

**3. TORQUE CONNECTIONS TO SPECIFIED TORQUE**

**NOTICE:** Connections should not be torqued tighter than the specified torque.

**4. EVACUATE AIR IN REFRIGERATIONS SYSTEM AND CHARGE WITH REFRIGERANT**

**Specified amount:** Single A/C 850 g (30.0 oz)  
Dual A/C 1,400 g (49.4 oz)

**5. INSPECT FOR LEAKAGE OF REFRIGERANT**

Using a gas leak tester, check for leakage of refrigerant.

**6. INSPECT AIR CONDITIONER OPERATION**

## COMPRESSOR

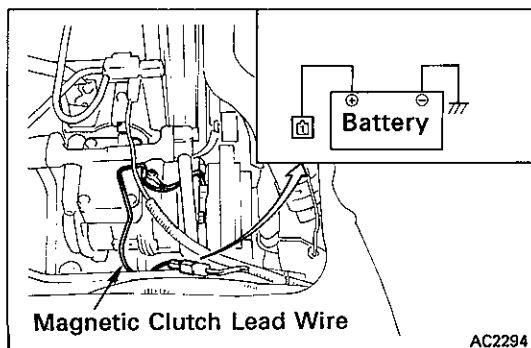
### ON-VEHICLE INSPECTION

#### (Magnetic Clutch)

**INSPECT MAGNETIC CLUTCH FOR FOLLOWING**

- Inspect the pressure plate and the rotor for signs of oil.
- Check the clutch bearings for noise and grease leakage.
- Connect the positive (+) lead from the battery to the terminal on the magnetic clutch connector and the negative (-) lead to the body ground.
- Check that the magnetic clutch is energized.

If the magnetic clutch is not energized, replace the magnetic clutch.



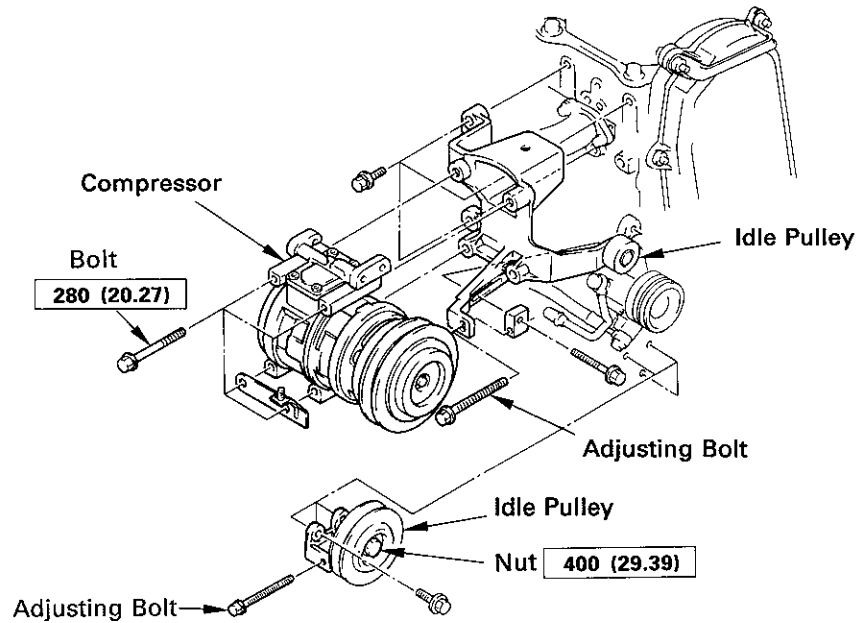
#### (Compressor)

**1. INSTALL MANIFOLD GAUGE SET****2. RUN ENGINE AT APPROX. 2,000 RPM****3. INSPECT COMPRESSOR FOR FOLLOWING**

- High pressure gauge reading is not lower and low pressure gauge reading is not higher than normal.
- Check that the metallic sound.
- Check that the leakage from shaft seal.

## REMOVAL OF COMPRESSOR

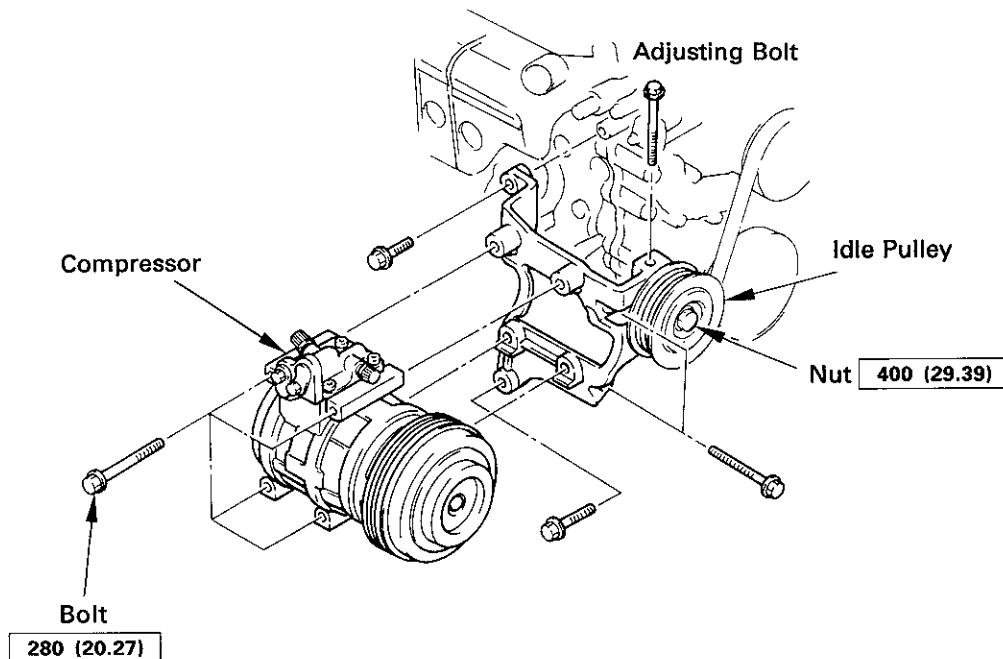
## L series engine



kg-cm (ft-lb, N-m) : Specified torque

AC2295

## RZ series engine



kg-cm (ft-lb, N-m) : Specified torque

AC2296

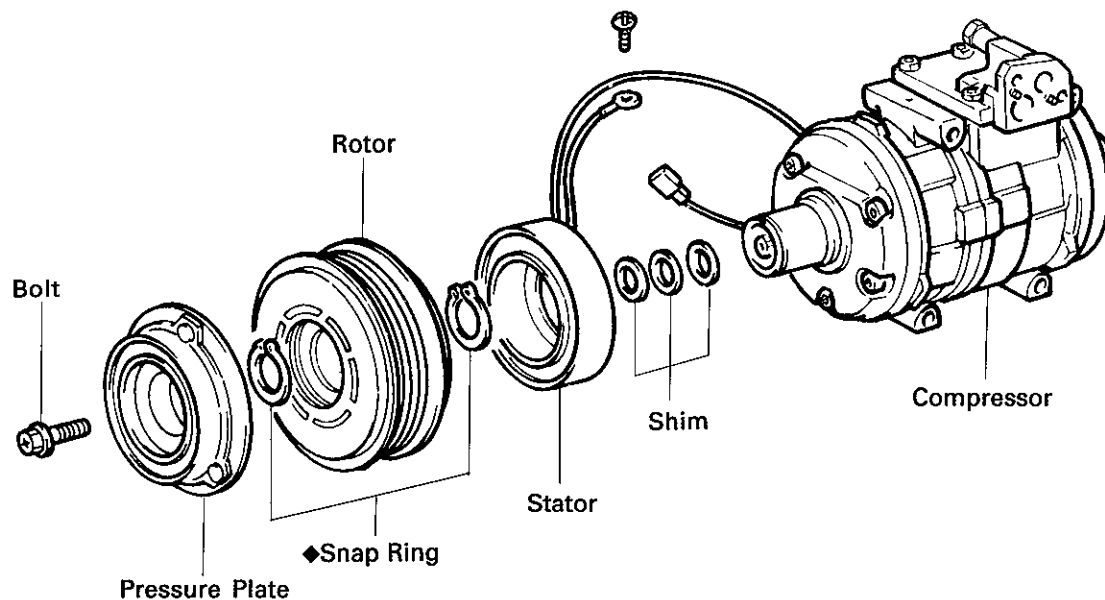
1. **RUN ENGINE AT IDLE SPEED WITH A/C ON FOR TEN MINUTES**
2. **STOP ENGINE**
3. **REMOVE BATTERY NEGATIVE CABLE**
4. **DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM**
5. **LIFT UP DRIVER'S SEAT AND REMOVE PASSENGER'S SEAT AND SERVICE HOLE COVER**
6. **DISCONNECT CONNECTOR FROM MAGNETIC CLUTCH**
7. **DISCONNECT TWO HOSES FROM COMPRESSOR SERVICE VALVE**

Cap the open fitting immediately to keep moisture and dust out of the system.

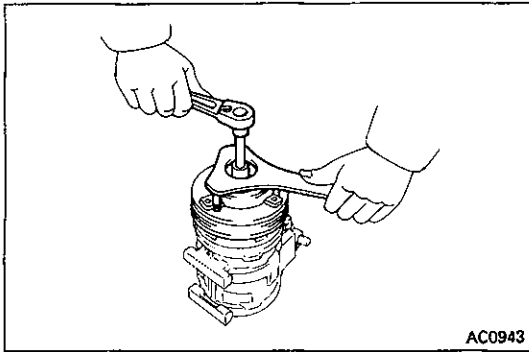
**8. REMOVE COMPRESSOR**

- (a) Loosen the compressor drive belt.
- (b) Remove the compressor mounting bolts and compressor.

### DISASSEMBLY OF MAGNETIC CLUTCH

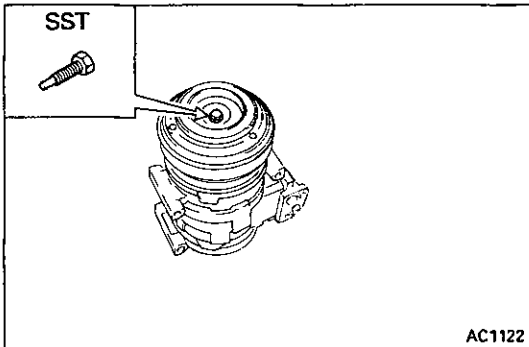


◆ Non-reusable part

**1. REMOVE PRESSURE PLATE**

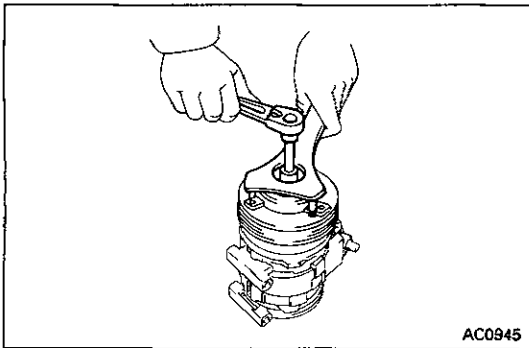
- (a) Using a SST and socket wrench, remove the shaft bolt.

SST 07112-76060



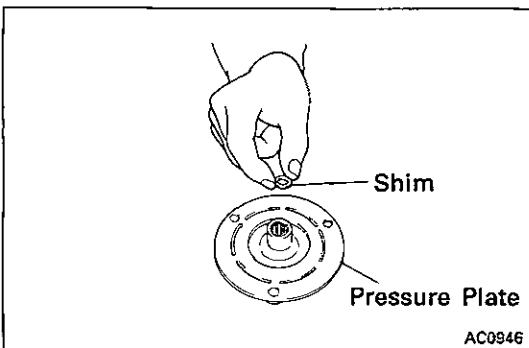
- (b) Install a SST on the pressure plate.

SST 07112-66040

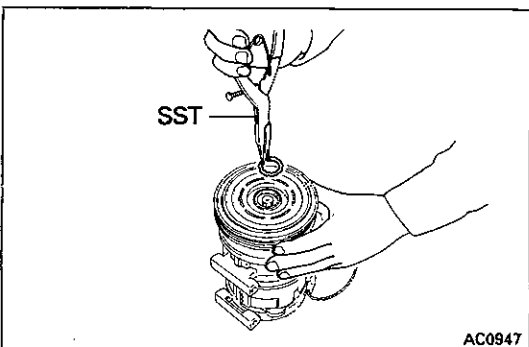


- (c) Using a SST and socket wrench, remove the pressure plate.

SST 07112-76060

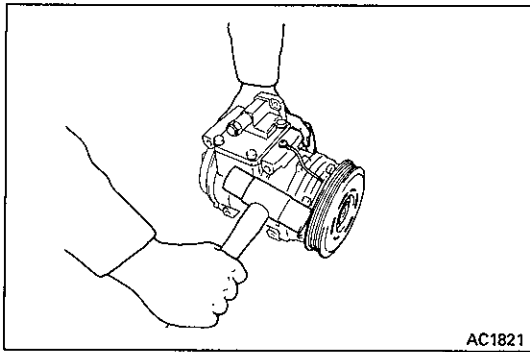


- (d) Remove the shims from the pressure plate.

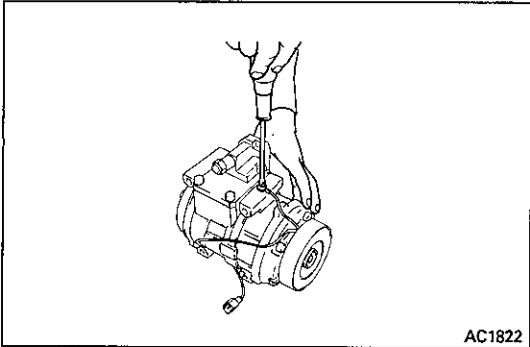
**2. REMOVE ROTOR**

- (a) Using a SST, remove the snap ring.

SST 07114-84020

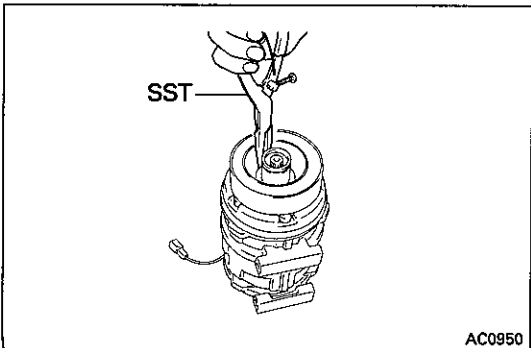


- (b) Using a plastic hammer, tap the rotor off the shaft.  
**NOTICE:** Be careful not to damage the pulley when tapping on the rotor.

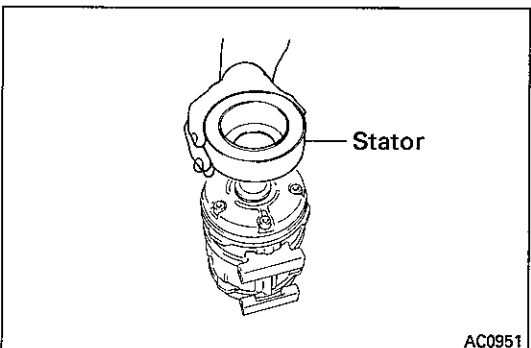


### 3. REMOVE STATOR

- (a) Disconnect the stator lead wire from the compressor housing.

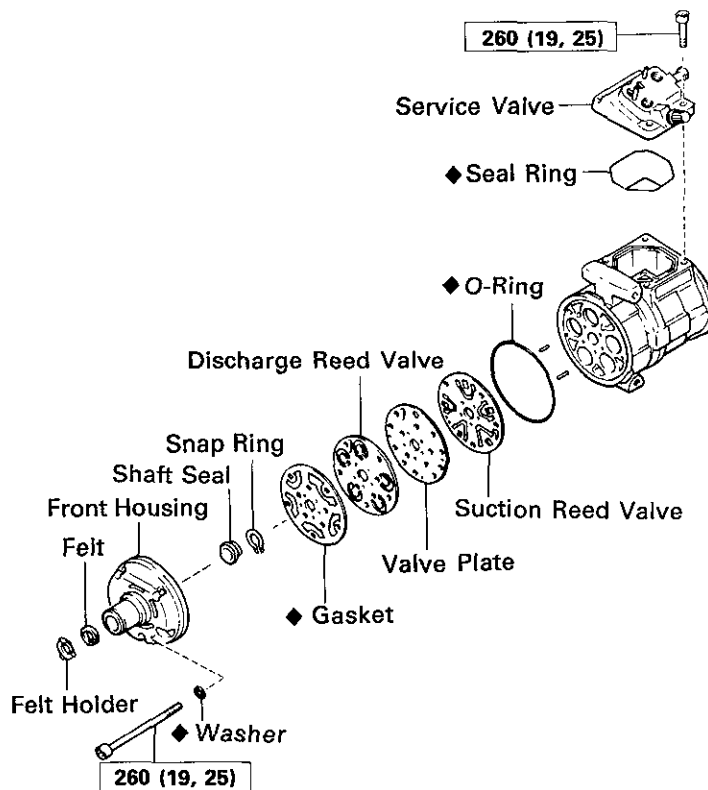


- (b) Using a SST, remove the snap ring.  
SST 07114-84020



- (c) Remove the stator.

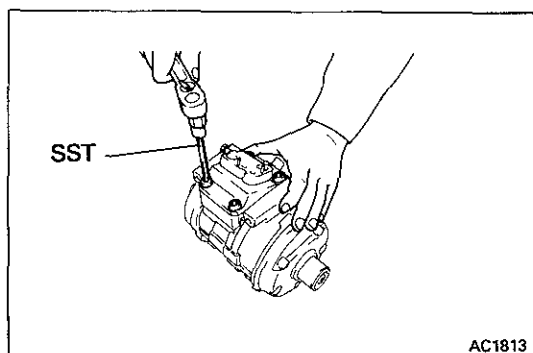
## REPLACEMENT OF LIP SEAL



kg-cm (ft-lb, N·m) : Specified torque

◆ Non-reusable part

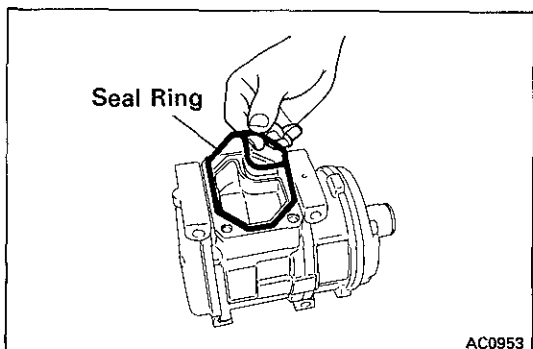
AC1819



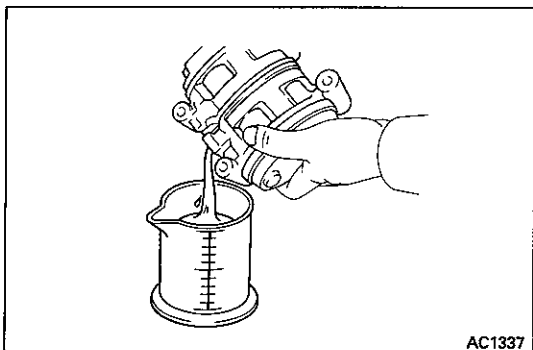
# 1. REMOVE SERVICE VALVE

- (a) Using SST, remove four bolts holding the service valve.

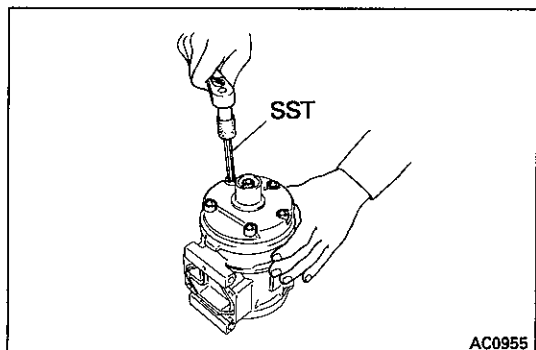
SST 07110-61050



- (b) Remove the seal ring from the cylinder block.  
Discard the seal ring.

**2. DRAIN COMPRESSOR OIL INTO MEASURING FLASK**

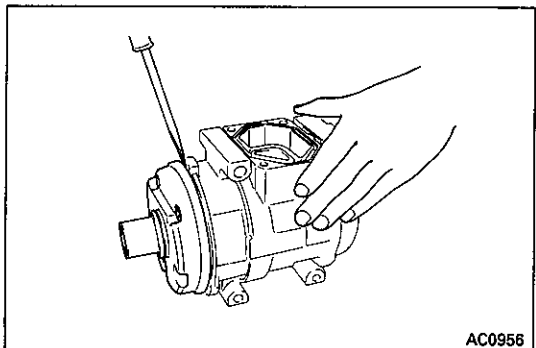
Measure the quantity of drained oil because the same amount should be replaced later.

**3. REMOVE FRONT HOUSING**

(a) Using SST, remove five through bolts.

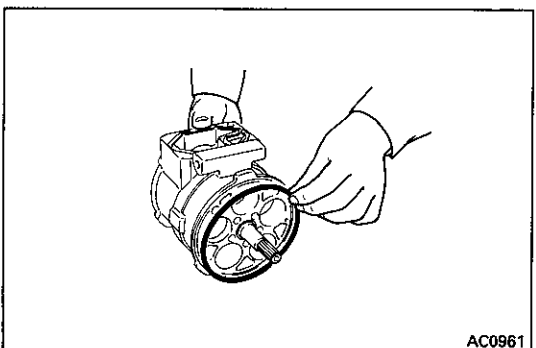
HINT: Do not reuse five washers.

SST 07110-61050



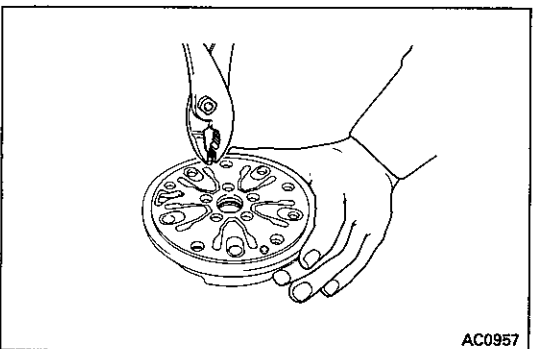
(b) Using a screwdriver, remove the front housing.

**NOTICE:** Be careful not to scratch the sealing surface of the front housing.

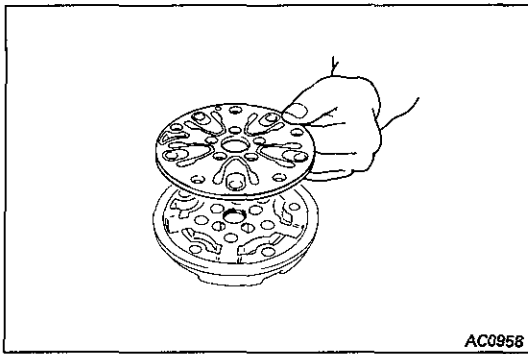


(c) Remove the front O-ring

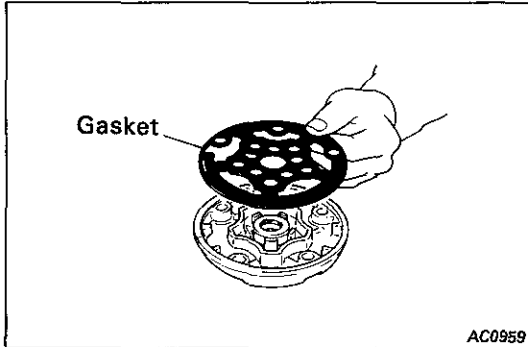
Discard the O-ring.



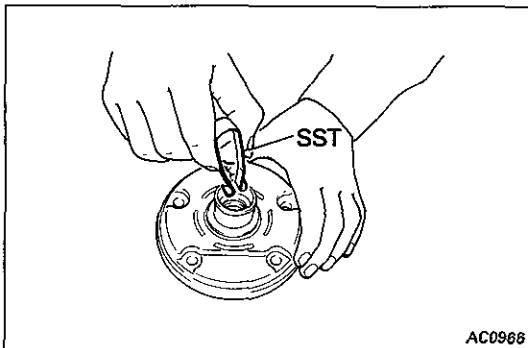
(d) Remove the two pins.



(e) Remove front valve plate with reed valves.



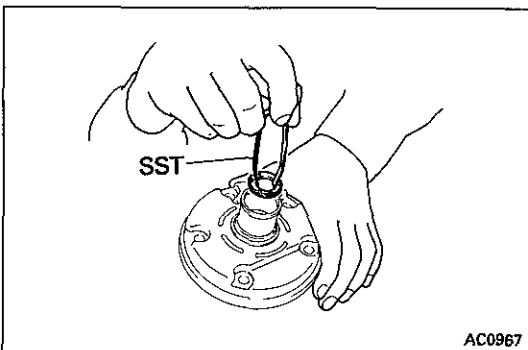
(f) Remove and discard the gasket.



## 7. REMOVE FELT

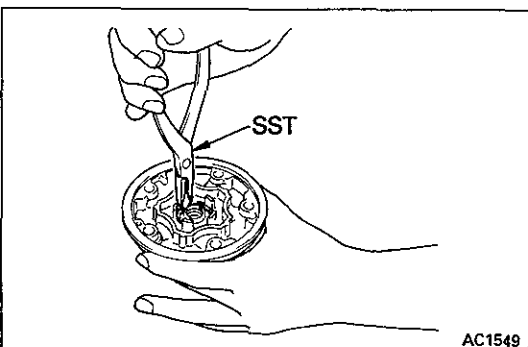
(a) Set SST on the felt.

SST 07112-15020



(b) Pull the felt with felt holder out of front housing.

SST 07112-15020

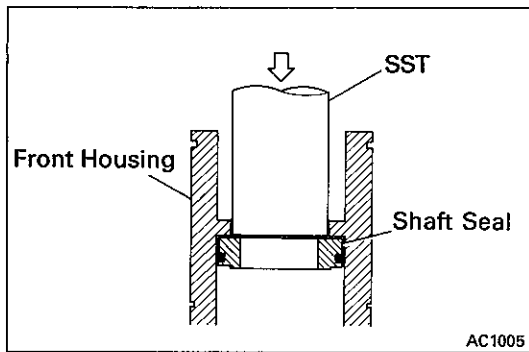


## 8. REMOVE SHAFT SEAL

(a) Using SST, remove the snap ring from the front housing.

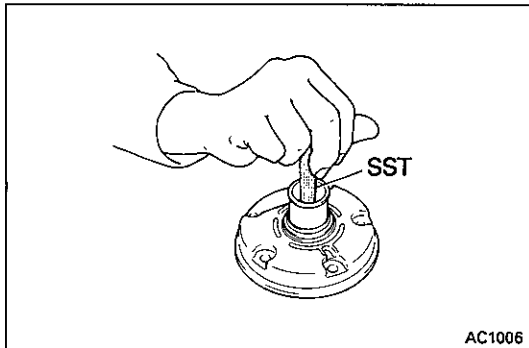
SST 07114-84010





(b) Set SST on the shaft seal.

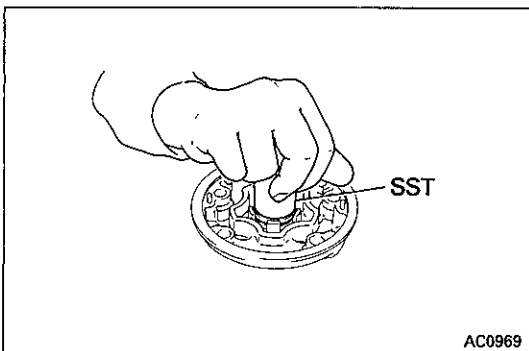
SST 07112-85030



(c) Using SST, put the shaft seal out of the front housing.

SST 07112-85030

(d) Remove the O-ring from the lip seal.  
Discard the O-ring.

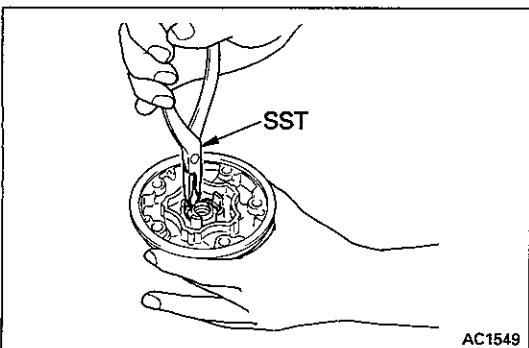


## 9. INSTALL SHAFT SEAL

(a) Fit shaft seal on SST, and install the shaft seal into the front housing.

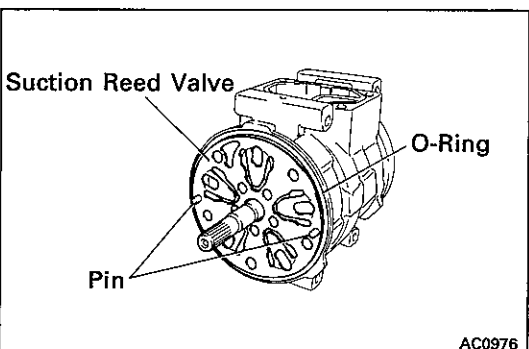
SST 07112-85020

HINT: Clean up the surface of the shaft seal with compressor oil.



(b) Using SST, install the snap ring into the front housing.

SST 07114-84010

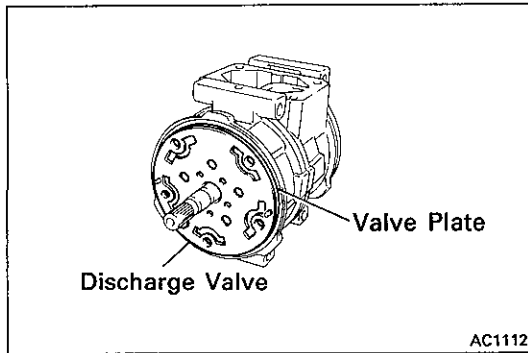


## 10. INSTALL FRONT HOUSING

(a) Install two pins in the front cylinder.

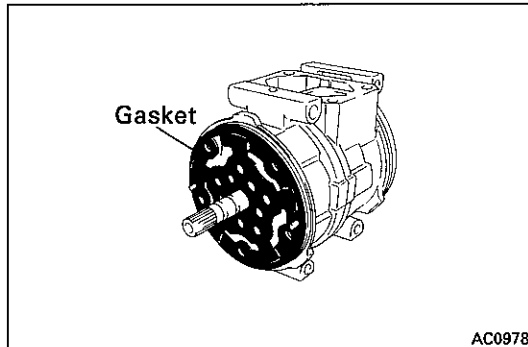
(b) Lubricate a new O-ring with compressor oil and install it in the front housing.

(c) Install the front suction reed valve over the pins on the front cylinder.

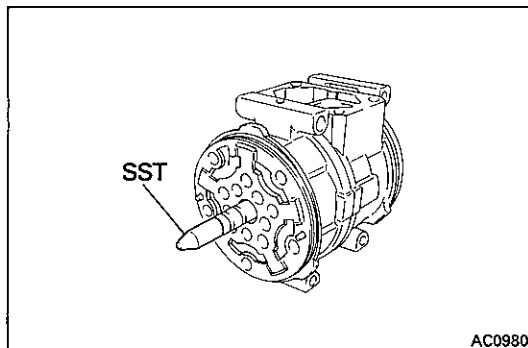


- (d) Install the front valve plate with the discharge reed valve over the pins on the front cylinder.

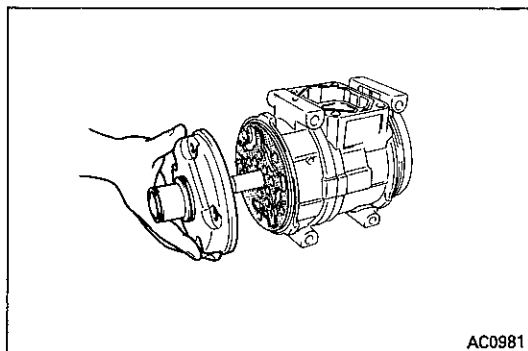
HINT: The front valve plate is marked with an "F".



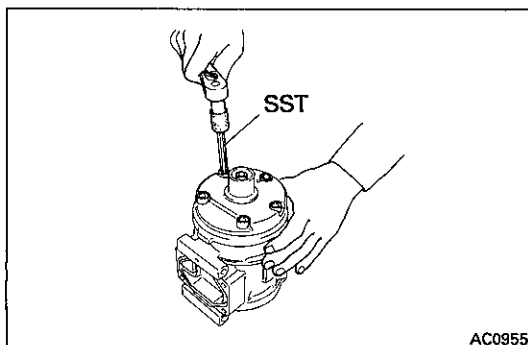
- (e) Lubricate a new gasket with compressor oil and install the gasket on the valve plate.



- (f) Set SST on the shaft to protect the lip seal.  
SST 07112-85010



- (g) Install the front housing on the front cylinder.

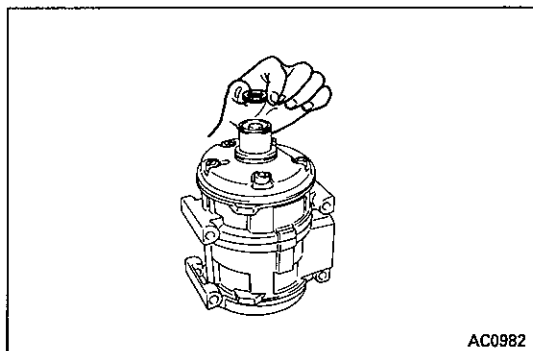


#### 11. TIGHTEN FIVE THROUGH BOLTS

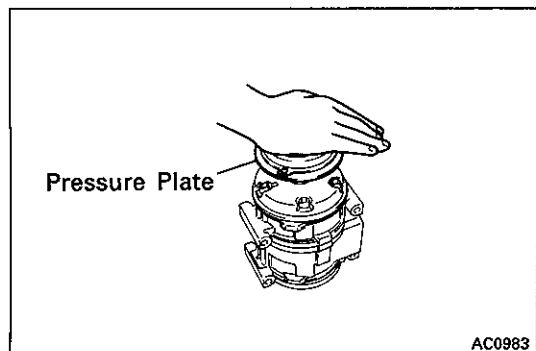
Using SST and torque wrench, gradually tighten the five through bolts in two or three passes.

SST 07110-61050

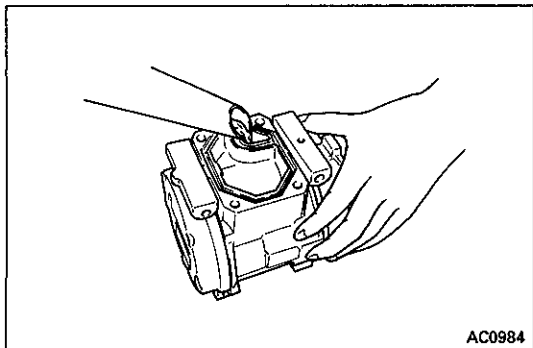
Torque: 260 kg-cm (19 ft-lb, 25 N-m)

**8. INSTALL FELT**

(a) Set the felt with felt holder to the front housing.

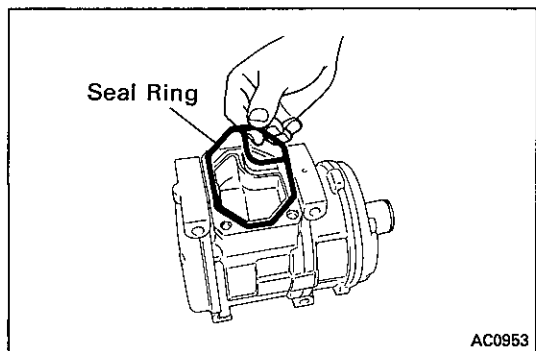


(b) Using pressure plate of magnetic clutch, install the felt.

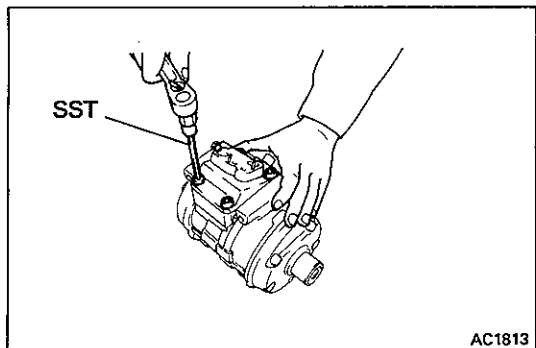
**9. POUR COMPRESSOR OIL INTO COMPRESSOR**

Add the same quantity of oil as was removed, plus 20 cc (0.7 fl.oz), into the compressor.

**Compressor oil: DENSOIL 6,  
SUNISO No.5GS or equivalent**

**10. INSTALL SERVICE VALVE**

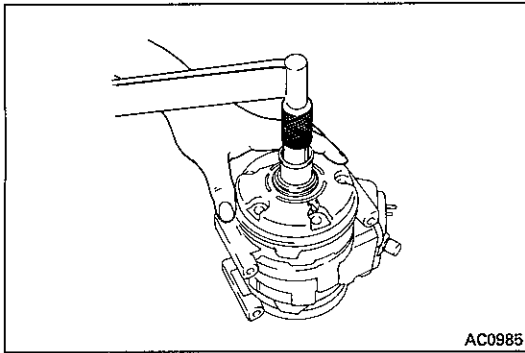
(a) Lubricate new seal ring with compressor oil.  
Install the seal ring in the service valve.



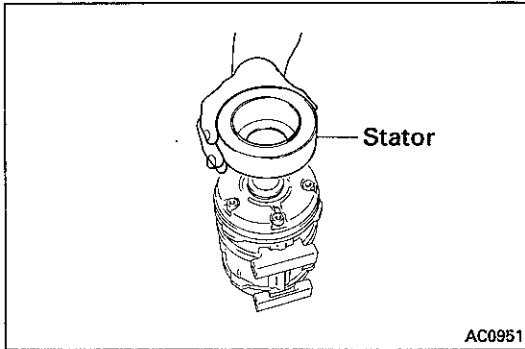
(b) Install the service valve on the compressor.  
Using SST and torque wrench, tighten the bolts.

**SST 07110-61050**

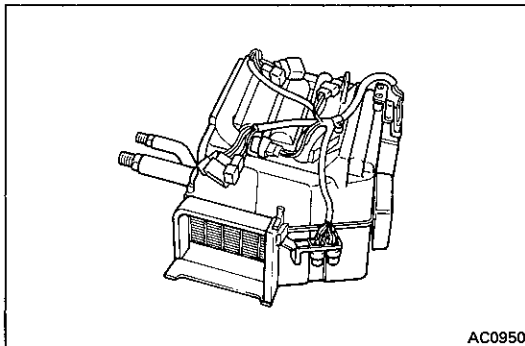
**Torque: 260 kg-cm (19 ft-lb, 25 N·m)**

**11. CHECK SHAFT STARTING TORQUE**

**Torque:** 30 kg-cm (26 in.-lb, 2.9 N·m) or less

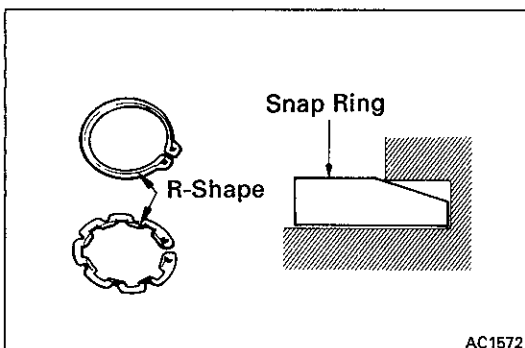
**ASSEMBLY OF MAGNETIC CLUTCH****1. INSTALL STATOR**

(a) Install the stator on the compressor.

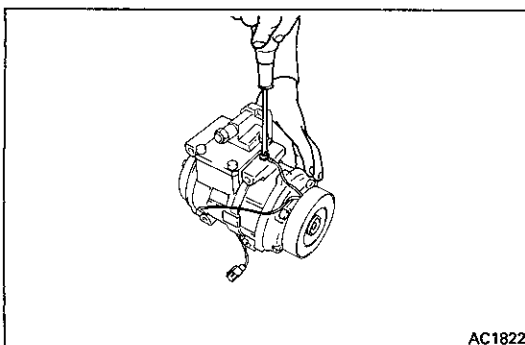


(b) Using a SST, install the new snap ring.

SST 07114-84020



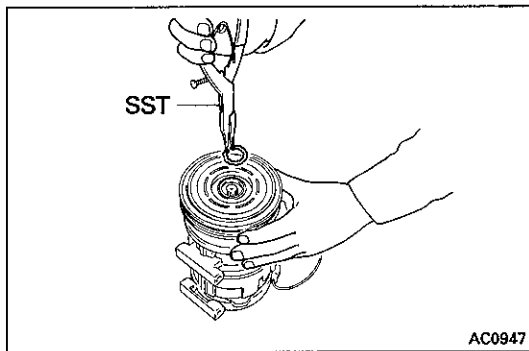
**NOTICE:** The snap ring should be installed so that its beveled side faces up.



(c) Using a SST and torque wrench, fasten the magnetic clutch lead wire to the cylinder block.

**Torque:** 35 kg-cm (30 in.-lb, 3.4 N·m)

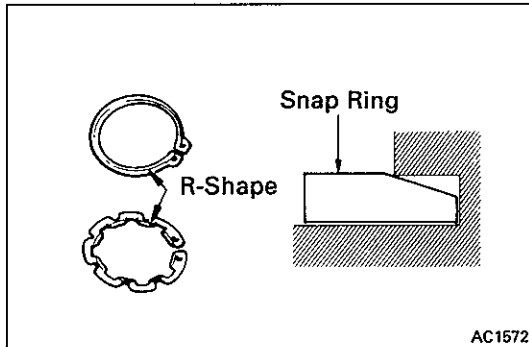
SST 07110-61050



## 2. INSTALL ROTOR

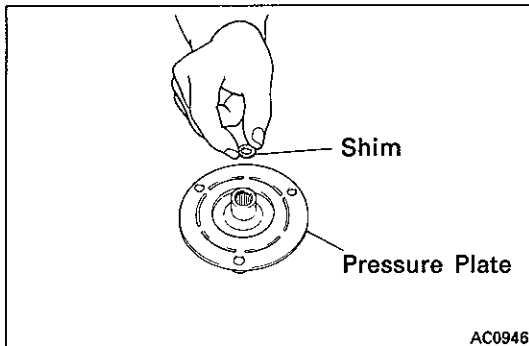
- (a) Install the rotor on the compressor shaft.
  - (b) Using a SST, install the new snap ring.
- SST 07114-84020

**NOTICE:** The snap ring should be installed so that its beveled side faces up.



## 3. INSTALL PRESSURE PLATE

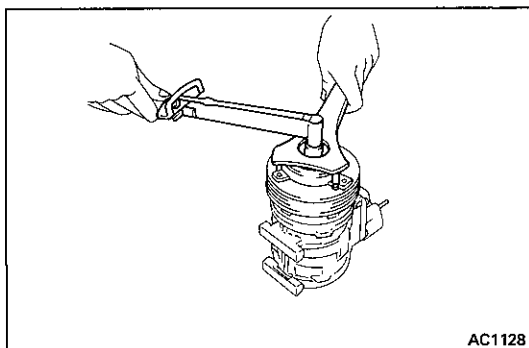
- (a) Put the shims on the pressure plate.



- (b) Using a SST and torque wrench, install the shaft bolt.

SST 07112-76060

**Torque:** 135 kg-cm (9.8 ft-lb, 13 N·m)



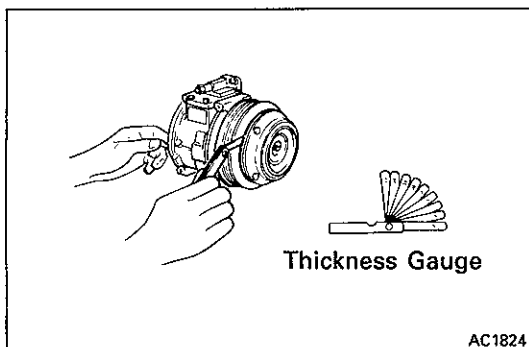
## 4. CHECK CLEARANCE OF MAGNETIC CLUTCH

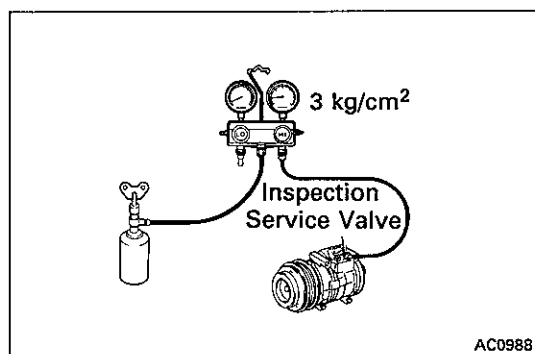
Check the clearance between the pressure plate and rotor using thickness gauge.

**Standard clearance:**  $0.5 \pm 0.15$  mm

$(0.020 \pm 0.0059$  in.)

If the clearance is not within tolerance, change the number of shims to obtain the standard clearance.





## PERFORMANCE TEST OF COMPRESSOR

### 1. PERFORM GAS LEAKAGE TEST

- (a) Install the inspection service valve on the service valve.

HINT: Use only a TOYOTA supplied inspection service valve to perform the gas leakage test.

Part No. Suction side 88376-17020  
Discharge side 88376-22020

- (b) Charge the compressor with refrigerant through the charge valve until the pressure is 3 kg/cm<sup>2</sup> (43 psi, 294 kPa).
- (c) Using a gas leak tester, check the compressor for leaks.

If leaks are found, check and replace the compressor.

### 2. EVACUATE COMPRESSOR AND CHARGE WITH REFRIGERANT

Make sure the caps are tight and the compressor is free from moisture and contamination.

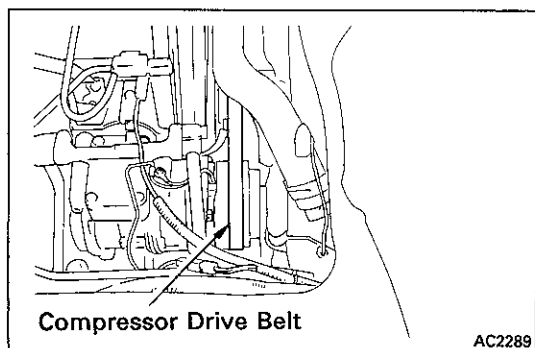
HINT: When storing a compressor for an extended period, charge the compressor with refrigerant or dry nitrogen gas to prevent corrosion.

## INSTALLATION OF COMPRESSOR

(See page AC-17)

### 1. INSTALL COMPRESSOR WITH FOUR MOUNTING BOLTS

Torque: 250 kg-cm (18 ft-lb, 25 N·m)



### 2. INSTALL DRIVE BELT

Install the drive belt, then adjust the belt tension.  
(See page AC-18)

### 3. CONNECT TWO HOSES TO COMPRESSOR SERVICE VALVES

Torque: 250 kg-cm (18 ft-lb, 25 N·m)

### 4. CONNECT CLUTCH LEAD WIRE TO WIRING HARNESS

### 5. REINSTALL SERVICE HOLE COVER AND PASSENGER'S SEAT AND DOWN THE DRIVER'S SEAT

### 6. CONNECT BATTERY NEGATIVE CABLE TO BATTERY

### 7. EVACUATE AIR FROM REFRIGERATION SYSTEM

### 8. CHARGE SYSTEM WITH REFRIGERANT AND INSPECT FOR LEAKAGE OF REFRIGERANT

Specified amount: Single A/C 850 g (30.0 oz)  
Dual A/C 1,400 g (49.4 oz)