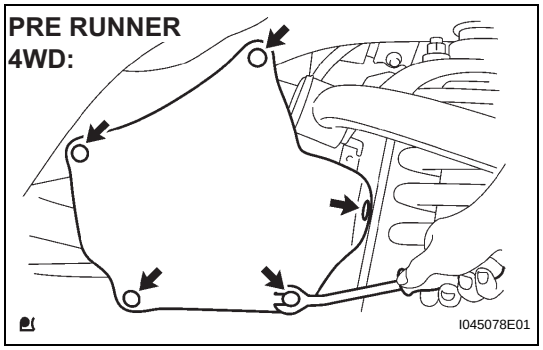
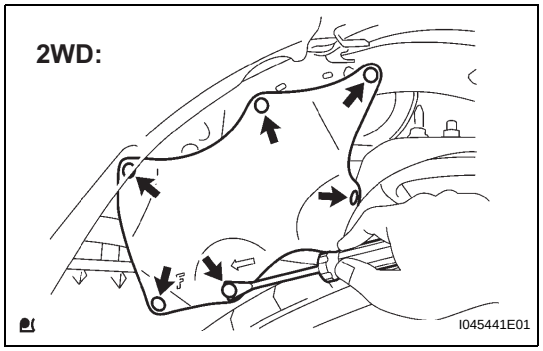
REMOVAL

1. **DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM (See page AC-18)**
2. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
3. **REMOVE FRONT WHEEL LH**
4. **REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY (for 2TR-FE) (See page EM-21)**
5. **REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY (for 1GR-FE) (See page EM-166)**
6. **REMOVE V-BANK COVER (for 1GR-FE) (See page ES-414)**
7. **REMOVE RADIATOR SUPPORT TO FRAME SEAL LH (for 1GR-FE) (See page CO-15)**
8. **REMOVE FAN SHROUD (for 1GR-FE) (See page CO-15)**
9. **REMOVE FAN AND GENERATOR V BELT (for 2TR-FE) (See page EM-5)**
10. **REMOVE FAN AND GENERATOR V BELT (for 1GR-FE) (See page EM-5)**
11. **REMOVE GENERATOR ASSEMBLY (for 1GR-FE) (See page CH-7)**
12. **REMOVE FRONT FENDER APRON SEAL UPPER**

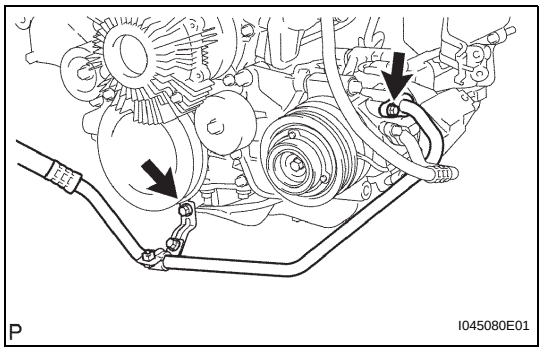
(a) Using a clip remover, disengage the 5 clips and remove the front fender apron seal upper. (4WD, PRE RUNNER)



(b) Using a clip remover, disengage the 6 clips and remove the front fender apron seal upper. (2WD)



AC



13. DISCONNECT SUCTION HOSE SUB-ASSEMBLY (for 2TR-FE)

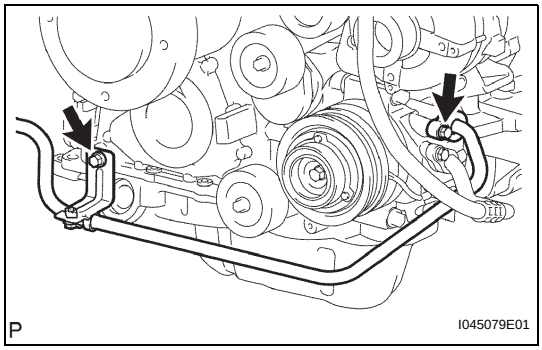
(a) Remove the bolt and separate the suction hose sub-assembly.

(b) Remove the bolt and disconnect the suction hose sub-assembly.

(c) Remove the seal washer from the suction hose sub-assembly.

NOTICE:

Seal the opening of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering.



14. DISCONNECT SUCTION HOSE SUB-ASSEMBLY (for 1GR-FE)

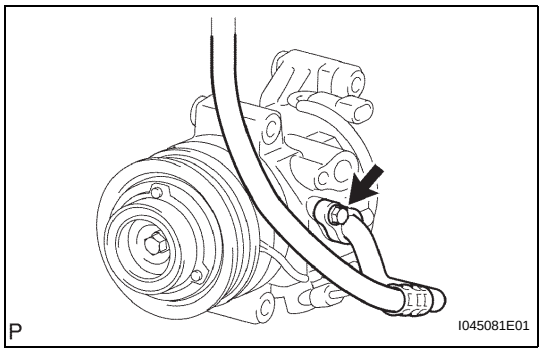
(a) Remove the bolt and separate the suction hose sub-assembly.

(b) Remove the bolt and disconnect the suction hose sub-assembly.

(c) Remove the seal washer from the suction hose sub-assembly.

NOTICE:

Seal the opening of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering.



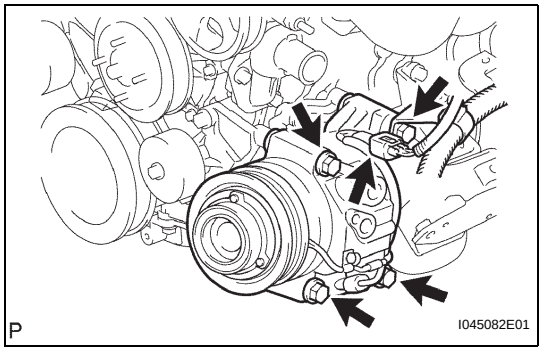
15. DISCONNECT DISCHARGE HOSE SUB-ASSEMBLY

(a) Remove the bolt and disconnect the cooler refrigerant discharge hose sub-assembly.

(b) Remove the seal washer from the cooler refrigerant discharge hose sub-assembly.

NOTICE:

Seal the opening of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering.

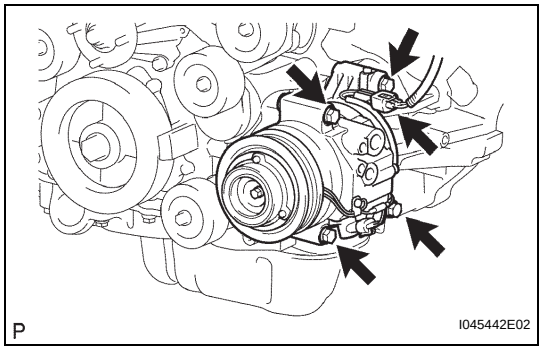


16. REMOVE COMPRESSOR AND MAGNETIC CLUTCH (for 2TR-FE)

(a) Disconnect the connector.

(b) Remove the 4 bolts and harness bracket, and remove the cooler compressor and magnetic clutch.

AC

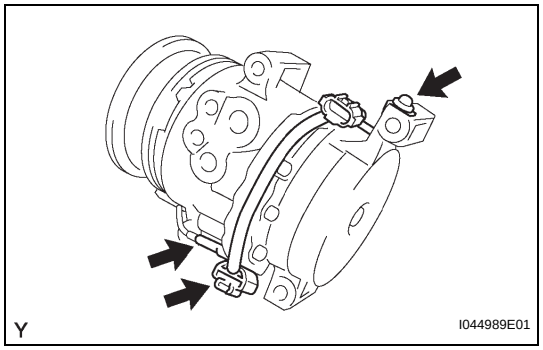


17. REMOVE COMPRESSOR AND MAGNETIC CLUTCH (for 1GR-FE)

(a) Disconnect the connector.

(b) Remove the 4 bolts and cooler compressor and magnetic clutch.

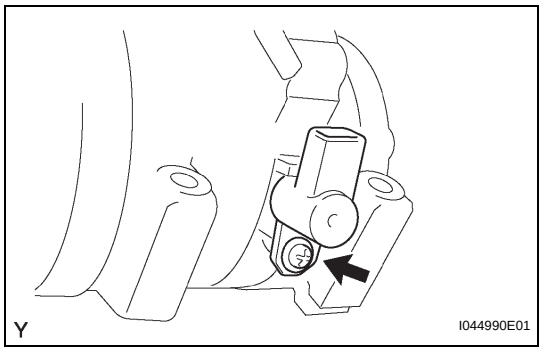
DISASSEMBLY



1. REMOVE COOLER BRACKET

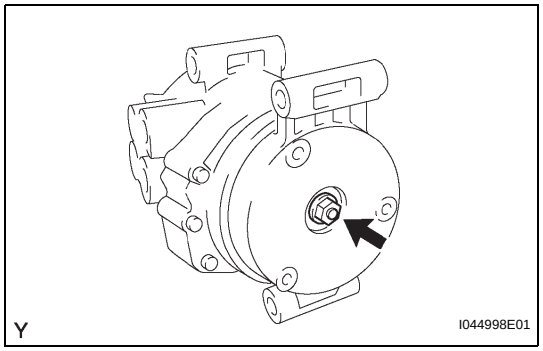
(a) Disconnect the 2 connectors.

(b) Remove the screw and the cooler bracket.



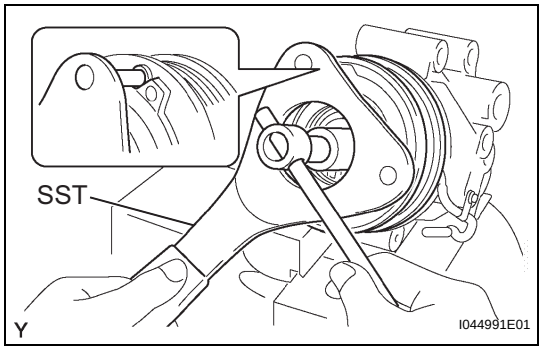
2. REMOVE COMPRESSOR PICK UP SENSOR

(a) Remove the screw and the compressor pick up sensor.



3. REMOVE PRESSURE RELIEF VALVE

(a) Remove the pressure relief valve and O-ring.

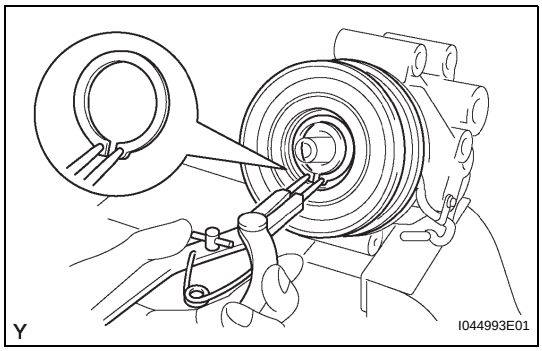


4. REMOVE MAGNET CLUTCH ASSEMBLY

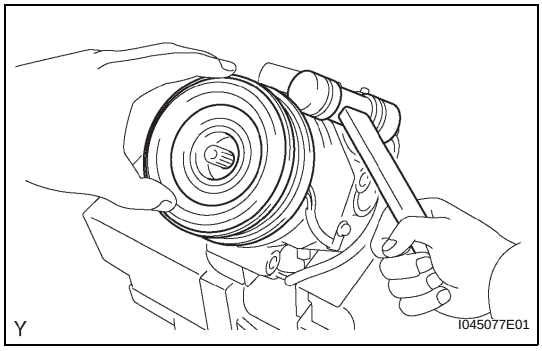
(a) Using SST, hold the magnet clutch hub.
SST 07112-76060

(b) Remove the bolt, magnet clutch hub and compressor spacer.
HINT:
There is no set number of magnet clutch washers since they are used for adjusting.

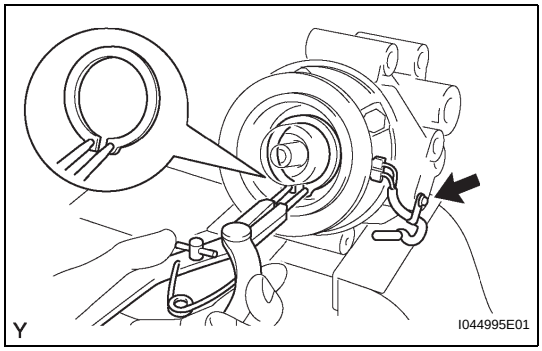
AC



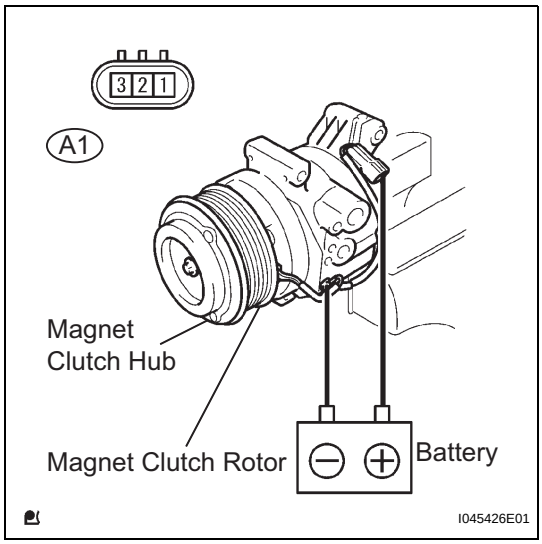
(c) Using SST, remove the snap ring and magnet clutch rotor.
SST 95994-10020
NOTICE:
Take care not to damage the seal cover of the bearing when removing the snap ring.



(d) When the magnet clutch rotor and snap ring are difficult to remove, use a plastic hammer to tap them off the shaft.
NOTICE:
Be careful not to damage the pulley when tapping the rotor.



(e) Remove the screw and separate the wire harness.
(f) Using SST, remove the snap ring and magnet clutch stator.
SST 95994-10020

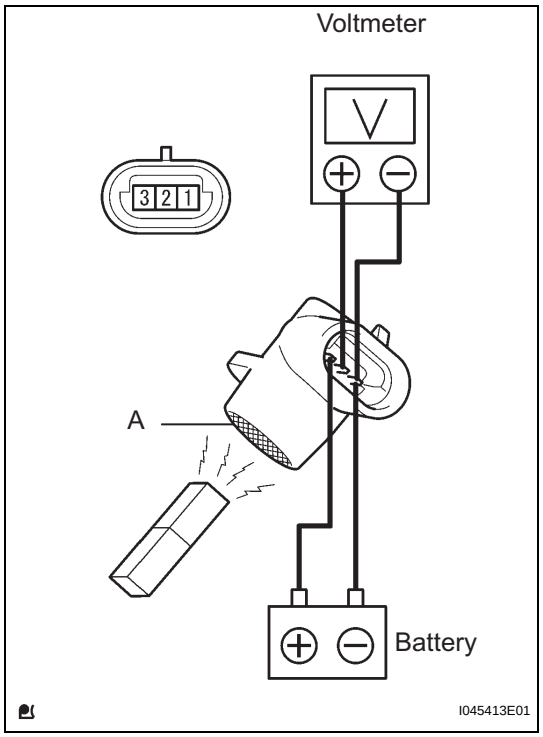


INSPECTION

1. INSPECT MAGNET CLUTCH ASSEMBLY

(a) Inspect the magnet clutch assembly.
(b) Confirm that the magnet clutch hub and magnet clutch rotor lock when the battery positive lead is connected to terminal 1 (MG+) of the magnet clutch, and the negative lead is connected to the earth wire. If the operation is not as specified, replace the magnet clutch assembly.

AC



2. INSPECT COMPRESSOR PICK UP SENSOR

(a) Check the compressor pick up sensor voltage.

(1) Connect the positive (+) lead from the battery to terminal 3 (SSR-) and the negative (-) lead to terminal 1 (MG+), and measure the voltage between terminals 1 (MG+) and 2 (SSR+).

Standard:

2.0 to 3.0 V

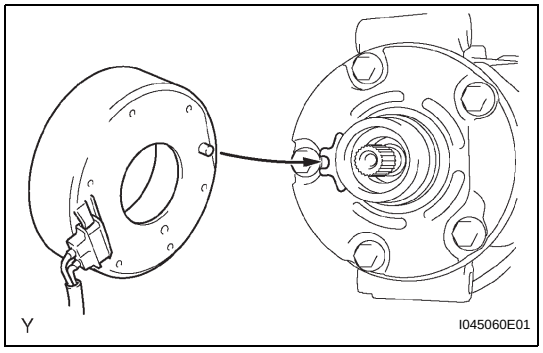
(2) When surface A of the compressor pick up sensor is close to the S-pole, the voltage between terminals 1 (MG+) and 2 (SSR+) increases. When it is close to the N-pole, the voltage between the terminals decreases.

If the result is not as specified, replace the compressor pick up sensor.

REASSEMBLY

1. INSTALL MAGNET CLUTCH ASSEMBLY

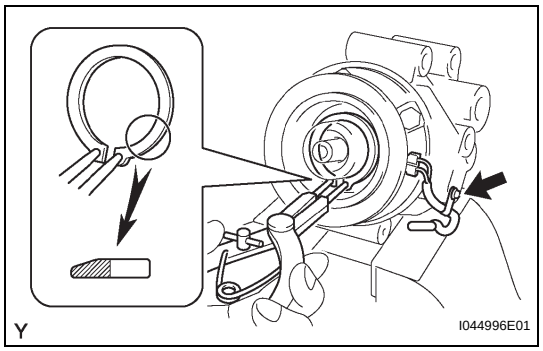
(a) Install the magnet clutch stator with the parts shown in the illustration matched.



(b) Using SST, install a new snap ring with the chamfered side facing up.

SST 95994-10020

(c) Install the wire harness with the screw.

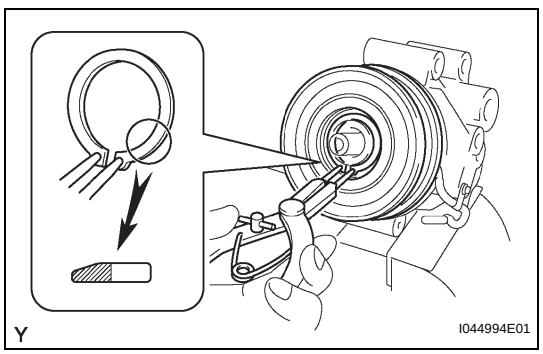


(d) Using SST, install the magnet clutch rotor and a new snap ring with the chamfered side facing up.

SST 95994-10020

NOTICE:

Take care not to damage the seal cover of the bearing when installing the snap ring.

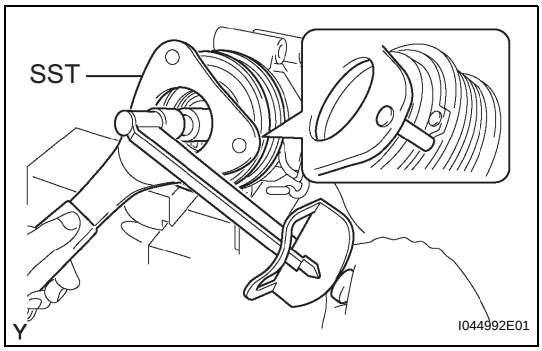


(e) Install the compressor spacer and magnet clutch hub.

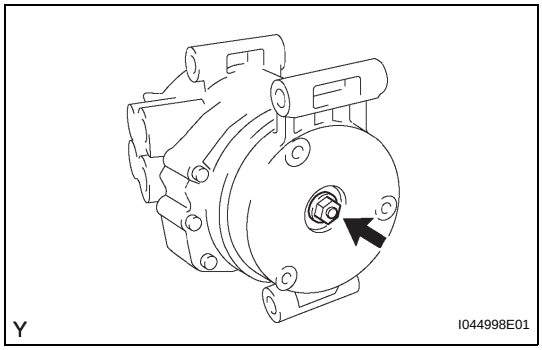
NOTICE:

Do not change the combination of the compressor spacer used before disassembly.

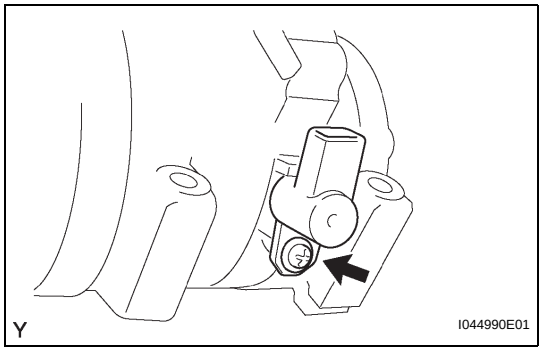
AC



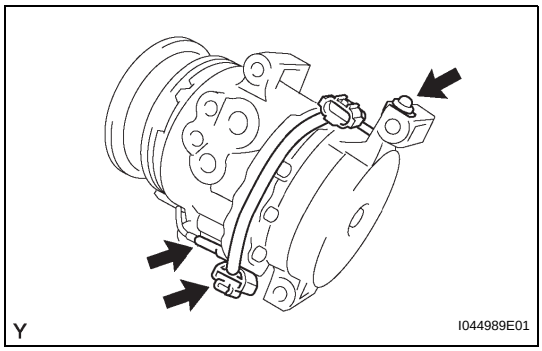
(f) Using SST, hold the magnet clutch hub and install the new bolt.
SST 07112-76060
Torque: 13.5 N*m (138 kgf*cm, 10 ft.*lbf)
NOTICE:
Make sure that there is no foreign matter or oil on the compressor shaft, bolt, and clutch hub.
HINT:
Use new bolt (88329-04050) for clutch installation.



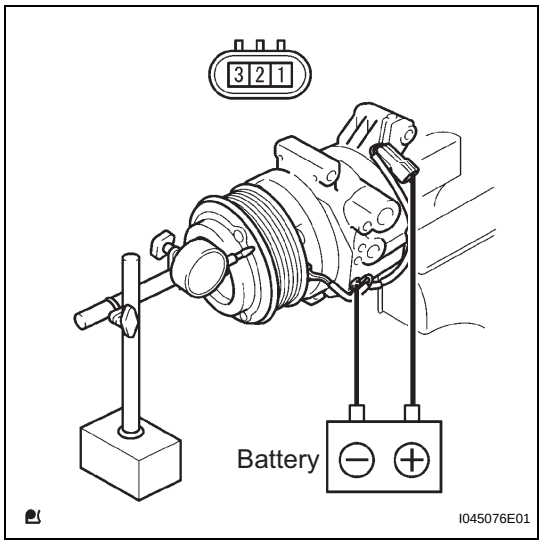
2. INSTALL PRESSURE RELIEF VALVE
(a) Install a new O-ring onto the pressure relief valve.
(b) Install the pressure relief valve.
Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)



3. INSTALL COMPRESSOR PICK UP SENSOR
(a) Install the compressor pick up sensor with the screw.
Torque: 4.0 N*m (41 kgf*cm, 35 in.*lbf)



4. INSTALL COOLER BRACKET
(a) Install the cooler bracket with the screw.
(b) Connect the 2 connectors.



5. INSPECT MAGNET CLUTCH CLEARANCE

(a) Clamp the compressor and magnetic clutch in a vise.

(b) Set the dial indicator to the magnet clutch hub.

(c) Connect the battery positive lead to terminal 1 (MG+) of the magnet clutch connector and the negative lead to the earth wire. Turn the magnet clutch on and off and measure the clearance.

Standard clearance:

0.30 to 0.60 mm (0.012 to 0.024 in.)

If the measured value is not within the standard clearance, remove the magnet clutch hub and adjust the clearance using compressor spacer to obtain the standard clearance.

Compressor spacer thickness:

0.2 mm (0.008 in.)
0.3 mm (0.012 in.)
0.5 mm (0.020 in.)

NOTICE:

Adjustment should be performed with 3 or less magnet clutch washers.

(d) Remove the compressor and magnetic clutch from the vise.