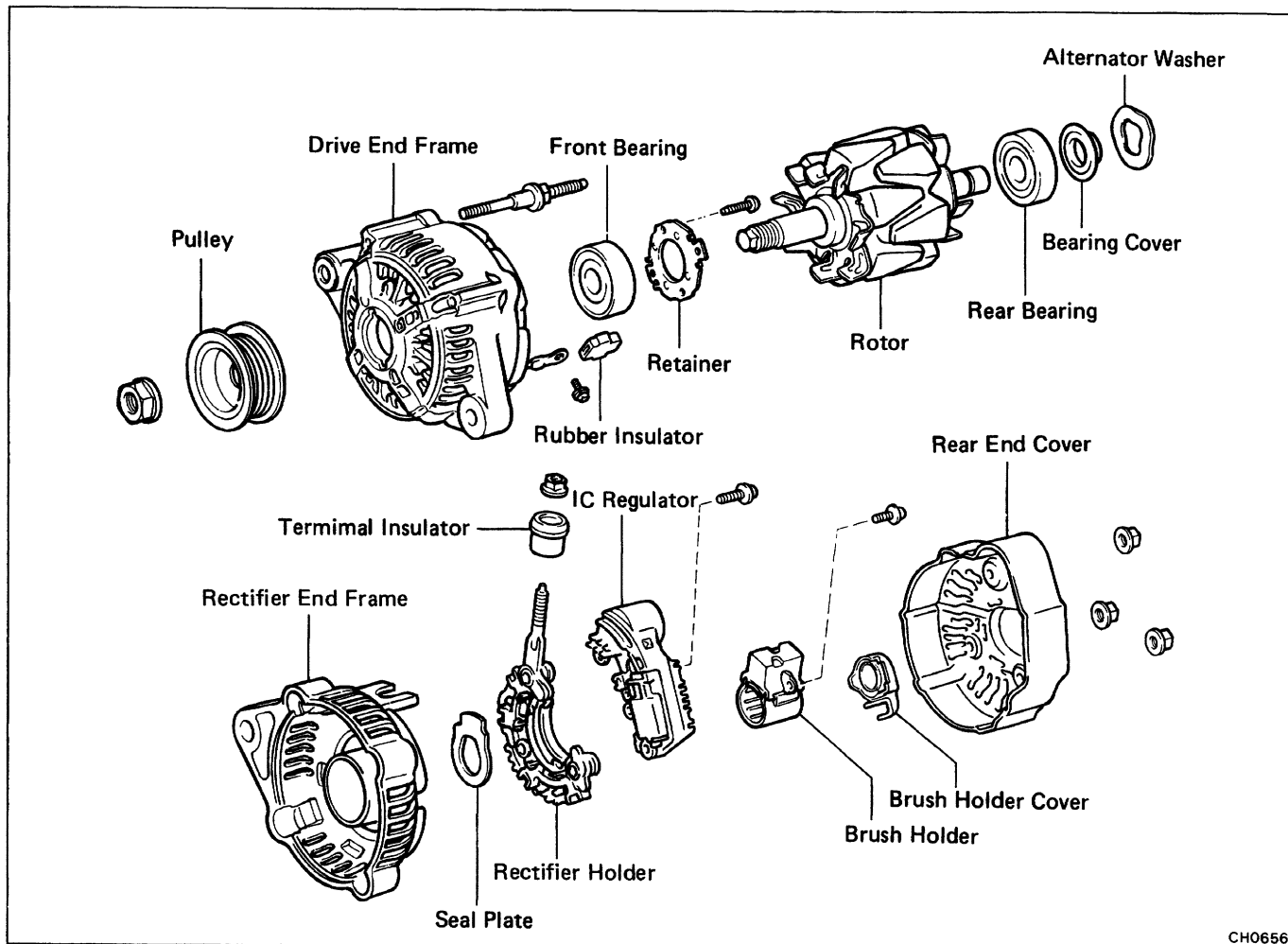
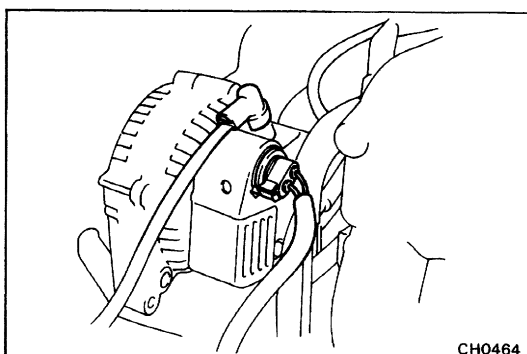


# ALTERNATOR COMPONENTS



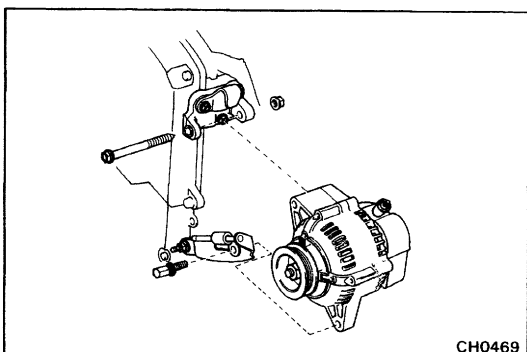
CH0656



CH0464

## REMOVAL OF ALTERNATOR

1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY
2. DISCONNECT CONNECTOR AND WIRE FROM ALTERNATOR
3. REMOVE DRIVE BELT



CH0469

### 4. REMOVE ALTERNATOR

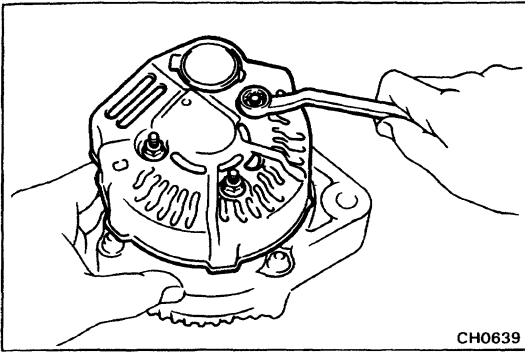
Remove the adjusting lock bolt, pivot bolt, nut and alternator.

## DISASSEMBLY OF ALTERNATOR

(See page [CH-6](#))

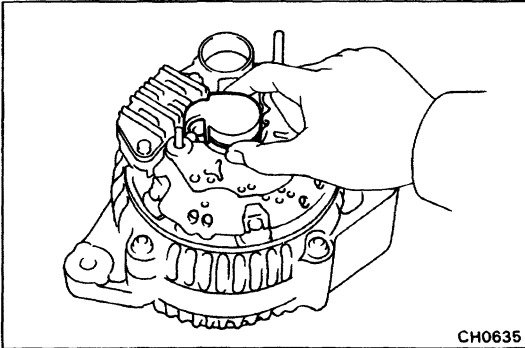
### 1. REMOVE REAR END COVER

- (a) Remove the nut and terminal insulator from the positive (+) terminal.
- (b) Remove the three nuts and rear end cover.

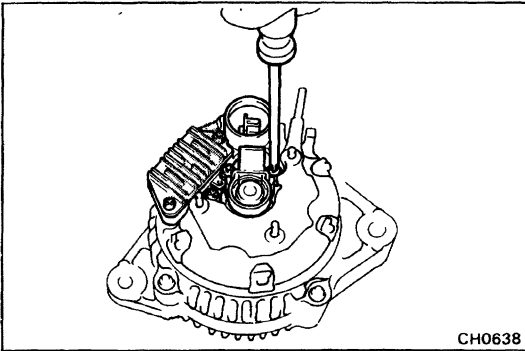


### 2. REMOVE BRUSH HOLDER AND IC REGULATOR

- (a) Remove the brush holder cover from the brush holder.

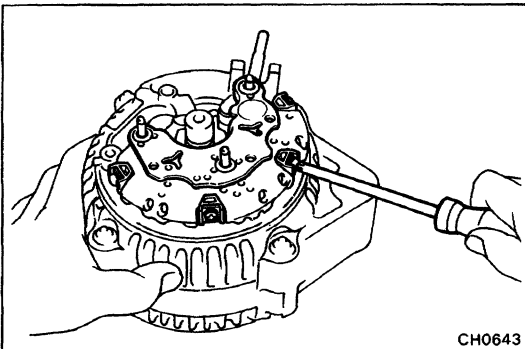


- (b) Remove the five screws, brush holder and IC regulator.

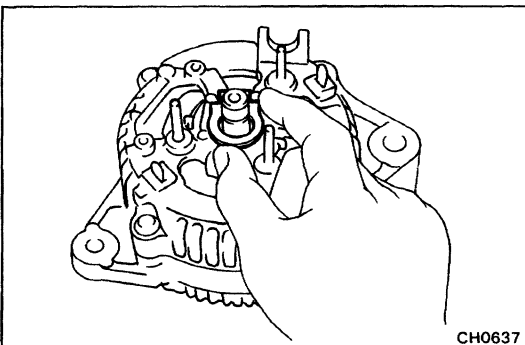


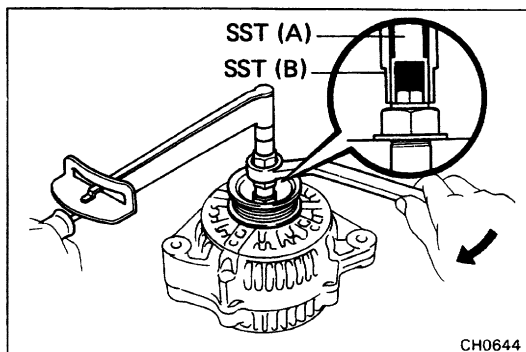
### 3. REMOVE RECTIFIER HOLDER

- (a) Remove the four screws and rectifier holder.
- (b) Remove the four rubber insulators.



### 4. REMOVE SEAL PLATE





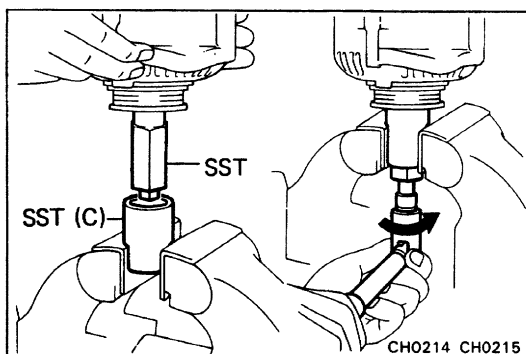
## 5. REMOVE PULLEY

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

SST 09820-630 10

**Torque: 400 kg-cm (29 ft-lb, 39 N-m)**

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



- (e) As shown in the illustration, mount SST (C) in a vise, and install the alternator with SST (A and B) 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.**

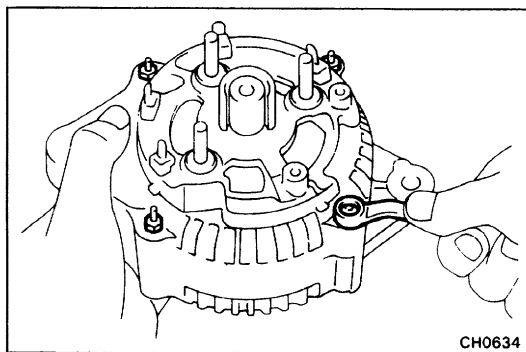
- (e) Remove the alternator with SST (A and B) from SST (C).

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

- (g) Remove the pulley nut and pulley.

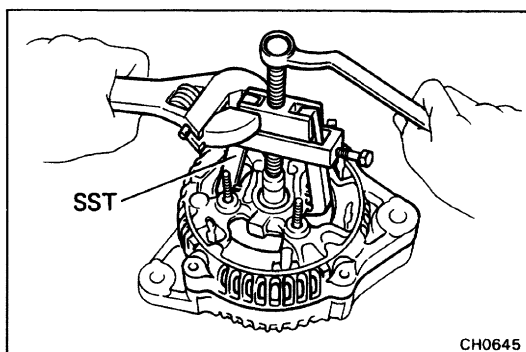
## 6. REMOVE RECTIFIER END FRAME

- (a) Remove the four nuts.



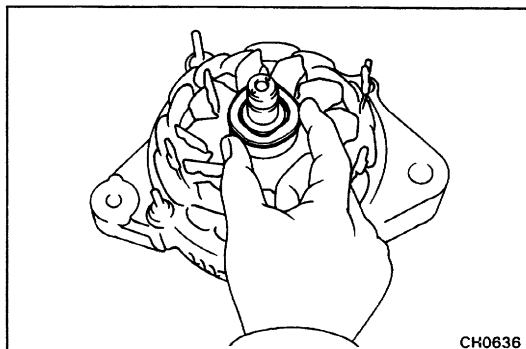
- (b) Using SST, remove the rectifier end frame.

SST 09286-46011



## 7. REMOVE ALTERNATOR WASHER

## 8. REMOVE ROTOR FROM DRIVE END FRAME



## INSPECTION AND REPAIR OF ALTERNATOR

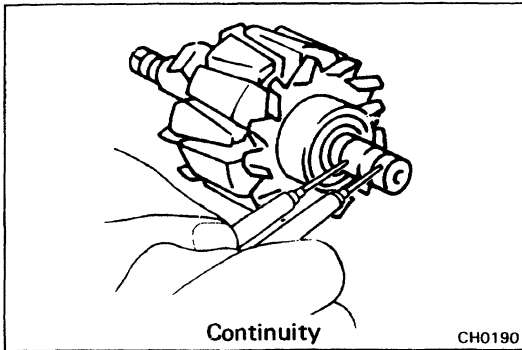
### Rotor

#### 1. INSPECT ROTOR FOR OPEN CIRCUIT

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

**Standard resistance (Cold): 2.8 – 3.4Ω**

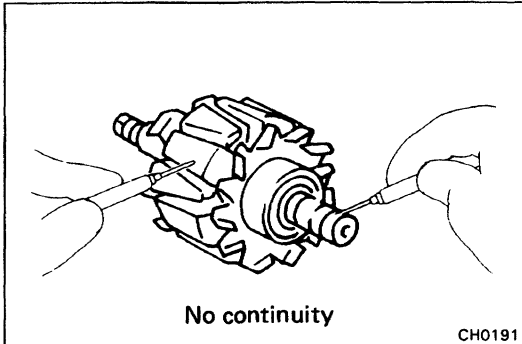
If there is no continuity, replace the rotor.



#### 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.

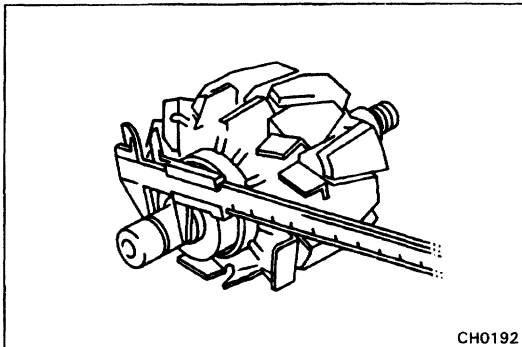
(b) Using vernier calipers, measure the slip ring diameters.

**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.

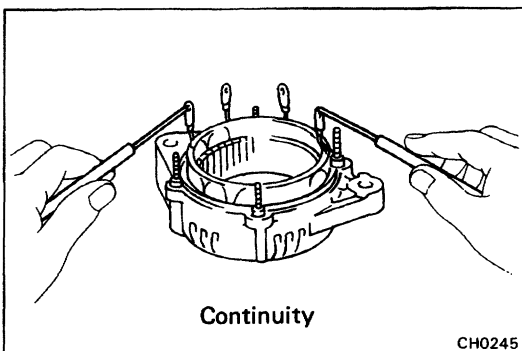


### Stator

#### 1. INSPECT STATOR FOR OPEN CIRCUIT

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

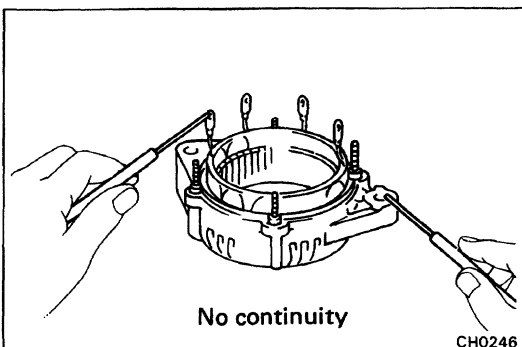
If there is no continuity, replace the drive end frame assembly.

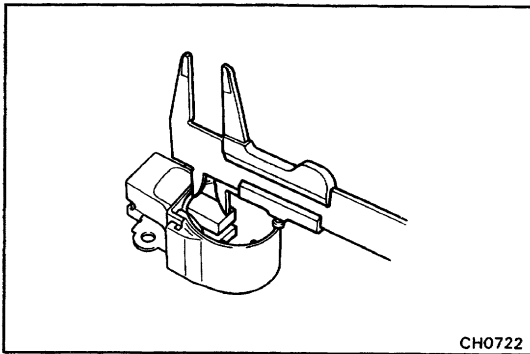


#### 2. INSPECT STATOR FOR GROUND

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

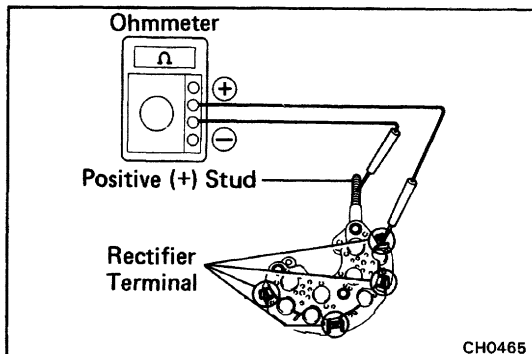
### INSPECT EXPOSED BRUSH LENGTH

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 brush holder.



## Rectifiers (Rectifier Holder)

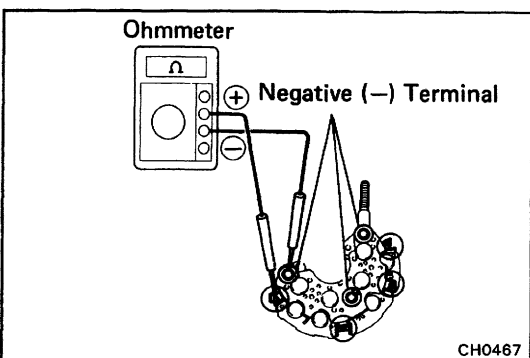
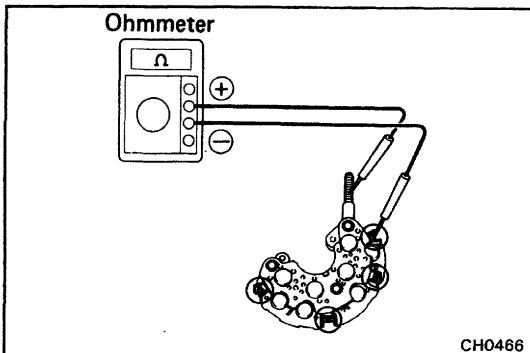
### 1. INSPECT POSITIVE SIDE RECTIFIER

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

(b) Reverse the polarity of the tester probes and repeat step (a).

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

If not, replace the rectifier holder.



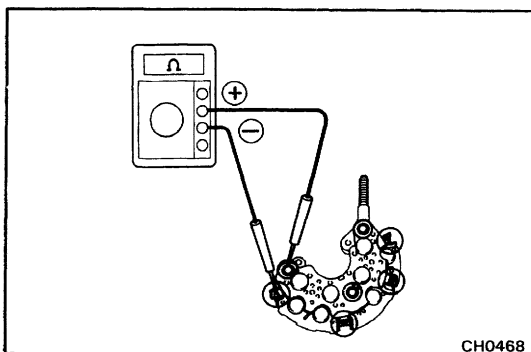
### 2. INSPECT NEGATIVE SIDE RECTIFIER

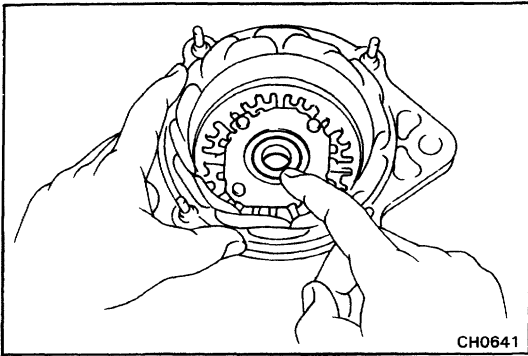
(a) Connect one tester probe to each rectifier terminal and the other to each rectifier negative (-) terminal.

(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.

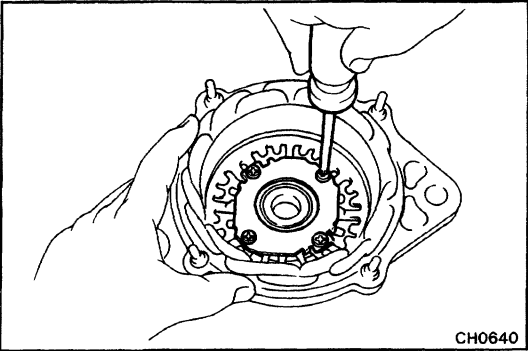




## Bearings

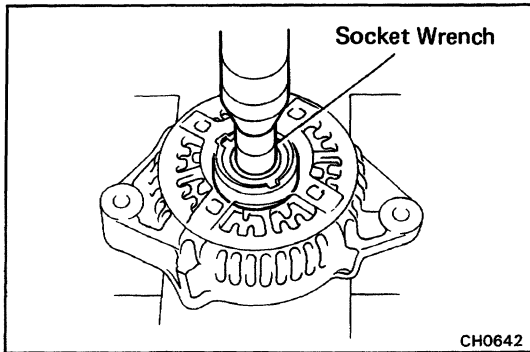
### 1. INSPECT FRONT BEARING

Check that the bearing is not rough or worn.

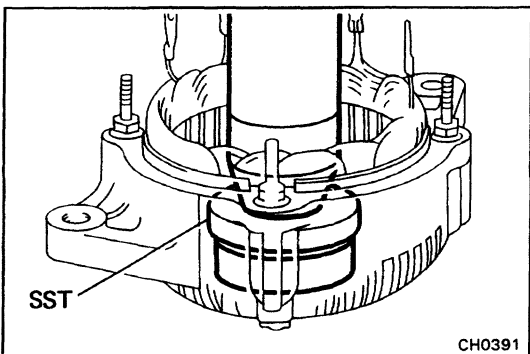


### 2. IF NECESSARY, REPLACE FRONT BEARING

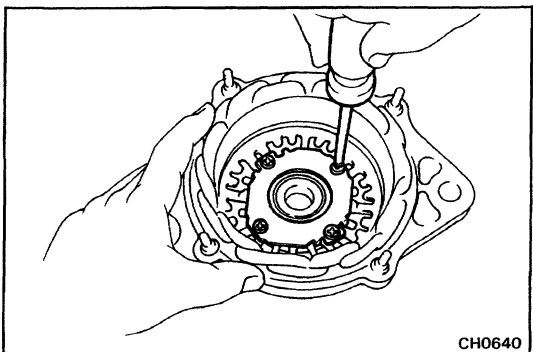
(a) Remove the four screws, and bearing retainer.



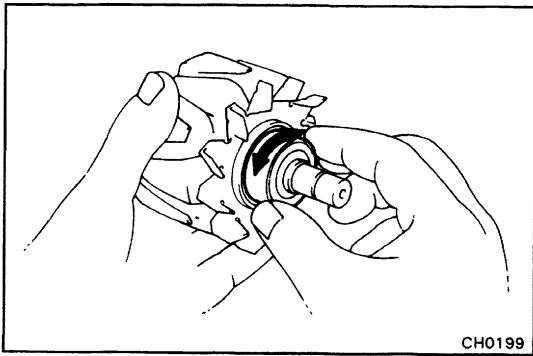
(b) Using a press and socket wrench, press out the front bearing.



(c) Using SST and a press, press in a new bearing.  
SST 09608-20012 (09608-00030)

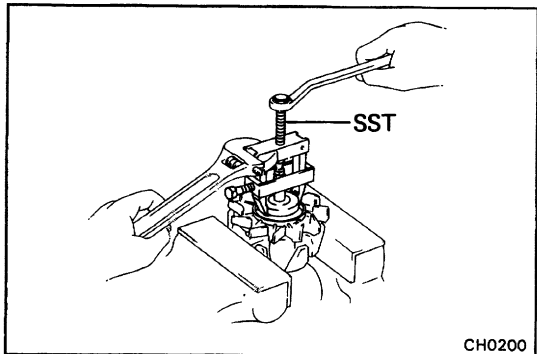


(d) Install the bearing retainer with the four screws.



### 3. INSPECT REAR BEARING

Check that the bearing is not rough or worn.

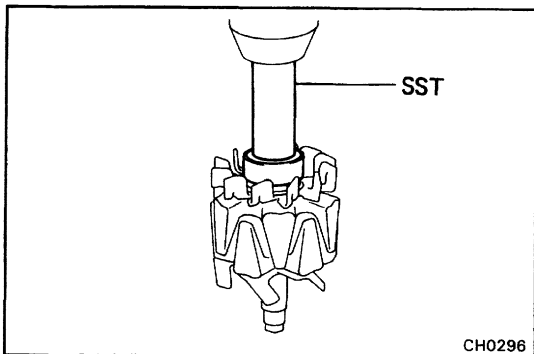


### 4. IF NECESSARY, REPLACE REAR BEARING

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

SST 09820-00021

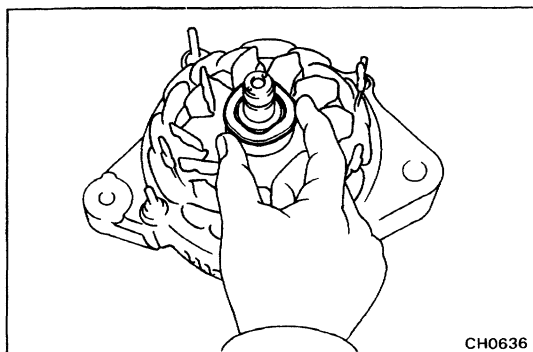
**NOTICE:** Be careful not to damage the fan.



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

SST 09820-00030

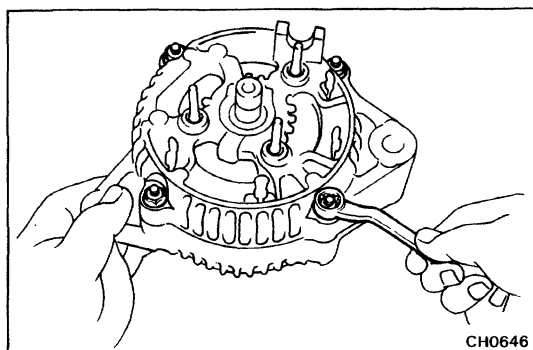
(c) Install the bearing cover.



## ASSEMBLY OF ALTERNATOR

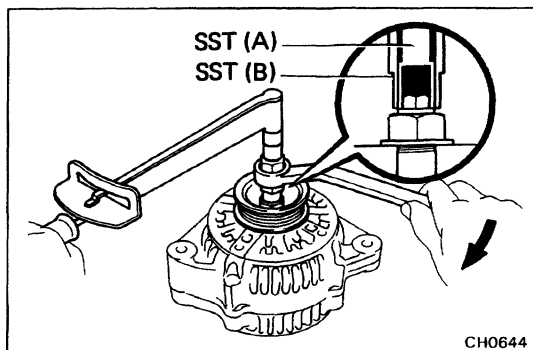
(See page CH-6)

1. INSTALL ROTOR TO DRIVE END FRAME
2. PLACE ALTERNATOR WASHER ON REAR BEARING



### 3. INSTALL RECTIFIER END FRAME

- (a) Using a plastic-faced hammer, lightly tap in the end frame.
- (b) Install the four nuts.



### 4. 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)**

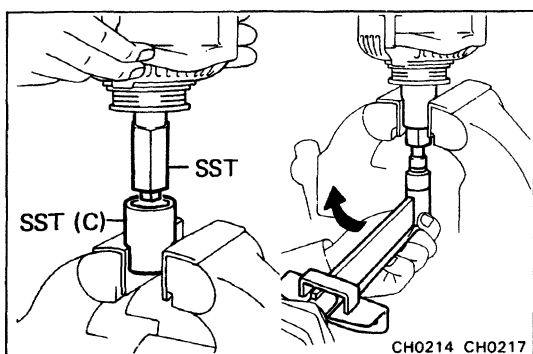
- (c) Check that SST (A) is secured to the pulley shaft.

- (d) As shown in the illustration, mount SST (C) in a vise, and install the alternator with SST (A and B) to SST (C).

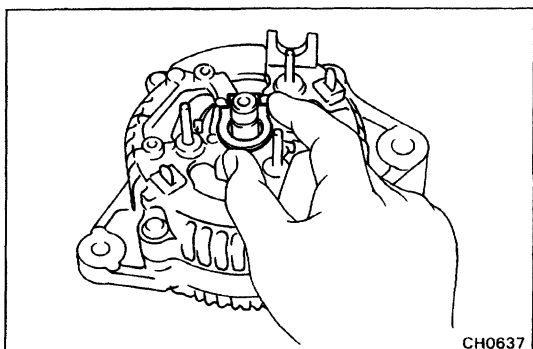
- (e) To torque the pulley nut, turn SST (A) in the direction shown in the illustration.

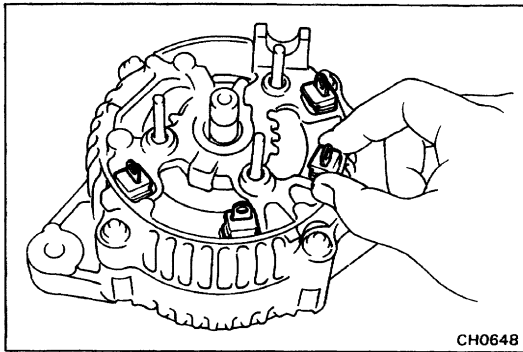
**Torque: 1,125 kg-cm (81 ft-lb, 110 N-m)**

- (f) Remove the alternator with SST (A and B) from SST (C).
- (g) Turn SST (B) and remove SST (A and B).



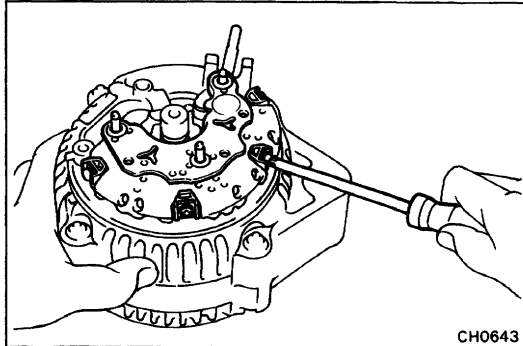
### 5. PLACE SEAL PLATE ON RECTIFIER END FRAME



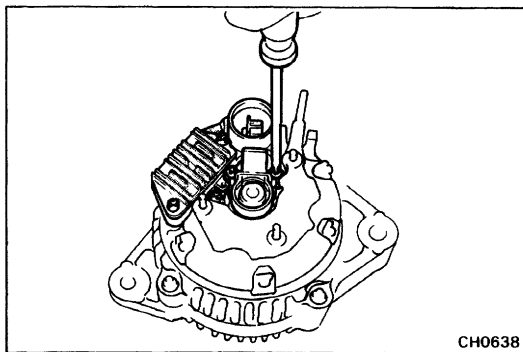


## 6. INSTALL RECTIFIER HOLDER

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

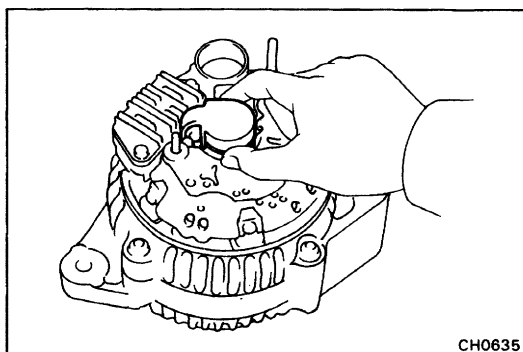


(b) Install the rectifier holder with the four screws.

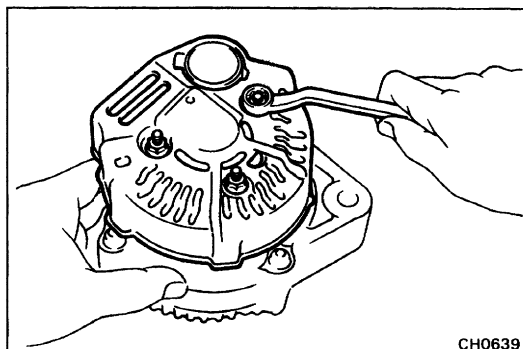


## 7. INSTALL IC REGULATOR AND BRUSH HOLDER

(a) Install the IC regulator and brush holder with the five screws.



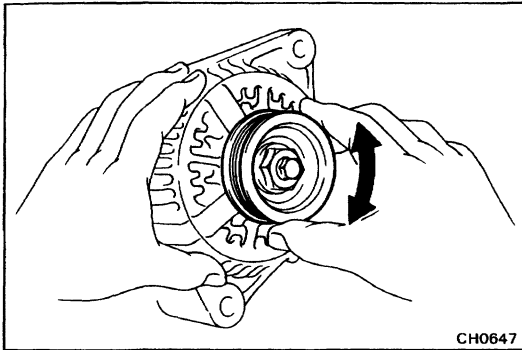
(b) Place the brush holder cover on the brush holder.



## 8. INSTALL REAR END COVER

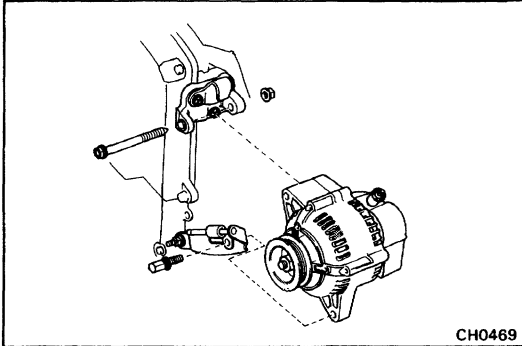
(a) Install the rear end cover with the three nuts.

(b) Install the terminal insulator with the nut.



CH0647

## 9. CHECK THAT ROTOR ROTATES SMOOTHLY



CH0469

## INSTALLATION OF ALTERNATOR

### 1. INSTALL ALTERNATOR

Mount the alternator on the alternator bracket with the pivot bolt, nut and adjusting lock bolt. Do not tighten the bolts yet.

### 2. INSTALL DRIVE BELT

Adjust the drive belt tension.

(See step 3 on page [CH-2](#))

**Drive belt tension:**

**New belt  $175 \pm 5\text{lb}$**

**Used belt  $115 \pm 20\text{lb}$**

### 3. CONNECT CONNECTOR AND WIRE TO ALTERNATOR

### 4. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

### 5. PERFORM ON-VEHICLE INSPECTION

(See steps 5 to 7 on pages [CH-3](#), 4)