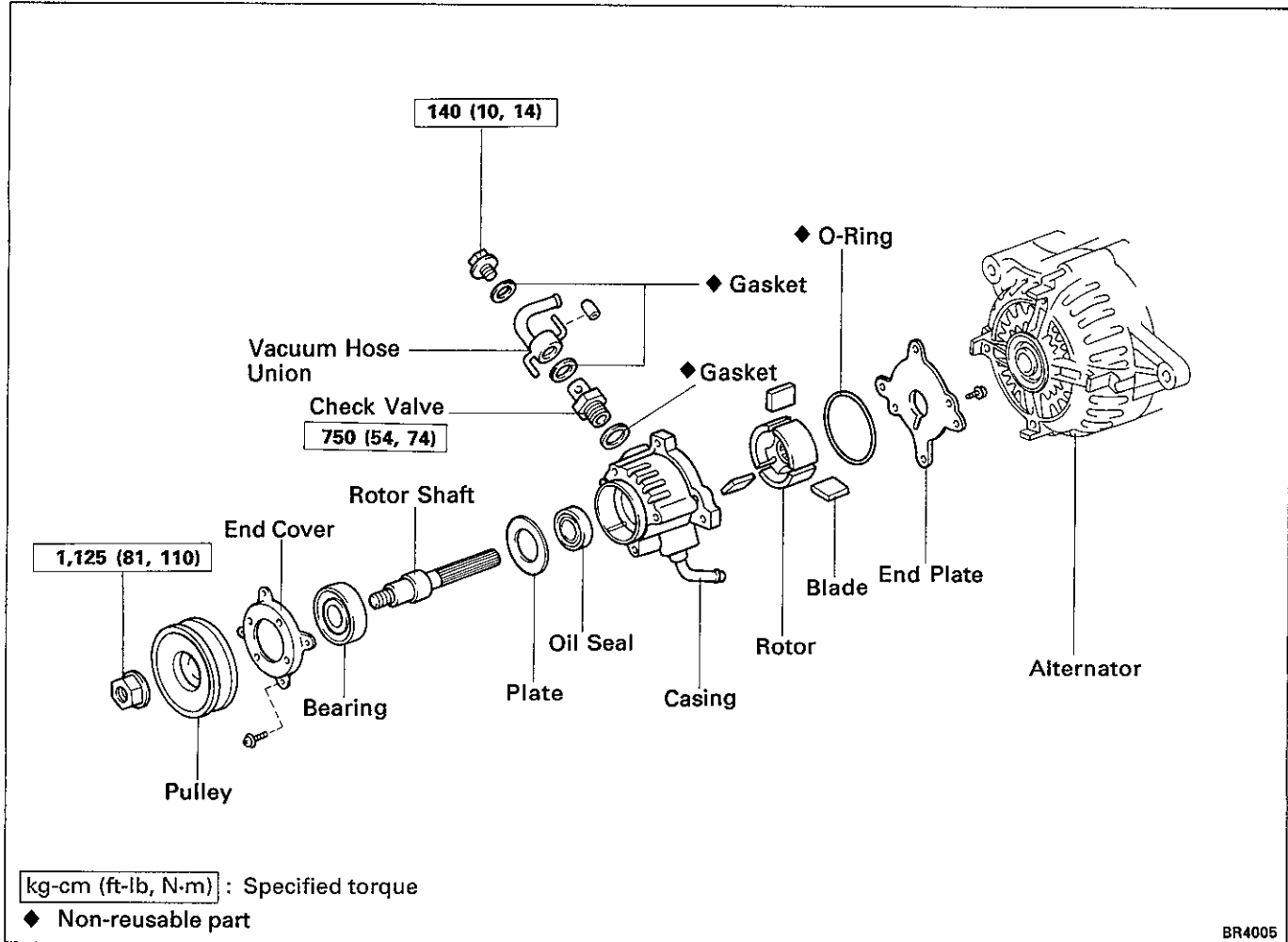
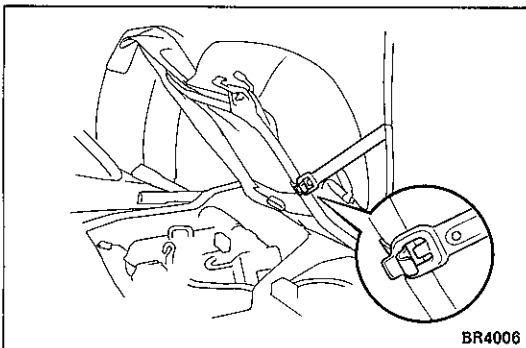


## VACUUM PUMP COMPONENTS



BR4005

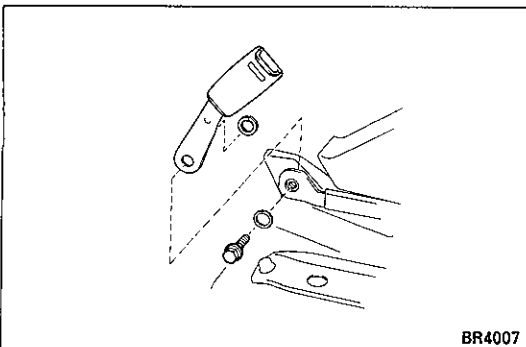


BR4006

## REMOVAL OF VACUUM PUMP

### 1. LIFT UP LH SEAT

Lift up the LH seat and hook the hook band to keep the condition.

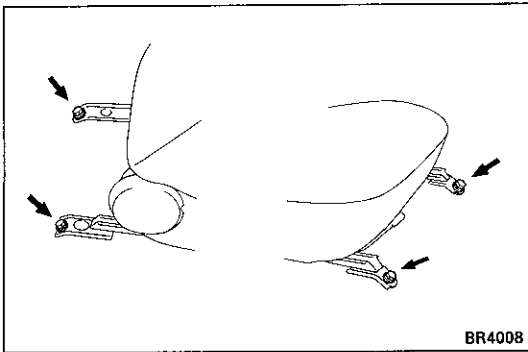


BR4007

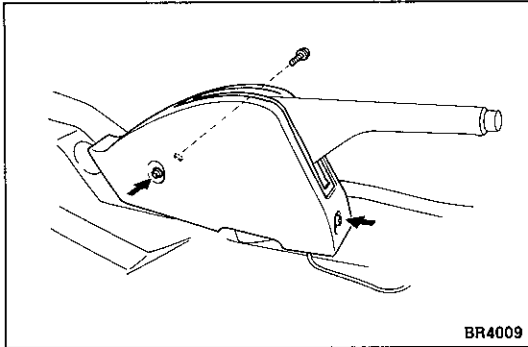
### 2. REMOVE RH SEAT

#### (a) (RHD)

Remove the center seat belt buckle installation bolt, wave washer, buckle and spring washer.

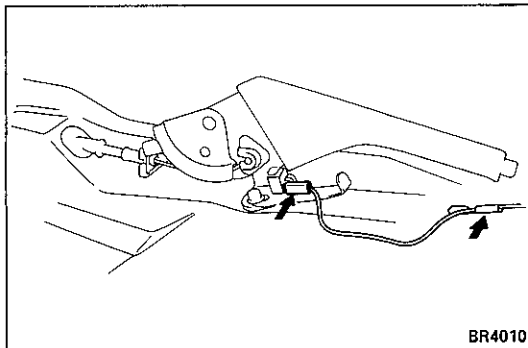


- (b) Remove the four bolt and remove the RH seat.
- (c) Strip off the floor carpet.

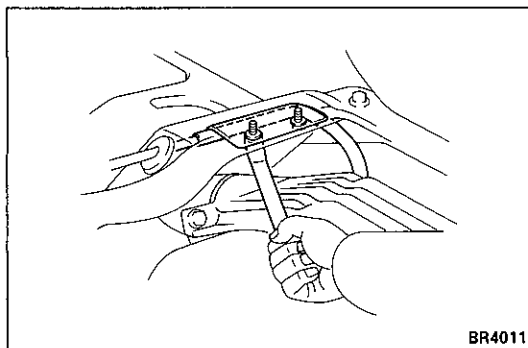


**3. (RHD)  
REMOVE PARKING BRAKE CABLE FROM BODY**

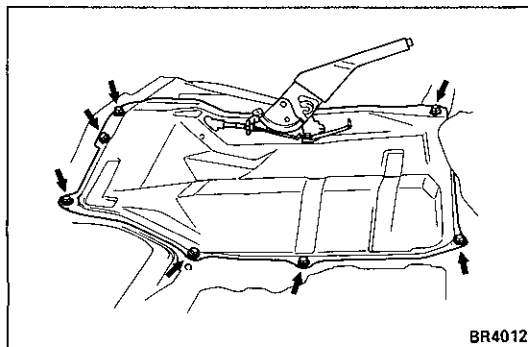
- (a) Remove the three screws and remove the PKB lever cover.



- (b) Disconnect the connector and remove the wire harness from the clamp.

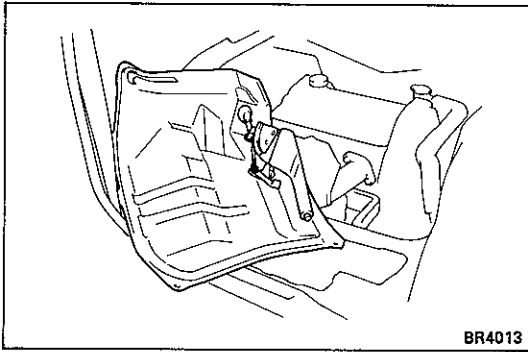


- (c) Release the PKB lever.
- (d) Remove the two bolts from the cable guide pipe.

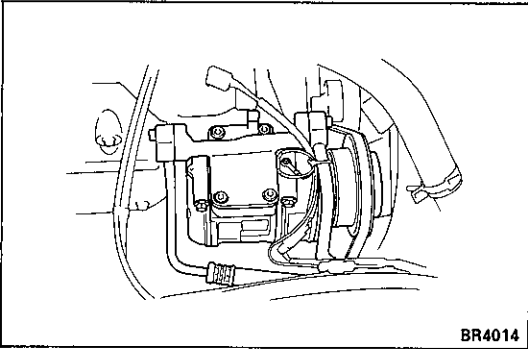


**4. REMOVE RH ENGINE UPPER COVER PLATE**

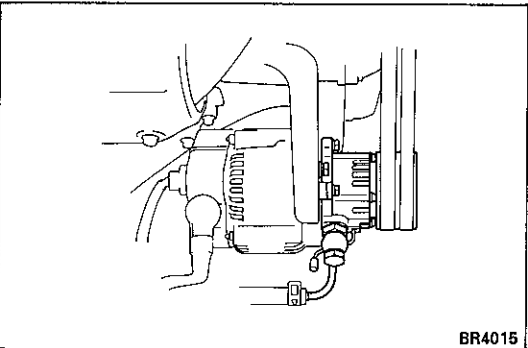
Remove the bolts and remove the RH engine upper cover plate.



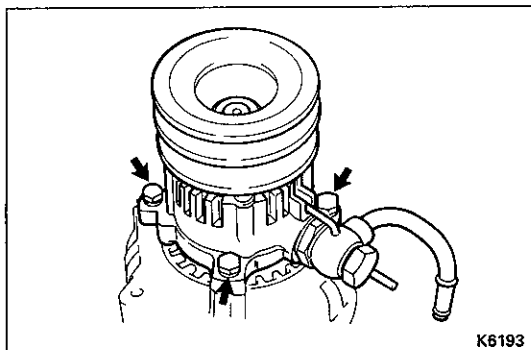
**HINT:** If the vehicle has a pull up type PKB lever (RHD), slide the cover as shown in the illustration.



- 5. (w/ A/C)  
IF NECESSARY, REMOVE A/C COMPRESSOR**



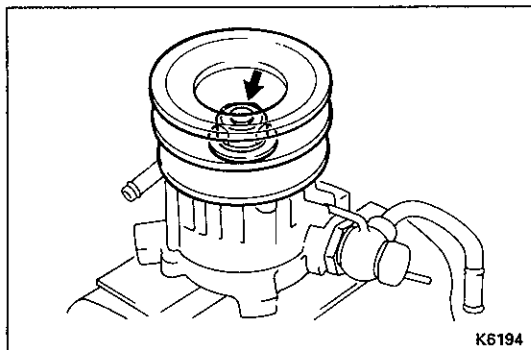
- 6. REMOVE ALTERNATOR WITH VACUUM PUMP**

**DISASSEMBLY OF VACUUM PUMP**

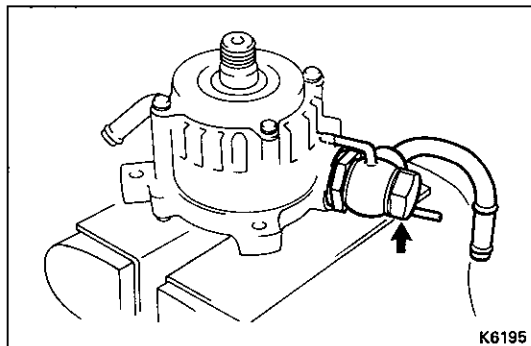
(See page BR-50)

**1. REMOVE VACUUM PUMP FROM ALTERNATOR**

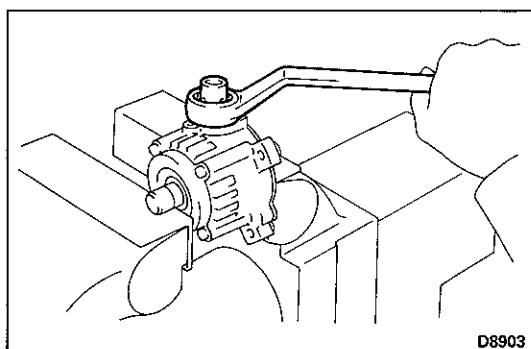
Remove the four bolts and remove the vacuum pump from the alternator.

**2. REMOVE PULLEY**

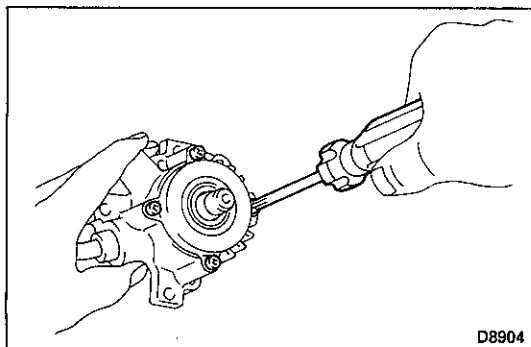
Using soft jaws on the vise, remove the pulley nut and pulley.

**3. REMOVE VACUUM HOSE UNION**

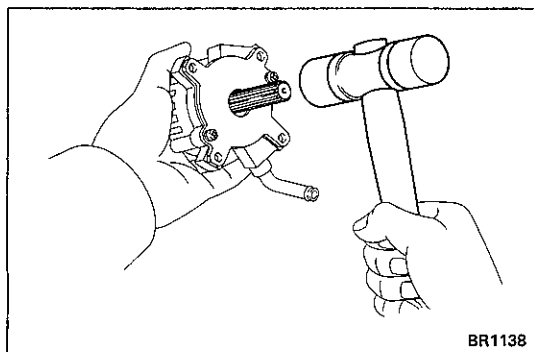
Remove the union bolt, union and two gaskets.

**4. REMOVE CHECK VALVE**

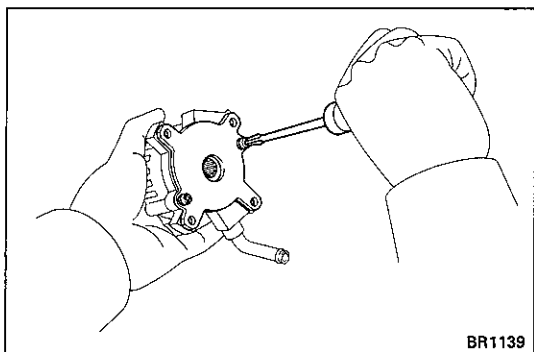
Remove the check valve and gasket.

**5. REMOVE END COVER**

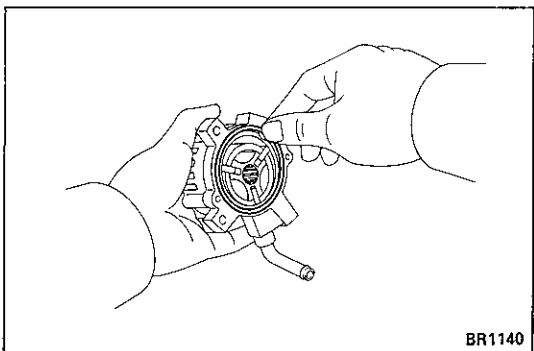
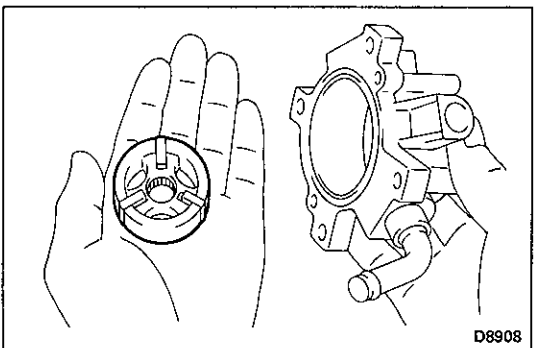
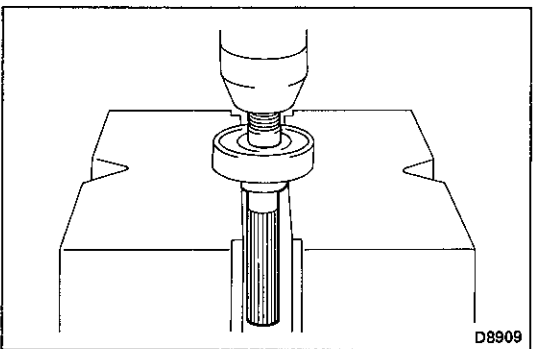
Remove the four screws and end cover.

**6. REMOVE ROTOR SHAFT WITH BEARING**

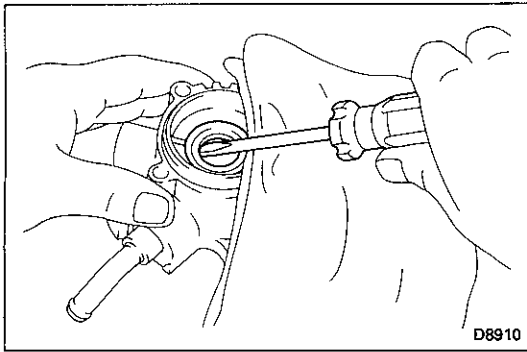
Using a plastic hammer, tap out the rotor shaft with bearing.

**7. REMOVE PLATE****8. REMOVE END PLATE**

Remove the two screws and end plate.

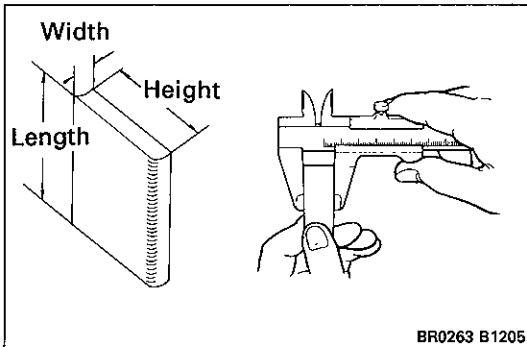
**9. REMOVE O-RING****10. REMOVE ROTOR AND BLADES****11. IF NECESSARY, REMOVE BEARING**

Using a press, remove the bearing from the rotor shaft.



## 12. REMOVE OIL SEAL

Using a screwdriver, remove the oil seal.



## INSPECTION OF VACUUM PUMP

### 1. INSPECT BLADE

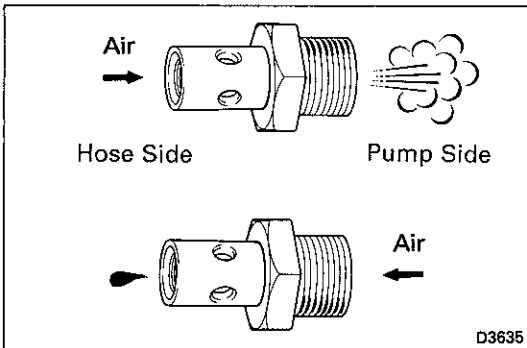
- Check the blades for wear or damage.
- Using calipers, measure the height, width and length of the blades.

**Minimum height:** 12.2 mm (0.480 in.)

**Minimum width:** 3.96 mm (0.1559 in.)

**Minimum length:** 22.98 mm (0.4047 in.)

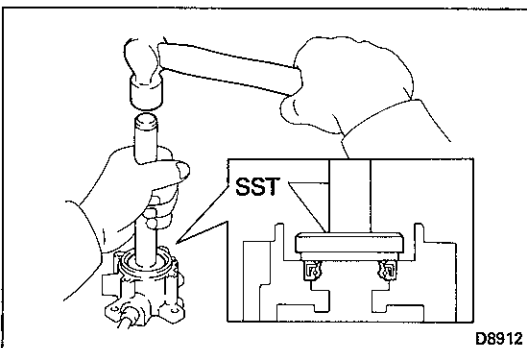
If necessary, replace the blade.



### 2. INSPECT CHECK VALVE OPERATION

- Check that air flows from the hose side to the pump side.
- Check that air does not flow from the pump side to the hose side.

If necessary, replace the check valve.



## ASSEMBLY OF VACUUM PUMP

(See page BR-50)

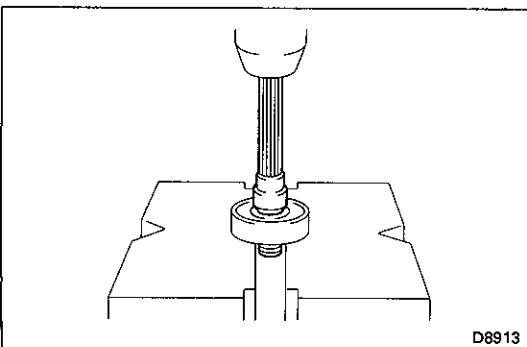
### 1. INSTALL OIL SEAL

Using SST, tap in the oil seal.

SST 09608-20012

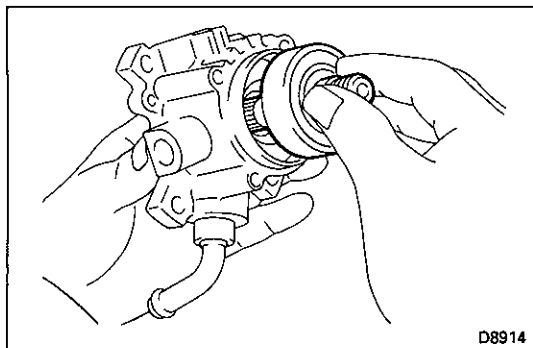
(09608-00040 and 09608-03020)

### 2. INSTALL PLATE

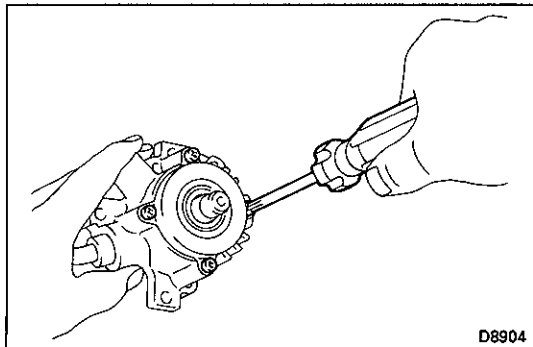


### 3. INSTALL BEARING

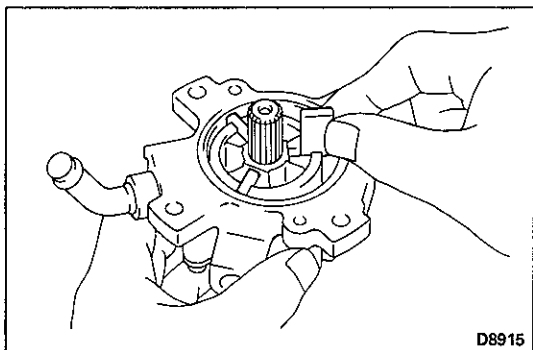
Using a press, install the bearing to the rotor shaft.

**4. INSTALL ROTOR SHAFT WITH BEARING**

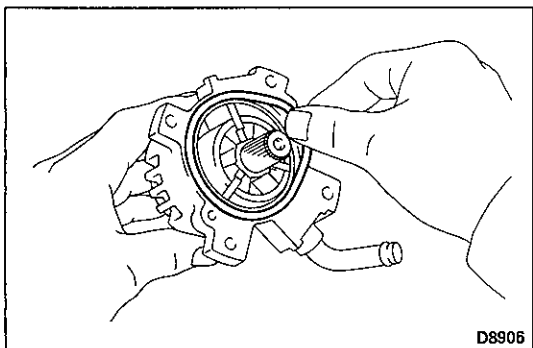
Install the rotor shaft with the bearing to the casing.

**5. INSTALL END COVER**

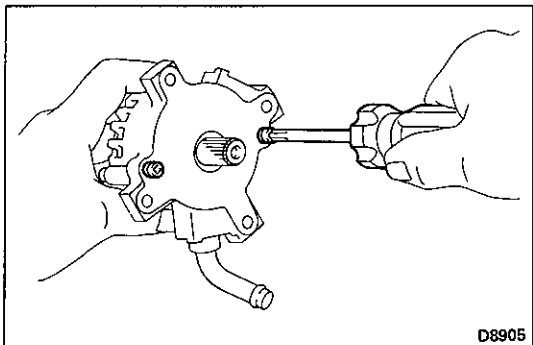
Install the end cover with the four screws.

**6. INSTALL ROTOR INTO CASING****7. INSTALL BLADES**

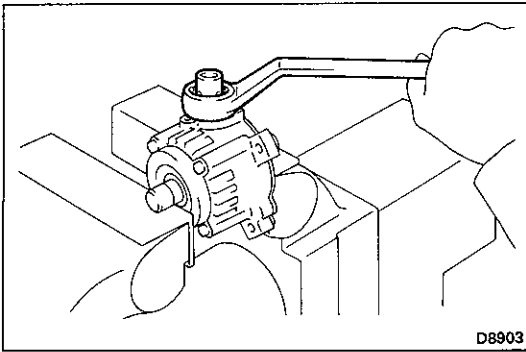
- (a) Install the blade with the round end facing outward.
- (b) Be sure that the blade and rotor surfaces are even.

**8. INSTALL NEW O-RING**

Install a new O-ring into the groove of the casing.

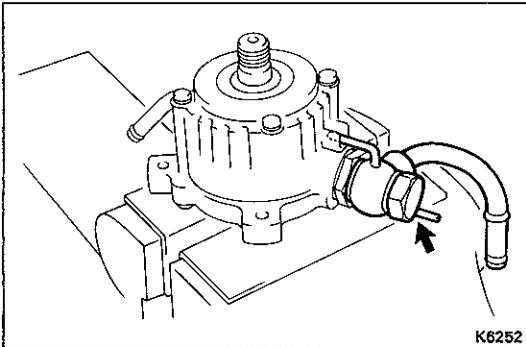
**9. INSTALL END PLATE**

Install the end plate with the two screws.

**10. INSTALL CHECK VALVE**

Install the check valve with a new gasket.

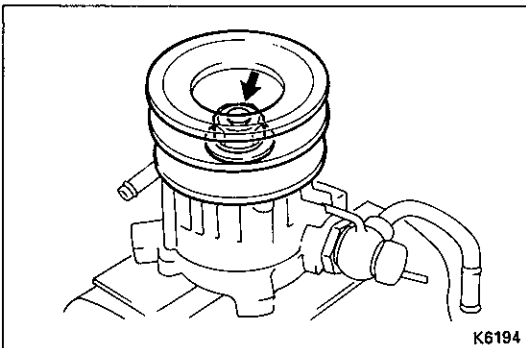
**Torque: 750 kg-cm (54 ft-lb, 74 N·m)**

**11. INSTALL VACUUM HOSE UNION**

Install the vacuum hose union with the two new gaskets, and install and torque the union bolt.

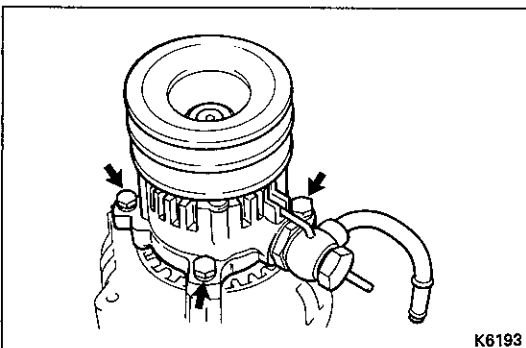
**Torque: 140 kg-cm (10 ft-lb, 14 N·m)**

**HINT:** Align and insert the union pin into the matching hole of the casing.

**12. INSTALL PULLEY**

Using soft jaws on the vise, install the pulley to the vacuum pump and torque the lock nut.

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

**13. INSTALL VACUUM PUMP TO ALTERNATOR**

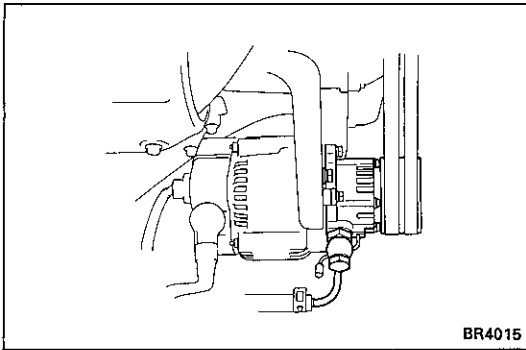
Install the vacuum pump to the alternator with the four bolts.



## INSTALLATION OF VACUUM PUMP

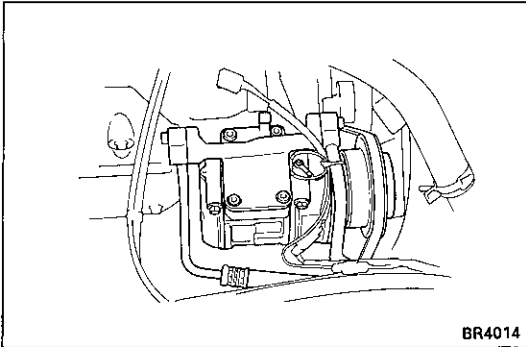
### 1. INSTALL ALTERNATOR WITH VACUUM PUMP

Install the alternator with the vacuum pump in place and adjust the belt tension.



### 2. (w/ A/C) INSTALL A/C COMPRESSOR

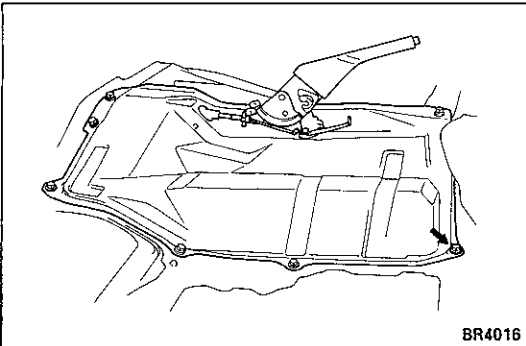
Install the A/C compressor and adjust the belt tension.



### 3. INSTALL RH ENGINE UPPER COVER PLATE

Install the RH engine upper cover plate in place, then install and tighten the bolts.

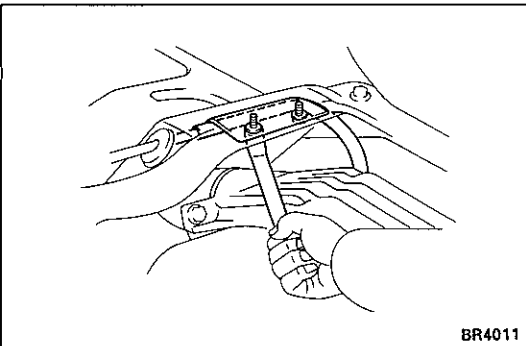
HINT: The short length bolt is installed to the position where shown in the illustration.



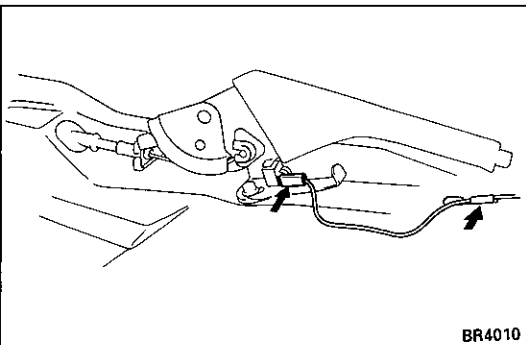
### 4. (RHD) INSTALL PKB CABLE TO BODY

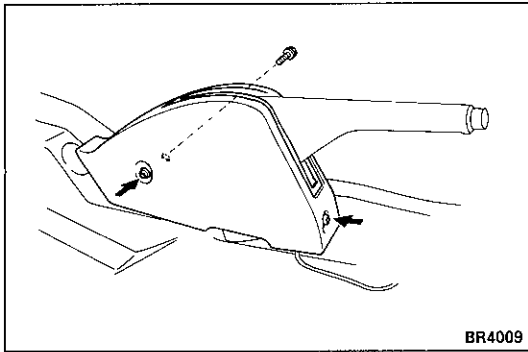
(a) Release the PKB lever.

(b) Install the cable guide pipe with the two bolts.

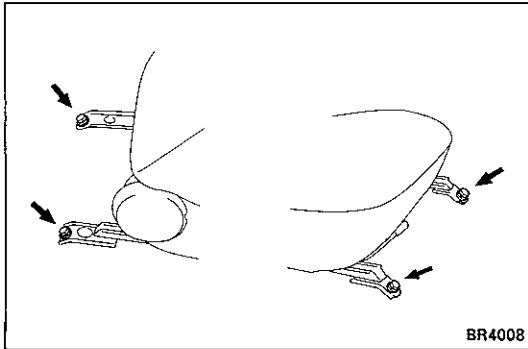


(c) Connect the connector and install the wire harness to the clamp with vinyl tape.



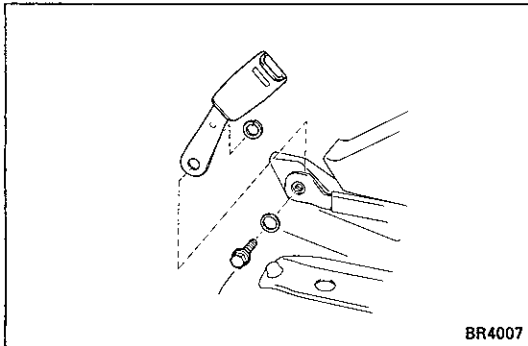


- (d) Install PKB lever cover with the three screws.
- (e) Install the floor carpet in place.



## 5. INSTALL RH SEAT

- (a) Install the seat in place and temporarily install the four bolts.



- (b) (RHD)  
Install the center seat belt buckle parts in following procedure.

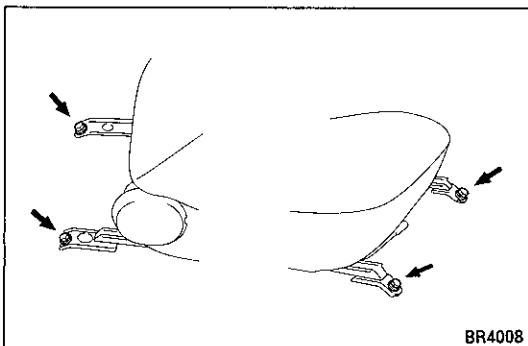
- Spring washer
- Center seat belt buckle
- (Seat belt rail)
- Wave washer
- Installation bolt

- (c) (RHD)  
Tighten the center seat belt buckle installation bolt.

**Torque: 420 kg-cm (30 ft-lb, 41 N·m)**

- (d) Tighten the four seat installation bolts.

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



## 6. LIFT DOWN LH SEAT