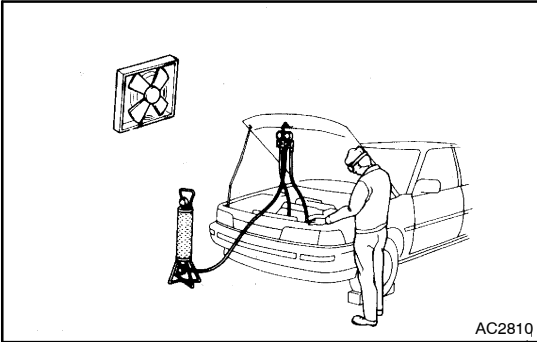
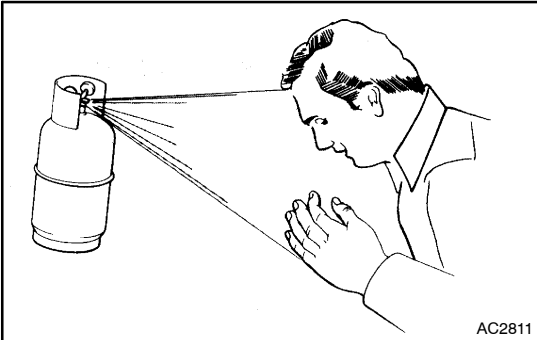




AIR CONDITIONING SYSTEM PRECAUTION

AC15I-02

1. **DO NOT HANDLE REFRIGERANT IN AN ENCLOSED AREA OR NEAR AN OPEN FLAME**
2. **ALWAYS WEAR EYE PROTECTION**



3. **BE CAREFUL NOT TO GET LIQUID REFRIGERANT IN YOUR EYES OR ON YOUR SKIN**

If liquid refrigerant gets in your eyes or on your skin.

- (a) Wash the area with lots of cool water.

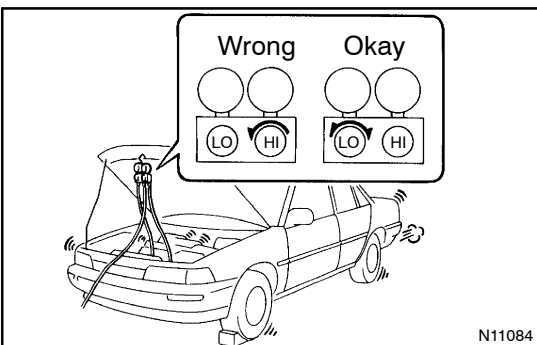
CAUTION:

Do not rub your eyes or skin.

- (b) Apply clean petroleum jelly to the skin.
- (c) Go immediately to a physician or hospital for professional treatment.

4. **NEVER HEAT CONTAINER OR EXPOSE IT TO NAKED FLAME**

5. **BE CAREFUL NOT TO DROP CONTAINER AND NOT TO APPLY PHYSICAL SHOCKS TO IT**



6. **DO NOT OPERATE COMPRESSOR WITHOUT ENOUGH REFRIGERANT IN REFRIGERANT SYSTEM**

If there is not enough refrigerant in the refrigerant system oil lubrication will be insufficient and compressor burnout may occur, so take care to avoid this, necessary care should be taken.

7. **DO NOT OPEN HIGH PRESSURE MANIFOLD VALVE WHILE COMPRESSOR IS OPERATING**

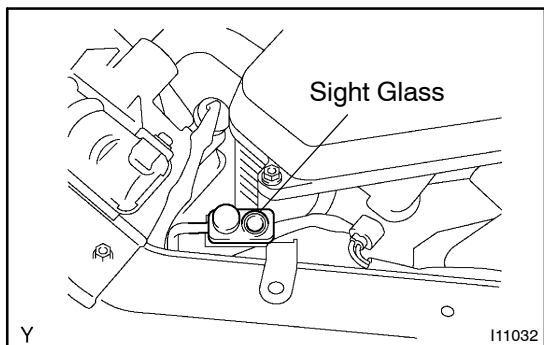
If the high pressure valves opened, refrigerant flows in the reverse direction and could cause the charging cylinder to rupture, so open and close the only low pressure valve.

8. **BE CAREFUL NOT TO OVERCHARGE SYSTEM WITH REFRIGERANT**

If refrigerant is overcharged, it causes problems such as insufficient cooling, poor fuel economy, engine overheating etc.

9. SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The Lexus IS 200 is equipped with an SRS (Supplemental Restraint System) such as the driver and passenger airbag. Failure to carry out service operations in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident. Before servicing (including removal or installation of parts, inspection or replacement), be sure to read the precautionary notices in the RS section.



ON-VEHICLE INSPECTION

1. INSPECT REFRIGERANT VOLUME

Observe the sight glass on the liquid tube.

Test conditions:

- Running engine at 1,500 rpm
- Blower speed control switch at "HI" position
- A/C switch ON
- Temperature control dial at "COOL" position
- Fully open the doors

Item	Symptom	Amount of refrigerant	Remedy
1	Bubbles present in sight glass	Insufficient*	(1) Check for gas leakage with gas leak detector and repair if necessary (2) Add refrigerant until bubbles disappear
2	No bubbles present in sight glass	None, sufficient or too much	Refer item 3 and 4
3	No temperature difference between compressor inlet and outlet	Empty or nearly empty	(1) Check for gas leakage with gas leak detector and repair if necessary (2) Add refrigerant until bubbles disappear
4	Temperature between compressor inlet and outlet is noticeably different	Correct or too much	Refer to items 5 and 6
5	Immediately after air conditioner is turned off, refrigerant in sight glass stays clear	Too much	(1) Discharge refrigerant (2) Evacuate air and charge proper amount of purified refrigerant
6	When air conditioner is turned off, refrigerant foams and then stays clear	Correct	–

*: Bubbles in the sight glass with ambient temperatures higher than usual can be considered normal if cooling is sufficient.

2. INSPECT REFRIGERANT PRESSURE WITH MANIFOLD GAUGE SET

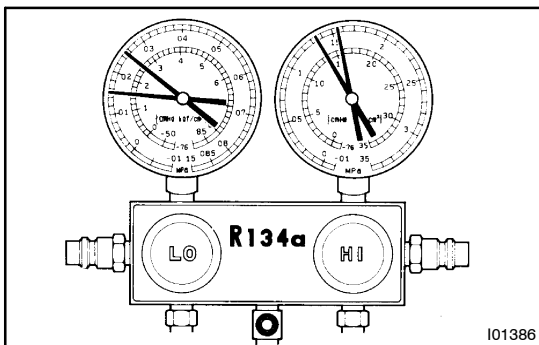
This is a method in which the trouble is located by using a manifold gauge set. Read the manifold gauge pressure when these conditions are established.

Test conditions:

- Temperature at the air inlet with the switch set at RECIRC is 30 – 35 °C (86 – 95 °F)
- Engine running at 2,000 rpm
- Blower speed control switch at "HI" position
- Temperature control dial on "COOL" position

HINT:

It should be noted that the gauge indications may vary slightly due to ambient temperature conditions.



(1) Normally functioning refrigeration system.

Gauge reading:

Low pressure side:

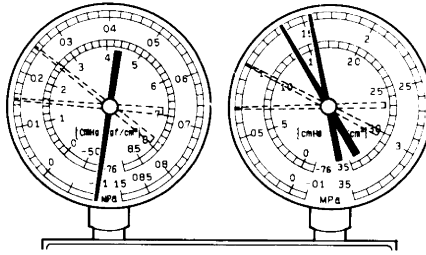
0.15 – 0.25 MPa (1.5 – 2.5 kgf/cm²)

High pressure side:

1.37 – 1.57 MPa (14 – 15 kgf/cm²)

(2) Moisture present in refrigeration system.

Condition : Periodically cools and then fails to cool

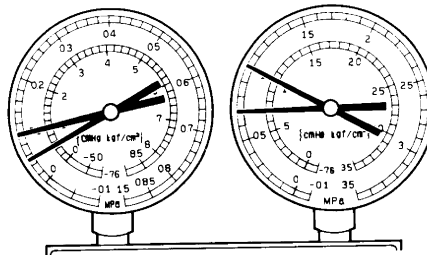


I01387

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
During operation, pressure on low pressure side sometimes become a vacuum and sometime normal	Moisture entered in refrigeration system freezes at expansion valve orifice and temporarily stops cycle, but normal state is restored after a time when the ice melts	• Drier in oversaturated state • Moisture in refrigeration system freezes at expansion valve orifice and blocks circulation of refrigerant	(1) Replace dryer (2) Remove moisture in cycle through repeatedly evacuating air (3) Charge proper amount of new refrigerant

(3) Insufficient cooling

Condition: Insufficient cooling

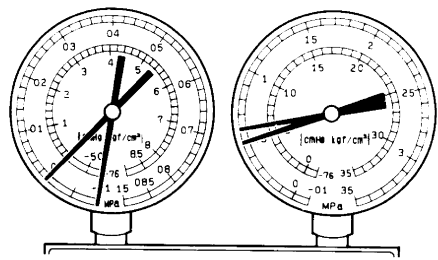


I01388

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
• Pressure low on both low and high pressure sides • Bubbles seen in sight glass continuously • Insufficient cooling performance	Gas leakage at some place in refrigeration system	• Insufficient refrigerant in system • Refrigerant leaking	(1) Check for gas leakage with gas leak detector and repair if necessary (2) Charge proper amount of refrigerant (3) If indicated pressure value is near 0 when connected to gauge, create the vacuum after inspecting and repairing the location of the leak

(4) Poor circulation of refrigerant

Condition: Insufficient cooling

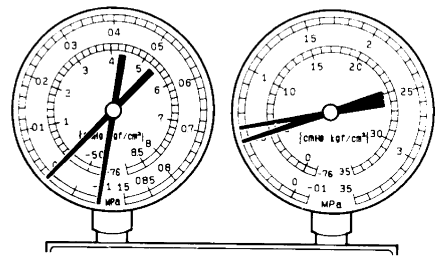


I01389

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
• Pressure low in both low and high pressure sides • Frost on tube from condenser to unit	Refrigerant flow obstructed by dirt in condenser	condenser clogged	Replace dryer

(5) Refrigerant does not circulate

Condition: Does not cool (Cools from time to time in some cases)

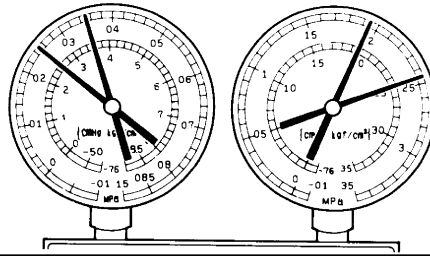


I01449

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
• Vacuum indicated on low pressure side, very low pressure indicated on high pressure side • Frost or dew seen on piping before and after condenser/ drier or expansion valve	• Refrigerant flow obstructed by moisture or dirt in refrigeration system • Refrigerant flow obstructed by gas leakage from expansion valve	Refrigerant does not circulate	(1) Check expansion valve (2) Clean out dirt in expansion valve by blowing with air (3) Replace dryer (4) Evacuate air and charge new refrigerant to proper amount (5) For gas leakage from expansion valve, replace expansion valve

(6) Refrigerant overcharged or insufficient cooling of condenser

Condition: Insufficient cooling

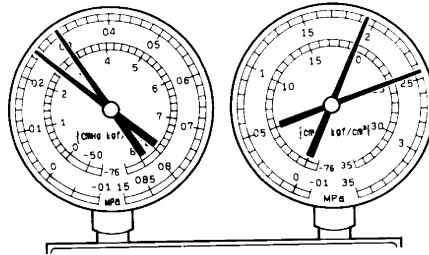


I01390

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
- Pressure too high on both low and high pressure sides - No air bubbles seen through the sight glass even when the engine rpm is lowered	- Unable to develop sufficient performance due to excessive refrigeration system - Insufficient cooling of condenser	- Excessive refrigerant in cycle → refrigerant over charged - Condenser cooling → condenser fins clogged of condenser fan faulty	- Clean condenser - Check condenser fan motor operation - If (1) and (2) are in normal state, check amount of refrigerant Charge proper amount of refrigerant

(7) Air present in refrigeration system

Condition: Insufficient cooling



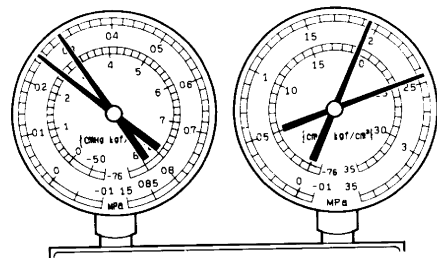
NOTE : These gauge indications are shown when the refrigeration system has been opened and the refrigerant charged without vacuum purging.

I01392

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
- Pressure too high on both low and high pressure sides - The low pressure piping hot to touch - Bubbles seen in sight glass	Air entered in refrigeration system	- Air present in refrigeration system - Insufficient vacuum purging	- Check compressor oil to see if it is dirty or insufficient - Evacuate air and charge new refrigerant

(8) Expansion valve improperly

Condition: Insufficient cooling

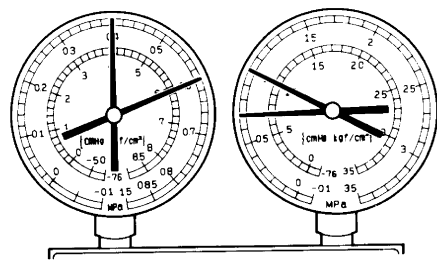


I01450

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
• Pressure too high on both low and high pressure sides • Frost or large amount of dew on piping on low pressure side	Trouble in expansion valve	• Excessive refrigerant in low pressure piping • Expansion valve opened too wide	Check expansion valve Replace if defective

(9) Defective compression compressor

Condition : Does not cool



I01393

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
• Pressure too high on low and high pressure sides • Pressure too low on high pressure side	Internal leak in compressor	• Compression defective • Valve leaking or broken sliding parts	Repair or replace compressor

3. INSPECT IDLE-UP SPEED

- (a) Warm up engine
- (b) Inspect idle-up speed when the these conditions are established.

Test conditions:

- Blower speed control switch at "HI" position
- Temperature control dial at "COOL" position
- A/C switch ON
- Put gear shift in neutral

Magnetic clutch condition	Idle speed
Magnetic clutch not engaged	650 ± 50 rpm
Magnetic clutch engaged	650 ± 50 rpm

If idle speed is not as specified, check the idle control system.

4. INSPECT FOR LEAKAGE OF REFRIGERANT

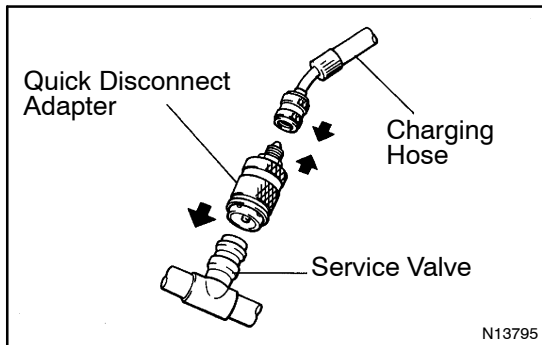
- (a) Perform in these conditions.
 - Stop engine
 - Secure good ventilation (If the gas leak detector may not react volatile gases which are not refrigerant, such as evaporated gasoline and exhaust gas)
 - Repeat the test 2 or 3 times
 - Make sure that there is some refrigerant remaining in the refrigeration system.
When compressor is OFF: approx. 392 – 588 kPa (4 – 6 kgf·cm², 57 – 85 psi)
- (b) Bring the gas leak detector close to the drain hose before performing the test.

HINT:

- After the blower motor has stopped, leave the cooling for more than 15 minutes.
- Expose the gas leak detector sensor under the drain hose.
- When bring the gas leak detector close to the drain hose, make sure that the gas leak detector does not react to the volatile gases.

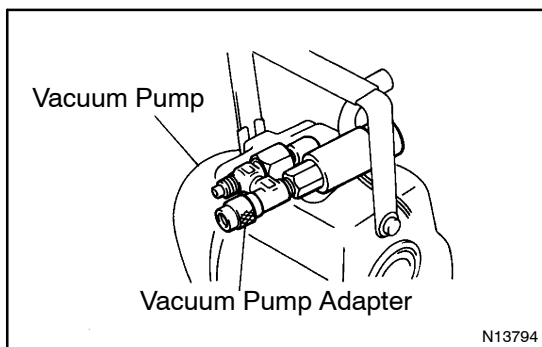
If such reaction is unavoidable, the vehicle must be lifted up.

- (c) If gas leak is not detected on the drain hose, remove the blower resistor from the cooling unit. Then insert the gas leak detector sensor into the unit and perform the test.
- (d) Disconnect the connector and leave the pressure switch for approx. 20 minutes. Then bring the gas leak detector close to the pressure switch and perform the test.
- (e) Bring the gas leak detector close to the refrigerant lines.

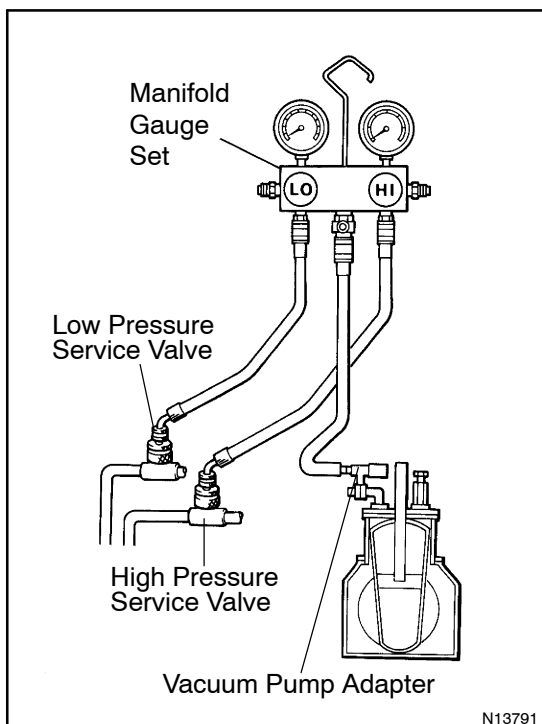


EVACUATING

1. **CONNECT QUICK DISCONNECT ADAPTER TO CHARGING HOSES**
2. **REMOVE CAPS FROM SERVICE VALVES ON REFRIGERANT LINES**
3. **SET ON MANIFOLD GAUGE SET**
 - (a) Close both hand valves of manifold gauge set.
 - (b) Connect the quick disconnect adapters to the service valves.



4. **EVACUATE AIR FROM REFRIGERATION SYSTEM**
 - (a) Connect the vacuum pump adapter to the vacuum pump.

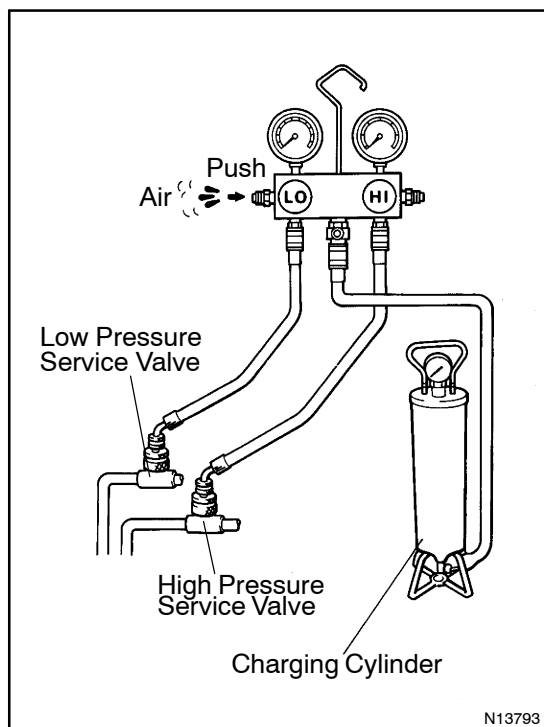


- (b) Connect the center hose of the manifold gauge set to the vacuum pump adapter.
- (c) Open both the high and low hand valves and run the vacuum pump.
- (d) After 10 minutes or more, check that the low pressure gauge indicates 750 mmHg (30 in. Hg) or more.

HINT:

If the reading is 750 mmHg (30 in. Hg) or more, close both hand valves of manifold gauge set and stop the vacuum pump. Check the system for leaks and repair if necessary.

- (e) Close both the high and low hand valves and stop the vacuum pump.
- (f) Leave the system in this condition for 5 minutes or more and check that there is no gauge indicator.



CHARGING

1. INSTALL CHARGING CYLINDER

HINT:

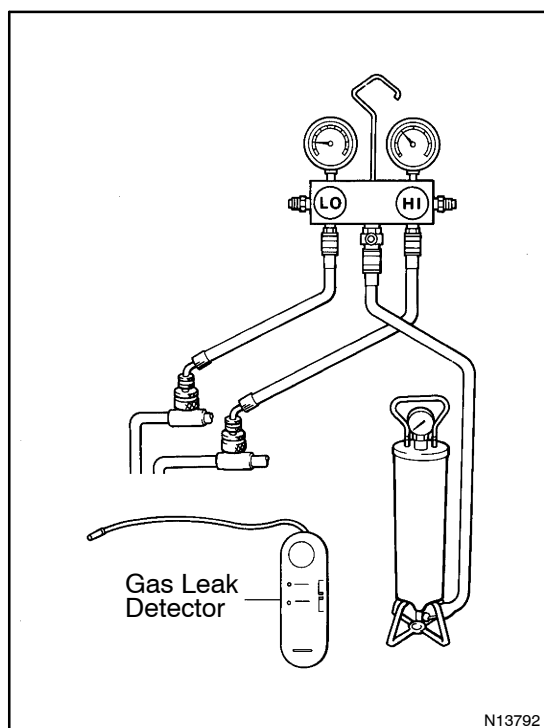
When handling the charging cylinder, always follow the directions given in the instruction manual.

- Charge the proper amount of refrigerant into the charging cylinder.
- Connect the center hose to the charging cylinder.

CAUTION:

Do not open both high and low hand valves of manifold gauge set.

- Open the valve of charging cylinder.
- Press the valve core on the side of manifold gauge and expel the air inside of the center hose.

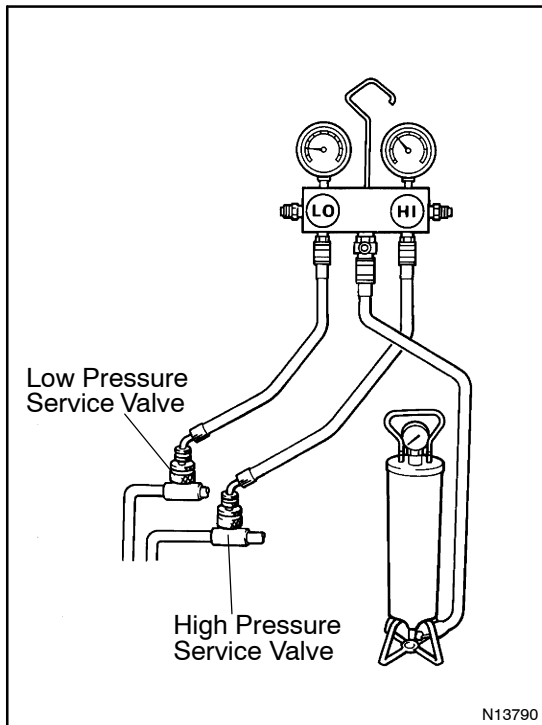


2. INSPECT REFRIGERATION SYSTEM FOR LEAKS

- Open the high pressure hand valve and charge refrigerant.
- When the low pressure gauge indicates 98 kPa (1 kgf/cm², 14 psi) close the high pressure hand valve.
- Using a gas leak detector, check the system for leakage. If leak is found, repair the faulty component or connection.

CAUTION:

Use the refrigerant recovery/ recycling machine to recover the refrigerant whenever replacing parts.



3. CHARGE REFRIGERANT INTO REFRIGERATION SYSTEM

If there is no leak after refrigerant leak check charge, the proper amount of refrigerant in to refrigeration system.

CAUTION:

- **Never run the engine when charging the system through the high pressure side.**
- **Do not open the low pressure hand valve when the system is being charged with liquid refrigerant.**

- (a) Open the high pressure hand valve fully.
- (b) Charge specified amount of refrigerant, then close the high pressure hand valve.

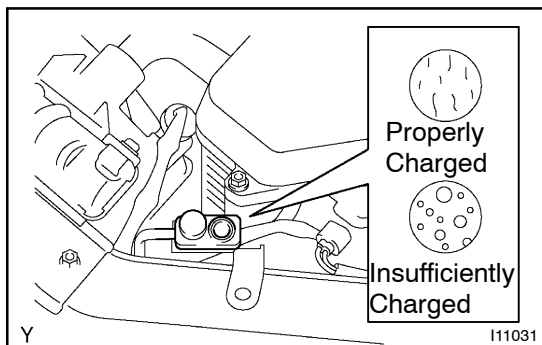
HINT:

A fully charged system is indicated by the sight glass being free of any bubbles.

- (c) Charge partially refrigeration system with refrigerant.
 - (1) Set vehicle in these conditions:
 - Running engine at 1,500 rpm
 - Blower speed control set at "HI"
 - Temperature control set at "MAX. COOL" position
 - Air inlet control set at "RECIRC"
 - Fully open doors (Sliding roof : closed)
 - (2) Open the low pressure hand valve.

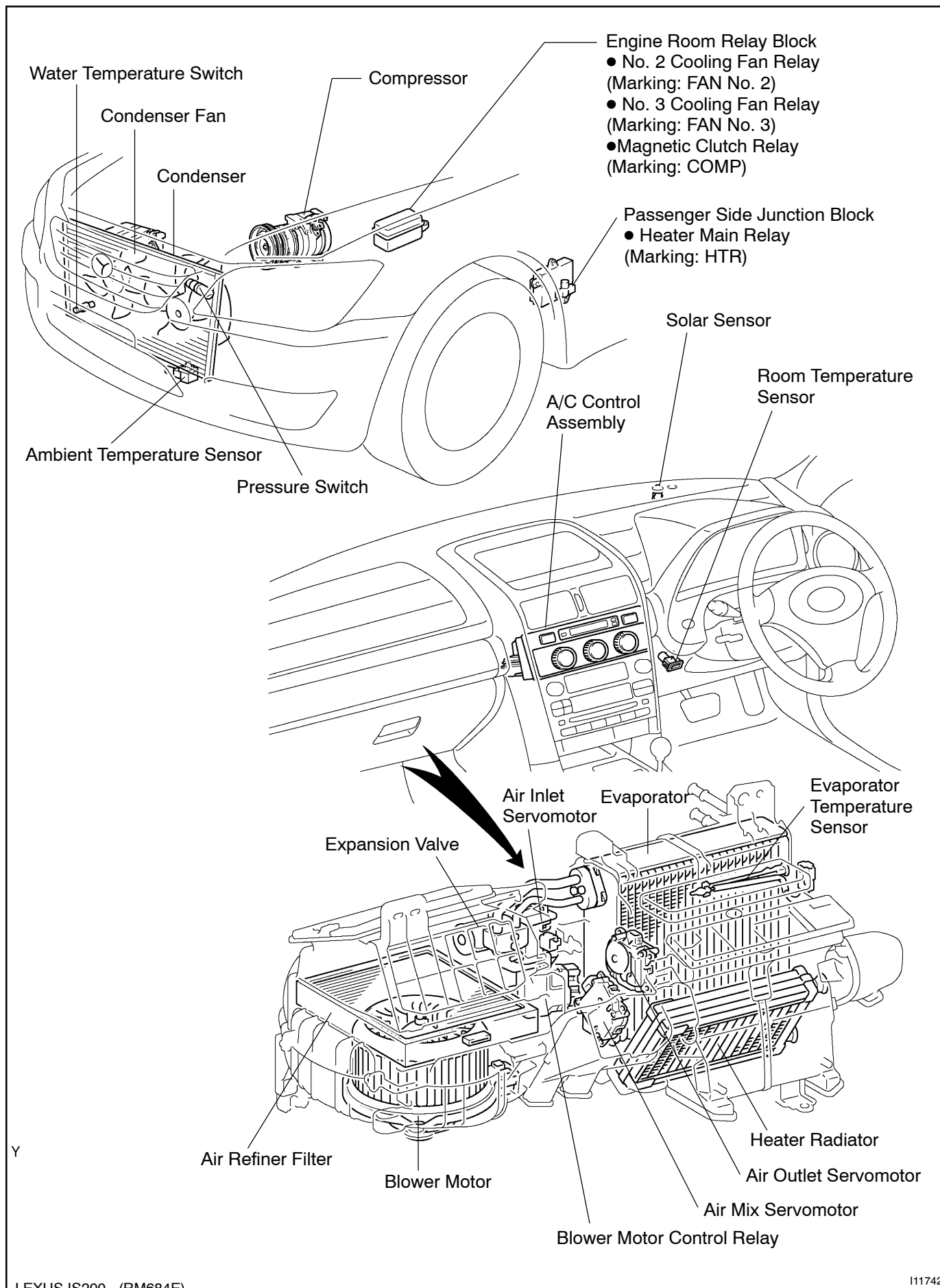
CAUTION:

Do not open the high pressure hand valve.



- (3) Charge refrigerant until bubbles disappear and check the pressure on the gauge through the sight glass.

LOCATION



TROUBLESHOOTING

PROBLEM SYMPTOMS TABLE

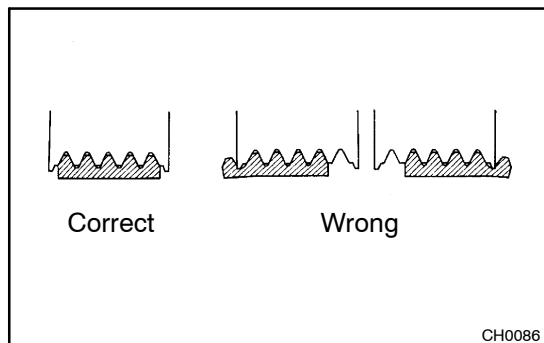
AC20D-02

Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order. If necessary, replace these parts.

Symptom	Suspect Area	See page
Whole functions of A/C system do not operate	1. A.C Fuse 2. A/C control assembly	– AC-82
No blower operation	1. Heater main relay 2. Blower motor 3. Blower motor control relay 4. A/C control assembly 5. Wire harness	AC-73 AC-57 AC-58 AC-82 –
No blower control	1. Blower motor 2. Blower motor control relay 3. A/C control assembly 4. Wire harness	AC-57 AC-58 AC-82 –
Insufficient air out	1. Blower motor	AC-57
No cool air comes out	1. Refrigerant volume 2. Drive belt 3. Refrigerant pressure 4. Compressor 5. Pressure switch 6. Igniter circuit 7. Air mix servomotor 8. Room temp. sensor 9. Ambient temp. sensor 10. A/C control assembly 11. Wire harness	AC-3 AC-18 AC-3 AC-40 AC-70 – AC-61 AC-66 AC-67 AC-82 –
No warm air comes out	1. Engine coolant volume 2. Air mix servomotor 3. Ambient temp. sensor 4. Room temp. sensor 5. A/C control assembly 6. Heater radiator	– AC-61 AC-67 AC-66 AC-82 AC-32
Out put air is warmer or cooler than the set temperature or response is slow	1. Refrigerant volume 2. Engine coolant volume 3. Drive belt 4. Refrigerant pressure 5. Condenser fan 6. Ambient temp. sensor 7. Evaporator temp. sensor 8. Solar sensor 9. Air mix servomotor 10. Compressor 11. Condenser 12. Evaporator 13. Heater radiator 14. Expansion valve 15. A/C control assembly 16. Wire harness	AC-3 – AC-18 AC-3 AC-76 AC-67 AC-68 AC-65 AC-61 AC-40 AC-48 AC-32 AC-32 AC-53 AC-82 –
No temperature control	1. Air mix servomotor 2. A/C control assembly	AC-61 AC-82

AIR CONDITIONING – TROUBLESHOOTING

No air inlet control	1. Air inlet servomotor 2. A/C control assembly 3. Wire harness	AC-59 AC-82 –
No mode control	1. Air outlet servomotor 2. A/C control assembly 3. Wire harness	AC-63 AC-82 –
No engine idle-up when A/C switch ON	1. A/C control assembly 2. Idle control system 3. Wire harness	AC-82 DI-96 –
Set temperature value does not match up with operation of temperature control switch	1. A/C control assembly	
Brightness does not change when light control switch is turned	1. Headlight and taillight system 2. A/C control assembly	BE-30 AC-82

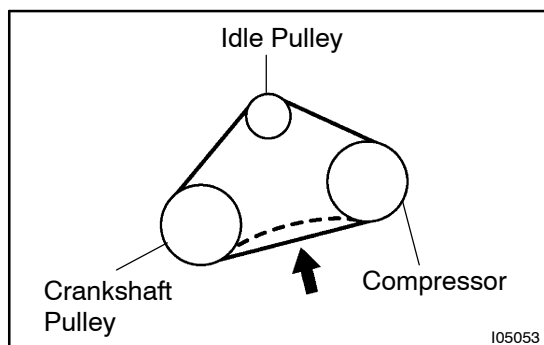


DRIVE BELT ON-VEHICLE INSPECTION

AC25L-01

1. INSPECT DRIVE BELT'S INSTALLATION CONDITION

Check that the drive belt fits properly in the ribbed grooves.

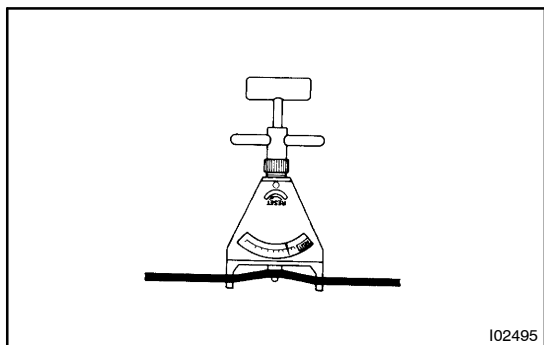


2. INSPECT DRIVE BELT DEFLECTION

- Using a belt tension gauge, apply load of 98 N (10 kgf, 22 lbf).
- Measure drive belt deflection.
New belt: 7.0 – 8.0 mm (0.28 – 0.31 in.)
Used belt: 9.0 – 10 mm (0.35 – 0.39 in.)

HINT:

- "New belt" refers to a belt which has been used less than 5 minutes on the running engine.
- "Uses belt" refer to a belt which has been on a running engine for 5 minutes or more.
- After installing the drive belt, check that it fits properly in the ribbed grooves.



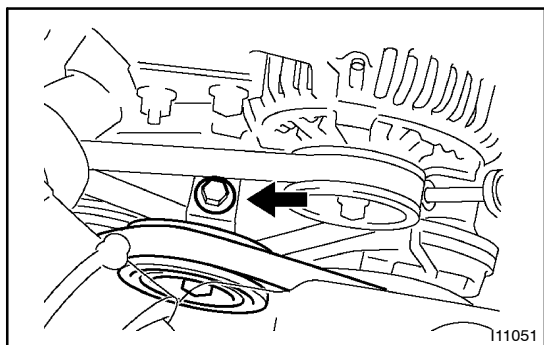
3. INSPECT DRIVE BELT TENSION

Using a belt tension gauge, check the drive belt tension.

Drive belt tension:

New belt: 520 – 755 N (53 – 77 kgf)

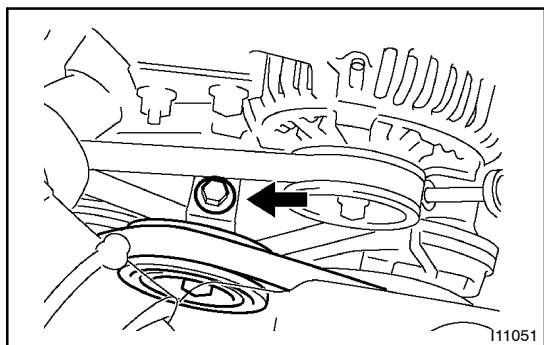
Used belt: 294 – 392 N (30 – 40 kgf)



REMOVAL

REMOVE DRIVE BELT

- (a) Loosen the idle pulley lock nut.
- (b) Loosen the drive belt tension by adjusting bolt and remove the drive belt.



INSTALLATION

INSTALL DRIVE BELT

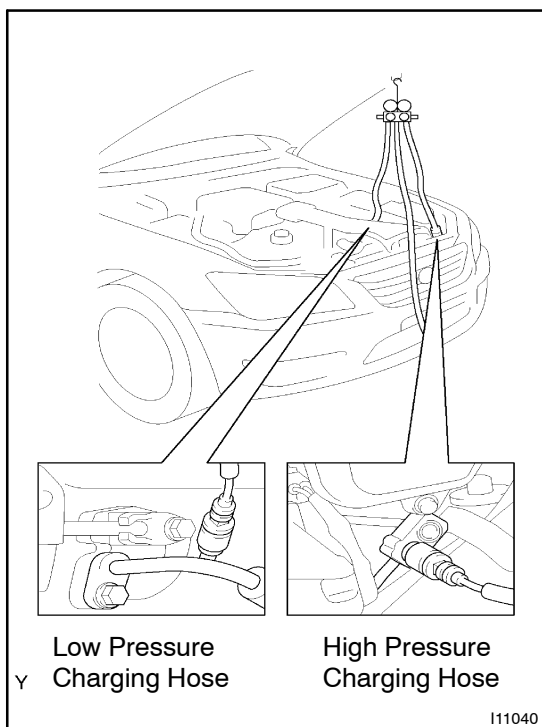
- (a) Tighten the idle pulley lock nut temporarily.
Torque: 2.5 N·m (25 kgf·cm, 22 in·lbf)
- (b) Install the drive belt.
- (c) Using an adjusting bolt, adjust drive belt tension.

Drive belt tension:

New belt: 520 – 755 N (53 – 77 kgf)

Used belt: 294 – 392 N (30 – 40 kgf)

- (d) Tighten the idle pulley lock nut at regular torque.
Torque: 44 N·m (440 kgf·cm, 32 ft·lbf)



MANIFOLD GAUGE SET SET ON

AC15Q-02

1. CONNECT CHARGING HOSES TO MANIFOLD GAUGE SET

Tighten the nuts by hand.

CAUTION:

Do not connect the wrong hoses.

2. CONNECT QUICK DISCONNECT ADAPTERS TO CHARGING HOSES

Tighten the nuts by hand.

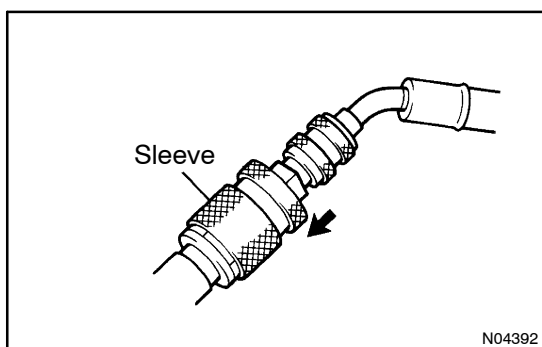
3. CLOSE BOTH HAND VALVES OF MANIFOLD GAUGE SET

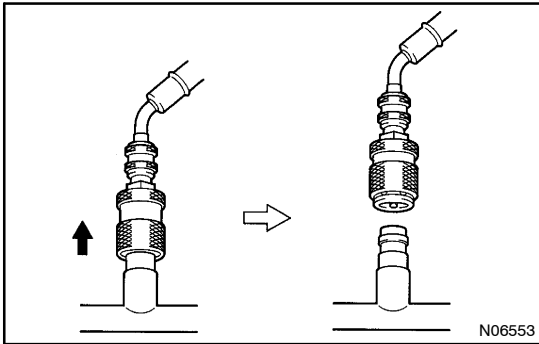
4. REMOVE CAPS FROM SERVICE VALVE ON REFRIG- ERANT LINES

5. CONNECT QUICK DISCONNECT ADAPTERS TO SER- VICE VALVES

HINT:

Push the quick disconnect adapter onto the service valve, then slide the sleeve of the quick disconnect adapter downward to lock it.





SET OFF

1. CLOSE BOTH HAND VALVES OF MANIFOLD GAUGE SET
2. DISCONNECT QUICK DISCONNECT ADAPTERS FROM SERVICE VALVES ON REFRIGERANT LINE

HINT:

Slide the sleeve of the quick disconnect adapter upward to unlock the adapter and remove it from the service valve.

3. INSTALL CAPS TO SERVICE VALVES ON REFRIGERANT LINES

REFRIGERANT LINE

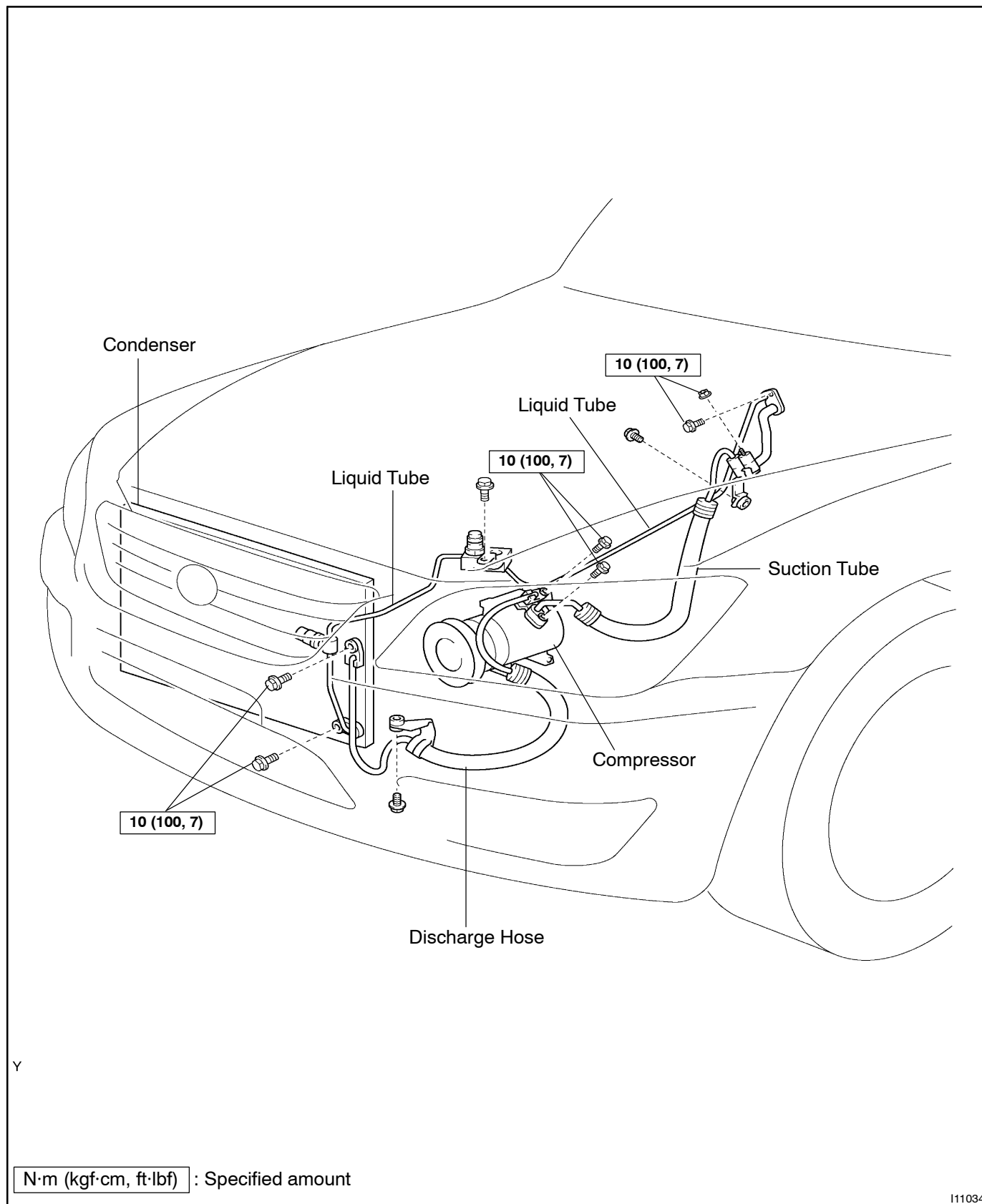
ON-VEHICLE INSPECTION

AC15S-01

1. INSPECT HOSE AND TUBE CONNECTIONS FOR LOOSENESS
2. INSPECT HOSES AND TUBES FOR LEAKAGE

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

COMPONENTS



I11034

REPLACEMENT

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

2. REPLACE FAULTY TUBE OR HOSE

NOTICE:

Cap the open fittings immediately to keep moisture or dirt out of the system.

3. TIGHTEN JOINT OF BOLT OR NUT TO SPECIFIED TORQUE

NOTICE:

Connections should not be torqued tighter than the specified torqued.

Part tightened	N·m	kgf·cm	ft·lbf
Compressor x Discharge hose	10	100	7
Compressor x Suction hose	10	100	7
Condenser x Discharge hose	10	100	7
Condenser x Liquid tube	10	100	7
A/C unit x Liquid and Suction tubes	10	100	7
Suction line (Block joint)	10	100	7

4. EVACUATE AIR FROM REFRIGERATION SYSTEM AND CHARGE SYSTEM WITH REFRIGERANT

Specified amount: 600 ± 50 g (21.16 ± 1.76 oz.)

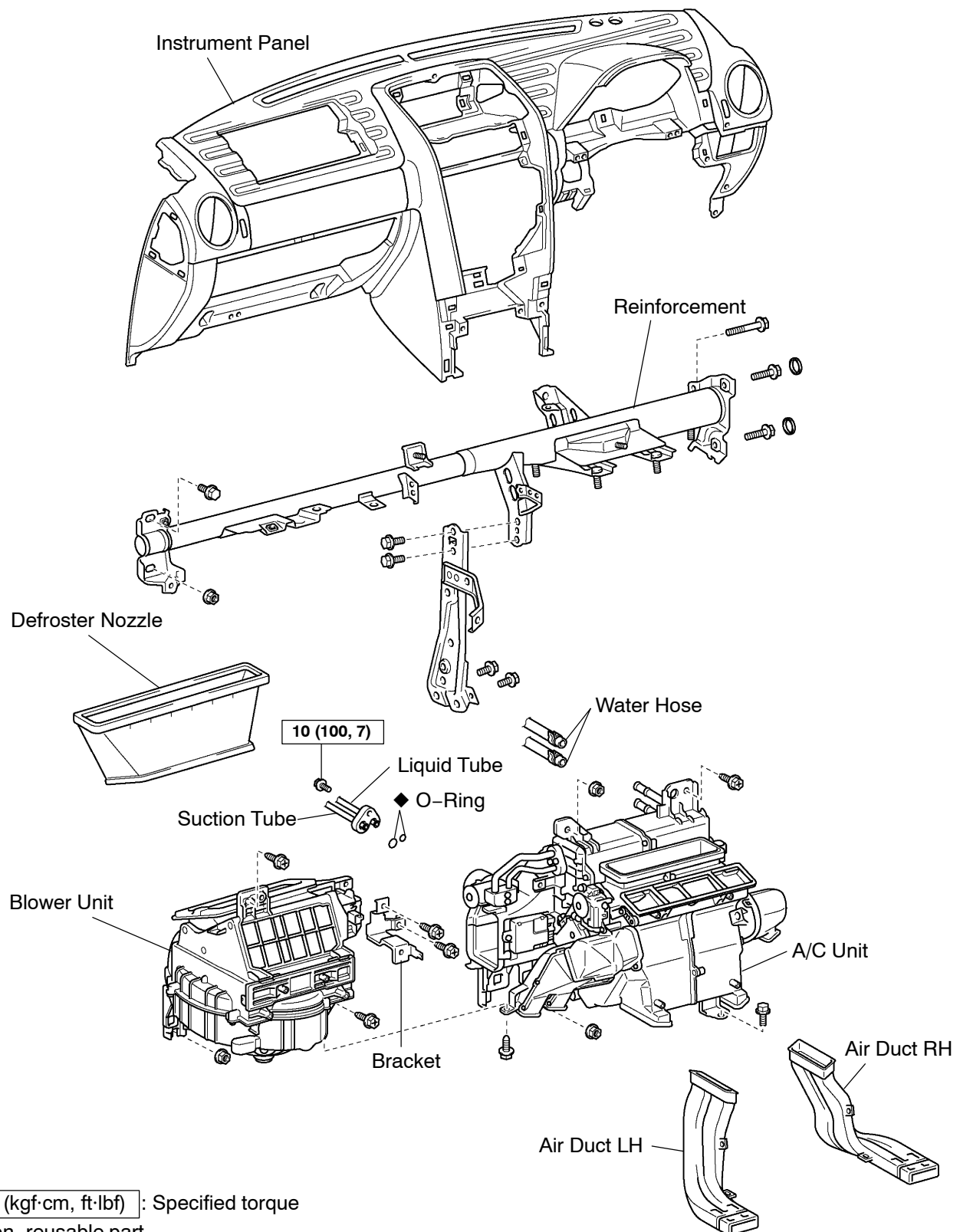
5. INSPECT FOR LEAKAGE OF REFRIGERANT

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

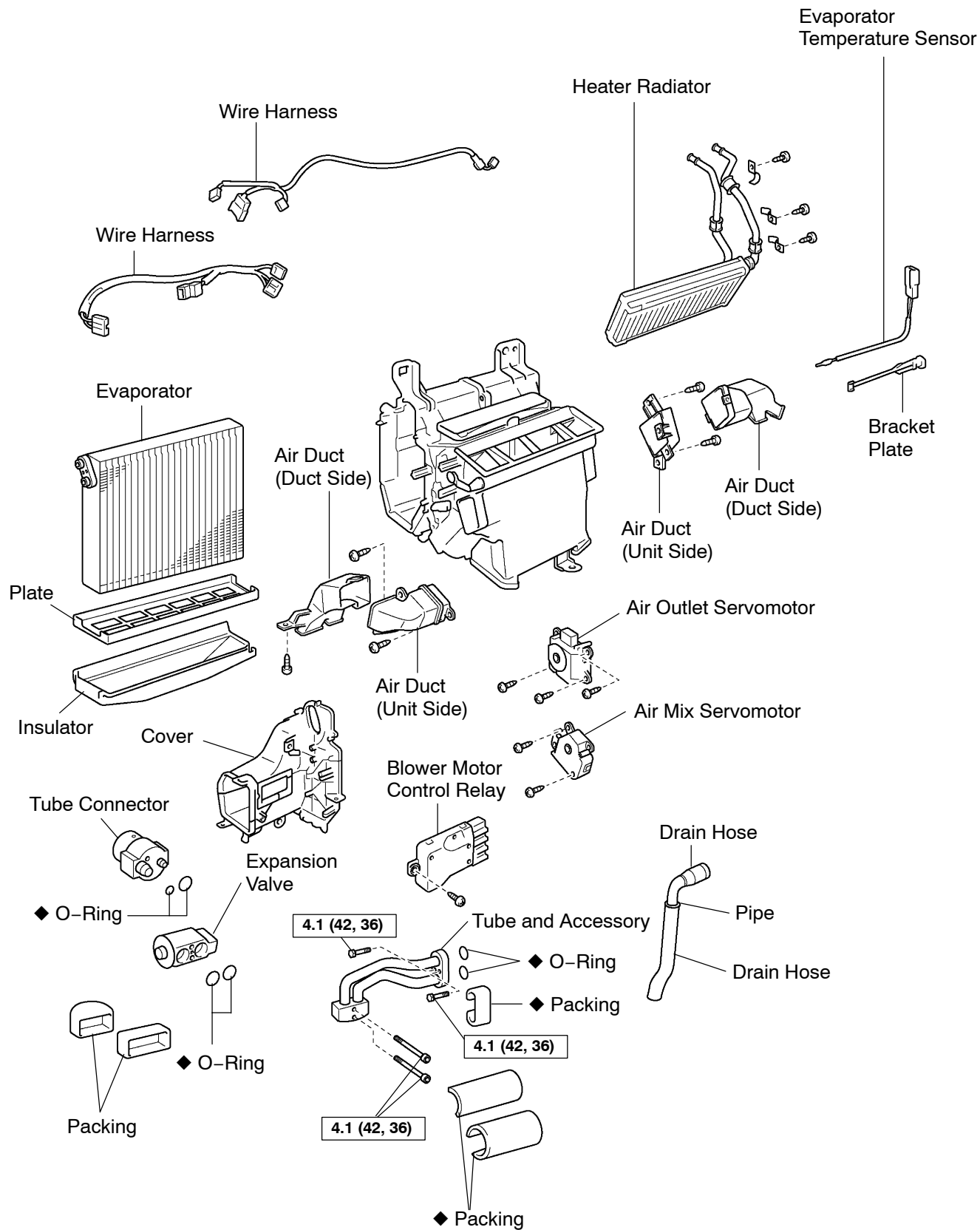
6. INSPECT AIR CONDITIONING OPERATION

AIR CONDITIONER UNIT COMPONENTS

AC15V-02



I11748

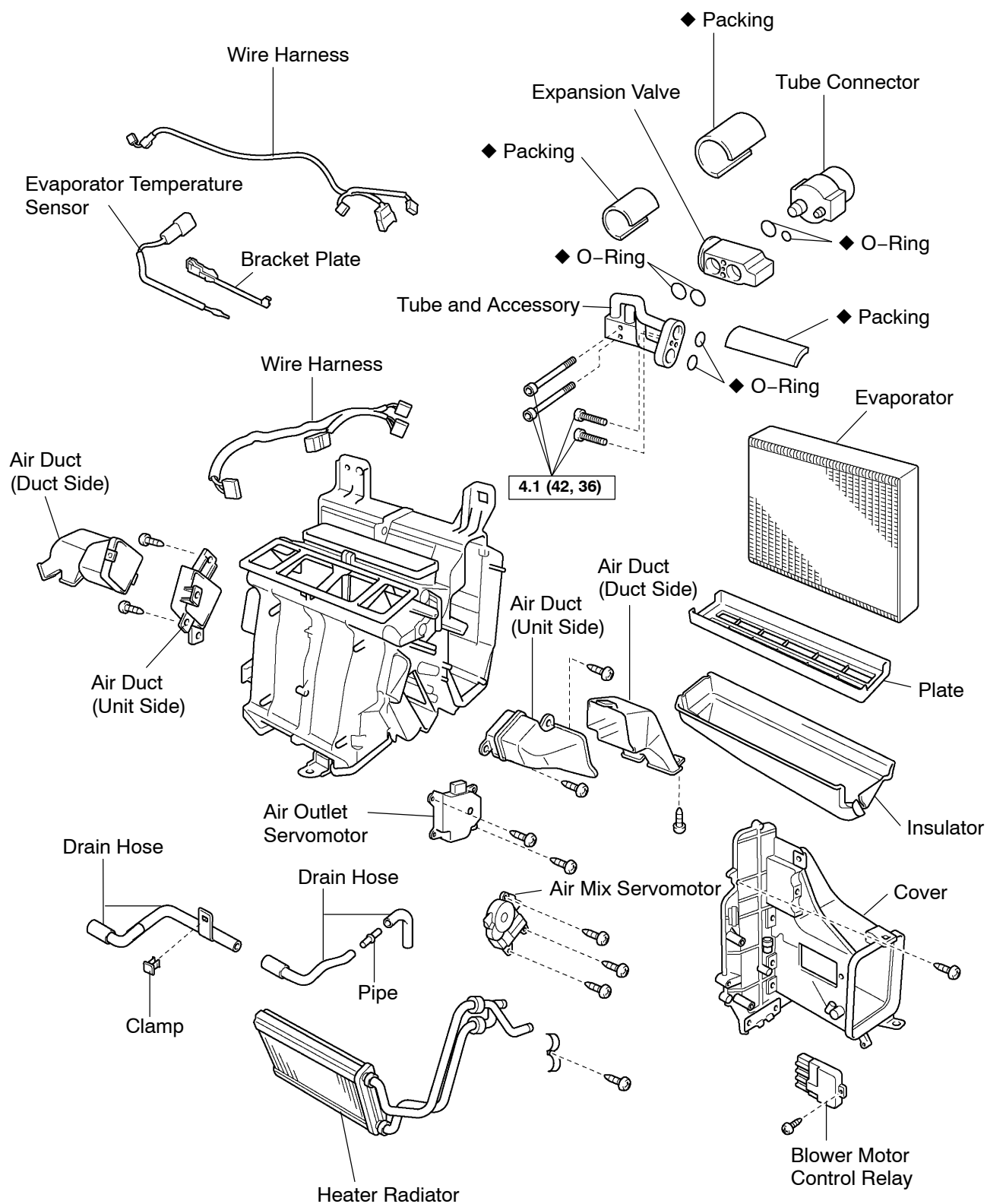
RHD models:

N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

I12413

LHD models:



N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

I12414

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

HINT:

At the time of installation, please refer to the following item.

Evacuate air from refrigeration system.

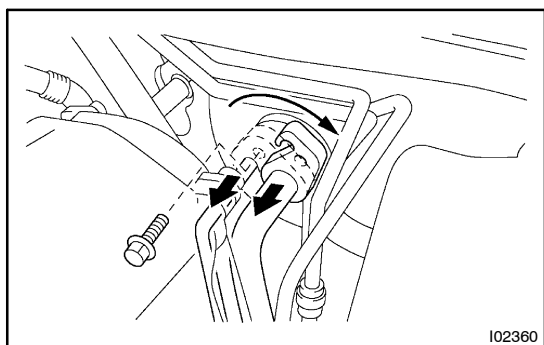
Charge system with refrigerant and inspect for leakage of refrigerant.

Specified amount: 600 ± 50 g (21.16 ± 1.76 oz.)

2. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all coolant.



3. DISCONNECT LIQUID TUBE AND SUCTION HOSE FROM A/C UNIT

Remove the bolt and slide the plate, then disconnect the both tubes.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

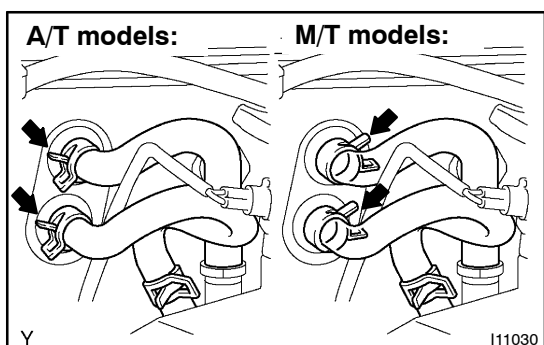
NOTICE:

Cap the open fittings immediately to keep moisture or dirt out of the system.

HINT:

At the time of installation, please refer to the following item.

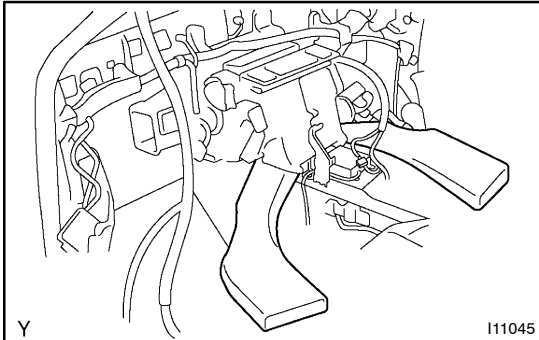
Lubricate 2 new O-rings with compressor oil and install them to the tubes.



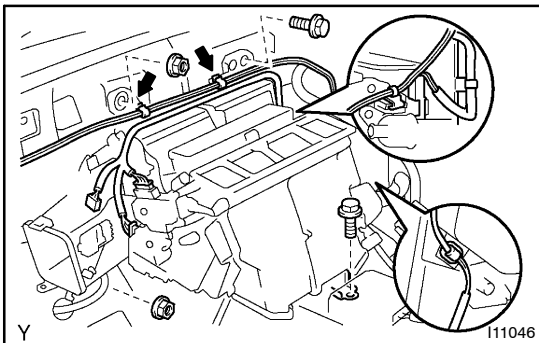
4. DISCONNECT WATER HOSES FROM HEATER RADIATOR PIPES

- (a) Grip the claws of the hose clip and slide the hose clip along the hose.
- (b) Disconnect the water hose.

5. REMOVE COOLER NO.1 GROMMET
6. REMOVE HEATER PIPE GROMMET
7. REMOVE DRAIN HOSE GROMMET
8. REMOVE INSTRUMENT PANEL AND REINFORCEMENT (See page BO-96)
9. REMOVE BLOWER UNIT (See page AC-36)

**10. REMOVE 2 AIR DUCTS**

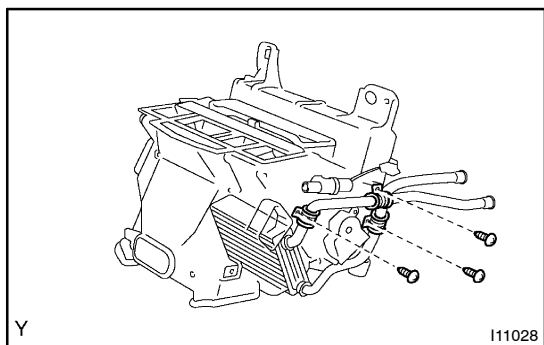
- (a) Slide the floor carpet backward.
- (b) Remove the air ducts LH, RH.

**11. REMOVE A/C UNIT**

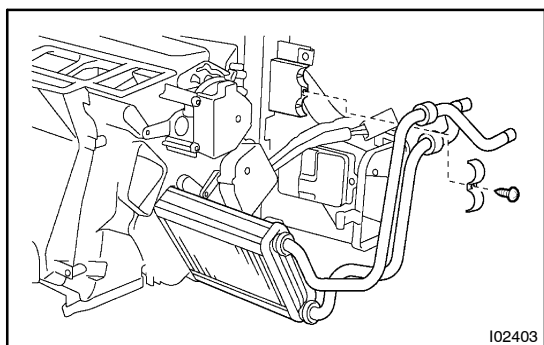
- (a) Disconnect the connectors.
- (b) Disconnect the wire harness clamps.
- (c) Remove the 2 nuts, 2 bolt and A/C unit.

DISASSEMBLY

1. REMOVE WIRE HARNESS
2. REMOVE DRAIN HOSE



3. **RHD models:**
REMOVE HEATER RADIATOR
 - (a) Remove the 3 screws and 3 clamps.
 - (b) Pull out the heater radiator.



4. **LHD models:**
REMOVE HEATER RADIATOR
 - (a) Remove the screw and clamp.
 - (b) Pull out the heater radiator.

5. REMOVE BLOWER MOTOR CONTROL RELAY

Remove the screw and blower motor control relay.

6. REMOVE AIR MIX SERVOMOTOR

Remove the 3 screws and servomotor.

7. REMOVE AIR OUTLET SERVOMOTOR

Remove the 2 screws and servomotor.

8. REMOVE EXPANSION VALVE

- (a) Pry out the packing.

HINT:

At the time of reassembly, please refer to the following item.

Do not reuse the packing.

- (b) Using SST, remove the 2 bolts, then separate the expansion valve, and tube connector.

SST 07110-61050

Torque: 4.1 N·m (42 kgf·cm, 36 in·lbf)

HINT:

At the time of reassembly, please refer to the following item.

Lubricate 4 new O-rings with compressor oil and install them to the valve.

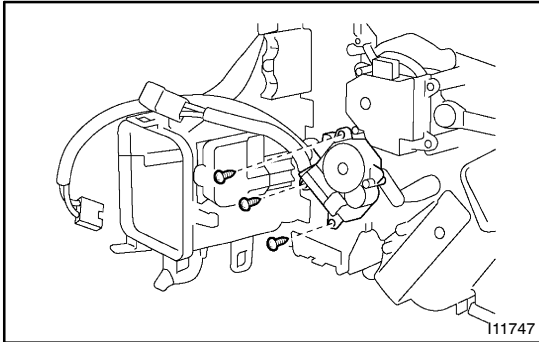
9. REMOVE EVAPORATOR TEMPERATURE SENSOR

- (a) Using a screwdriver, pull out the sensor with bracket plate.

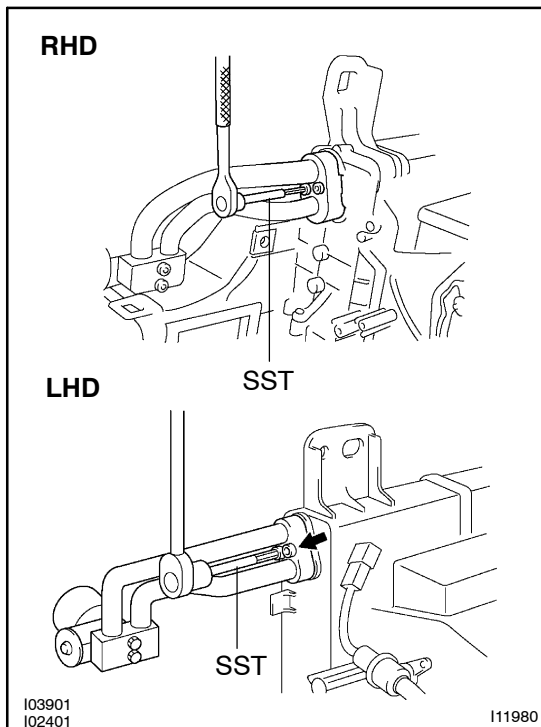
HINT:

Tape the screwdriver tip before use.

- (b) Release the 2 claws and sensor from bracket plate.

**10. REMOVE EVAPORATOR**

- (a) Remove air mix servomotor.
- (1) Disconnect the connector.
 - (2) Remove the 3 screws and servomotor.



- (b) Remove tube and accessory.

- (1) Pry out packing.

HINT:

At the time of installation, please refer to the following item.

Do not reuse the packing.

- (2) Using SST, remove the 2 bolts and the tube and accessory.

SST 07110-61050

Torque: 4.1 N·m (42 kgf·cm, 36 in.·lbf)

NOTICE:

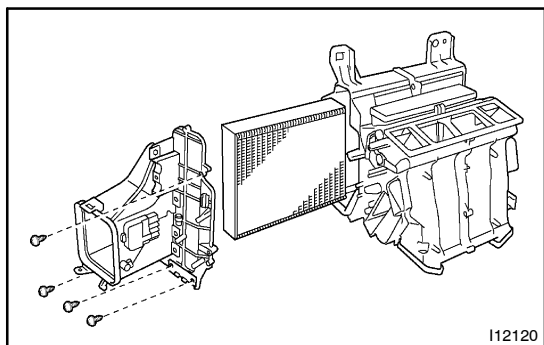
Cap the open fittings immediately to keep moisture or dirt out of the system.

HINT:

At the time of installation, please refer to the following item.

Lubricate 2 new O-rings with compressor oil and install them to the tube.

- (3) Remove screw and drain pipe.



- (c) Remove evaporator.
- (1) Remove the screw and drain hose.
 - (2) Remove the 4 screws and cover.
 - (3) Pull out the evaporator.

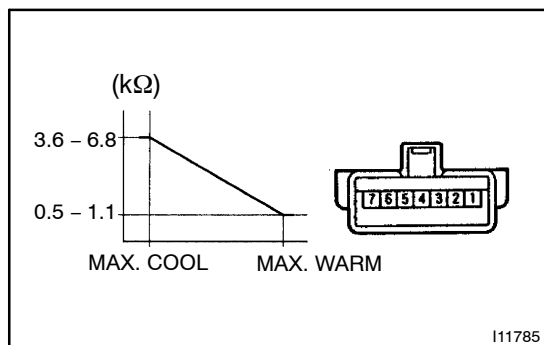
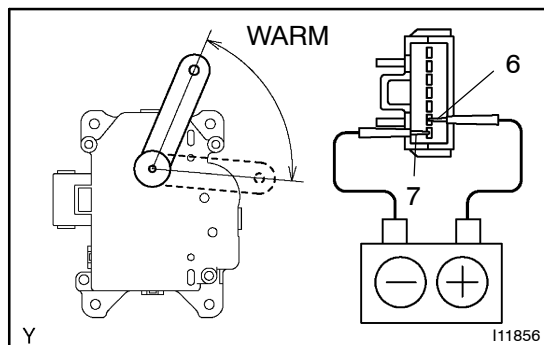
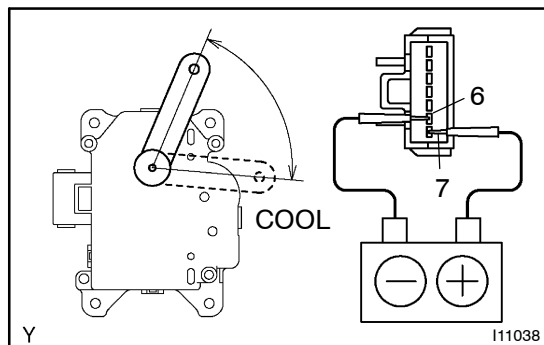
HINT:

At the time of installation, please refer to the following item.
If evaporator is replaced, add compressor oil to evaporator.

Add 40 cc (1.4 fl.oz.)

Compressor oil: ND-OIL 8 or equivalent

- 11. REMOVE INSULATOR FROM HEATER CASE**
- 12. REMOVE AIR DUCT**



INSPECTION

1. LHD models:

INSPECT AIR MIX SERVOMOTOR

- (a) Inspect the air mix servomotor operation.
- (1) Connect the positive (+) lead from the battery to terminal 7 and negative (–) lead to terminal 6, then check that the arm turns to "COOL" side smoothly.

- (2) Connect the positive (+) lead from the battery to terminal 6 and negative (–) lead to terminal 7, then check that the arm turns to "WARM" side smoothly.

If operations are not as specified, replace the servomotor.

- (b) Inspect position sensor resistance.
Measure resistance between terminals at servomotor arm each position as shown in the chart.

Tester connection	Condition	Specified condition
1 – 3	Constant	4.2 – 7.8 kΩ
1 – 5	Max. cool	3.6 – 6.8 kΩ
1 – 5	Max. warm	0.5 – 1.1 kΩ

If resistance is not as specified, replace the servomotor.

2. INSPECT EVAPORATOR

- (a) Check evaporator fins for blockage.
If the fins are clogged, clean them with compressed air.

NOTICE:

Never use water to clean the evaporator.

- (b) Check fitting for cracks or scratches.
If necessary, repair or replace.

3. INSPECT HEATER RADIATOR

Inspect fins for blockage.
If the fins are clogged, clean them with compressed air.

REASSEMBLY

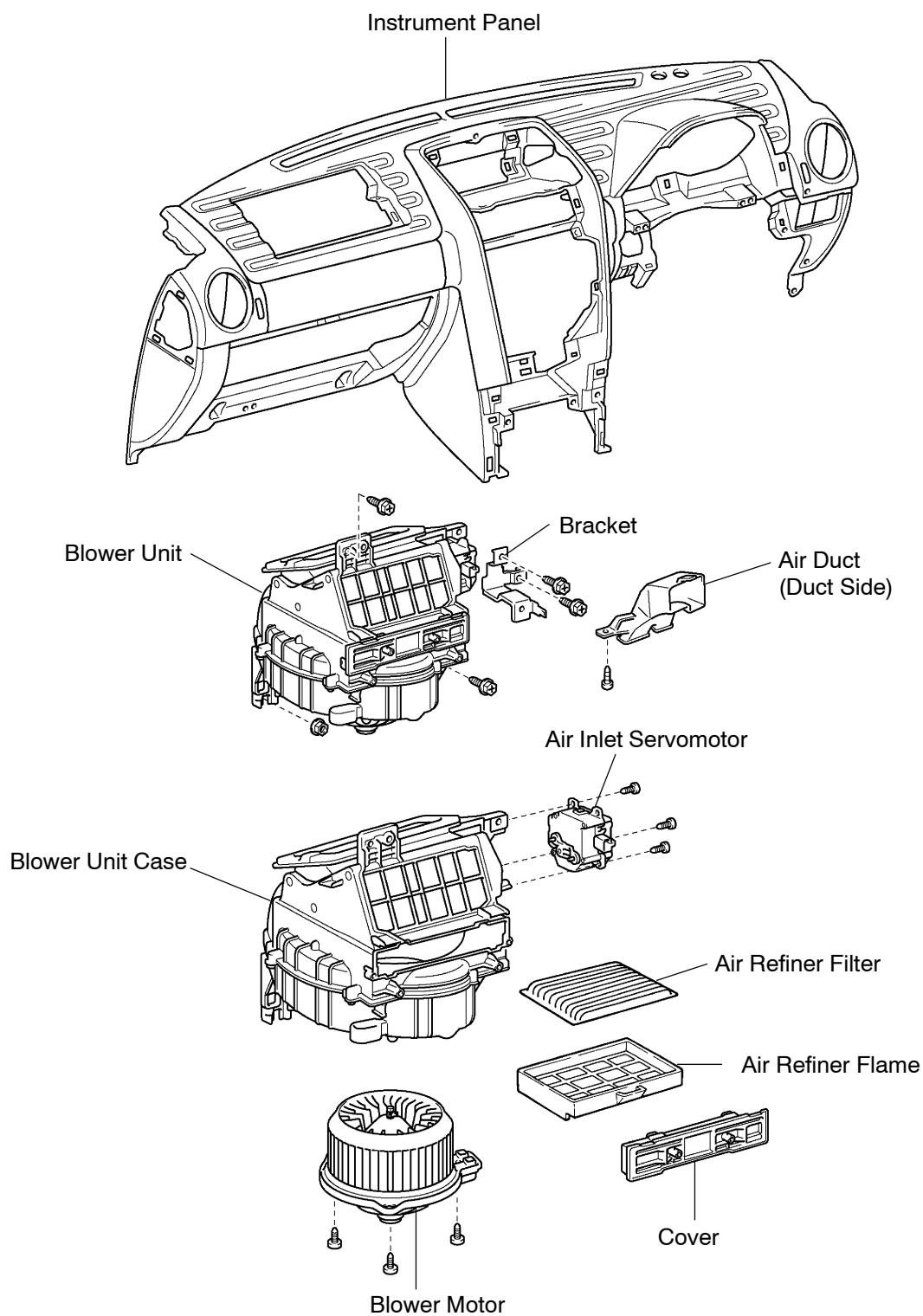
Reassembly is in the reverse order of disassembly (See [page AC-29](#)).

INSTALLATION

Installation is in the reverse order of removal (See [page AC-27](#)).

BLOWER UNIT COMPONENTS

AC160-07

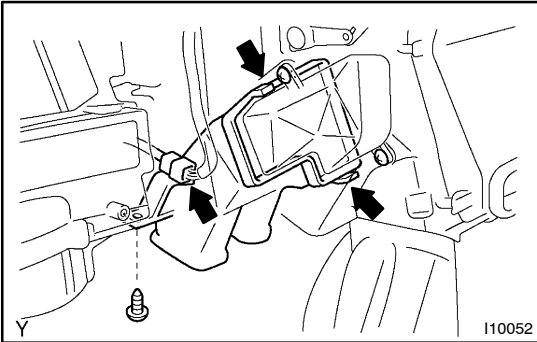


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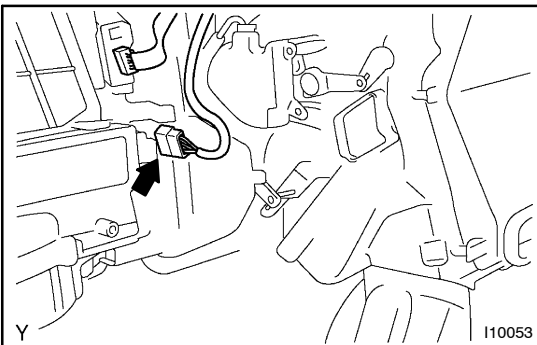
REMOVAL

1. REMOVE INSTRUMENT PANEL (See page BO-96)



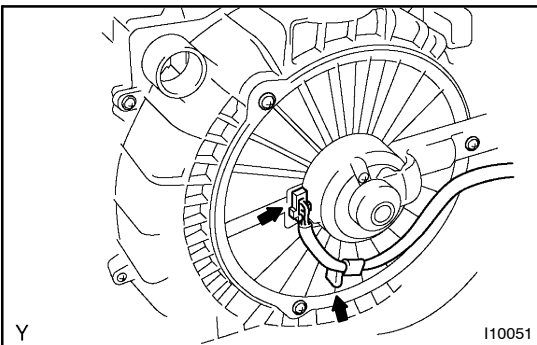
2. REMOVE AIR DUCT (DUCT SIDE)

- (a) Disconnect the connector and connector clamp.
- (b) Remove the screw.
- (c) Release the 2 claws and pull out the air duct.

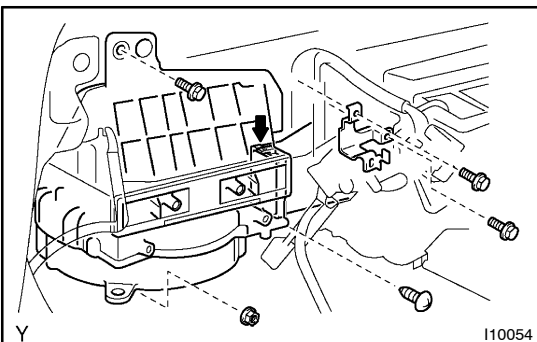


3. DISCONNECT WIRE HARNESS

- (a) Disconnect the connector and connector clamp.



- (b) Remove the wire harness clamp and disconnect the connector.



4. REMOVE BLOWER UNIT

- (a) Remove the 2 bolts and bracket.
- (b) Remove the bolt, screw and nut.
- (c) Release the claw and remove the blower unit.

DISASSEMBLY

1. REMOVE AIR REFINER FILTER

- (a) Release the 4 claws and remove the cover.
- (b) Pull out the air refiner filter.

2. REMOVE AIR INLET SERVOMOTOR

Remove the 3 screws and servomotor.

3. REMOVE BLOWER MOTOR

Remove the 3 screws and blower motor.

REASSEMBLY

Reassembly is in the reverse order of disassembly ([See page AC-37](#)).

INSTALLATION

Installation is in the reverse order of removal (See [page AC-36](#)).

COMPRESSOR AND MAGNETIC CLUTCH

AC25P-01

ON-VEHICLE INSPECTION

1. INSPECT COMPRESSOR FOR METALLIC SOUND

Check there is abnormal metallic sound from the compressor when the A/C switch is ON.

If abnormal metallic sound is heard, replace the compressor assembly.

2. INSPECT REFRIGERANT PRESSURE

(See page AC-3)

3. INSPECT VISUALLY FOR LEAKAGE OF REFRIGERANT

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

If there is any leakage, replace the compressor assembly.

4. CHECK FOR LEAKAGE OF GREASE FROM CLUTCH BEARING

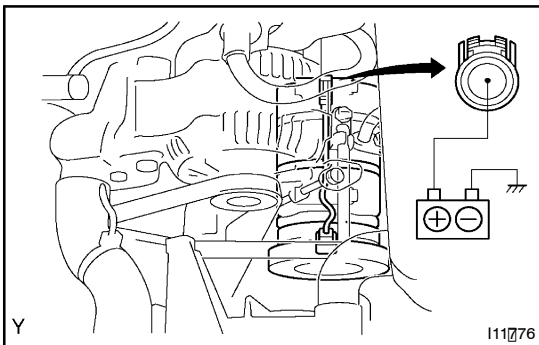
5. CHECK SIGNS OF OIL ON PRESSURE PLATE OR ROTOR

6. INSPECT MAGNETIC CLUTCH BEARING FOR NOISE

(a) Start engine.

(b) Check for abnormal noise from the compressor when the A/C switch is OFF.

If abnormal noise is being emitted, replace the rotor of magnetic clutch.



7. INSPECT MAGNETIC CLUTCH OPERATION

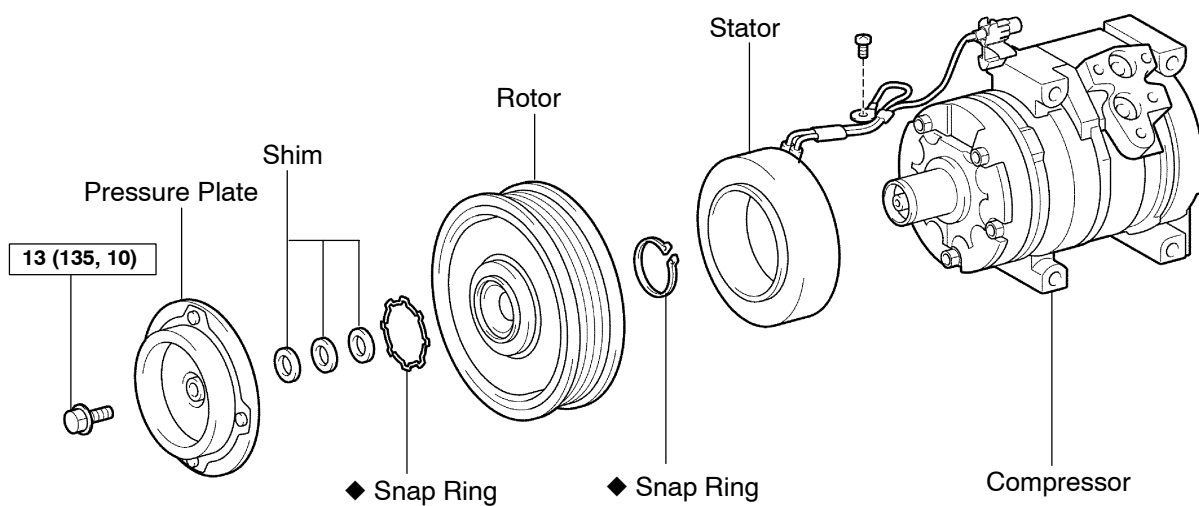
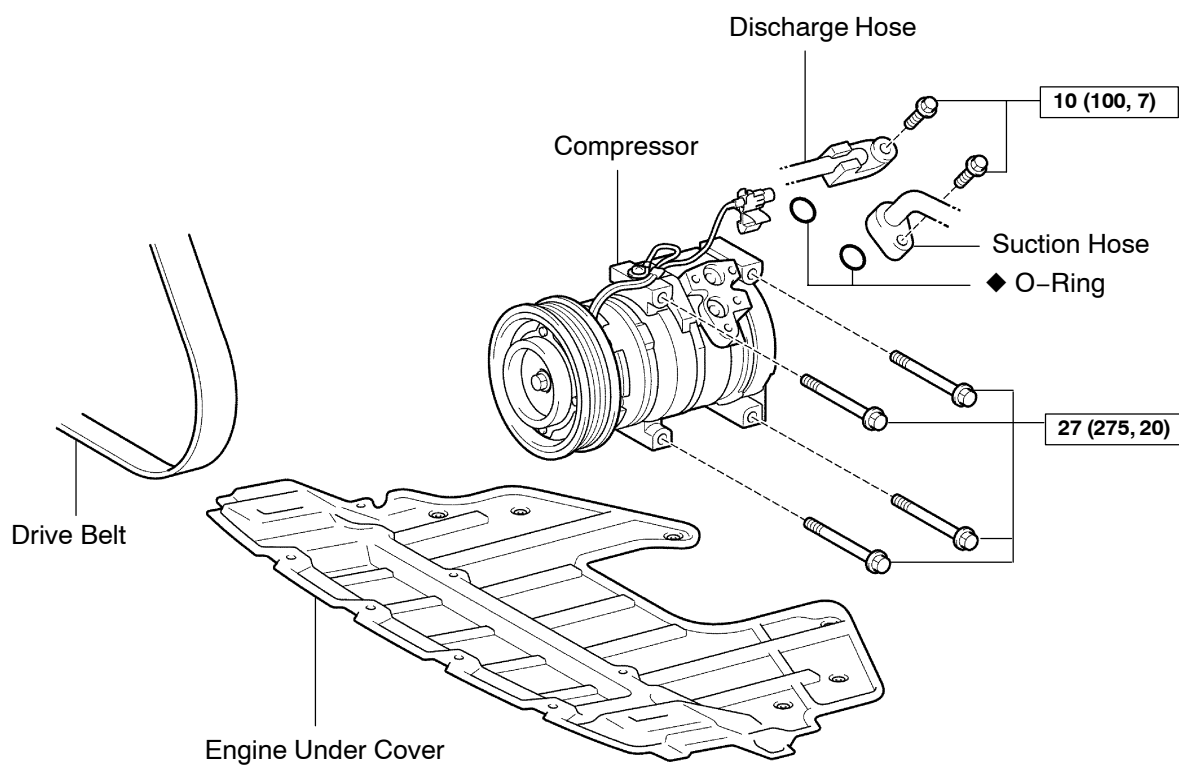
(a) Disconnect the connector.

(b) Connect the positive (+) lead from the battery to terminal on the magnetic clutch connector and the negative (-) lead to the body ground.

(c) Check that the magnetic clutch is energized.

If operation is not as specified, replace the magnetic clutch.

COMPONENTS



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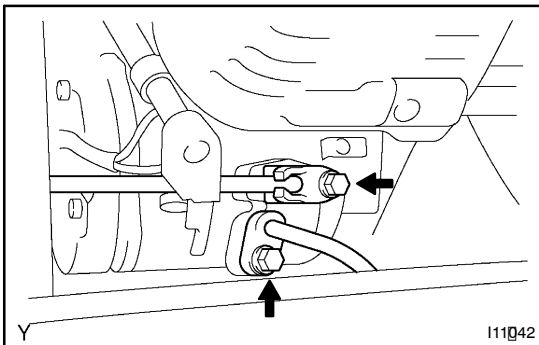
N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

I11858

REMOVAL

1. RUN ENGINE AT IDLE SPEED WITH A/C ON FOR APPROX. 10 MINUTES
2. STOP ENGINE
3. DISCONNECT NEGATIVE (-) TERMINAL CABLE FROM BATTERY
4. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM
5. REMOVE ENGINE UNDER COVER
6. REMOVE DRIVE BELT (See page AC-17)

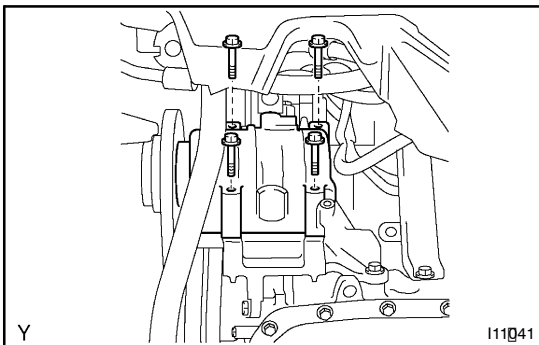


7. DISCONNECT DISCHARGE AND SUCTION HOSES

Remove the 2 bolts and disconnect the both hoses.

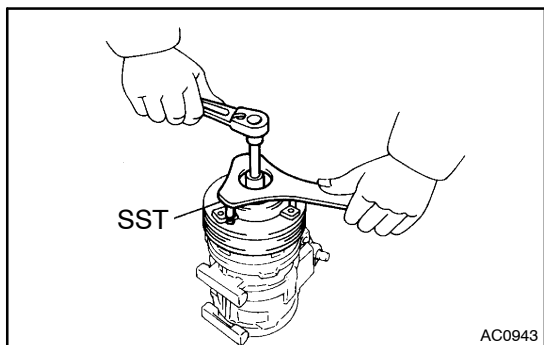
NOTICE:

Cap the open fitting immediately to keep moisture or dirt out of the system.



8. REMOVE COMPRESSOR

- (a) Disconnect the connector.
- (b) Remove the 4 bolts and compressor.



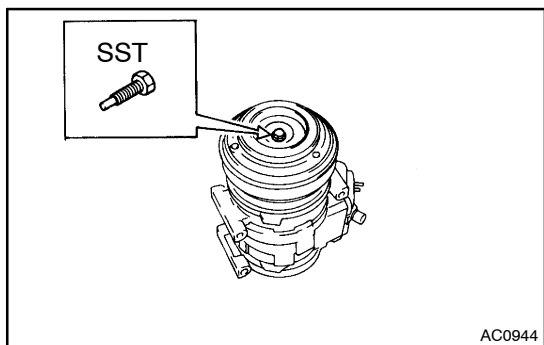
DISASSEMBLY

1. REMOVE PRESSURE PLATE

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

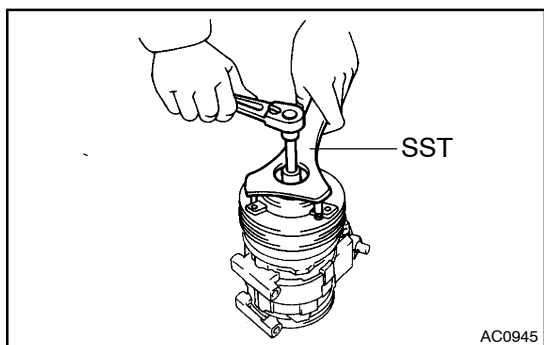
Torque: 13.2 N·m (135 kgf·cm, 9 ft·lbf)

SST 07112-76060



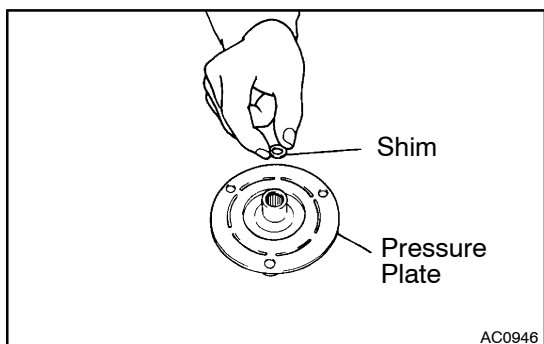
- (b) Install SST on the pressure palate.

SST 07112-66040

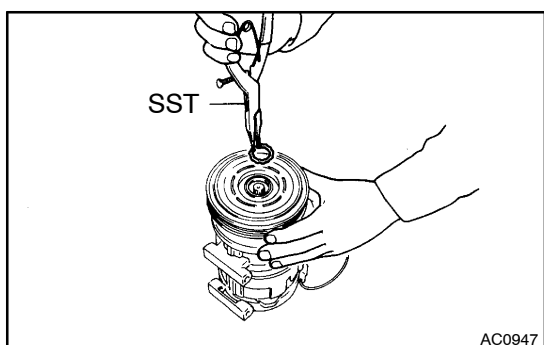


- (c) Using SST and socket wrench, remove the pressure plate.

SST 07112-66040, 07112-76060



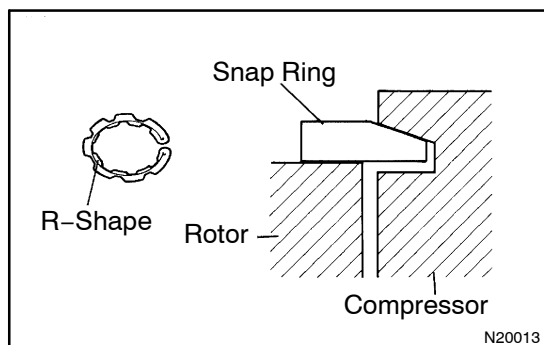
- (d) Remove the shims from the pressure palate.



2. REMOVE ROTOR

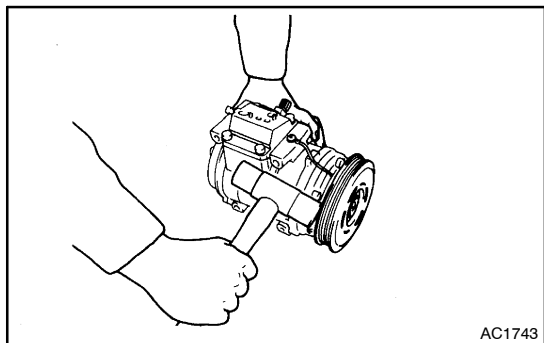
- (a) Using SST, remove the snap ring.

SST 07114-84020

**NOTICE:**

At the time of reassembly, please refer to the following item.

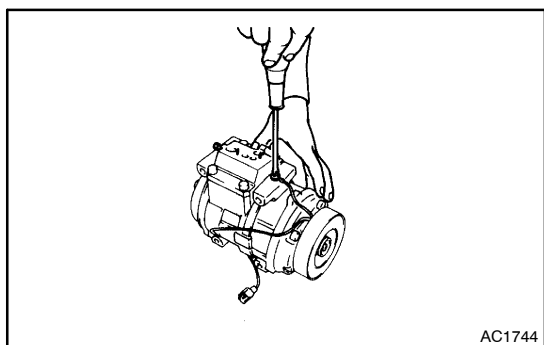
The snap ring should be installed so that beveled side faces up.



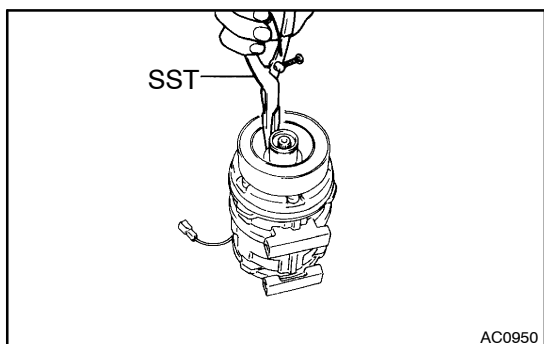
(b) Using a plastic hammer, tap the rotor off the shaft.

NOTICE:

Be careful not to damage the pulley when tapping on the rotor.

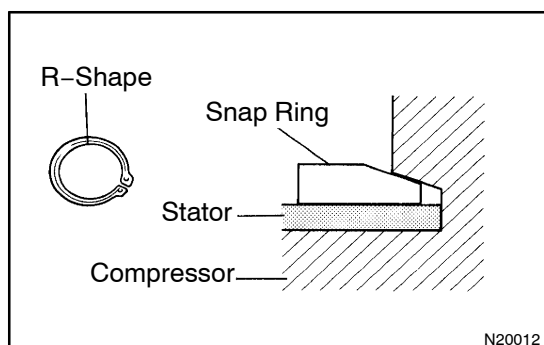
**3. REMOVE STATOR**

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



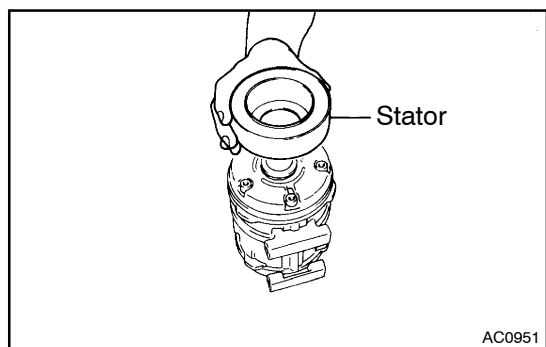
(b) Using SST, remove the snap ring.

SST 07114-84020

**NOTICE:**

At the time of reassembly, please refer to the following item.

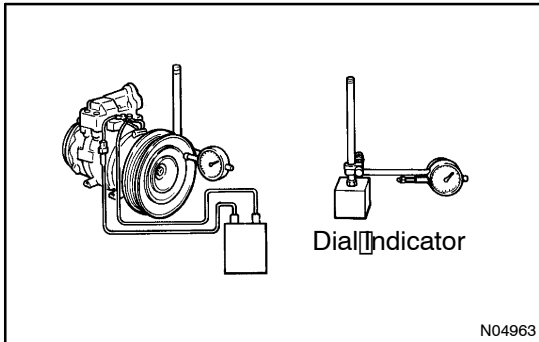
The snap ring should be installed so that its beveled side faces up.



(c) Remove the stator.

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page AC-43).



AFTER REASSEMBLY, INSPECT MAGNETIC CLUTCH CLEARANCE

- Set the dial indicator to the pressure plate of the magnetic clutch.
- Connect the magnetic clutch lead wire to the positive (+) terminal of the battery.
- Check the clearance between the pressure plate and rotor when connecting the negative (-) terminal to the battery.

Standard clearance:

0.5 ± 0.15 mm (0.020 ± 0.0059 in.)

If the clearance is not within the standard clearance, adjust the clearance using shims to obtain the standard clearance.

Shim thickness:

0.1 mm (0.004 in.)

0.3 mm (0.012 in.)

0.5 mm (0.020 in.)