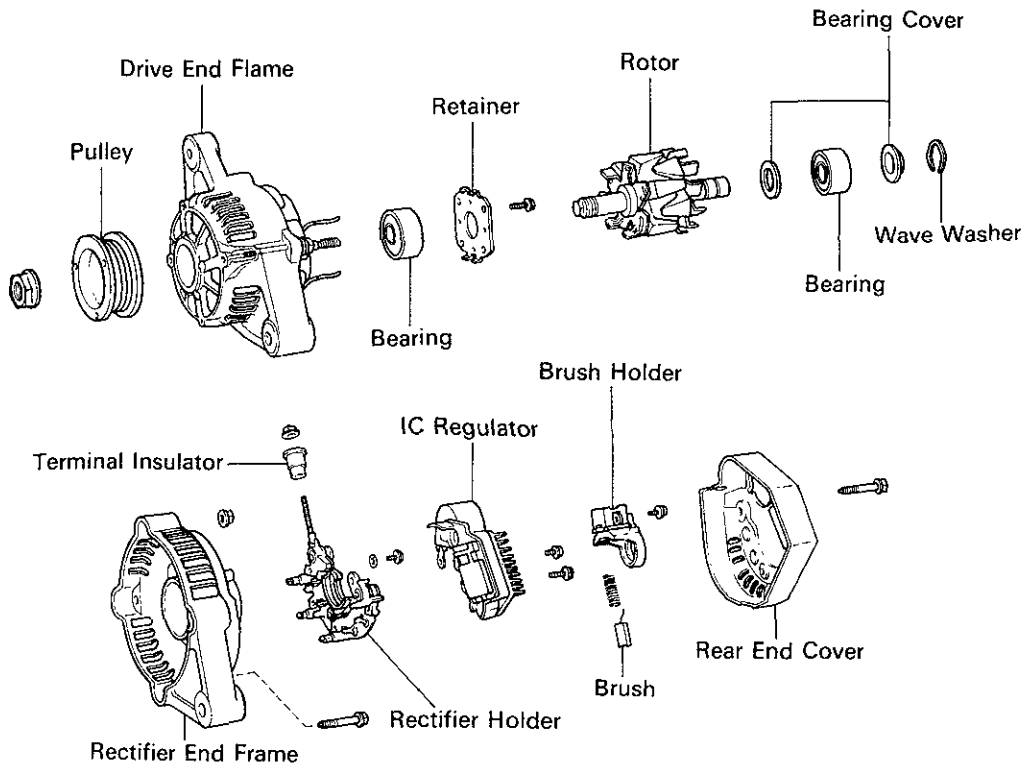
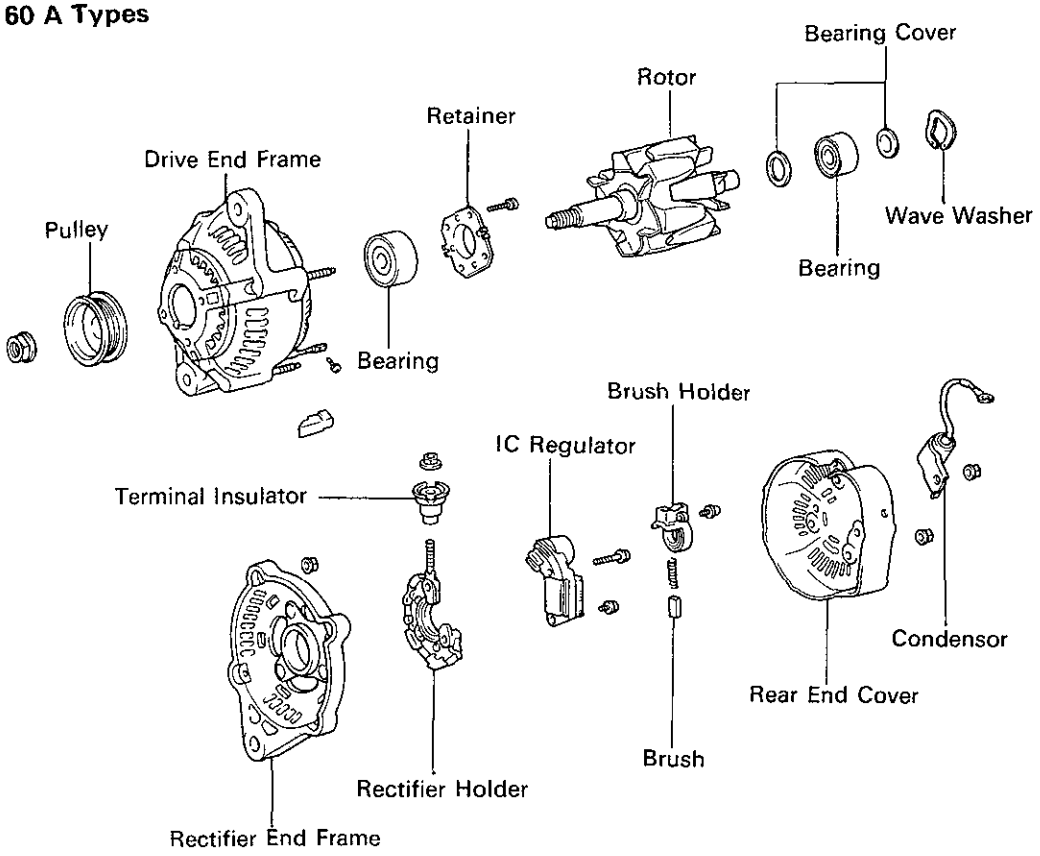
ALTERNATOR

COMPONENTS

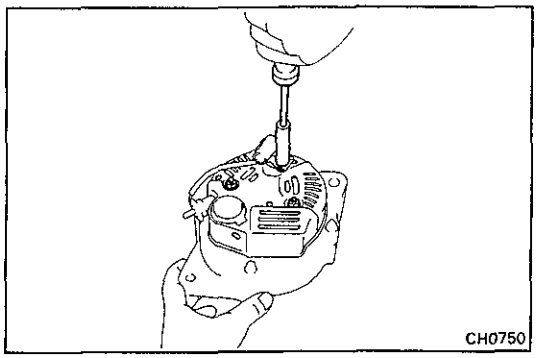
45 A and 50 A Types



55 A and 60 A Types



CH0759
CH0753



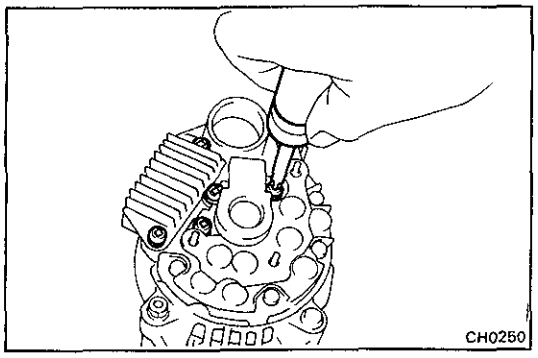
DISASSEMBLY OF ALTERNATOR

(See page CH-7)

1. REMOVE REAR END COVER

(a) Remove the nut and terminal insulator.

(b) Remove the three nuts and end cover.

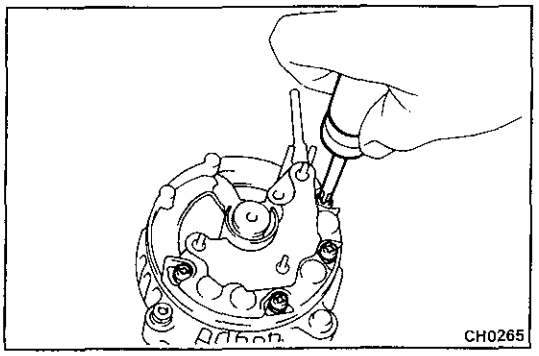


2. REMOVE BRUSH HOLDER

Remove the two screws, brush holder and cover.

3. REMOVE IC REGULATOR

Remove the three screws and IC regulator.

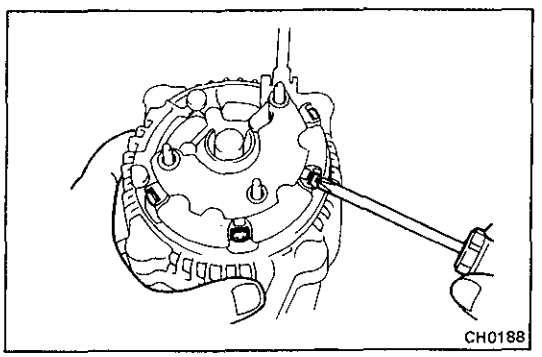


4. REMOVE RECTIFIER HOLDER
(45A and 50A Types)

(a) Remove the four screws.

(b) Using pliers, straighen the startor lead wire.

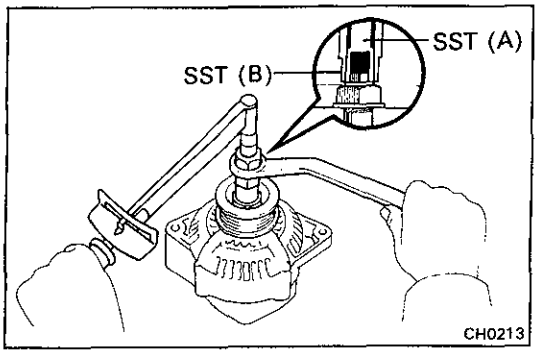
(c) Remove the rectifier holder.



(55A and 60A Types)

(a) Remove the four screws and rectifier holder.

(b) Remove the four rubber insulators.



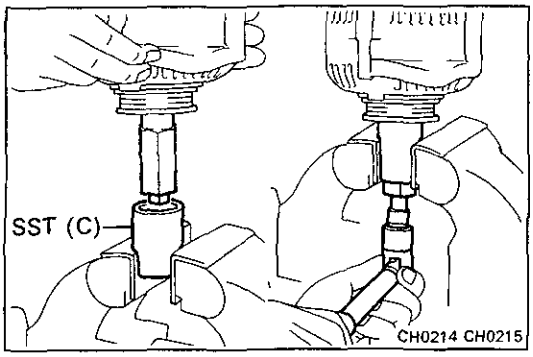
5. REMOVE PULLEY

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

SST 09820-63010

Torque: 400 kg-cm (29 ft-lb,39 N·m)

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



(c) As shown in the figure, mount SST C in a vise, and install the alternator to SST C.

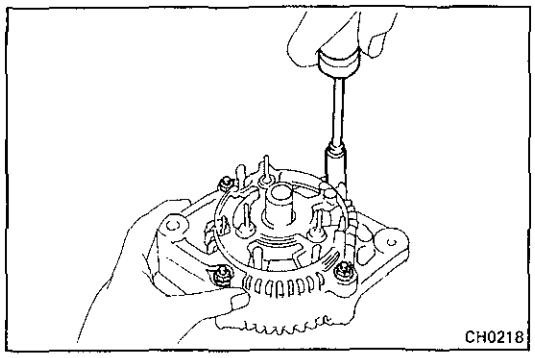
(d) To loosen the pulley nut turn SST A in the direction shown in the figure.

NOTICE: To prevent damage to the rotor shaft, do not loosen the pulley nut more that one-half of a turn.

(e) Remove the alternator from SST C.

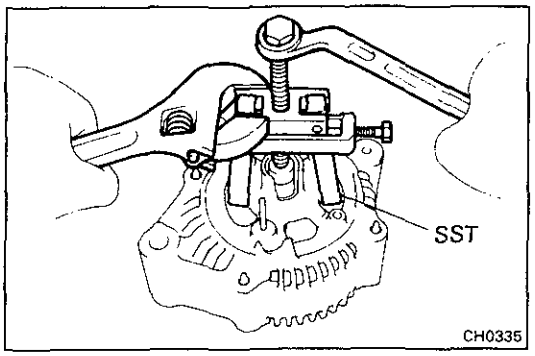
(f) Turn SST B and remove SSTs A and B.

(g) Remove the pulley nut and pulley.



6. REMOVE REAR END FRAME

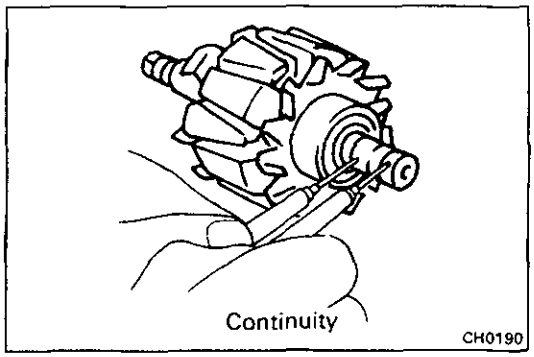
(a) Remove the four nuts.



(b) Using SST, remove the rear end frame.

SST 09286-46011

7. REMOVE ROTOR FROM DRIVE END FRAME



INSPECTION AND REPAIR OF ALTERNATOR

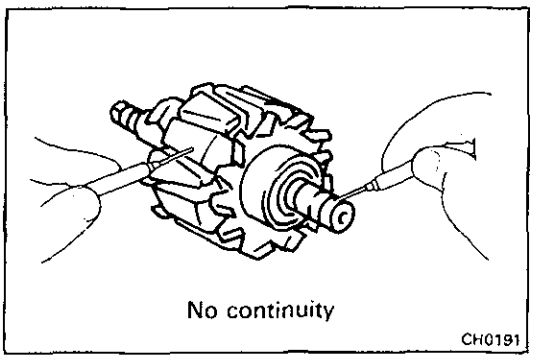
Rotor

1. **INSPECT ROTOR FOR OPEN CIRCUIT**

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

Standard resistance (cold): 2.8 - 3.0 Ω

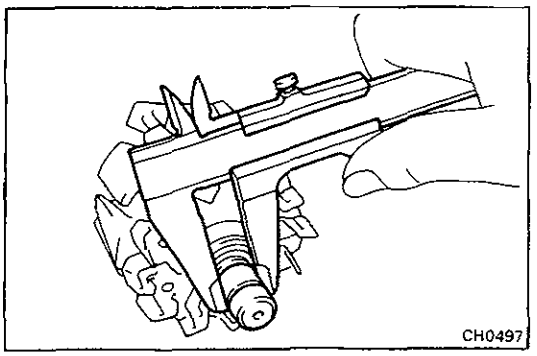
If there is no continuity, replace the rotor.



2. **INSPECT ROTOR FOR GROUND**

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

If there is continuity, replace the rotor.



3. **INSPECT SLIP RINGS**

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

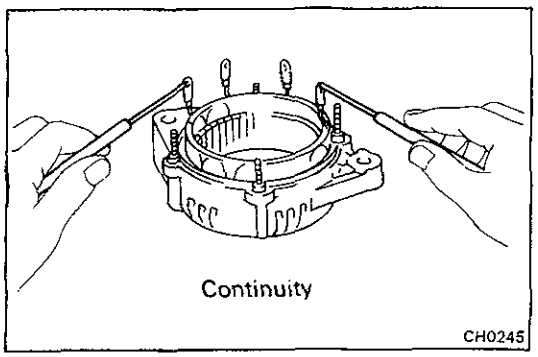
If rough or scored, replace the rotor.

(b) Using calipers, measure the slip ring diameters.

Standard diameter: 14.2 – 14.4 mm (0.559 – 0.567 in.)
Minimum diameter: 12.8 mm (0.504 in.)

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

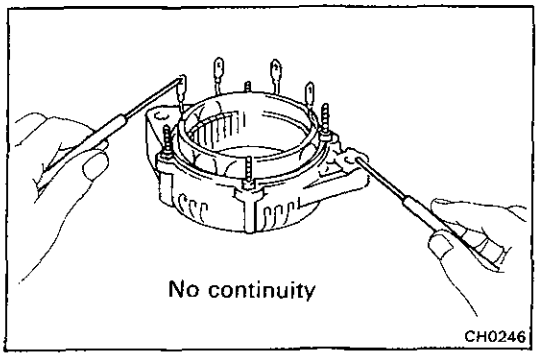
Stator



1. **INSPECT STATOR FOR OPEN CIRCUIT**

Using an ohmmeter, check that there is continuity between the coil leads.

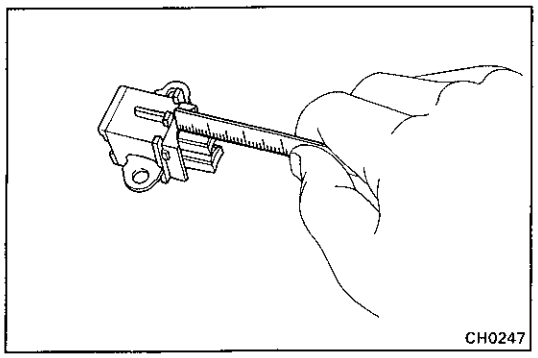
If there is no continuity, replace the drive end frame assembly.



2. **INSPECT STATOR FOR GROUND**

Using an ohmmeter, check that there is no continuity between the coil leads and drive end frame.

If there is continuity, replace the drive end frame assembly.



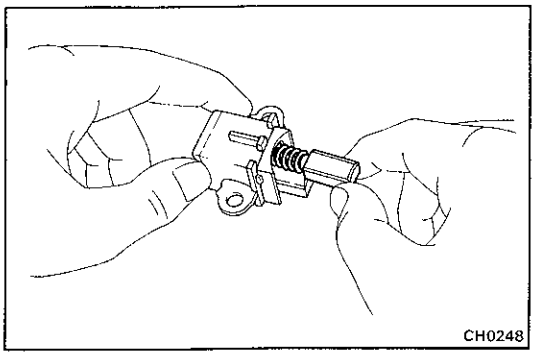
Brushes

1. INSPECT EXPOSED BRUSH LENGTH

Using a scale, measure the exposed brush length.

Standard exposed length: 10.5 mm (0.413 in.)
Minimum exposed length: 1.5 mm (0.059 in.)

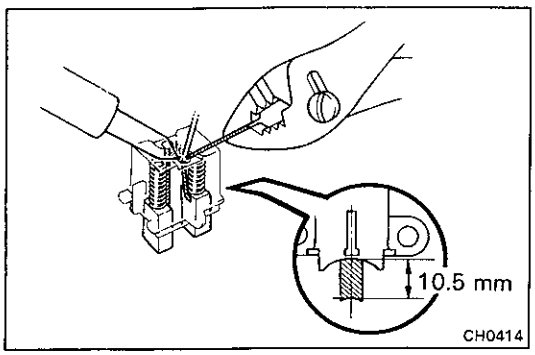
If the exposed length is less than minimum, replace the brushes.



2. IF NECESSARY, REPLACE BRUSHES

(a) Unsolder and remove the brush and spring.

(b) Run the wire of the brush through the hole in the brush holder, and insert the spring and brush into the brush holder.



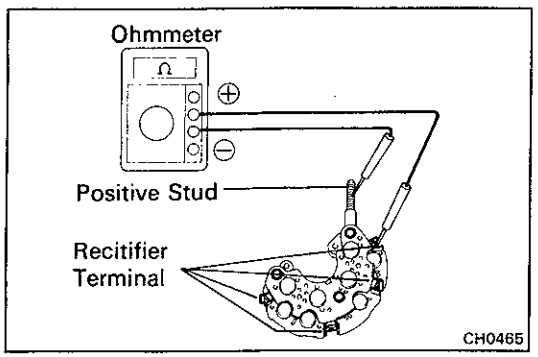
(c) Solder the brush wire to the brush holder at the exposed length.

Exposed length: 10.5 mm (0.413 in.)

(d) Check that the brush moves smoothly in the brush holder.

(e) Cut off the excess wire.

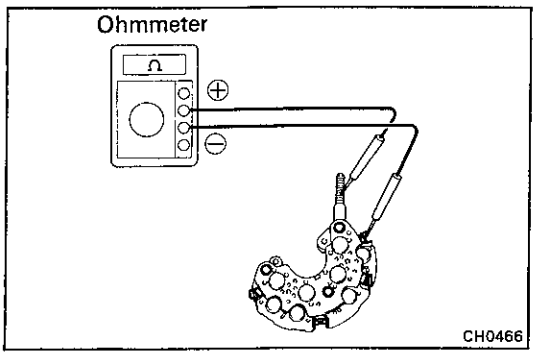
(f) Apply insulation paint to the soldered point.



Rectifier

1. INSPECT POSITIVE SIDE RECTIFIER

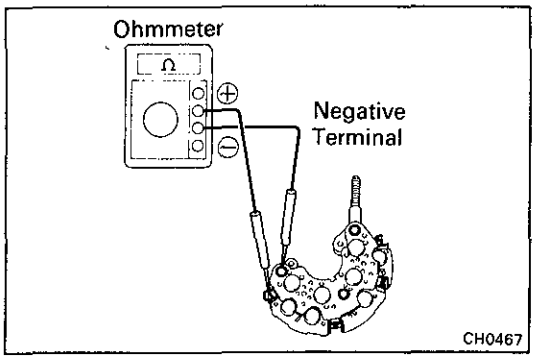
(a) Using an ohmmeter, connect one tester probe to the positive stud and the other to each rectifier terminal.



(b) Reverse the polarity of the tester probes.

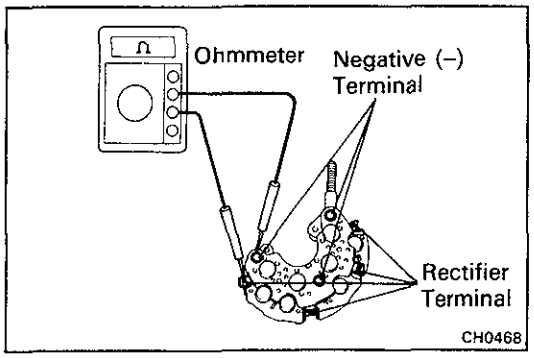
(c) Check that one shows continuity and the other shows no continuity.

If not, replace the rectifier holder.



2. **INSPECT NEGATIVE SIDE RECTIFIER**

(a) Connect one tester probe to each rectifier terminal and the other to each rectifier negative terminal.



(b) Reverse the polarity of the tester probes.

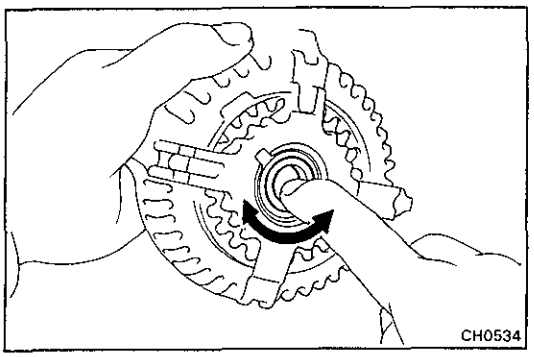
(c) Check that one shows continuity and the other shows no continuity.

If not, replace the rectifier holder.

Bearings

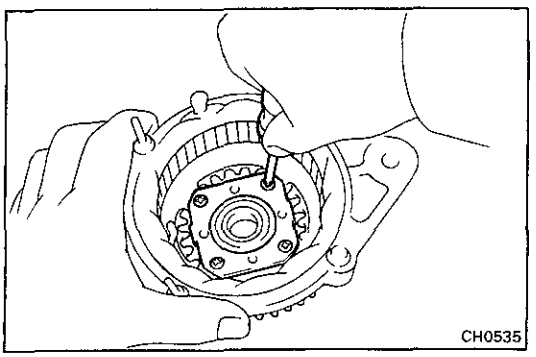
1. **INSPECT FRONT BEARING**

Check that the bearing is not rough or worn.

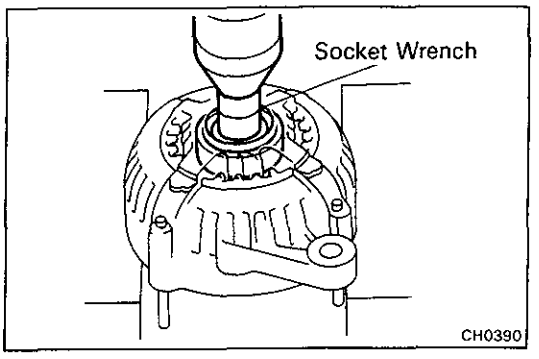


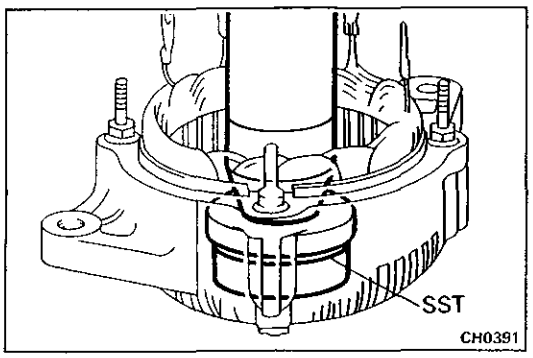
2. **IF NECESSARY, REPLACE FRONT BEARING**

(a) Remove the four screws and bearing retainer.



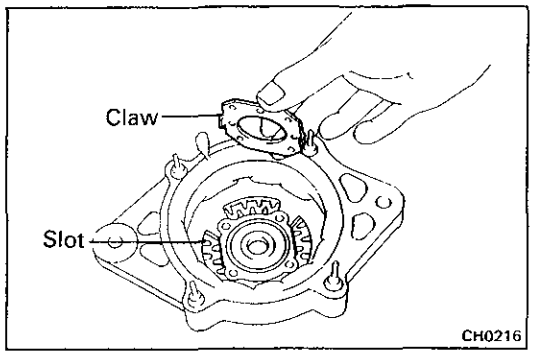
(b) Using a press and socket wrench, press out the front bearing.



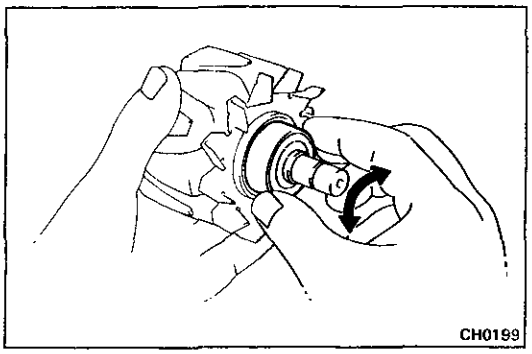


(c) Using SST and a press, press the front bearing into the drive end frame.

SST 09608-20012 (09608-00030)

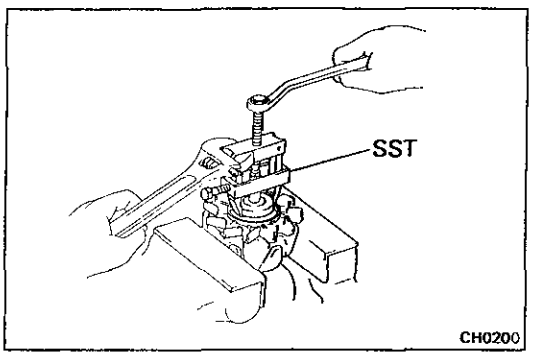


(d) Align the claws of the bearing retainer with the slots of the drive end frame, and install the bearing retainer with the four screws.



3. INSPECT REAR BEARING

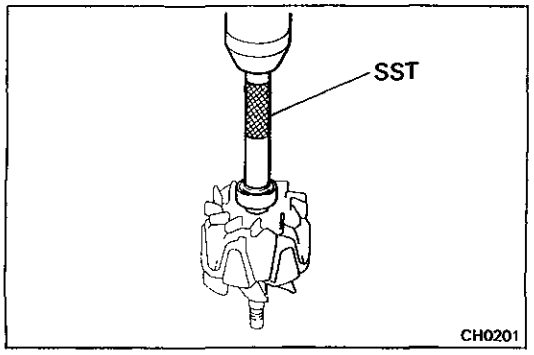
Check that the bearing is not rough or worn.



4. IF NECESSARY, REPLACE REAR BEARING

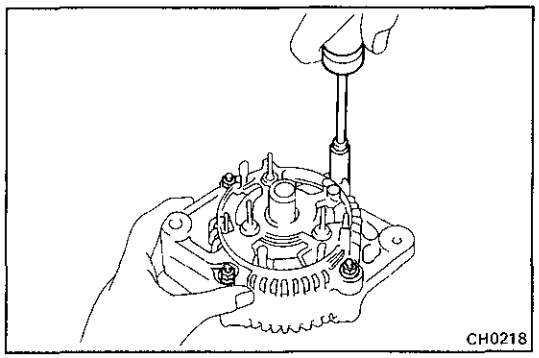
(a) Using SST, remove the bearing cover and bearing.

SST 09820-00021



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

SST 09285-76010

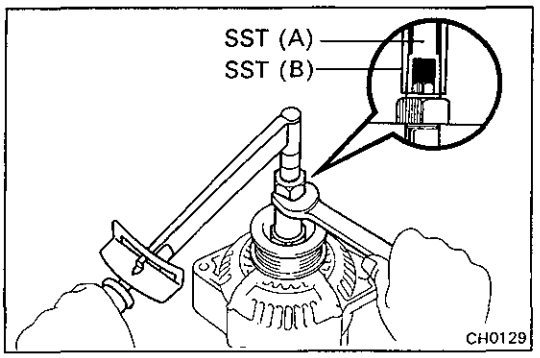


ASSEMBLY OF ALTERNATOR

(See page CH-7)

1. INSTALL ROTOR TO DRIVE END FRAME

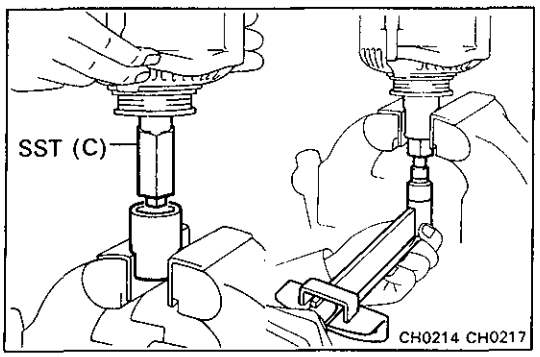
2. INSTALL REAR END FRAME
   (a) Using a plastic-faced hammer, lightly tap in the rear end frame.
   (b) Install the four nuts.



3. INSTALL 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.

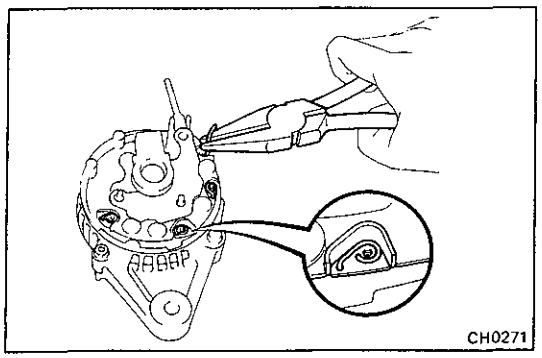
   SST 09820-63010

   Torque: 400 kg-cm (29 ft-lb,39 N·m)
   (c) Check that SST A is secured to the pulley shaft.

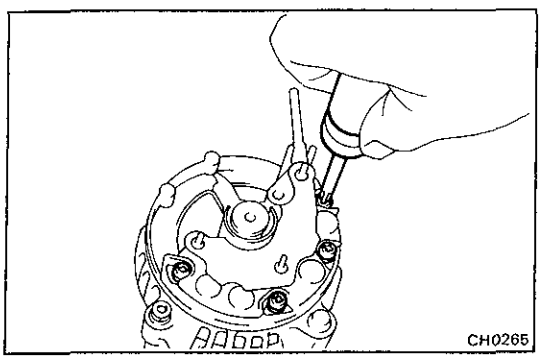


   (d) As shown in the figure, mount SST C in a vise, and install the alternator to SST C.
   (e) To torque the pulley nut turn SST A in the direction shown in the figure.

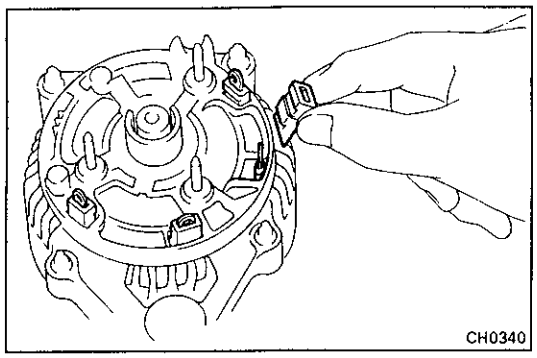
   Torque: 1,125 kg-cm (81 ft-lb, 110 N·m)
   (f) Remove the alternator from SST C .
   (g) Turn SST B and remove SSTs A and B.



4. INSTALL RECTIFIER HOLDER
   (45A and 50A Types)
   (a) Install the rectifier.
   (b) Bend the four stator lead wires as shown.

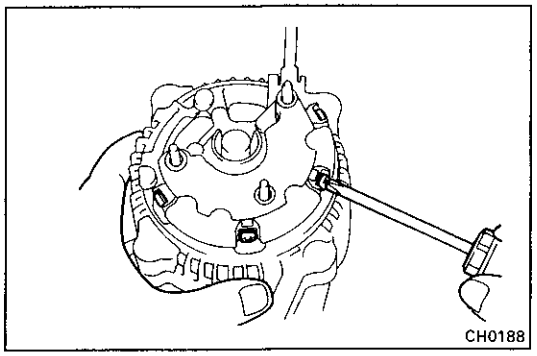


   (c) Install the four screws.

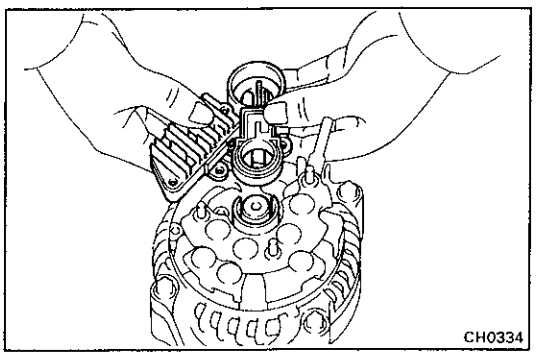


(55A and 60A Types)

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



(b) Install the rectifier with the four screws.

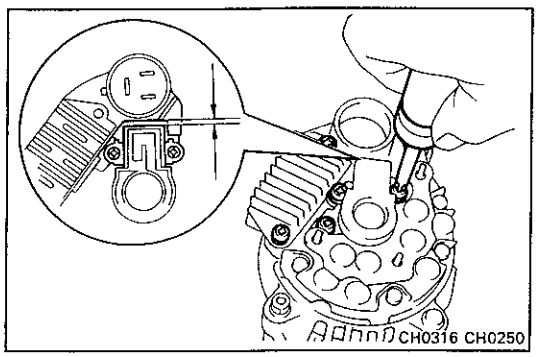


5. INSTALL BRUSH HOLDER AND IC REGULATOR

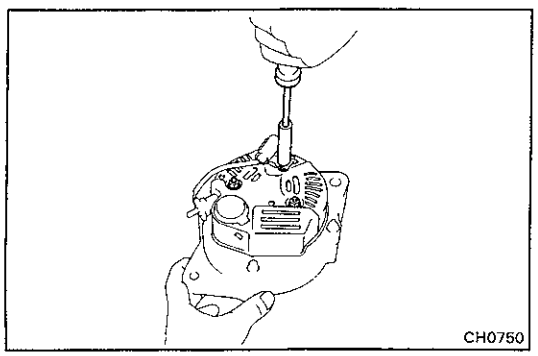
(a) Place the brush holder cover to the brush holder.

(b) Install the IC regulator and brush holder to the rear end frame horizontally as shown in the figure.

HINT: Make sure the brush holder's cover doesn't slip to one side during installation.



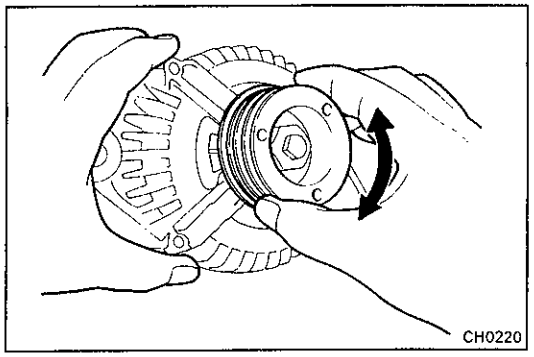
(c) Tighten the five screws until there is a clearance of at least 1 mm (0.04 in.) between the brush holder cover and connector.



6. INSTALL REAR END COVER

(a) Install the end cover with the three nuts.

(b) Install the terminal insulator with the nut.



7. MAKE SURE ROTOR ROTATES SMOOTHLY