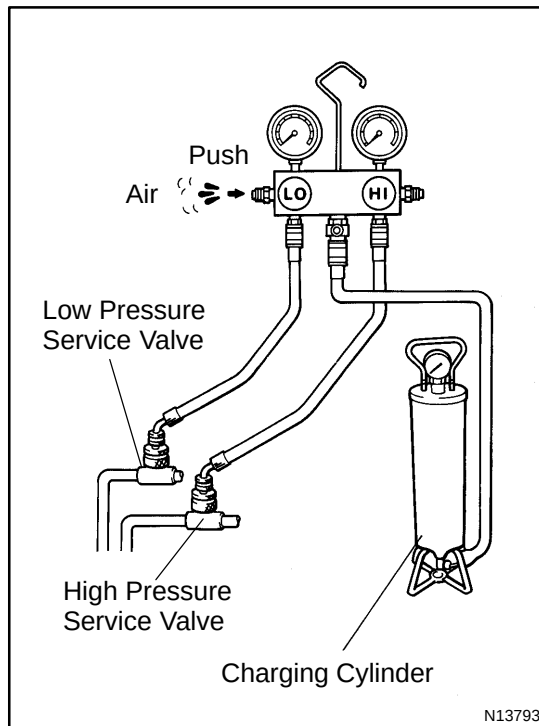




CHARGING

1. INSTALL CHARGING CYLINDER

HINT:

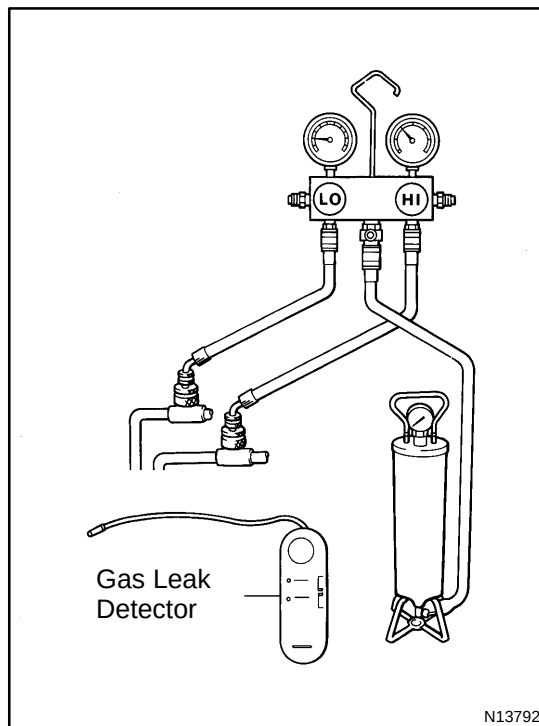
When handling the charging cylinder, always follow the directions given in the instruction manual.

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

CAUTION:

Do not open both high and low pressure 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.

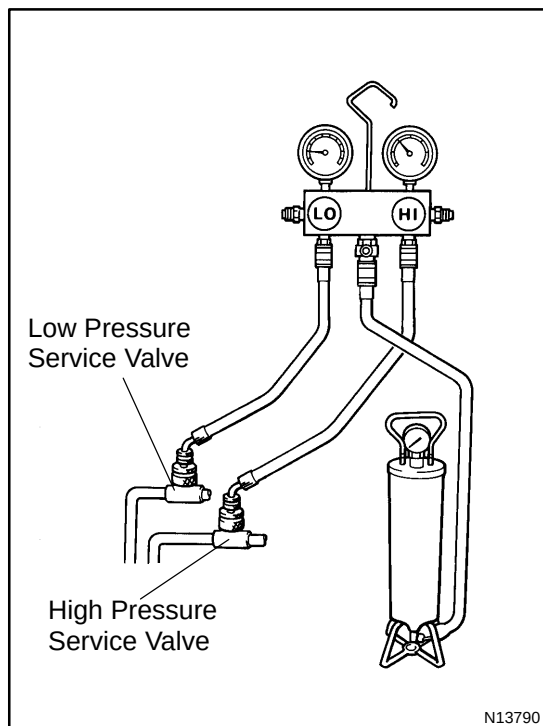


2. INSPECT REFRIGERATION SYSTEM FOR LEAKS

- 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 REFRIGERANT SYSTEM

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

CAUTION:

- **Never run the engine when charging 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 and valve fully.
 - (b) Charge specified amount of refrigerant, then close the high pressure hand valve.

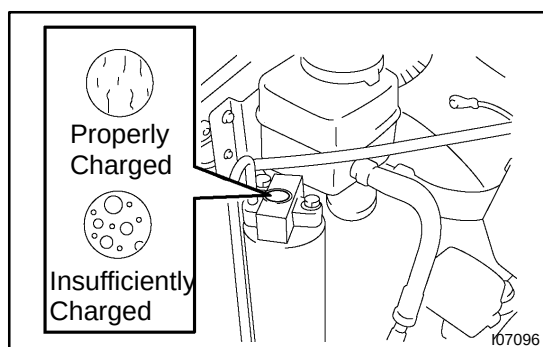
HINT:

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"
 - Air inlet control set at "RECIRC"
 - Fully open doors (Sliding roof: closed)
 - (2) Open the low pressure hand valve.

CAUTION:

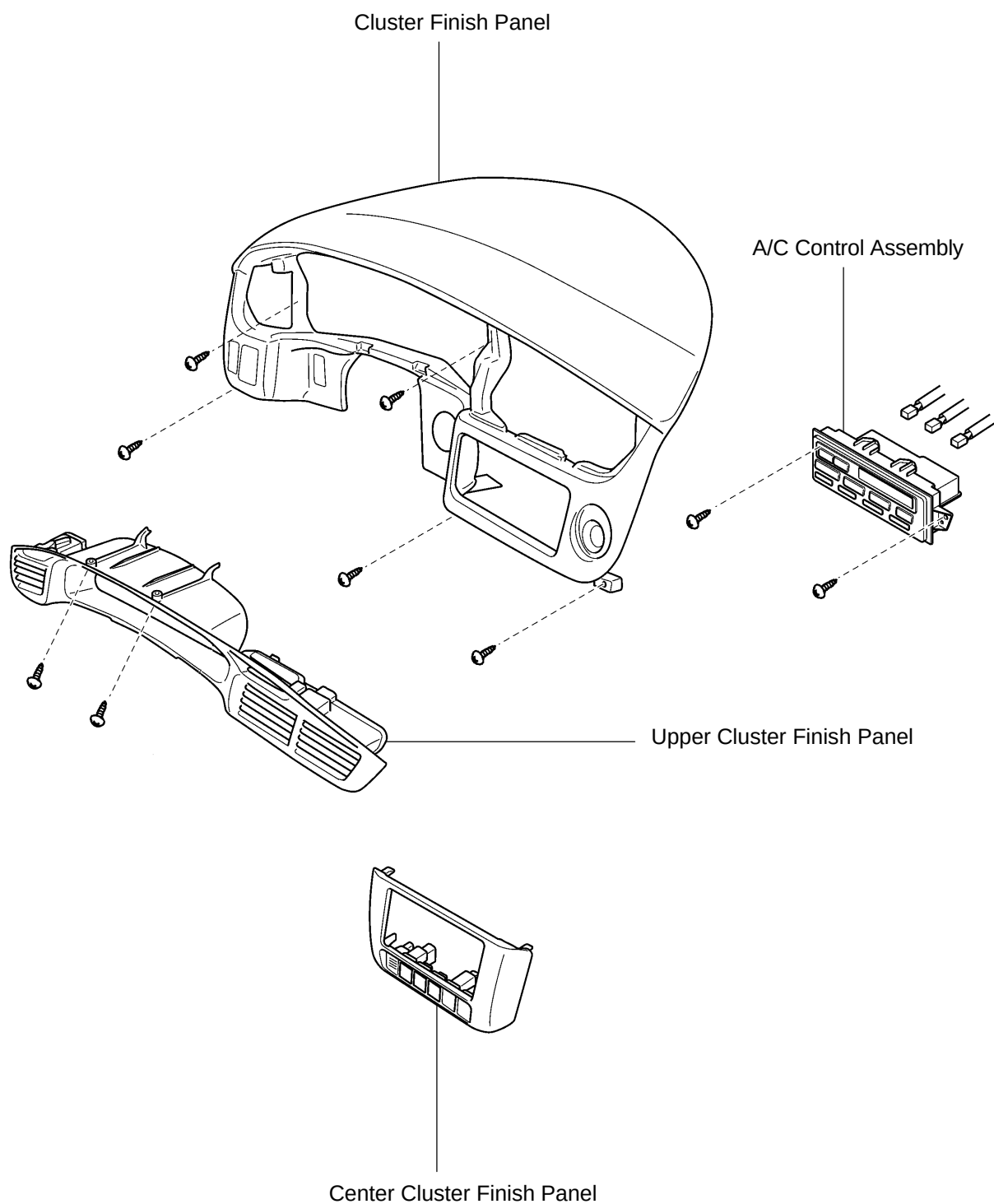
Do not open the high pressure hand valve.



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

AIR CONDITIONING CONTROL ASSEMBLY (Auto A/C) COMPONENTS

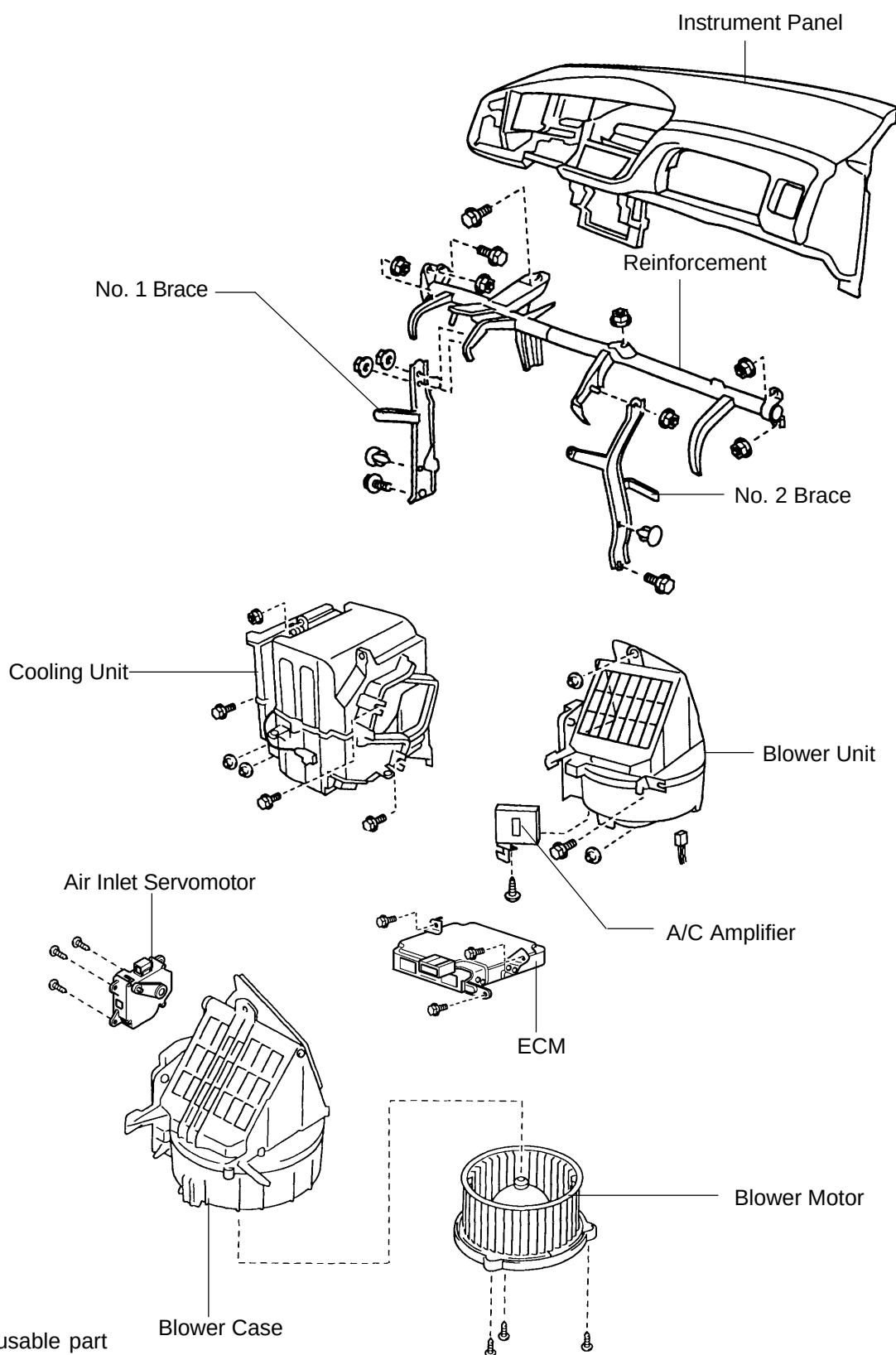
AC3DS-01



I19694

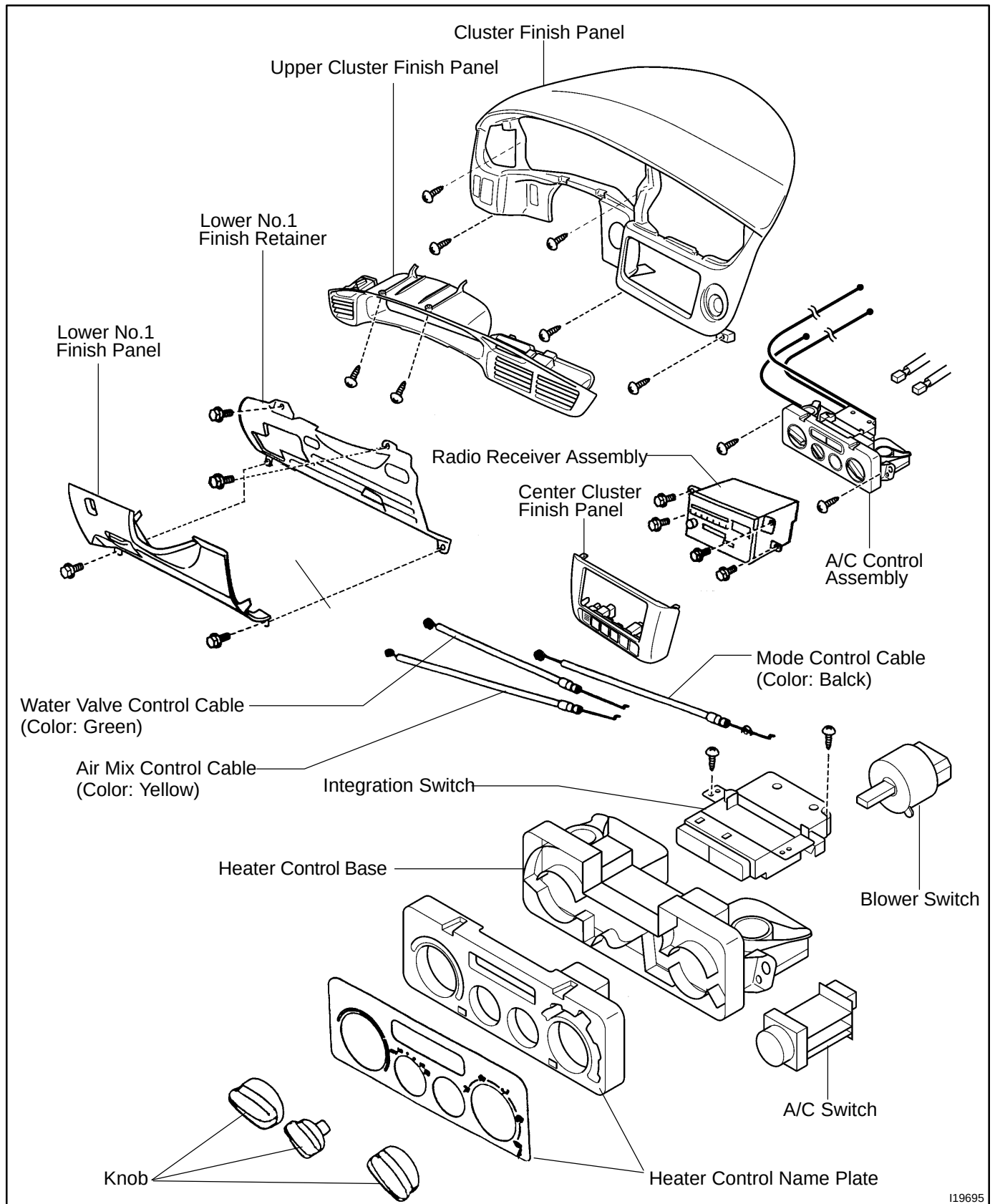
BLOWER UNIT COMPONENTS

AC0UQ-05



120978

COMPONENTS



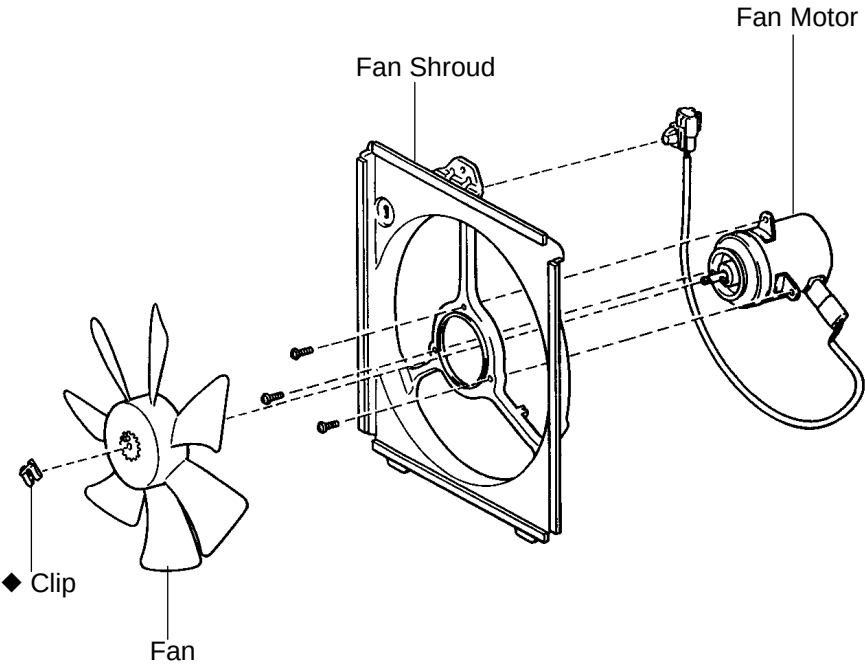
I19695

COMPONENTS



Condenser Fan

Upper Radiator Hose

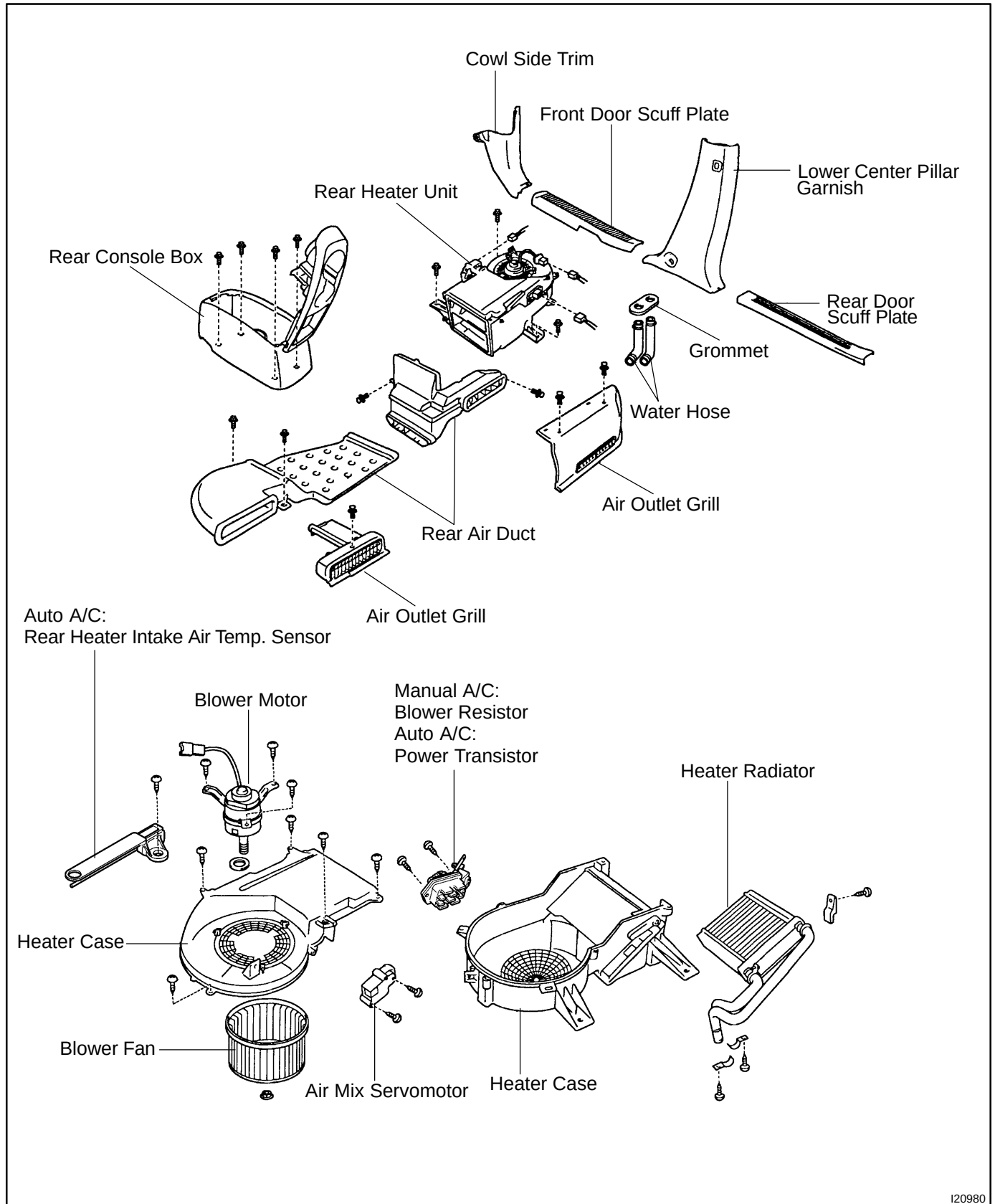


◆ Non-reusable part

I04726

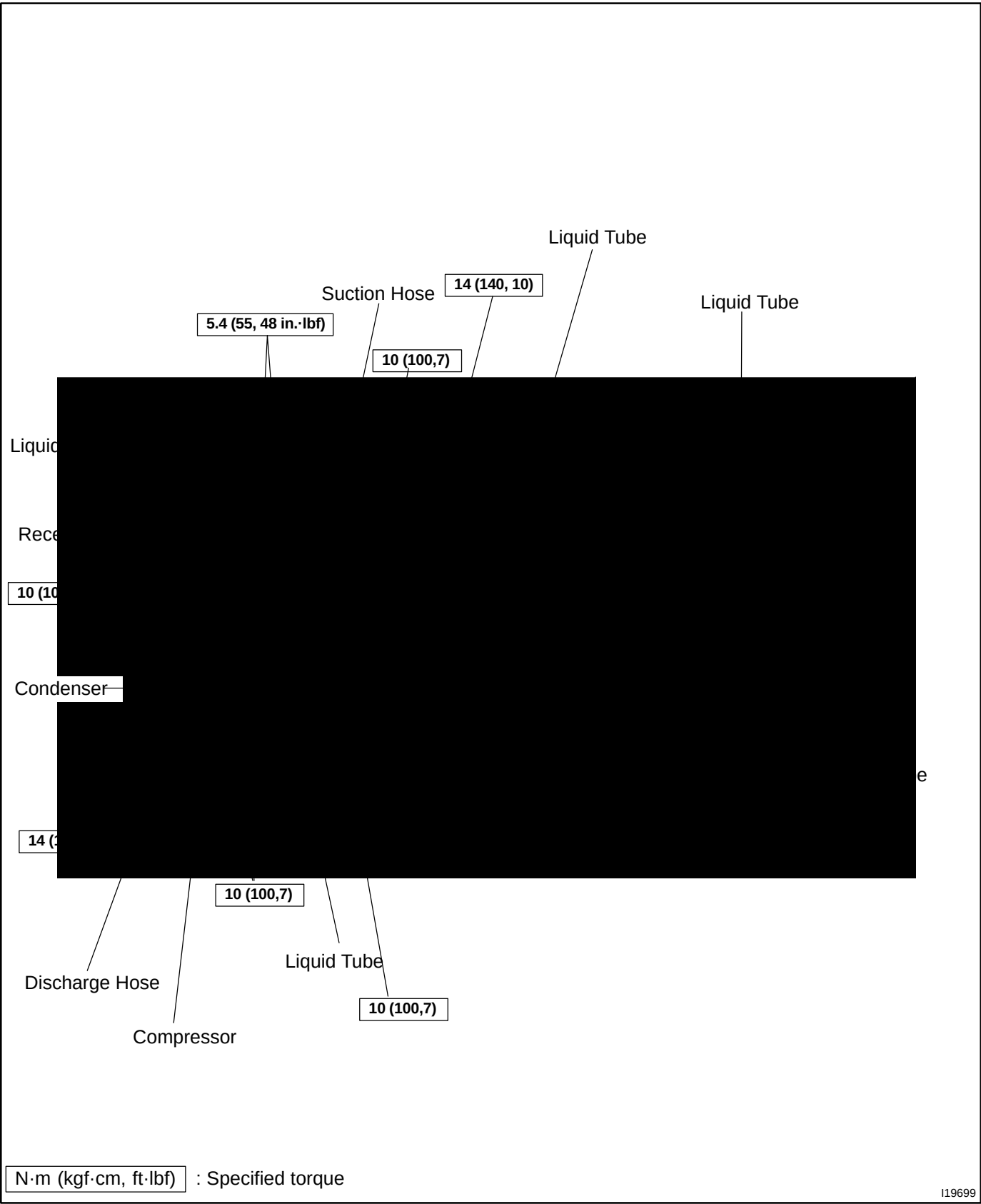
REAR HEATER UNIT COMPONENTS

AC051-03

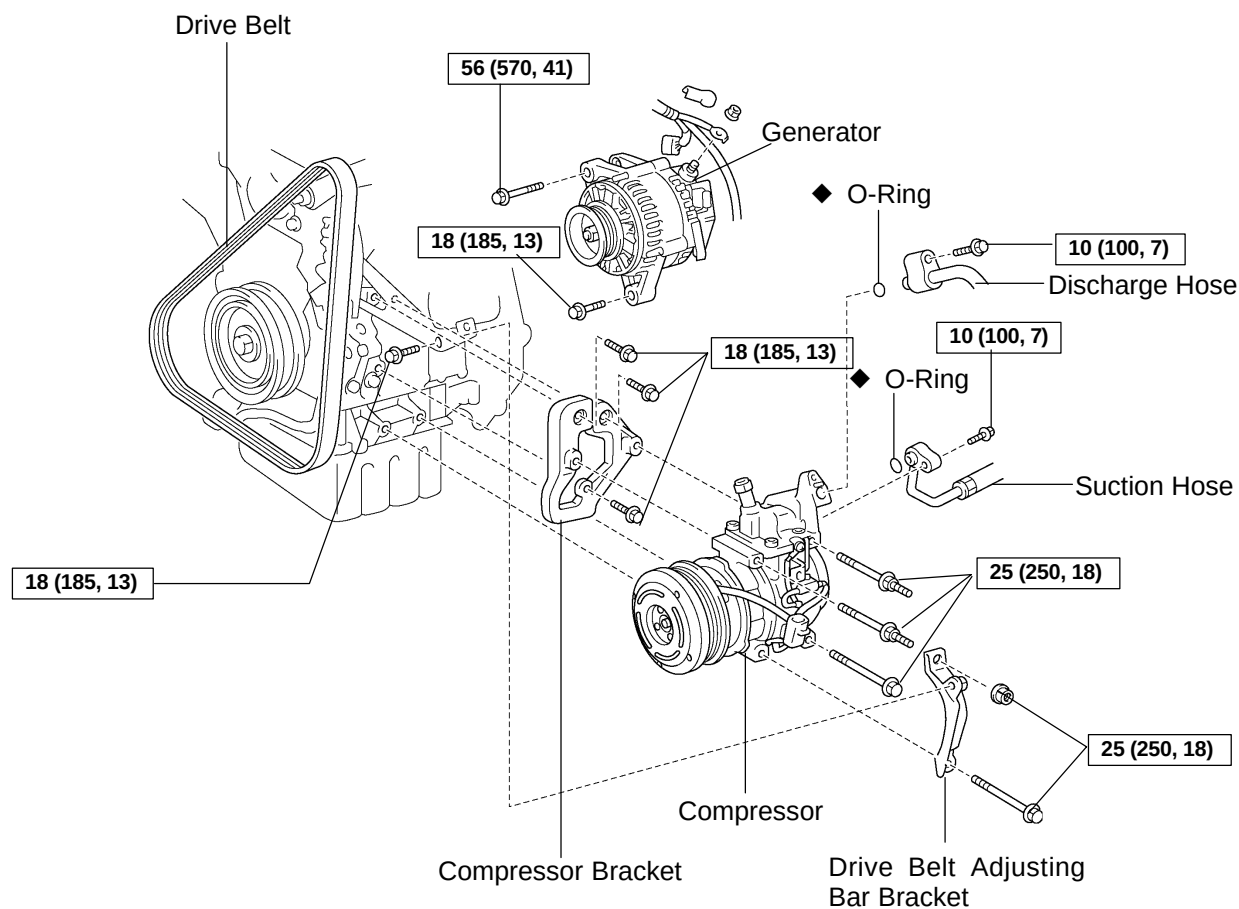


120980

COMPONENTS



COMPONENTS



◆ Snap Ring

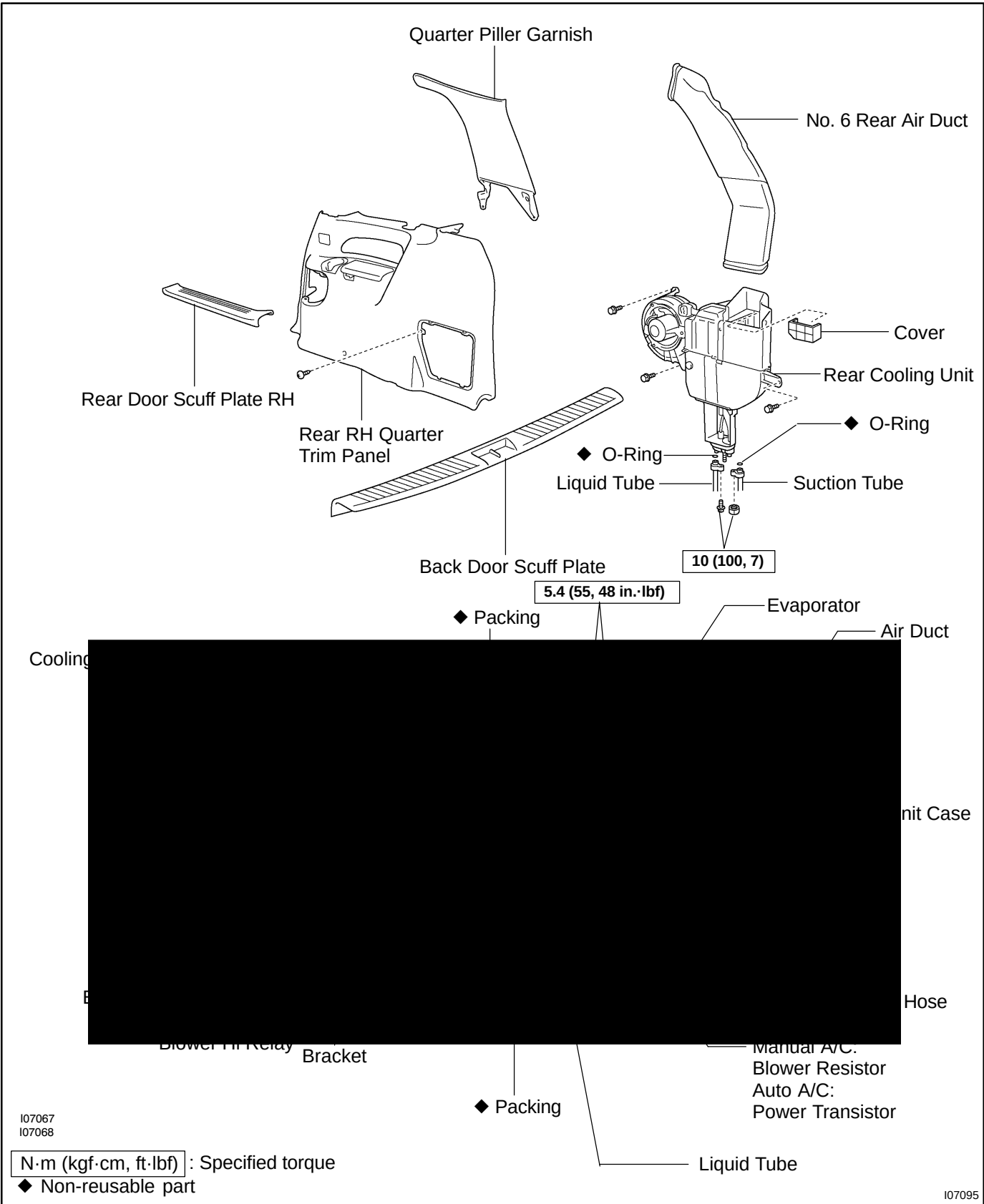
I02431
I02432

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

◆ Non-reusable part

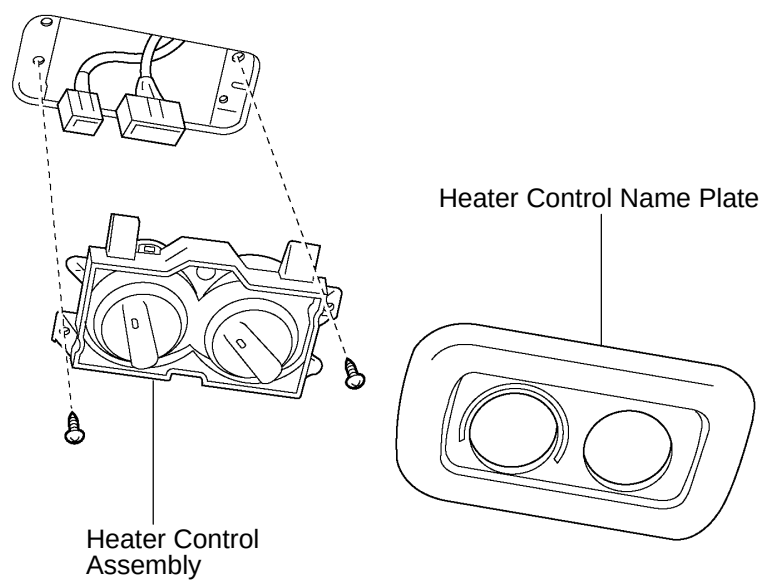
I04724

COMPONENTS

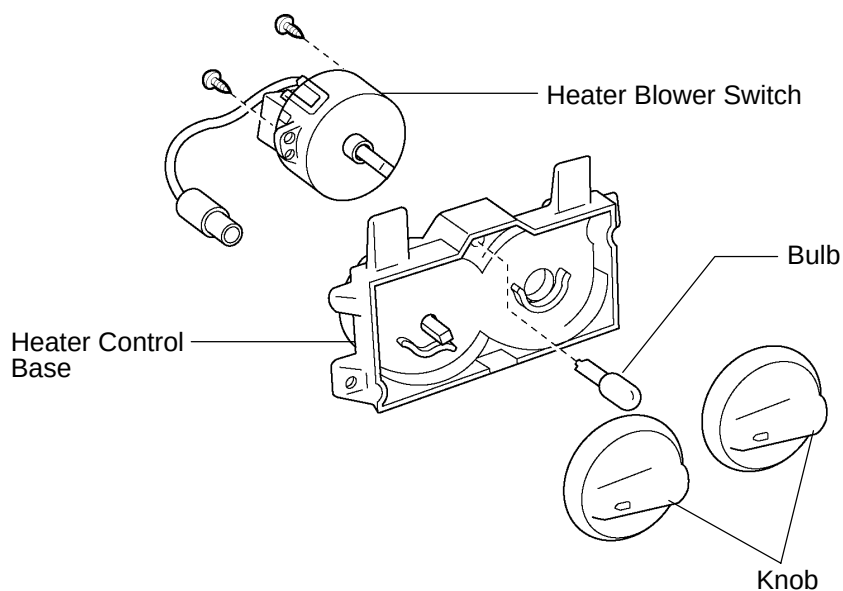


REAR A/C CONTROL ASSEMBLY COMPONENTS

AC0U4-03



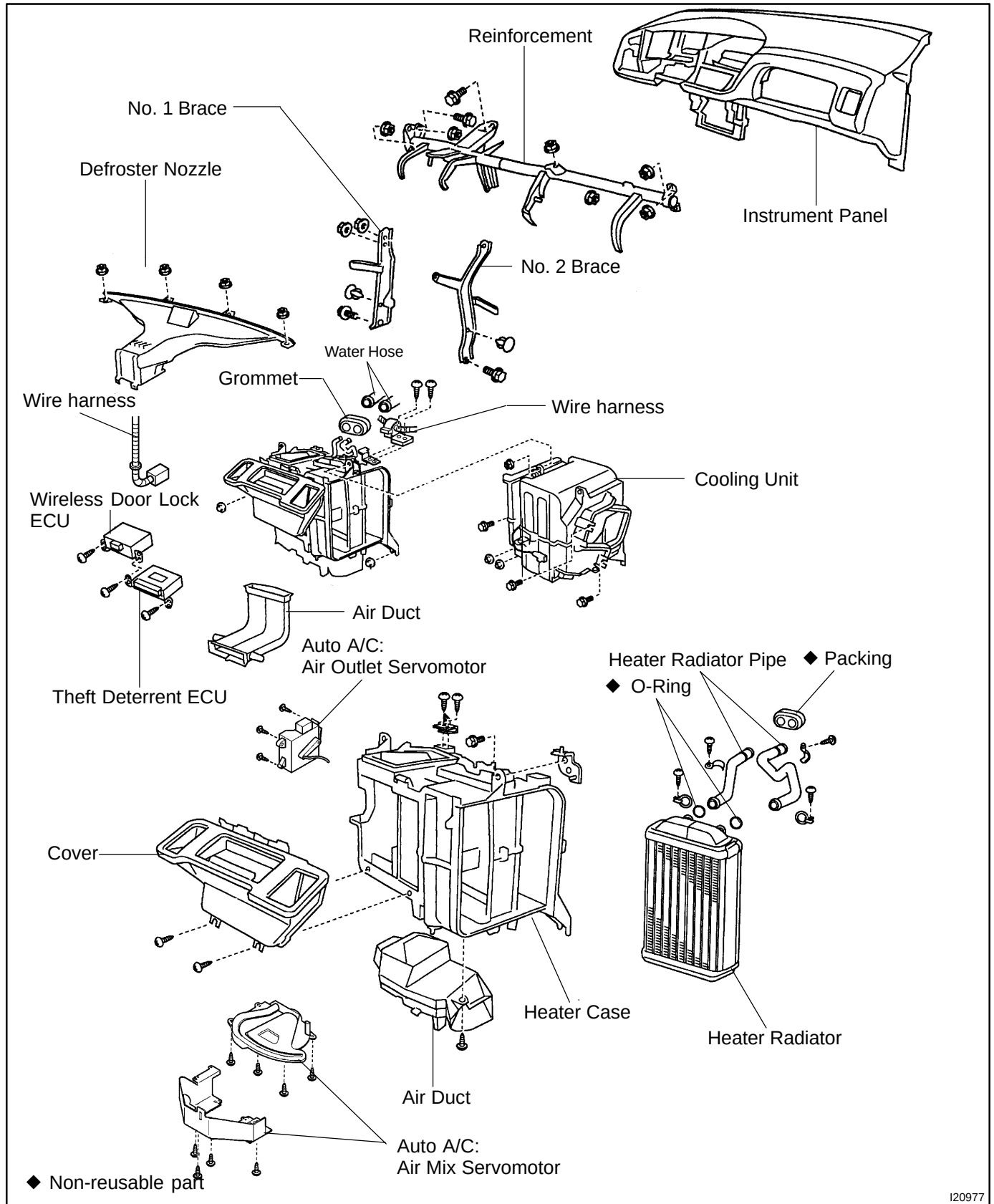
Manual A/C only:



I03792

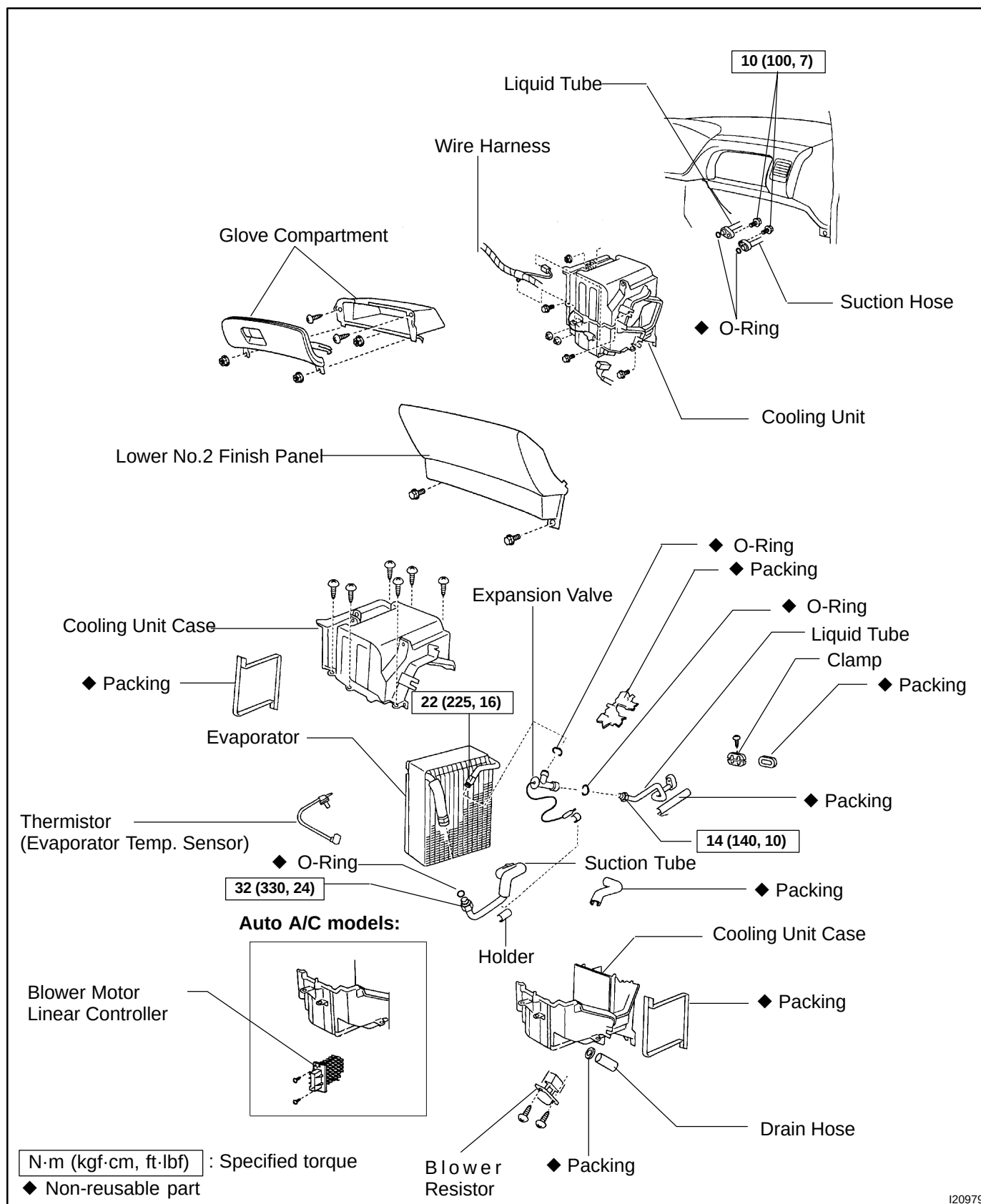
FRONT HEATER UNIT COMPONENTS

AC0UL-03



120977

COMPONENTS



DISASSEMBLY

1. Manual A/C:

REMOVE BLOWER RESISTOR

Remove the 2 screws and blower resistor.

2. Auto A/C :

REMOVE POWER TRANSISTOR

Remove the 2 screws and power transistor.

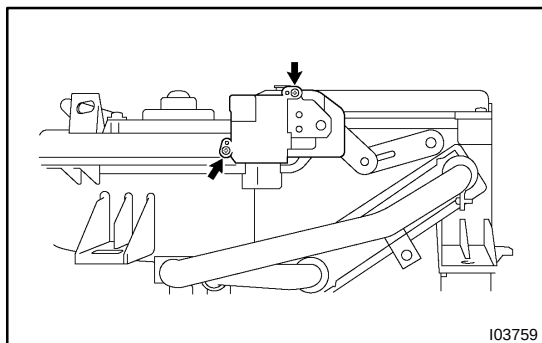
3. Auto A/C :

REMOVE AIR INLET TEMPERATURE SENSOR

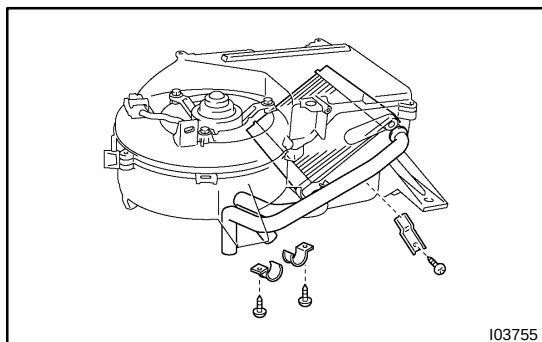
Remove the screw and air inlet temperature sensor.

4. REMOVE AIR MIX SERVOMOTOR

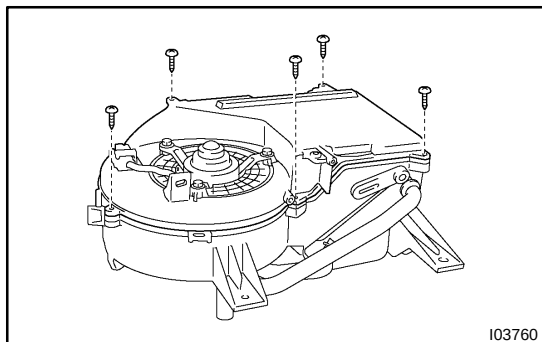
Remove the 2 screws and servomotor.



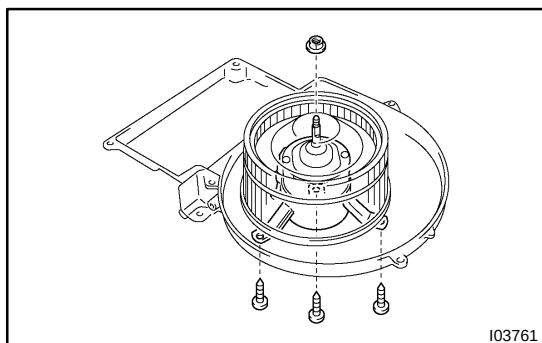
I03759



I03755



I03760



I03761

5. REMOVE HEATER RADIATOR

- Remove the 2 screw and 2 clamps.
- Remove the screw and plate.
- Pull out the heater radiator.

6. REMOVE BLOWER MOTOR

- Remove the 5 screws and separate the heater cases.
- Disconnect the connector from heater case.

- Remove the nut and fan.
- Remove the shim from the motor shaft.
- Remove the 3 screws and blower motor.

DISASSEMBLY

1. PULL OUT HEATER CONTROL KNOBS

2. REMOVE HEATER CONTROL NAME PLATE

Release the 4 claws and remove the heater control name plate.

3. REMOVE A/C SWITCH

Release the 4 claws and remove the A/C switch from the heater control name plate.

4. REMOVE BLOWER SWITCH

(a) Pull out the 2 bulbs.

(b) Disconnect the 2 bulb holders.

(c) Remove the 2 screws and blower switch.

5. REMOVE HEATER CONTROL CABLES

(a) Using a screwdriver, open the claw of the cable clamp and disconnect the outer cable.

HINT:

Tape the screwdriver tip before use.

(b) Remove the inner cable from the A/C control assembly.

6. REMOVE INTEGRATION SWITCH

Remove the 3 screws and integration switch.

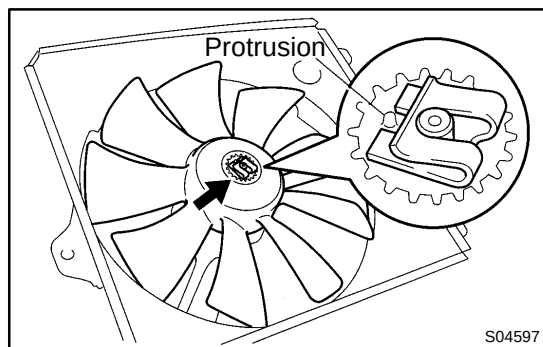
DISASSEMBLY

1. REMOVE BLOWER MOTOR

Remove the 3 screws and blower motor.

2. REMOVE AIR INLET SERVOMOTOR

Remove the 3 screws and air inlet servomotor.



DISASSEMBLY

1. REMOVE FAN

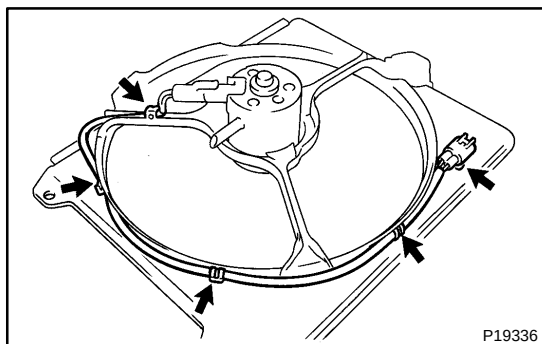
Remove the clip and fan.

NOTICE:

When removing the clip and fan, do not apply too much force to the motor shaft. And do not scratch the motor shaft.

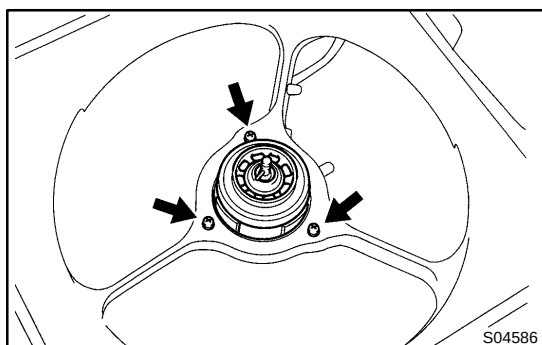
HINT:

At the time of the reassembly, please refer to the following item.
Install a new clip from the side opposite to the protrusion on the fan.



2. REMOVE FAN MOTOR

(a) Disconnect the lead wire from the fan shroud.



(b) Remove the 3 screws and fan motor.

DISASSEMBLY

1. Manual A/C:

REMOVE BLOWER RESISTER

Remove the 2 screws and blower resistor.

2. Auto A/C:

REMOVE BLOWER BLOWER MOTOR LINEAR CONTROLLER

Remove the 2 screws and blower motor linear controller.

3. SEPARATE COOLING UNIT CASES

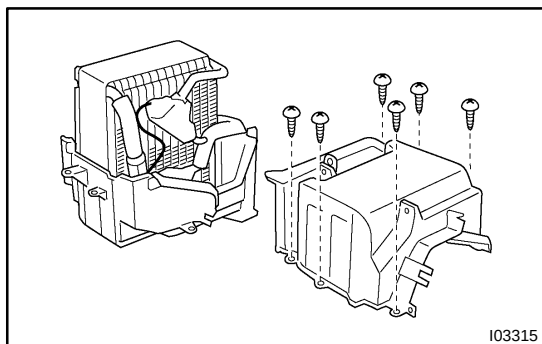
(a) Using a knife, cut off each packing.

HINT:

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

Do not reuse the packing

(b) Remove the 6 screws, then separate the cooling unit cases.



4. REMOVE EVAPORATOR

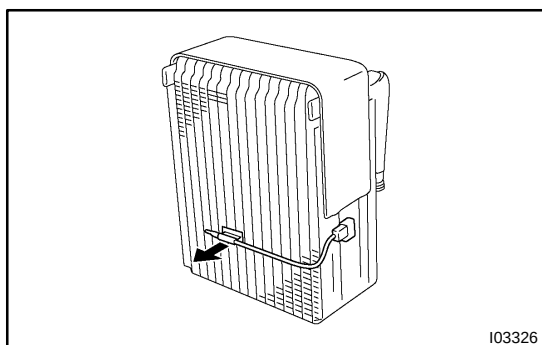
HINT:

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

If evaporator is replaced, add compressor oil to the evaporator.

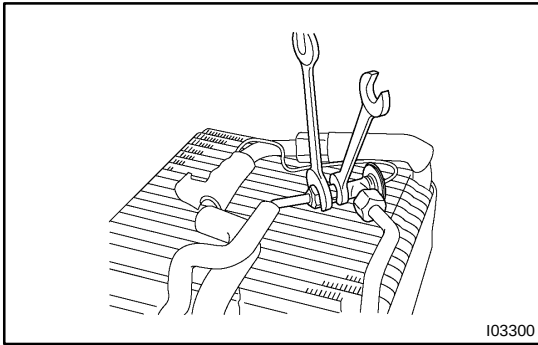
Add 40 cc (1.4 fl.oz.)

Compressor oil: ND-OIL 8 or equivalent



5. REMOVE THERMISTOR FROM EVAPORATOR

Pull out the thermistor with holder.



6. 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) Remove the screw and 2 clamps.
 (c) Remove the holder and disconnect the heat sensing tube.
 (d) Loosen the 2 nuts and remove the expansion valve.

Torque:

Expansion valve x Evaporator

22 N·m (225 kgf·cm, 16 ft·lbf)

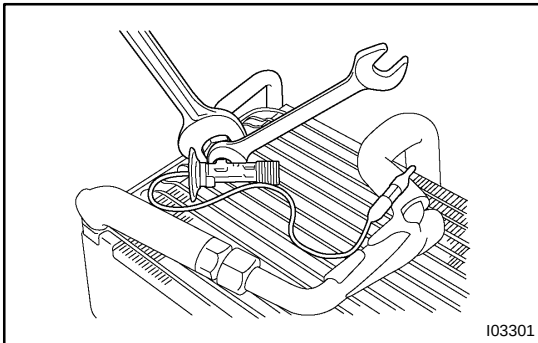
Expansion valve x Liquid tube

14 N·m (140 kgf·cm, 10 ft·lbf)

HINT:

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

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



7. REMOVE SUCTION TUBE FROM EVAPORATOR

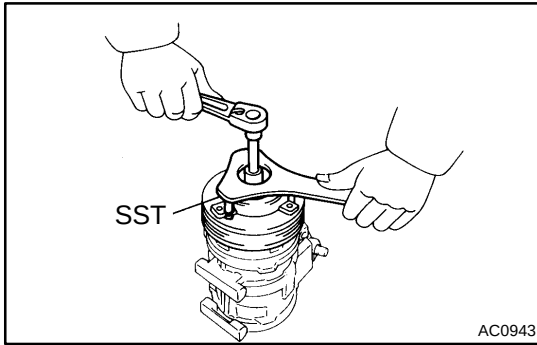
Loosen the nut and remove the suction tube.

Torque: 32 N·m (330 kgf·cm, 24 ft·lbf)

HINT:

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

Lubricate a new O-ring with compressor oil and install them to the tube.



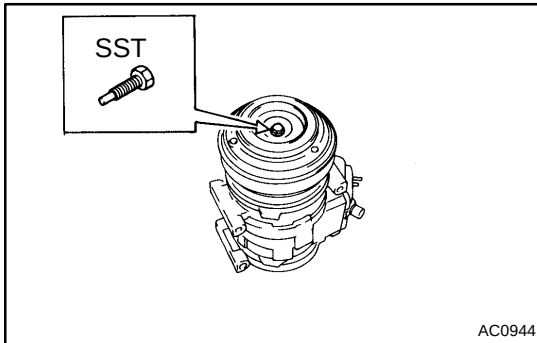
DISASSEMBLY

1. REMOVE PRESSURE PLATE

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

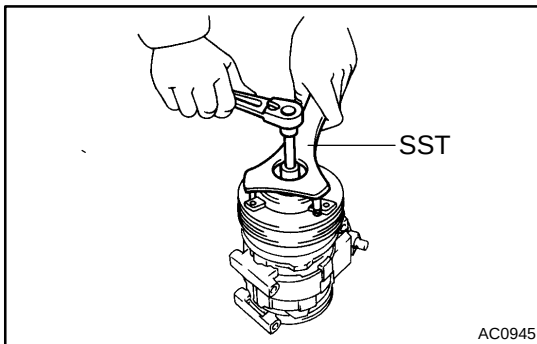
SST 07112-76060

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



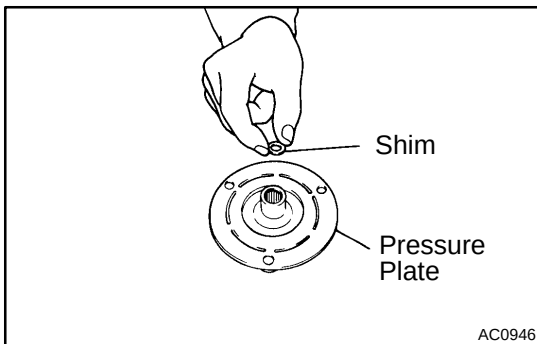
- (b) Install SST on the pressure plate.

SST 07112-66040

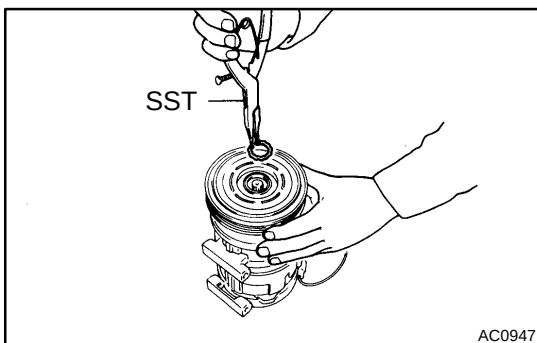


- (c) Using SST and socket wrench, remove the pressure plate.

SST 07112-76060, 07112-66040



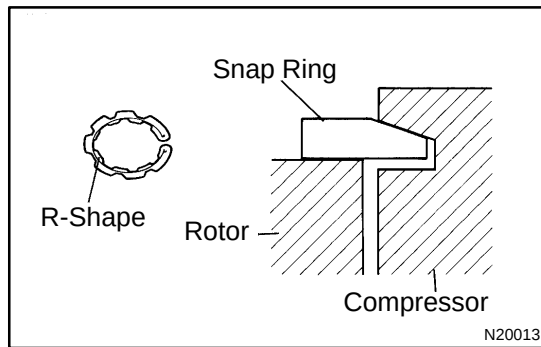
- (d) Remove the shims from the pressure plate.



2. REMOVE ROTOR

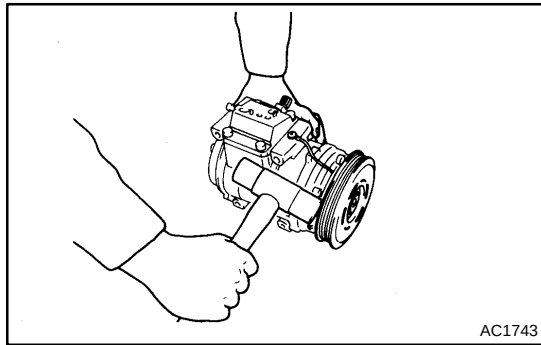
- (a) Using SST, remove the snap ring.

SST 95994-10020

**NOTICE:**

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

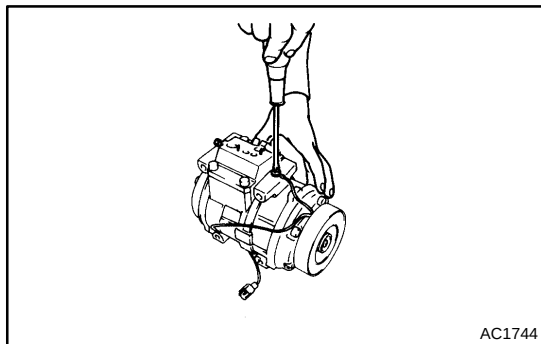
The snap ring should be installed so that beveled side faces up.



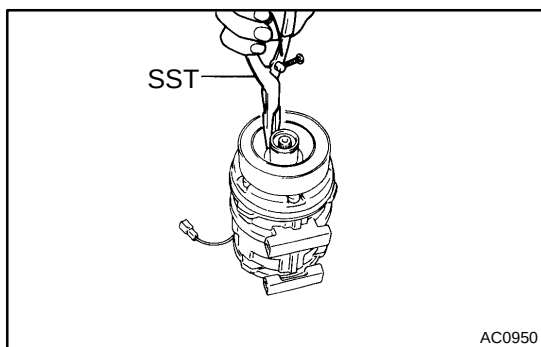
(b) Using a plastic hammer, tap the rotor off the shaft.

NOTICE:

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

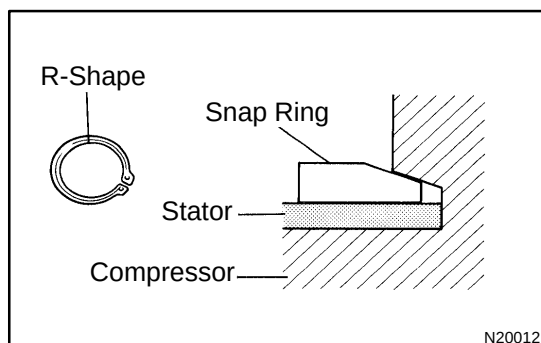
**3. REMOVE STATOR**

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



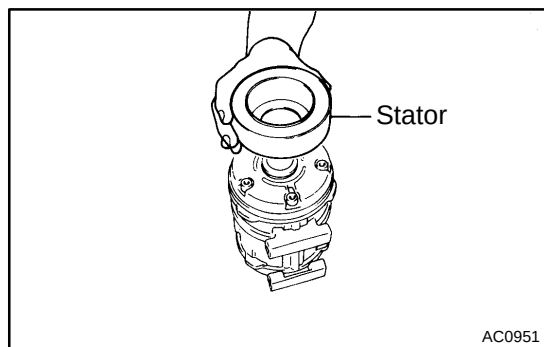
(b) Using SST, remove the snap ring.

SST 95994-10020

**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.

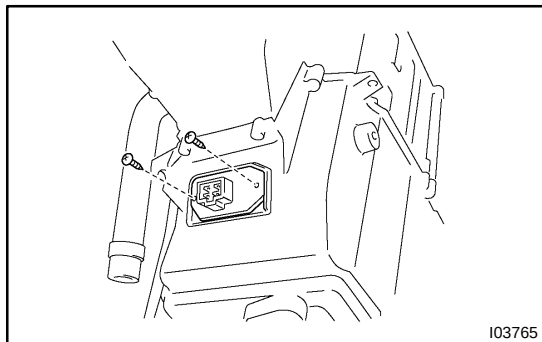


(c) Remove the stator.

DISASSEMBLY

1. REMOVE BLOWER MOTOR

Remove the 3 screws and blower motor.



2. REMOVE BLOWER RESISTOR

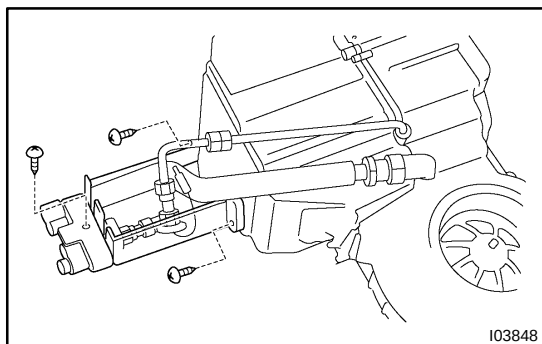
Remove the 2 screws and blower resistor.

3. REMOVE POWER TRANSISTOR

Remove the 2 screws and power transistor.

4. REMOVE BLOWER HI RELAY

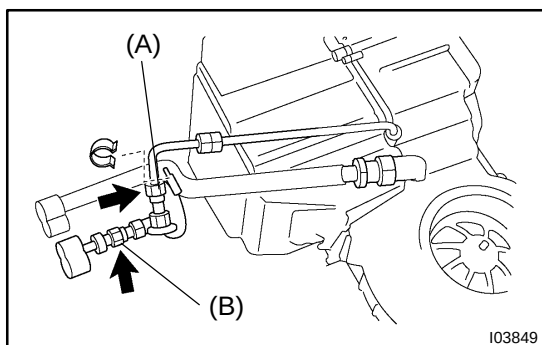
Remove the screw and relay.



5. REMOVE EXPANSION VALVE

(a) Remove the screw and parts clamps.

(b) Remove the 2 screws and bracket.



(c) Pry out the packings.

HINT:

At the time of reassembly, please refer to the following item.
Do not reuse the packing.

(d) Remove the holder and disconnect the heat sensing tube.

(e) Loosen the 2 nuts and remove the expansion valve.

Torque:

Nut (A): 14 N·m (140 kgf·cm, 10 ft·lbf)

Nut (B): 22 N·m (225 kgf·cm, 16 ft·lbf)

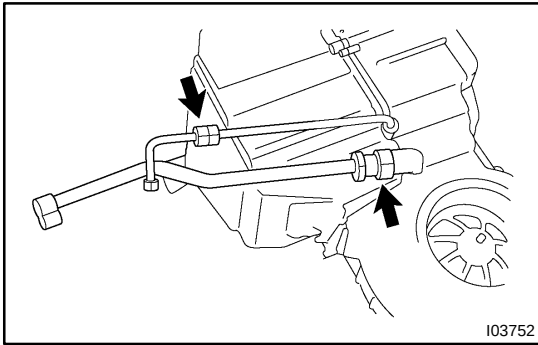
NOTICE:

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 valve.



6. REMOVE LIQUID AND SUCTION TUBES

Loosen the 2 nut and remove the suction tube.

Torque:

Liquid Tube: 14 N·m (140 kgf·cm, 10 ft·lbf)

Suction Tube: 32 N·m (330 kgf·cm, 24 ft·lbf)

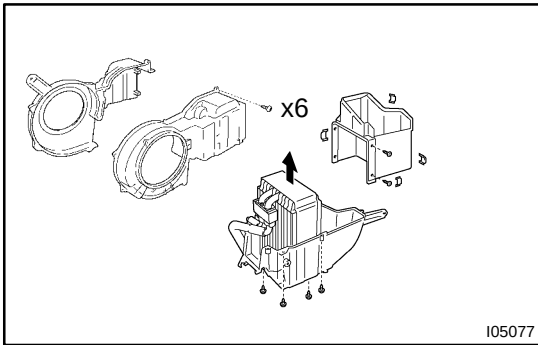
NOTICE:

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

HINT:

At the time of reassembly, please refer to the following item.
Lubricate 2 new O-rings with compressor oil and install them to the valve.

7. REMOVE DRAIN HOSE



8. REMOVE AIR DUCT

Remove the 2 screws, 4 holding springs and air duct.

9. REMOVE EVAPORATOR

(a) Remove the 10 screws and separate the cooling unit cases.

(b) Remove the evaporator.

HINT:

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

Add: 40 cc (1.4 fl.oz.)

Compressor oil: ND-OIL 8 or equivalent

10. REMOVE TUBE AND ACCESSORY

(a) Pry out the packing.

(b) Using a hexagon wrench, remove the 2 bolts and tube and accessory.

Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)

NOTICE:

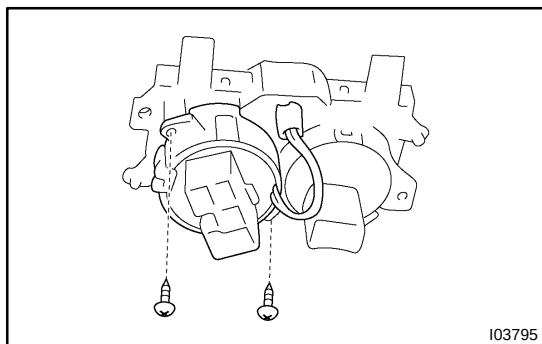
Cap the open fittings immediately to keep moisture or dirt out of the system.

HINT:

At the time of reassembly, please refer to the following item.
Lubricate 2 new O-rings with compressor oil and install them to the tube.

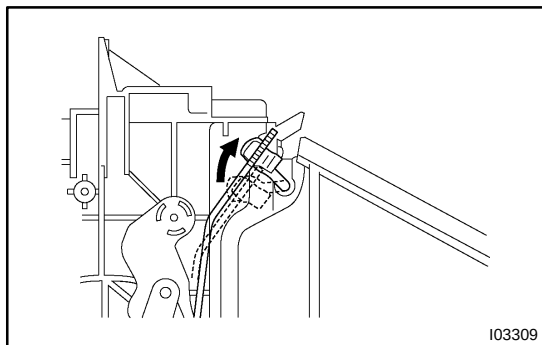
DISASSEMBLY

1. REMOVE HEATER CONTROL KNOBS



2. Manual A/C only: REMOVE HEATER BLOWER SWITCH

- (a) Remove the bulb.
- (b) Disconnect the bulb holder.
- (c) Remove the 2 screws and switch.



DISASSEMBLY

1. REMOVE AIR DUCT

- (a) Disconnect the control link.

HINT:

At the time of reassembly, please refer to the following item.
Set the mode control lever and vent control door to "DEF" position, then connect the control link.

- (b) Remove the 2 screws.
(c) Release the 2 claws and remove the duct.

2. REMOVE COVER

3. REMOVE HEATER RADIATOR

- (a) Remove the 2 screws and 2 clamps.
(b) Pull out the heater radiator.
(c) Remove the 2 screws, 2 clamps and 2 heater radiator pipes.

HINT:

Do not reuse the 2 O-rings.

4. Auto A/C:

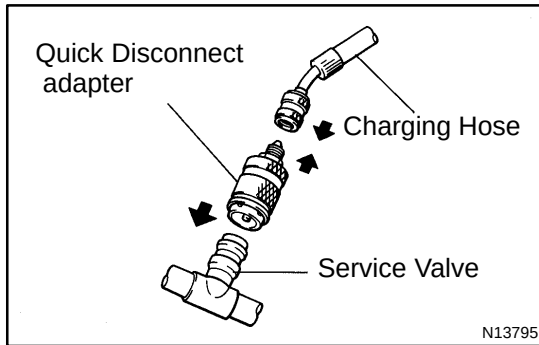
REMOVE AIR MIX SERVOMOTOR

Remove the 3 screws and air mix servomotor.

5. Auto A/C

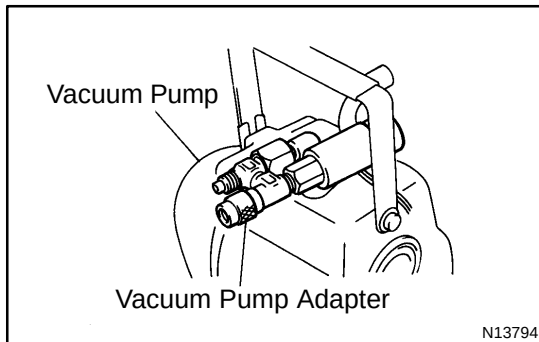
REMOVE AIR OUTLET SERVOMOTOR

Remove the 3 screws and air outlet servomotor, then disconnect the control link.

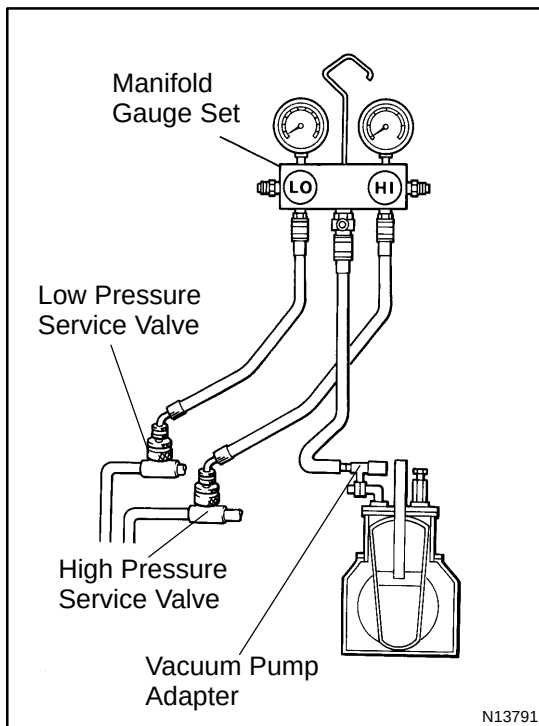


EVACUATING

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 adapter 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 not 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 as 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.

INSPECTION

1. INSPECT FINS FOR BLOCKAGE

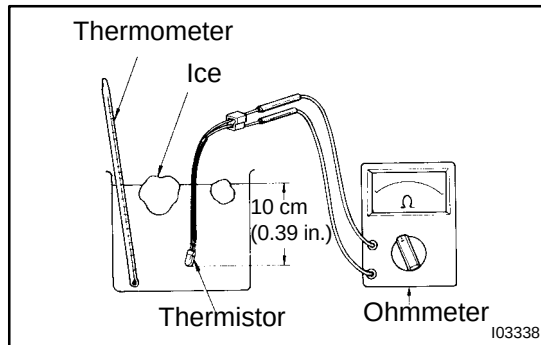
If the fins are clogged, clean them with compressed air.

NOTICE:

Never use water to clean them the evaporator.

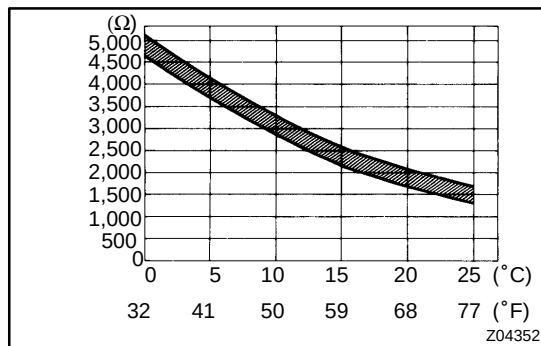
2. INSPECT FITTINGS FOR CRACKS OR SCRATCHES

If necessary, repair or replace.



3. INSPECT THERMISTOR RESISTANCE

- (a) Place the thermistor in cold water, and while changing the temperature of water, measure resistance at the connector and at the same time, measure temperature of water with a thermometer.



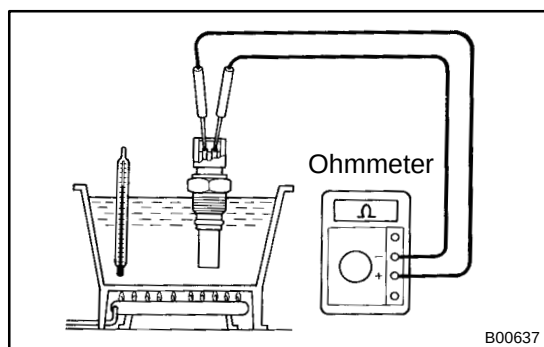
- (b) Compare the 2 readings on the chart.

If resistance value is not as specified, replace the thermistor.

ENGINE COOLANT TEMPERATURE (ECT) SWITCH INSPECTION

AC3DZ-01

1. DRAIN ENGINE COOLANT
2. REMOVE ECT SWITCHES



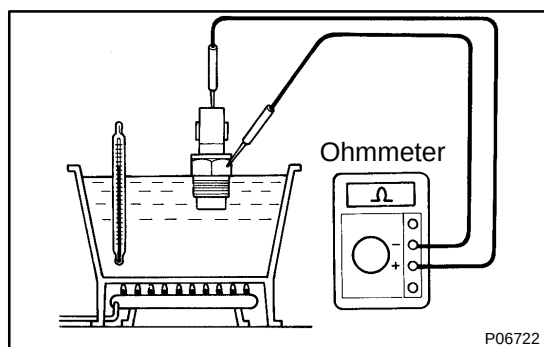
3. INSPECT NO.1 ECT SWITCH

- (a) Using an ohmmeter, check that there is no continuity between the switch terminals when the coolant temperature is above 98°C (208°F).

If there is continuity, replace the switch.

- (b) Using an ohmmeter, check that there is continuity between the switch terminals when the coolant temperature is below 88°C (190°F).

If there is no continuity, replace the switch.



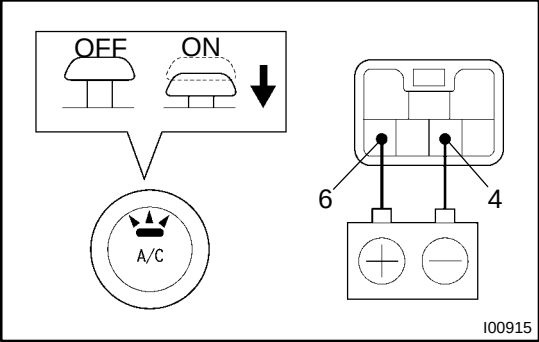
4. INSPECT NO.2 ECT SWITCH

- (a) Using an ohmmeter, check that there is continuity between the switch terminals when the coolant temperature is above 94°C (201°F).

- (b) Using an ohmmeter, check that there is no continuity between the switch terminals when the coolant temperature is below 83°C (181°F).

If continuity is not as specified, replace the switch.

5. REINSTALL ECT SWITCHES
6. REFILL WITH ENGINE COOLANT

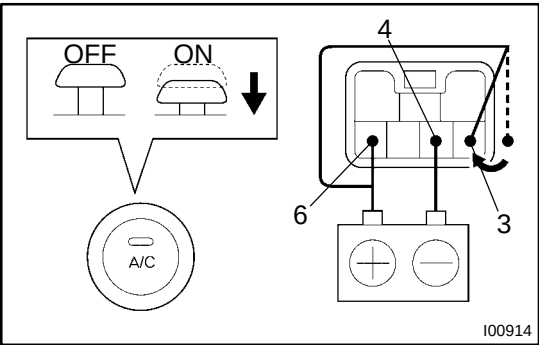


INSPECTION

1. A/C Switch:
INSPECT A/C INDICATOR OPERATION

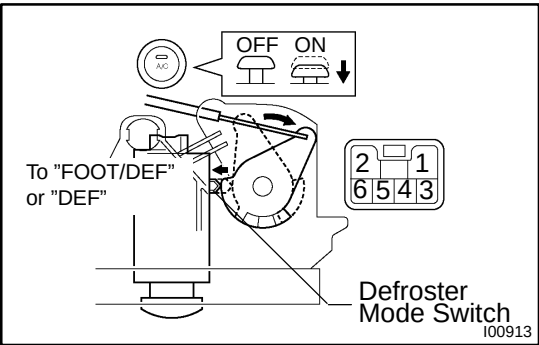
- (a) Connect the positive (+) lead from the battery to terminal 6 and negative (-) lead to terminal 4.
- (b) Push the button in and check that the A/C indicator lights up.

If operation is not as specified, replace the A/C switch.



- (c) Connect the positive (+) lead from the battery to terminal 3 and check that the indicator dims.

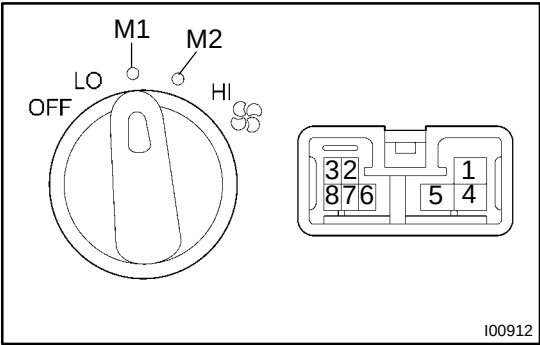
If operation is not as specified, replace the A/C switch.



2. INSPECT A/C SWITCH CONTINUITY

Condition / Circuit	Tester connection	Specified condition
A/C switch OFF	-	No continuity
A/C switch ON	6 - 5	Continuity
Air flow selector: "FOOT/DEF" or "DEF"	-	No continuity
Air flow selector: Except "FOOT/DEF" or "DEF"	6 - 5	Continuity
Illumination circuit	3 - 1	Continuity

If continuity is not as specified, replace the A/C switch

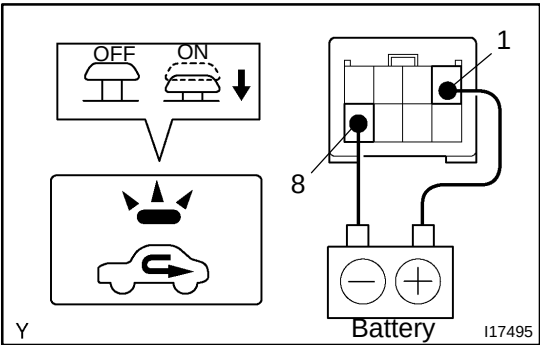


3. INSPECT BLOWER SPEED CONTROL SWITCH CONTINUITY

Position / Circuit	Tester connection	Specified condition
OFF	-	No continuity
LO	1 - 3	continuity
M1	1 - 3 - 4	continuity
M2	1 - 3 - 8	continuity
HI	1 - 3 - 5	continuity
Illumination circuit	6 - 7	continuity

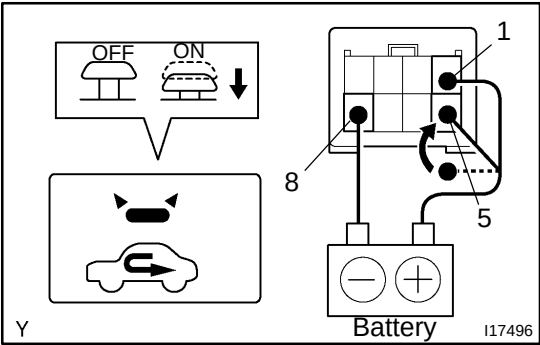
Switch continuity:
If continuity is not as specified, replace the blower speed control switch.

Illumination circuit:
If continuity is not as specified, replace the bulb.



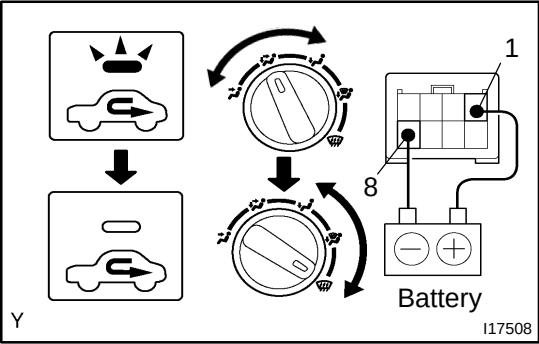
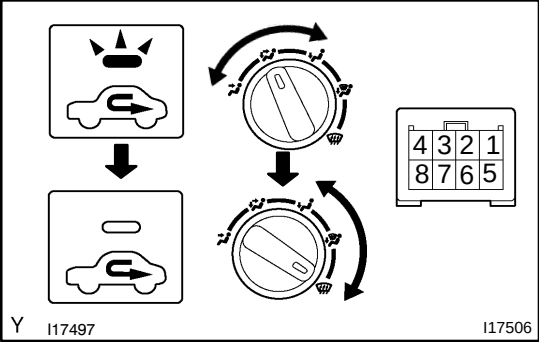
4. INSPECT FRESH/RECIRC SWITCH INDICATOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 8.
 - (b) Push the fresh/recirc switch in and check that the indicator lights up.
- If operation is not as specified, replace the switch.



5. INSPECT DIMMING OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 8.
 - (b) Push the fresh/ recirc switch, then the indicator lights up.
 - (c) Connect the positive (+) lead from the battery to terminal 5 and then check that the indicator dims.
- If operation is not as specified, replace the switch.



6. INSPECT RECIRCULATE SWITCH CONTINUITY

Condition / Circuit	Tester connection	Specified condition
OFF (Air intake mode: FRESH)	-	No continuity
ON (Air intake mode: RE- CIRCULATE	1 - 8	Continuity
Defroster, Def-Foot and Foot mode switch OFF	-	No continuity
Illumination circuit	5 - 7	Continuity

If continuity is not as specified, replace the fresh/recirc switch.

7. Air flow selector:
INSPECT RECIRCULATE SWITCH INDICATOR OPERATION

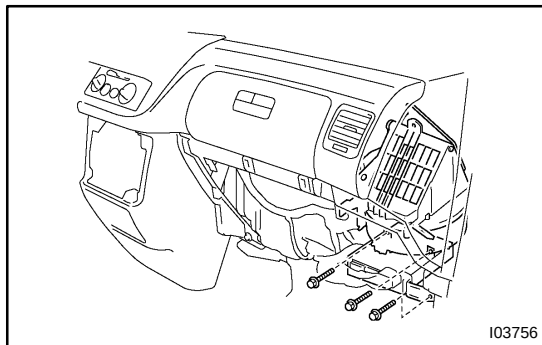
- (a) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 8.
- (b) Turn the air flow selector to the "DEF", "FOOT/DEF" and "FOOT" position and check that the recirculate switch indicator lights off.

If operation is not as specified, replace the switch.

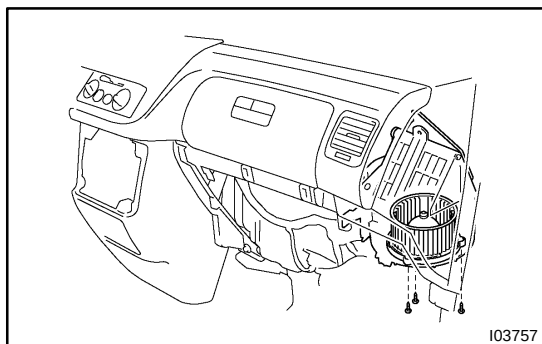
FRONT A/C BLOWER MOTOR INSPECTION

AC3BK-01

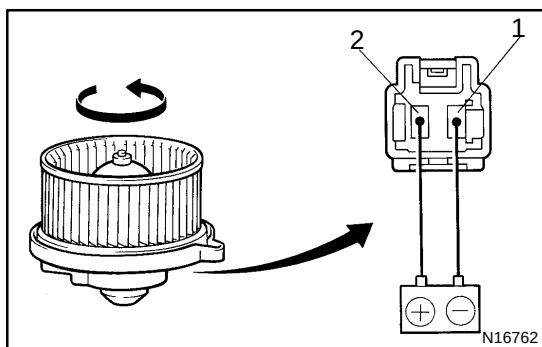
1. REMOVE LOWER NO. 2 FINISH PANEL
(See page [BO-101](#))



2. REMOVE ECM
 - (a) Disconnect the connectors.
 - (b) Remove the 3 bolts and ECM.



3. REMOVE BLOWER MOTOR
 - (a) Disconnect the connector.
 - (b) Remove the 3 screws and blower motor.

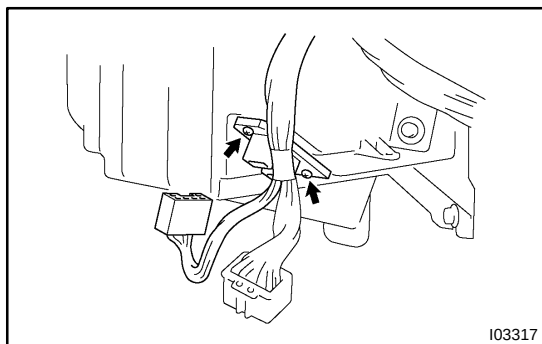


4. INSPECT BLOWER MOTOR OPERATION
Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, then check that the motor rotates smoothly.
If operation is not as specified, replace the blower motor.
5. INSTALL BLOWER MOTOR
 - (a) Instal the blower motor with the 3 screws.
 - (b) Connect the connector.
6. INSTALL ECM
 - (a) Install the ECM with the 3 bolts.
 - (b) Connect the connector.
7. INSTALL LOWER NO. 2 FINISH PANEL
(See page [BO-106](#))

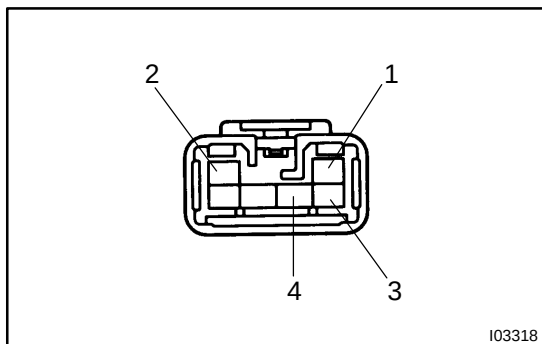
FRONT A/C BLOWER RESISTOR INSPECTION

AC21B-01

1. REMOVE LOWER NO. 2 FINISH PANEL
(See page [BO-101](#))



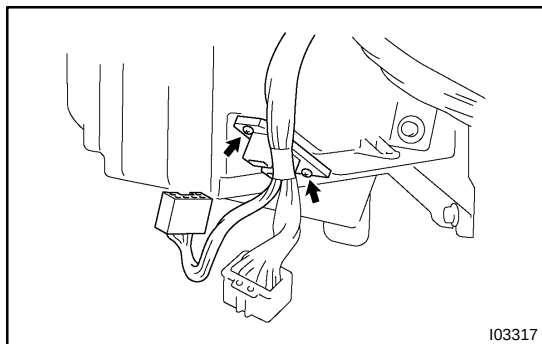
2. REMOVE BLOWER RESISTOR
 - (a) Disconnect the connector.
 - (b) Remove the 2 screws and blower resistor.



3. INSPECT BLOWER RESISTOR RESISTANCE

Tester connection	Condition	Specified condition
1 - 3	Constant	Approx. 1.56 Ω
1 - 4	Constant	Approx. 0.66 Ω
2 - 4	Constant	Approx. 0.38 Ω

If resistance is not as specified, replace the blower resistor.



4. INSTALL BLOWER RESISTOR
 - (a) Install the blower resistor with the 2 screws.
 - (b) Connect the connector.

5. INSTALL LOWER NO. 2 FINISH PANEL
(See page [BO-106](#))

INSPECTION

INSPECT FINS FOR BLOCKAGE

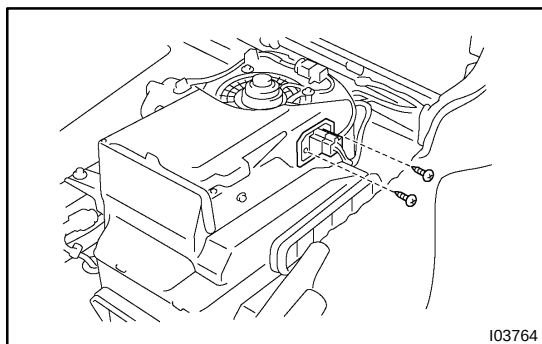
If the fins are clogged, clean them with compressed air.

POWER TRANSISTOR (for Rear Heater)

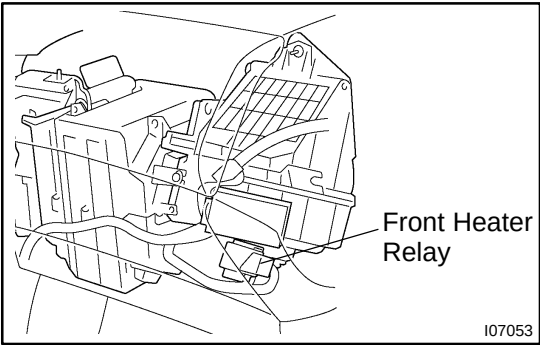
AC3BO-01

INSPECTION

1. REMOVE FRONT SEATS
2. REMOVE FRONT DOOR SCUFF PLATES
3. REMOVE COWL SIDE TRIMS
4. REMOVE REAR DOOR SCUFF PLATES
5. REMOVE LOWER CENTER PILLAR GARNISH (See page [BO-108](#))



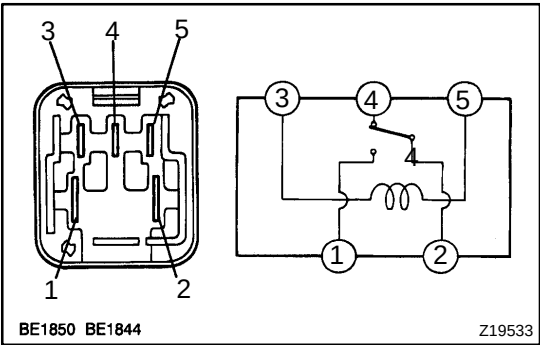
6. REMOVE POWER TRANSISTOR
 - (a) Slide the floor carpet backward.
 - (b) Disconnect the connector.
 - (c) Remove the 2 screws and power transistor.
7. INSPECT POWER TRANSISTOR (See page [DI-768](#))
 - (a) Install the power transistor with 2 screws.
 - (b) Connect the connector.
 - (c) Install floor carpet.
8. INSTALL POWER TRANSISTOR
9. INSTALL LOWER CENTER PILLAR GARNISH
10. INSTALL REAR DOOR SCUFF PLATES
11. INSTALL COWL SIDE TRIMS
12. INSTALL FRONT DOOR SCUFF PLATES
13. INSTALL FRONT SEATS (See page [BO-113](#))



FRONT HEATER RELAY INSPECTION

AC21G-01

1. REMOVE LOWER NO. 2 FINISH PANEL
(See page [BO-101](#))
2. REMOVE FRONT HEATER RELAY FROM RELAY BLOCK NO. 4



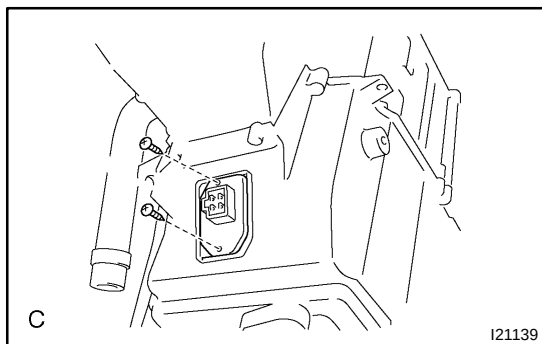
3. INSPECT FRONT HEATER RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	2 - 4 3 - 5	Continuity
Apply B+ between terminals 3 and 5.	1 - 2	Continuity

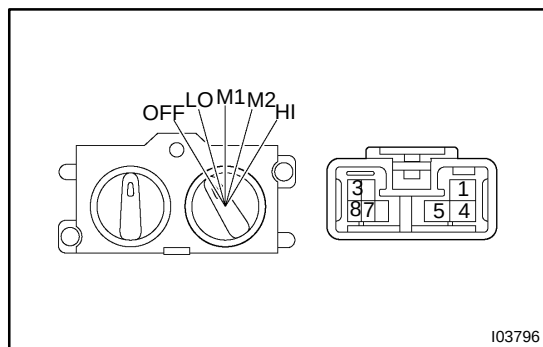
If continuity is not as specified, replace the relay.

POWER TRANSISTOR (for Cooler) INSPECTION

1. REMOVE REAR NO. 2 SEAT
2. REMOVE REAR DOOR SCUFF PLATE RH
3. REMOVE BACK DOOR SCUFF PLATE
4. REMOVE REAR RH QUARTER TRIM PLATE (See page [BO-79](#))



5. REMOVE POWER TRANSISTOR
 - (a) Disconnect the connector.
 - (b) Remove the 2 screws and power transistor.
6. INSPECT POWER TRANSISTOR (See page [DI-772](#))
7. INSTALL POWER TRANSISTOR
 - (a) Install the power transistor with the 2 screws.
 - (b) Connect the connector.
8. INSTALL REAR RH QUARTER TRIM PLATE
9. INSTALL BACK DOOR SCUFF PLATE
10. INSTALL REAR DOOR SCUFF PLATE RH
11. INSTALL REAR NO. 2 SEAT (See page [BO-81](#))



INSPECTION

1. INSPECT HEATER BLOWER SWITCH CONTINUITY

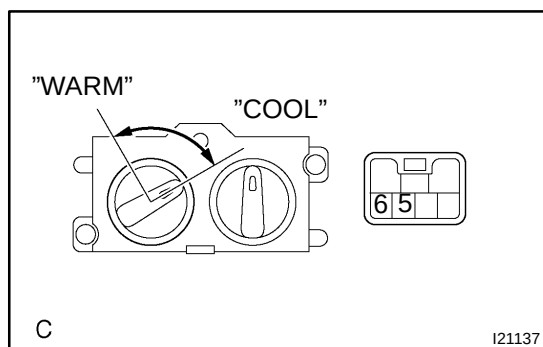
Position / Circuit	Tester connection	Specified condition
OFF	-	No continuity
LO	1 - 3	Continuity
M1	1 - 4	Continuity
M2	1 - 8	Continuity
HI	1 - 5	Continuity
Illumination circuit	7 - 8	Continuity

Switch continuity:

If continuity is not as specified, replace the switch.

Illumination circuit:

If continuity is not as specified, check the bulb.

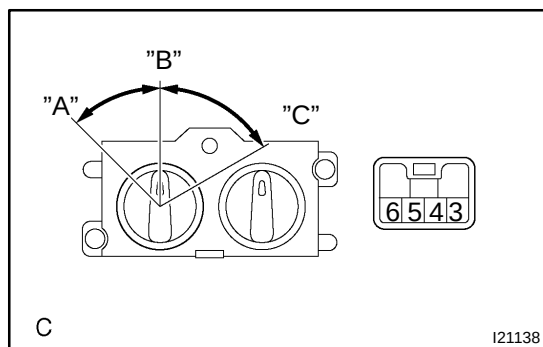


2. Manual A/C:

INSPECT SELECT SWITCH OPERATION

- (a) Gradually turn the select switch from the "WARM" to "COOL" side, then check that the resistance between terminals 5 and 6 increases from 0 to 3.0 kΩ.

If operation is not as specified, replace the heater control base.



- (b) Check the continuity between terminals at each control knob position, as shown in the chart.

Position	Tester connection	Specified condition
"A"	3 - 4	Continuity
Between "B" and "C"	5 - 6	Continuity

If continuity is not as specified replace the heater control base.

3. Auto A/C:

INSPECT BLOWER SWITCH OPERATION (See page [DI-784](#))

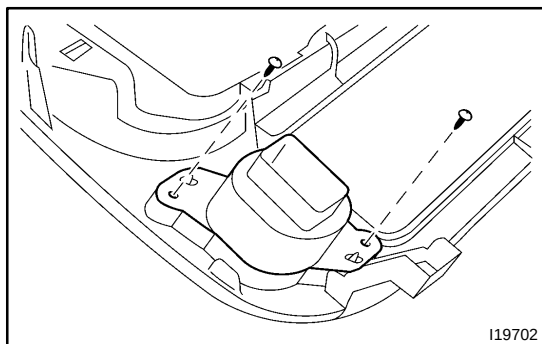
4. Auto A/C:

INSPECT TEMP. OPERATION (See page [DI-787](#))

REAR BLOWER SWITCH INSPECTION

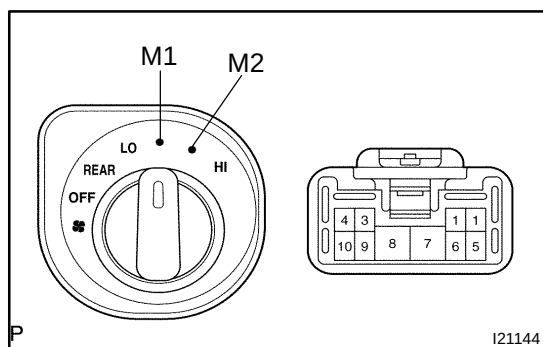
AC3DY-01

1. REMOVE CENTER CLUSTER FINISH PANEL (See page [BO-101](#))



2. REMOVE REAR BLOWER SWITCH

- (a) Pull out the switch knob.
- (b) Remove the 2 screws and switch.



3. Manual A/C:
INSPECT REAR BLOWER SWITCH CONTINUITY

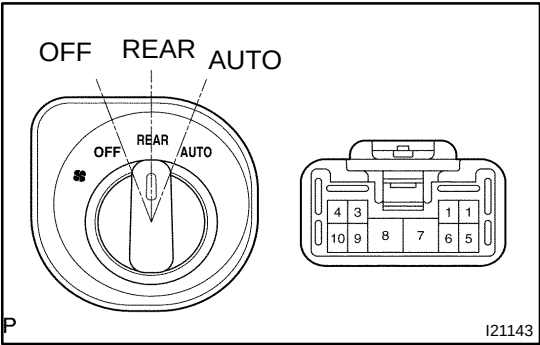
Position / Circuit	Tester connection	Specified condition
OFF	-	No continuity
REAR	1 - 6 - 8	Continuity
LO	5 - 6 - 8	Continuity
M1	2 - 6 - 8	Continuity
M2	7 - 6 - 8	Continuity
HI	3 - 6 - 8	Continuity
Illumination circuit	9 - 10	Continuity

Switch continuity:

If continuity is not as specified, replace the switch.

Illumination circuit:

If continuity is not as specified, check the bulb.



4. Auto A/C:
INSPECT REAR BLOWER SWITCH CONTINUITY

Position / Circuit	Tester connection	Specified condition
OFF	-	No continuity
REAR	1 - 6 - 8	Continuity
AUTO	5 - 6 - 8	Continuity
Illumination circuit	9 - 10	Continuity

Illumination circuit:

If continuity is not as specified, check the bulb.

Switch continuity:

If continuity is not as specified, replace the switch.

5. Auto A/C:
INSPECT REAR BLOWER SWITCH CIRCUIT (See
page [DI-781](#))

6. INSTALL REAR BLOWER SWITCH

- (a) Install the switch with the 2 screws.
- (b) Install the switch knob.

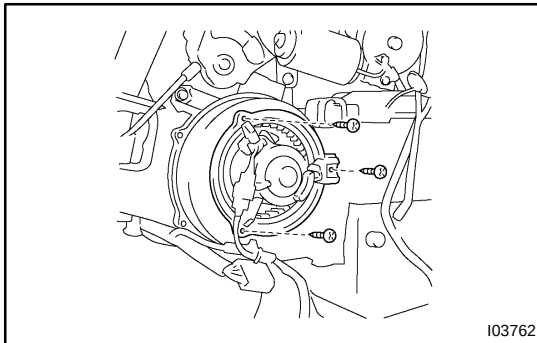
7. INSTALL CENTER CLUSTER FINISH PANEL

Install the panel, then connect the connector.

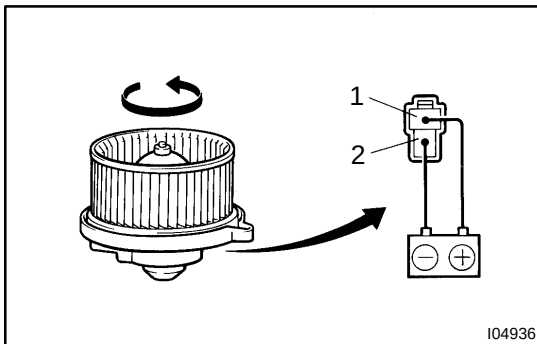
REAR COOLER BLOWER MOTOR INSPECTION

AC21A-02

1. REMOVE REAR NO. 2 SEAT
2. REMOVE REAR DOOR SCUFF PLATE RH
3. REMOVE BACK DOOR SCUFF PLATE
4. REMOVE REAR RH QUARTER TRIM PLATE (See page [BO-79](#))



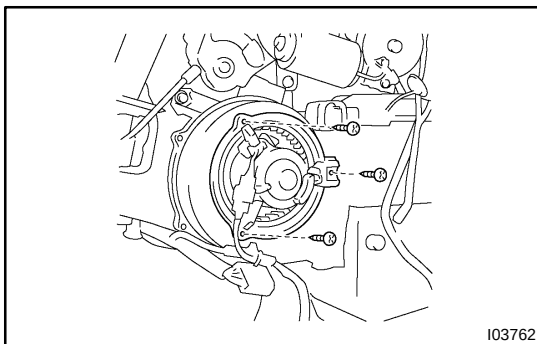
5. REMOVE BLOWER MOTOR
 - (a) Disconnect the connector.
 - (b) Remove the 3 screws and blower motor.



6. INSPECT REAR COOLER BLOWER MOTOR OPERATION

Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, then check that the motor rotates smoothly.

If operation is not as specified, replace the blower motor.



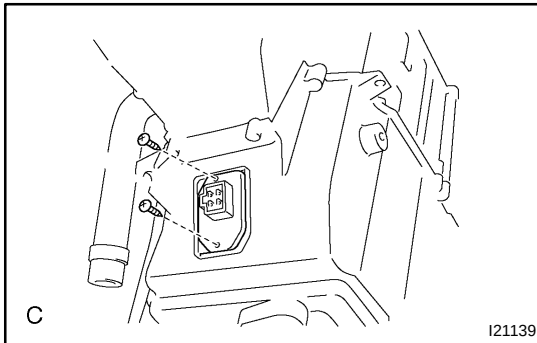
7. INSTALL BLOWER MOTOR
 - (a) Install the blower motor with the 3 screws.
 - (b) Connect the connector

8. INSTALL REAR RH QUARTER TRIM PLATE
9. INSTALL BACK DOOR SCUFF PLATE
10. INSTALL REAR DOOR SCUFF PLATE RH
11. INSTALL REAR NO. 2 SEAT (See page [BO-81](#))

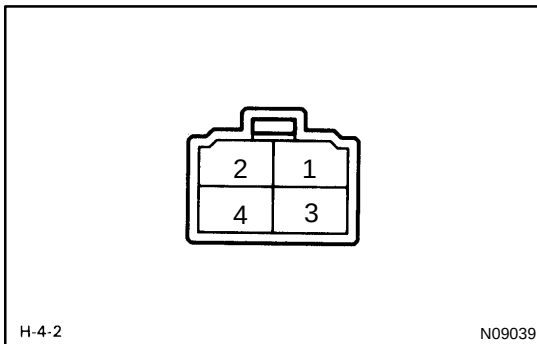
REAR COOLER BLOWER RESISTOR (Manual A/C) INSPECTION

AC3BM-01

1. REMOVE REAR NO. 2 SEAT
2. REMOVE REAR DOOR SCUFF PLATE RH
3. REMOVE BACK DOOR SCUFF PLATE
4. REMOVE REAR RH QUARTER TRIM PLATE
(See page [BO-79](#))



5. REMOVE BLOWER RESISTOR
 - (a) Disconnect the connector.
 - (b) Remove the 2 screws and blower resistor.



6. INSPECT BLOWER RESISTOR RESISTANCE

Measure resistance between terminals, as shown in the chart below.

Tester connection	Condition	Specified condition
1 - 3	Constant	Approx. 1.68 Ω
2 - 3	Constant	Approx. 0.86 Ω
2 - 4	Constant	Approx. 0.22 Ω

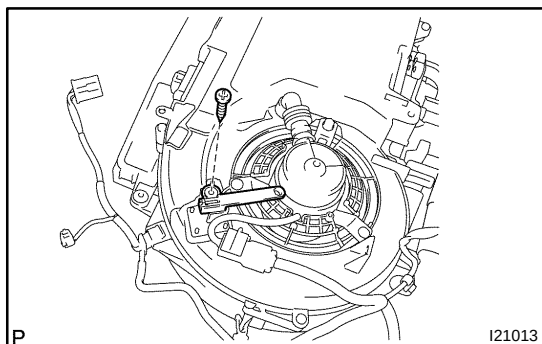
If resistance is not as specified, replace the blower resistor.

7. INSTALL BLOWER RESISTOR
 - (a) Install the blower resistor with the 2 screws.
 - (b) Connect the connector.
8. INSTALL REAR RH QUARTER TRIM PLATE
9. INSTALL BACK DOOR SCUFF PLATE
10. INSTALL REAR DOOR SCUFF PLATE RH
11. INSTALL REAR NO. 2 SEAT (See page [BO-81](#))

AIR INLET TEMPERATURE SENSOR (Auto A/C) INSPECTION

AC3DG-01

1. REMOVE FRONT SEATS
2. REMOVE FRONT DOOR SCUFF PLATES
3. REMOVE COWL SIDE TRIMS
4. REMOVE REAR DOOR SCUFF PLATES
5. REMOVE LOWER CENTER PILLAR GARNISH (See page [BO-108](#))



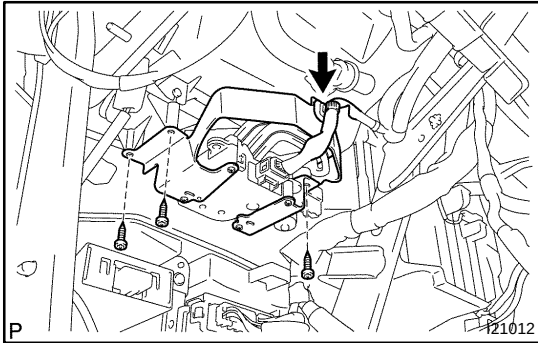
6. REMOVE AIR INLET TEMPERATURE SENSOR
 - (a) Slide the floor carpet backward.
 - (b) Disconnect the connector.
 - (c) Remove the screw and air inlet temperature sensor.
7. INSPECT AIR INLET TEMPERATURE SENSOR CIRCUIT (See page [DI-724](#))
8. INSTALL AIR INLET TEMPERATURE SENSOR CIRCUIT
 - (a) Install the air inlet temperature sensor with screw.
 - (b) Connect the connector.
 - (c) Install floor carpet.
9. INSTALL LOWER CENTER PILLAR GARNISH
10. INSTALL REAR DOOR SCUFF PLATES
11. INSTALL COWL SIDE TRIMS
12. INSTALL FRONT DOOR SCUFF PLATES
13. INSTALL FRONT SEATS (See page [BO-113](#))

AIR MIX SERVOMOTOR (for Front A/C)

AC3BQ-01

INSPECTION

1. REMOVE LOWER FINISH PANEL
2. REMOVE NO. 1 SAFETY PAD INSERT
3. REMOVE CLUSTER FINISH PANEL
4. REMOVE CENTER CLUSTER FINISH PANEL
5. REMOVE RADIO RECEIVER
6. REMOVE AIR MIX SERVOMOTOR
 - (a) Disconnect the wire harness clamp.
 - (b) Disconnect the connector.
 - (c) Remove the 3 screws and air mix servomotor.
7. INSPECT AIR MIX SERVOMOTOR CIRCUIT (See page [DI-736](#))
8. INSPECT AIR MIX DAMPER POSITION SENSOR CIRCUIT (See page [DI-727](#))
9. INSTALL AIR MIX SERVOMOTOR
 - (a) Install the air mix servomotor with 3 screws
 - (b) Connect the connector.
 - (c) Connect the wire harness clamp.
10. INSTALL RADIO RECEIVER
11. INSTALL CENTER CLUSTER FINISH PANEL
12. INSTALL CLUSTER FINISH PANEL
13. INSTALL NO. 1 SAFETY PAD INSERT
14. INSTALL LOWER FINISH PANEL

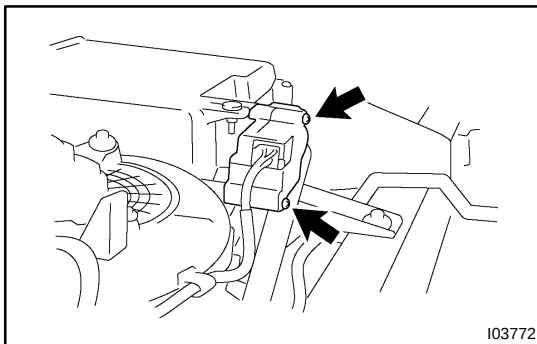


AIR MIX SERVOMOTOR (for Rear Heater)

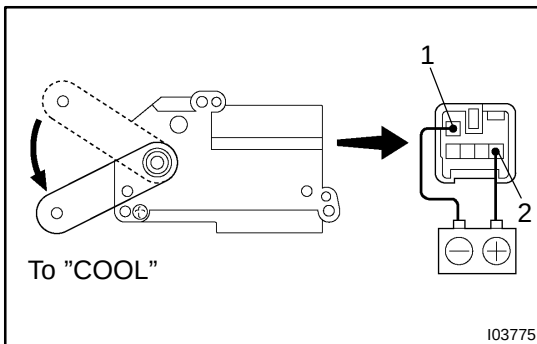
AC21F-02

INSPECTION

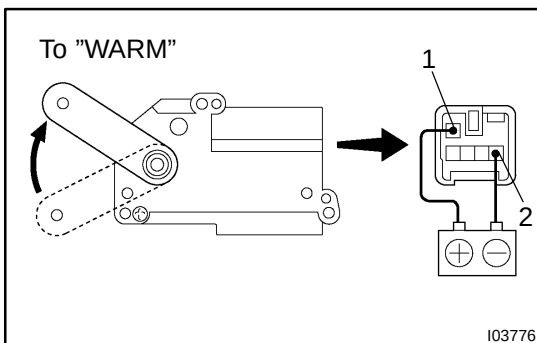
1. REMOVE FRONT SEATS
2. REMOVE FRONT DOOR SCUFF PLATES
3. REMOVE COWL SIDE TRIMS
4. REMOVE REAR DOOR SCUFF PLATES
5. REMOVE LOWER CENTER PILLAR GARNISHES
(See page [BO-108](#))



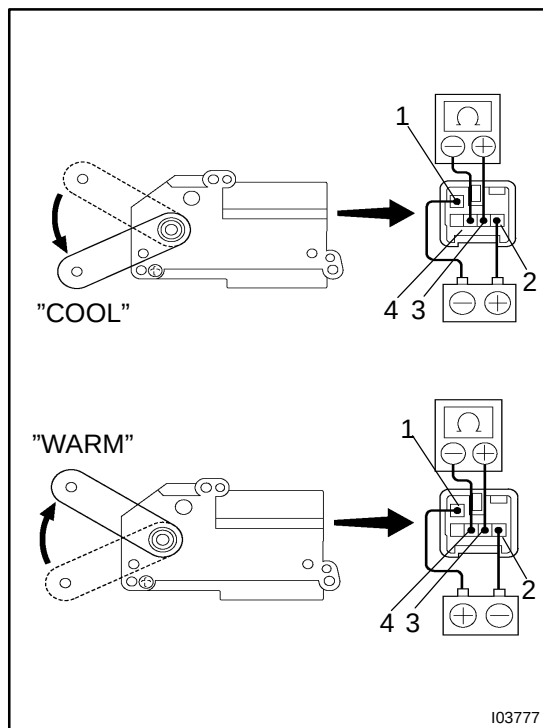
6. REMOVE AIR MIX SERVOMOTOR
 - (a) Slide the floor carpet backward.
 - (b) Disconnect the connector.
 - (c) Remove the 2 screws and servomotor.



7. Manual A/C:
INSPECT SERVOMOTOR OPERATION
 - (a) Connect the positive (+) lead from the battery to terminal 2 and negative (-) lead to terminal 1, then check that the arm turns to "COOL" side smoothly.
If operation is not as specified, replace the servomotor.



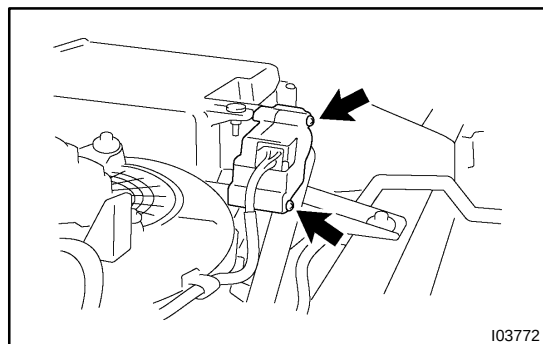
- (b) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 2, then check that the arm turns to "WARM" side smoothly.
If operation is not as specified, replace the servomotor.

**8. Manual A/C:****INSPECT POSITION SENSOR RESISTANCE**

Measure resistance between terminals at each servomotor arm position as shown in the illustration.

Tester connection	Condition	Specified condition
4 - 5	Constant	Approx. 6.0 kΩ
3 - 4	Lever at "COOL" position	Approx. 4.8 kΩ
3 - 4	Lever at "WARM" position	Approx. 1.2 kΩ

If resistance is not as specified, replace the servomotor.

9. Auto A/C:**INSPECT REAR AIR MIX DAMPER POSITION SENSOR CIRCUIT (See page [DI-733](#))****10. Auto A/C:****INSPECT REAR AIR MIX SERVOMOTOR CIRCUIT (See page [DI-742](#))****11. INSTALL AIR MIX SERVOMOTOR**

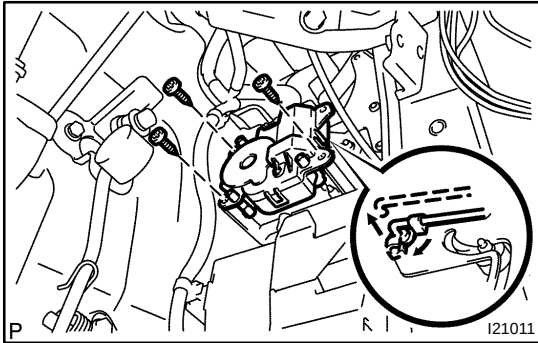
- Install the servomotor with the 2 screws.
- Connect the connector.
- Slide the floor carpet forward.

12. INSTALL LOWER CENTER PILLAR GARNISHES**13. INSTALL REAR DOOR SCUFF PLATES****14. INSTALL COWL SIDE TRIMS****15. INSTALL FRONT DOOR SCUFF PLATES****16. INSTALL FRONT SEAT (See page [BO-113](#))**

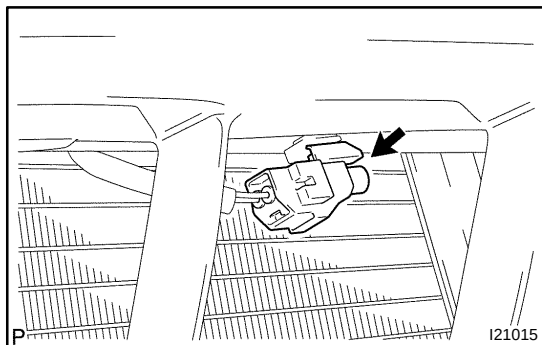
AIR OUTLET SERVOMOTOR INSPECTION

AC3BS-01

1. REMOVE LOWER FINISH PANEL
2. REMOVE NO. 1 SAFETY PAD INSERT



3. REMOVE AIR OUTLET SERVOMOTOR
 - (a) Disconnect the connector.
 - (b) Remove the 3 screws and air outlet servomotor, then disconnect the control link.
4. INSPECT AIR OUTLET SERVOMOTOR CIRCUIT (See page [DI-744](#))
5. INSTALL AIR OUTLET SERVOMOTOR
 - (a) Connect the control link.
 - (b) Install the air outlet servomotor with 3 screws.
 - (c) Connect the connector.
6. INSTALL LOWER FINISH PANEL
7. REMOVE NO. 1 SAFETY PAD



AMBIENT TEMPERATURE SENSOR (Auto A/C) INSPECTION

AC3DB-01

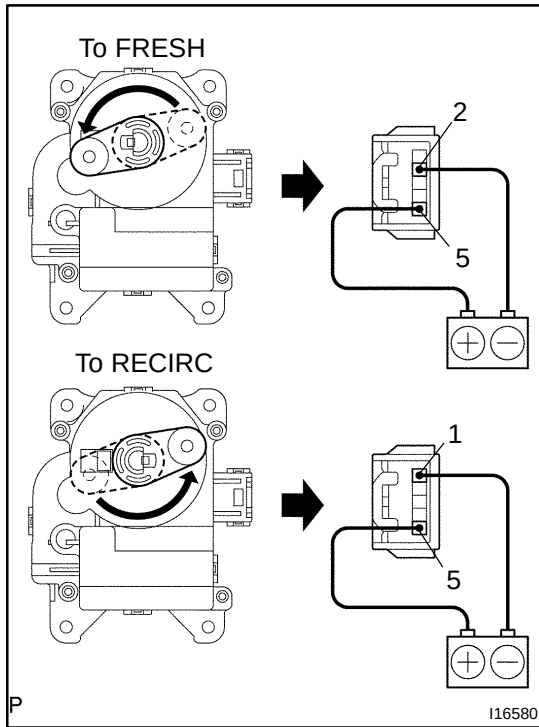
1. REMOVE AMBIENT TEMPERATURE SENSOR

- (a) Disconnect the connector.
- (b) Using a screwdriver, pull out the ambient temperature sensor

HINT:

Tape the screwdriver tip before use.

2. INSPECT AMBIENT TEMPERATURE SENSOR CIRCUIT (See page [DI-703](#))
3. INSTALL AMBIENT TEMPERATURE SENSOR



INSPECTION

1. Manual A/C:

INSPECT AIR INLET SERVOMOTOR OPERATION

- (a) Connect the positive (+) lead of the battery to terminal 5 and negative (-) lead to terminal 2.
- (b) Check the motor arm rotates counterclockwise and arm stops on the "FRESH" position.
- (c) Connect the positive (+) lead of the battery to terminal 5 and negative (-) lead to terminal 1.
- (d) Check the motor arm rotates counterclockwise and arm stops on the "RECIRC" position.

If operations are not as specified, replace the air inlet servomotor.

2. Auto A/C:

INSPECT AIR INLET SERVOMOTOR CIRCUIT (See page [DI-739](#))

3. Auto A/C:

INSPECT AIR INLET DAMPER POSITION SENSOR CIRCUIT (See page [DI-730](#))

INSPECTION

1. CHECK EVAPORATOR FINS FOR BLOCKAGE

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

NOTICE:

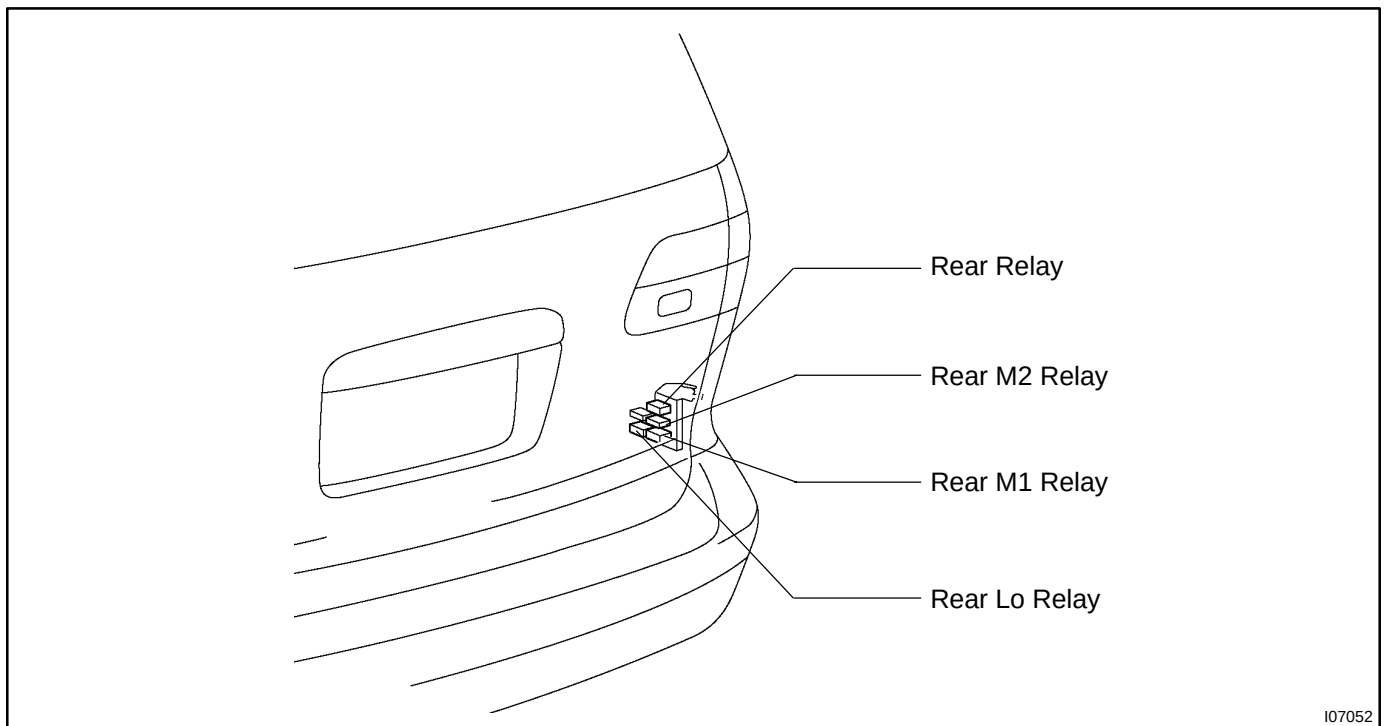
Never use water to clean the evaporator.

2. CHECK FITTINGS FOR CRACKS OR SCRATCHES

If necessary, repair or replace.

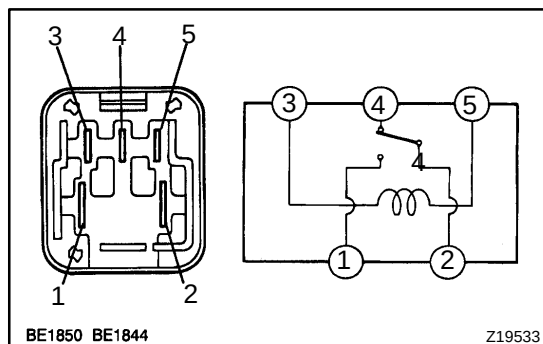
REAR RELAY INSPECTION

1. REMOVE REAR NO. 2 SEAT
2. REMOVE SLIDE DOOR SCUFF PLATE
(See page [BO-108](#))
3. REMOVE BACK DOOR SCUFF PLATE
(See page [BO-108](#))
4. REMOVE REAR LH QUARTER TRIM PANEL
(See page [BO-108](#))



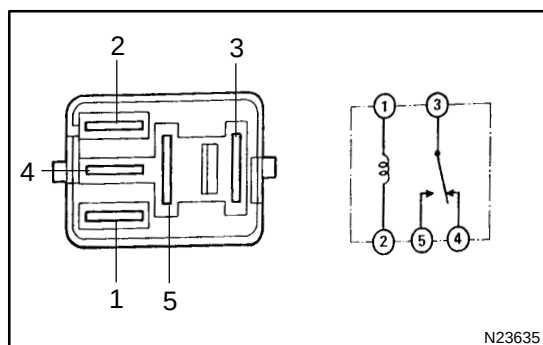
I07052

5. REMOVE REAR RELAY
6. REMOVE REAR LO RELAY
7. REMOVE REAR M1 RELAY
8. REMOVE REAR M2 RELAY

**9. INSPECT REAR RELAY CONTINUITY**

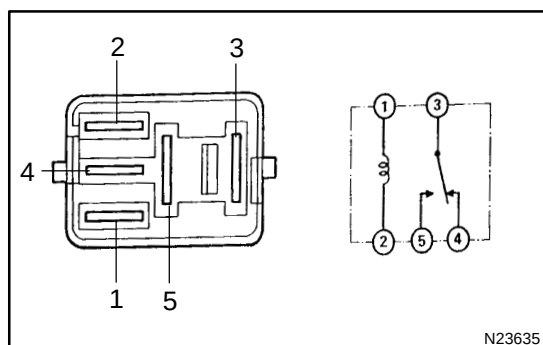
Condition	Tester connection	Specified condition
Constant	2 - 4 3 - 5	Continuity
Apply B+ between terminals 3 and 5.	1 - 2	Continuity

If continuity is not as specified, replace the relay.

**10. INSPECT REAR LO RELAY CONTINUITY**

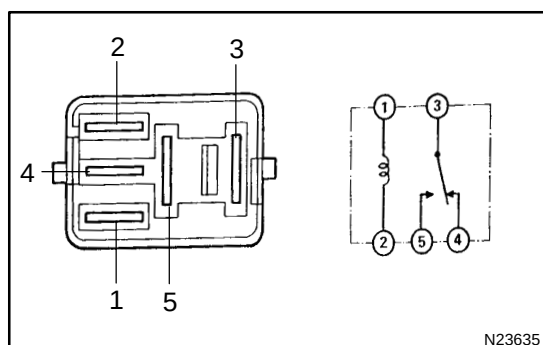
Condition	Tester connection	Specified condition
Constant	1 - 2 3 - 4	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

**11. INSPECT REAR M1 RELAY CONTINUITY**

Condition	Tester connection	Specified condition
Constant	1 - 2 3 - 4	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

**12. INSPECT REAR M2 RELAY CONTINUITY**

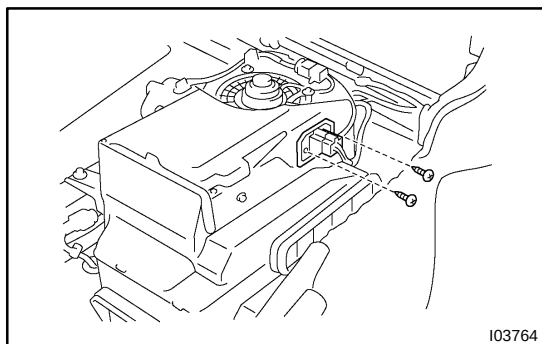
Condition	Tester connection	Specified condition
Constant	1 - 2 3 - 4	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

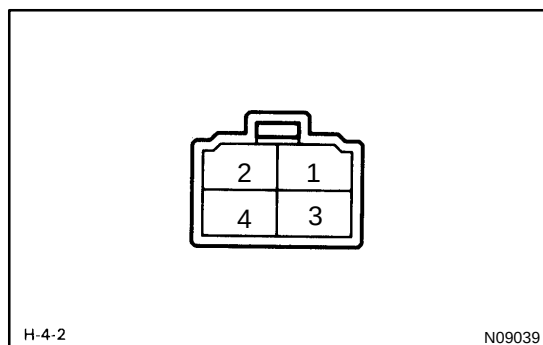
REAR HEATER BLOWER RESISTOR (Manual A/C) INSPECTION

AC3BL-01

1. REMOVE FRONT SEATS
2. REMOVE FRONT DOOR SCUFF PLATES
3. REMOVE COWL SIDE TRIMS
4. REMOVE REAR DOOR SCUFF PLATES
5. REMOVE LOWER CENTER PILLAR GARNISH
(See page [BO-108](#))



6. REMOVE BLOWER RESISTOR
 - (a) Slide the floor carpet backward.
 - (b) Disconnect the connector.
 - (c) Remove the 2 screws and blower resistor.



7. INSPECT BLOWER RESISTOR RESISTANCE

Measure resistance between terminals, as shown in the chart below.

Tester connection	Condition	Specified condition
1 - 3	Constant	Approx. 2.14 Ω
2 - 3	Constant	Approx. 1.0 Ω
2 - 4	Constant	Approx. 0.46 Ω

If resistance is not as specified, replace the blower resistor.

8. INSTALL BLOWER RESISTOR

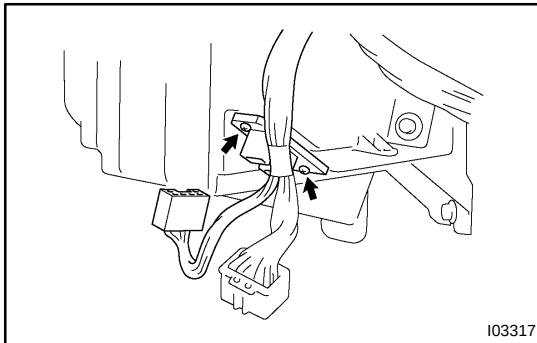
- (a) Install the blower resistor with the 2 screws.
- (b) Connect the connector.
- (c) Slide the floor carpet forward.

9. INSTALL LOWER CENTER PILLAR GARNISH
10. INSTALL REAR DOOR SCUFF PLATES
11. INSTALL COWL SIDE TRIMS
12. INSTALL FRONT DOOR SCUFF PLATES
13. INSTALL FRONT SEATS (See page [BO-108](#))

BLOWER MOTOR LINEAR CONTROLLER (Auto A/C) INSPECTION

AC3BP-01

1. REMOVE LOWER NO. 2 FINISH PANEL (See page [BO-101](#))



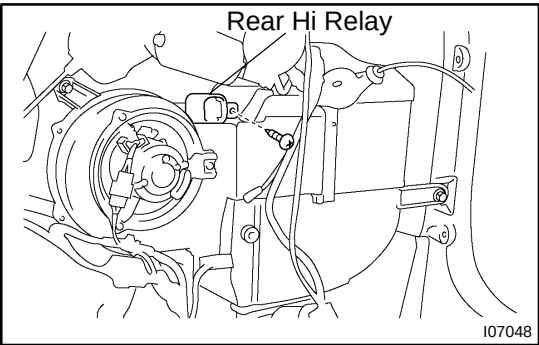
2. REMOVE BLOWER MOTOR LINEAR CONTROLLER
 - (a) Disconnect the connector.
 - (b) Remove the 2 screws and blower motor linear controller.
3. INSPECT BLOWER MOTOR LINEAR CONTROLLER (See page [DI-765](#))

If resistance is not as specified, replace the blower resistor.

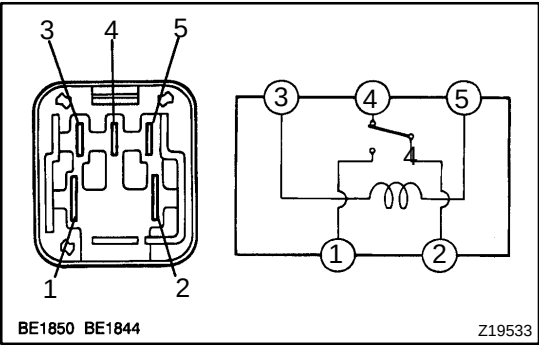
4. INSTALL BLOWER MOTOR LINEAR CONTROLLER
 - (a) Install the blower motor linear controller with the 2 screws.
 - (b) Connect the connector.
5. INSTALL LOWER NO. 2 FINISH PANEL (See page [BO-106](#))

REAR HEATER HI RELAY INSPECTION

- 1. REMOVE REAR NO. 2 SEAT
- 2. REMOVE SLIDE DOOR SCUFF PLATE
(See page BO-108)
- 3. REMOVE BACK DOOR SCUFF PLATE
(See page BO-108)
- 4. REMOVE REAR LH QUARTER TRIM PANEL
(See page BO-108)



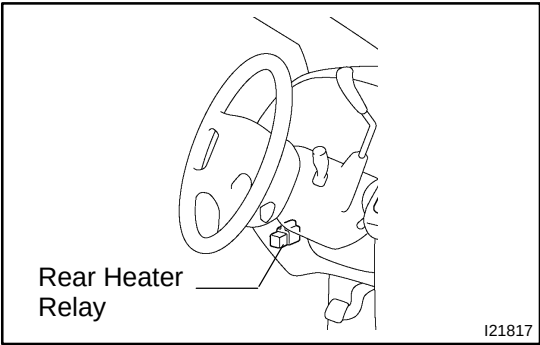
- 5. REMOVE REAR HI RELAY
 - (a) Remove the screw.
 - (b) Remove the rear hi relay from rear cooling unit.



6. INSPECT REAR HI RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	2 - 4 3 - 5	Continuity
Apply B+ between terminals 3 and 5.	1 - 2	Continuity

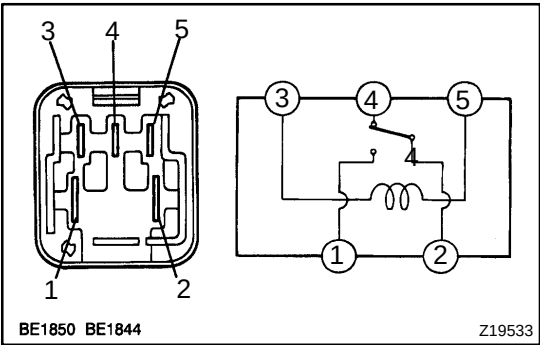
If continuity is not as specified, replace the relay.



REAR HEATER RELAY INSPECTION

AC21H-02

1. REMOVE LOWER FINISH PANEL (See page [BO-101](#))
2. REMOVE NO. 1 SAFETY PAD INSERT (See page [BO-101](#))
3. REMOVE REAR HEATER RELAY FROM RELAY BLOCK NO. 5



4. INSPECT REAR HEATER RELAY CONTINUITY

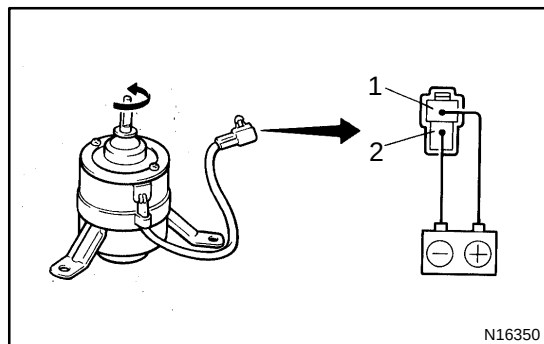
Condition	Tester connection	Specified condition
Constant	2 - 4 3 - 5	Continuity
Apply B+ between terminals 3 and 5.	1 - 2	Continuity

If continuity is not as specified, replace the relay.

INSPECTION

1. INSPECT FINS FOR BLOCKAGE

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



2. INSPECT REAR HEATER BLOWER MOTOR OPERATION

Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, then check that the motor rotates smoothly.

If operation is not as specified, replace the blower motor.

ROOM TEMPERATURE SENSOR (for Front A/C) INSPECTION

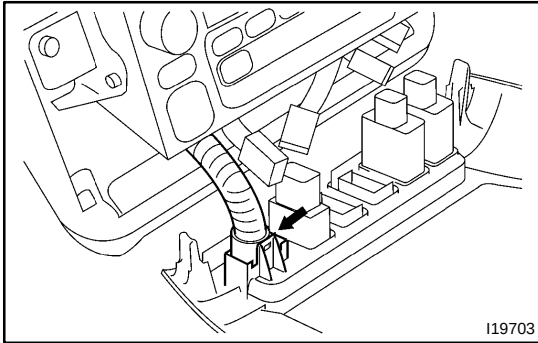
AC3CQ-01

1. REMOVE CENTER CLUSTER FINISH PANEL

Using a screwdriver, remove the center cluster finish panel with connector still connected.

HINT:

Tape the screwdriver tip before use.



2. REMOVE ROOM TEMPERATURE SENSOR

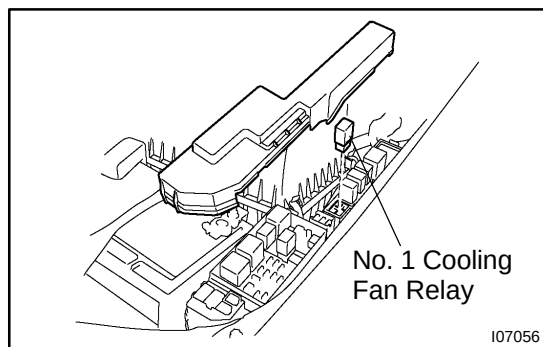
- (a) Disconnect the connector.
- (b) Release the 2 claws and remove the room temperature sensor.

3. INSPECT ROOM TEMPERATURE SENSOR CIRCUIT (See page [DI-700](#))

4. INSTALL ROOM TEMPERATURE SENSOR

- (a) Install the room temperature sensor to center cluster finish panel.
- (b) Connect the connector.

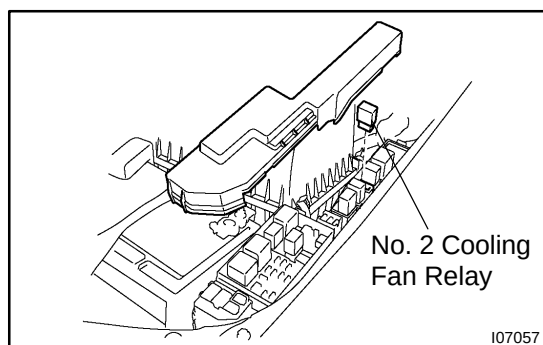
5. INSTALL CENTER CLUSTER FINISH PANEL



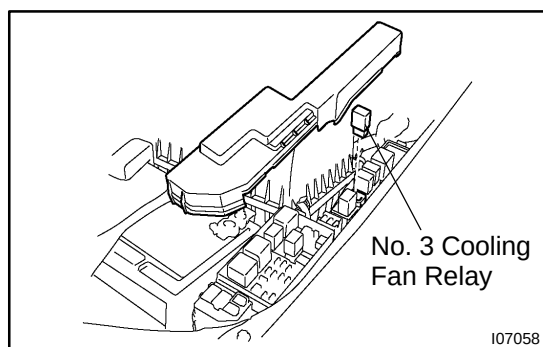
COOLING FAN RELAY INSPECTION

AC21J-01

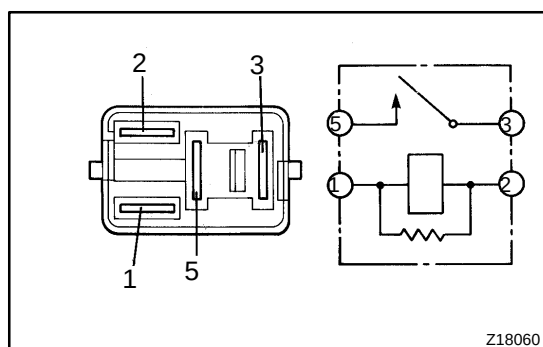
1. REMOVE NO. 1 COOLING FAN RELAY (Marking: FAN NO. 1) FROM ENGINE ROOM R/B NO. 1



2. REMOVE NO. 2 COOLING FAN RELAY (Marking: FAN NO. 2) FROM ENGINE ROOM R/B NO. 1



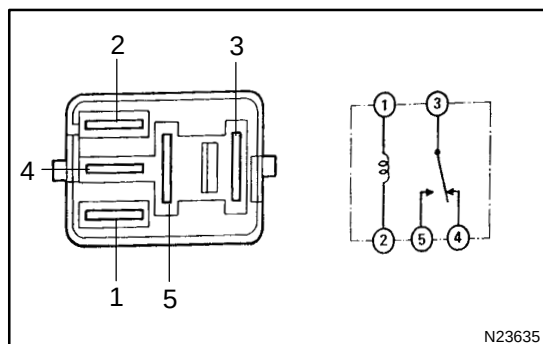
3. REMOVE NO. 3 COOLING FAN RELAY (Marking: FAN NO. 3) FROM ENGINE ROOM R/B NO. 1



4. INSPECT NO. 1 FAN RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

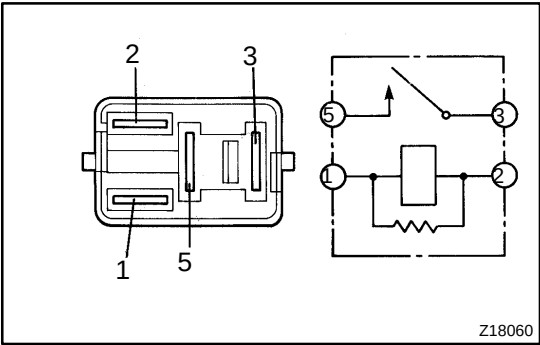
If continuity is not as specified, replace the relay.



5. INSPECT NO. 2 FAN RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2 3 - 4	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

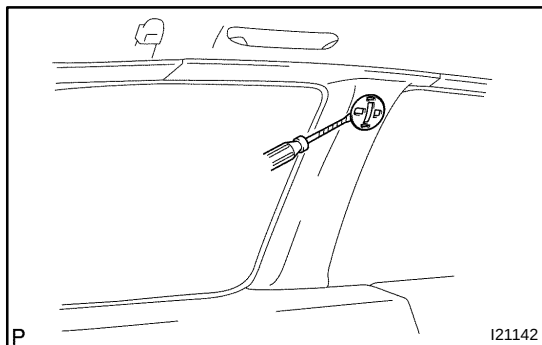
If continuity is not as specified, replace the relay.



6. INSPECT NO. 3 FAN RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.



ROOM TEMPERATURE SENSOR (for Rear A/C) INSPECTION

AC3D0-02

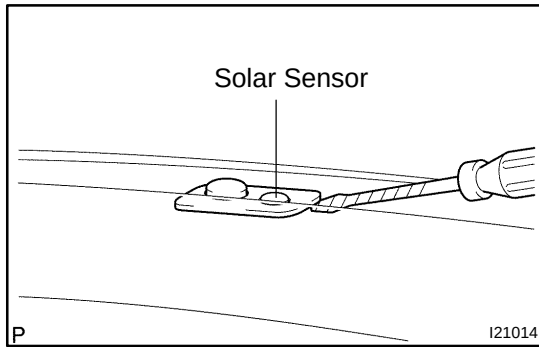
1. REMOVE ROOM TEMP. SENSOR

Using a screwdriver, remove the room temp. sensor, then disconnect the connector.

HINT:

Tape the screwdriver tip before use.

2. INSPECT ROOM TEMP. SENSOR CIRCUIT (See page [DI-712](#))



SOLAR SENSOR (Auto A/C) INSPECTION

AC3CP-01

1. REMOVE SOLAR SENSOR

Using a screwdriver, pull out the sensor, then disconnect the connector.

HINT:

Tape the screwdriver tip before use.

2. INSPECT SOLAR SENSOR CIRCUIT (See page [DI-715](#))

3. INSTALL SOLAR SENSOR

Connect the connector and install the solar sensor.

INSTALLATION

Installation is in the reverse order of removal (See page [AC-116](#)).

INSTALLATION

Installation is in the reverse orser of removal (See page [AC-111](#)).

INSTALLATION

Installation is in the reverse order of removal

(See page [AC-120](#)).

1. AFTER INSTALLATION, INSPECT HEATER CONTROL DIALS AND LEVER OPERATION

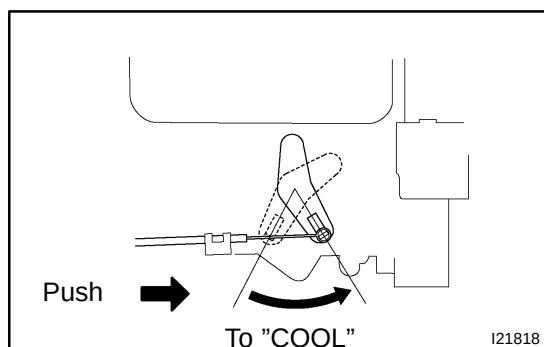
Turn the control lever and dials left and right then check that click sound can be heard and recoil is felt.

If click sound can not be heard or recoil is felt, proceed next step.

2. ADJUST HEATER CONTROL CABLES

(a) Set A/C control assembly in these conditions.

- (1) Temperature control dial at "MAX. COOL" position
- (2) Mode control dial at "DEF" position

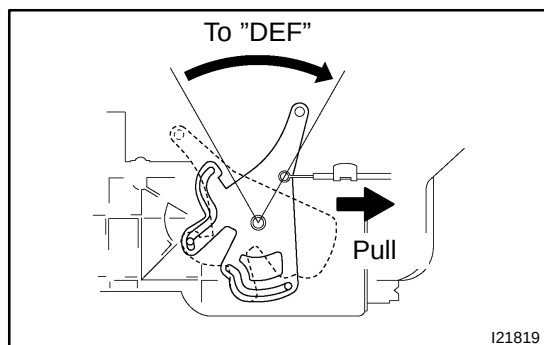


(b) Adjust air mix control cable.

- (1) Set air mix damper control lever to "COOL" position.
- (2) Install inner cable to lever pin and clamp the outer cable.

HINT:

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

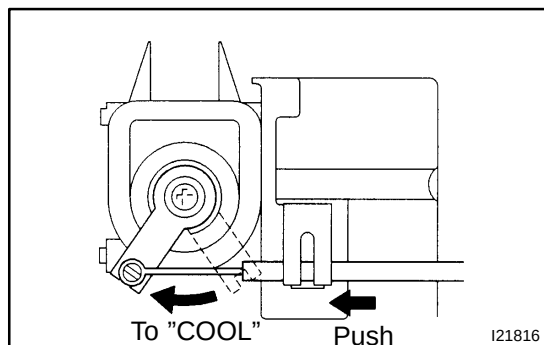


(c) Adjust mode control cable.

- (1) Set mode control lever to "DEF" position.
- (2) Install inner cable to lever pin and clamp the outer cable.

HINT:

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

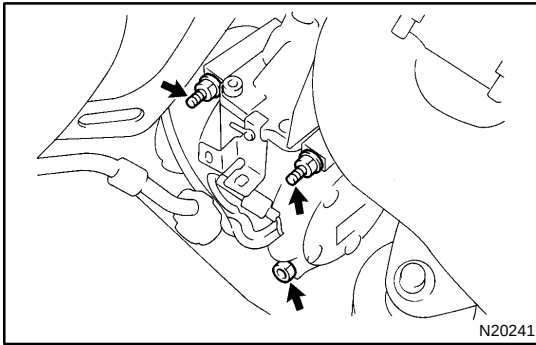


(d) Adjust water valve control cable.

- (1) Set water valve control lever to "COOL" position.
- (2) Install inner cable to lever pin and clamp the outer cable.

HINT:

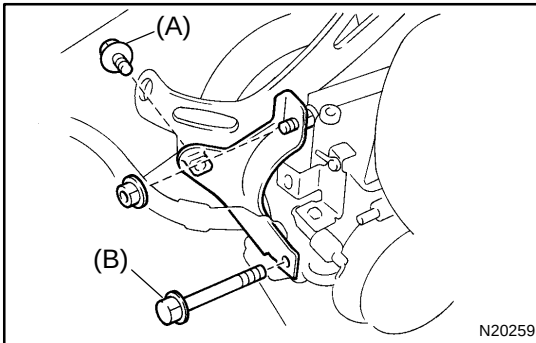
Lock the clamp while lightly pushing the outer cable to the direction shown by an arrow in the illustration.



INSTALLATION

1. INSTALL COMPRESSOR

- (a) Install the compressor with the 3 bolts.
Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)



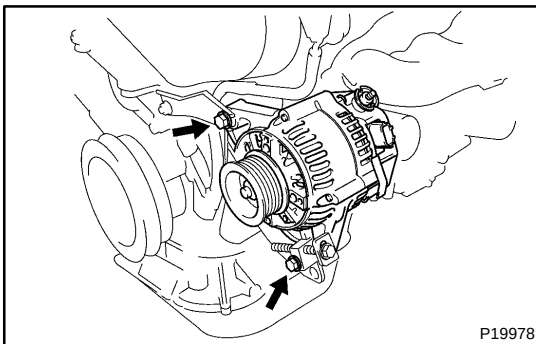
- (b) Install the generator drive belt adjusting bar bracket with the 2 bolts and a nut.

Torque:

Bolt (A): 18 N·m (185 kgf·cm, 13 ft·lbf)

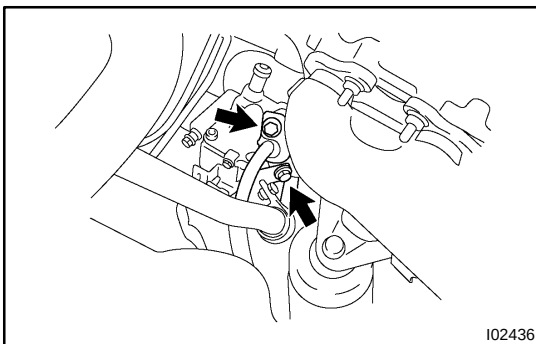
Bolt (B): 25 N·m (250 kgf·cm, 18 ft·lbf)

Nut: 25 N·m (250 kgf·cm, 18 ft·lbf)



2. INSTALL GENERATOR

- (a) Mount generator on the generator bracket with the pivot bolt and adjusting lock bolt. Do not tighten the bolts yet.
 (b) Connect the generator connector.
 (c) Connect the generator wire with the nut.



3. CONNECT DISCHARGE AND SUCTION HOSES

- (a) Lubricate 2 new O-rings with compressor oil and install them to the hoses.
 (b) Connect both hoses with the 2 bolts.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

NOTICE:

Hoses should be connected immediately after the caps have been removed.

HINT:

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

4. **INSTALL AND CHECK DRIVE BELT**
(See page [AC-19](#) , [AC-17](#))
5. **CONNECT NEGATIVE (-) TERMINAL CABLE TO BATTERY**
6. **EVACUATE AIR FROM REFRIGERATION SYSTEM AND CHARGE WITH REFRIGERANT**
Specified amount: 1,050 ± 50 g (37.03 ± 1.76 oz.)
7. **INSPECT FOR LEAKAGE OF REFRIGERANT**
Using a gas leak detector, check for leakage of refrigerant.
If there is leakage, check the tightening torque at the joints.
8. **INSPECT A/C OPERATION**

INSTALLATION

Installation is in the reverse order of removal (See page [AC-70](#)).

INSTALLATION

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

INSTALLATION

Installation is in the reverse order of removal (See page [AC-135](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [AC-62](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [AC-18](#)).

AFTER INSTALLATION, CHECK DRIVE BELT'S INSTALLATION CONDITION

INSTALLATION

Installation is in the reverse order of removal (See page [AC-128](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [AC-42](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [AC-55](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [AC-35](#)).

INSTALLATION

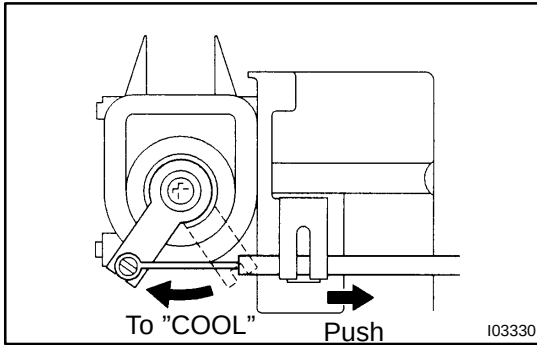
Installation is in the reverse order of removal (See page [AC-76](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [AC-48](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [AC-100](#)).



INSTALLATION

Installation is in the reverse order of removal

(See page [AC-80](#)).

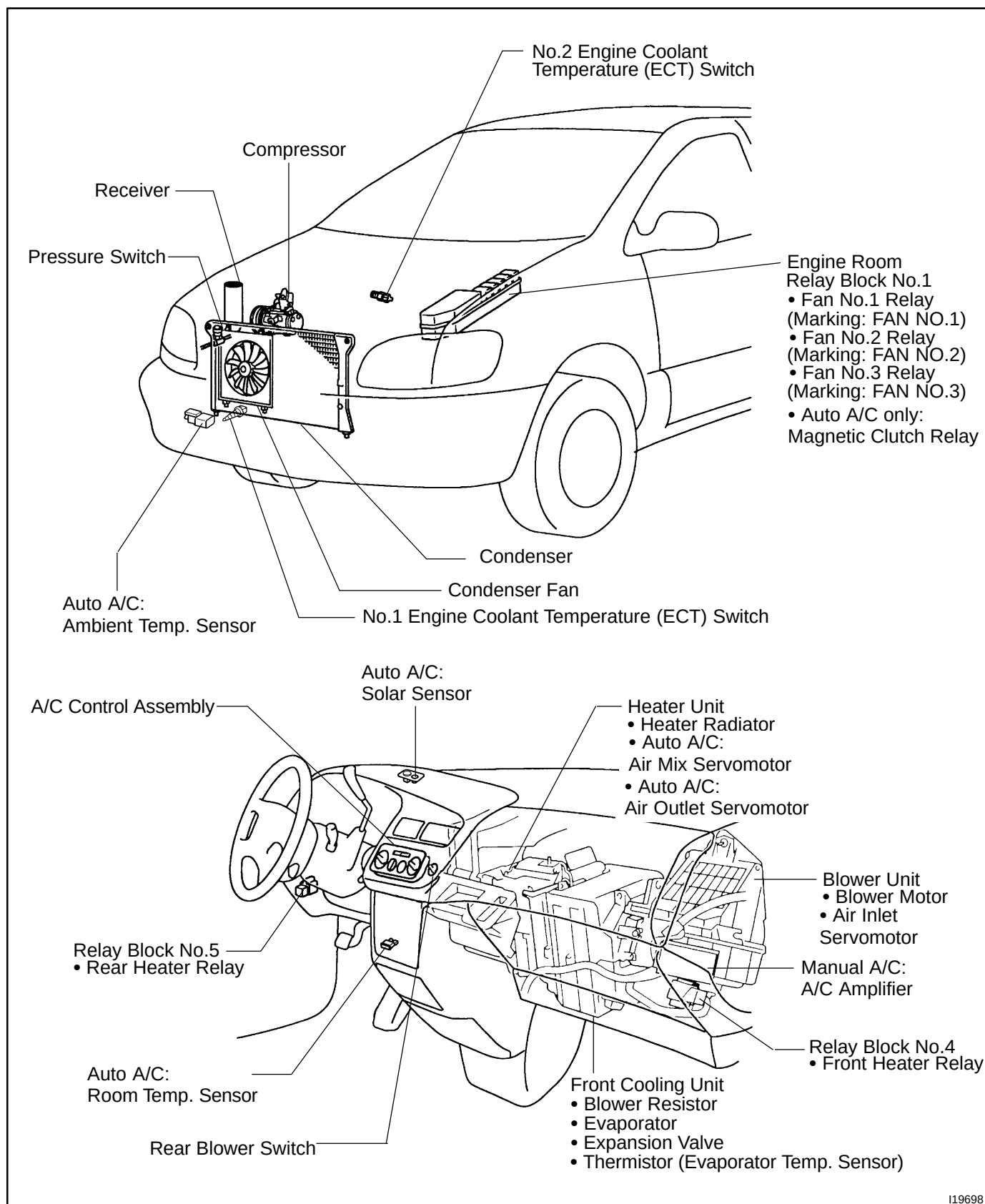
AFTER INSTALLATION, ADJUST WATER VALVE CONTROL CABLE

- Set the temperature control dial at "COOL" position.
- Set the water valve control lever to "COOL" position and install the control cable and lock the clamp.

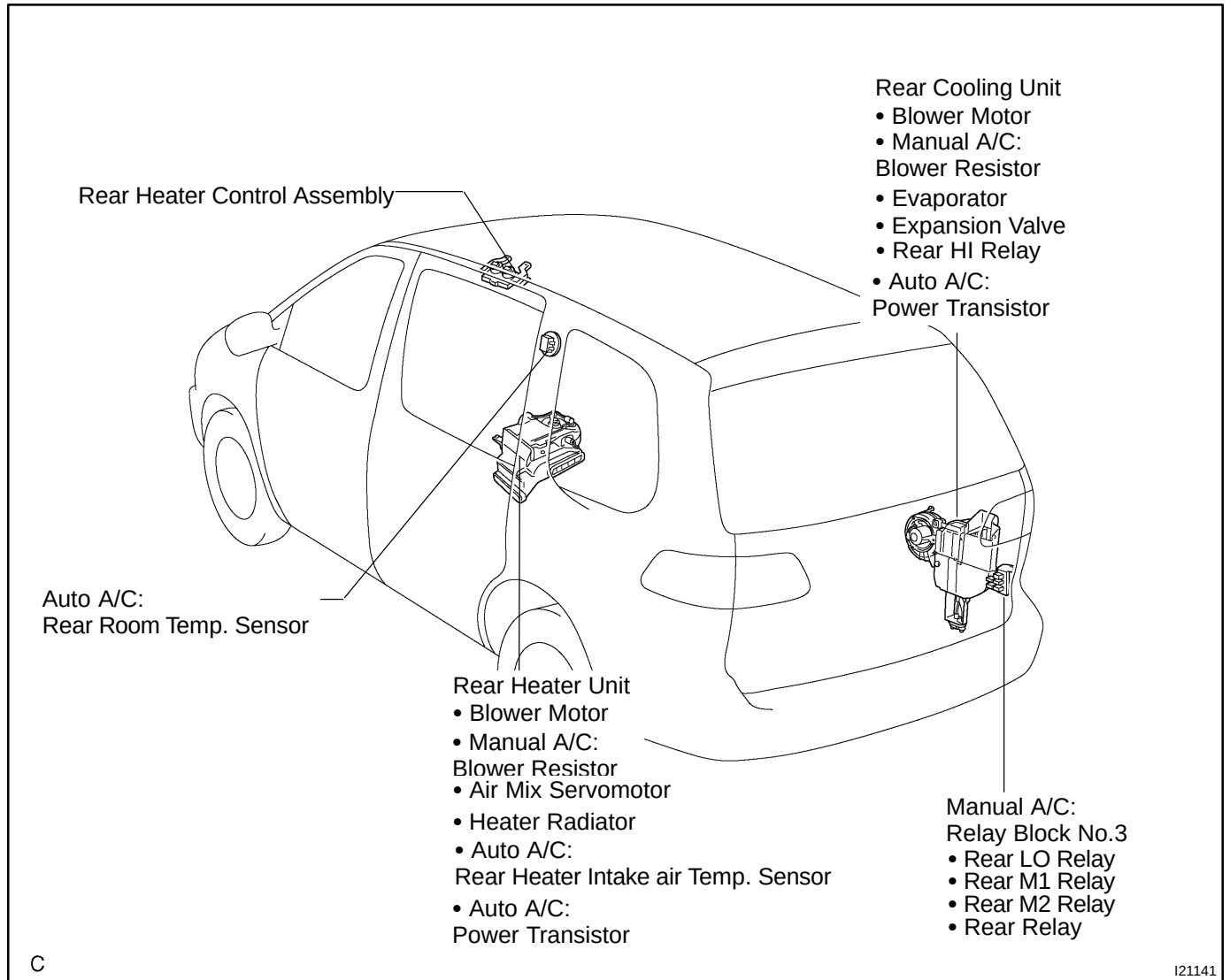
HINT:

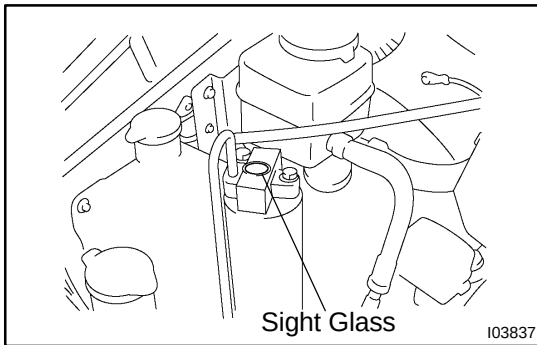
Lock the clamp during lightly pulling the outer cable in the direction shown in the illustration by an arrow.

LOCATION



I19698





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 set at "HI"

A/C switch ON

Temperature control set at "MAX. COOL"

Fully open 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 i sight glass	None, sufficient or too much	Refer to 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 conditioning is turned off, refrigerant in sight glass stays clear	Too much	(1) Discharge refrigerant (2) Evacuate air and charge proper amount of new refrigerant
6	When air conditioning 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 witch the trouble is located by using a manifold gauge set. Read the manifold gauge pressure when the these conditions are established.

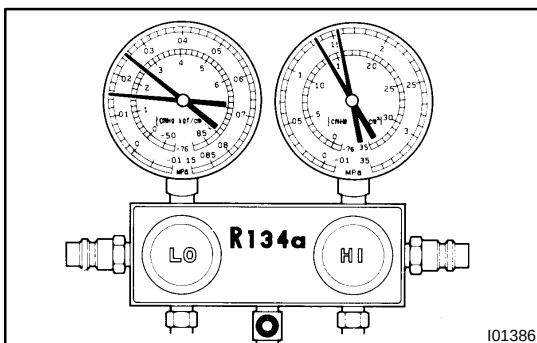
Test conditions:

Temperature at the air inlet with the switch set at RECIRC is 30 - 35 °C (86 - 95 °F)

Engine running at 1,500 rpm

Blower speed control set at "HI"

Temperature control set at "MAX COOL"



(1) Normally functioning refrigeration system

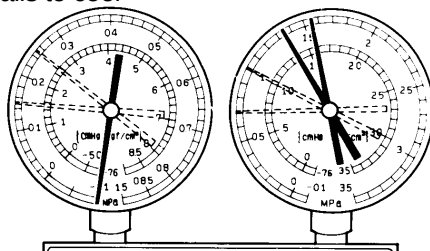
Gauge reading:

Low pressure side: 0.15 - 0.25 MPa (1.5 - 2.5 kgf/cm²)

High pressure side: 1.37 - 1.57 MPa (14 - 16 kgf/cm²)

(2) Moisture present in refrigeration system.

Condition : Periodically cools and then fails to cool

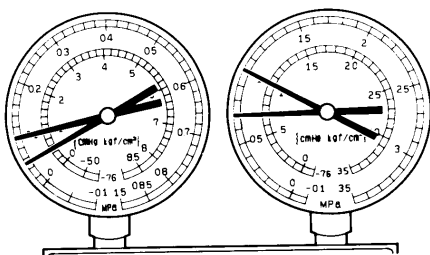


I01387

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 receiver (2) Remove moisture in cycle through repeatedly evacuating air (3) Charge proper amount of new refrigerant

(3) Insufficient cooling

Condition: Insufficient cooling

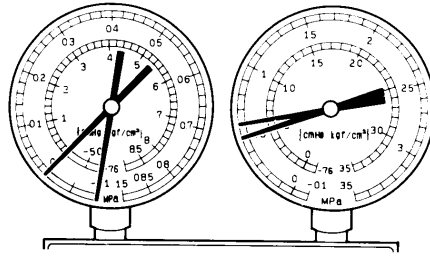


I01388

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

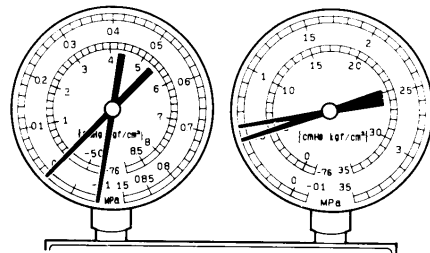


I01389

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

(5) Refrigerant does not circulate

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

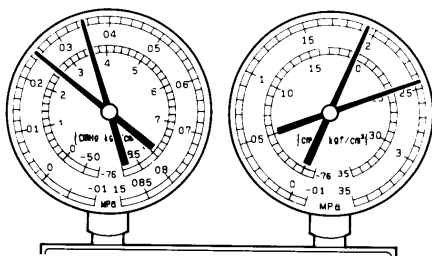


I01449

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 receiver/ 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 receiver (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

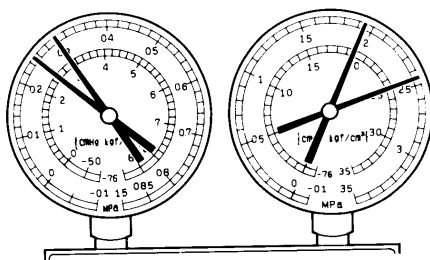


I01390

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	(1) Clean condenser (2) Check condenser fan motor operation (3) 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



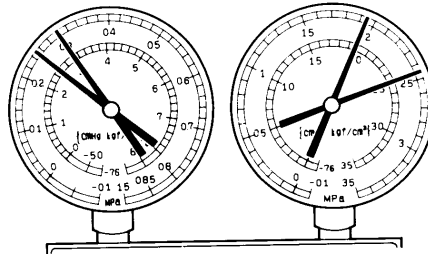
NOTE : These gauge indications are shown when the refrigeration system has been opened and the refrigerant charged without vacuum purging.

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	(1) Check compressor oil to see if it is dirty or insufficient (2) Evacuate air and charge new refrigerant

(8) Expansion valve improperly

Condition: Insufficient cooling

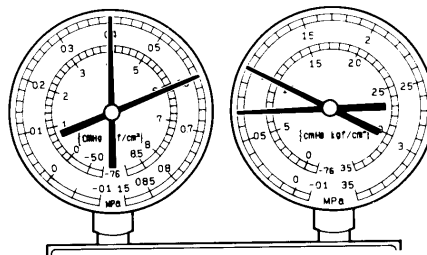


I01450

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	(1) Check expansion valve (2) Check heat sensing tube installed condition 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 set at "HI"

Temperature control set at "MAX COOL"

A/C switch ON

Put gear shift in neutral

Magnetic clutch condition	Idle speed
Magnetic clutch not engaged	700 ± 50 rpm
Magnetic clutch engaged	750 ± 50 rpm

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

4. INSPECT FOR LEAKAGE OF REFRIGERANT

- (a) Perform under these conditions:

Stop engine

Secure good ventilation (If not, the gas leak detector may react to volatile gases which are not refrigerant, such as evaporated gasoline or 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 is stopped, leave the cooling unit for more than 15 minutes.

Expose the gas leak detector sensor the under the drain hose.

When bring the gas leak detector close to the drain hose, make sure that the gas leak detector does not reach to the volatile gases.

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

- (c) If gas leak is not detected through the drain hose, remove the blower linear controller from the cooling unit. Then insert the gas leak detector sensor into the unit and perform the test.
- (d) Disconnect the connector and lever 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 and perform the test.

HINT:

Make sure that there is no dirt on joints.

COMPRESSOR AND MAGNETIC CLUTCH

ACOSN-02

ON-VEHICLE INSPECTION

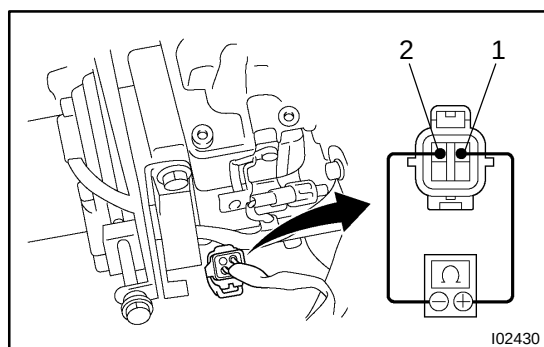
1. INSPECT COMPRESSOR FOR METALLIC SOUND

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

If abnormal sound is heard, replace the compressor assembly.

2. INSPECT REFRIGERANT PRESSURE

(See page [AC-3](#))



3. INSPECT COMPRESSOR LOCK SENSOR RESISTANCE

- Disconnect the connector.
- Measure resistance between terminals 1 and 2.

Standard resistance: 65 - 125 Ω at 20 °C (68 °F)

If resistance is not as specified, replace the compressor assembly.

4. INSPECT VISUAL FOR LEAKAGE OF REFRIGERANT FROM SAFETY SEAL

Using a gas leak detector, check for leakage of refrigerant. If there is any leakage, replace the compressor assembly.

5. CHECK FOR LEAKAGE OF GREASE FROM CLUTCH BEARING

6. CHECK FOR SIGNS OF OIL ON PRESSURE PLATE

If necessary repair or replace.

7. INSPECT MAGNETIC CLUTCH BEARING FOR NOISE

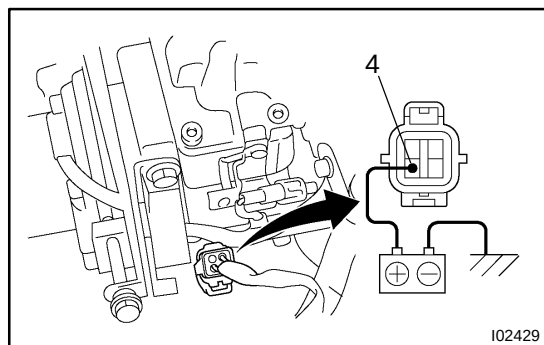
- Start engine.
- Check for abnormal noise near the compressor when the A/C switch is OFF.

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

8. INSPECT MAGNETIC CLUTCH OPERATION

- Disconnect the connector.
- Connect the positive (+) lead from the battery to terminal 4 and the negative (-) lead to the body ground.
- Check that the magnetic clutch is energized.

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



CONDENSER

AC0SW-01

ON-VEHICLE INSPECTION

1. INSPECT CONDENSER FINS FOR BLOCKAGE OR DAMAGE

If the fins are clogged, wash them with water and dry with compressed air.

NOTICE:

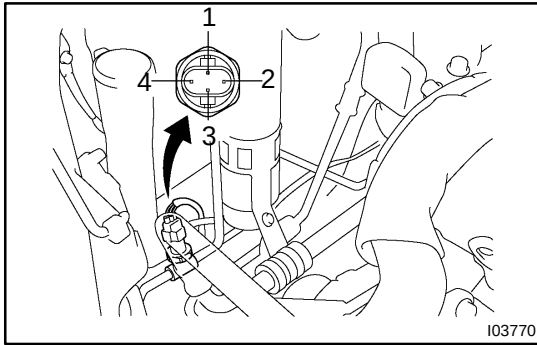
Be careful not to damage the fins.

If the fins are bent, straighten them with a screwdriver or pliers.

2. INSPECT CONDENSER AND FITTINGS FOR LEAKAGE

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

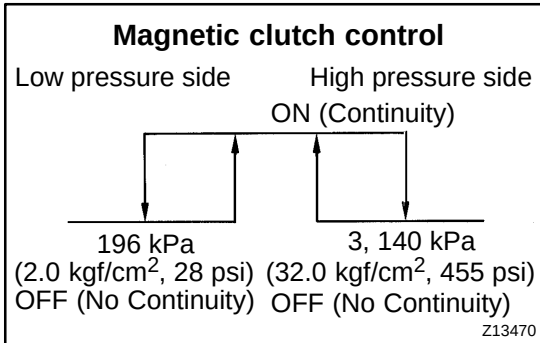
If there is leakage, check the tightening torque at the joints.



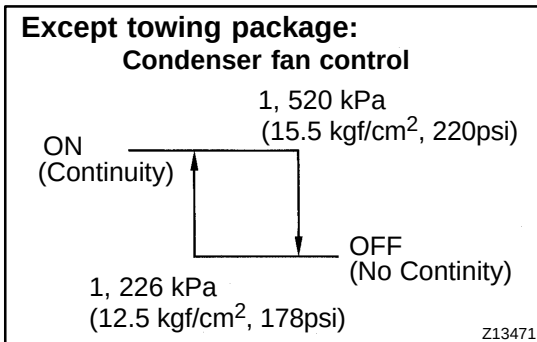
PRESSURE SWITCH ON-VEHICLE INSPECTION

ACOTR-03

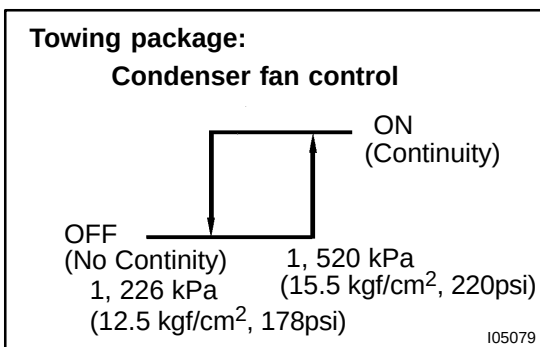
1. SET ON MANIFOLD GAUGE SET (See page AC-20)
2. DISCONNECT CONNECTOR FROM PRESSURE SWITCH
3. RUN ENGINE AT APPROX. 1,500 RPM



4. **Magnetic clutch control:**
INSPECT PRESSURE SWITCH OPERATION
 - (a) Connect the positive (+) lead from the ohmmeter to terminal 4 and the negative (-) lead to terminal 1.
 - (b) Check continuity between terminals when refrigerant pressure is changed, as shown in the illustration.
- If operation is not as specified, replace the pressure switch.



5. **Cooling fan control:**
INSPECT PRESSURE SWITCH OPERATION
 - (a) Connect the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 3.
 - (b) Check continuity between terminals when refrigerant pressure is changed, as shown in the illustration.
- If operation is not as specified, replace the pressure switch.
6. STOP ENGINE AND SET OFF MANIFOLD GAUGE SET
 7. CONNECT CONNECTER TO PRESSURE SWITCH



REAR COOLING UNIT (5-Door)

AC214-01

ON-VEHICLE INSPECTION

1. REMOVE REAR NO. 2 SEAT
2. REMOVE DOOR SCUFF PLATE RH
3. REMOVE BACK DOOR SCUFF PLATE
4. REMOVE RH QUARTER TRIM PLATE (See page [BO-79](#))
5. REMOVE BLOWER RESISTOR
 - (a) Disconnect the connector.
 - (b) Remove the 2 screws and blower resistor.
6. **INSPECT EVAPORATOR AND FITTINGS FOR LEAKAGE**

Using a gas leak detector, check for leakage.

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

7. **CHECK AMOUNT OF GAS DURING REFRIGERANT CYCLE**
8. **SET ON MANIFOLD GAUGE SET (See page [AC-20](#))**
9. **RUN ENGINE**

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

Then check that the high pressure reading is 1.37 - 1.57 MPa (14 - 16 kgf/cm², 199 - 228 psi).

10. **CHECK EXPANSION VALVE**

If the expansion valve is faulty, the low pressure reading will drop to 0 kPa (0 kgf/cm², 0 psi), otherwise it is OK.

HINT:

When the low pressure drops to 0 kPa (0 kgf/cm², 0 psi), check the receiver's IN and OUT sides for no temperature difference.

RECEIVER

AC0ST-01

ON-VEHICLE INSPECTION

INSPECT FITTINGS FOR LEAKAGE

Using a gas leak detector, check for leakage.

If there is leakage, check the tighteneing torque at the joints.

REFRIGERANT LINE

AC055-01

ON-VEHICLE INSPECTION

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

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

AIR CONDITIONING CONTROL ASSEMBLY (Manual A/C)

AC0VE-02

ON-VEHICLE INSPECTION

INSPECT A/C CONTROL DIAL OPERATION

Turn the control dials left and right then check that click sound can be heard and recoil is felt.

If click sound can not be heard or recoil is felt, adjust the control cable or check control cable and heater control assembly.

FRONT COOLING UNIT

AC3BJ-01

ON-VEHICLE INSPECTION

1. INSPECT FOR LEAKAGE OF REFRIGERANT

- (a) Remove the lower No. 2 finish panel (See page [BO-101](#)).
- (b) Remove the blower resistor.
- (c) Using a gas leak detector, check for leakage.
If there is leakage, check the tightening torque at the joints or check the evaporator.
- (d) Install the blower resistor.
- (e) Install the lower No. 2 finish panel (See page [BO-106](#)).

2. 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 - 1.57 Mpa (14 - 16 kgf/cm², 199 - 288 psi).
- (d) Check expansion valve.
If the expansion valve is faulty, the low pressure reading will drop to 0 kPa (0 kgf/cm², 0 psi).

HINT:

When the lower pressure drop to 0 kPa (0 kgf/cm², 0 psi), feel the receiver's IN and OUT sides for no temperature difference.

CONDENSER FAN

ON-VEHICLE INSPECTION

AC0TK-02

1. INSPECT CONDENSER FAN OPERATION

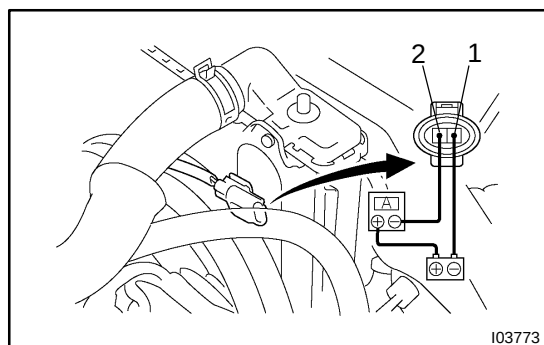
Inspect the fan operation in these conditions, as shown in the chart below.

Test conditions:

- Start engine
- Blower speed control switch position "HI"
- Temperature control dial at "COOL" position
- Set manifold gauge set
- A/C switch ON

Condition	Fan operation (Fan speed)
Engine coolant temperature 90 °C (194 °F) or below	Rotate (Low speed)
Engine coolant temperature 95 °C (203 °F) or above	Rotate (High speed)
Refrigerant pressure is less than 1,520 kPa (15.5 kgf/cm ² , 220 psi)	Rotate (Low speed)
Refrigerant pressure is 1,520 kPa (15.5 kgf/cm ² , 220 psi) or above	Rotate (High speed)

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



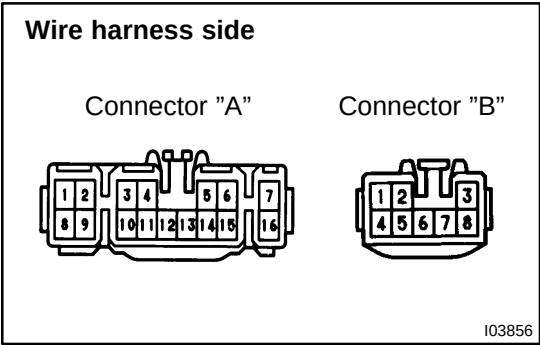
2. INSPECT CONDENSER FAN MOTOR OPERATION

- (a) Disconnect the fan connector.
- (b) Connect battery and ammeter to the fan connector, as shown in the illustration.
- (c) Check that the fan rotates smoothly and check the reading on the ammeter.

Specified amperage: 9.8 ± 1.5 A at 20 °C (68 °F)

If operation is not as specified, replace the fan motor.

If operation is as specified, check the pressure switch, cooling fan relays and water temp. switch.



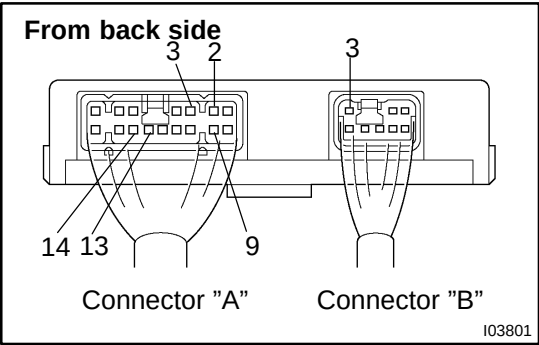
AIR CONDITIONING AMPLIFIER (Manual A/C) ON-VEHICLE INSPECTION

AC3DX-01

1. **INSPECT A/C AMPLIFIER CIRCUIT**
 - (a) Disconnect the connector from amplifier and inspect the connector on wire harness side, as shown in the chart.
Test conditions:
Turn ignition switch to ON

Test connection	Condition	Specified condition
A6 - Ground	Constant	Continuity
A11 - A15	Evaporator temperature at 25 °C (77 °F)	Approx. 1.5 kΩ
A16 - A15	Constant	65 - 125 Ω at 20 °C (68 °F)
B5 - B4	Temperature control dial at "Max. COOL"	Approx. 6.0 kΩ
	Temperature control dial at "Max. WARM"	0 kΩ
B6 - B4	Constant	6.0 kΩ
B7 - B4	Temperature control dial at "Max. COOL"	Approx. 3.0 kΩ
	Temperature control dial at "Max. WARM"	0 kΩ
A4 - Ground	Constant	Battery positive voltage
	Turn ignition switch to LOCK or ACC	No voltage
A10 - Ground	A/C switch ON	Battery positive voltage
	A/C switch OFF	No voltage
A12 - Ground	A/C switch ON	Below 4.0 V
	A/C switch OFF	No voltage

If the circuit is not as specified, inspect the circuits connected to other parts.



(b) Connect the connector to the amplifier and inspect the wire harness side connector from the back side, as shown in the chart.

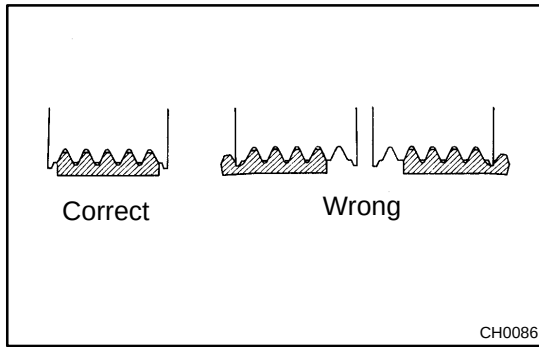
Test conditions:

- Running engine at idle speed
- Front A/C and rear A/C blower switches at "HI" position
- Front A/C and rear A/C temperature control dials at "Max. COOL" position
- A/C switch ON
- Set manifold gauge set

Tester connection	Condition	Specified condition
A2 - Ground	Constant	No voltage
	Engine speed at idle - up speed	Below 0.7 V
A3 - Ground	Refrigerant pressure 196 - 3,140 kPa	Battery positive voltage
	Refrigerant pressure less than 196 kPa or more than 3,140 kPa	No voltage
A9 - Ground	Magnetic clutch is engaged	Below 1.0 V
	Magnetic clutch is not engaged	No voltage
A13 - Ground	Engine coolant temperature at below 90 °C (203 °F)	Below 1.5 V
	Engine coolant temperature at above 90 °C (203 °F)	Battery positive voltage
A14 - Ground	Magnetic clutch is engaged	Battery positive voltage
	Magnetic clutch is not engaged	No voltage
B3 - Ground	Constant	Below 1.5 V
	Turn rear temperature control dial to "WARM" position	Battery positive voltage

If the circuit is as specified, try to replace the amplifier with a new one.

If the circuit is not as specified, inspect the circuits connected to other parts.



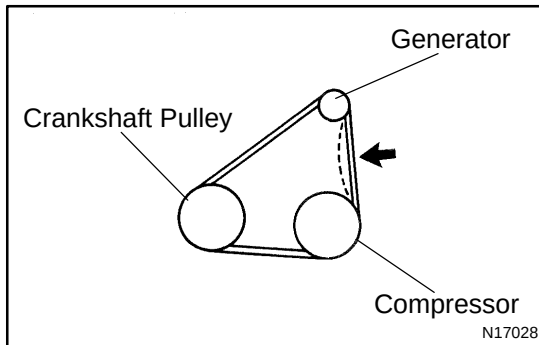
DRIVE BELT

ON-VEHICLE INSPECTION

AC050-03

1. INSPECT DRIVE BELT'S INSTALLATION CONDITION

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



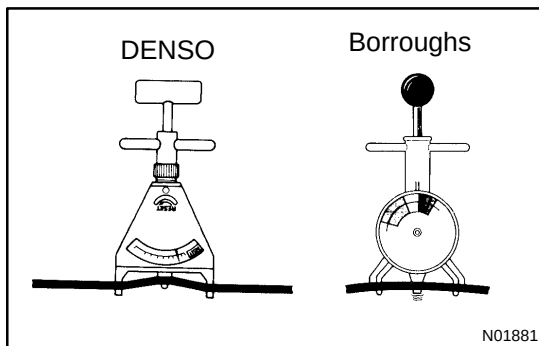
2. INSPECT DRIVE BELT TENSION

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

Drive belt tension:

New belt: 165 ± 26 lbf

Used belt: 88 ± 22 lbf



HINT:

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

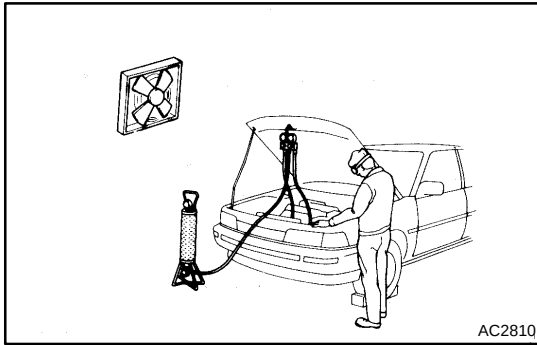
WATER VALVE

AC0V4-01

ON-VEHICLE INSPECTION

1. **WARM UP ENGINE**
2. **DISCONNECT WATER VALVE CONTROL CABLE**
3. **INSPECT WATER VALVE OPERATION**
 - (a) Check that warm air is blown out of the ventilator when the water valve lever is moved to "WARM" position.
 - (b) Check that cool air is blown out of the ventilator when the water valve is moved to the "COOL" position. If operation is not as specified, replace the water valve.
4. **CONNECT WATER VALVE CONTROL CABLE**

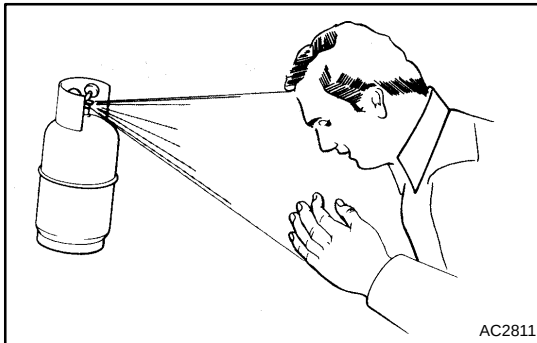
After connection, adjust the control cable.



AIR CONDITIONING SYSTEM PRECAUTION

AC0RU-03

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**

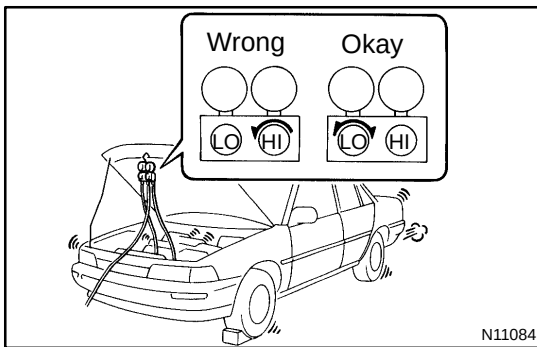
If liquid refrigerant gets in your eyes or on your skin.

- (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 APPL 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 that 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 valve is 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 SIENNA is equipped with an SRS (Supplemental Restraint System) such as the driver and front passenger airbag. 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 in the RS section.

TROUBLESHOOTING (Manual A/C)

AC3BH-01

PROBLEM SYMPTOMS TABLE

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.

Front A/C:

Symptom	Suspect Area	See page
No blower operation	3. HTR Fuse 4. Front heater relay 5. Blower motor 6. Blower resistor 7. Blower speed control switch 8. Wire harness	- AC-102 AC-82 AC-84 AC-122 -
No blower control	1. Blower speed control switch 2. Blower resistor 3. Blower motor 4. Wire harness	AC-122 AC-84 AC-82 -
No air flow mode control	1. A/C control assembly	AC-118
Air inlet control: No air inlet control when air REC switch is operated	1. Air inlet control servomotor 2. A/C control assembly (Integration switch) 3. Wire harness	AC-57 AC-122 -
Air inlet control: Recirculation mode does not change when turn air flow selector to FOOT/DEF or DEF position.	1. A/C control assembly (Air flow selector) 2. A/C control assembly (integration switch) 3. Air inlet servomotor 4. Wire harness	AC-122 AC-122 AC-82 -
No temperature control	1. A/C control assembly	AC-118
No compressor operation	1. Refrigerant volume 2. Drive belt 3. Magnetic clutch 4. Compressor 5. HTR Fuse 6. A/C Fuse 7. A/C switch 8. A/C amplifier 9. Pressure switch 10. Wire harness	AC-3 AC-17 AC-60 AC-60 - - AC-122 AC-133 AC-99 -
No cool air comes out	1. Refrigerant volume 2. Refrigerant pressure 3. Drive belt 4. Compressor 5. Thermistor 6. Pressure switch 7. A/C control assembly	AC-3 AC-3 AC-17 AC-60 AC-25 AC-99 AC-118
Insufficient cooling	1. Refrigerant volume 2. Drive belt 3. Magnetic clutch 4. Compressor 5. Condenser 6. Receiver 7. Expansion valve 8. Evaporator 9. Refrigerant line 10. Pressure switch 11. A/C amplifier 12. A/C control assembly	AC-3 AC-17 AC-60 AC-60 AC-72 AC-69 AC-25 AC-30 AC-22 AC-99 AC-133 AC-118

AIR CONDITIONING - TROUBLESHOOTING (Manual A/C)

No warm air comes out	1. Engine coolant volume 2. Water valve 3. A/C control assembly 4. Heater radiator	- AC-79 AC-118 AC-77
No engine idle-up when compressor operate	1. A/C switch 2. A/C amplifier 3. Idle control system	AC-122 AC-133 DI-100
Blinking of A/C indicator	1. Compressor 2. Drive belt 3. A/C amplifier	AC-60 AC-17 AC-133
No condenser fan operation (High speed)	1. ALT Fuse 2. HTR Fuse 3. Fan No.1 relay 4. CDS Fuse 5. Condenser fan motor 6. Fan No.2 relay 7. Pressure switch 8. No.1 Engine coolant temp. switch 9. Wire harness	- - AC-107 - AC-109 AC-107 AC-99 AC-139 -
No condenser fan operation (Low speed)	1. Heater Fuse 2. Fan No.3 relay 3. A/C amplifier 4. No.2 Engine coolant temp. switch 5. CDS Fuse 6. Condenser fan motor 7. Fan No.2 relay 8. Radiator fan motor 9. Fan No.1 relay 10. Pressure switch 11. No.1 Engine coolant temp. switch 12. Wire harness	- AC-107 AC-133 AC-139 - AC-109 AC-107 CO-19 AC-107 AC-99 AC-139 -

Rear A/C:

Symptom	Suspect Area	See page
No blower operation	1. Heater Fuse 2. RR A/C Fuse 3. Rear heater relay 4. Blower motor 5. Rear relay 6. Blower resistor 7. Rear LO, M1, M2 and HI relay 8. Heater blower switch 9. Rear blower switch 10. Wire harness	- - AC-103 AC-51 AC-83 AC-104 AC-85 AC-86 AC-104 , AC-106 AC-137 AC-130 -
No blower control	1. Blower motor 2. Rear relay 3. Blower resistor 4. Rear LO, M1, M2 and HI relay 5. Heater blower switch 6. Rear blower switch 7. Wire harness	AC-51 AC-83 AC-104 AC-85 AC-86 AC-104 , AC-106 AC-137 AC-130 -
No temperature control	1. HTR Fuse 2. Front heater relay 3. A/C Fuse 4. Rear A/C control assembly 5. A/C amplifier 6. Air mix servomotor 7. Wire harness	AC-102 - AC-130 AC-133 AC-91 -
No cool air comes out	1. Refrigerant volume 2. Expansion valve 3. Evaporator 4. Refrigerant line 5. Rear A/C control assembly 6. A/C amplifier 7. Rear relay 8. Wire harness	AC-3 AC-33 AC-38 AC-22 AC-130 AC-133 AC-104 -
No warm air comes out	1. Engine coolant volume 2. Heater radiator 3. Rear A/C control assembly 4. A/C amplifier 5. Air mix servomotor 6. Rear relay 7. Wire harness	- AC-51 AC-130 AC-133 AC-91 AC-104 -

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [AC-56](#)).

REASSEMBLY

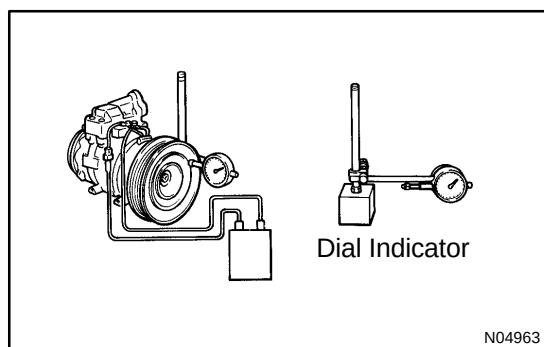
Reassembly is in the reverse order of disassembly (See page [AC-44](#)).

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [AC-129](#)).

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [AC-63](#)).



AFTER REASSEMBLY, CHECK 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, adjust the clearance using shims to obtain the standard.

Shim thickness:

0.1 mm (0.004 in.)

0.3 mm (0.012 in.)

0.5 mm (0.020 in.)

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [AC-50](#)).

REASSEMBLY

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

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [AC-121](#)).

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [AC-28](#)).

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [AC-112](#)).

REMOVAL

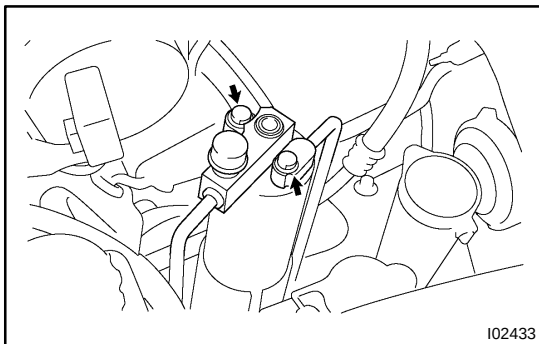
1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

HINT:

At the time of the installation, please refer to the following item.
Evacuate air from refrigeration system.

Charge system with refrigerant and inspect for leakage of refrigerant.

Specified amount: 1,050 ± 50 g (37.03 ± 1.76 oz.)



2. DISCONNECT 2 LIQUID TUBES FROM RECEIVER

Remove the 2 bolts and disconnect the both tubes.

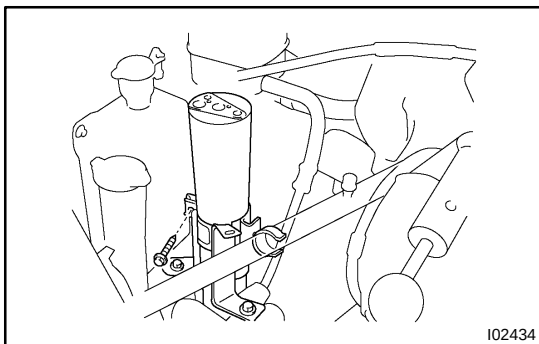
Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)

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 the tubes.



3. REMOVE RECEIVER

Remove the holder bolt and pull out receiver upward.

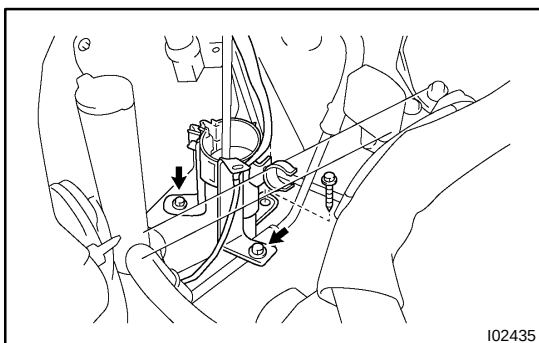
HINT:

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

If receiver is replaced, add compressor oil to compressor.

Add 20 cc (0.71 fl.oz.)

Compressor oil: ND-OIL 8 or equivalent



4. REMOVE RECEIVER HOLDER

- Disconnect the wire harness clamp.
- Disconnect the suction hose clamp.
- Remove the 3 bolts and holder.

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

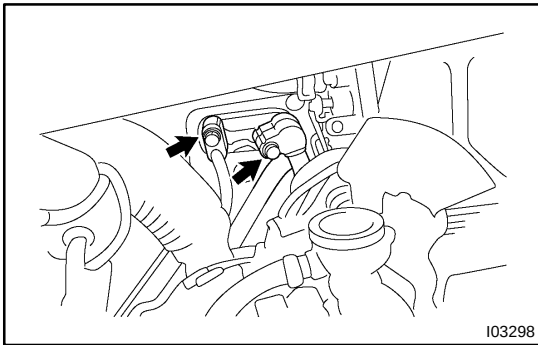
HINT:

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: 1,050 ± 50 g (37.03 ± 1.76 oz.)



2. DISCONNECT LIQUID AND SUCTION TUBES

Remove the 2 bolts and disconnect the both tubes.

Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)

NOTICE:

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

HINT:

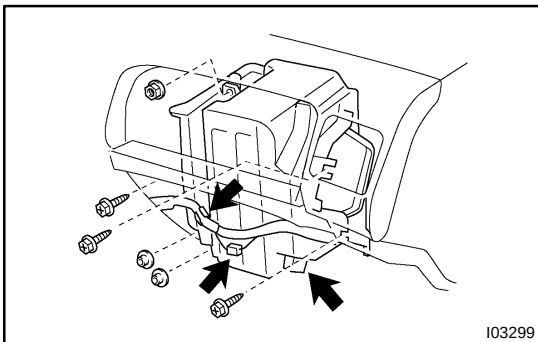
At the time of installation, please refer to the following item.

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

3. REMOVE LOWER NO. 2 PANEL

4. REMOVE GROVE COMPARTMENT

(See page [BO-98](#))



5. REMOVE COOLING UNIT

(a) Disconnect the connector.

(b) Disconnect wire harness clamp.

(c) Remove the 2 rivets, 3 bolts, nut and cooling unit.

HINT:

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

Do not reuse the 2 rivets.

FRONT A/C HEATER RADIATOR REMOVAL

AC0UY-03

1. DRAIN ENGINE COOLANT FROM RADIATOR

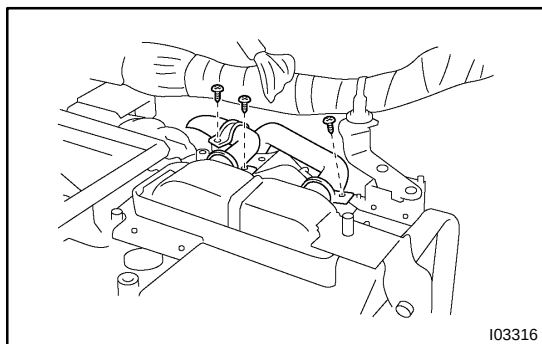
HINT:

It is not necessary to drain out all the coolant.

2. REMOVE INSTRUMENT PANEL

3. REMOVE REINFORCEMENT (See page [BO-101](#))

4. REMOVE DEFROSTER NOZZLE (See page [AC-42](#))



5. REMOVE HEATER RADIATOR

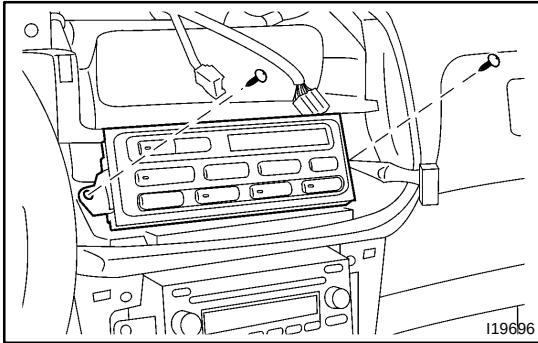
- (a) Remove the screw and piping clamp.
- (b) Remove the 2 screws, 2 clamps and 2 heater radiator pipes from the heater radiator.
- (c) Pull out the heater radiator.
- (d) Remove 2 O-rings from heater radiator pipes.

HINT:

At the time of installation, please refer to the following item.
Do not reuse 2 O-rings.

REMOVAL

1. REMOVE UPPER CLUSTER FINISH PANEL
2. REMOVE CENTER CLUSTER FINISH PANEL
3. REMOVE INSTRUMENT CLUSTER FINISH PANEL
(See page [BO-101](#))



4. REMOVE A/C CONTROL ASSEMBLY

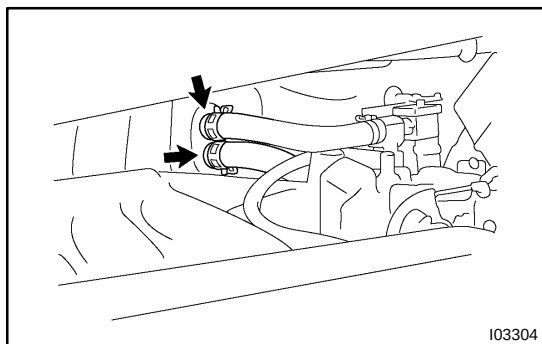
Remove the 2 screws and A/C control assembly, then disconnect the connector.

REMOVAL

1. REMOVE COOLING UNIT (See page [AC-27](#))
2. DRAIN ENGINE COOLANT FROM RADIATOR

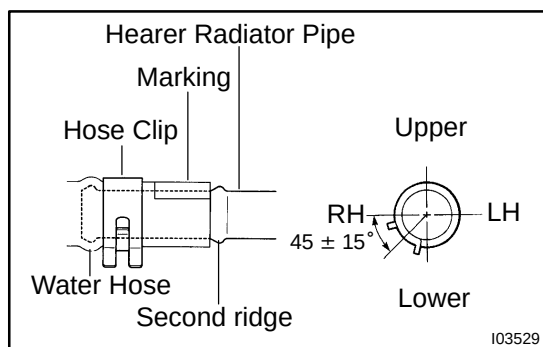
HINT:

It is necessary to drain out all the coolant.



3. DISCONNECT WATER HOSES FROM HEATER RADIATOR PIPES

- (a) Using pliers, grip the claws of the hose clips and slide the clip along the hose.
- (b) Disconnect the water hoses from heater radiator pipes.

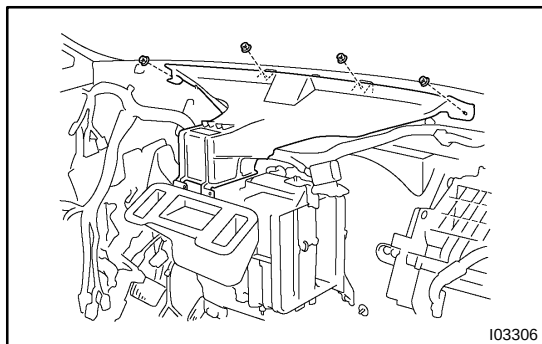


HINT:

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

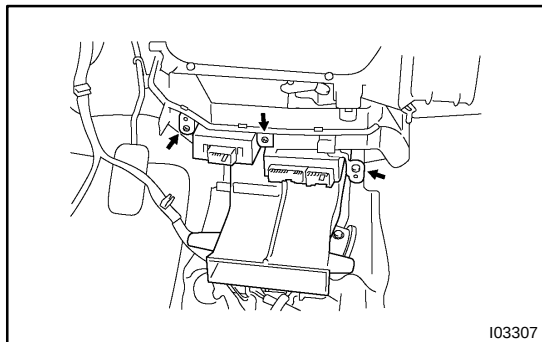
- Push the water hose onto the heater radiator pipe as far as second ridge on the pipe.
- Install a hose clip in the position as shown in the illustration.

4. REMOVE INSTRUMENT PANEL AND REINFORCEMENT (See page [BO-98](#))



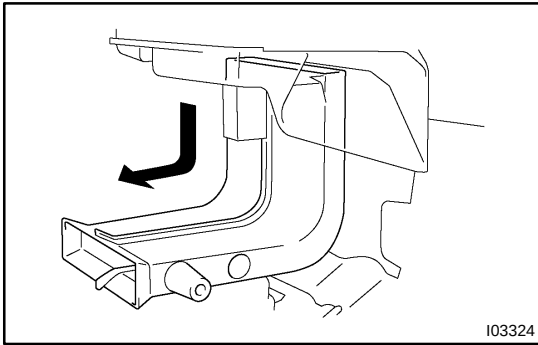
5. REMOVE DEFROSTER NOZZLE

Remove the 4 nuts and nozzle.

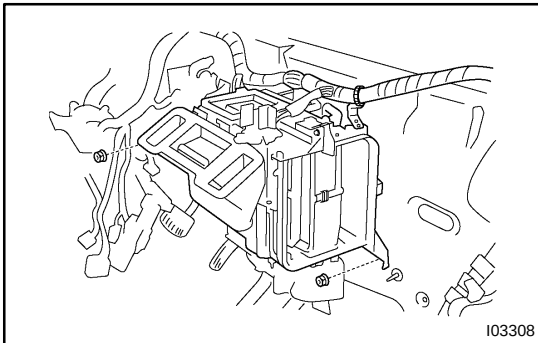


6. REMOVE AIR DUCT

- (a) Remove the 3 screws and theft deterrent ECU, wireless door lock ECU.



(b) Release the 2 claws and remove the air duct.



7. REMOVE HEATER UNIT

Remove the 2 rivets and heater unit.

HINT:

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

Do not reuse the 2 rivets.

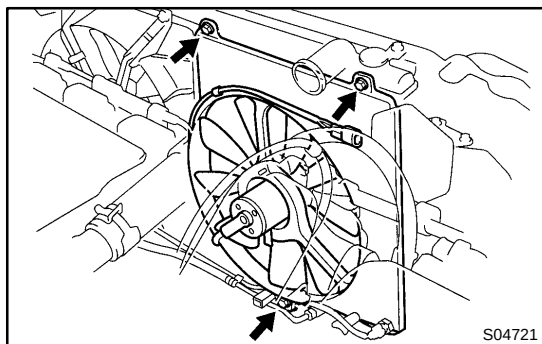
REMOVAL

1. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all the coolant.

2. DISCONNECT RADIATOR UPPER HOSE



3. REMOVE CONDENSER FAN

- (a) Disconnect the connector.
- (b) Remove the 3 bolts and fan.

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

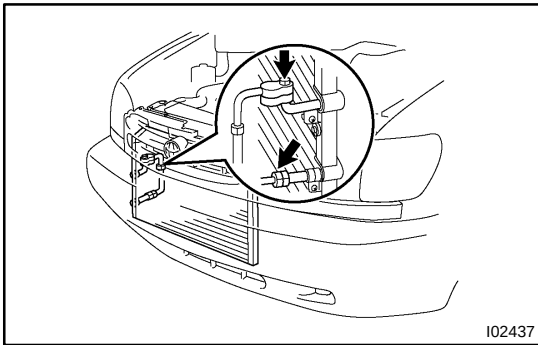
HINT:

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: 1,050 ± 50 g (37.03 ± 1.76 oz.)



2. DISCONNECT LIQUID TUBE AND DISCHARGE HOSE

(a) Remove the bolt and disconnect the discharge hose.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

(b) Loosen the nut and disconnect the liquid tube.

Torque: 14 N·m (140 kgf·cm, 10 ft·lbf)

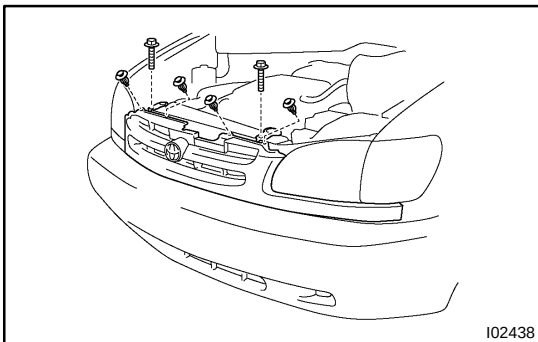
NOTICE:

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

HINT:

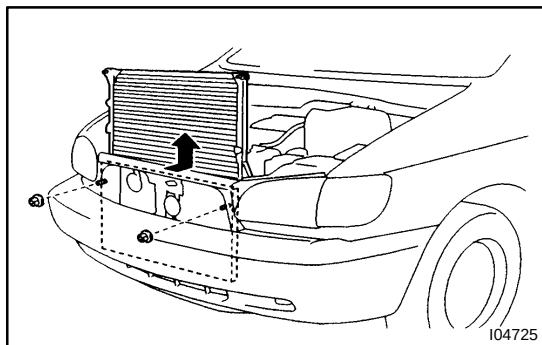
At the time of installation, please refer to the following item.

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



3. REMOVE RADIATOR GRILL

4. REMOVE 2 UPPER RADIATOR SUPPORTS

**5. REMOVE CONDENSER**

- (a) Remove the 2 nuts from condenser brackets.
- (b) Push the radiator toward engine.
- (c) Push the condenser toward radiator and pull it upward.

HINT:

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

If condenser is replaced, add compressor oil to the compressor.

Add 40 - 50 cc (1.4 - 1.7 fl.oz.)

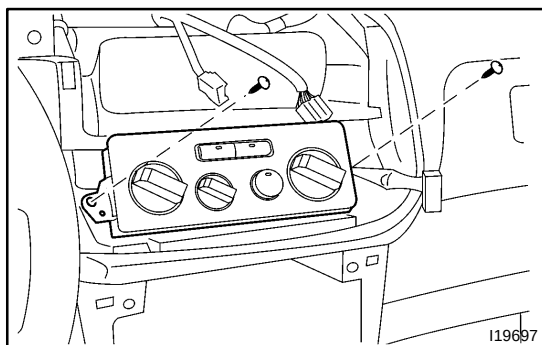
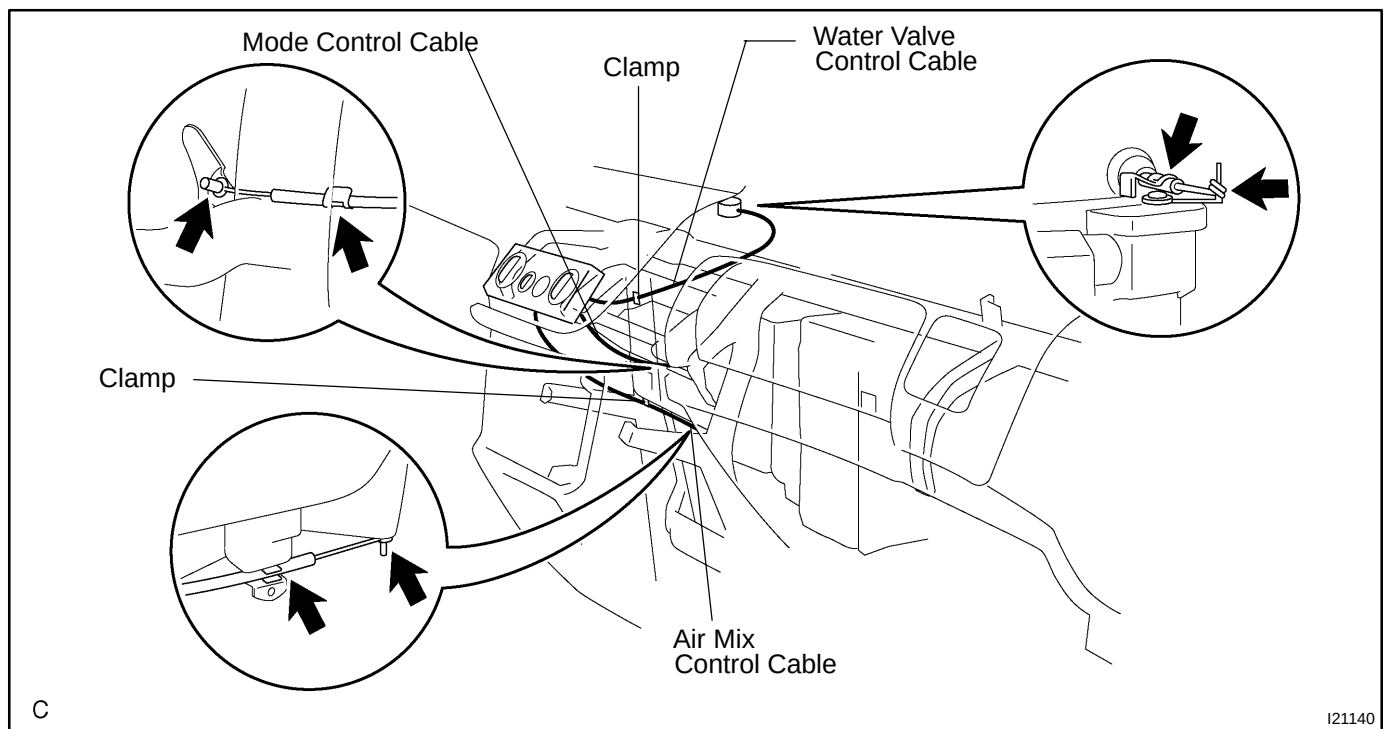
Compressor oil: ND-OIL 8 or equivalent

REMOVAL

1. REMOVE COWL SIDE TRIMS
2. REMOVE LOWER NO. 1 FINISH PANEL
3. REMOVE LOWER NO. 1 FINISH RETAINER
4. REMOVE METER CLUSTER PANEL
5. REMOVE INSTRUMENT CLUSTER FINISH PANEL
6. REMOVE LOWER NO. 2 FINISH PANEL
7. REMOVE GROVE COMPARTMENT
8. REMOVE CONTROL INSTRUMENT CLUSTER FINISH PANEL
9. REMOVE RADIO RECEIVER ASSEMBLY(See pgae [BO-101](#))
10. DISCONNECT HEATER CONTROL CABLE

NOTICE:

When the heater control cables is disconnected, should not bend the cable.



11. REMOVE A/C CONTROL ASSEMBLY

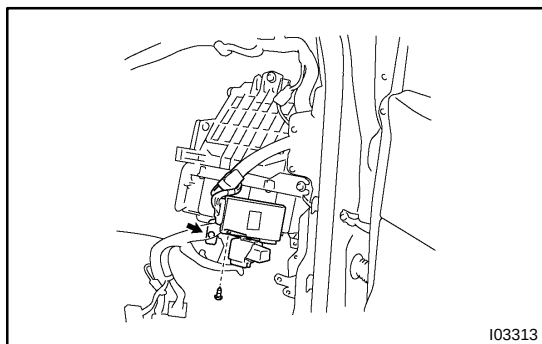
Remove the 2 screws and pulling out the A/C control assembly, then disconnect the connectors.

NOTICE:

Be careful not to bent the mode control cable, when pull out the A/C control assembly.

REMOVAL

1. REMOVE LOWER NO. 2 FINISH PANEL
(See page [BO-101](#))



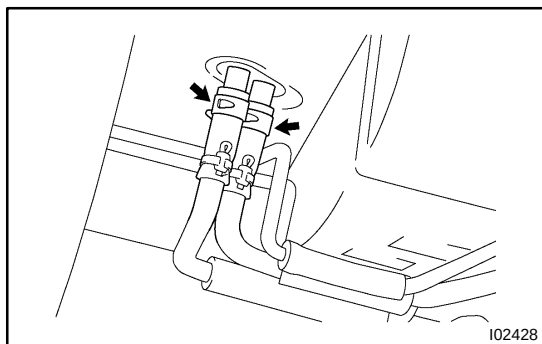
2. REMOVE A/C AMPLIFIER
 - (a) Disconnect the connector.
 - (b) Remove the screw and amplifier.

REMOVAL

1. DRAIN ENGINE COOLANT FROM RADIATOR

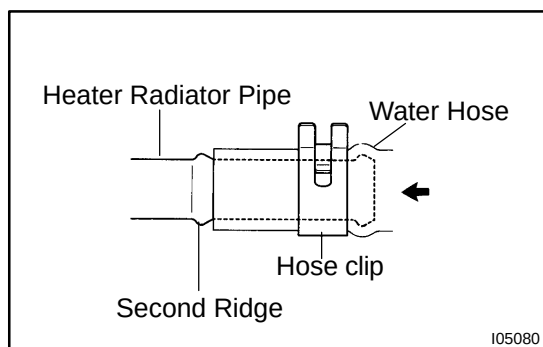
HINT:

It is not necessary to drain out all coolant.



2. DISCONNECT WATER HOSES FROM HEATER RADIATOR PIPES

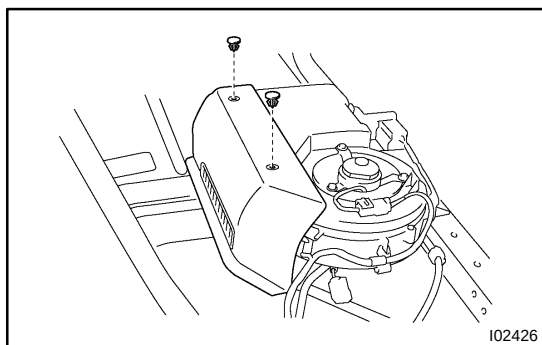
- (a) Using pliers, grip the claws of the hose clips and slide the hose clips along the hose.
- (b) Disconnect the water hose.



HINT:

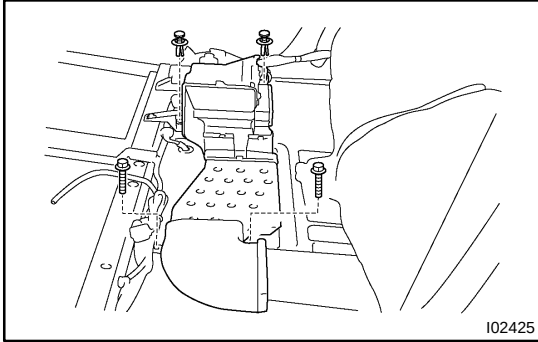
At the time of installation, please refer to the following item.
Push the water hose onto the heater radiator pipe as far as second ridge on the pipe.

3. REMOVE FRONT SEATS
4. REMOVE FRONT DOOR SCUFF PLATES
5. REMOVE COWL SIDE TRIMS
6. REMOVE REAR DOOR SCUFF PLATES
7. REMOVE LOWER DOOR SCUFF PLATES
8. REMOVE REAR CONSOLE BOX
9. REMOVE AIR OUTLET GRILL LH

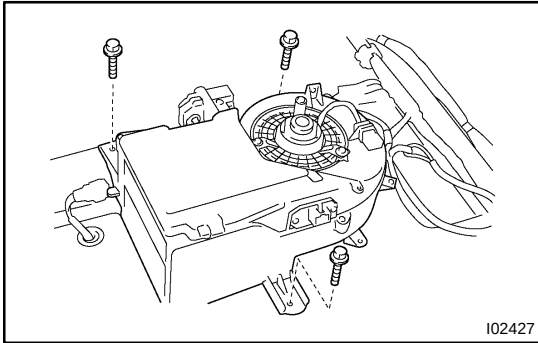


10. REMOVE REAR HEATER UNIT

- (a) Slide the floor carpet backward.
- (b) Remove the 2 clips and air outlet grill from rear heater unit.



(c) Remove the 2 bolts, 2 clips and rear air duct.



(d) Disconnect the connectors.

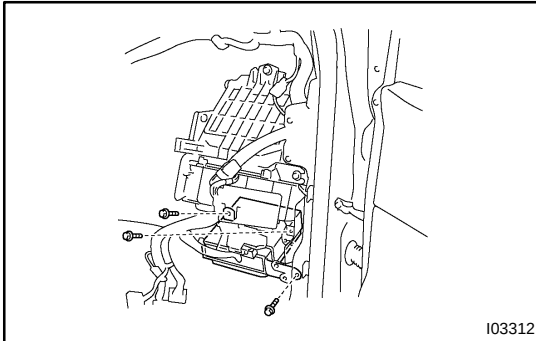
(e) Remove the 3 bolts and rear heater unit.

REMOVAL

1. REMOVE COOLING UNIT (See page [AC-27](#))
2. REMOVE INSTRUMENT PANEL AND REINFORCEMENT (See page [BO-98](#))

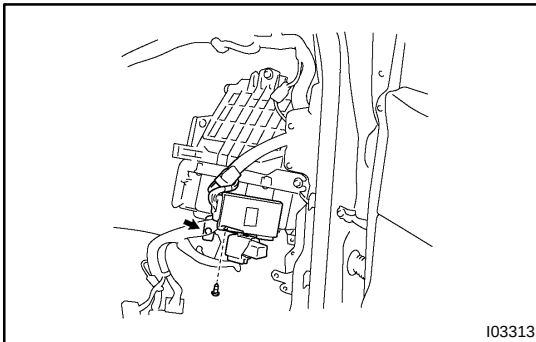
3. REMOVE ECM

Remove the 3 bolts and ECM.



4. REMOVE BLOWER UNIT

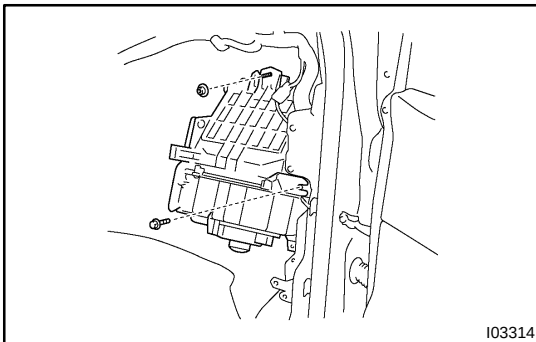
- (a) Remove the wire harness clamp.
- (b) Remove the screw and A/C amplifier with cooler bracket.
- (c) Disconnect the connector.



- (d) Remove the 2 rivets, bolt and blower unit.

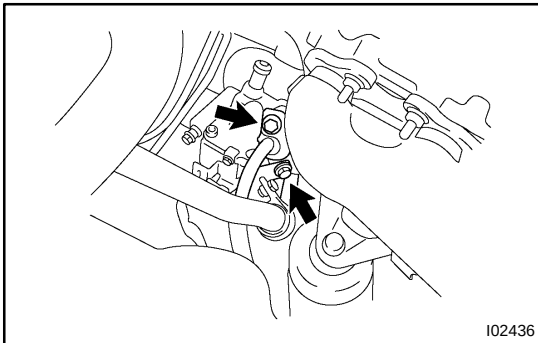
HINT:

At the time of installation, please refer to the following item.
Do not reuse the 2 rivets.



REMOVAL

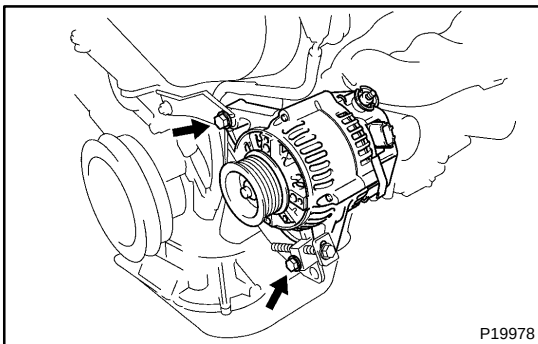
1. RUN ENGINE AT IDLE SPEED WITH A/C ON FOR APPROX. 10 MINUTES
2. STOP ENGINE
3. DISCONNECT NEGATIVE (-) TERMINAL CABLE FROM BATTERY
4. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM
5. REMOVE DRIVE BELT (See page [AC-18](#))



6. DISCONNECT DISCHARGE AND SUCTION HOSES
Remove the 2 bolts and disconnect the both hoses.

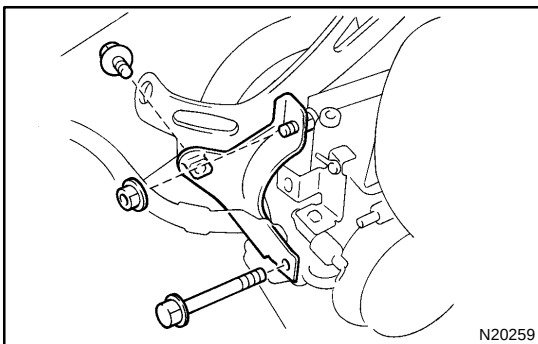
NOTICE:

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



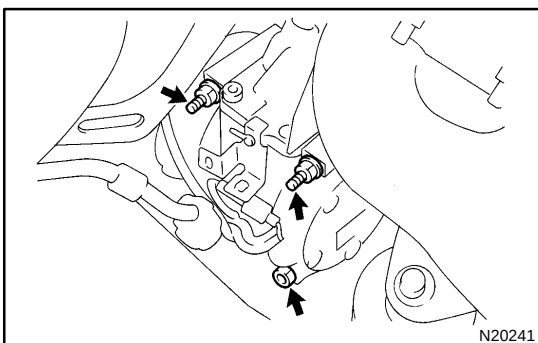
7. REMOVE GENERATOR

- (a) Disconnect the generator connector.
- (b) Remove the nut, and disconnect the generator wire.
- (c) Disconnect the wire harness from the clip.
- (d) Remove the pivot bolt, plate washer, adjusting lock bolt and generator.



8. REMOVE COMPRESSOR

- (a) Disconnect the connector.
- (b) Remove the 2 bolts, nut and drive belt adjusting bar bracket.



- (c) Remove the 3 bolts and compressor.

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

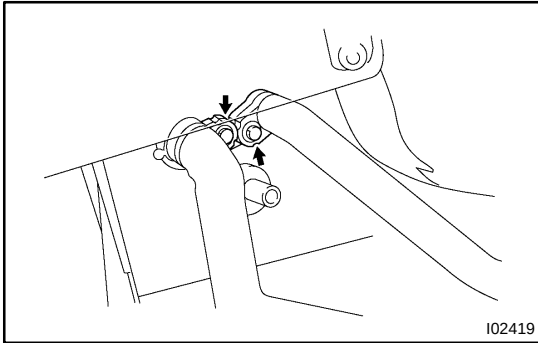
HINT:

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

Evacuate air from refrigeration system.

Charge system with refrigerant and inspect the leakage of refrigerant.

Specified amount: 1,050 ± 50 g (37.03 ± 1.76 oz.)



2. DISCONNECT LIQUID AND SUCTION TUBES

(a) Remove the bolt and nut.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

(b) disconnect the both tubes.

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.

3. REMOVE REAR NO. 2 SEAT

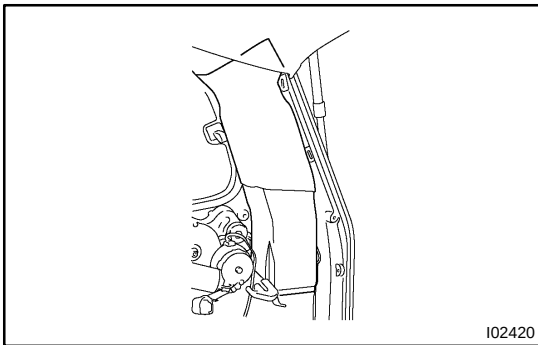
4. REMOVE REAR DOOR SCUFF PLATE RH

5. REMOVE BACK DOOR GARNISH

6. REMOVE REAR QUARTER TRIM RH

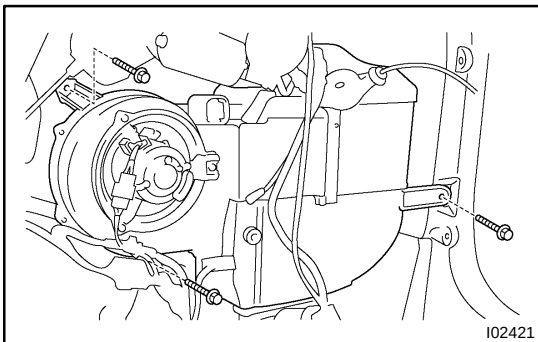
7. REMOVE QUARTER PILLER GARNISH

(See page [BO-79](#))



8. REMOVE REAR COOLING UNIT

(a) Remove the No. 6 rear air duct.



(b) Disconnect the connectors.

(c) Remove the 3 bolts and cooling unit.

REMOVAL

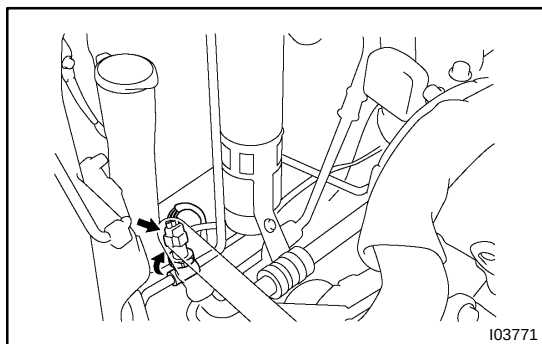
1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

HINT:

At the time of installation, please refer to the following item.
Evacuate air from refrigeration system.

Charge system with refrigerant and inspect for refrigerant.

Specified amount: 1,050 ± 50 g (37.03 ± 1.76 oz.)



2. REMOVE PRESSURE SWITCH FROM LIQUID TUBE

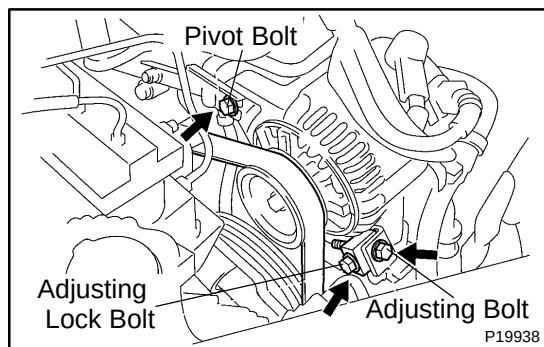
Disconnect the connector and remove the pressure switch.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

HINT:

- Lock the switch mounted on the tube with an open end wrench, being careful not to deform the tube and remove the switch.
- At the time of installation, please refer to the following item.

Lubricate a new O-ring with the compressor oil and install them to the switch.



REMOVAL

REMOVE DRIVE BELT

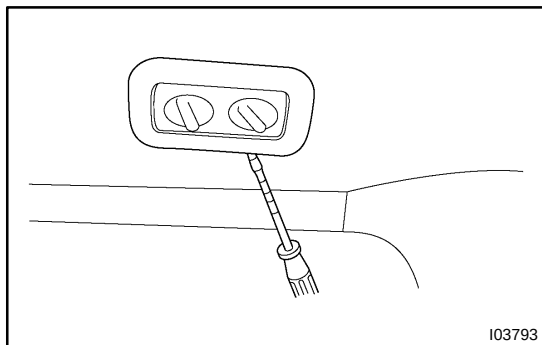
- (a) Loosen the pivot bolt and adjusting lock bolt.

Torque:

Pivot bolt: 56 N·m (570 kgf·cm, 41 ft·lbf)

Adjusting lock bolt: 18 N·m (185 kgf·cm, 13 ft·lbf)

- (b) Loosen the belt tension by adjusting bolt and remove the drive belt.



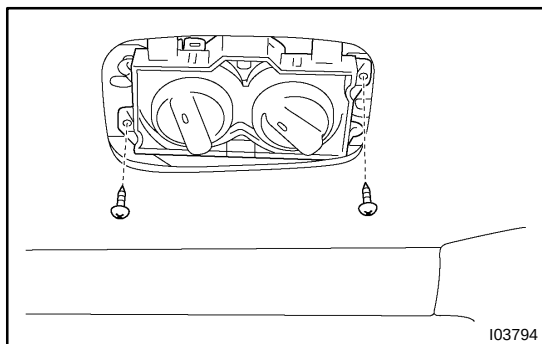
REMOVAL

1. REMOVE HEATER CONTROL NAME PLATE

Using a screwdriver, pull out heater control name plate.

HINT:

Tape the screwdriver tip before use.



2. REMOVE REAR HEATER CONTROL ASSEMBLY

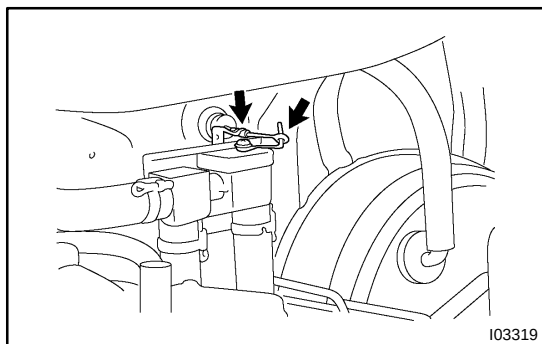
Remove the 2 screws and heater control assembly, then disconnect the connectors.

REMOVAL

1. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all coolant.

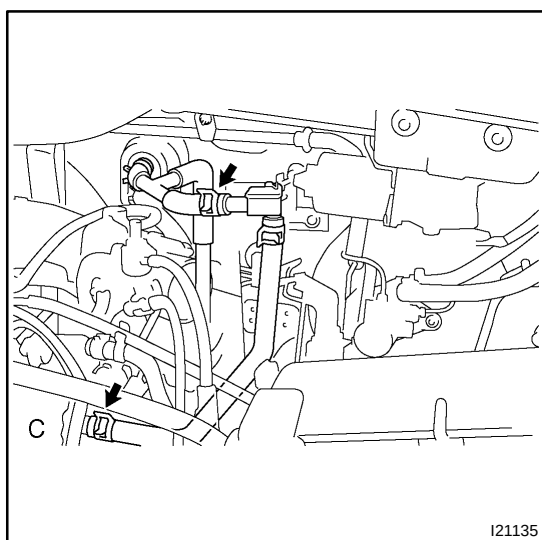


2. DISCONNECT WATER VALVE CONTROL CABLE FROM WATER VALVE

HINT:

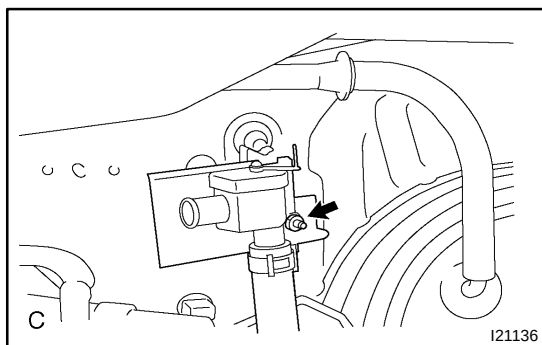
At the time of installation, please refer to the following item.

For installing control cable, refer to "INSTALLATION" on page [AC-81](#).



3. DISCONNECT WATER HOSES FROM WATER VALVE AND WATER INLET HOUSING

- (a) Using pliers, grip the claws of hose clips and slide the hose clips along the hose.
- (b) Disconnect the water hoses.



4. REMOVE WATER VALVE

Remove nut and water valve.

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
Receiver x Liquid tube	5.4	55	48 in.·lbf
Condenser x Discharge hose	10	100	7
Condenser x Liquid tube	14	140	10
Compressor x Discharge hose	10	100	7
Compressor x Suction hose	10	100	7
Front cooling unit x Liquid tube	5.4	55	48 in.·lbf
Front cooling unit x Suction hose	5.4	55	48 in.·lbf
Rear cooling unit x Liquid tube	5.4	55	48 in.·lbf
Rear cooling unit x Suction tube	5.4	55	48 in.·lbf
Liquid line (Block joint)	5.4	55	48 in.·lbf
Suction line (Block joint)	5.4	55	48 in.·lbf
Liquid line (Piping joint)	14	140	10
Suction line (Piping joint)	32	330	24

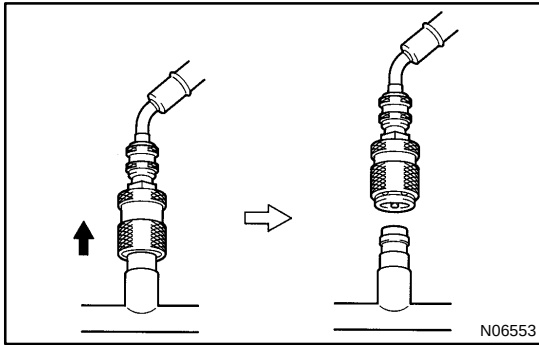
4. EVACUATE AIR FROM REFRIGERATION SYSTEM AND CHARGE WITH REFRIGERANT

Specified amount: 1,050 ± 50 g (37.03 ± 1.76 oz.)

5. INSPECT FOR LEAKAGE OF REFRIGERANT

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

6. INSPECT AIR CONDITIONING OPERATION



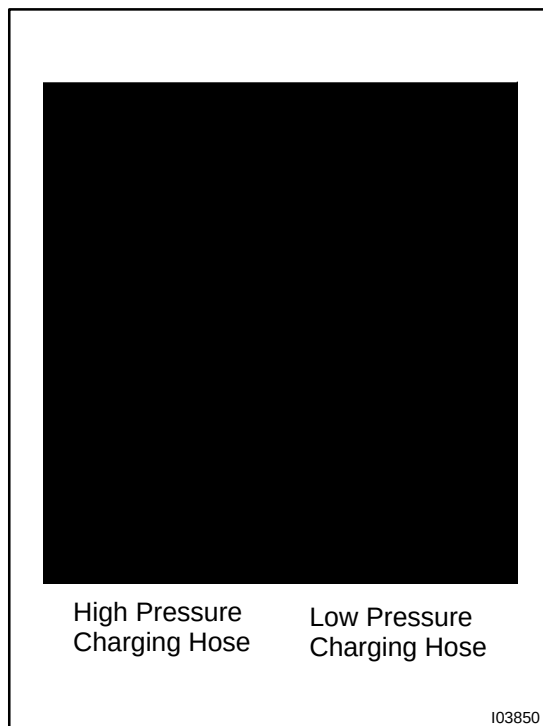
SET OFF

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 LINE



MANIFOLD GAUGE SET SET ON

AC053-04

1. CONNECT CHARGING HOSES TO MANIFOLD GAUGE SET

Tighten the nuts by hand.

CAUTION:

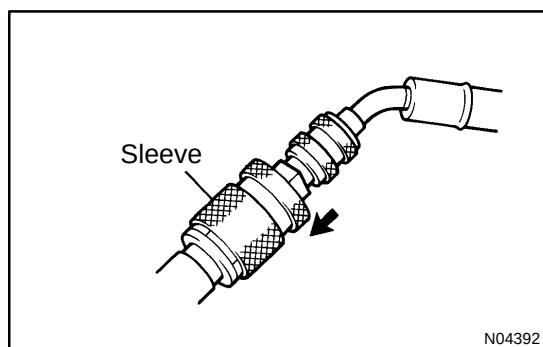
Do not connect the wrong hoses.

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 VALVES ON REFRIGERANT LINE



5. CONNECT QUICK DISCONNECT ADAPTERS TO SERVICE VALVES

HINT:

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