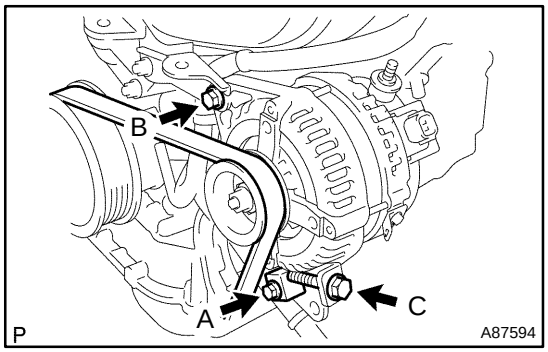
(h) Remove the bolt, then remove the wiring harness clamp bracket.



3. INSTALL GENERATOR ASSY

(a) Install the wiring harness clamp bracket with the bolt.
Torque: 8.4 N·m (86 kgf·cm, 74 in.·lbf)

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



(c) Adjust the V-ribbed belt No. 1 tension by tightening bolt C (see page 14-1).

(d) Tighten bolts A and B.
Torque:
18 N·m (180 kgf·cm, 13 ft·lbf) for bolt A
58 N·m (591 kgf·cm, 43 ft·lbf) for bolt B

(e) Install the generator wire with the nut.
Torque: 9.8 N·m (100 kgf·cm, 7 ft·lbf)

(f) Connect the generator connector.

(g) Install the wire harness clamp.

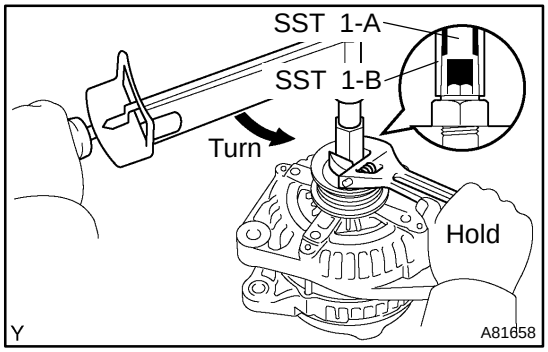
4. INSPECT DRIVE BELT (See page 14-1)

5. CONNECT ENGINE WIRE NO. 3 (BATTERY NEGATIVE TERMINAL)
Torque: 5.4 N·m (55 kgf·cm, 48 in.·lbf)

6. SYSTEM INITIALIZATION (See page 19-15)

190SM-01

OVERHAUL



1. REMOVE GENERATOR PULLEY

SST 09820-6301 1 (09820-06010, 09820-06020)

HINT:

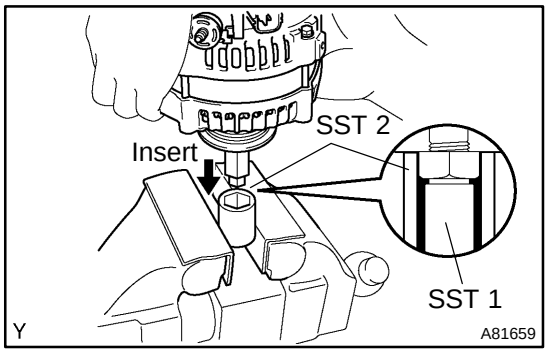
SST 1-A and B	09820 - 06010
SST 2	09820 - 06020

(a) Hold SST 1-A with a torque wrench, then tighten SST 1-B clockwise with the specified torque.

Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

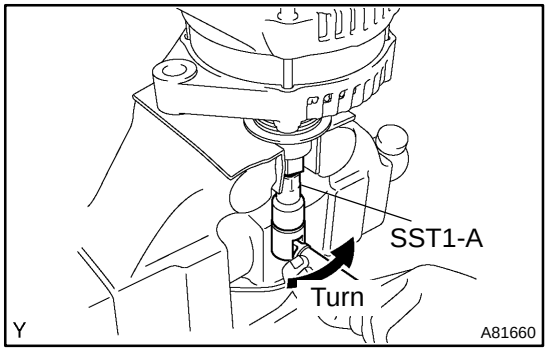
NOTICE:

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, then attach the pulley nut to SST 2.

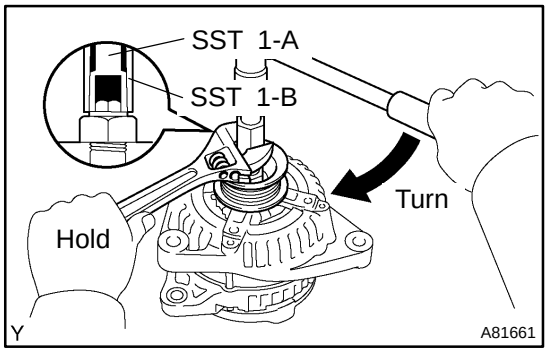


(d) To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.

NOTICE:

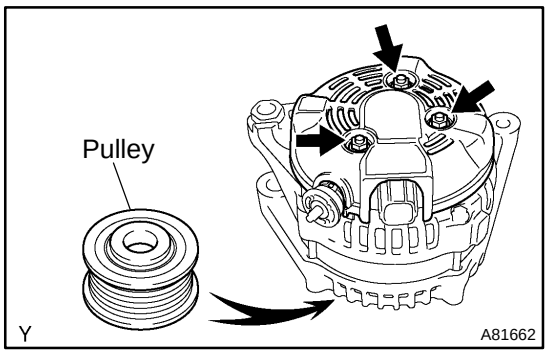
To prevent damage to the rotor shaft, do not loosen the pulley nut more than a half turn.

(e) Remove the generator from SST 2.



(f) Turn SST 1-B, then remove SST 1-A and B.

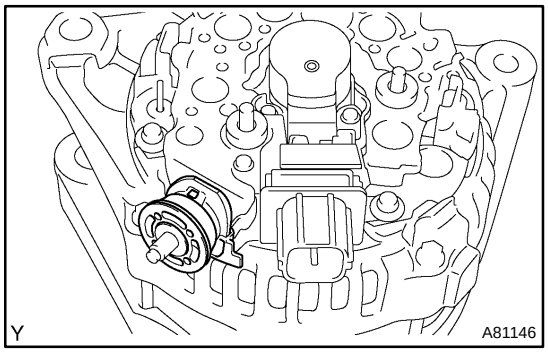
(g) Remove the pulley nut, then remove the generator pulley.



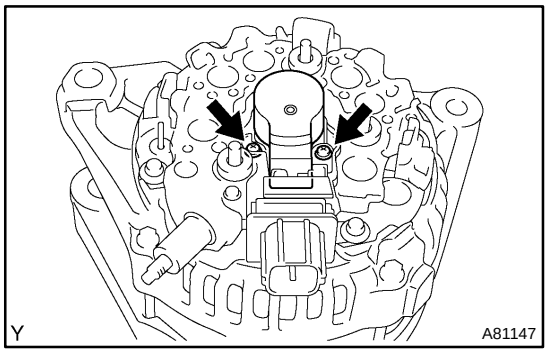
2. REMOVE GENERATOR BRUSH HOLDER ASSY

(a) Place the generator on the generator pulley.

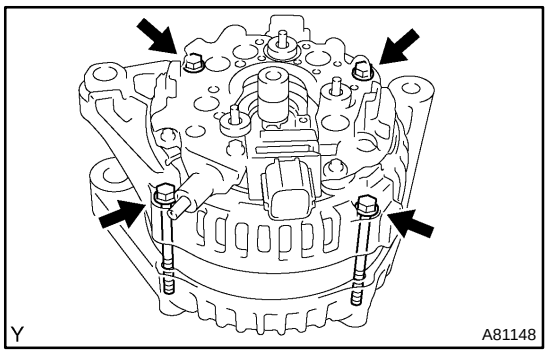
(b) Remove the 3 nuts, then remove the generator rear end cover.



(c) Remove the terminal insulator from the generator coil.

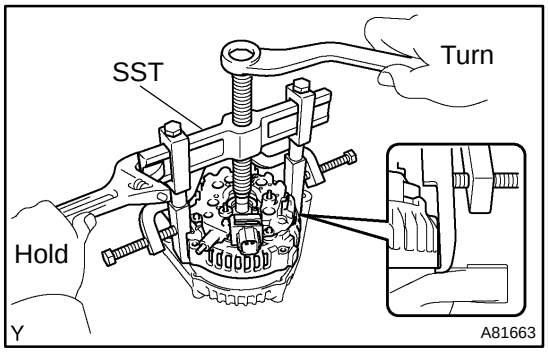


(d) Remove the 2 screws, then remove the generator brush holder.



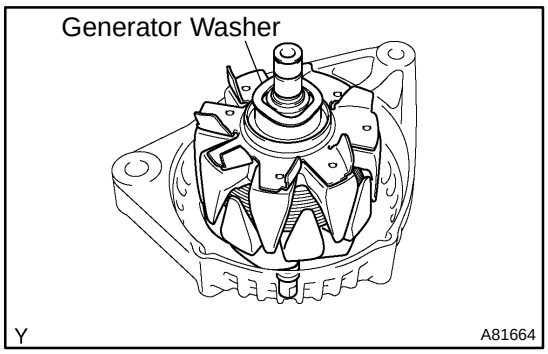
3. REMOVE GENERATOR COIL ASSY

(a) Remove the 4 bolts.



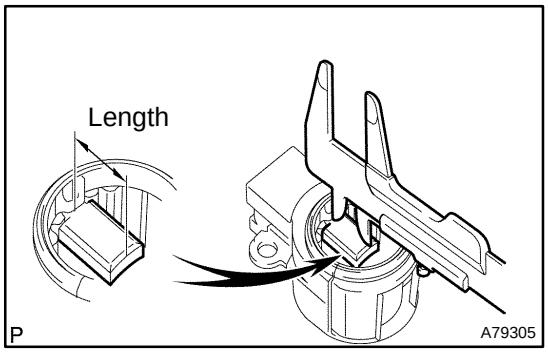
(b) Using SST, remove the generator coil.

SST 09950- 40011 (09951- 04020, 09952- 04010, 09953- 04020, 09954- 04010, 09955- 04071, 09957-04010, 09958-04011)



4. REMOVE GENERATOR ROTOR ASSY

(a) Remove the generator washer and generator rotor.



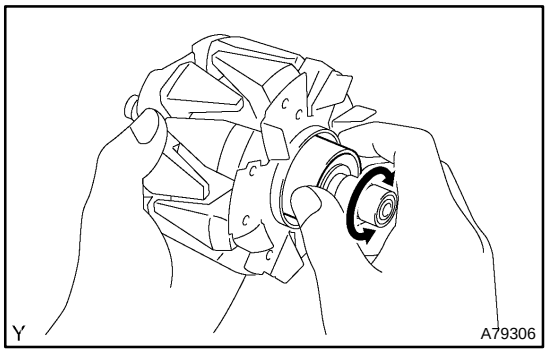
5. INSPECT GENERATOR BRUSH HOLDER ASSY

(a) Inspect the length.

(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.)

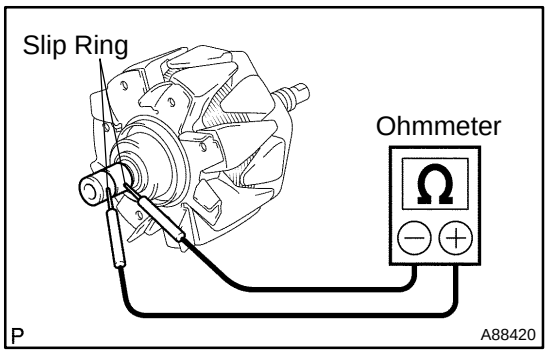
If the exposed brush length is less than minimum, replace the generator brush holder.



6. INSPECT GENERATOR ROTOR ASSY

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

If necessary, replace the generator rotor.

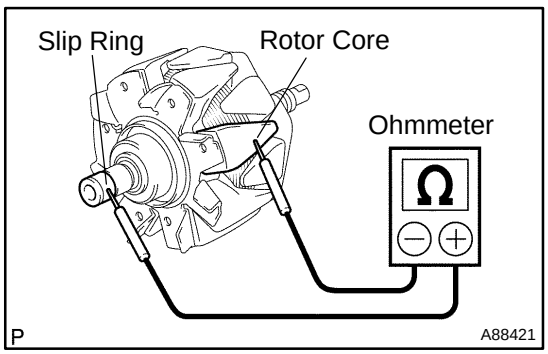


(b) Inspect the resistance.

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

Resistance: 2.3 to 2.7Ω at 20•C (68•F)

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



(c) Check the continuity.

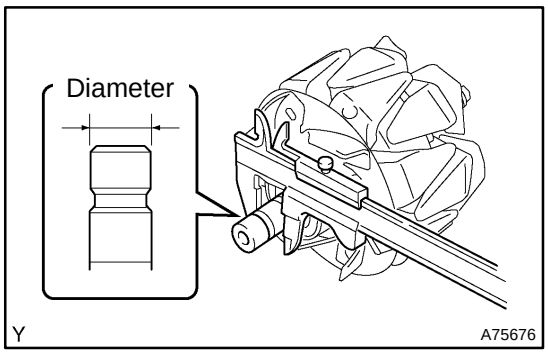
(1) Using an ohmmeter, check that there is no continuity between the slip ring and rotor core.

If there is continuity, replace the generator rotor.

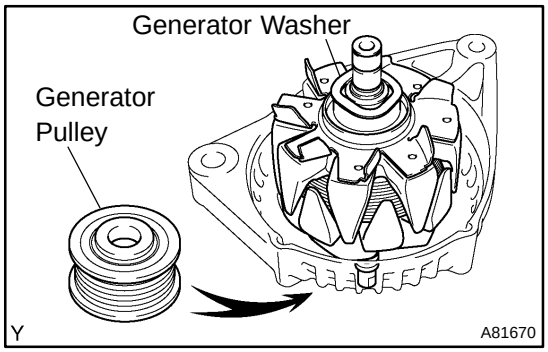
(d) Check the appearance.

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

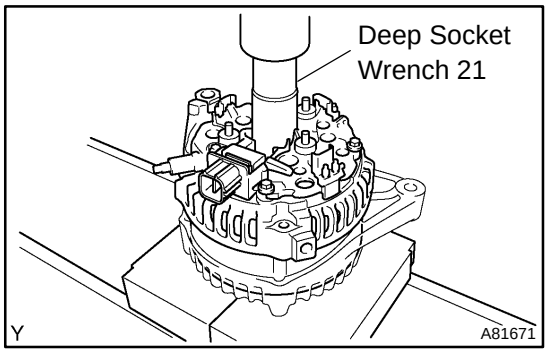
If rough or scored, replace the generator rotor.



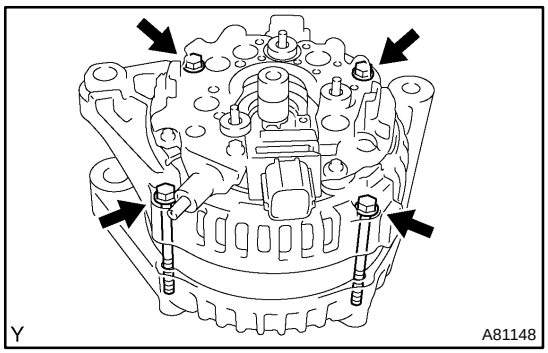
(e) Inspect the diameter.
(1) Using vernier calipers, measure the slip ring diameter.
Standard diameter:
14.2 to 14.4 mm (0.559 to 0.567 in.)
Minimum diameter: 14.0 mm (0.551 in.)
If the diameter is less than minimum, replace the generator rotor.



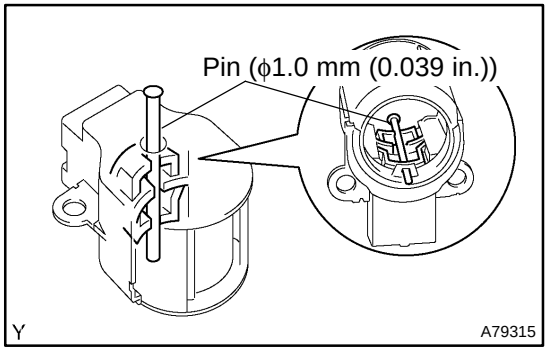
7. INSTALL GENERATOR ROTOR ASSY
(a) Place the generator drive end frame on the generator pulley.
(b) Install the generator rotor and generator washer.



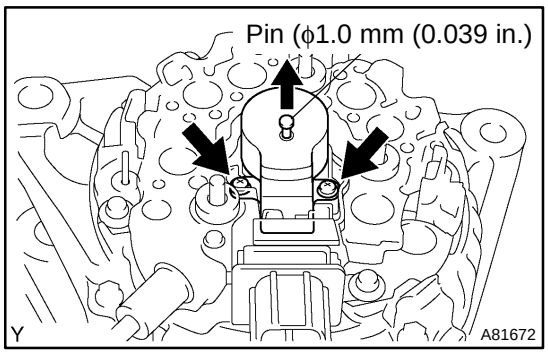
8. INSTALL GENERATOR COIL ASSY
(a) Using a deep socket wrench 21 and press, press in the generator coil carefully.



(b) Tighten the 4 bolts.
Torque: 5.8 N·m (59 kgf·cm, 51 in.·lbf)

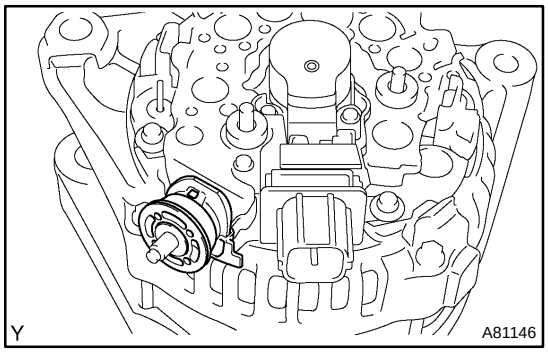


9. INSTALL GENERATOR BRUSH HOLDER ASSY
(a) While pushing the 2 brushes to inside the brush holder, insert a pin (ϕ1.0 mm (0.039 in.)) into the brush holder hole.



(b) Install the generator brush holder with the 2 screws.
Torque: 1.8 N·m (18 kgf·cm, 16 in.·lbf)

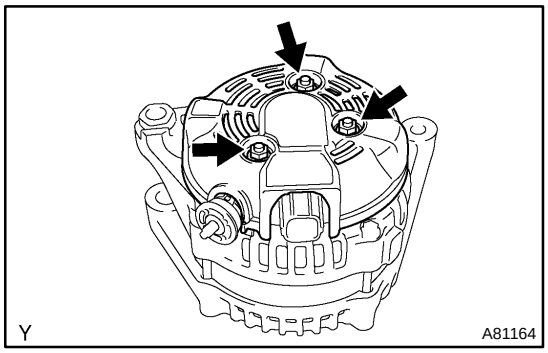
(c) Pull out the pin (ϕ1.0 mm (0.039 in.)) from the generator brush holder.



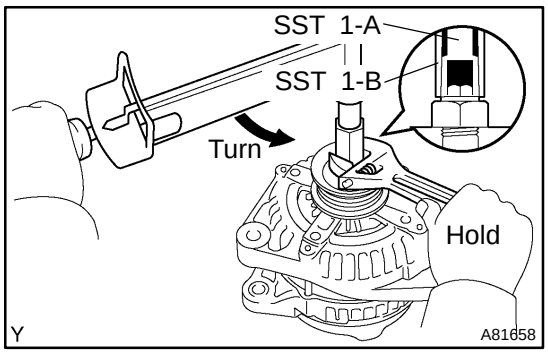
(d) Install the terminal insulator.

NOTICE:

Pay attention to the mounting orientation of the terminal insulator.



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



10. INSTALL GENERATOR PULLEY

SST 09820-6301 1 (09820-06010, 09820-06020)

HINT:

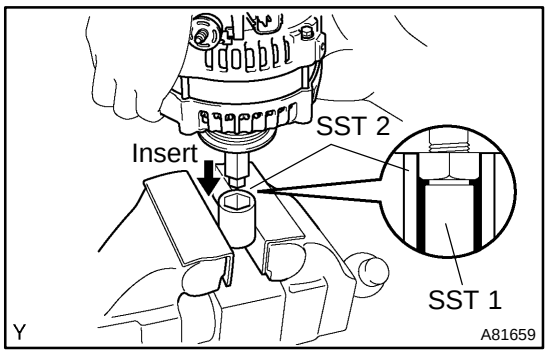
SST 1-A and B	09820 - 06010
SST 2	09820 - 06020

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

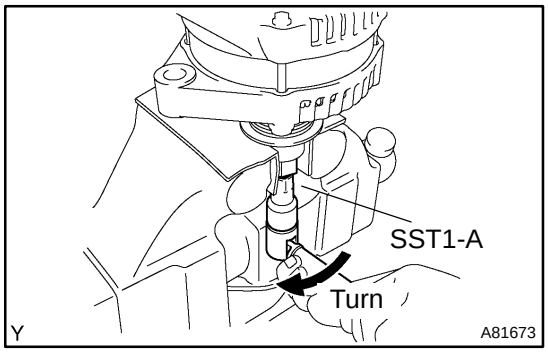
(b) Hold SST 1-A with a torque wrench, then tighten SST 1-B clockwise with the specified torque.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

NOTICE:

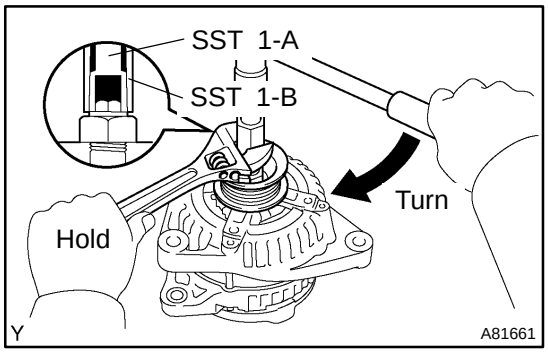
Check that SST is secured to the rotor shaft.



(c) Clamp SST 2 in a vise.
(d) Insert SST 1-A and B into SST 2, then 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, then remove SST 1-A and B.
(h) Turn the generator pulley, then check that the generator pulley moves smoothly.