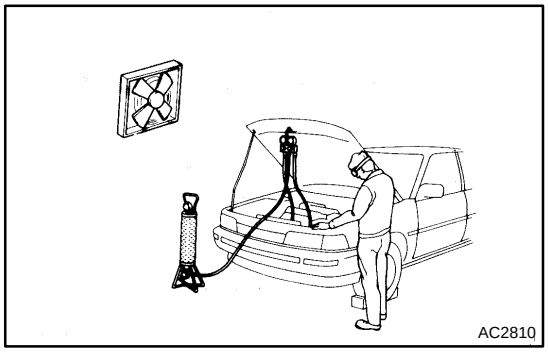
AIR CONDITIONING SYSTEM

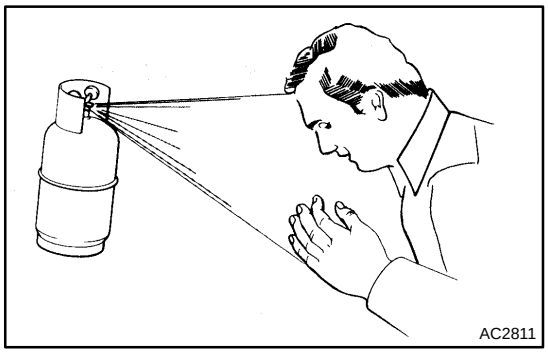
PRECAUTION

550BL−05



1. DO NOT HANDLE REFRIGERANT IN AN ENCLOSED AREA OR NEAR NAKED 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:

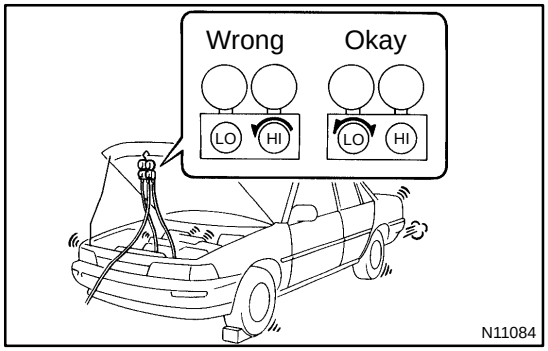
Do not rub your eyes or skin.

(b) Apply clean petroleum jelly to the skin.

(c) Go immediately to a physician or hospital for professional treatment.

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

5. BE CAREFUL NOT TO DROP THE CONTAINER OR APPLY PHYSICAL SHOCKS TO IT



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

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

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

If the high pressure valves are opened, refrigerant flows in the reverse direction and could cause the charging cylinder to rupture. Open and close only the 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. DO NOT OPERATE ENGINE AND COMPRESSOR WITH NO REFRIGERANT

CAUTION:

Doing so may damage the inside of the compressor because the compressor parts always move regardless of whether the A/C system is turned on or off.

10. SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The LEXUS LS430 is equipped with an SRS (Supplemental Restraint system) such as the driver, front passenger, side, curtain shield air bags etc.. Failure to carry out service operation 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 on page 60−1.

11. PRECAUTION FOR DISCONNECTING THE BATTERY CABLE

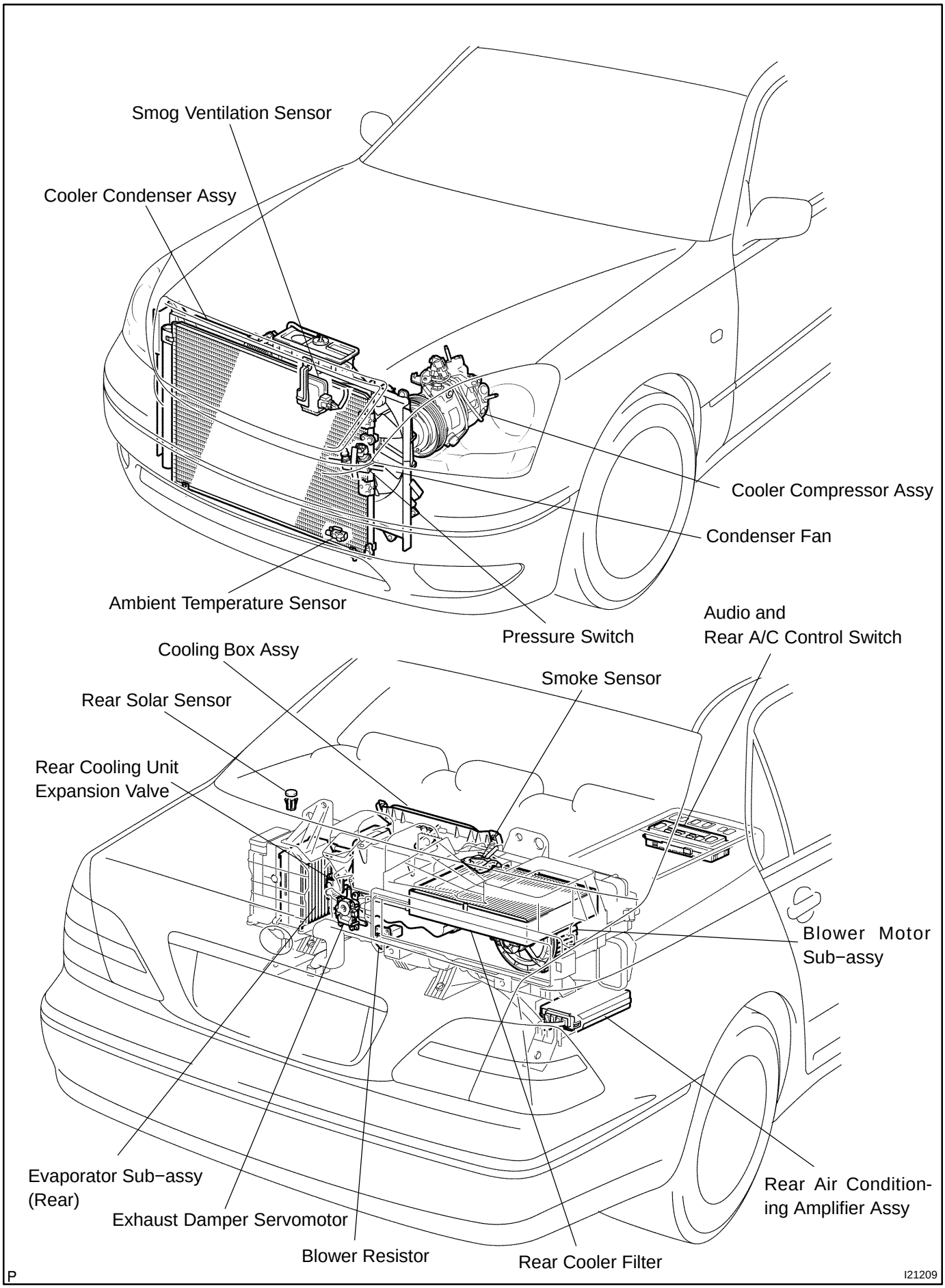
NOTICE:

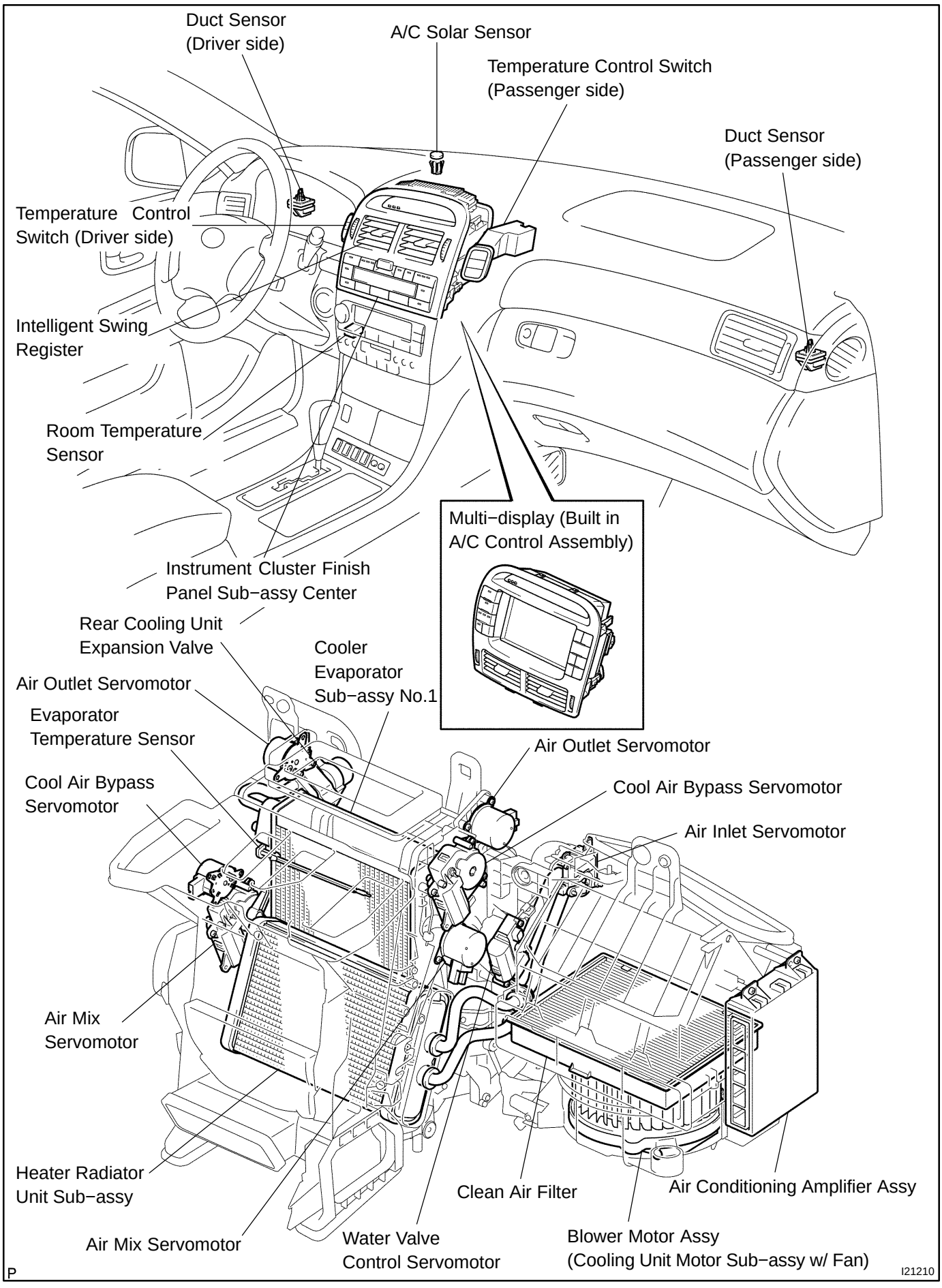
When disconnecting the negative (−) battery terminal, initialize the following system after the terminal is reconnected.

System Name	see page
Front Power Seat Control System	01−20

5517E−01

LOCATION

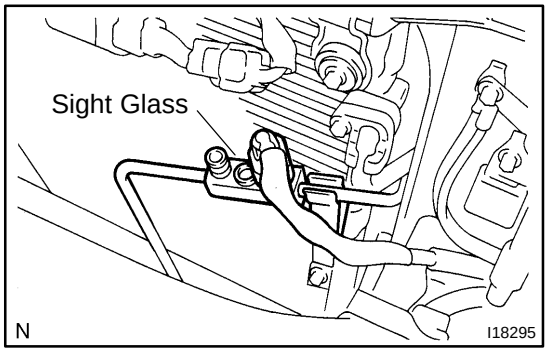



Duct Sensor (Driver side)
A/C Solar Sensor
Temperature Control Switch (Passenger side)
Duct Sensor (Passenger side)
Temperature Control Switch (Driver side)
Intelligent Swing Register
Room Temperature Sensor
Multi−display (Built in A/C Control Assembly)
Instrument Cluster Finish Panel Sub−assy Center
Rear Cooling Unit Expansion Valve
Cooler Evaporator Sub−assy No.1
Air Outlet Servomotor
Evaporator Temperature Sensor
Air Outlet Servomotor
Cool Air Bypass Servomotor
Cool Air Bypass Servomotor
Air Inlet Servomotor
Air Mix Servomotor
Heater Radiator Unit Sub−assy
Clean Air Filter
Air Conditioning Amplifier Assy
Air Mix Servomotor
Water Valve Control Servomotor
Blower Motor Assy (Cooling Unit Motor Sub−assy w/ Fan)
P
I21210

REFRIGERANT

ON−VEHICLE INSPECTION

5517F−01



1. INSPECT REFRIGERANT VOLUME

(a) Check the sight glass on the liquid tube.

Test conditions:

- Engine is running at 1,500 rpm
- Single A/C:
  Blower speed control switch at ”HI” position
- Dual A/C:
  Front blower switch at ”HI” position
  Rear blower switch at ”HI” position
- A/C switch ON
- Single A/C:
  Temperature control switch at ”MAX. COOL” position
- Dual A/C:
  Rear temperature control switch at ”MAX. COOL” position
  Front driver side temperature control switch at ”MAX. COOL” position
  Front passenger side temperature control switch at ”MAX. COOL” position
- Fully open the doors

Item	Symptom	Amount of refrigerant	Corrective Actions
1	Bubbles exist	Insufficient*	(1) Check for gas leakage and repair if necessary (2) Add refrigerant until bubbles disappear
2	No bubbles exist	Empty, insufficient or excessive	Refer to 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	Considerable temperature difference between compressor inlet and outlet	Proper or excessive	Refer to 5 and 6
5	Immediately after air conditioning is turned off, refrigerant clears	Excessive	(1) Discharge refrigerant (2) Remove air and supply proper amount of purified refrigerant
6	Immediately after air conditioning is turned off, refrigerant foams and then becomes clear	Proper	−

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

2. INSPECT REFRIGERANT PRESSURE WITH MANIFOLD GAUGE SET

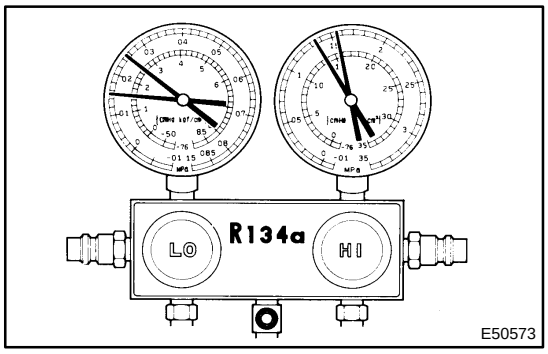
(a) This is a method in which trouble is located by using a manifold gauge set. Read the manifold gauge pressure when these conditions are established.

Test conditions:

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

HINT:

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



E50573

(1) Normally functioning refrigeration system

Gauge reading:

Low pressure side:

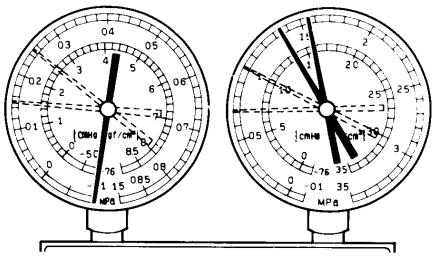
0.15 to 0.25 MPa (1.5 to 2.5 kgf/cm^2)

High pressure side:

1.37 to 1.57 MPa (14 to 16 kgf/cm$^{2)}$

(2) Moisture present in refrigeration system

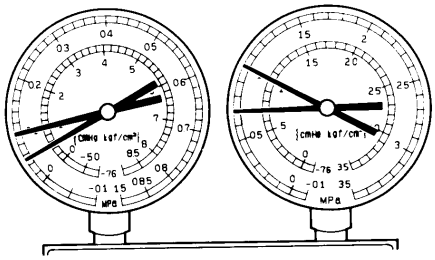
Condition: Periodically cools and then fails to cool


I22117

Symptom	Probable cause	Diagnosis	Corrective Actions
During operation, pressure on low pressure side cycles between normal and vacuum	Moisture in refrigeration system freezes at expansion valve orifice, causing a temporary stop of cycle. However, when it melts, normal state is restored.	• Drier in oversaturated state • Moisture in refrigeration system freezes at expansion valve orifice and blocks circulation of refrigerant	(1) Replace receiver (2) Remove moisture in cycle by repeatedly evacuating air (3) Supply proper amount of new refrigerant

(3) Insufficient cooling

Condition: Cooling system does not function effectively.

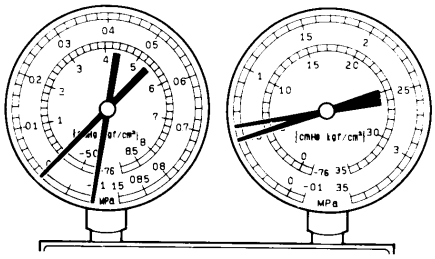


I22118

Symptom	Probable cause	Diagnosis	Corrective Actions
• Pressure is low on both low and high pressure sides • Bubbles are continuously seen through sight glass • Insufficient cooling performance	Gas leakage in refrigeration system	• Insufficient refrigerant • Refrigerant leaking	(1) Check for gas leakage and repair if necessary (2) Supply proper amount of new refrigerant (3) If the indicated pressure value is close to 0 when connected to the gauge, create a vacuum after inspecting and repairing the location of leakage.

(4) Poor circulation of refrigerant

Condition: Cooling system does not function effectively.

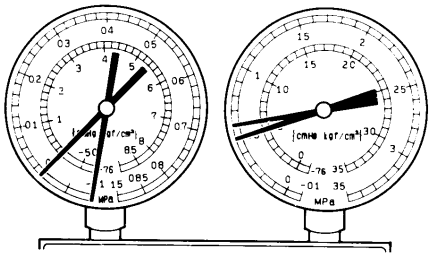


I22119

Symptom	Probable cause	Diagnosis	Corrective Action
• Pressure is low on both low and high pressure sides • Frost exists on pipe from condenser to unit	Refrigerant flow is obstructed by dirt in the receiver	Receiver is clogged	Replace receiver

(5) Refrigerant does not circulate

Condition: Cooling system does not function. (Sometimes it may function.)

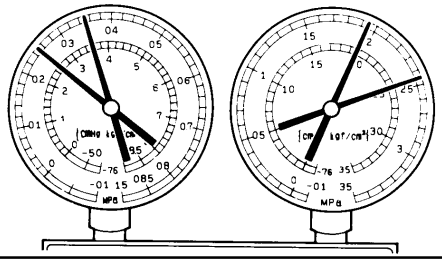


I22120

Symptom	Probable cause	Diagnosis	Corrective Actions
• Vacuum is indicated on low pressure side and very low pressure is indicated on high pressure side • Frost or condensation is seen on piping on both sides of receiver/ drier or expansion valve	• Refrigerant flow is obstructed by moisture or dirt in refrigeration system • Refrigerant flow is obstructed by a gas leak from expansion valve	Refrigerant does not circulate	(1) Check heat sensing tube, expansion valve and EPR (2) Clean out dirt in expansion valve by blowing air (3) Replace receiver (4) Evacuate air and charge new refrigerant (5) For gas leakage from expansion valve, replace expansion valve

(6) Refrigerant is overcharged or cooling effectiveness of condenser is insufficient

Condition: Cooling system does not function.

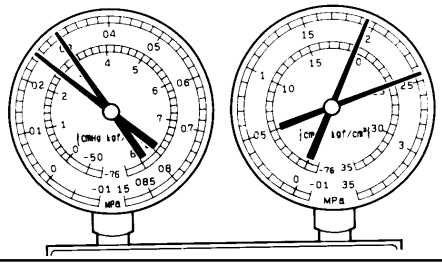


I22121

Symptom	Probable cause	Diagnosis	Corrective Actions
• Pressure is too high on both low and high pressure sides • No air bubbles are seen through sight glass even when engine rpm lowers	• Unable to develop sufficient performance due to excessive use of refrigeration system • Cooling effectiveness of condenser is insufficient	• Excessive refrigerant in cycle → excessive refrigerant is supplied • Condenser cooling effectiveness is insufficient → condenser fins are clogged at cooling fan	(1) Clean condenser (2) Check cooling fan with cooling fan motor operation (3) If (1) and (2) are normal, check the amount of refrigerant and supply proper amount of refrigerant

(7) Air present in refrigeration system

Condition: Cooling system does not function.



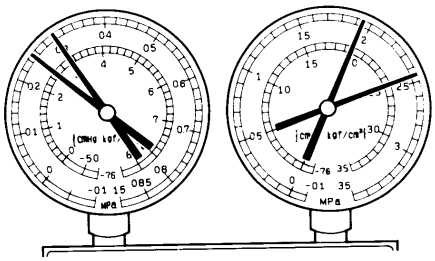
NOTE: These gauge indications occur when the refrigeration system opens and the refrigerant is charged without vacuum purging.

I22122

Symptom	Probable cause	Diagnosis	Corrective Actions
• Pressure is too high on both low and high pressure sides • The low pressure piping is too hot to touch • Bubbles can be seen through sight glass	Air in system	• Air present in refrigeration system • Insufficient vacuum purging	(1) Check compressor oil to see if it is dirty or insufficient (2) Evacuate air and charge new refrigerant

(8) Expansion valve malfunction

Condition: Insufficient cooling.

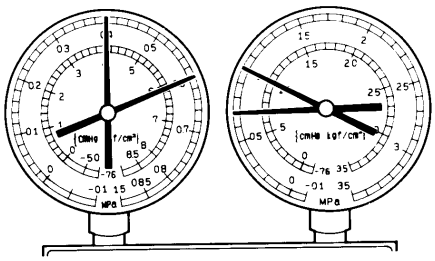


I22123

Symptom	Probable cause	Diagnosis	Corrective Actions
• Pressure is too high on both low and high pressure sides • Frost or large amount of condensation on piping on low pressure side	Trouble in expansion valve	• Excessive refrigerant in low pressure piping • Expansion valve opened too wide	(1) Check expansion valve (2) Replace if defective

(9) Defective compression compressor

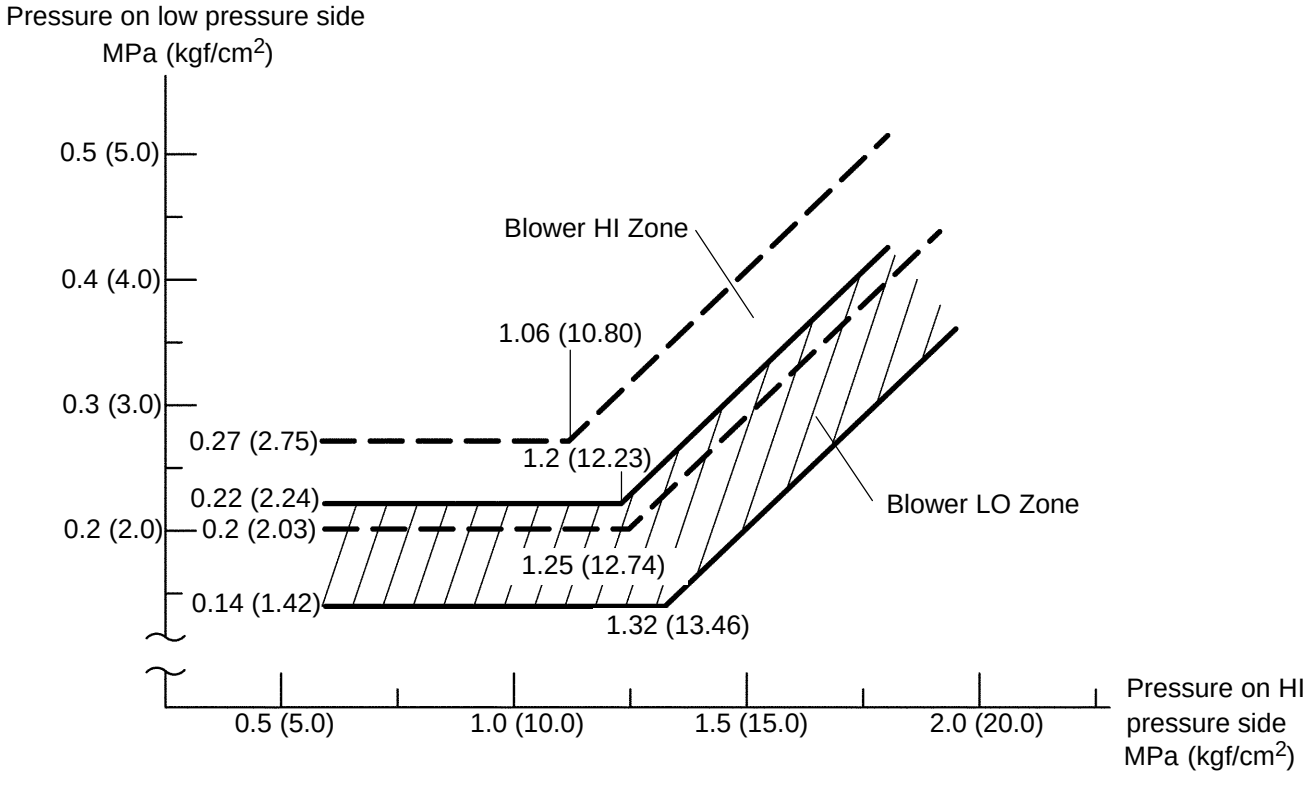
Condition: Insufficient cooling



I22124

Symptom	Probable cause	Diagnosis	Corrective Action
• Pressure is too high both on low and high pressure sides • Pressure is too low on high pressure side	Internal leak in compressor	• Compression failure • Leakage from damaged valve or broken sliding parts	Repair or replace compressor

Gauge readings (Reference)



I30081

5517G−01

REPLACEMENT

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

(a) Turn the A/C switch on.

(b) Operate the cooler compressor at an engine rpm of approximately 1,000 for 5 to 6 minutes to circulate the refrigerant and collect as much compressor oil remaining in each component into the cooler compressor as possible.

(c) Stop the engine.

(d) Using SST, discharge refrigerant gas.

SST 07110−58060 (07117−58080, 07117−58090, 07117−78050, 07117−88060, 07117−88070, 07117−88080)

2. CHARGE REFRIGERANT

(a) Using a vacuum pump, perform vacuum purging.

(b) Using SST, charge refrigerant HFC−134a (R134a).

Standard:

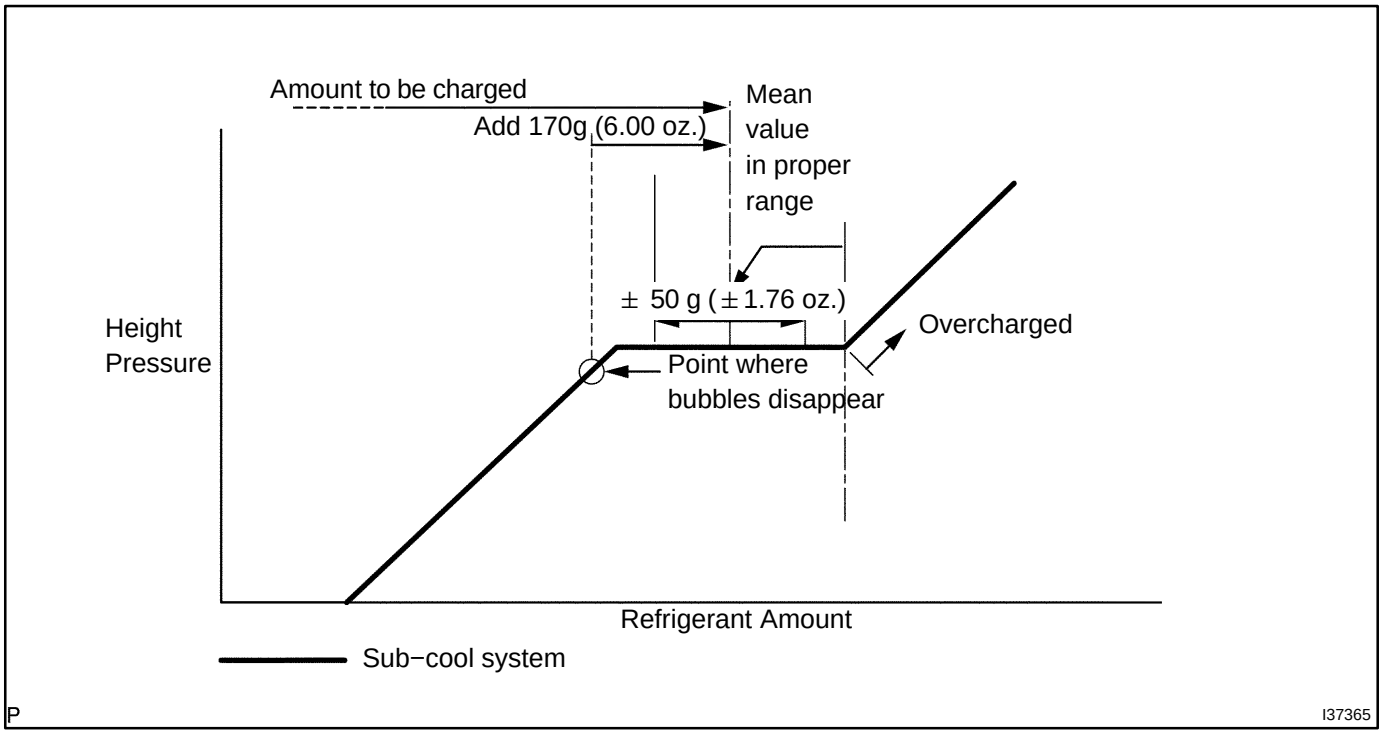
Single A/C: 650 ± 50 g (22.93 ± 1.76 oz.)

Dual A/C: 900 ± 50 g (31.74 ± 1.76 oz.)

SST 07110−58060 (07117−58060, 07117−58070, 07117−58080, 07117−58090, 07117−78050, 07117−88060, 07117−88070, 07117−88080)

NOTICE:

Do not start the engine before charging with refrigerant as the cooler compressor doesn't work properly without refrigerant, causing the compressor to overheat.



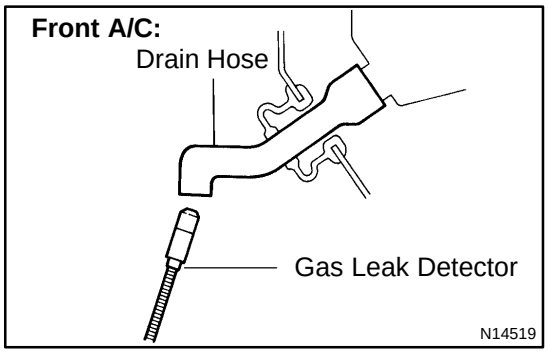
3. WARM UP ENGINE

NOTICE:

Warm up the engine at less than 2,000 rpm for 2 minutes or more after charging refrigerant.

4. INSPECT FOR REFRIGERANT LEAKAGE

(a) Perform in these conditions:
- Stop the engine.
- Secure good ventilation (the gas leak detector may not react to 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 to 588 kPa (4 to 6 kgf/cm^2, 57 to 85 psi)



(b) Bring the gas leak detector close to the drain hose before performing the test.

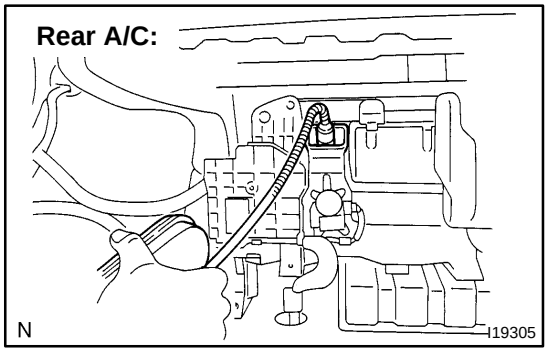
HINT:
- After the blower motor has stopped, leave the cooling unit for more than 15 minutes.
- Hold the gas leak detector sensor under the drain hose.
- When bringing the gas leak detector close to the drain hose, make sure that the gas leak detector does not react to volatile gases.

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

(c) If a gas leak is not detected on the drain hose, remove the blower motor control (blower resistor) from the cooling unit. Insert the gas leak detector sensor into the unit and perform the test.

(d) Disconnect the connector and leave the pressure switch for approximately 20 minutes. 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 and perform the test.



(f) Remove the air duct No.2.

(g) Using a gas leak detector, check for leakage of refrigerant from evaporator and joint.

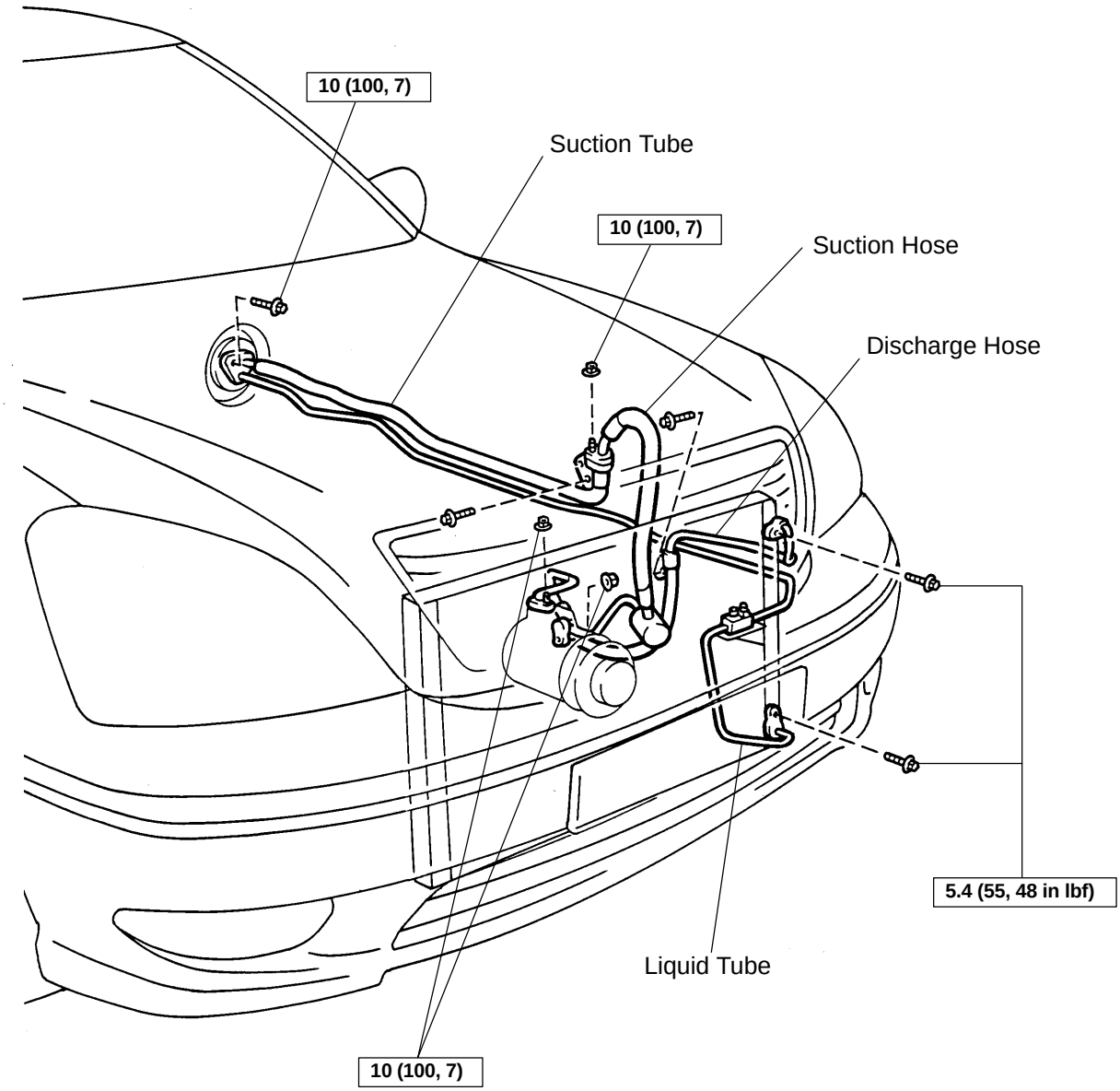
If there is leakage, check the tightening torque at the joints or evaporator.

REFRIGERANT LINE

COMPONENTS

5517H−01

Single A/C:

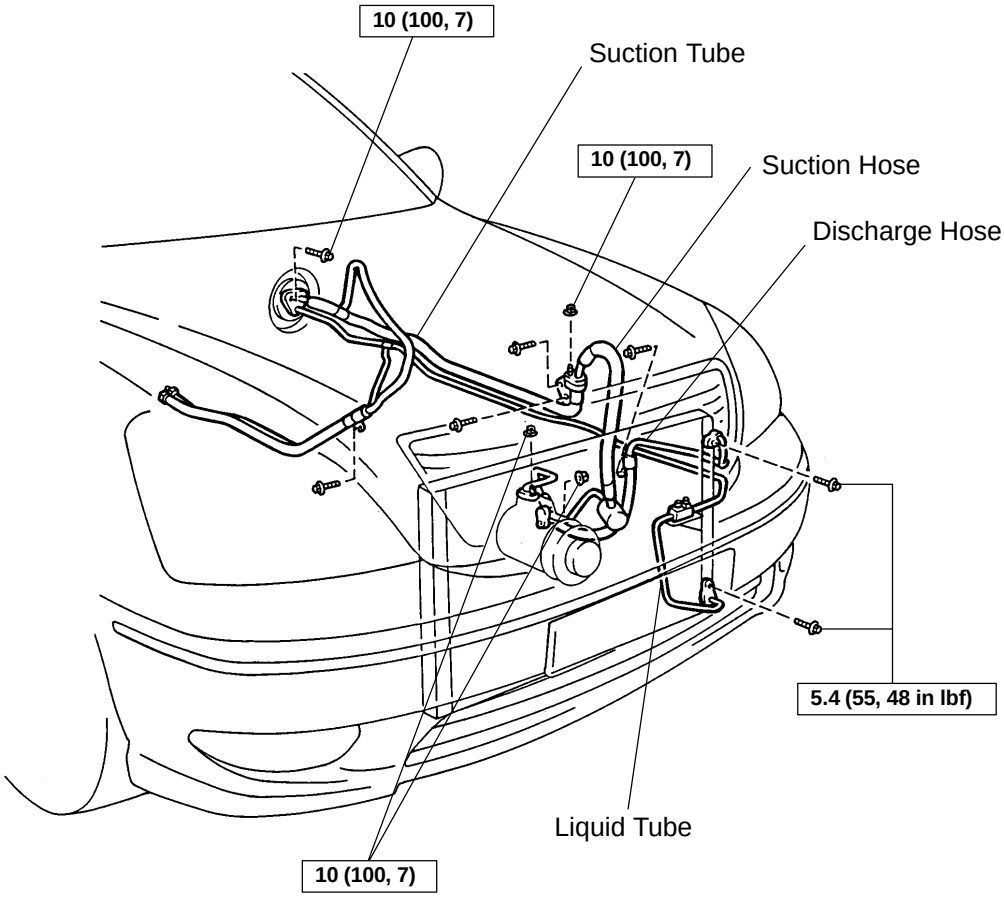


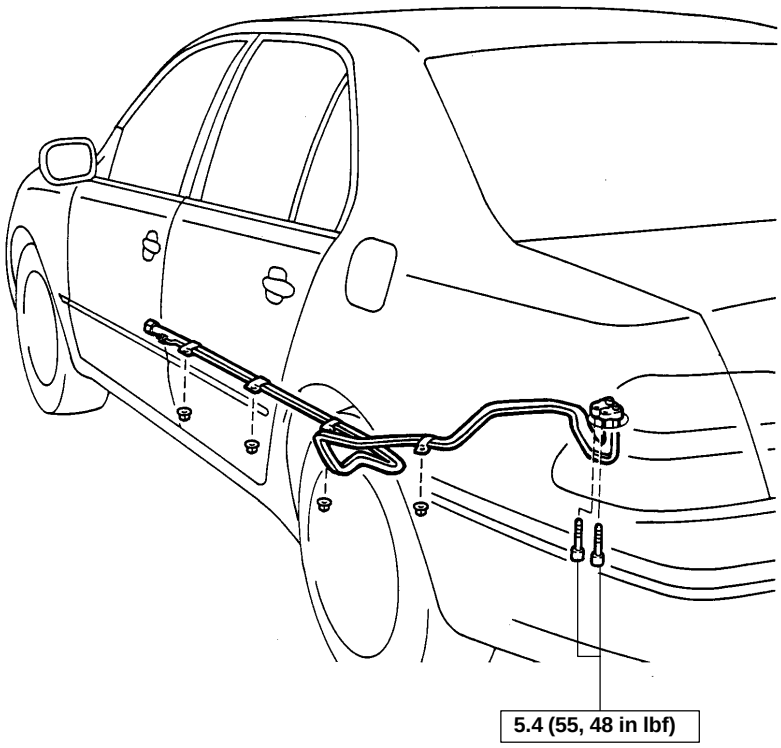
N·m (kgf·cm, ft·lbf) : Specified torque

N

I18300

Dual A/C:





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

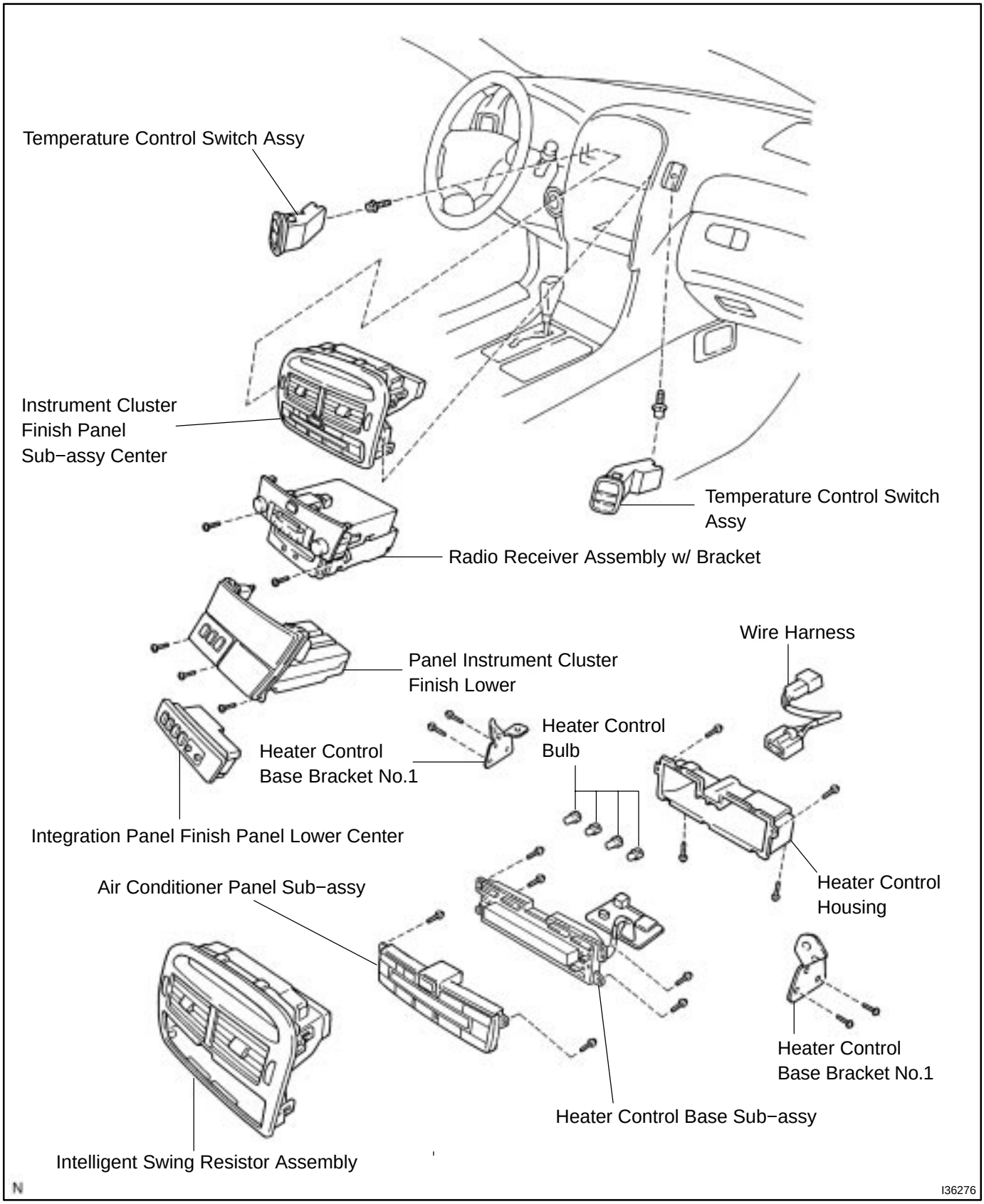
N

I18301

AIR CONDITIONING PANEL SUB−ASSY

5517I−01

COMPONENTS



5517K−01

REPLACEMENT

HINT:

- Installation is in the reverse order of removal.
- COMPONENTS: See page 55−15.

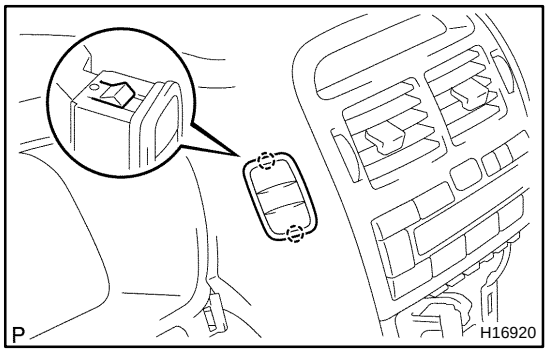
1. RESTORE SHIP MODE SETTING (W/ CD CHANGER) (SEE PAGE 67−1)

2. REMOVE INSTRUMENT PANEL FINISH PANEL LOWER CENTER (SEE PAGE 71−6)

3. REMOVE PANEL INSTRUMENT CLUSTER FINISH LOWER (SEE PAGE 71−6)

4. REMOVE RADIO RECEIVER ASSEMBLY W/BRACKET (SEE PAGE 67−5)

5. CONFIRM SHIP MODE (W/ CD CHANGER) (SEE PAGE 67−1)



6. REMOVE TEMPERATURE CONTROL SWITCH ASSY

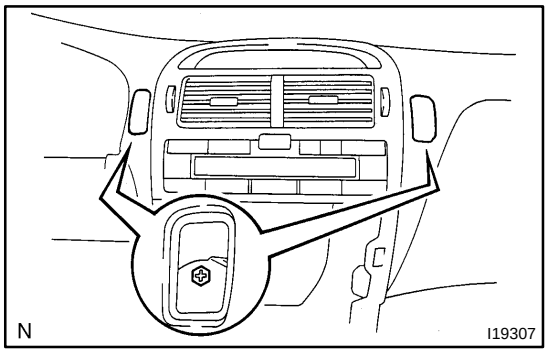
(a) Using a screwdriver, release the 2 claws and remove the temperature control switch.

HINT:

Tape the screwdriver tip before use.

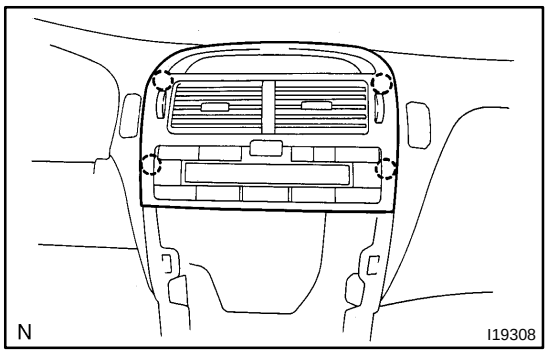
(b) Employ the same manner described above to the other side.

(c) Disconnect the connectors.

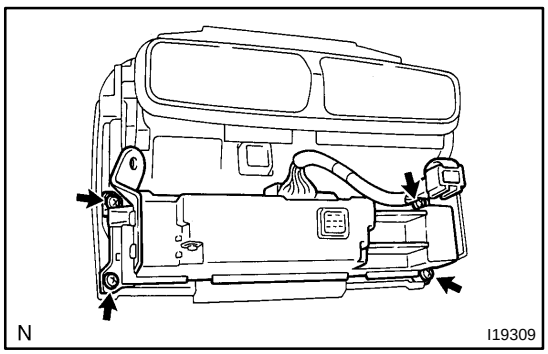


7. REMOVE INTEGRATION CONTROL & PANEL ASSY

(a) Remove the 2 bolts.

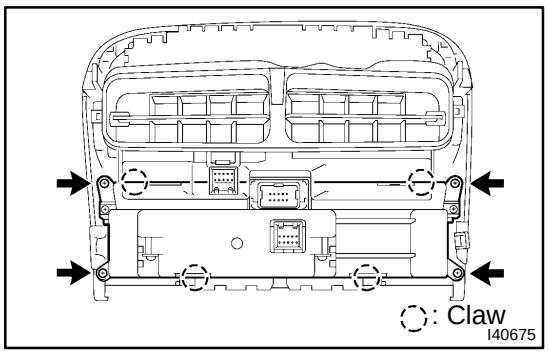


(b) Release the 4 claws and remove the integration control & panel assy.



8. REMOVE HEATER CONTROL BASE BRACKET NO.1

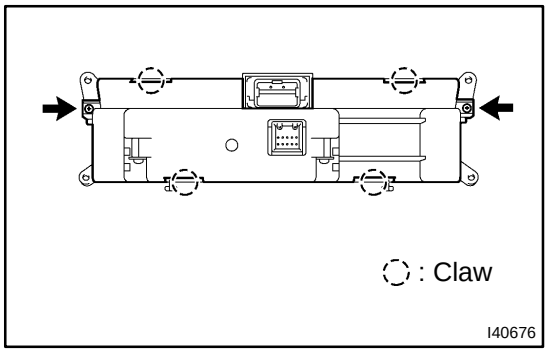
(a) Remove the 4 screws and 2 heater control base brackets No.1.



9. REMOVE AIR CONDITIONER CONTROL ASSEMBLY

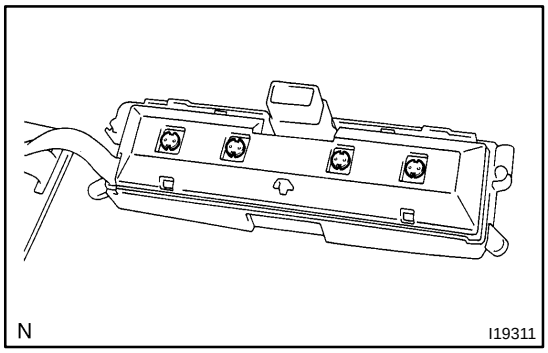
(a) Disconnect the connector.

(b) Remove the 4 screws, release the 4 claws and remove the air conditioner control assembly.



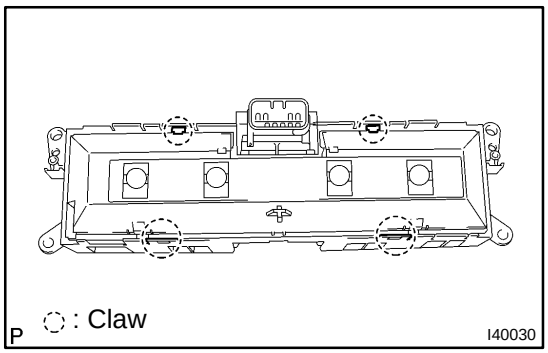
10. REMOVE HEATER CONTROL HOUSING

(a) Remove the 2 screws, release the 4 claws and remove the heater control housing.



11. REMOVE HEATER CONTROL BULB

(a) Using a screwdriver, turn the bulbs to the left and pull out the bulbs.



12. REMOVE HEATER CONTROL BASE SUB−ASSY

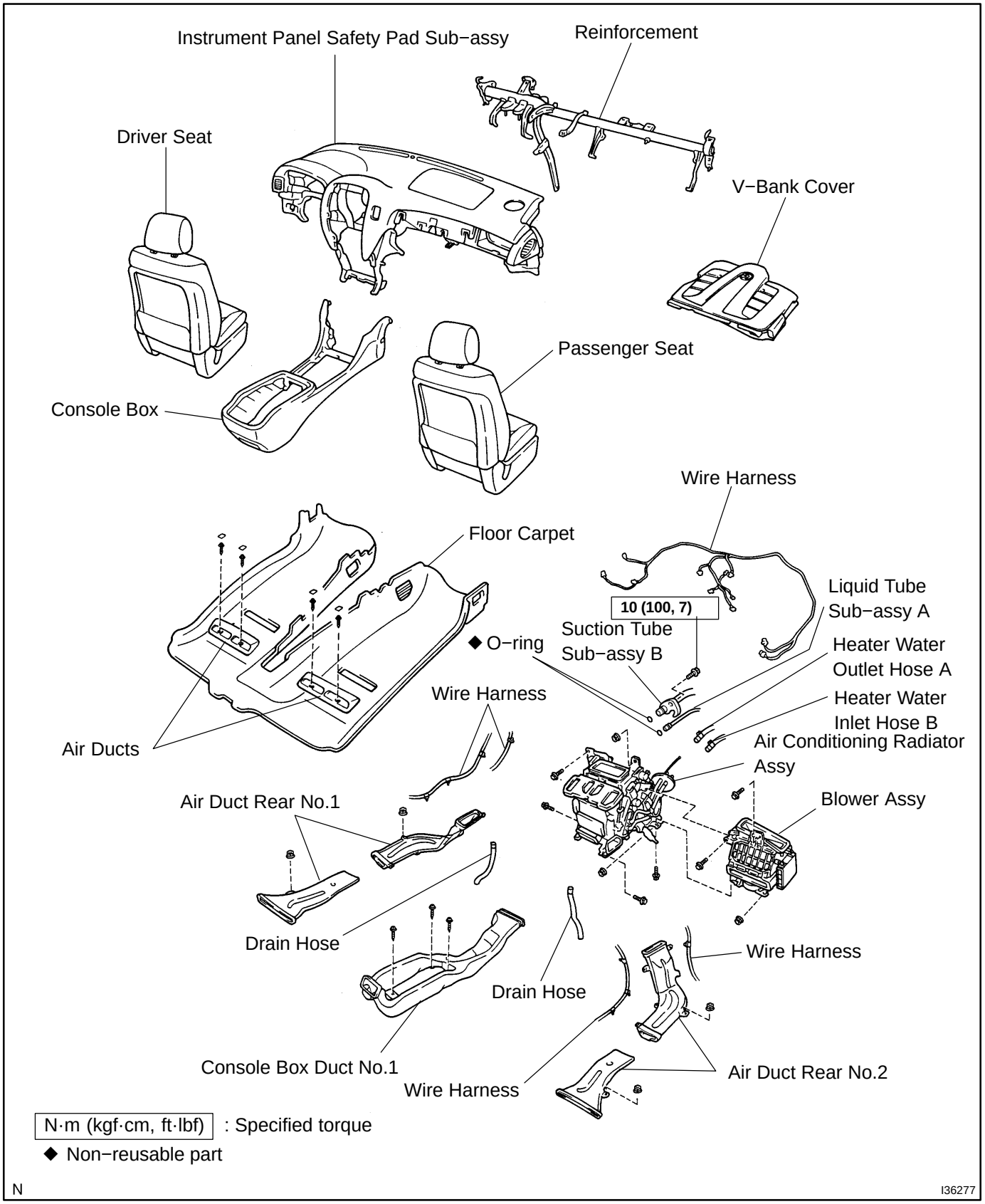
(a) Release the 4 claws and remove the heater control base.

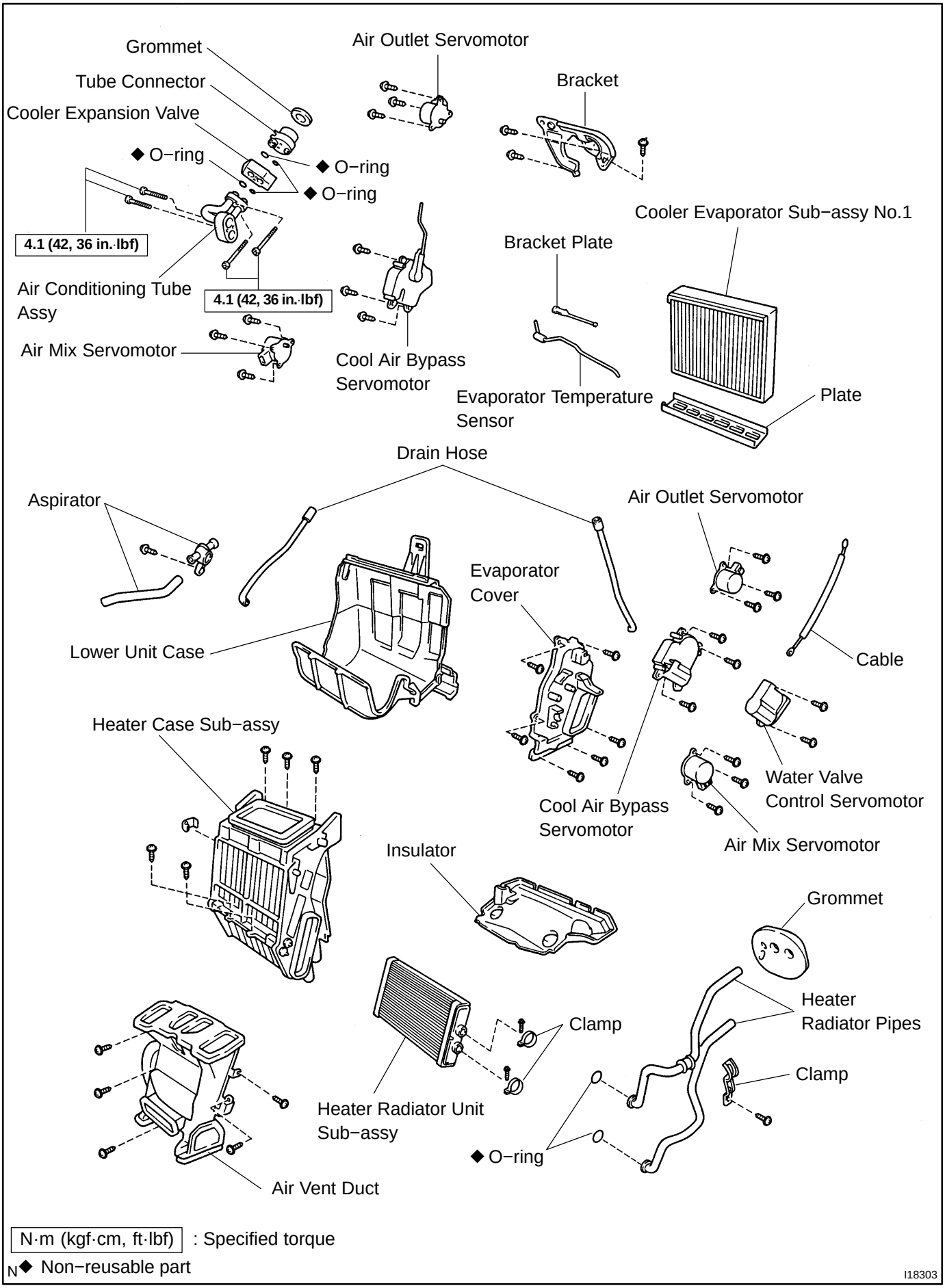
13. REMOVE AIR CONDITIONER PANEL SUB−ASSY

AIR CONDITIONING RADIATOR ASSY

COMPONENTS

5517L−01




Grommet
Tube Connector
Cooler Expansion Valve
◆ O−ring
◆ O−ring
◆ O−ring
4.1 (42, 36 in.·lbf)
Air Conditioning Tube Assy
4.1 (42, 36 in.·lbf)
Air Mix Servomotor
Air Outlet Servomotor
Bracket
Cool Air Bypass Servomotor
Bracket Plate
Cooler Evaporator Sub−assy No.1
Evaporator Temperature Sensor
Plate
Drain Hose
Aspirator
Air Outlet Servomotor
Evaporator Cover
Lower Unit Case
Cable
Heater Case Sub−assy
Water Valve Control Servomotor
Cool Air Bypass Servomotor
Air Mix Servomotor
Insulator
Grommet
Heater Radiator Pipes
Clamp
Clamp
Heater Radiator Unit Sub−assy
◆ O−ring
Air Vent Duct
N·m (kgf·cm, ft·lbf) : Specified torque
N◆ Non−reusable part
I18303

5517M−02

INSPECTION

1. CHECK EVAPORATOR AND HEATER RADIATOR FINS FOR FOREIGN MATTER

If foreign matter is attached to the fin, blow it off with compressed air.

NOTICE:

Never use water to clean the evaporator.

2. CHECK FITTINGS FOR CRACKS OR SCRATCHES

(a) Repair as necessary.

3. INSPECT EVAPORATOR TEMPERATURE SENSOR CIRCUIT (SEE PAGE 05−899)

4. INSPECT COOL AIR BYPASS DAMPER POSITION SENSOR CIRCUIT (DRIVER SIDE) (SEE PAGE 05−941)

5. INSPECT COOL AIR BYPASS DAMPER CONTROL SERVOMOTOR CIRCUIT (DRIVER SIDE) (SEE PAGE 05−961)

6. INSPECT COOL AIR BYPASS DAMPER POSITION SENSOR CIRCUIT (PASSENGER SIDE) (SEE PAGE 05−946)

7. INSPECT COOL AIR BYPASS DAMPER CONTROL SERVOMOTOR CIRCUIT (PASSENGER SIDE) (SEE PAGE 05−964)

8. INSPECT WATER VALVE CONTROL SERVOMOTOR CIRCUIT (SEE PAGE 05−967)

9. INSPECT AIR VENT MODE DAMPER CONTROL SERVOMOTOR CIRCUIT (SEE PAGE 05−970)

10. INSPECT AIR MIX DAMPER CONTROL SERVOMOTOR CIRCUIT (SEE PAGE 05−974)

5517N−01

OVERHAUL

HINT:

- Installation is in the reverse order of removal.
- COMPONENTS: See page 55−18.

1. DISCONNECT NAGATIVE TERMINAL CABLE FROM BATTERY

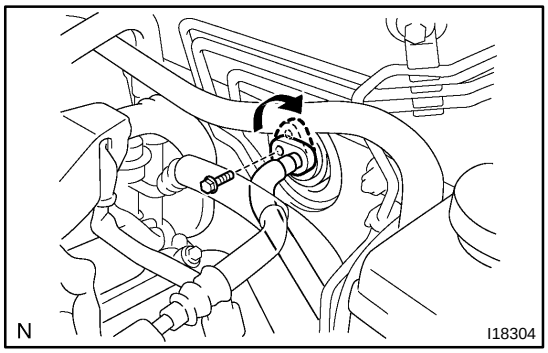
2. EVACUATE REFRIGERANT HFC−134A (R134A) (SEE PAGE 55−11)

3. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all coolant.

4. REMOVE V−BANK COVER



5. DISCONNECT SUCTION TUBE SUB−ASSY B

(a) Remove the bolts and slide the plate. Disconnect suction tube sub−assy B.

NOTICE:

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

(b) Remove the O−ring.

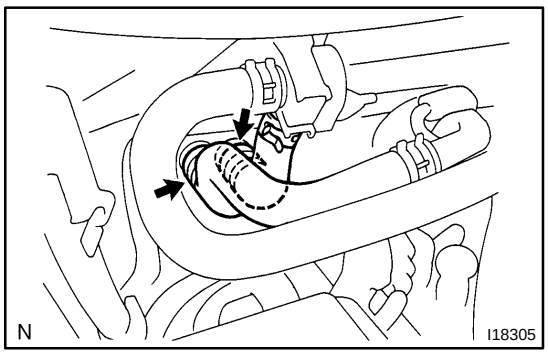
6. DISCONNECT LIQUID TUBE SUB−ASSY A

(a) Disconnect liquid tube sub−assy A.

NOTICE:

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

(b) Remove the O−ring.



7. DISCONNECT HEATER WATER OUTLET HOSE A(FROM HEATER UNIT)

(a) Grip the claws of the hose clip and slide the hose clip along the hose.

(b) Disconnect heater water outlet hose A.

NOTICE:

- **Do not apply any excessive force to the heater water outlet hose.**
- **Prepare a drain pan or cloth for when the cooling water leaks.**

8. DISCONNECT HEATER WATER INLET HOSE B

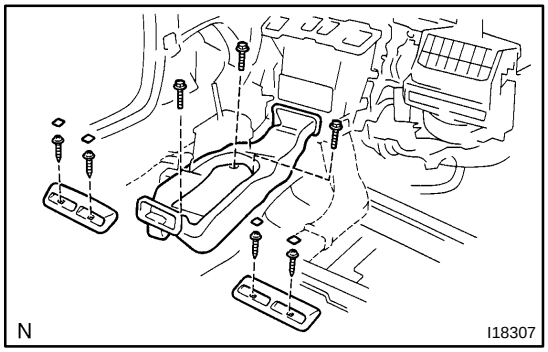
(a) Disconnect heater water inlet hose B.

9. DISCONNECT WATER VALVE CONTROL CABLE

10. REMOVE INSTRUMENT PANEL SAFETY PAD SUB−ASSY (SEE PAGE 71−6)

11. REMOVE BLOWER ASSY (SEE PAGE 55−30)

12. REMOVE SEAT (SEE PAGE 72−3)



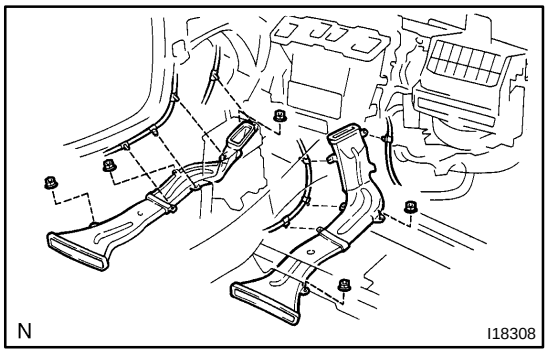
13. SEPARATE AIR DUCT REAR NO.1

(a) Remove the 2 screws, bolt and center air duct.

(b) Remove the 2 hole covers, 2 screws and air duct rear No.1.

14. SEPARATE AIR DUCT REAR NO.2

(a) Remove the 2 hole covers, 2 screws and air duct No.2.

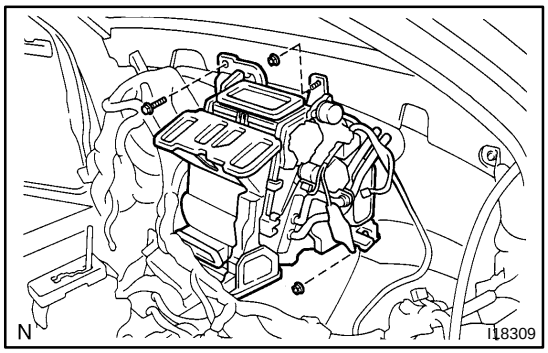


15. SEPARATE CONSOLE BOX DUCT NO.1

(a) Slide the floor carpet backward.

(b) Disconnect the wire harness clamp.

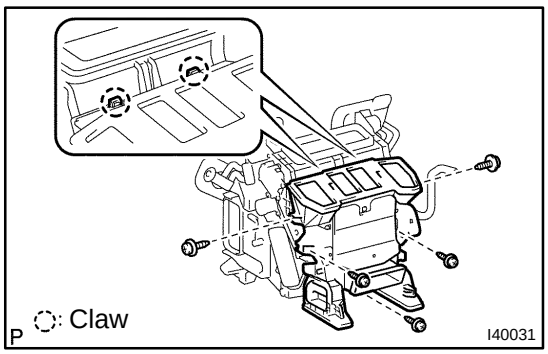
(c) Remove the 4 nuts and console box duct No.1.



16. REMOVE AIR CONDITIONING RADIATOR ASSY

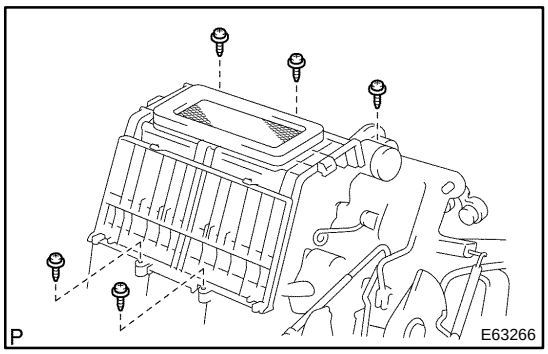
(a) Disconnect the connectors and wire harness clamps.

(b) Remove the 2 nuts, bolt and air conditioning radiator assy.

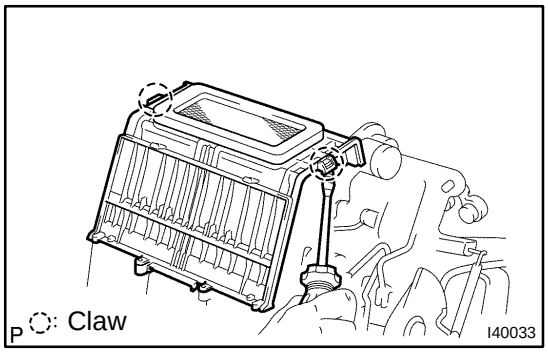


17. REMOVE HEATER CASE SUB−ASSY

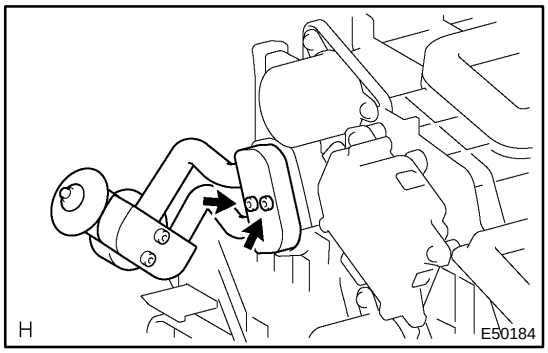
(a) Remove the 5 screws, release the 2 claws and remove the air vent duct.



(b) Remove the 5 screws.



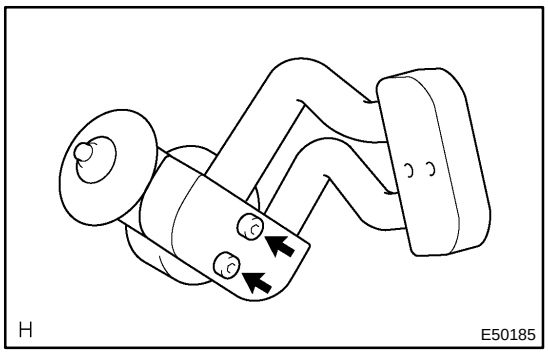
(c) Using a screwdriver, release the 2 claws and remove the heater case sub−assy.



18. REMOVE COOLER EXPANSION VALVE

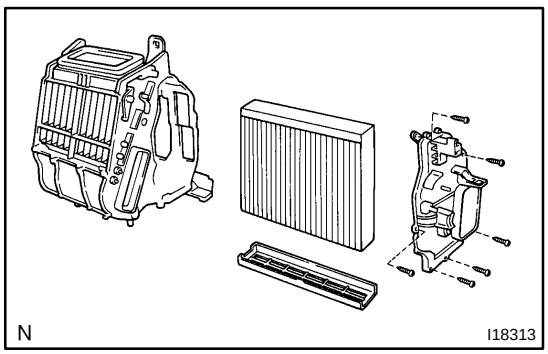
(a) Using a hexagon wrench 5 mm (0.20 in.), remove the 2 hexagon bolts and air conditioning tube assy.

(b) Remove the 2 O−rings from the air conditioning tube assy.



(c) Using a hexagon wrench 5 mm (0.20 in.), remove the 2 hexagon bolts and cooler expansion valve.

(d) Remove the 4 O−rings from the cooler expansion valve.

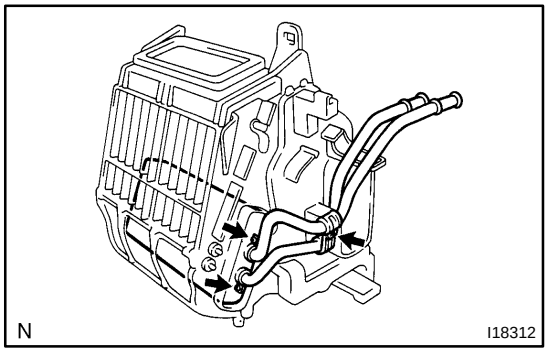


19. REMOVE COOLER EVAPORATOR SUB−ASSY NO.1

(a) Remove the 6 screws and evaporator cover.

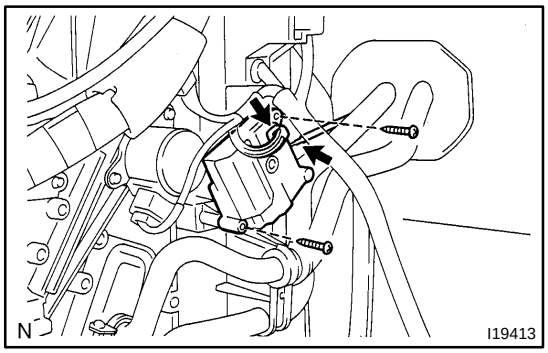
(b) Pull out the evaporator.

20. REMOVE EVAPORATOR TEMPERATURE SENSOR



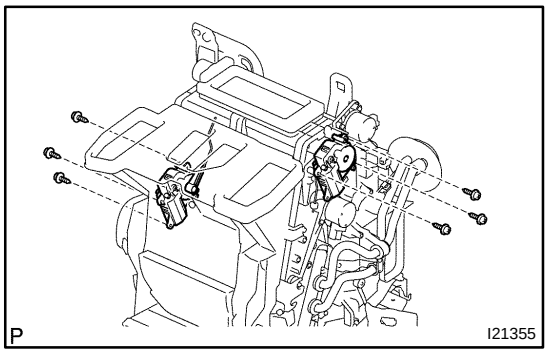
21. REMOVE HEATER RADIATOR UNIT SUB−ASSY

(a) Remove the screw and clamp.
(b) Remove the 2 screws, 2 clamps and heater radiator pipes.
(c) Remove the 2 O−rings from the heater radiator pipes.
(d) Pull out the heater radiator unit sub−assy.



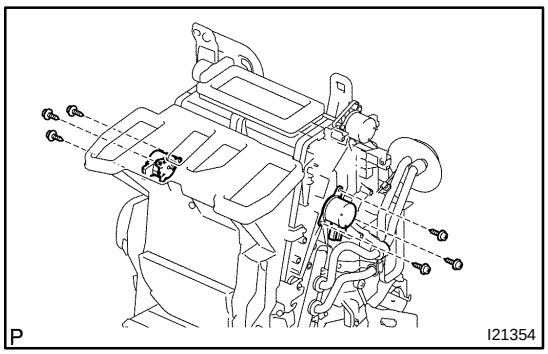
22. REMOVE WATER VALVE CONTROL SERVOMOTOR

(a) Disconnect the connector.
(b) Disconnect the control cable.
(c) Remove the 2 screws and water valve control servomotor.



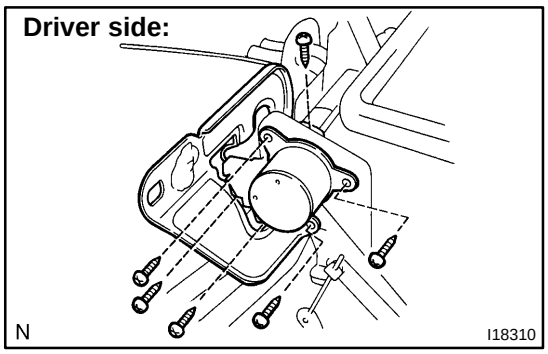
23. REMOVE COOL AIR BYPASS SERVOMOTOR

(a) Remove the 3 screws and cool air bypass servomotor.
(b) Employ the same manner described above to the other side.



24. REMOVE AIR MIX SERVOMOTOR

(a) Remove the 3 screws and air mix servomotor.
(b) Employ the same manner described above to the other side.

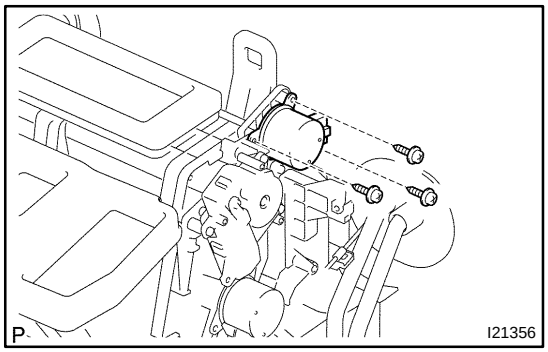


25. REMOVE AIR OUTLET SERVOMOTOR

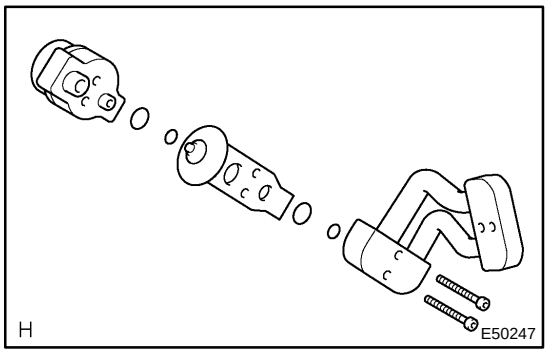
(a) Driver side:
Remove the 3 screws and bracket.

(b) Remove the 3 screws and air outlet servomotor.

(c) Employ the same manner described above to the other side.



26. REMOVE WIRING AIR CONDITIONING HARNESS SUB−ASSY

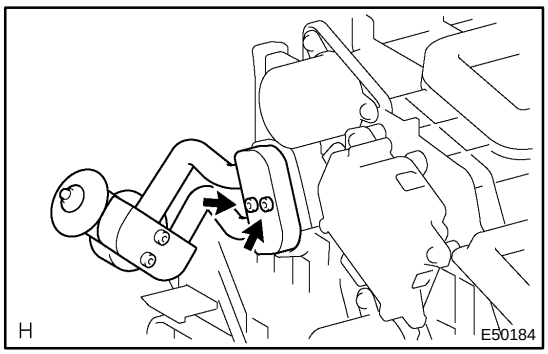


27. INSTALL COOLER EXPANSION VALVE

(a) Sufficiently apply compressor oil to 4 new O−rings and fitting surface of the cooler expansion valve.
Compressor oil: ND−OIL 8 or equivalent

(b) Install the 4 O−rings to the cooler expansion valve.

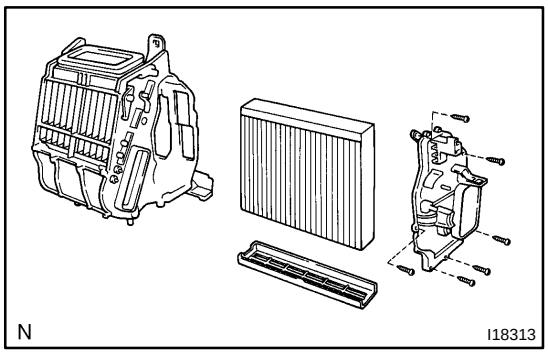
(c) Using a hexagon wrench 5 mm (0.20 in.), install the cooler expansion valve with the 2 hexagon bolts.
Torque: 4.1 N·m (42 kgf·cm, 36 ft·lbf)



(d) Sufficiently apply compressor oil to 2 new O−rings and fitting surface of the cooler expansion valve.
Compressor oil: ND−OIL 8 or equivalent

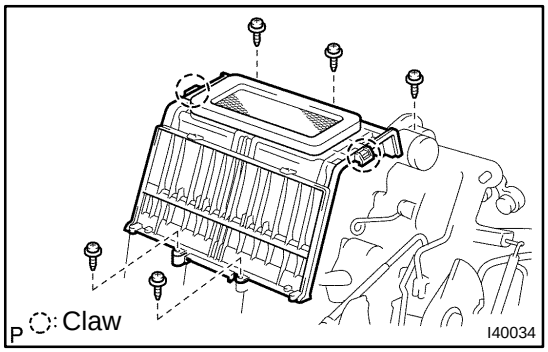
(e) Install the 2 O−rings to the cooler expansion valve.

(f) Using a hexagon wrench 5 mm (0.20 in.), install the cooler expansion valve with the 2 hexagon bolts.
Torque: 4.1 N·m (42 kgf·cm, 36 ft·lbf)



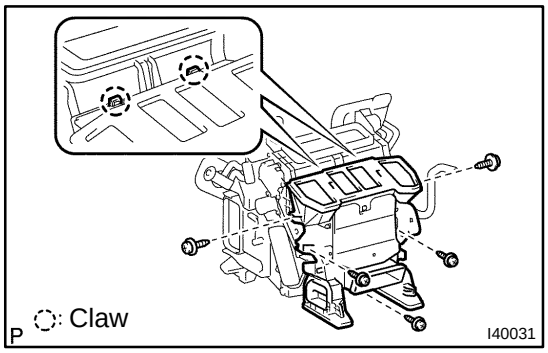
28. INSTALL COOLER EVAPORATOR SUB−ASSY NO.1

(a) Install the cooler evaporator sub−assy No.1 with the evaporator cover and 6 screws.

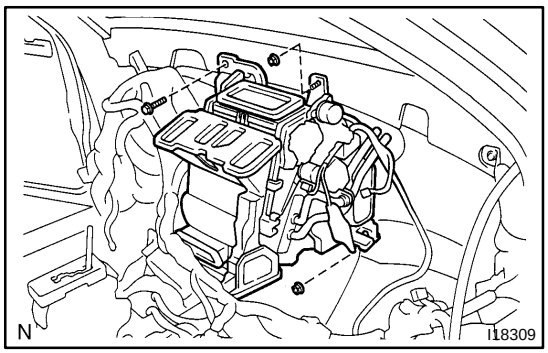


29. INSTALL HEATER CASE SUB−ASSY

(a) Install the heater case sub−assy with the 5 screws.

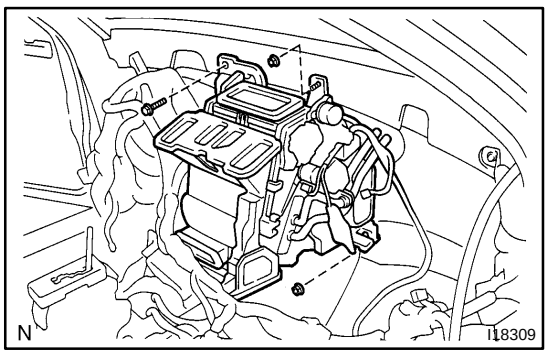


(b) Install the air duct with the 5 screws.



30. TEMPORARILY INSTALL AIR CONDITIONING RADIATOR ASSY

(a) Temporarily install the air conditioning radiator assy with the 2 bolts and nut.

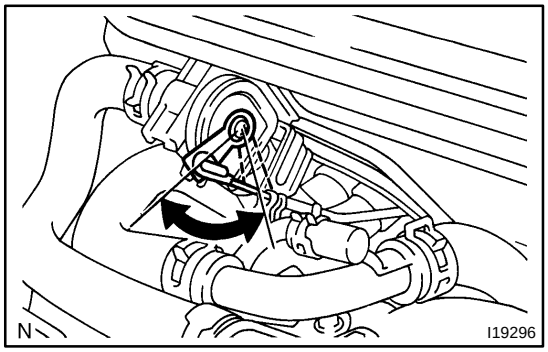


31. FULLY INSTALL AIR CONDITIONING RADIATOR ASSY

(a) Fully install the air conditioning radiator assy with the 2 bolts and nut.

32. INSTALL BLOWER ASSY (SEE PAGE 55−30)

33. INSTALL INSTRUMENT PANEL SAFETY PAD SUB−ASSY (SEE PAGE 71−6)



34. AFTER INSTALLATION, CHECK WATER VALVE OPERATION

(a) Turn the ignition switch to the ON position.

(b) Set the temperature control switch to ”MAX. COOL” and ”MAX. WARM” and check the water valve operates as shown in the illustration.

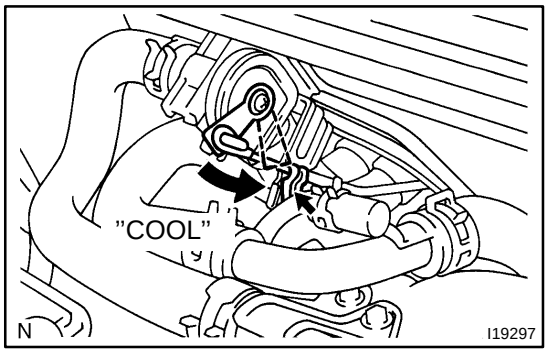
If operation is not as specified, proceed to the next step.

35. ADJUST WATER VALVE CONTROL CABLE

(a) Turn the ignition switch to the ON position.

(b) Disconnect the control cable.

(c) Set the temperature control switch to ”MAX. COOL”.



(d) Set the water valve lever to the ”COOL” position, connect the control cable and lock the clamp.

HINT:

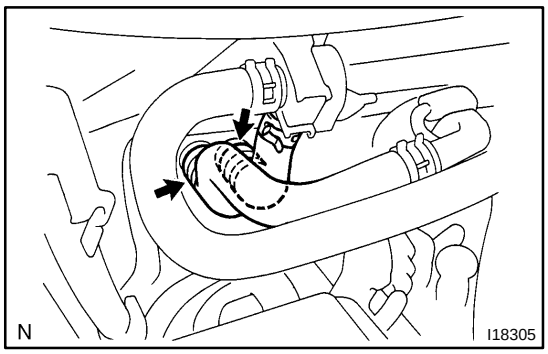
Lock the clamp while lightly pushing the outer cable in the direction shown in the illustration by an arrow.

36. CONNECT HEATER WATER OUTLET HOSE A (FROM HEATER UNIT)

(a) Connect the heater water outlet hose A.

NOTICE:

- **Do not apply any excessive force to the heater water outlet hose.**
- **Prepare a drain pan or cloth for when the cooling water leaks.**



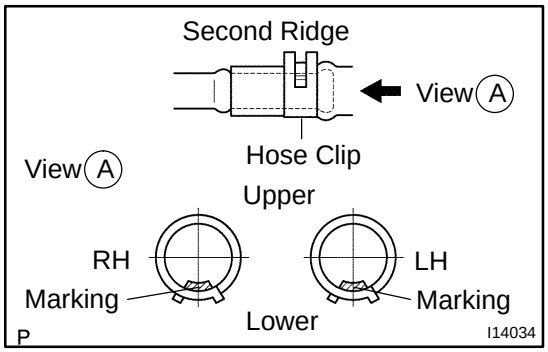
37. CONNECT HEATER WATER INLET HOSE B

(a) Connect the heater water inlet hose B.

NOTICE:

- **Do not apply any excessive force to the heater water outlet hose.**
- **Prepare a drain pan or cloth for when the cooling water leaks.**

(b) Grip the claws of the hose clip and slide the hose clip along the hose.



HINT:

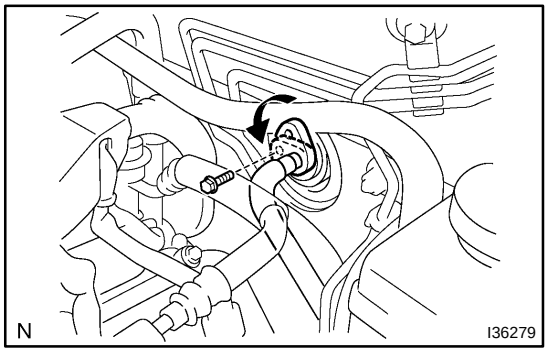
- Push the water hose onto the heater radiator pipe as far as the second ridge on the pipe and install the hose clip.
- Install the hose clip in the position, as shown in the illustration.

38. INSTALL LIQUID TUBE SUB−ASSY A

(a) Sufficiently apply compressor oil to a new O−ring.
Compressor oil: ND−OIL 8 or equivalent

(b) Install the O−ring.

(c) Connect the liquid tube sub−assy.



39. INSTALL SUCTION TUBE SUB−ASSY B

(a) Sufficiently apply compressor oil to a new O−ring.
Compressor oil: ND−OIL 8 or equivalent

(b) Install the O−ring.

(c) Connect the suction tube sub−assy B and slide the plate.

(d) Install a bolt.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

40. CONNECT NEGATIVE TERMINAL CABLE TO BATTERY

41. ADD ENGINE COOLANT (SEE PAGE 16−8)

42. CHARGE REFRIGERANT (SEE PAGE 55−11)

43. WARM UP ENGINE

44. CHECK FOR ENGINE COOLANT LEAKS (SEE PAGE 16−8)

45. INSPECT FOR REFRIGERANT LEAKAGE (SEE PAGE 55−11)

5517Q−01

OVERHAUL

HINT:

- Installation is in the reverse order of removal.
- COMPONENTS: See page 55−29.

1. DISCONNECT NEGATIVE TERMINAL CABLE FROM BATTERY

2. REMOVE FRONT DOOR SCUFF PLATE LH (SEE PAGE 71−6)

3. REMOVE FRONT PILLAR GARNISH LH (SEE PAGE 71−6)

4. REMOVE INSTRUMENT PANEL UNDER COVER SUB−ASSY NO.2 (SEE PAGE 71−6)

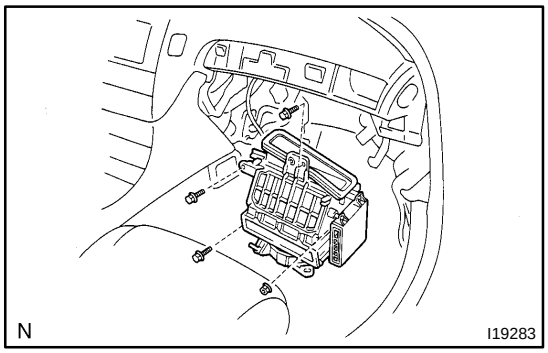
5. REMOVE INSTRUMENT PANEL GARNISH SUB−ASSY RH (SEE PAGE 71−6)

6. REMOVE GLOVE COMPARTMENT DOOR ASSY W/ INSTRUMENT PANEL AIRBAG ASSY LOWER NO.2 (SEE PAGE 71−6)

7. REMOVE AIR SUSPENSION AND HEADLIGHT BEAM LEVEL CONTROL ECU

(a) Disconnect the connectors.

(b) Remove the 2 nuts and air suspension and headlight beam level control ECU.



8. REMOVE BLOWER ASSY

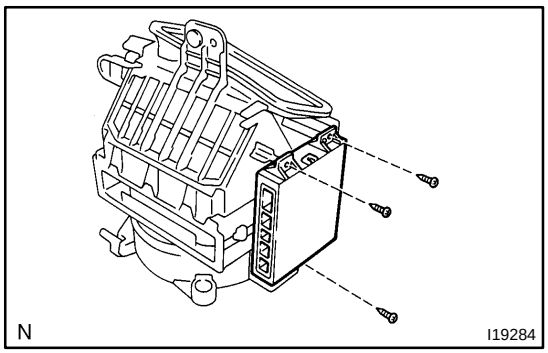
(a) Disconnect the connectors.

(b) Remove the nut and 3 bolts.

(c) Remove the blower assy.

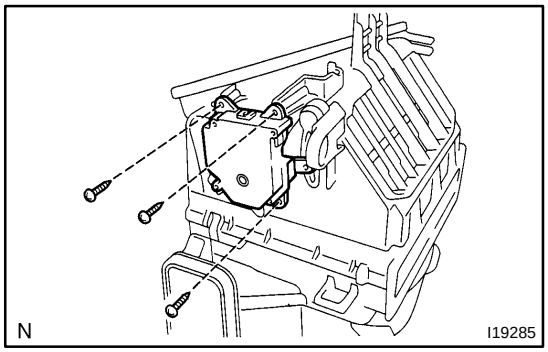
9. REMOVE CLEAN AIR FILTER SUB−ASSY

10. REMOVE CLEAN AIR FILTER



11. REMOVE AIR CONDITIONING AMPLIFIER ASSY

(a) Remove the 3 screws and air conditioning amplifier assy.



12. REMOVE AIR INLET SERVOMOTOR

(a) Remove the 3 screws and the air inlet servomotor.

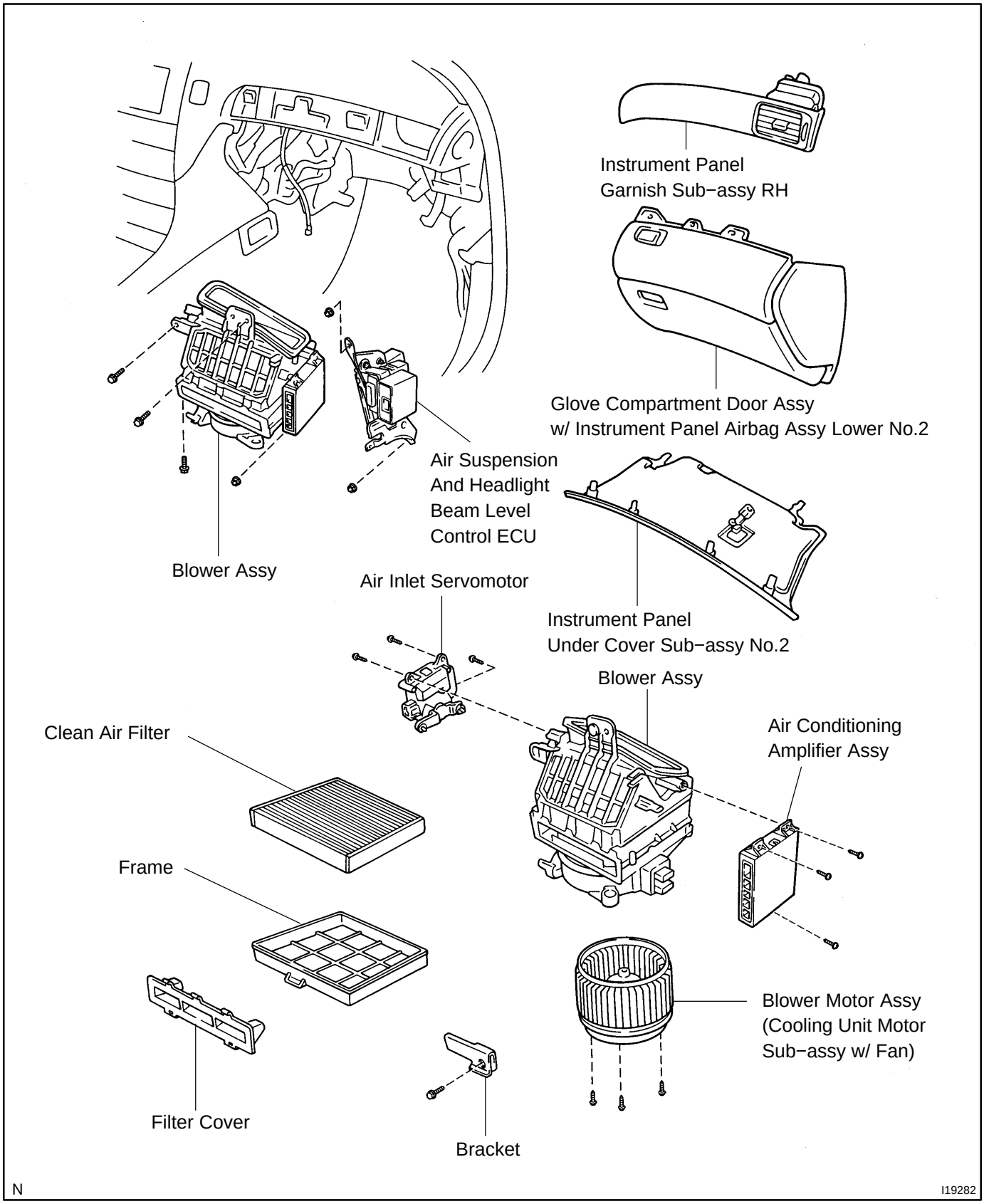
13. REMOVE BLOWER MOTOR ASSY (COOLING UNIT MOTOR SUB−ASSY W/FAN)

(a) Remove the 3 screws and blower motor assy (cooling unit motor sub−assy w/fan).

BLOWER ASSY

COMPONENTS

5517O−01



W/PULLEY COMPRESSOR ASSY

5517T−01

ON−VEHICLE INSPECTION

1. INSPECT COMPRESSOR FOR METALLIC SOUND

(a) Check if there is abnormal metallic sound from the compressor when the A/C switch is ON and the compressor operates.

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

2. INSPECT REFRIGERANT PRESSURE

(SEE PAGE 55−5)

3. INSPECT FOR LEAKAGE OF REFRIGERANT

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

If there is any leakage, replace the compressor assembly.

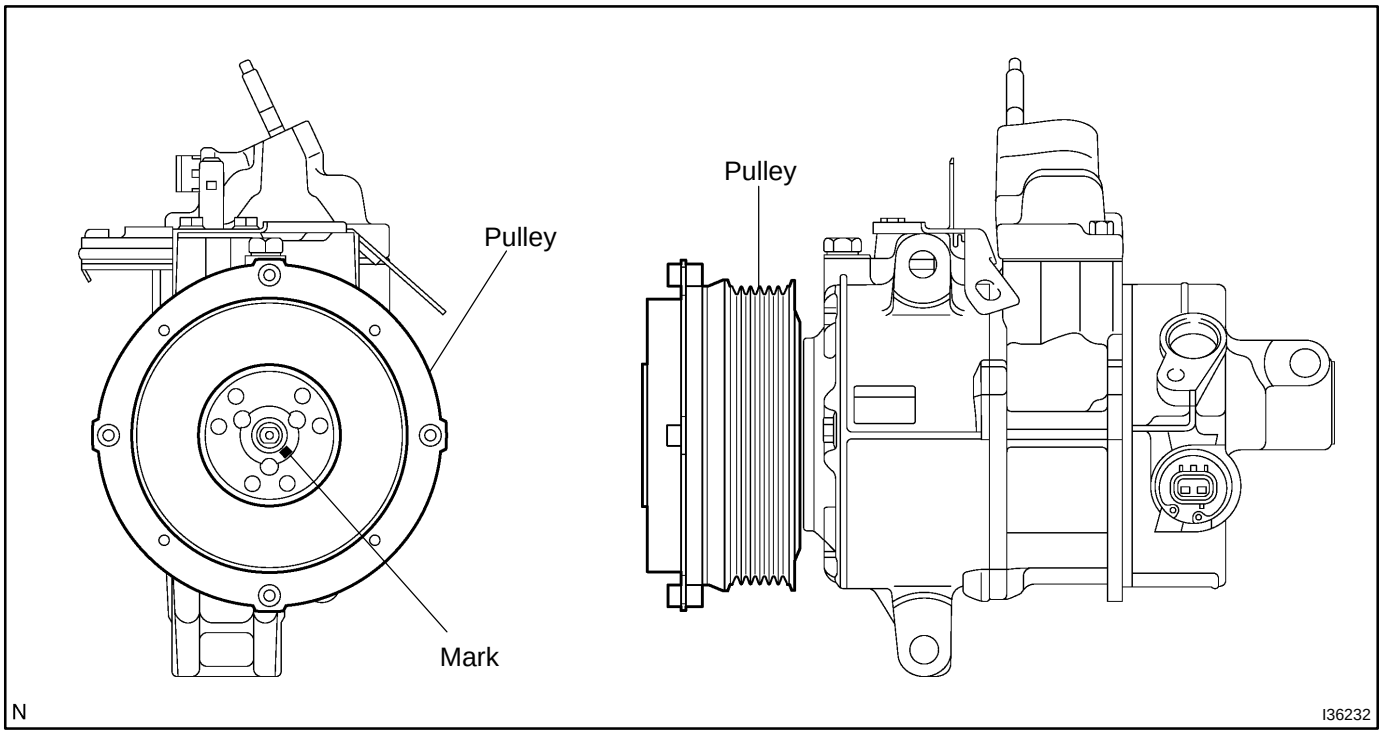
4. INSPECT W/PULLEY COMPRESSOR ASSY

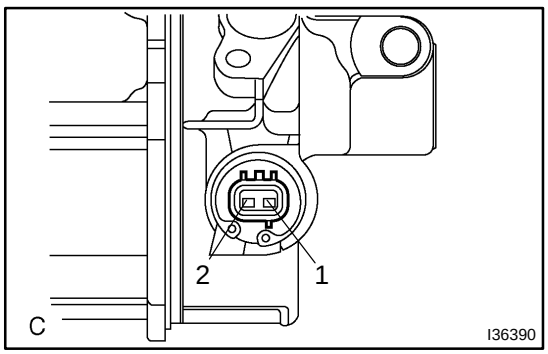
(a) Check operation of w/ pulley compressor assy.

(1) Start the engine.

(2) Inspect the compressor pulley.

Standard: The compressor shaft rotates along with the pulley





5. INSPECT SOLENOID OF THE EXTERNALLY CHANGEABLE COMPRESSOR

(a) Turn the ignition switch off.

(b) Disconnect the connector.

(c) Measure resistance between terminals 1 and 2.

Standard resistance: 10 to 11 Ω

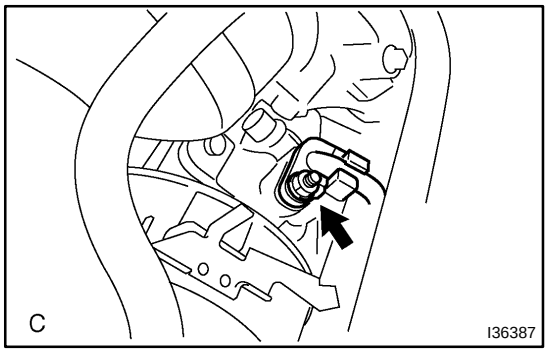
HINT:

If resistance is not within the specified range, replace the compressor.

5517U−01

REPLACEMENT

1. DISCONNECT NEGATIVE TERMINAL CABLE FROM BATTERY
2. EVACUATE REFRIGERANT HFC−134A (R134A) (SEE PAGE 55−11)
3. REMOVE AIR CLEANER INLET NO.1 (SEE PAGE 13−6)
4. REMOVE FAN AND GENERATOR V BELT (SEE PAGE 14−5)
5. REMOVE ENGINE UNDER COVER NO.1



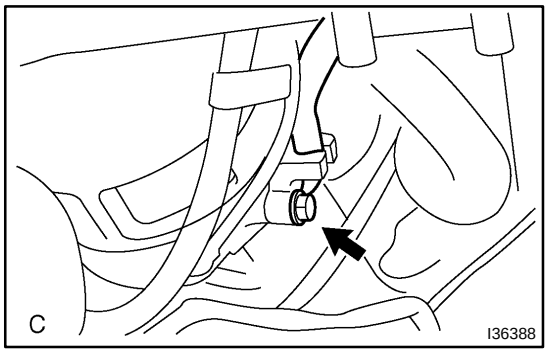
6. DISCONNECT COOLER REFRIGERANT DISCHARGE HOSE NO.1

(a) Remove the nut and disconnect the cooler refrigerant discharge hose No.1.

(b) Remove the O−ring from the cooler refrigerant discharge hose No.1.

NOTICE:

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



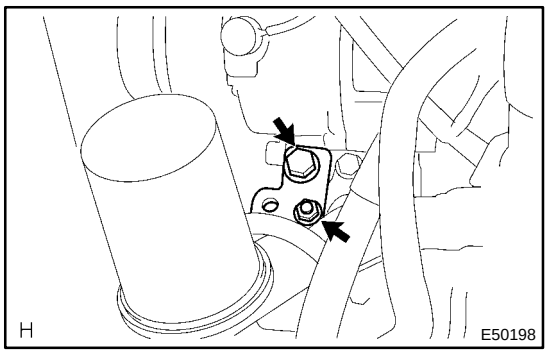
7. DISCONNECT COOLER REFRIGERANT SUCTION HOSE NO.1

(a) Remove the bolt and disconnect the cooler refrigerant suction hose No.1.

(b) Remove the O−ring from the cooler refrigerant suction hose No.1.

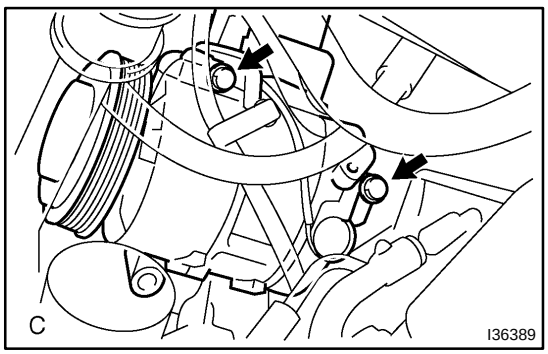
NOTICE:

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



8. REMOVE COMPRESSOR MOUNTING BRACKET NO.1

(a) Remove the bolt, nut and compressor mounting bracket No.1.



9. REMOVE W/PULLEY COMPRESSOR ASSY

(a) Disconnect the connector.

(b) Remove the 2 bolts and w/ pulley compressor assy.

10. ADJUST COMPRESSOR OIL

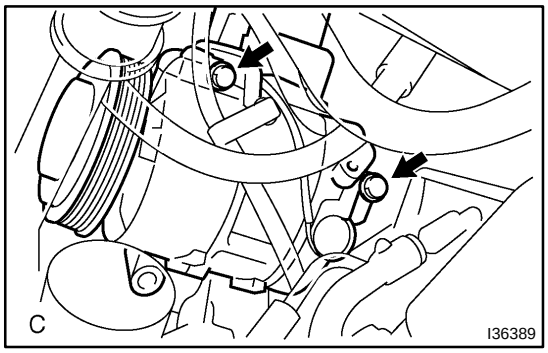
(a) When replacing the compressor and magnetic clutch with a new one, after gradually removing the refrigerant gas from the service valve, drain the following amount of oil from the new compressor and magnetic clutch before installation.

Standard:

(Oil capacity inside the new compressor: 130 +15 cc (4.4 +0.5 fl.oz)) − (Remaining oil amount in the removed compressor) = (Oil amount to be removed from the new compressor when replacing)

NOTICE:

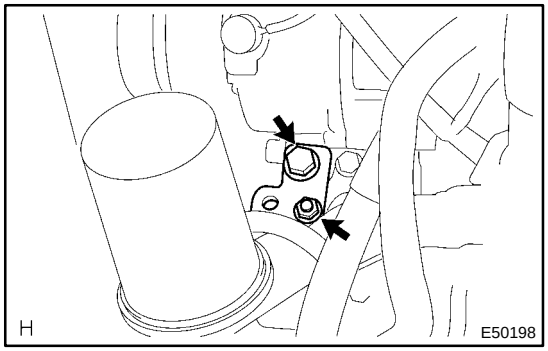
- **When checking the compressor oil level, observe the precautions on the air conditioning radiator assy removal/installation.**
- **Because compressor oil remains in the pipes of the vehicle, if a new compressor and magnetic clutch is installed without removing some oil inside, the oil amount becomes too much, preventing heat exchange in the refrigerant cycle and causing refrigerant failure.**
- **If the remaining oil in the removed compressor and magnetic clutch is too small in volume, check for oil leakage.**
- **Be sure to use ND−OIL 8 or equivalent for compressor oil.**



11. TEMPORARILY TIGHTEN W/PULLEY COMPRESSOR ASSY

(a) Temporarily tighten the w/pulley compressor assy with the 2 bolts.

(b) Connect the connector.



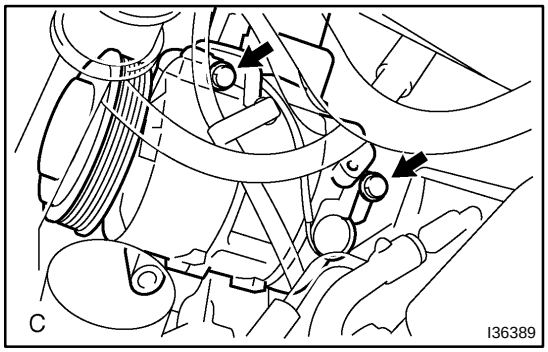
12. INSTALL COMPRESSOR MOUNTING BRACKET NO.1

(a) Install the compressor mounting bracket No.1 with the bolt and nut.

Torque:

Bolt: 49 N·m (500 kgf·cm, 36ft·lbf)

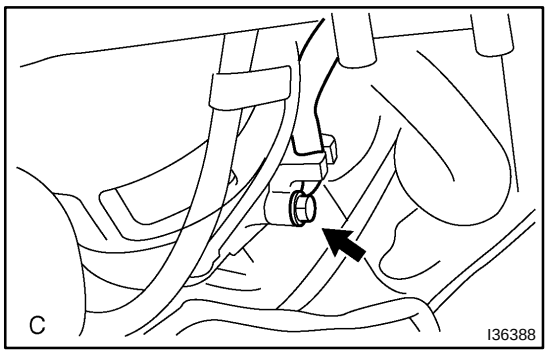
Nut: 30 N·m (306 kgf·cm, 22 ft·lbf)



13. FULLY TIGHTEN W/PULLEY COMPRESSOR ASSY

(a) Fully tighten the w/pulley compressor assy with the 2 bolts.

Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)



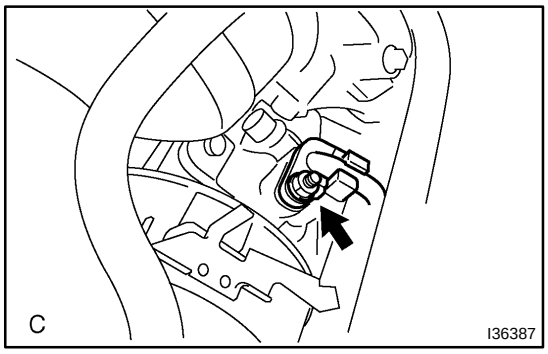
14. INSTALL COOLER REFRIGERANT SUCTION HOSE NO.1

(a) Remove the attached vinyl tape from the hose.

(b) Sufficiently apply compressor oil to the new O−ring and fitting surface of the compressor and magnetic clutch.
Compressor oil: ND−OIL 8 or equivalent

(c) Install an O−ring to the cooler refrigerant suction hose No.1.

(d) Install the cooler refrigerant suction hose No.1 to the compressor and magnetic clutch with the bolt.
Torque: 9.8 N·m (100 kgf·cm, 7 ft·lbf)



15. INSTALL COOLER REFRIGERANT DISCHARGE HOSE NO.1

(a) Remove the attached vinyl tape from the hose.

(b) Sufficiently apply compressor oil to the new O−ring and fitting surface of the compressor and magnetic clutch.
Compressor oil: ND−OIL 8 or equivalent

(c) Install an O−ring to the cooler refrigerant discharge hose No.1.

(d) Install the cooler refrigerant discharge hose No.1 to the compressor and magnetic clutch with the nut.
Torque: 9.8 N·m (100 kgf·cm, 7 ft·lbf)

16. INSTALL FAN AND GENERATOR V BELT (SEE PAGE 14−5)
17. INSTALL AIR CLEANER INLET NO.1 (SEE PAGE 13−6)
18. CONNECT NEGATIVE TERMINAL CABLE TO BATTERY
19. CHARGE REFRIGERANT (SEE PAGE 55−11)
20. WARM UP ENGINE
21. INSPECT FOR REFRIGERANT LEAKAGE (SEE PAGE 55−11)

COOLER CONDENSER ASSY

5517V−01

ON−VEHICLE INSPECTION

1. INSPECT COOLER CONDENSER ASSY

(a) If the fins of the cooler condenser assy are dirty, clean them with water and dry them with compressed air.

NOTICE:

Do not damage the fins of the cooler condenser assy.

(b) If the fins of the cooler condenser assy are bent, straighten them using a screwdriver or pliers.

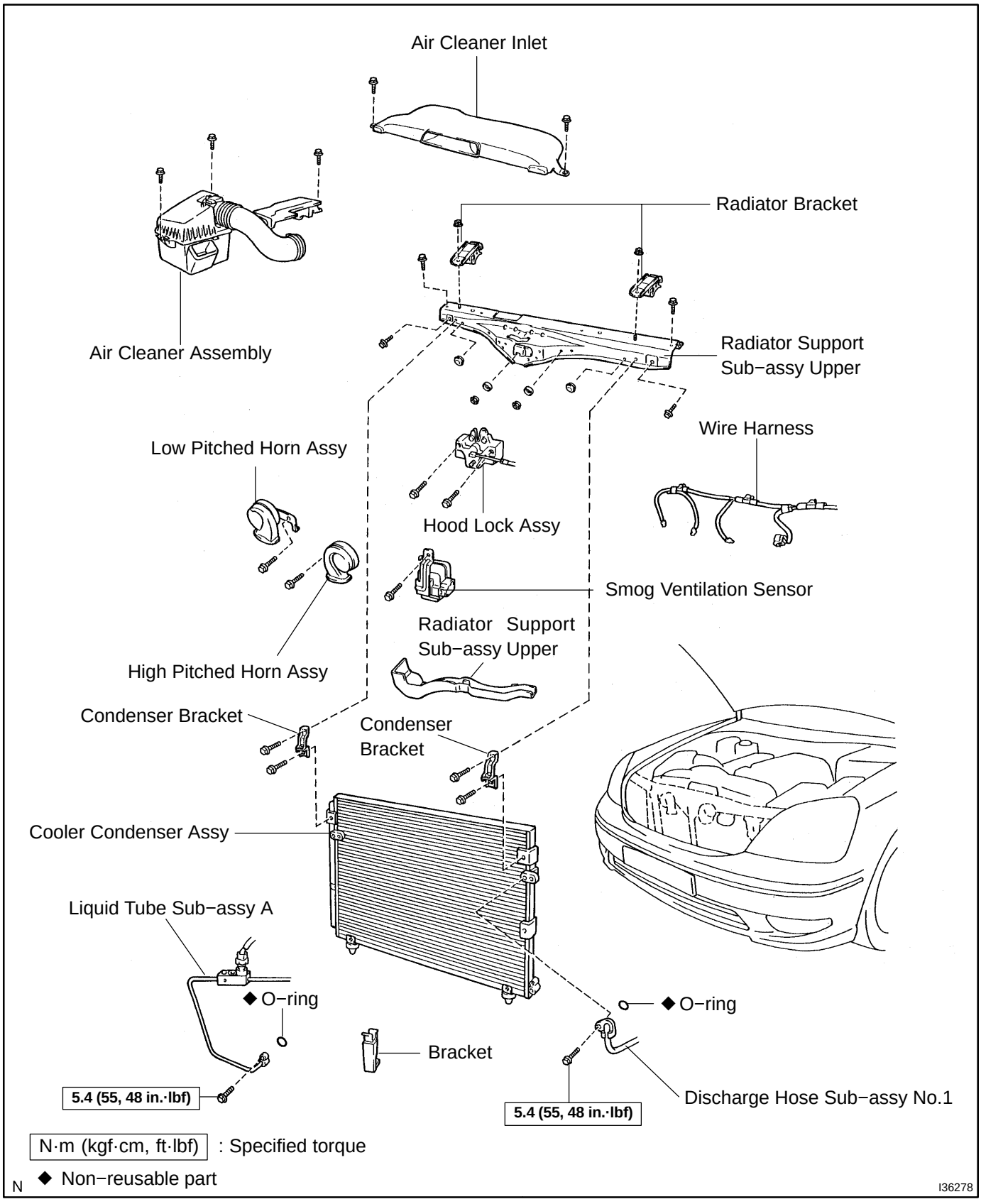
2. INSPECT CONDENSER FOR REFRIGERANT LEAKAGE

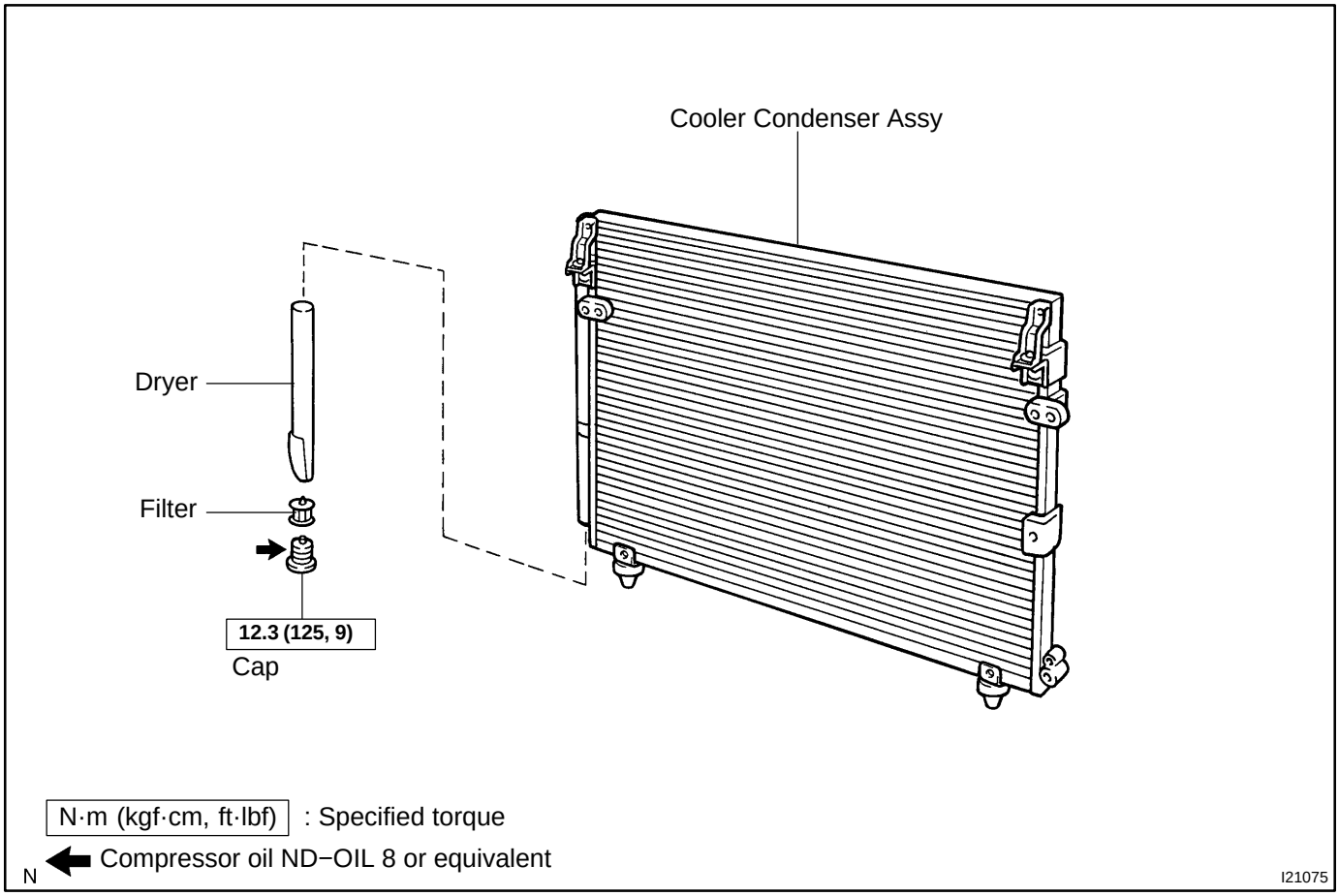
(a) Using a halogen leak detector, check the pipe joints for refrigerant leakage.

(b) If refrigerant leakage is detected in a joint, check the torque of the joint.

5517W−01

COMPONENTS




Cooler Condenser Assy
Dryer
Filter
12.3 (125, 9)
Cap
N·m (kgf·cm, ft·lbf) : Specified torque
N
Compressor oil ND−OIL 8 or equivalent
I21075

5517X−01

OVERHAUL

HINT:

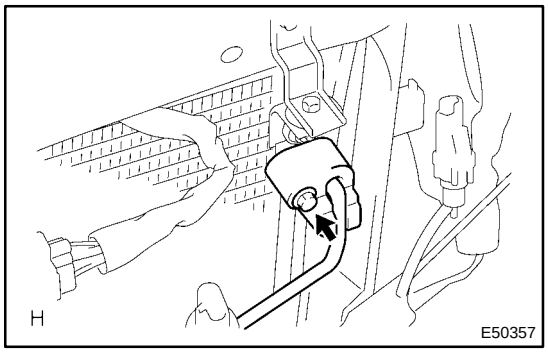
- Installation is in the reverse order of removal.
- COMPONENTS: See page 55−37.

1. DISCONNECT NEGATIVE TERMINAL CABLE FROM BATTERY

2. EVACUATE REFRIGERANT HFC−134A (R134A) (SEE PAGE 55−11)

3. REMOVE AIR CLEANER INLET NO.1 (SEE PAGE 13−6)

4. REMOVE AIR CLEANER ASSY (SEE PAGE 13−6)



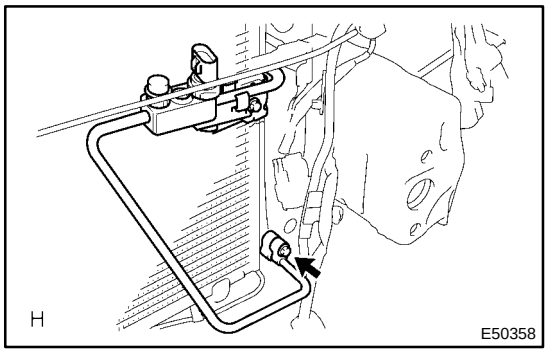
5. DISCONNECT DISCHARGE HOSE SUB−ASSY NO.1

(a) Remove the bolt and disconnect the discharge hose sub−assy No.1 from the condenser assy.

(b) Remove the O−ring from the discharge hose sub−assy No.1.

NOTICE:

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



6. DISCONNECT LIQUID TUBE SUB−ASSY A

(a) Remove the bolt and disconnect the liquid tube sub−assy A from the cooler condenser assy.

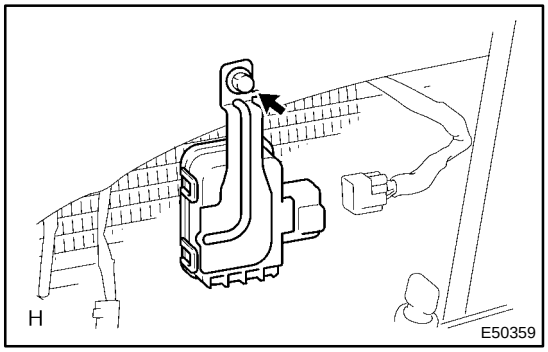
(b) Remove the O−ring from the liquid tube sub−assy A.

NOTICE:

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

7. REMOVE HIGH PITCHED HORN ASSY (SEE PAGE 77−5)

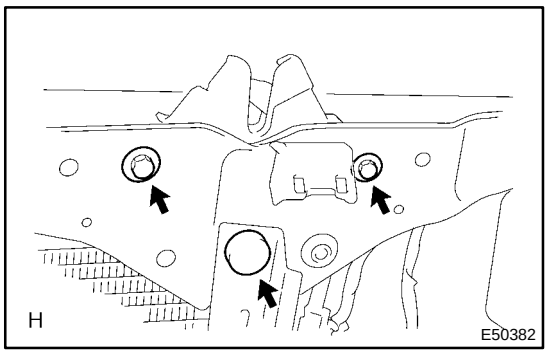
8. REMOVE LOW PITCHED HORN ASSY (SEE PAGE 77−5)



9. REMOVE SMOG VENTILATION SENSOR

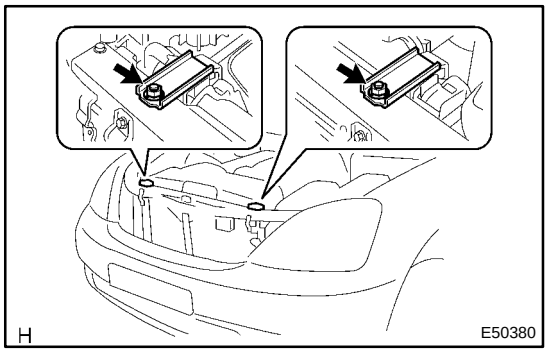
(a) Disconnect the connector.

(b) Remove the bolt and smog ventilation sensor.



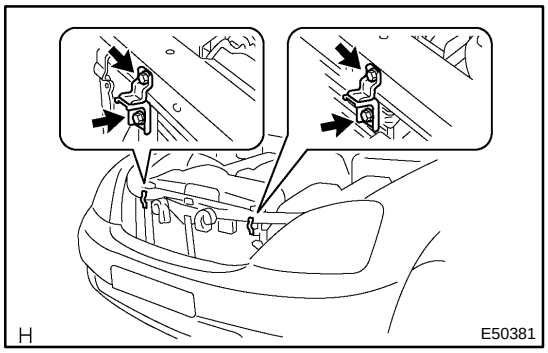
10. REMOVE HOOD LOCK ASSY

(a) Remove the 2 bolts, nut and hood lock assy.

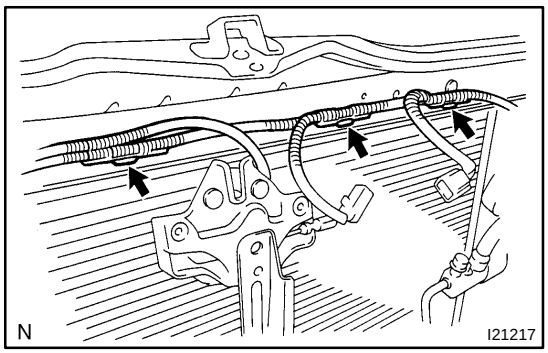


11. REMOVE RADIATOR SUPPORT SUB−ASSY UPPER

(a) Remove the 2 nuts and 2 radiator brackets.



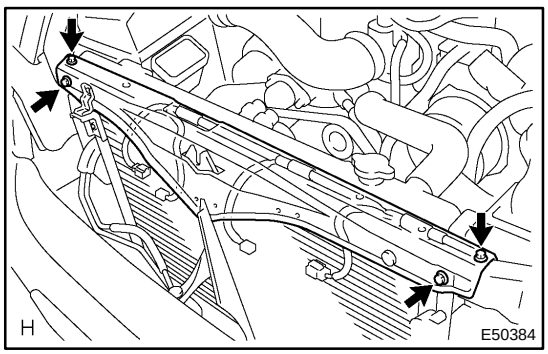
(b) Remove the 4 bolts and 2 condenser brackets.



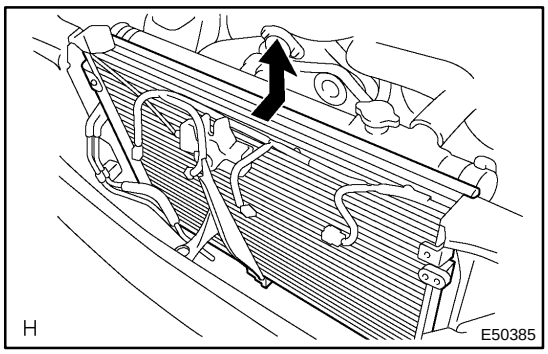
(c) Remove the 3 wire harness clamps.

NOTICE:

Do not damage the claw of clamp.



(d) Remove the 4 bolts and radiator support sub−assy upper.

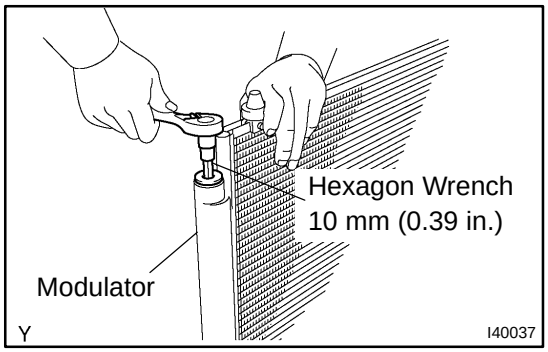


12. REMOVE COOLER CONDENSER ASSY

(a) Push down the 2 condenser brackets.

(b) Push the radiator toward the engine.

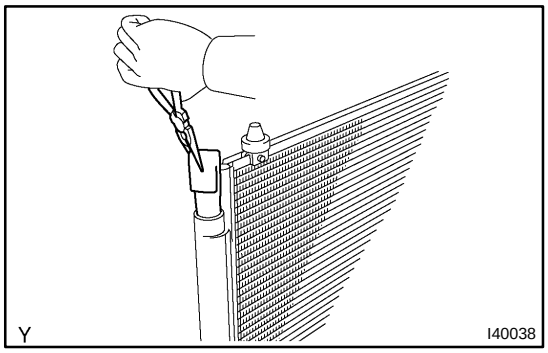
(c) Push the condenser toward the radiator and then pull it upward as shown in the illustration.



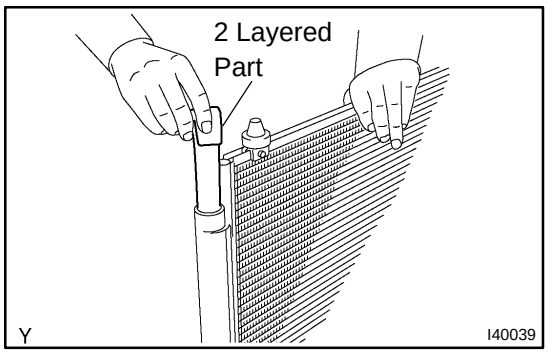
13. REMOVE DRYER

(a) Using a hexagon wrench 10 mm (0.39 in.), remove the cap from the modulator.

(b) Remove the filter from the modulator.



(c) Using pliers, remove the dryer.

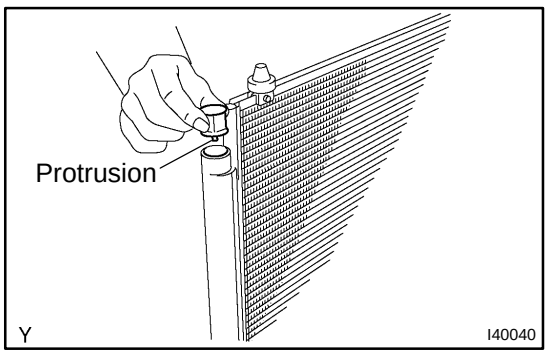


14. INSTALL DRYER

(a) Insert a new dryer into the modulator.

NOTICE:

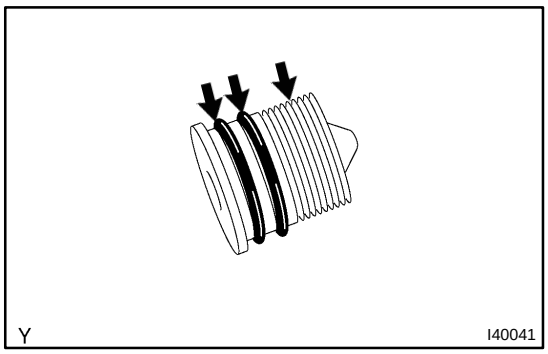
- **Do not remove the dryer from its plastic bag until it is ready to be inserted into the modulator.**
- **Install the dryer with the 2 layered parts facing upward.**



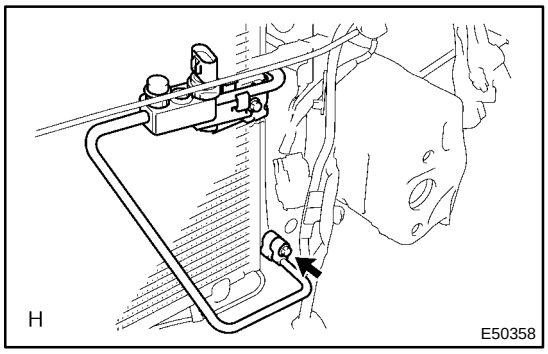
(b) Insert the filter into the modulator.

NOTICE:

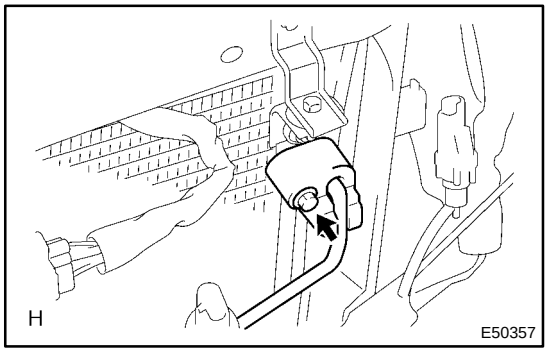
Install the filter with its protrusion facing downward.



(c) Install the cap to the modulator.
(1) Apply compressor oil to the O−rings and thread of the cap.
Compressor oil: ND−OIL 8 or equivalent
(2) Using a hexagon wrench 10 mm (0.39 in.), install the caps.
Torque: 12.3 N·m (125 kgf·cm, 9 ft·lbf)



15. INSTALL LIQUID TUBE SUB−ASSY A
(a) Remove the attached vinyl tape from the tube and connecting part of the cooler condenser assy.
(b) Sufficiently apply compressor oil to a new O−ring and pipe joint.
Compressor oil: ND−OIL 8 or equivalent
(c) Install the O−ring to the liquid tube sub−assy A.
(d) Connect the liquid tube sub−assy A to the cooler condenser assy with the bolt.
Torque: 5.4 N·m (55 kgf·cm, 48 in.·lbf)



16. INSTALL DISCHARGE HOSE SUB−ASSY NO.1
(a) Remove the attached vinyl tape from the tube and connecting part of the cooler condenser assy.
(b) Sufficiently apply compressor oil to a new O−ring and hose joint.
Compressor oil: ND−OIL 8 or equivalent
(c) Install the O−ring to the discharge hose sub−assy No.1.
(d) Connect the discharge hose sub−assy No.1 to the cooler condenser assy with the bolt.
Torque: 5.4 N·m (55 kgf·cm, 48 in.·lbf)

17. CONNECT NEGATIVE TERMINAL CABLE TO BATTERY
18. CHARGE REFRIGERANT (SEE PAGE 55−11)
19. WARM UP ENGINE
20. INSPECT FOR REFRIGERANT LEAKAGE (SEE PAGE 55−11)

REAR AIR CONDITIONING UNIT ASSY

551AK−01

ON−VEHICLE INSPECTION

1. INSPECT EXPANSION VALVE

(a) Check quantity of gas during refrigeration cycle.

(b) Set on manifold gauge set.

(c) Run engine.

(1) Run the engine at 1,500 rpm for at least 5 minutes.

(2) Then check that the high pressure reading is 1.37 to 1.57 Mpa (14 to 16 kgf·cm^2, 199 to 288 psi).

(d) Check expansion valve.

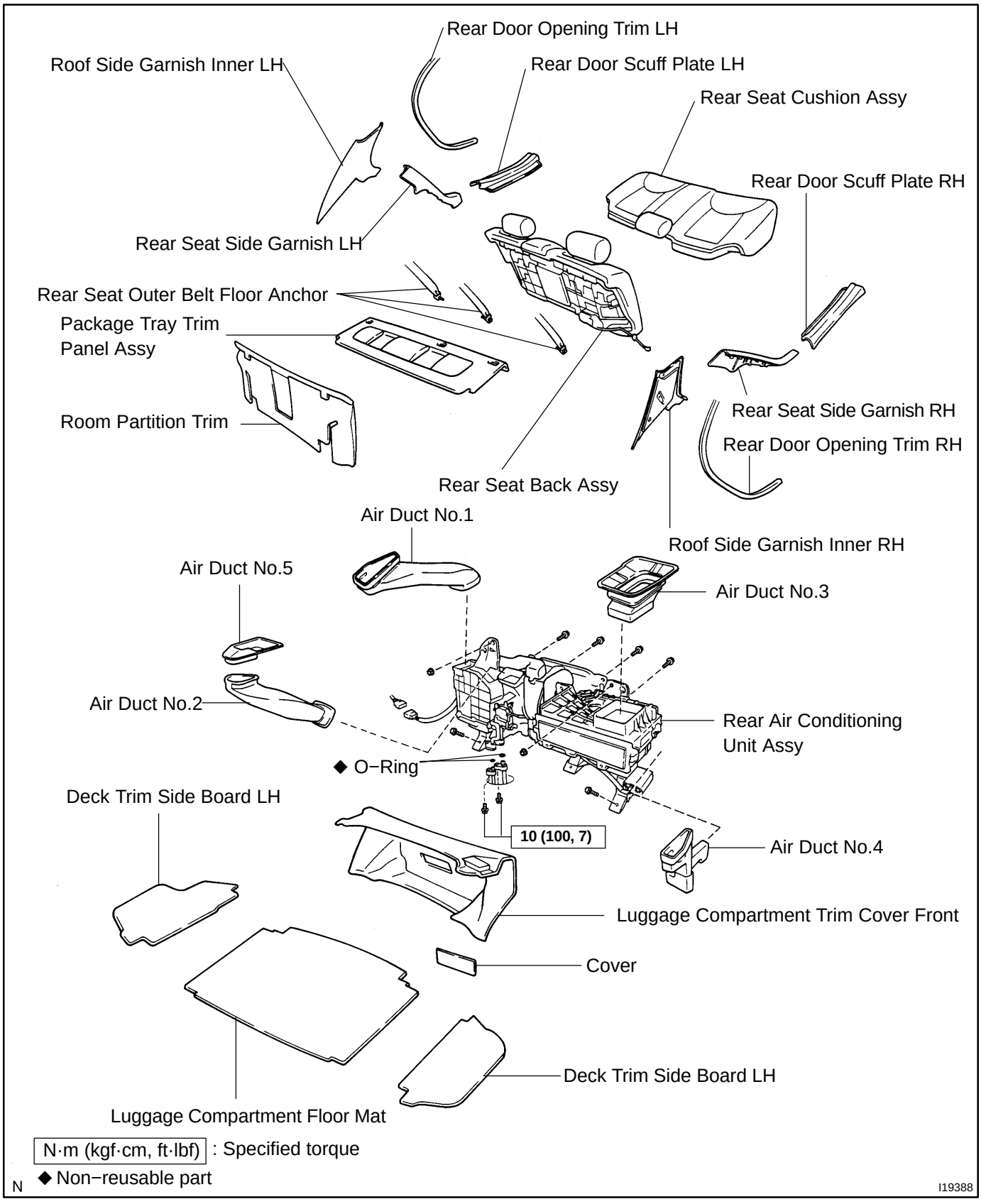
If the expansion valve is faulty, the low pressure reading will drop to 0kPa (0 kgf cm^2, 0 psi).

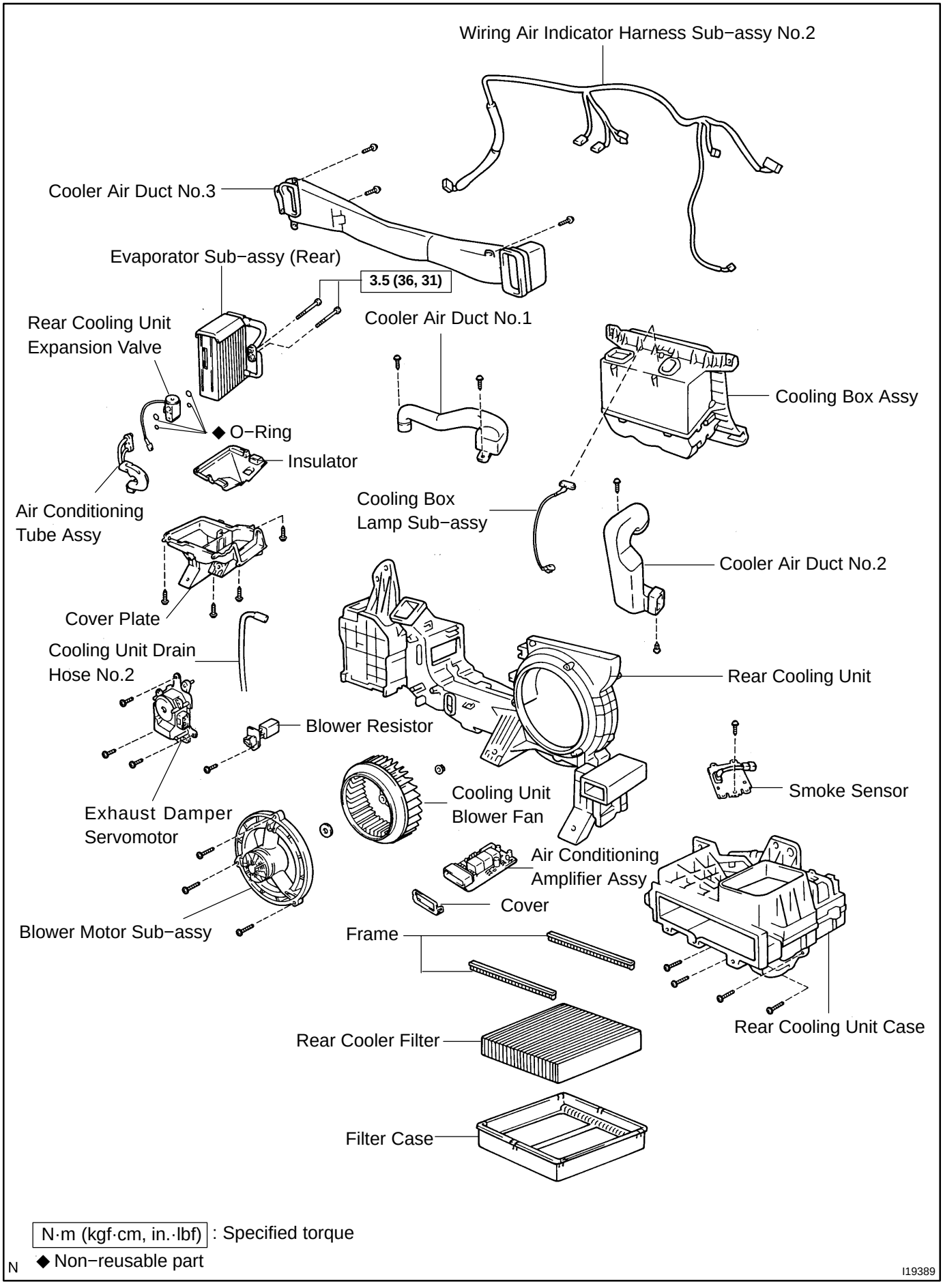
HINT:

When the lower pressure drop to 0kPa (0 kgf cm^2, 0 psi), feel the receiver's IN and OUT sides for no temperature difference.

55180−01

COMPONENTS




Wiring Air Indicator Harness Sub−assy No.2
Cooler Air Duct No.3
Evaporator Sub−assy (Rear)
3.5 (36, 31)
Rear Cooling Unit Expansion Valve
Cooler Air Duct No.1
Cooling Box Assy
◆ O−Ring
Insulator
Air Conditioning Tube Assy
Cooling Box Lamp Sub−assy
Cooler Air Duct No.2
Cover Plate
Cooling Unit Drain Hose No.2
Rear Cooling Unit
Blower Resistor
Smoke Sensor
Cooling Unit Blower Fan
Exhaust Damper Servomotor
Air Conditioning Amplifier Assy
Cover
Blower Motor Sub−assy
Frame
Rear Cooling Unit Case
Rear Cooler Filter
Filter Case
N·m (kgf·cm, in.·lbf) : Specified torque
◆ Non−reusable part
N
I19389

55181−01

INSPECTION

1. INSPECT REAR BLOWER MOTOR CIRCUIT (SEE PAGE 05−998)

2. EXHAUST DAMPER CONTROL SERVOMOTOR CIRCUIT (SEE PAGE 05−1004)

3. INSPECT REAR MAGNETIC VALVE CIRCUIT (SEE PAGE 05−1007)

4. INSPECT SMOKE SENSOR CIRCUIT (SEE PAGE 05−1010)

5. INSPECT EVAPORATOR SUB−ASSY (REAR)

(a) Check the evaporator sub−assy (rear) fins for blockage.

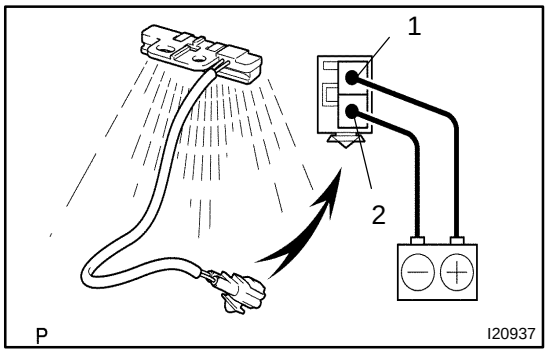
If the fins are clogged, clean them with compressed air.

NOTICE:

Never use water to clean the evaporator sub−assy (rear).

(b) Check the fitting for cracks or scratches.

If necessary, repair or replace.



6. INSPECT COOLING BOX LAMP SUB−ASSY

(a) Connect positive (+) lead to terminal 1 and negative (−) lead to terminal 2.

(b) Check that the cooling box lamp sub−assy comes on.

If cooling box light does not come on, replace the cooling box lamp sub−assy.

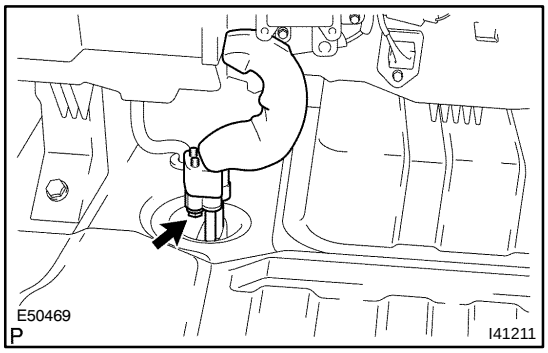
55182−01

OVERHAUL

HINT:

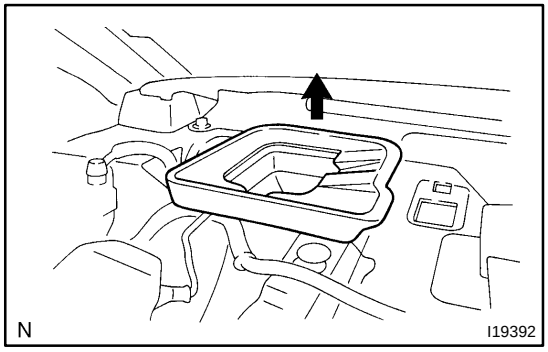
- Installation is in the reverse order of removal.
- COMPONENTS: See page 55−44.

1. EVACUATE REFRIGERANT HFC−134A (R134A) (SEE PAGE 76−37)
2. REMOVE LUGGAGE COMPARTMENT FLOOR MAT (SEE PAGE 76−37)
3. REMOVE DECK TRIM SIDE BOARD RH (SEE PAGE 76−37)
4. REMOVE DECK TRIM SIDE BOARD LH (SEE PAGE 76−37)
5. REMOVE LUGGAGE COMPARTMENT TRIM COVER FRONT (SEE PAGE 76−37)
6. REMOVE REAR SEAT CUSHION ASSY (SEEPAGE 70−15)
7. REMOVE REAR SEAT BACK ASSY (SEE PAGE 70−15)
8. REMOVE PACKAGE TRAY TRIM PANEL ASSY (SEE PAGE 70−15)
9. REMOVE ROOF SIDE GARNISH INNER RH (SEE PAGE 70−15)
10. REMOVE ROOF SIDE GARNISH INNER LH (SEE PAGE 70−15)
11. REMOVE PACKAGE TRAY TRIM PANEL ASSY (SEE PAGE 70−15)

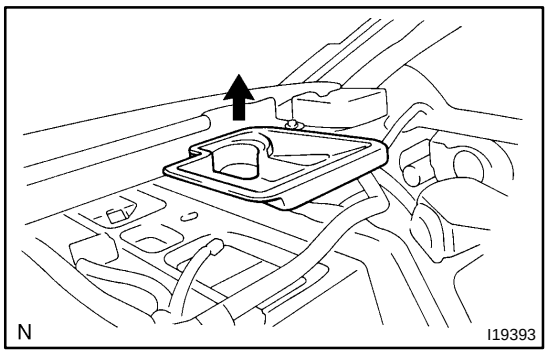


12. REMOVE PIPE COOLER REFRIGERANT SUCTION A
(a) Remove the bolt and pipe cooler refrigerant suction A.
NOTICE:
Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering.
(b) Remove the O−ring.

13. REMOVE A PIPE COOLER REFRIGERANT LIQUID
(a) Remove the bolt and A pipe cooler refrigerant liquid.
NOTICE:
Seal the openings of the disconnected parts using vinyl tape to prevent moisture and foreign matter from entering.
(b) Remove the O−ring.

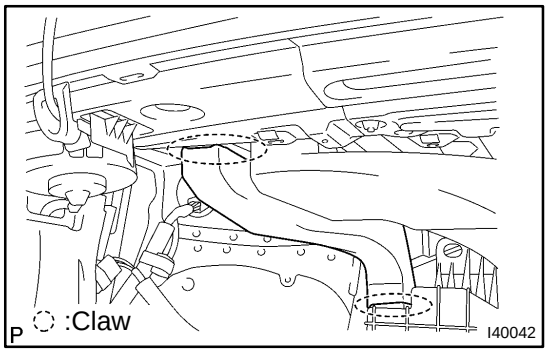


14. REMOVE AIR DUCT NO.3
(a) Remove air duct No.3.



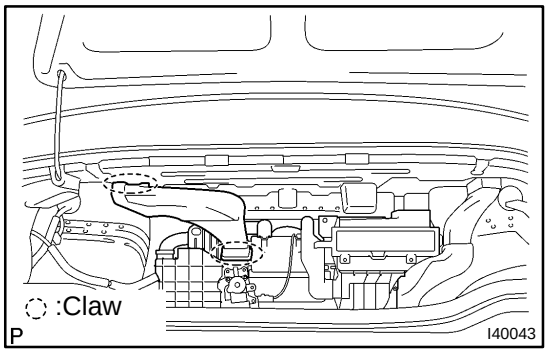
15. REMOVE AIR DUCT NO.5

(a) Remove air duct No.5.



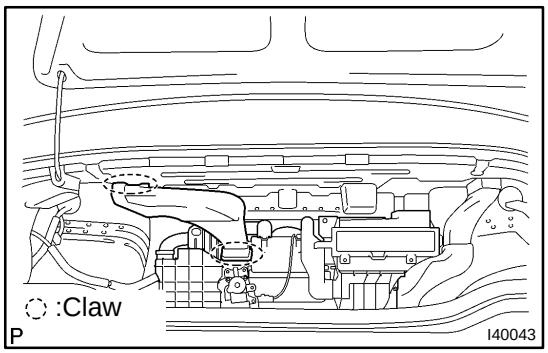
16. REMOVE AIR DUCT NO.1

(a) Release the claw and remove air duct No.1.



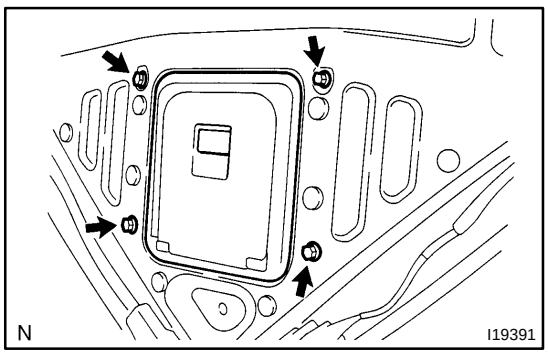
17. REMOVE AIR DUCT NO.2

(a) Release the claw and remove air duct No.2.



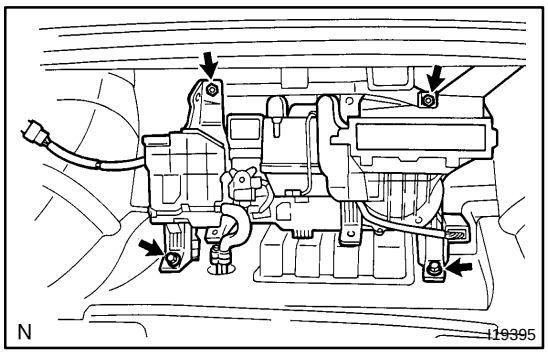
18. REMOVE AIR DUCT NO.4

(a) Release the claw and remove air duct No.4.



19. REMOVE REAR AIR CONDITIONING UNIT ASSY

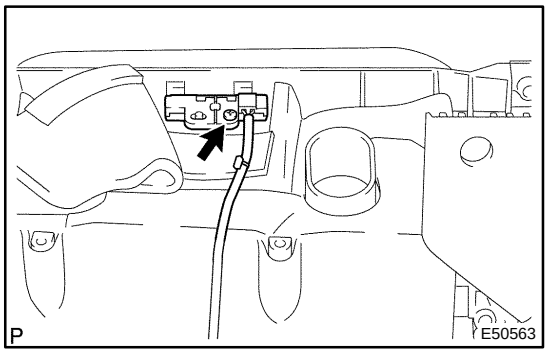
(a) w/ cooling box models:
Remove the 4 cool box set bolts.



(b) Disconnect the connector.
(c) Remove the 2 nuts and 2 bolts.
(d) Remove the rear air conditioner unit assy.

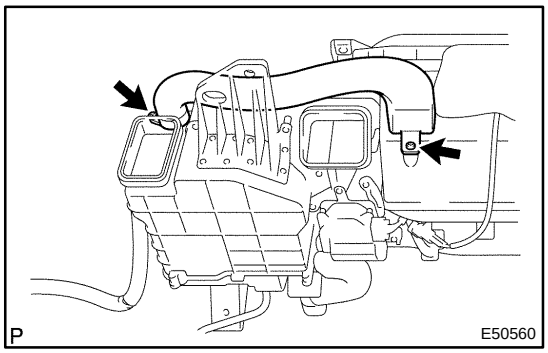
20. REMOVE COOLER UNIT DRAIN HOSE NO.2

21. REMOVE REAR COOLER FILTER



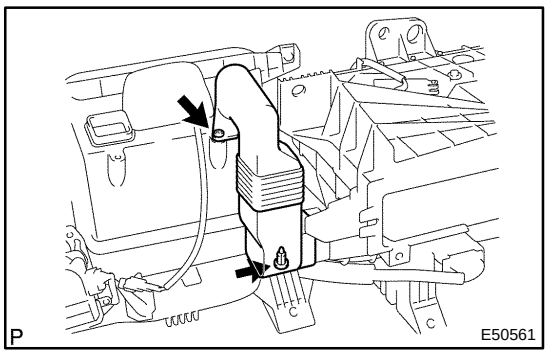
22. REMOVE COOLING BOX LAMP SUB−ASSY(W/COOLING BOX MODELS)

(a) Disconnect the connector.
(b) Remove the screw and cooling box lamp sub−assy.



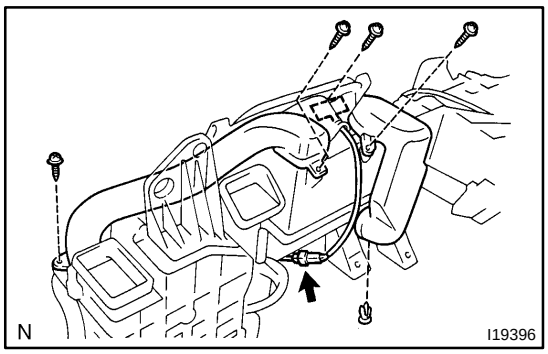
23. REMOVE COOLER AIR DUCT NO.1

(a) Remove the 2 screws and cooler air duct No.1.



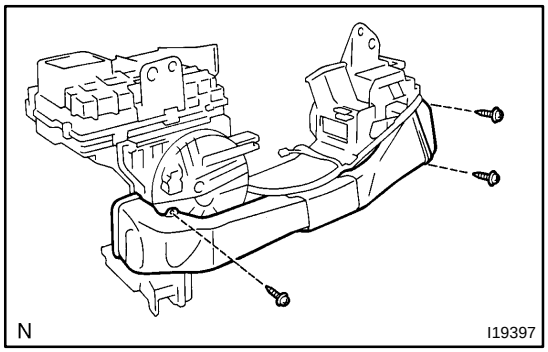
24. REMOVE COOLER AIR DUCT NO.2

(a) Remove the screw, clip and cooler air duct No.2.



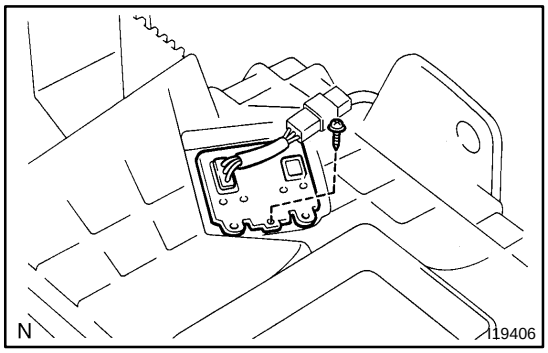
25. REMOVE COOLING BOX ASSY

(a) w/cooling box models:
Remove the 3 screws, clip and 2 ducts.
(b) Disconnect the connector.
(c) Remove the screw and cooling box light.
(d) Remove the cooling box.



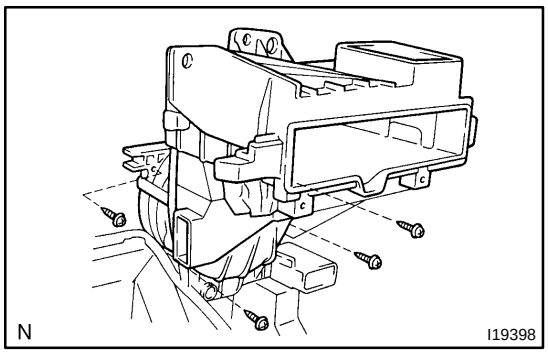
26. REMOVE COOLER AIR DUCT NO.3

(a) Remove the 3 screws and cooler air duct No.3.



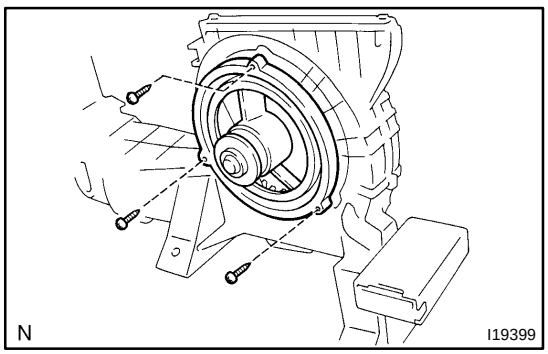
27. REMOVE SMOKE SENSOR

(a) Disconnect the connector.
(b) Remove the screw and smoke sensor.

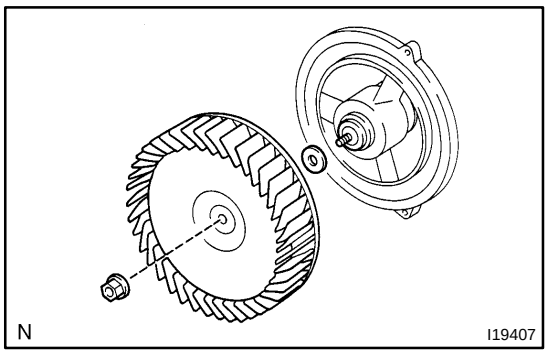


28. REMOVE BLOWER MOTOR SUB−ASSY

(a) Remove the 4 screws and rear cooling unit case.
(b) Disconnect the connector.

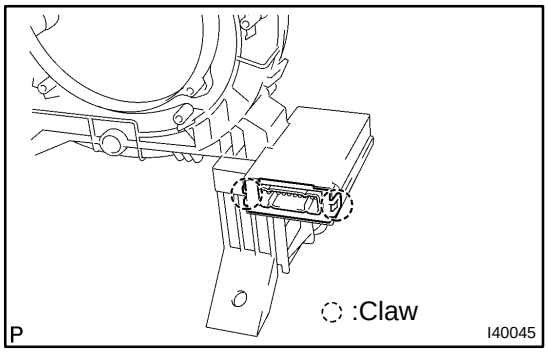


(c) Remove the 3 screws and blower motor sub−assy.



29. REMOVE COOLING UNIT BLOWER FAN

(a) Remove the nut and cooling unit blower fan.

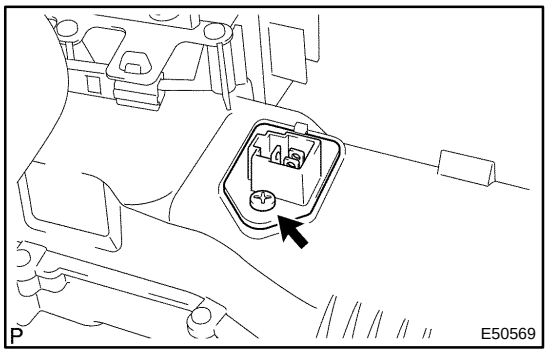


30. REMOVE AIR CONDITIONING AMPLIFIER ASSY

(a) Disconnect the connector.

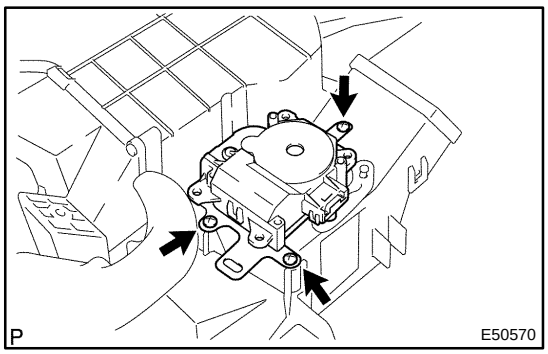
(b) Release the claw and remove the air conditioning amplifier assy.

31. WIRING AIR INDICATOR HARNESS SUB−ASSY NO.2



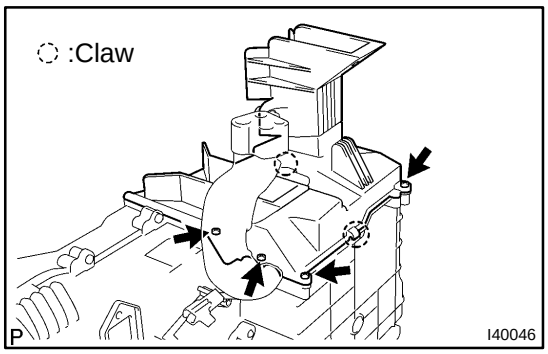
32. REMOVE BLOWER RESISTOR

(a) Remove the screw and blower resister.



33. REMOVE EXHAUST DAMPER SERVOMOTOR

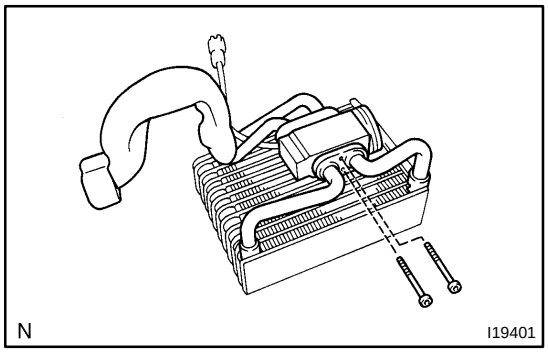
(a) Remove the 3 screws and exhaust damper servomotor.



34. REMOVE EVAPORATOR SUB−ASSY (REAR)

(a) Remove the 4 screws and cooler cover plate.

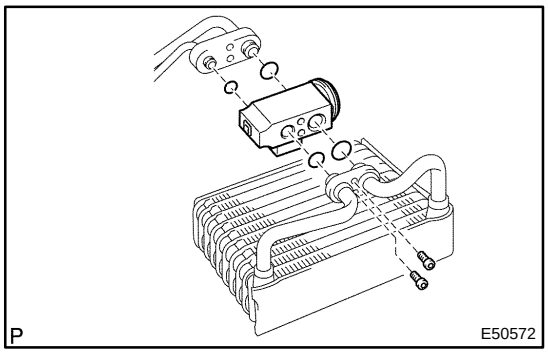
(b) Remove the evaporator sub−assy (rear).



35. REMOVE REAR COOLING UNIT EXPANSION VALVE

(a) Using a hexagon wrench 5 mm (0.20 in.), remove the 2 hexagon bolts, air conditioning tube assy and rear cooling unit expansion valve.

(b) Remove the 4 O−rings from the rear cooling unit expansion valve.



36. INSTALL REAR COOLING UNIT EXPANSION VALVE

(a) Sufficiently apply compressor oil to 4 new O−rings and fitting surface of the cooler expansion valve.
Compressor oil: ND−OIL 8 or equivalent

(b) Install the 4 O−rings on the rear cooling unit expansion valve.

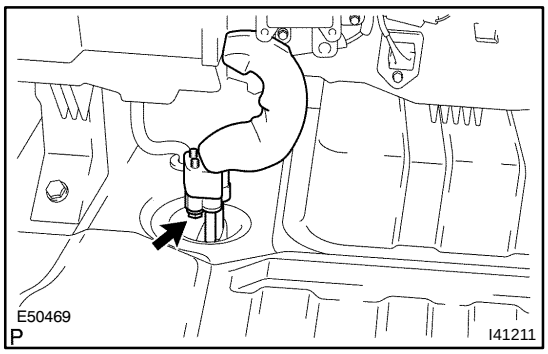
(c) Using a hexagon wrench 5 mm (0.20 in.), install the rear cooling unit expansion valve, air conditioning tube assy with the 2 hexagon bolts.
Torque: 3.5 N·m (36 kgf·cm, 31 in.·lbf)

37. INSTALL A PIPE COOLER REFRIGERANT LIQUID

(a) Sufficiently apply compressor oil to a new O−ring and fitting surface of the liquid tube.
Compressor oil: ND−OIL 8 or equivalent

(b) Install the O−ring on the liquid tube.

(c) Install the liquid tube with a bolt.
Torque: 3.5 N·m (35 kgf·cm, 30 in.·lbf)



38. INSTALL PIPE COOLER REFRIGERANT SUCTION A

(a) Sufficiently apply compressor oil to a new O−ring and fitting surface of the suction hose.
Compressor oil: ND−OIL 8 or equivalent

(b) Install the O−ring on the suction hose.

(c) Install the suction hose with a bolt.
Torque: 3.5 N·m (35 kgf·cm, 30 in.·lbf)

39. CHARGE REFRIGERANT (SEE PAGE 55−11)

40. WARM UP ENGINE

41. INSPECT FOR REFRIGERANT LEAKAGE (SEE PAGE 55−11)