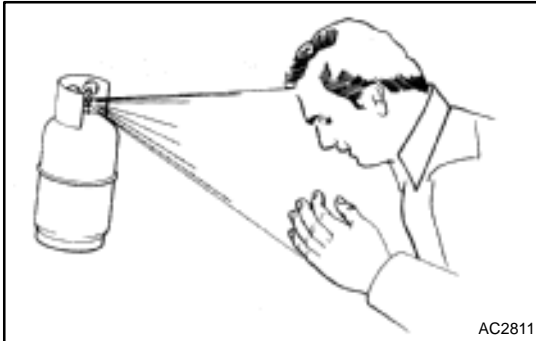


AC2810

AIR CONDITIONING SYSTEM PRECAUTION

AC001-09

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



AC2811

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.

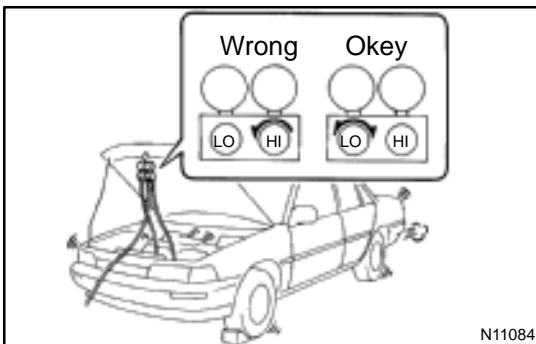
- (a) Wash the area with much cool water.

CAUTION:

Do not rub your eyes or skin.

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

4. **NEVER HEAT CONTAINER OR EXPOSE IT TO NAKED FLAME**
5. **BE CAREFUL NOT TO DROP CONTAINER AND NOT TO APPLY PHYSICAL SHOCKS TO IT**



N11084

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

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

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

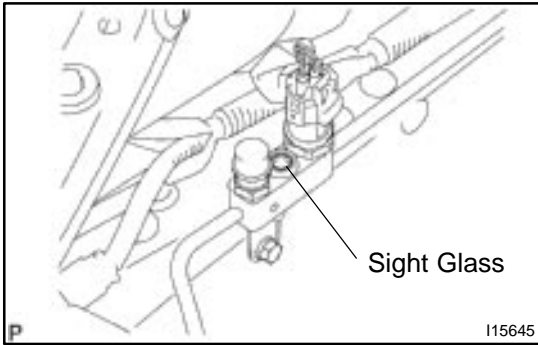
If the high pressure valve is opened, refrigerant flows in the reverse direction and could cause the charging cylinder to rupture, so open and close the only low pressure valve.

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 MR2 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.



ON-VEHICLE INSPECTION

1. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER

2. INSPECT REFRIGERANT VOLUME

Observe the sight glass on the liquid tube.

Test conditions:

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

Item	Symptom	Amount of refrigerant	Remedy
1	Bubbles present in sight glass	Insufficient*	4. Check for gas leakage with gas leak detector and repair if necessary 5. Add refrigerant until bubbles disappear
2	No bubbles present in 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 or purified 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.

3. INSPECT REFRIGERANT PRESSURE WITH MANIFOLD GAUGE SET

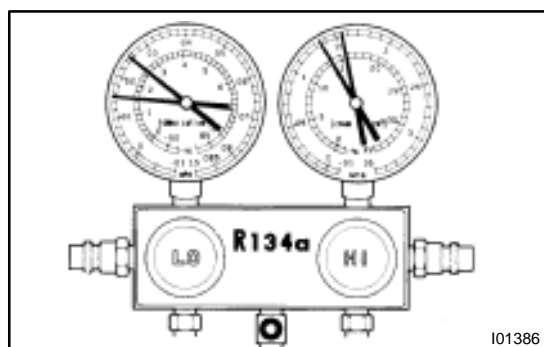
This method locates the trouble using a manifold gauge set. Read the manifold gauge pressure when these conditions are established.

Test conditions:

- Temperature at the air inlet with the switch set at RECURC is 30 – 35°C (86 – 95°F)
- Engine running at 1500 rpm
- Blower speed control switch at "HI" position
- Temperature control dial at "COOL" position

HINT:

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



(1) Normally functioning refrigeration system

Gauge reading:

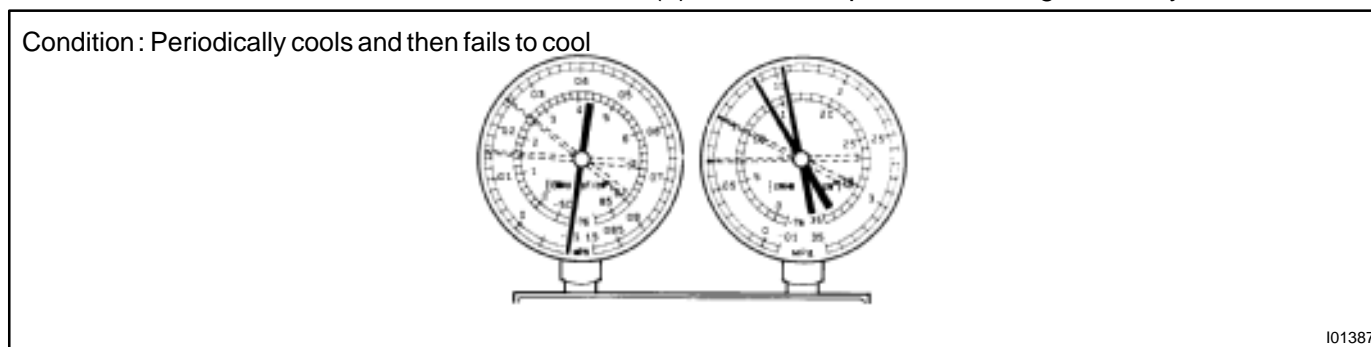
Low pressure side:

0.15 – 0.25 MPa (1.5 – 2.5 kgf/cm²)

High pressure side:

1.37 – 1.57 MPa (14 – 16 kgf/cm²)

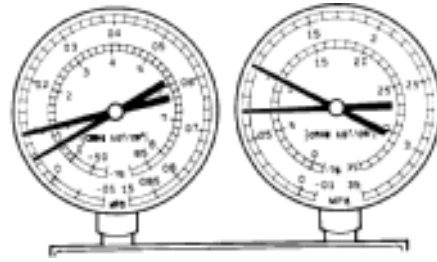
(2) Moisture present in refrigeration system.



Symptom 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	<ul style="list-style-type: none"> • Drier in oversaturated state • Moisture in refrigeration system freezes at expansion valve orifice and blocks circulation of refrigerant 	<ol style="list-style-type: none"> 1. Replace condenser 2. Remove moisture in cycle through repeatedly evacuating air 3. Charge proper amount of new refrigerant

(3) Insufficient cooling

Condition: Insufficient cooling

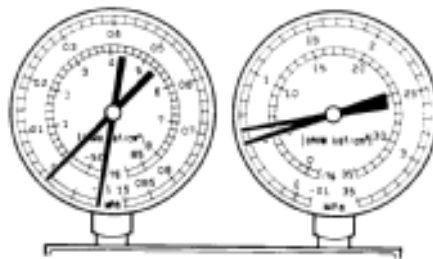


I01388

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Insufficient refrigerant in system • Refrigerant leaking 	<ol style="list-style-type: none"> 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

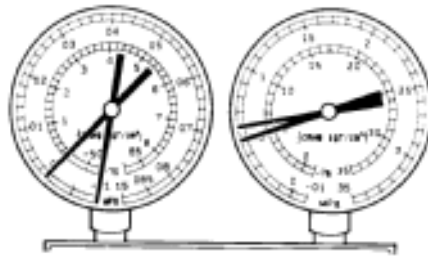


I01389

Symptom in refrigeration system	Probable cause	Diagnosis	Remedy
<ul style="list-style-type: none"> • Pressure low in both low and high pressure sides • Frost on tube from condenser to unit 	Refrigerant flow obstructed by dirt in receiver	Receiver clogged	Replace condenser

(5) Refrigerant does not circulate

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

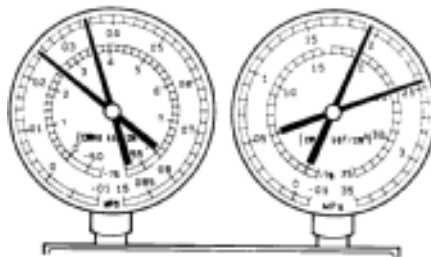


I01449

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Refrigerant flow obstructed by moisture or dirt in refrigeration system • Refrigerant flow obstructed by gas leakage from expansion valve 	Refrigerant does not circulate	<ol style="list-style-type: none"> 1. Check expansion valve 2. Clean out dirt in expansion valve by blowing with air 3. Replace condenser 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

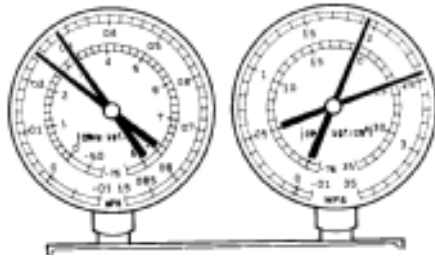


I01390

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
<ul style="list-style-type: none"> • Pressure too high on both low and high pressure sides • No bubbles seen through the sight glass even when the engine rpm is lowered 	<ul style="list-style-type: none"> • Unable to develop sufficient performance due to excessive • Insufficient cooling of condenser 	<ul style="list-style-type: none"> • Excessive refrigerant in cycle→refrigerant overcharged • Condenser cooling insufficient→condenser fins clogged of cooling fan 	<ol style="list-style-type: none"> 1. Clean condenser 2. Check cooling fan with fluid coupling 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



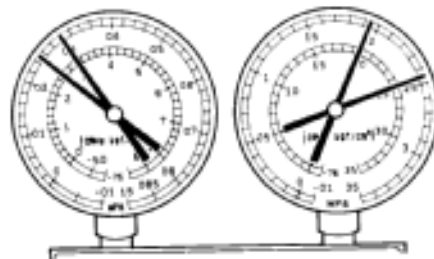
HINT : These gauge indications are shown when the refrigeration system has been opened and the refrigerant charged without vacuum purging.

I01392

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
<ul style="list-style-type: none"> • Pressure too high on both low and high pressure sides • The low pressure piping hot to the touch • Bubbles seen in sight glass 	Air entered in refrigeration system	<ul style="list-style-type: none"> • Air present in refrigeration system • Insufficient vacuum purging 	<ol style="list-style-type: none"> 1. Check to see if compressor oil is dirty or insufficient 2. Evacuate air and charge new refrigerant

(8) Expansion valve improperly

Condition: Insufficient cooling

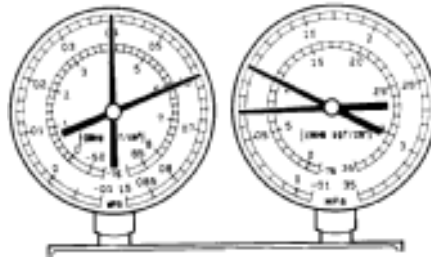


I01450

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Excessive refrigerant in low pressure piping • Expansion valve opened too wide 	<p>Check expansion valve Replace if defective</p>

(9) Defective compression compressor

Condition : Does not cool



I01393

Symptom seen in refrigeration system	Probable cause	Diagnosis	Remedy
<ul style="list-style-type: none"> • Pressure too high on low high pressure sides • Pressure too low to on high pressure side 	Internal leak in compressor	<ul style="list-style-type: none"> • Compression defective • Valve leaking or broken sliding parts 	Repair or replace compressor

4. INSPECT IDLE-UP SPEED

- (a) Warm up engine.
- (b) Inspect idle-up speed when the these conditions are established.
 - Warm up engine
 - Blower speed control switch at "HI" position
 - A/C switch ON
 - Temperature control dial at "COOL" position

Magnetic clutch condition	Idle-up speed
Magnetic clutch not engaged	700 ± 50 rpm
Magnetic clutch engaged	900 ± 50 rpm

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

5. INSPECT FOR LEAKAGE OF REFRIGERANT

- (a) Perform in 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 and exhaust gas.)
 - Repeat the test 2 or 3 times.
 - Make sure that there is some refrigerant remaining in the refrigeration system.
When compressor is OFF: approx. 392 – 588 kPa (4 – 6 kgf/cm², 57 – 85 psi)
- (b) Bring the gas leak detector close to the drain hose before performing the test.

HINT:

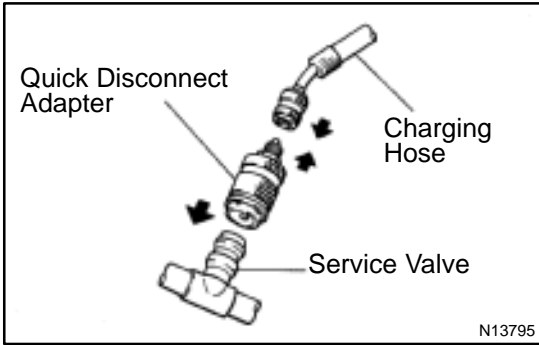
- After the blower motor stopped, leave the cooling unit for more than 15 minutes.
- Expose the gas leak detector sensor under the drain hose.

- When bringing the gas leak detector close to the drain hose, make sure that the gas leak detector does not react to the volatile gases.

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

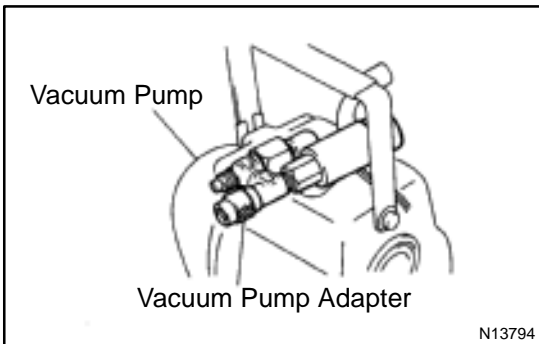
- (c) If gas leak is not detected on the drain hose, remove the blower resistor from the cooling unit. Then insert the gas leak detector sensor into the unit and perform the test.
- (d) Disconnect the connector and leave the pressure switch for approx. 20 minutes. Then bring the gas leak detector close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

6. REINSTALL LUGGAGE COMPARTMENT TRIM BOX COVER

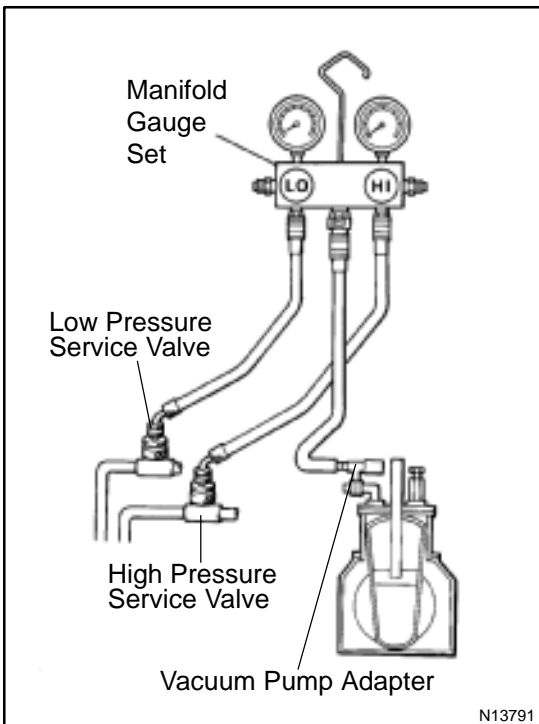


EVACUATING

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



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

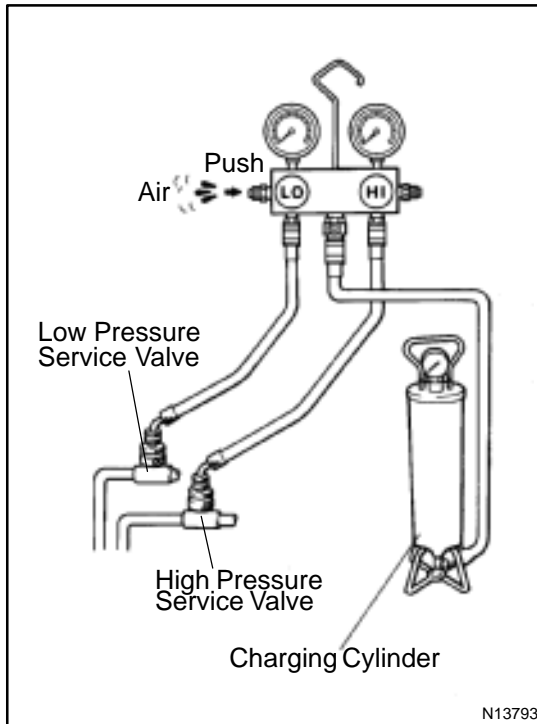


- (b) Connect the center hose of the manifold gauge set to the vacuum pump adapter.
- (c) Open both the high and low hand valves and run the vacuum pump.
- (d) After 10 minutes or more, check that the low pressure gauge indicates 750 mmHg (30 in. Hg) or more.

HINT:

If the reading 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 necessary.

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



CHARGING

1. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER
2. INSTALL CHARGING CYLINDER

HINT:

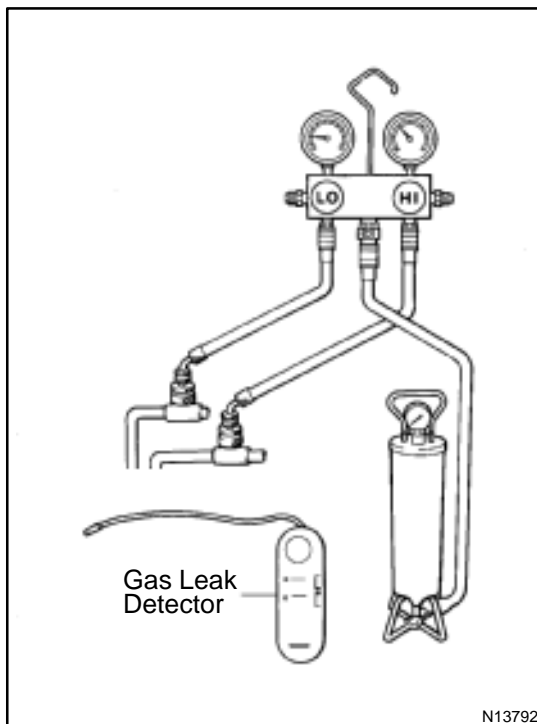
When handling the charging cylinder, always follow the directions given in the instruction manual.

- (a) Charge the proper amount of refrigerant into the charging cylinder.
- (b) Connect the center hose to the charging cylinder.

CAUTION:

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

- (c) Open the valve of charging cylinder.
- (d) Press the valve core on the side of manifold gauge and purge the air inside of the center hose.

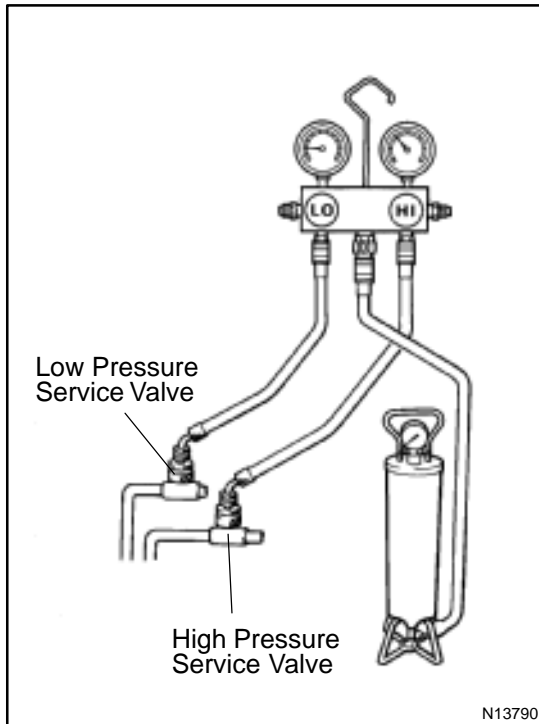


3. INSPECT REFRIGERATION SYSTEM FOR LEAKS

- (a) Open the high pressure hand valve and charge refrigerant.
- (b) When the low pressure gauge indicates 98 kPa (1 kgf/cm², 14 psi) close the high pressure hand valve.
- (c) Using a gas leak detector, check the system for leakage.

CAUTION:

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



4. 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 the system through the high pressure side.
- Do not open the low pressure hand valve when the system is being charged with liquid refrigerant.

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

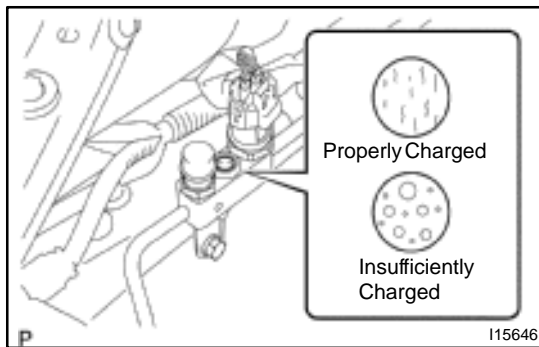
HINT:

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

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

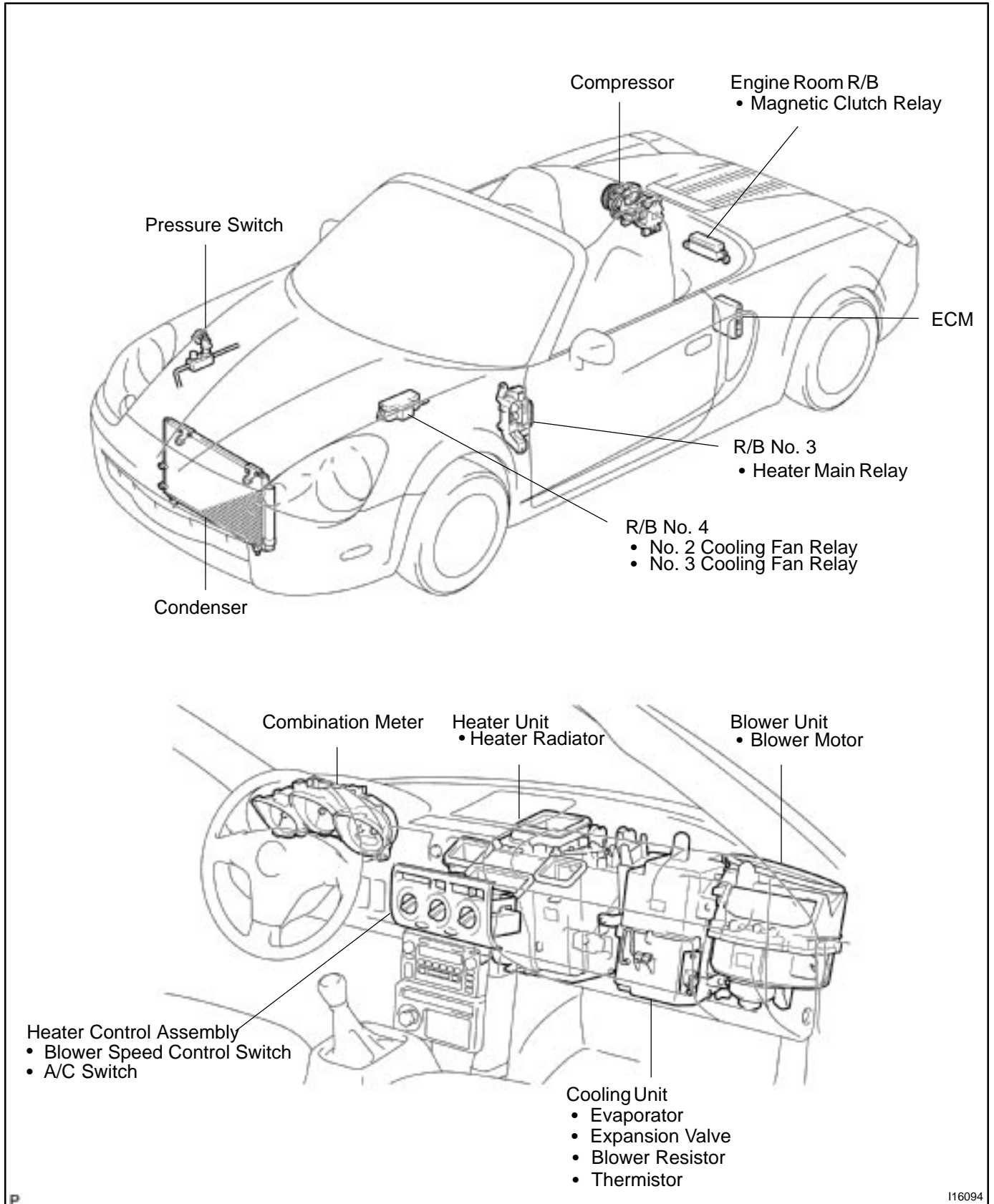
CAUTION:

Do not open the high pressure hand valve.



- (d) Charge refrigerant until bubbles disappear and check the pressure on the gauge through the sight glass.
- (e) Replenishment to be 100 ± 50 g after bubbles disappear.

LOCATION



TROUBLESHOOTING

AC1FO-03

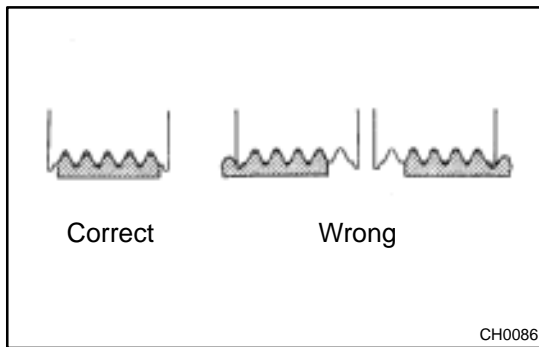
PROBLEM SYMPTOMS TABLE

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.

Symptom	Suspect Area	See page
No blower operation	<ol style="list-style-type: none"> 3. HTR fuse 4. Heater main relay 5. Blower motor 6. Blower resistor 7. Blower speed control switch 8. Wire harness 	<p>–</p> <p>AC-70</p> <p>AC-64</p> <p>AC-65</p> <p>AC-84</p> <p>–</p>
No blower control	<ol style="list-style-type: none"> 1. Blower motor 2. Blower resistor 3. Blower speed control switch 4. Wire harness 	<p>AC-64</p> <p>AC-65</p> <p>AC-84</p> <p>–</p>
No air temperature	<ol style="list-style-type: none"> 1. Engine coolant volume 2. Heater control assembly 	<p>–</p> <p>AC-81</p>
No compressor operation	<ol style="list-style-type: none"> 1. Refrigerant volume 2. A.C fuse 3. Magnetic clutch 4. Compressor lock sensor 5. Compressor 6. Pressure switch 7. Heater main relay 8. Blower speed control switch 9. Heater control assembly 10. Thermistor 11. Wire harness 	<p>AC-3</p> <p>–</p> <p>AC-46</p> <p>AC-46</p> <p>AC-46</p> <p>AC-67</p> <p>AC-70</p> <p>AC-84</p> <p>AC-81</p> <p>AC-66</p> <p>–</p>
No cool air comes out	<ol style="list-style-type: none"> 1. Refrigerant volume 2. Refrigerant pressure 3. Drive belt 4. Magnetic clutch 5. Compressor lock sensor 6. Pressure switch 7. Thermistor 8. Heater control assembly 9. Wire harness 	<p>AC-3</p> <p>AC-3</p> <p>AC-16</p> <p>AC-46</p> <p>AC-46</p> <p>AC-67</p> <p>AC-66</p> <p>AC-81</p> <p>–</p>
Insufficient cooling	<ol style="list-style-type: none"> 1. Refrigerant volume 2. Drive belt 3. Magnetic clutch 4. Compressor 5. Condenser 6. Expansion Valve 7. Evaporator 8. Refrigerant lines 9. Pressure switch 10. Air conditioning control system 11. Heater control assembly 	<p>AC-3</p> <p>AC-16</p> <p>AC-46</p> <p>AC-46</p> <p>AC-56</p> <p>AC-23</p> <p>AC-29</p> <p>AC-20</p> <p>AC-67</p> <p>AC-78</p> <p>AC-81</p>
No engine idle-up with A/C switch ON	<ol style="list-style-type: none"> 1. Heater control assembly 2. ECM 3. Idle control system 4. Wire harness 	<p>AC-81</p> <p>–</p> <p>–</p> <p>–</p>
No air inlet control	<ol style="list-style-type: none"> 1. Heater control assembly 2. Wire harness 	<p>AC-81</p> <p>–</p>

AIR CONDITIONING – TROUBLESHOOTING

No mode control	<ol style="list-style-type: none"> 1. Heater control assembly 2. Wire harness 	<p style="text-align: right;">AC-81 –</p>
Blinking of A/C indicator	<ol style="list-style-type: none"> 1. Compressor 2. Drive belt 3. Compressor lock sensor 4. Heater control assembly 	<p style="text-align: right;">AC-46 AC-16 AC-46 AC-81</p>
Brightness does not change when light control switch is turned on	<ol style="list-style-type: none"> 1. Headlight and taillight system 2. Heater control assembly 	<p style="text-align: right;">BE-18 AC-81</p>

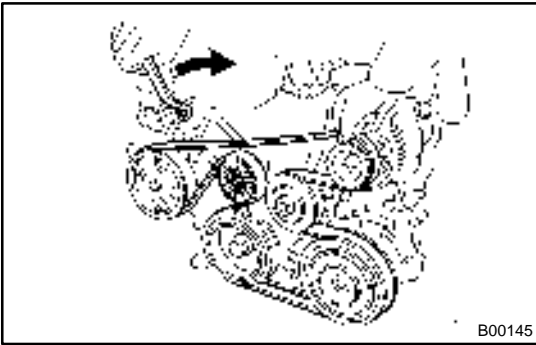


DRIVE BELT ON-VEHICLE INSPECTION

AC2GV-02

INSPECT DRIVE BELT'S INSTALLATION CONDITION

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



REPLACEMENT

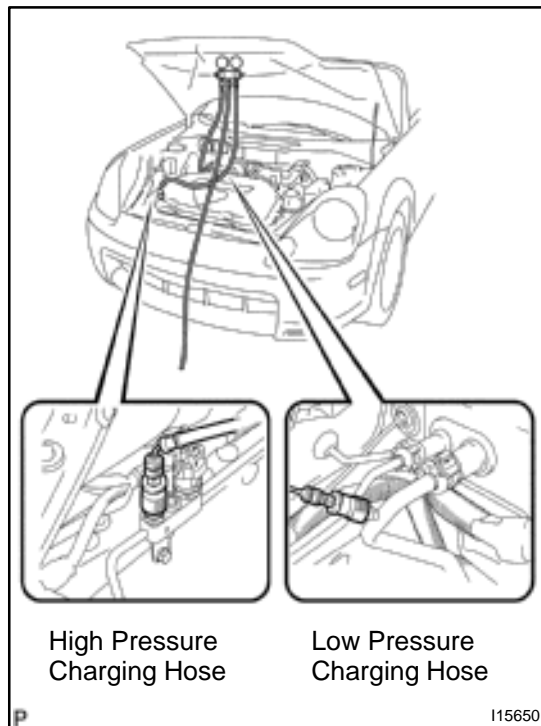
1. REMOVE DRIVE BELT

Loosen the drive belt tension by turning the drive belt tensioner arm clockwise, and remove the drive belt.

2. REINSTALL DRIVE BELT

Turning the drive belt tensioner arm clockwise, and install the drive belt.

3. CHECK DRIVE BELT INSTALLATION CONDITION



MANIFOLD GAUGE SET SET ON

AC0CA-05

1. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER
2. CONNECT CHARGE HOSE TO MANIFOLD GAUGE SET

Tighten the nuts by hand.

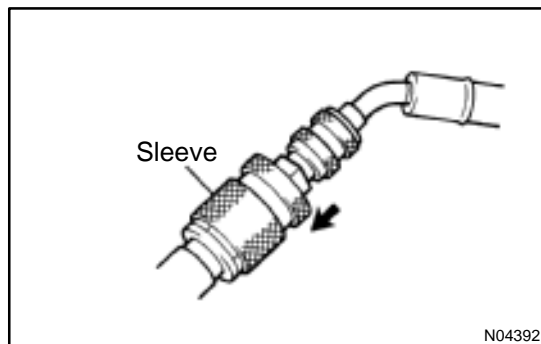
CAUTION:

Do not connect the wrong hoses.

3. CONNECT QUICK DISCONNECT ADAPTER TO CHARGING HOSES

Tighten the nuts by hand.

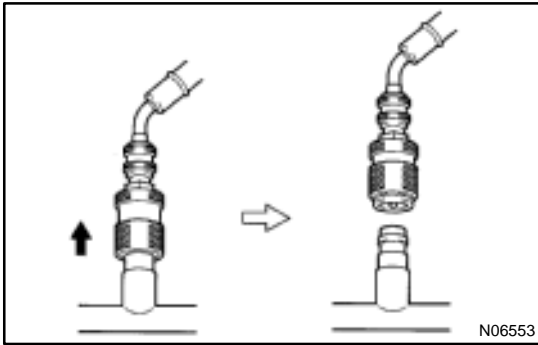
4. CLOSE BOTH HAND VALVES OF MANIFOLD GAUGE SET
5. REMOVE CAPS FROM SERVICE VALVE ON REFRIGERANT LINE



6. CONNECT QUICK DISCONNECT ADAPTER 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.



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
4. INSTALL LUGGAGE COMPARTMENT TRIM BOX COVER

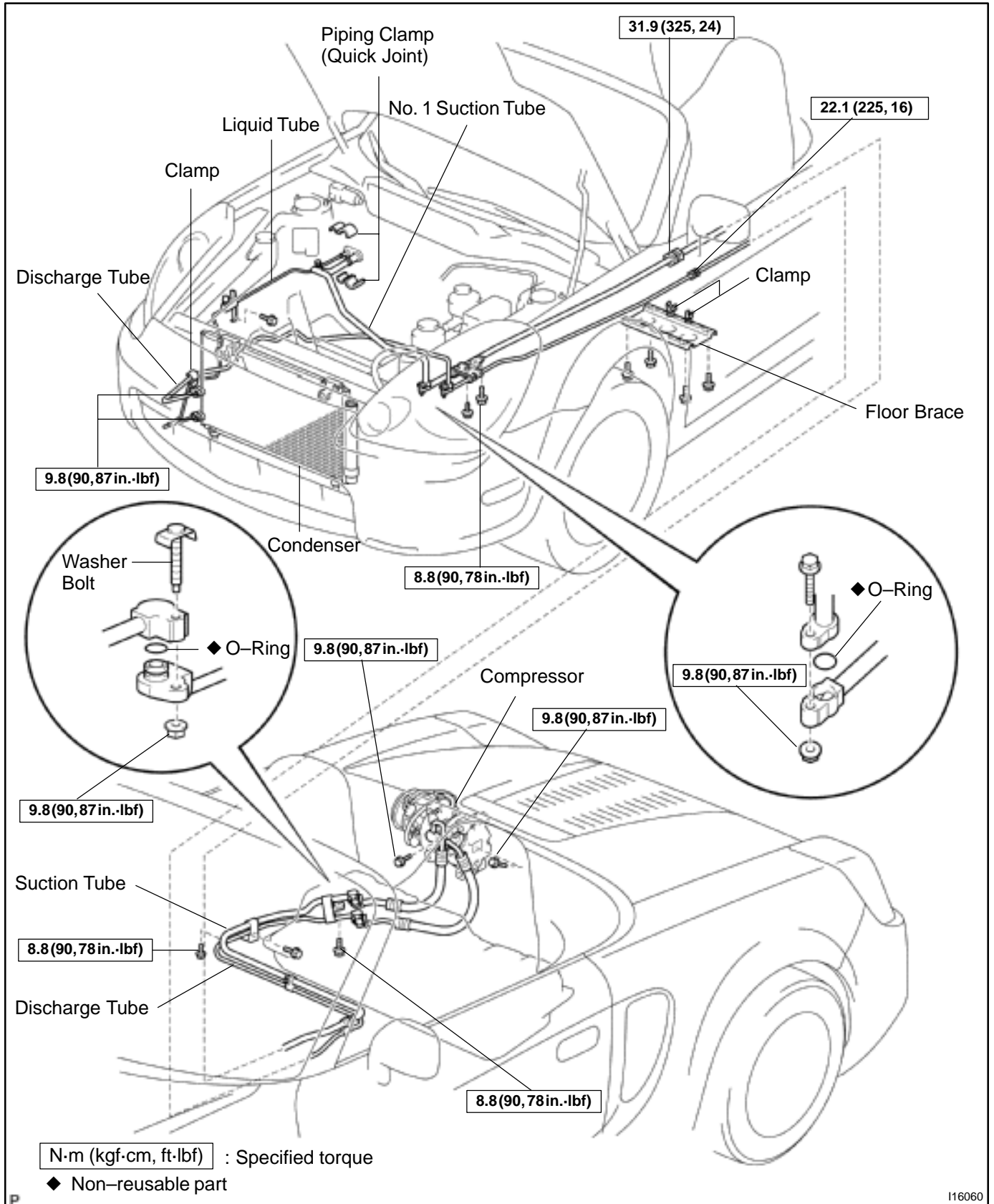
REFRIGERANT LINE ON-VEHICLE INSPECTION

AC00C-01

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.

LOCATION



I16060

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. TORQUE CONNECTIONS TO SPECIFIED TORQUE

NOTICE:

Connections should not be torqued tighter than the specified torque.

Part tightened	N-m	kgf-cm	ft.lbf
Condenser x Discharge tube	9.8	100	87 in.·lbf
Condenser x Liquid tube	9.8	100	87 in.·lbf
No. 1 suction Tube x Suction Tube	9.8	100	87 in.·lbf
Discharge tube x Discharge tube	9.8	100	87 in.·lbf
Discharge tube x Discharge tube (Washer Bolt)	22.1	225	16
Suction tube x Suction tube (Washer Bolt)	31.9	325	24
Compressor x Discharge hose	9.8	100	87 in.·lbf
Compressor x Suction hose	9.8	100	87 in.·lbf
Expansion valve x Evaporator	3.4	35	30 in.·lbf

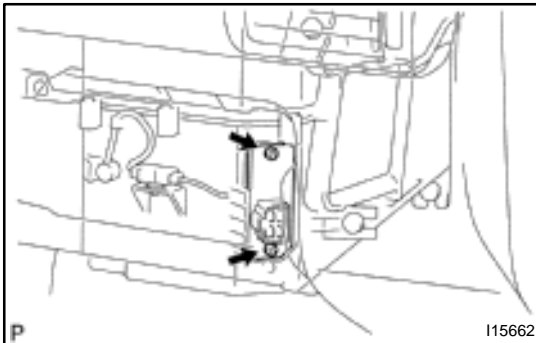
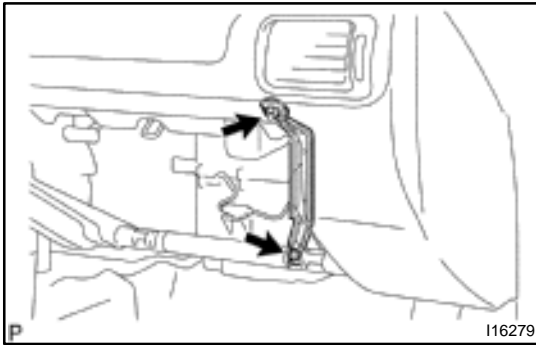
4. EVACUATE AIR IN REFRIGERATION SYSTEM AND CHARGE WITH REFRIGERANT

Specified amount: 500 ± 30 g (17.64 ± 1.06 oz.)

5. INSPECT FOR LEAKAGE OF REFRIGERANT

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

6. INSPECT AIR CONDITIONING OPERATION



COOLING UNIT ON-VEHICLE INSPECTION

AC2NE-01

1. REMOVE GLOVE COMPARTMENT DOOR
2. INSPECT FOR LEAKAGE OF REFRIGERANT
 - (a) Remove the nut, screw and No.1 instrument panel lower bracket.

- (b) Remove the blower resistor.
 - (1) Disconnect the blower resistor connector.
 - (2) Remove the 2 screws and blower resistor.
 - (c) Inspect for the leakage of refrigerant, using a gas leak detector.

If there is leakage, check the tightening torque at the joints or check the evaporator (See pages [AC-29](#) and [AC-30](#)).

- (d) Reinstall the blower resistor with the 2 screws.
 - (e) Reconnect the blower resistor connector.
 - (f) Reinstall the No.1 instrument panel lower bracket with the nut and screw.

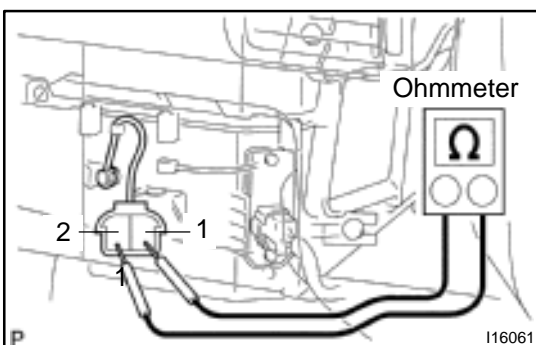
3. INSPECT EXPANSION VALVE

- (a) Check the quantity of gas during refrigeration cycle.
- (b) Set on the manifold gauge set.
- (c) Run the 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 – 228 psi).
- (d) Check the 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 low pressure drops to 0 kPa (0 kgf/cm², 0 psi), feel the receiver's IN and OUT sides for zero temperature difference.



4. INSPECT THERMISTOR RESISTANCE

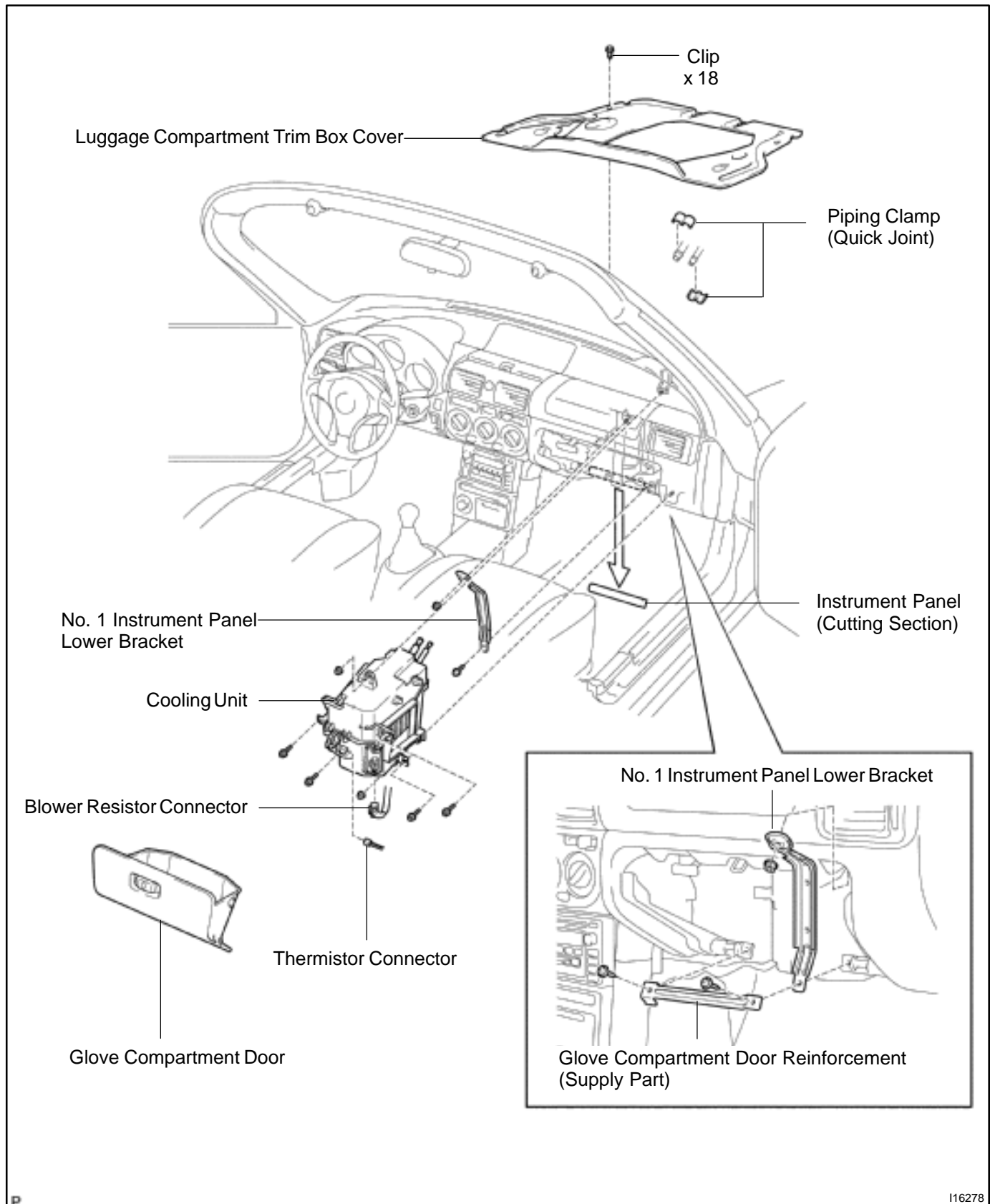
- (a) Disconnect the thermistor connector.
- (b) Using an ohmmeter, measure the resistance between the terminals.

Standard resistance: 1,700 Ω at 25°C (77°F)

If resistance is not as specified, replace the thermistor.

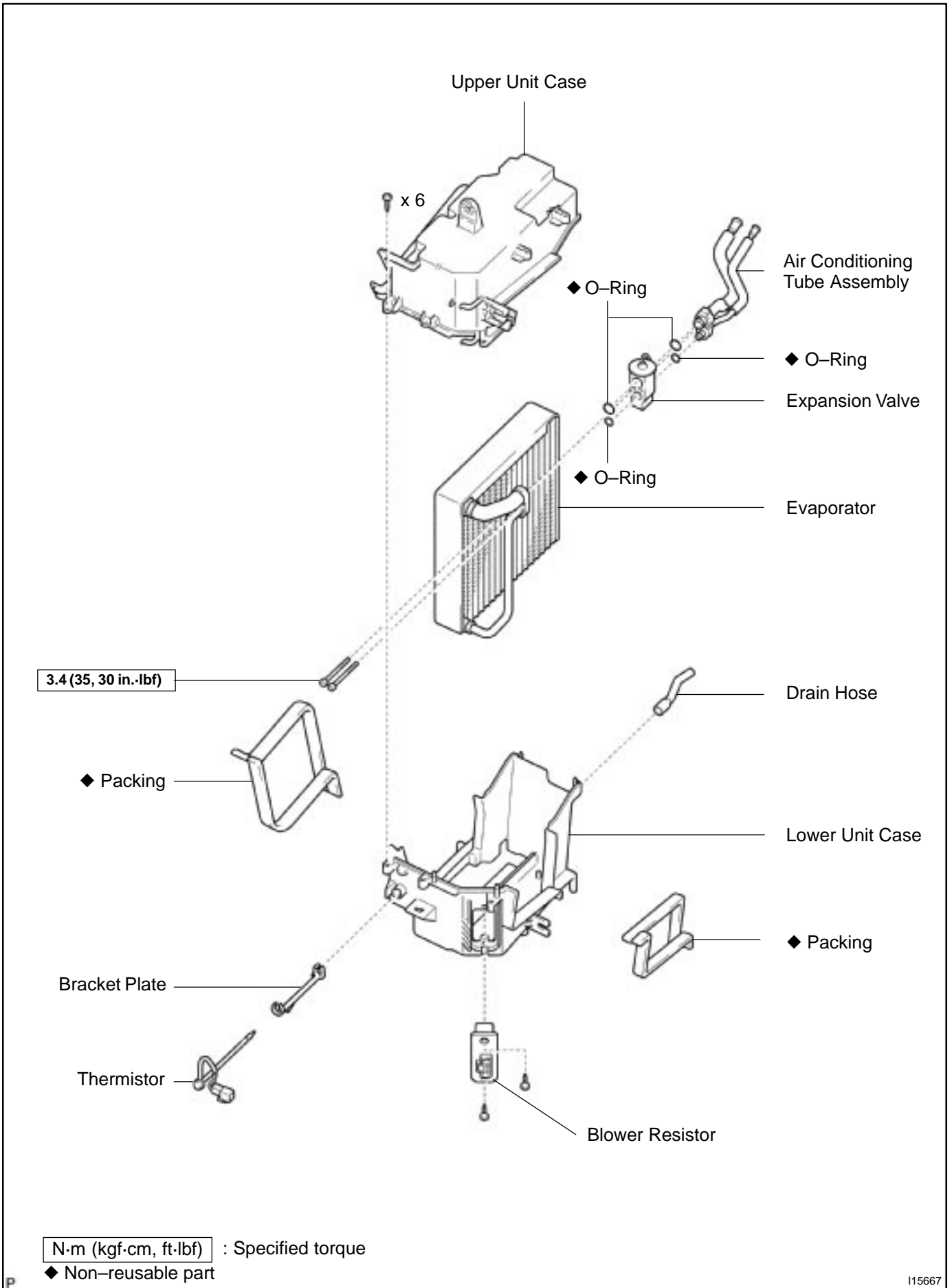
5. REINSTALL GLOVE COMPARTMENT DOOR

COMPONENTS



P

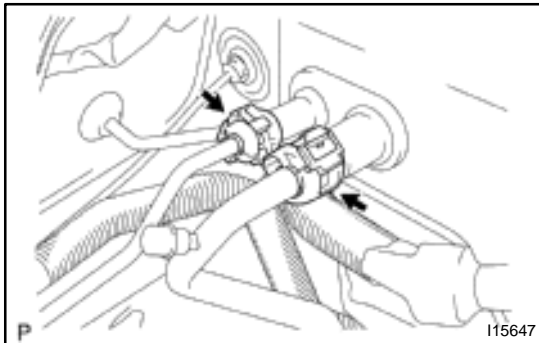
I16278



I15667

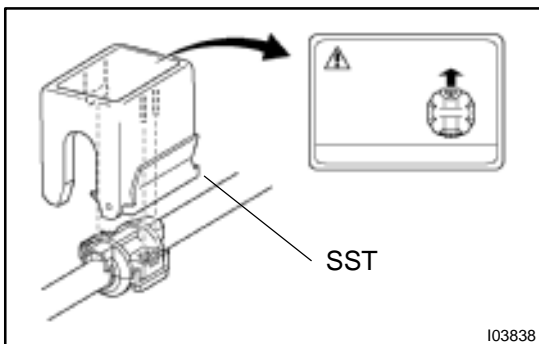
REMOVAL

1. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER
2. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM



3. DISCONNECT LIQUID TUBE AND SUCTION HOSE

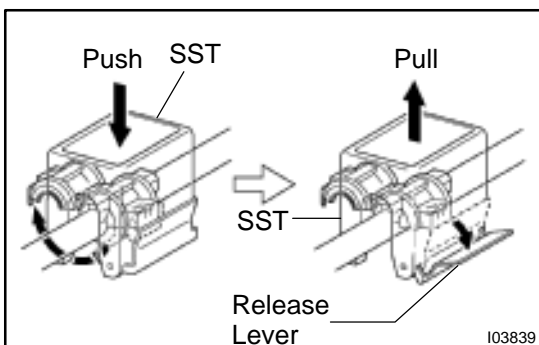
- (a) Using SST, remove the 2 piping clamps.
SST 09870-00015 (Suction tube)
09870-00025 (Liquid tube)



- (1) Insert SST to piping clamp.

HINT:

Confirm the direction of the piping clamp claw and SST using the illustration shown on the caution label.

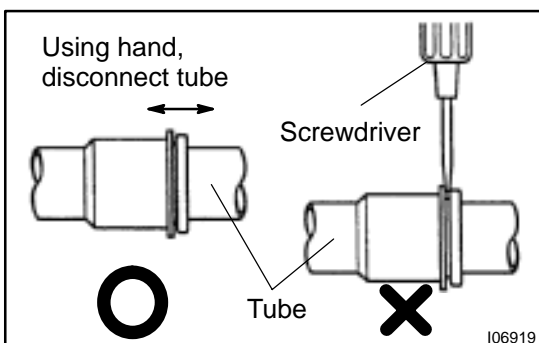


- (2) Push down SST and release the clamp lock.

NOTICE:

Be careful not to deform the tubes, when pushing SST.

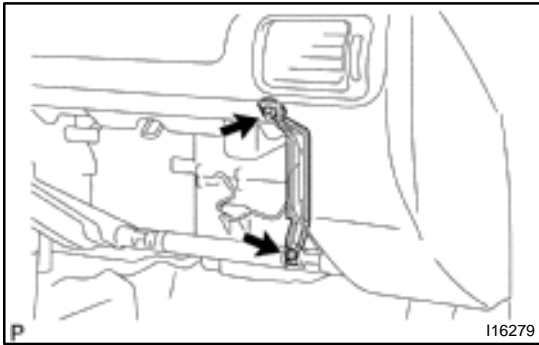
- (3) Pull SST slightly and push the release lever, then remove the piping clamp with SST.
 - (4) Remove the piping clamp from SST.
- (b) Disconnect the both tubes.



NOTICE:

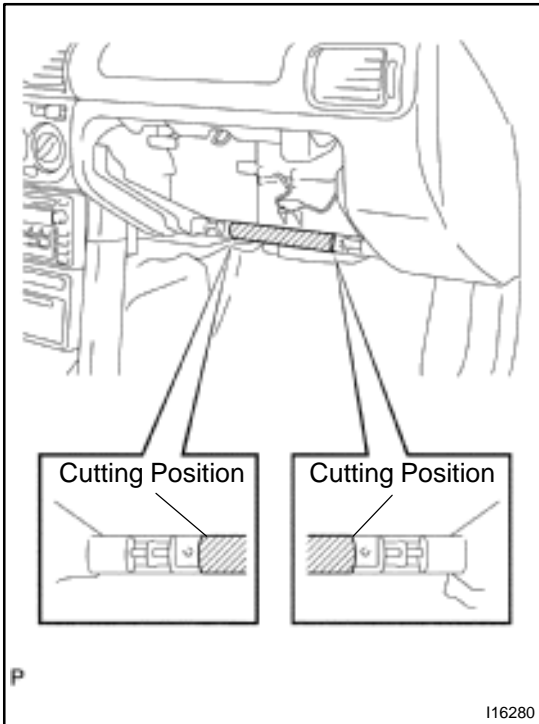
- Do not use tools like screwdrivers to remove the tube.
- Cap the open fittings immediately to keep moisture or dirt out of the system.

4. REMOVE GLOVE COMPARTMENT DOOR

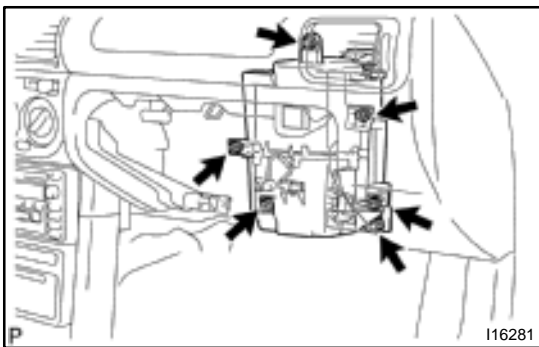


5. REMOVE COOLING UNIT

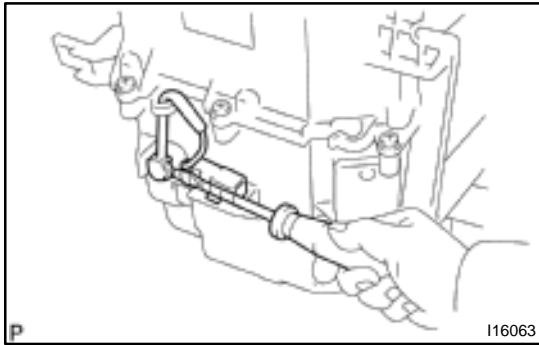
- (a) Remove the screw, nut and No. 1 instrument panel lower bracket.



- (b) Cut off the instrument panel as shown in the illustration.
HINT:
After cutting off the instrument panel, file the cutting face and smooth the surface.
- (c) Disconnect the blower resistor connector.
- (d) Disconnect the thermistor connector.



- (e) Remove the 4 screws, 2 nuts and cooling unit.



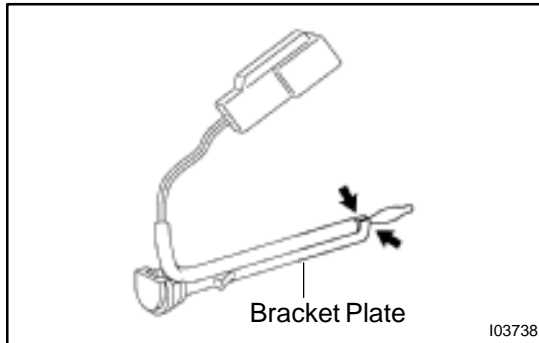
DISASSEMBLY

1. REMOVE THERMISTOR

- (a) Disconnect the connector clamp.
- (b) Using a screwdriver, pull out the thermistor.

HINT:

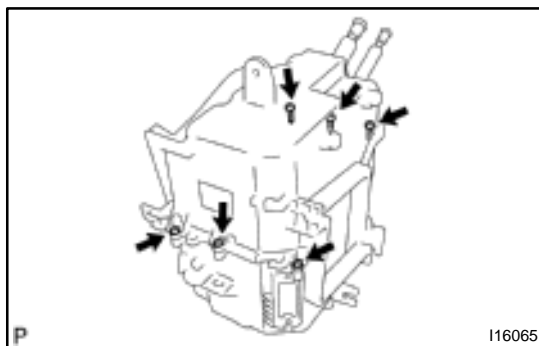
Tape the screwdriver tip before use.



- (c) Release the 2 claw and remove the thermistor from the bracket plate.

2. REMOVE BLOWER RESISTOR

Remove the 2 screws and blower resistor.

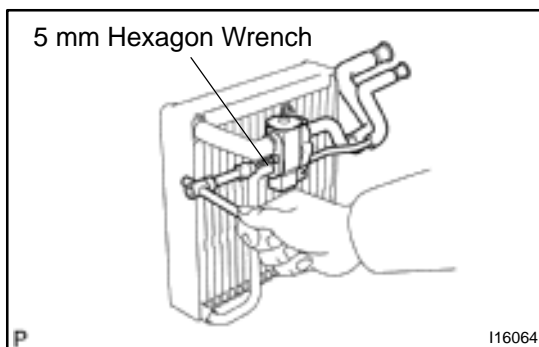


3. SEPARATE UPPER AND LOWER UNIT CASE

- (a) Using a knife, cut off each packing.
- (b) Remove the 6 screws holding the upper to the lower unit case.
- (c) Separate the upper and lower unit case.

4. REMOVE EVAPORATOR

Remove the evaporator from the lower unit case.



5. REMOVE EXPANSION VALVE

Using a 5 mm hexagon wrench, remove the 2 bolts, and separate the expansion valve and evaporator.

INSPECTION

1. INSPECT EVAPORATOR

(a) Check evaporator fins for blockage.

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

NOTICE:

Never use water to clean the evaporator.

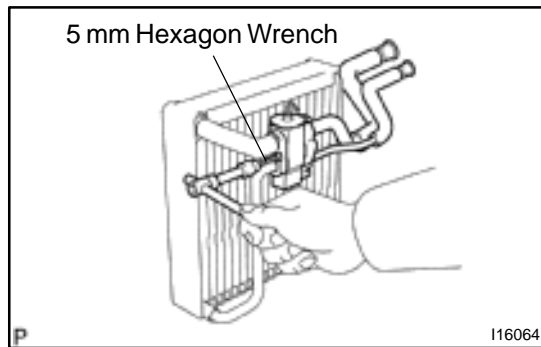
(b) Check fitting for cracks or scratches.

If necessary, repair or replace.

2. **INSPECT THERMISTOR (See page [AC-66](#))**

3. **INSPECT BLOWER RESISTOR (See page [AC-65](#))**

4. **INSPECT EXPANSION VALVE (See page [AC-23](#))**



REASSEMBLY

1. INSTALL EXPANSION VALVE

- (a) Coat 4 new O-rings with compressor oil.
- (b) Using a 5 mm hexagon wrench, install the expansion valve to the evaporator with the 2 bolts.

Torque: 3.4 N·m (35 kgf·cm, 30 in.-lbf)

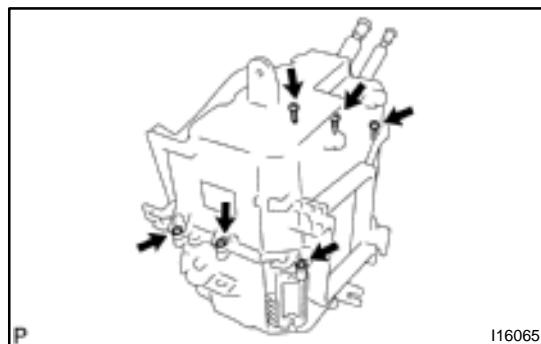
2. INSTALL EVAPORATOR

Install the evaporator to the lower case unit.

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

Add 40 cc (1.4 fl.oz.)

Compressor oil: ND-OIL 8 or equivalent

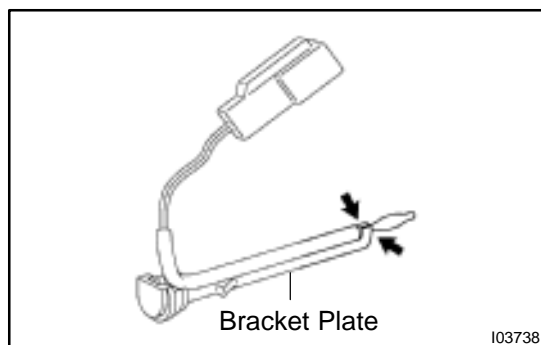


3. ASSEMBLE UPPER AND LOWER UNIT CASES

- (a) Assemble the upper and lower unit cases.
- (b) Install the 6 screws.

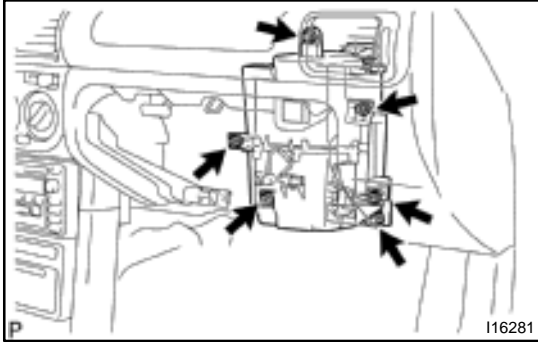
4. INSTALL BLOWER RESISTER

Install the blower resistor with the 2 screws.



5. INSTALL THERMISTOR

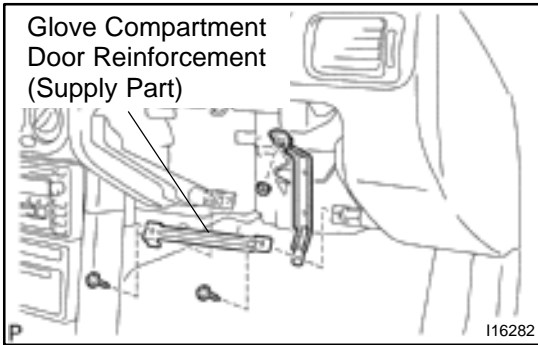
- (a) Install the thermistor to the bracket plate.
- (b) Push into the thermistor to the cooling unit.
- (c) Connect the connector clamp.



INSTALLATION

1. INSTALL COOLING UNIT

- (a) Install the cooling unit with the 4 screws and 2 nuts.
- (b) Connect the thermistor connector.
- (c) Connect the blower resistor connector.

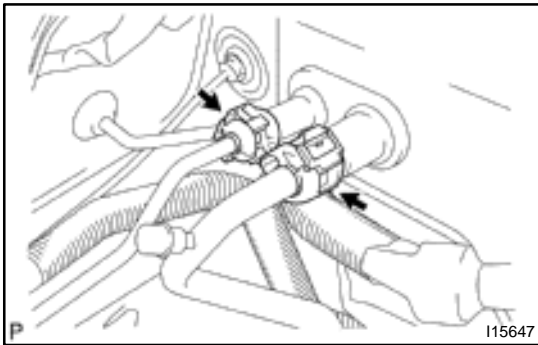


- (d) Install the glove compartment door reinforcement (supply part) and No. 1 instrument panel lower bracket with the 2 screws and nut.

HINT:

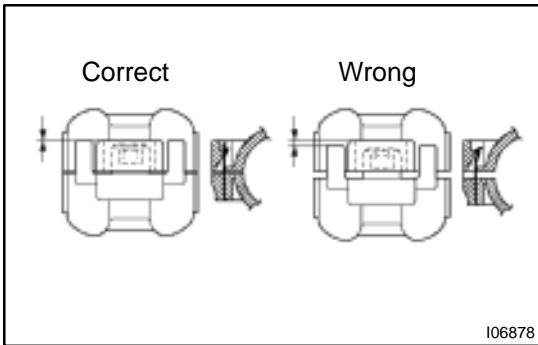
- Install the glove compartment door reinforcement with the bended side facing to the driver seat side.
- Pile up the glove compartment door reinforcement (supply part) on the No. 1 instrument panel lower bracket.

2. INSTALL GLOVE COMPARTMENT DOOR



3. CONNECT LIQUID TUBE AND SUCTION TUBE

- (a) Connect the both tubes.
- (b) Install the 2 piping clamps.



- (c) After connection, check the fitting for claw of the piping clamp.

4. CHARGE REFRIGERANT TO REFRIGERATION SYSTEM

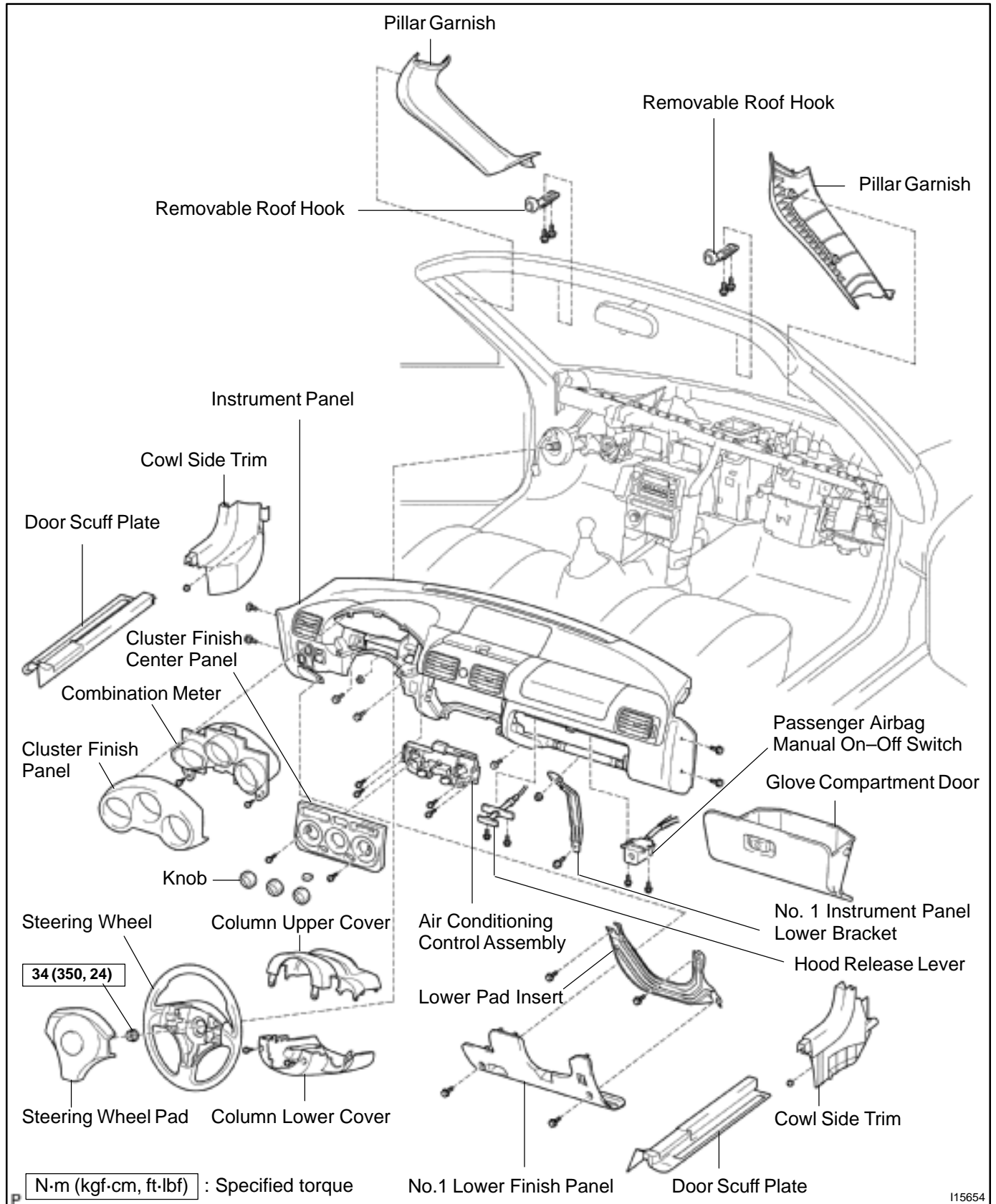
- (a) Evacuate air from refrigeration system.
- (b) Charge system with refrigerant and inspect for leakage of refrigerant.

Specified amount: 500 ± 30 g (17.64 ± 1.06 oz.)

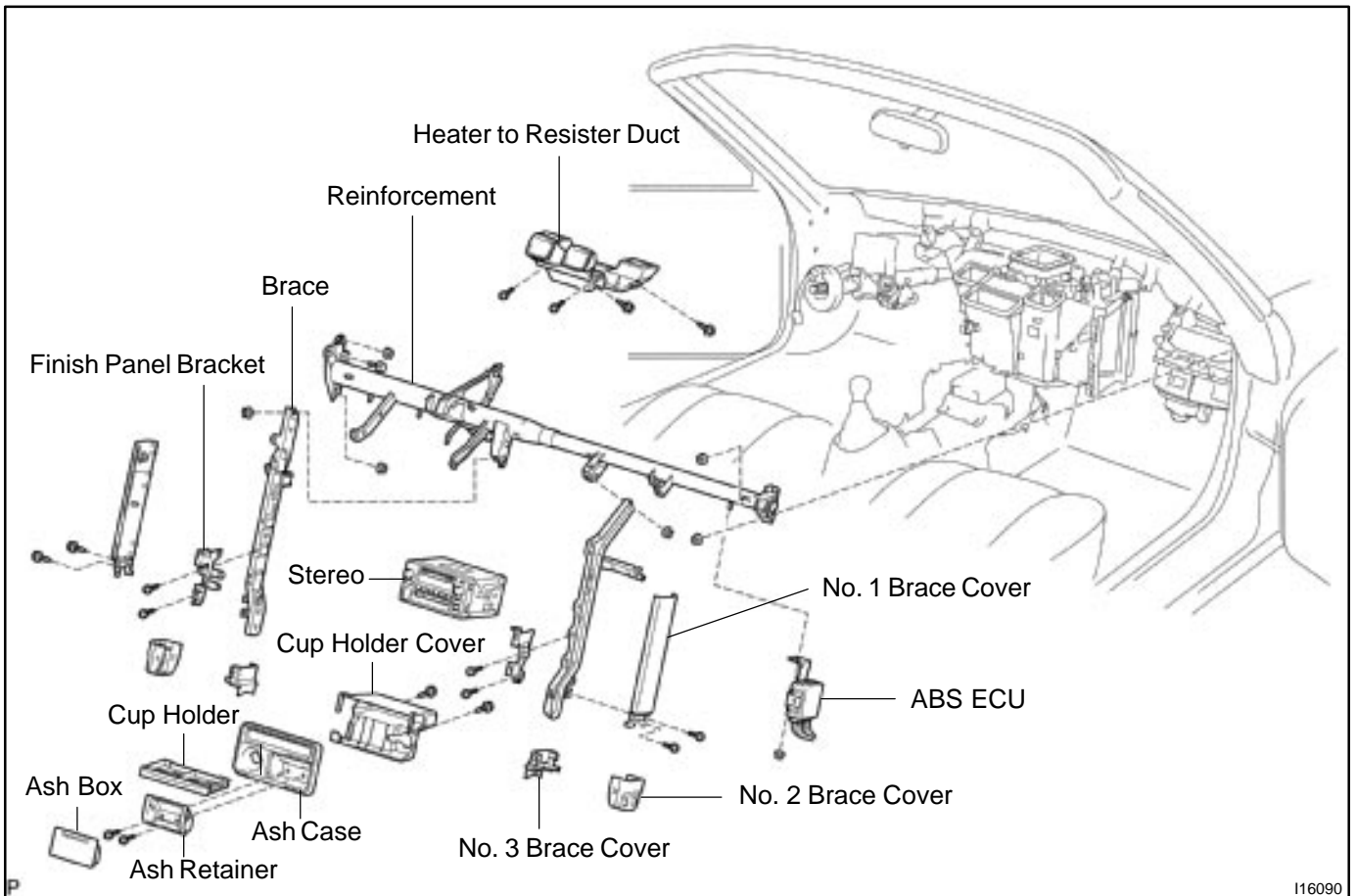
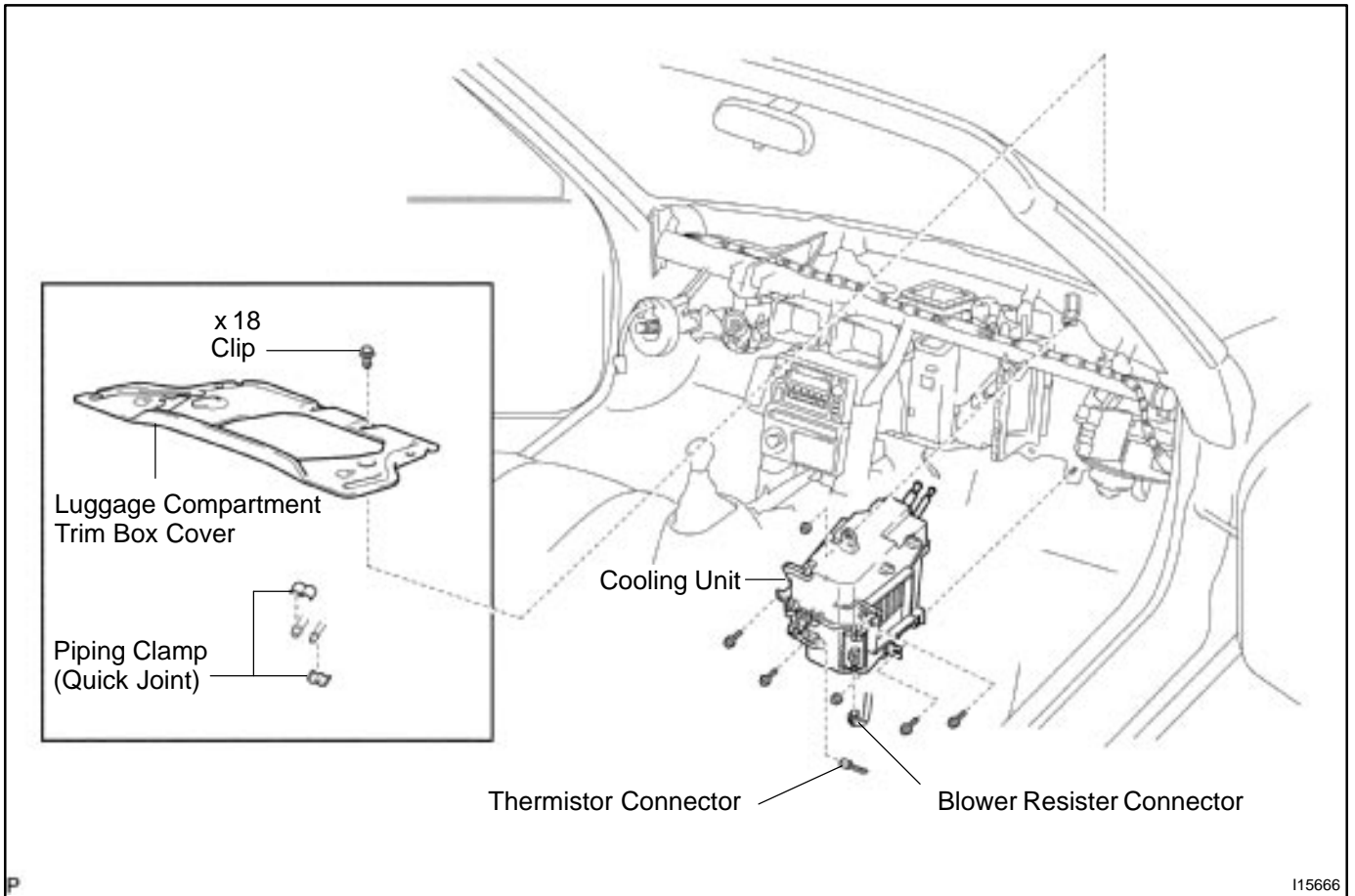
5. INSTALL LUGGAGE COMPARTMENT TRIM BOX COVER

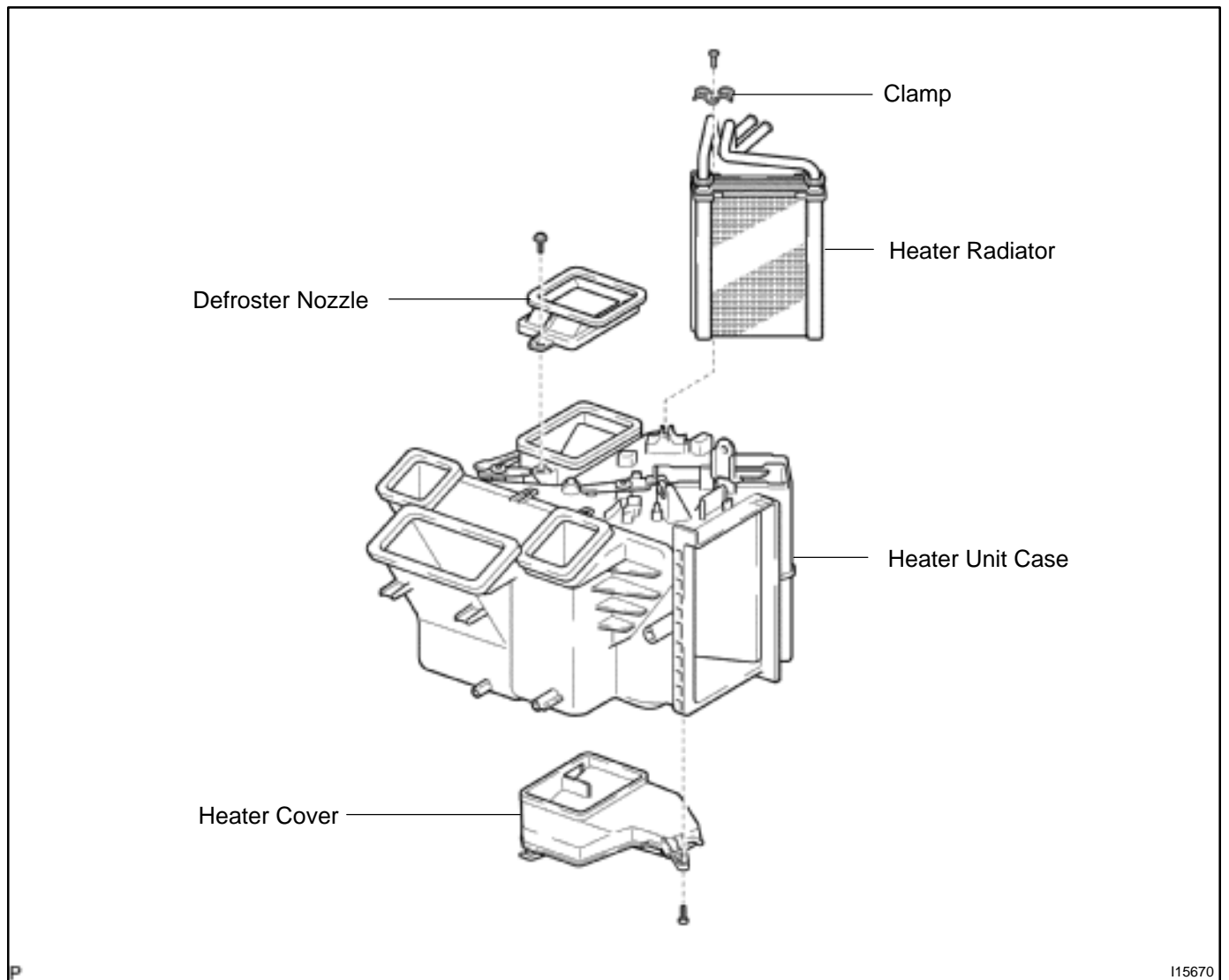
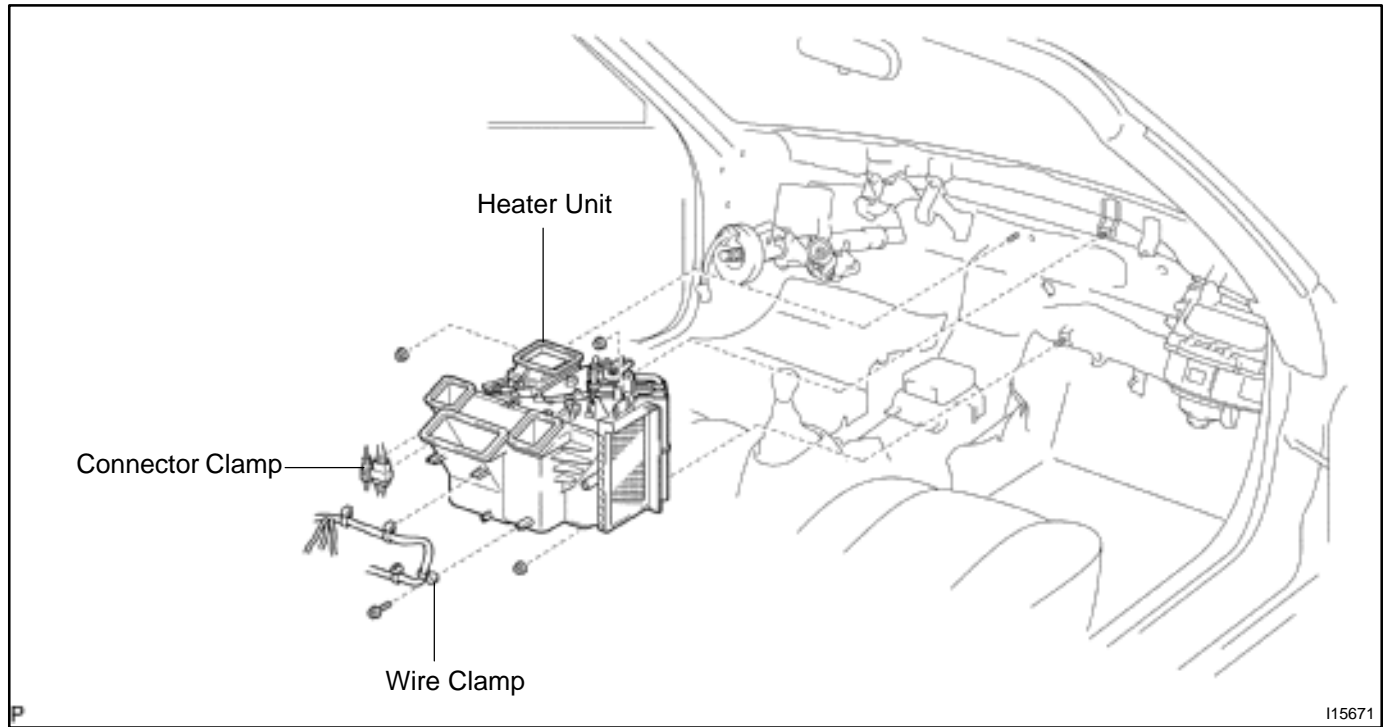
HEATER UNIT COMPONENTS

AC2NL-01



115654





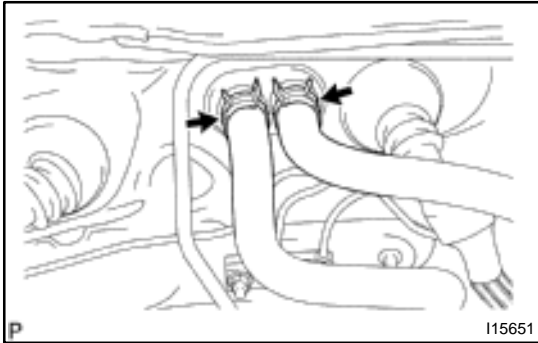
REMOVAL

1. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all the coolant.

2. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER



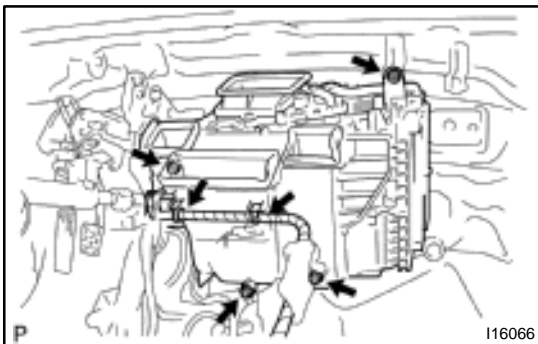
3. DISCONNECT WATER HOSES FROM HEATER RADIATOR PIPES

- (a) Using pliers, grip the claw of the hose clip and slide the hose clip along the hose.
- (b) Disconnect the 2 heater hoses.

4. REMOVE PIPE GROMMETS

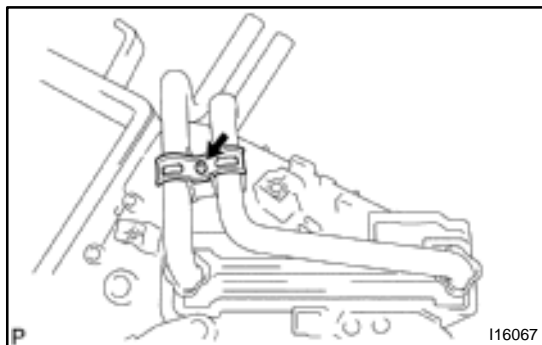
5. REMOVE INSTRUMENT PANEL AND REINFORCEMENT (See page [BO-41](#))

6. REMOVE COOLING UNIT (See page [AC-26](#))



7. REMOVE HEATER UNIT

- (a) Disconnect the 2 wire clamps and remove the 2 screws holding the wire to the heater unit.
- (b) Disconnect the 2 connector clamps.
- (c) Remove the 3 nuts and heater unit.



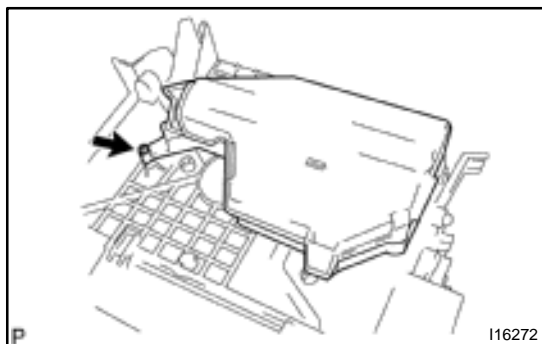
DISASSEMBLY

1. REMOVE HEATER RADIATOR

- (a) Remove the screw and clamp.
- (b) Pull out the heater radiator.

2. REMOVE DEFROSTER NOZZLE

Remove the screw and defroster nozzle.



3. REMOVE HEATER COVER

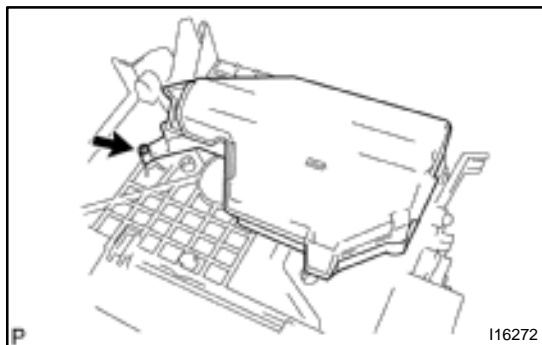
Remove the 2 claws, screw and heater cover.

INSPECTION

INSPECT HEATER RADIATOR

Inspect fins for blockage.

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



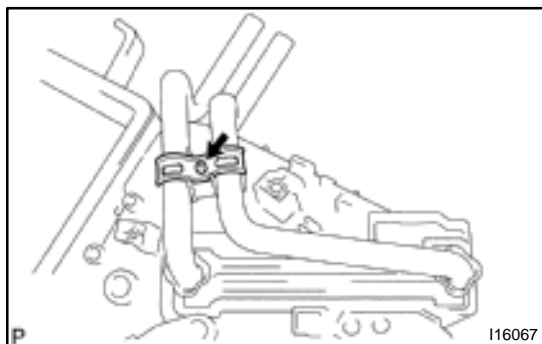
REASSEMBLY

1. INSTALL HEATER COVER

Install the heater cover with the screw.

2. INSTALL DEFROSTER NOZZLE

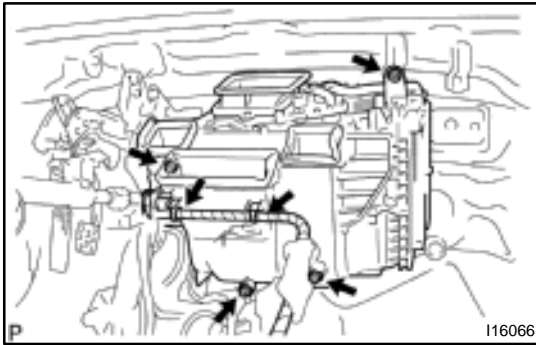
Install the defroster nozzle with the screw.



3. INSTALL HEATER RADIATOR

(a) Install the heater radiator.

(b) Install the clamp with the screw.



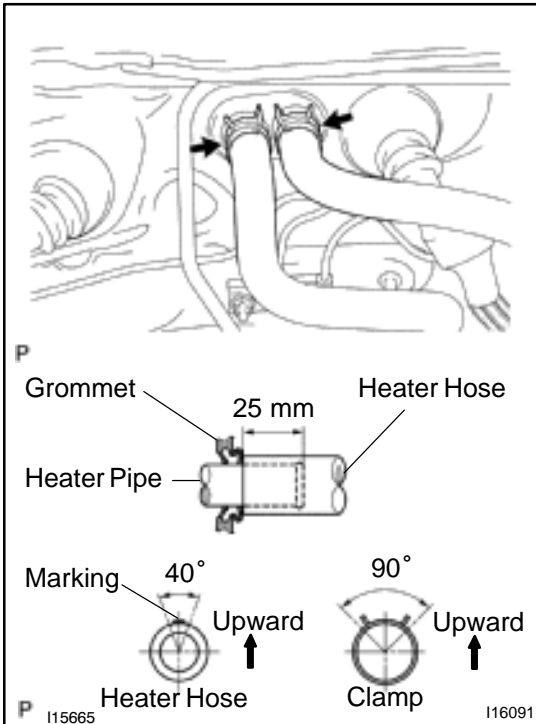
INSTALLATION

1. INSTALL HEATER UNIT

- Install the heater unit with the 3 nuts.
- Connect the 2 connector clamps.
- Connect the 2 wire clamps with the 2 screws.

2. INSTALL REINFORCE AND INSTRUMENT PANEL (See page [BO-47](#))

3. INSTALL PIPE GROMMETS

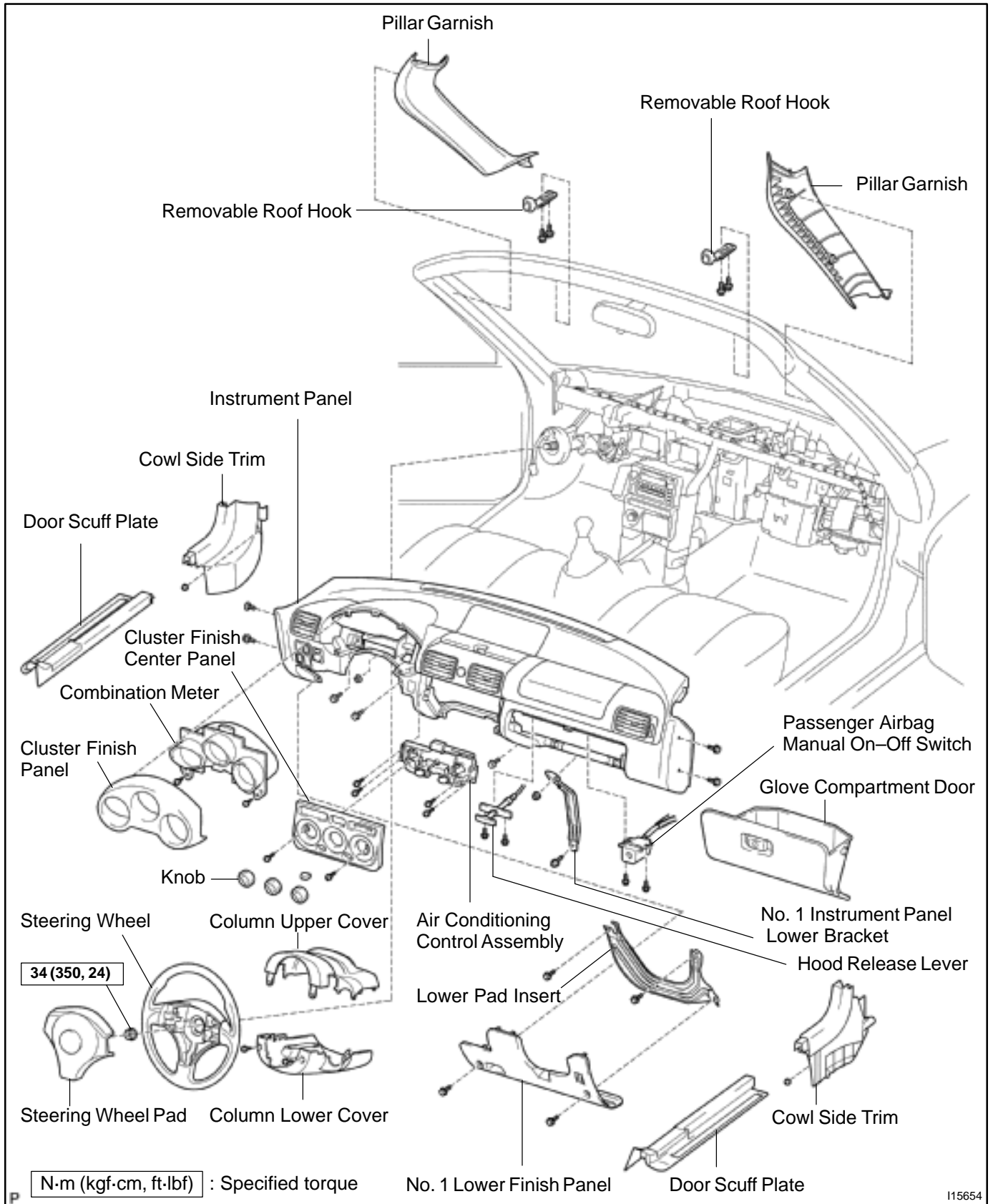


4. CONNECT WATER HOSES TO HEATER RADIATOR PIPES

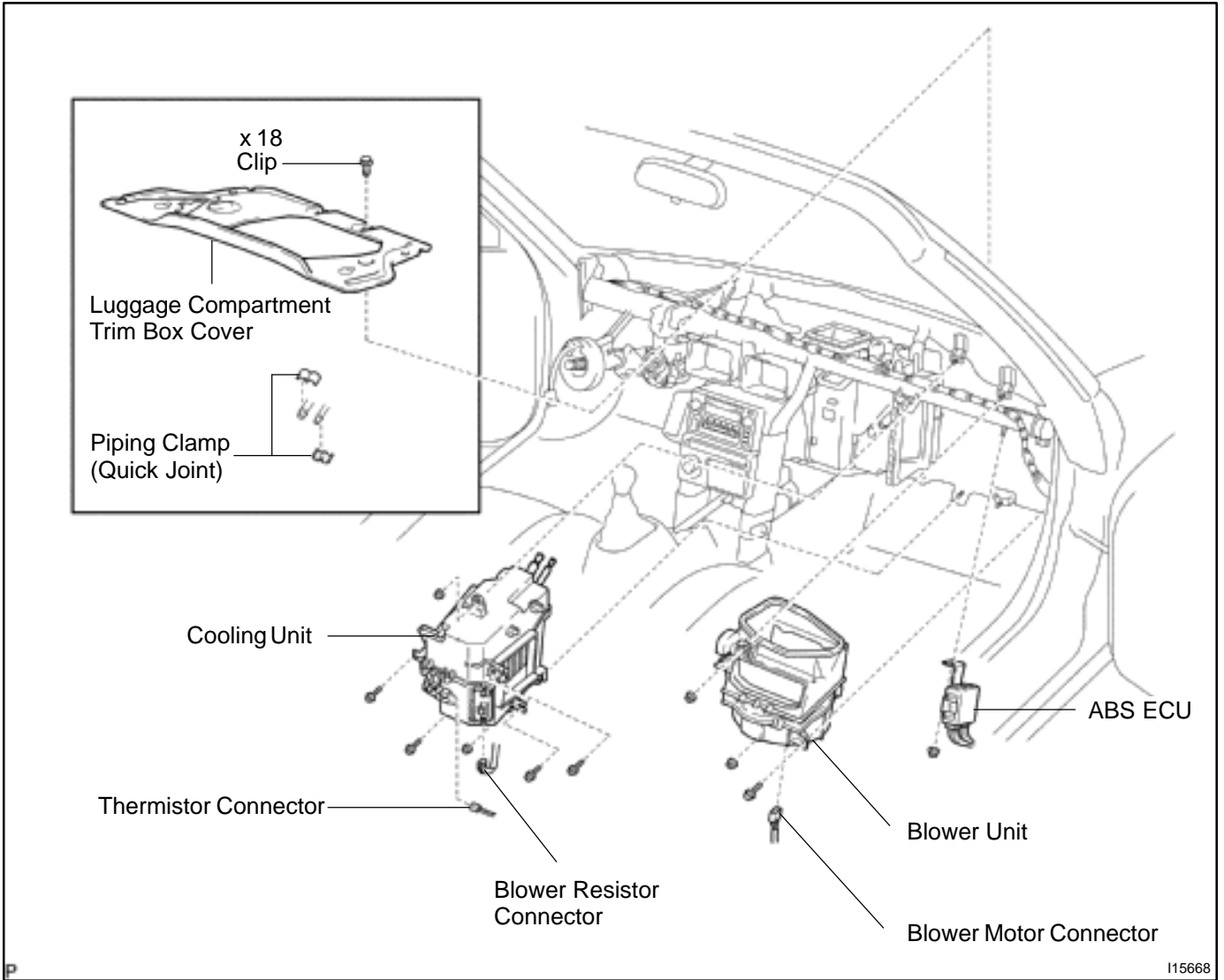
- Connect the 2 heater hoses.
- Push the water hose onto the heater radiator pipe as far as the grommet.
- Install the hose clip in a position, as shown in the illustration.
- Using pliers, grip the claw of the hose clip and slide the hose clip.

BLOWER UNIT COMPONENTS

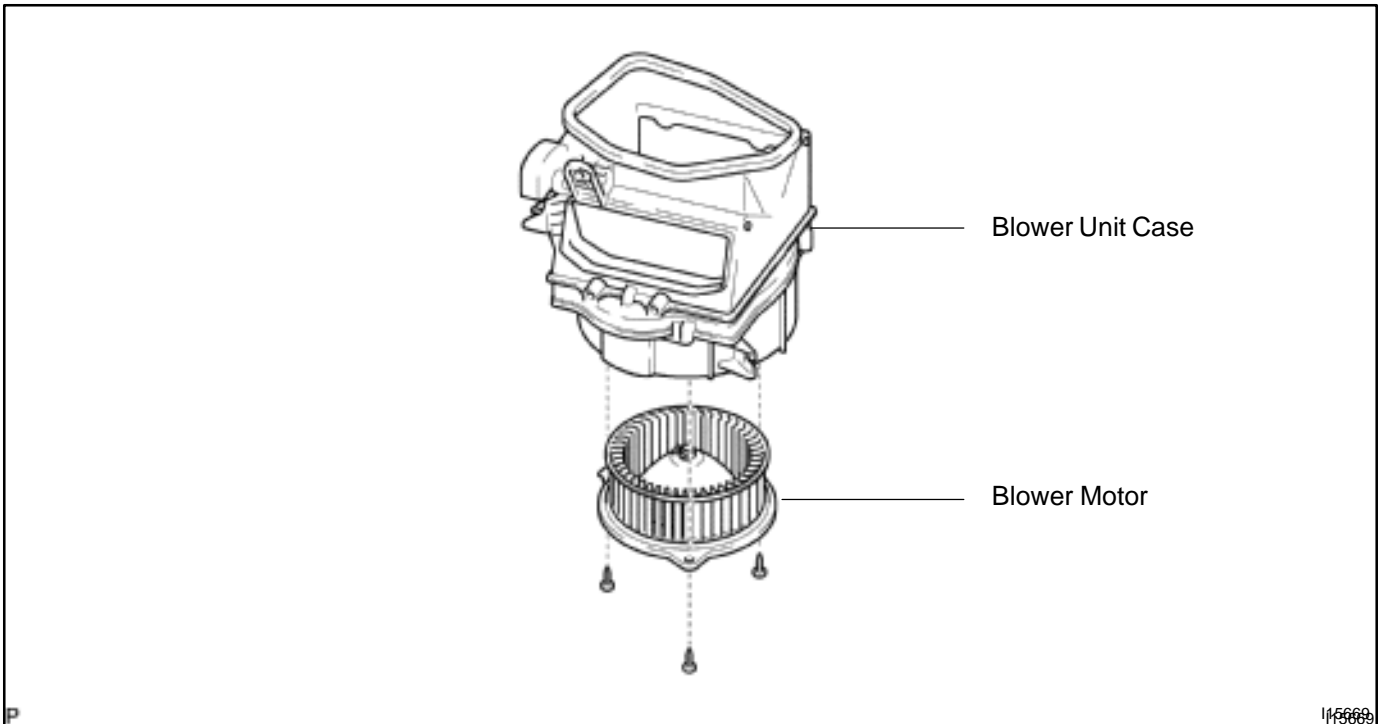
AC2NR-01



115654



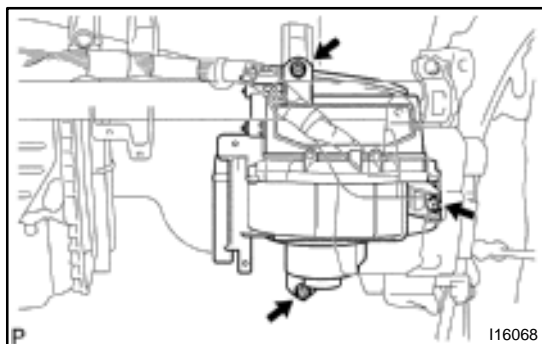
I15668



I15669

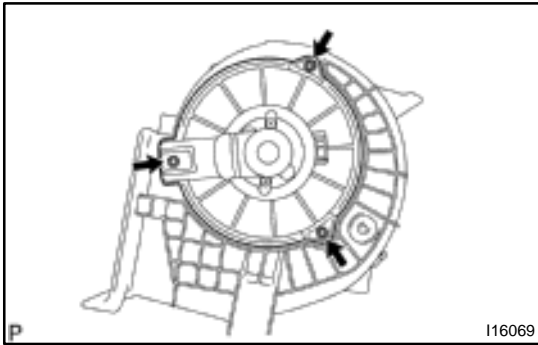
REMOVAL

1. REMOVE INSTRUMENT PANEL (See page [BO-41](#))
2. REMOVE COOLING UNIT (See page [AC-26](#))



3. REMOVE BLOWER UNIT

- (a) Remove the nut and disconnect the ABS ECU from the reinforcement.
- (b) Disconnect the blower motor connector.
- (c) Remove the 2 nuts and a bolt and blower unit.

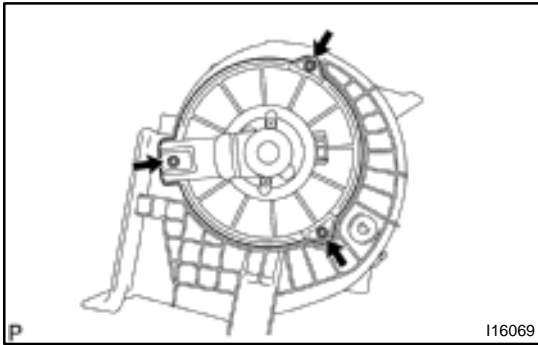


DISASSEMBLY

1. REMOVE BLOWER MOTOR

Using a torx wrench, remove the 3 screws and blower motor.

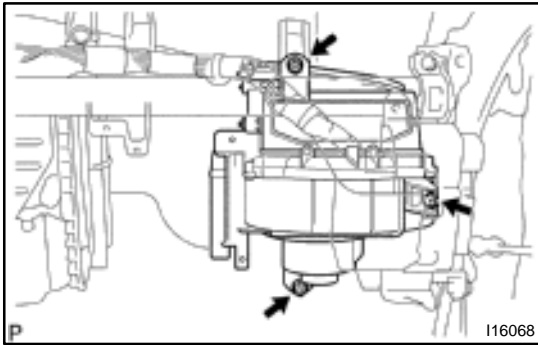
2. INSPECT BLOWER MOTOR (See page [AC-64](#))



REASSEMBLY

INSTALL BLOWER MOTOR

Using a torx wrench, install the blower motor with the 3 screws.



INSTALLATION

1. INSTALL BLOWER UNIT

- (a) Install the blower unit with the 2 nuts and a bolt.
- (b) Install the ABS ECU with the bolt to the reinforcement.
- (c) Connect the blower motor connector.

2. INSTALL COOLING UNIT (See page [AC-31](#))

3. INSTALL INSTRUMENT PANEL (See page [BO-47](#))

COMPRESSOR AND MAGNETIC CLUTCH

AC1GA-03

ON-VEHICLE INSPECTION

1. INSPECT COMPRESSOR FOR METALLIC SOUND

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

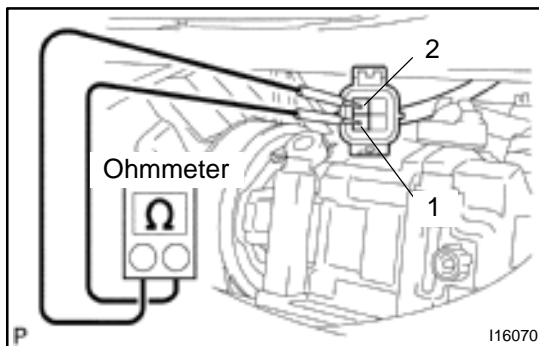
If abnormal metallic sound is heard, replace the compressor assembly.

2. INSPECT REFRIGERANT PRESSURE

(See page AC-3)

3. INSPECT VISUALLY FOR LEAKAGE OF REFRIGERANT

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



4. INSPECT COMPRESSOR LOCK SENSOR RESISTANCE

- Disconnect the connector.
- Using an ohmmeter, measure the resistance between terminals 1 and 2.

Standard resistance: 165 – 205 Ω at 20°C (68°F)

If resistance is not as specified, replace the sensor.

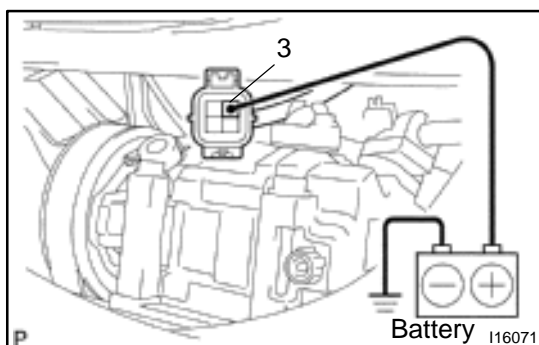
5. CHECK FOR LEAKAGE OF GREASE FROM CLUTCH BEARING

6. CHECK FOR SIGNS OF OIL ON PRESSURE PLATE OR ROTOR

7. INSPECT MAGNETIC CLUTCH BEARING FOR NOISE

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

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

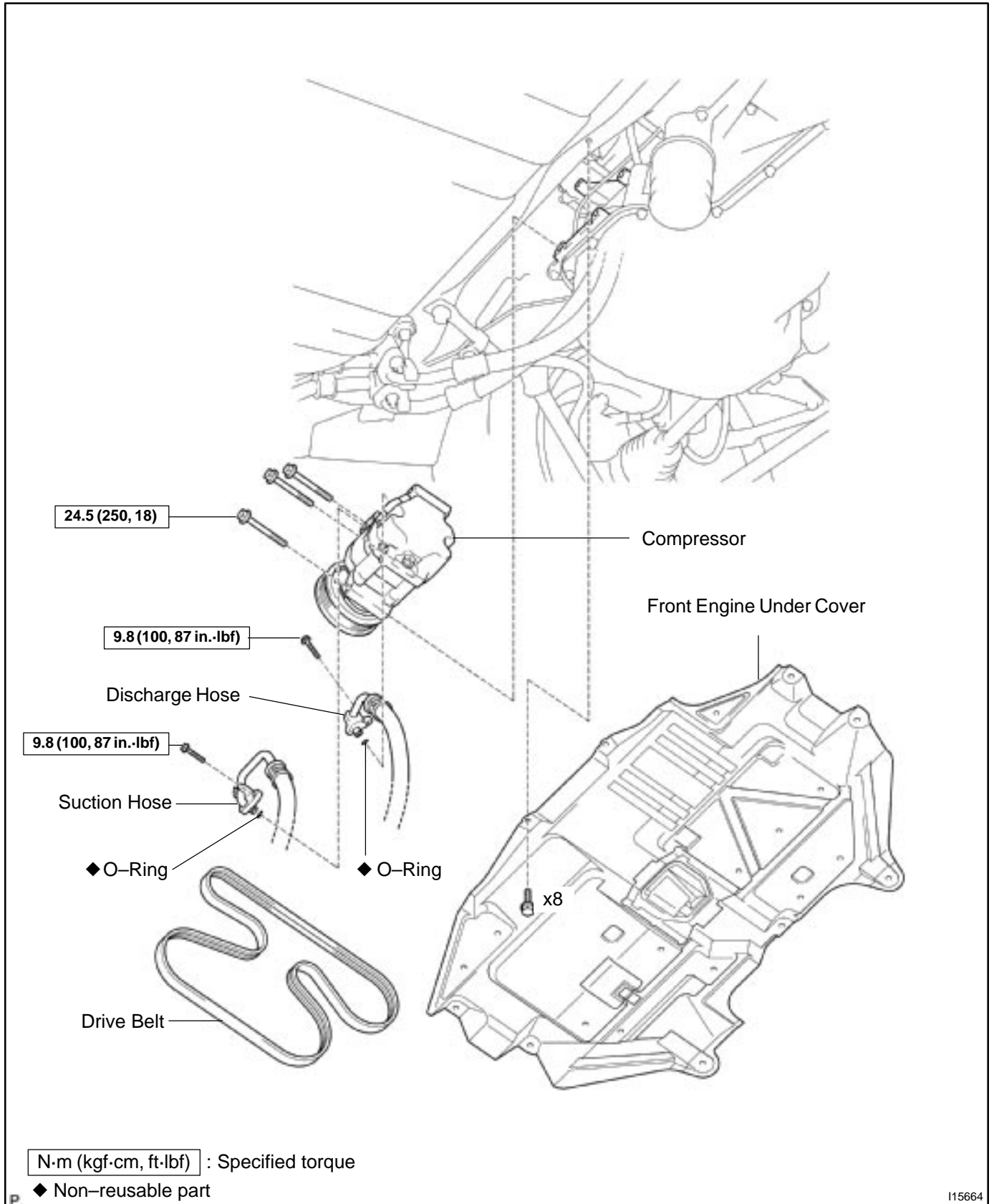


8. INSPECT MAGNETIC CLUTCH OPERATION

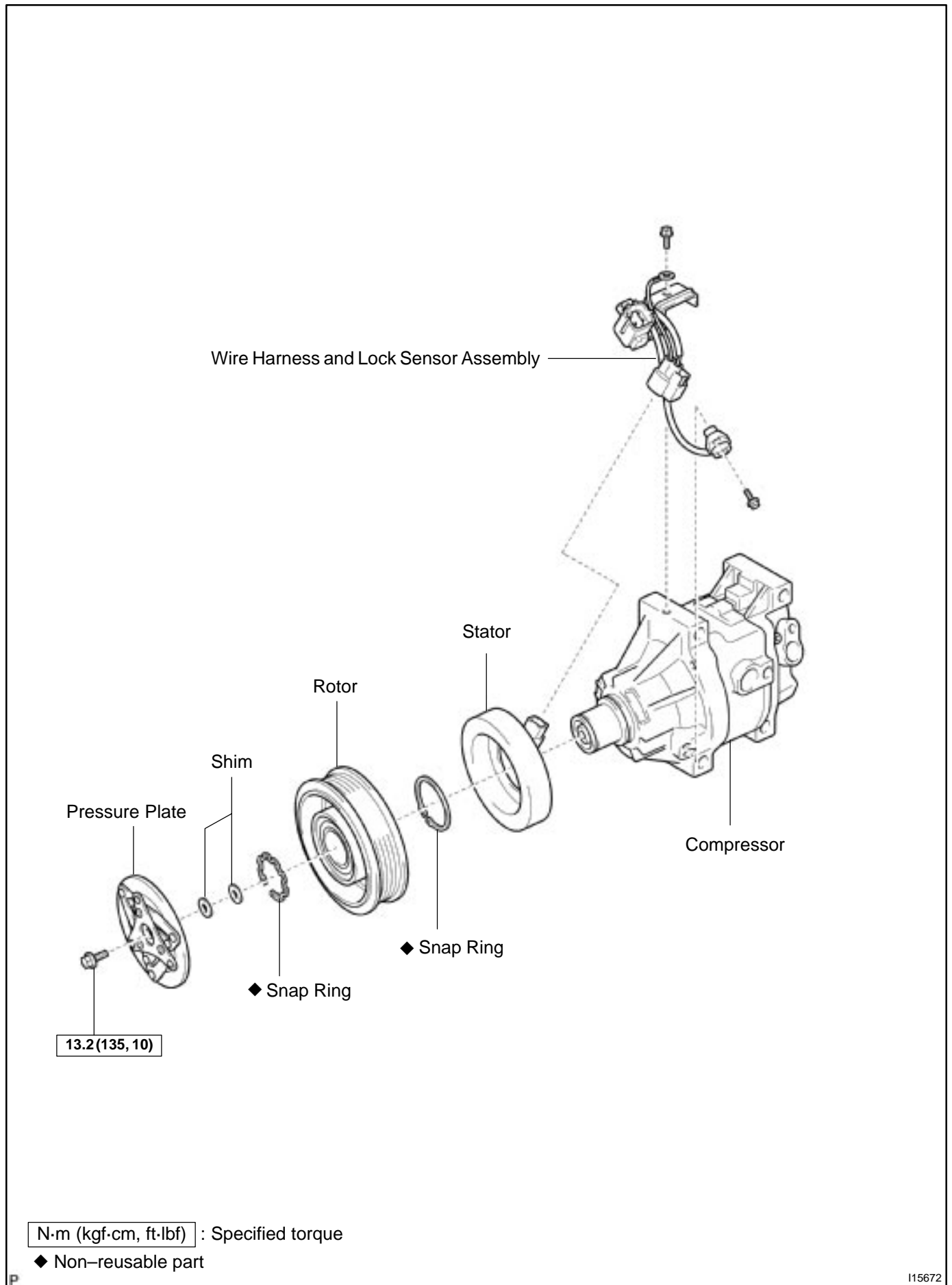
- Disconnect the connector.
- Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to the body ground.
- Check that the magnetic clutch energized.

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

COMPONENTS

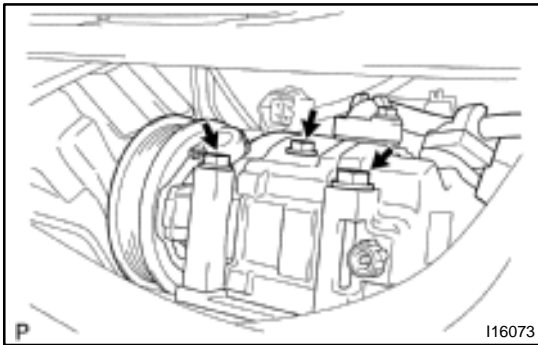


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REMOVAL

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 FRONT ENGINE UNDER COVER
6. REMOVE DRIVE BELT (See page [AC-17](#))

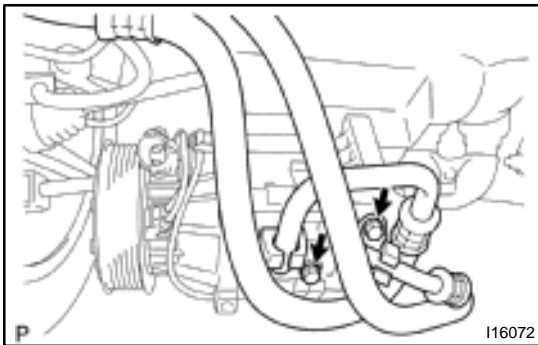


7. REMOVE COMPRESSOR

- (a) Disconnect the connector.
- (b) Disconnect the wire harness clamp.
- (c) Remove the 3 bolts and disconnect the compressor.

NOTICE:

Be careful not to damage the discharge and suction hose.

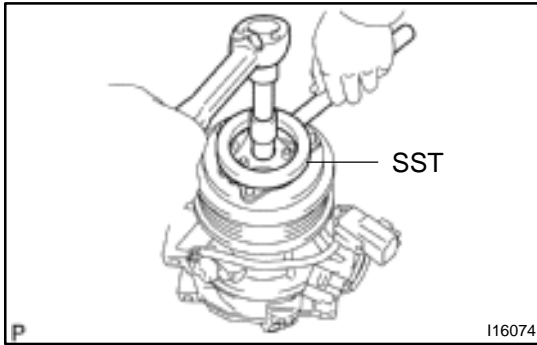


8. DISCONNECT DISCHARGE AND SUCTION HOSES

Remove the 2 bolts and disconnect the both hoses.

NOTICE:

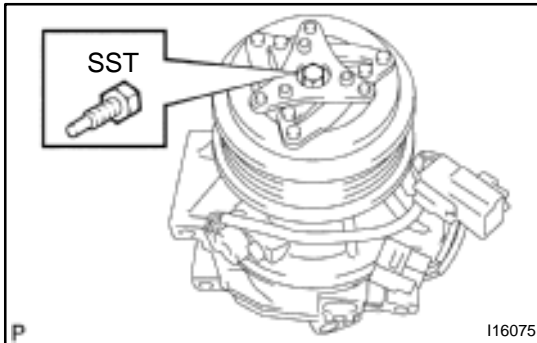
Cap the open fittings immediately to keep moisture or dirt out of the system.



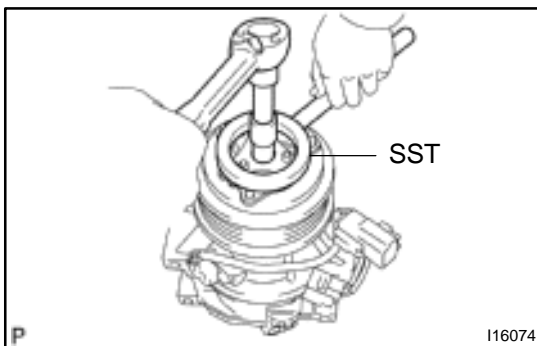
DISASSEMBLY

1. REMOVE PRESSURE PLATE

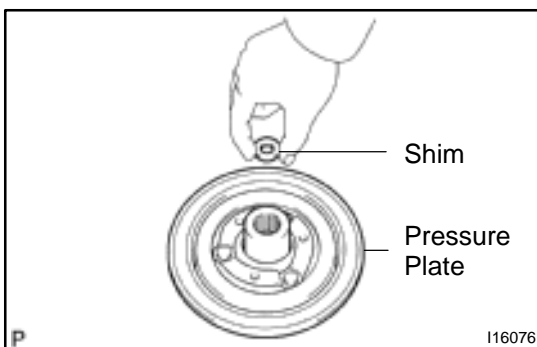
- (a) Using SST and a socket wrench, remove the shaft bolt.
SST 07112-76050



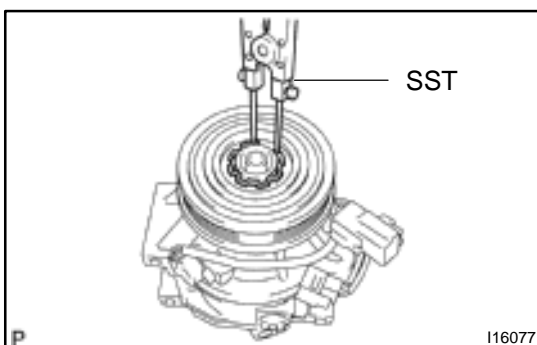
- (b) Install SST on the pressure plate.
SST 07112-66040



- (c) Using SST and socket wrench, remove the pressure plate.
SST 07112-66040, 07112-76050

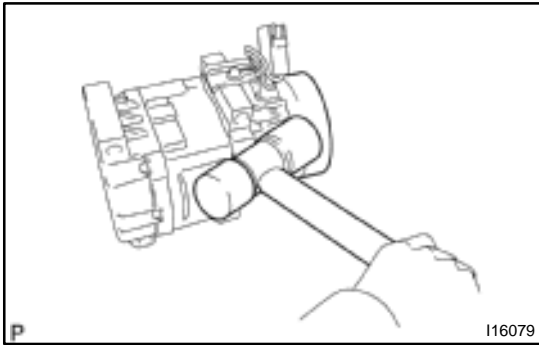


- (d) Remove the shims from the pressure plate.

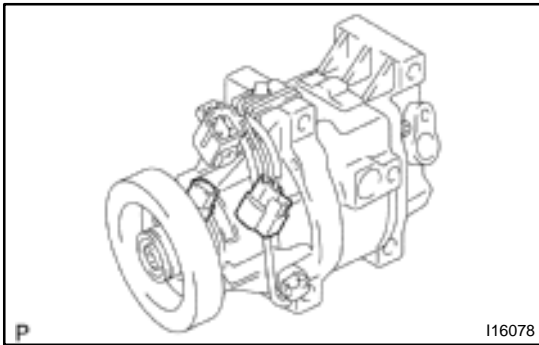


2. REMOVE ROTOR

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

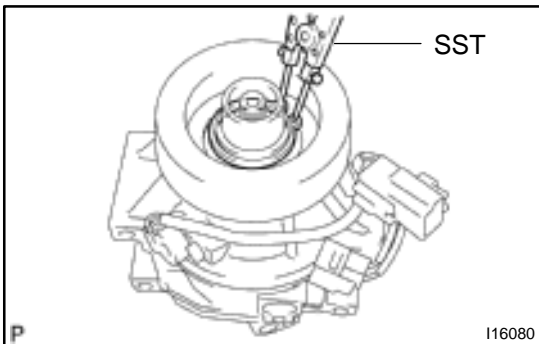


- (b) Using a plastic hammer, tap the rotor off the shaft.
NOTICE:
Be careful not to damage the pulley when tapping on the rotor.

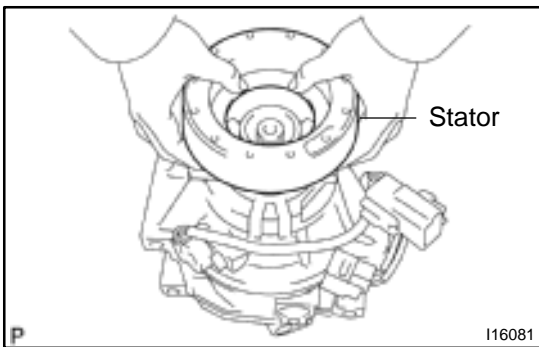


3. REMOVE STATOR

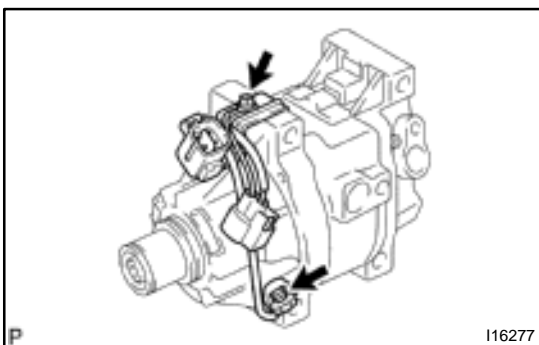
- (a) Disconnect the connector from the stator.



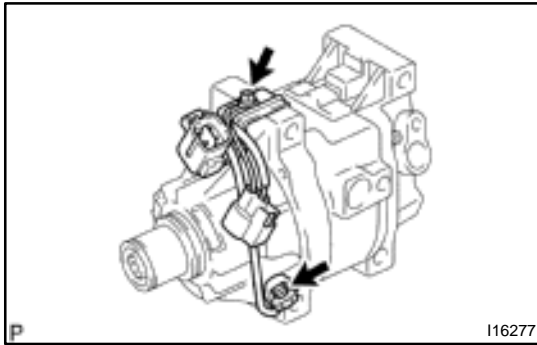
- (b) Using SST, remove the snap ring.
SST 07114-84020



- (c) Remove the stator.



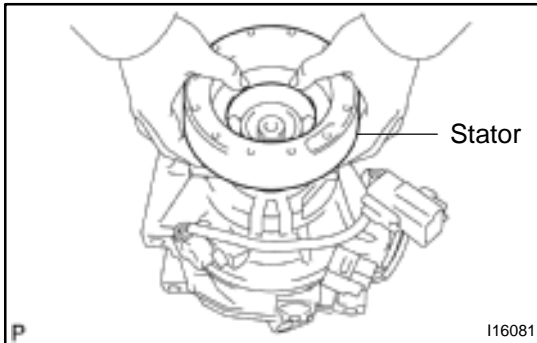
- (d) Remove the 2 bolts, wire harness and lock sensor assembly.



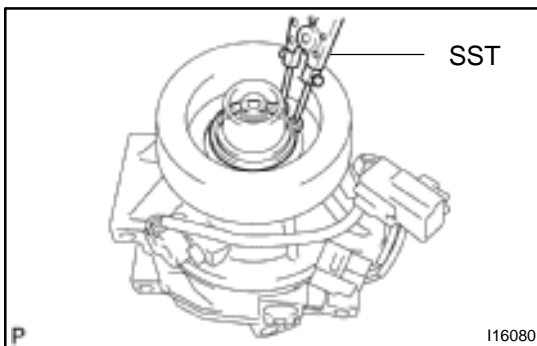
REASSEMBLY

1. INSTALL STATOR

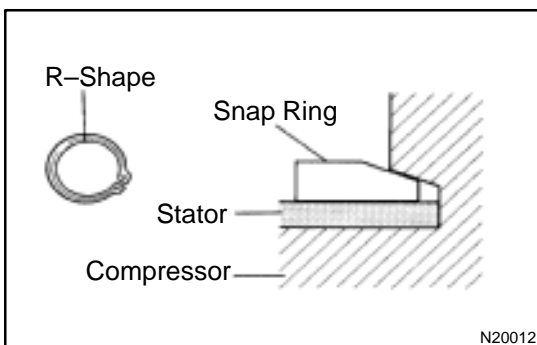
- (a) Install the wire harness and lock sensor assembly with the 2 bolts.



- (b) Install the stator.

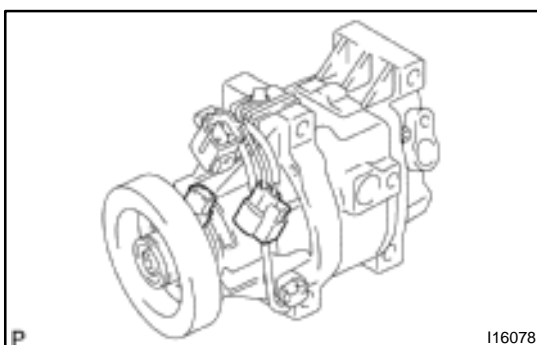


- (c) Using SST, install the snap ring.
SST 07114-84020

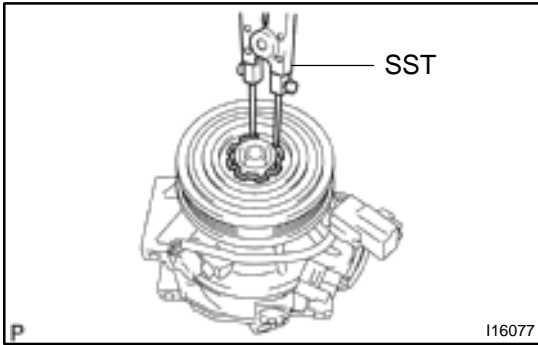


NOTICE:

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

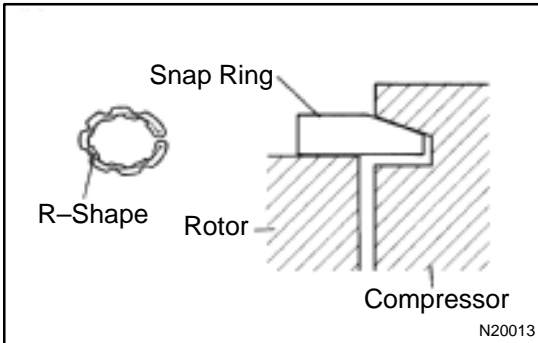


- (d) Connect the connector to the stator.



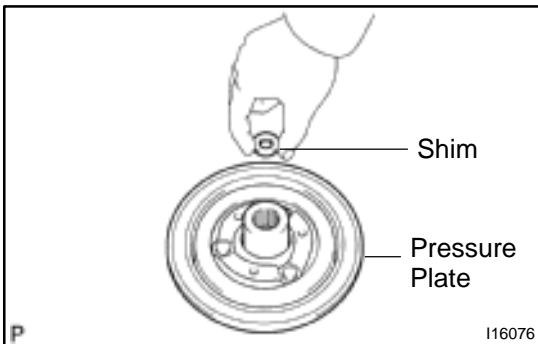
2. INSTALL ROTOR

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



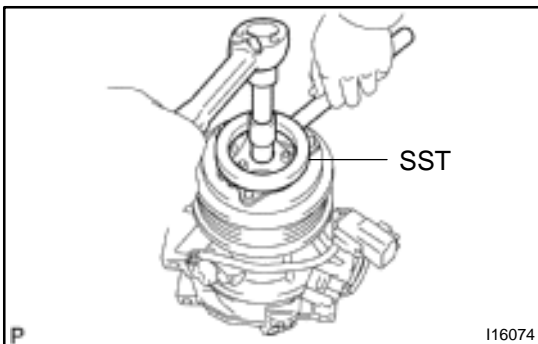
NOTICE:

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

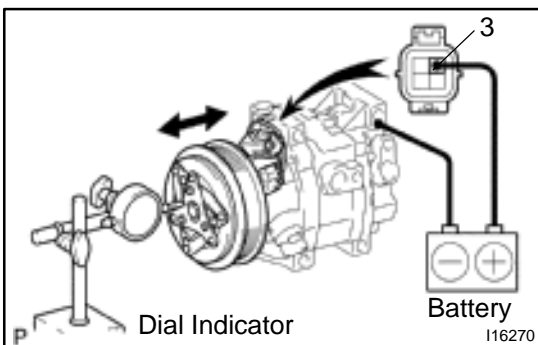


3. INSTALL PRESSURE PLATE

- (a) Install the shims to the pressure plate and install the pressure plate on the rotor.



- (b) Using SST and a torque wrench, install the shaft bolt.
SST 07112-66040, 07112-76060
Torque: 13.2 N·m (135 kgf·cm, 10 ft·lbf)



4. INSPECT MAGNETIC CLUTCH CLEARANCE

- (a) Set the dial indicator to the pressure plate of the magnetic clutch.
- (b) Connect the positive (+) lead from the battery to the terminal 3 and the negative (-) lead to the ground.
- (c) Check the clearance between the pressure plate and rotor when connecting the negative (-) terminal to the battery.

Standard clearance:

0.45 ± 0.10 mm (0.018 ± 0.004 in.)

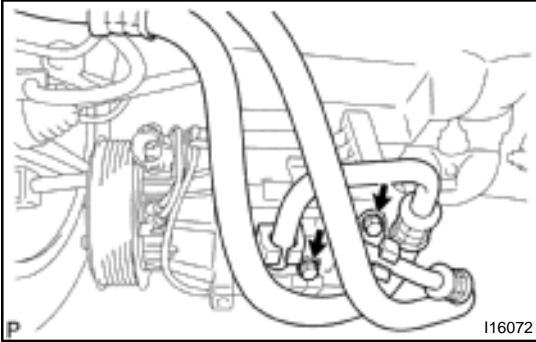
If the clearance is not within the standard clearance, adjust the clearance using shims to obtain the standard clearance.

Shim thickness:

0.1 mm (0.004 in.)

0.3 mm (0.012 in.)

0.5 mm (0.020 in.)



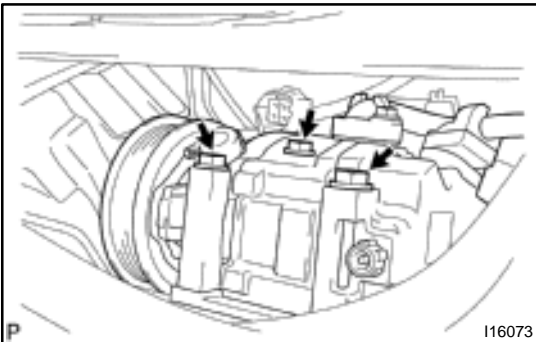
INSTALLATION

1. CONNECT DISCHARGE AND SUCTION HOSES

- (a) Lubricate 2 new O-rings with compressor oil and install them to the hoses.
- (b) Connect the both hoses with the 2 bolts.
Torque: 9.8 N·m (100 kgf·cm, 7 ft·lbf)

NOTICE:

- **Hose should be connected immediately after the caps have been removed.**
- **Be careful not to damage the discharge and suction hose.**



2. INSTALL COMPRESSOR

- (a) Install the compressor with the 3 bolts.
Torque: 24.5 N·m (250 kgf·cm, 18 ft·lbf)
- (b) Connect the connector.

3. INSTALL AND CHECK DRIVE BELT

(See pages [AC-17](#) and [AC-16](#))

4. CONNECT NEGATIVE (-) TERMINAL CABLE TO BATTERY

5. EVACUATE AIR FROM REFRIGERATION SYSTEM CHARGE SYSTEM WITH REFRIGERANT

Specified amount: 500 ± 30 g (17.64 ± 1.06 oz.)

6. 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.

7. INSPECT A/C OPERATION

CONDENSER

AC1GJ-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.

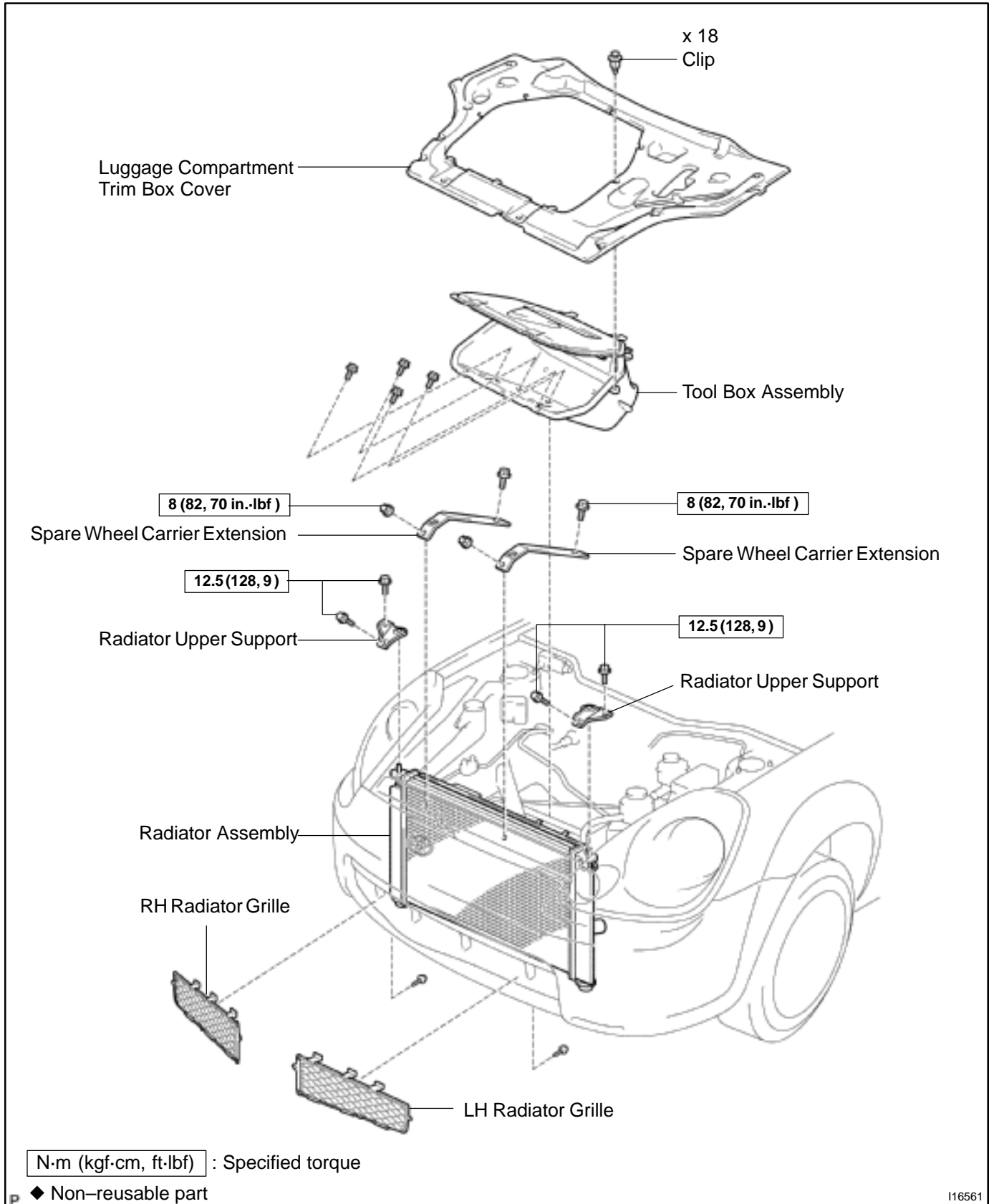
If the fins are bent, straighten them with a screwdriver or pliers.

2. INSPECT CONDENSER AND FITTINGS FOR LEAKAGE

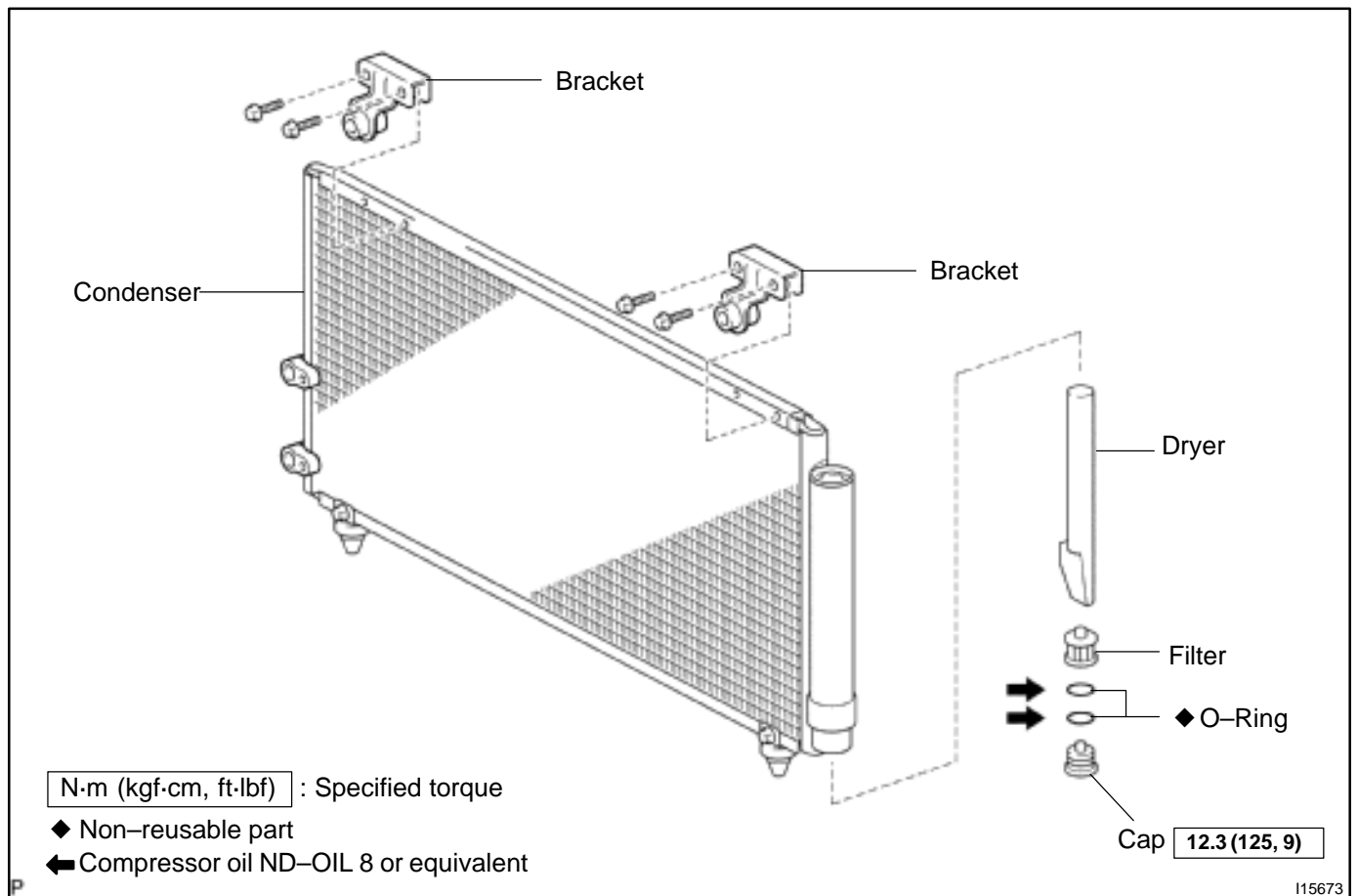
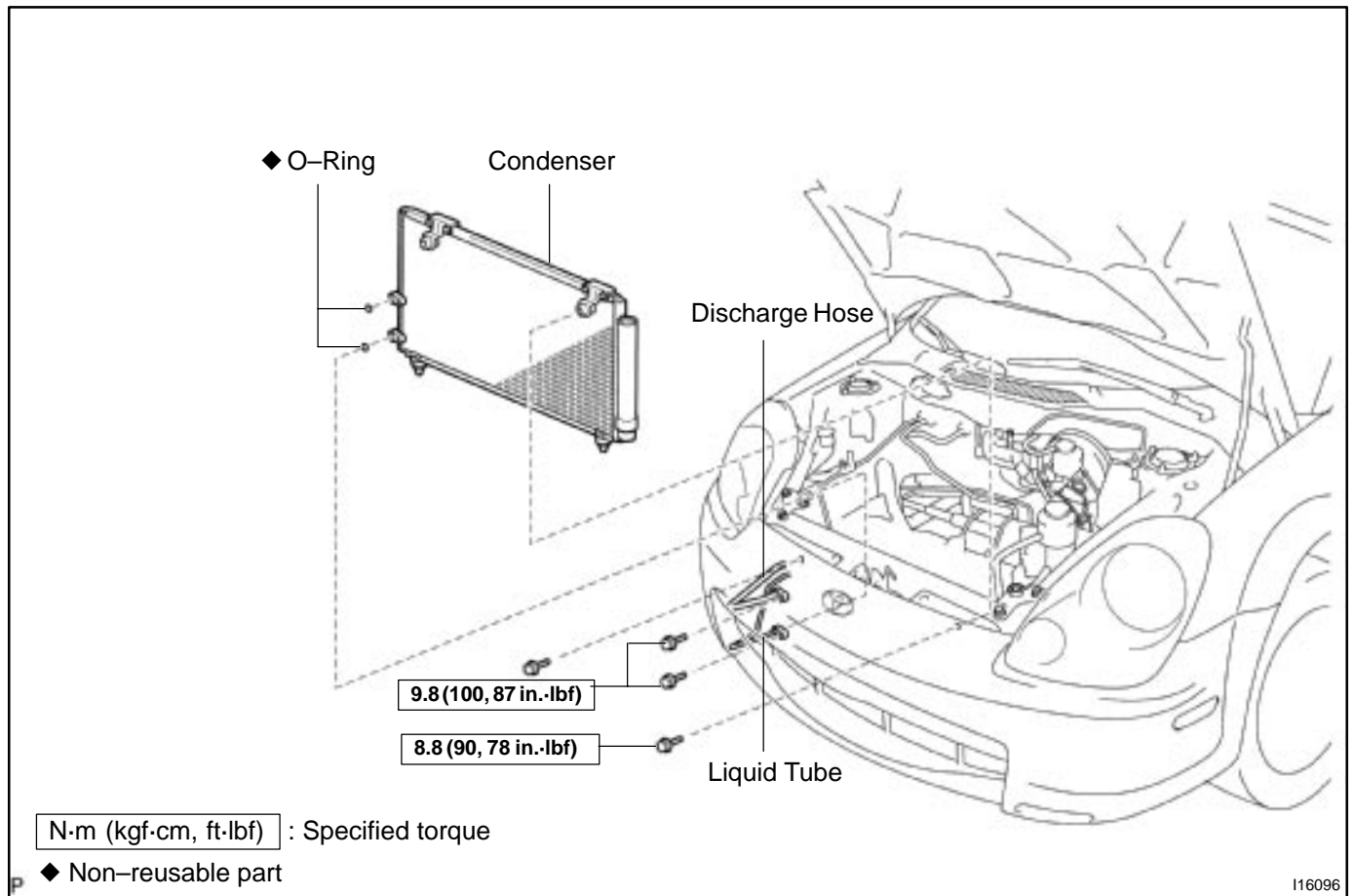
Using a gas leak detector, check for leakage of refrigerant.

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

COMPONENTS

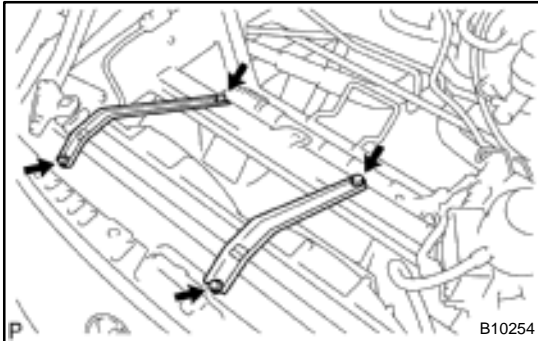


I16561



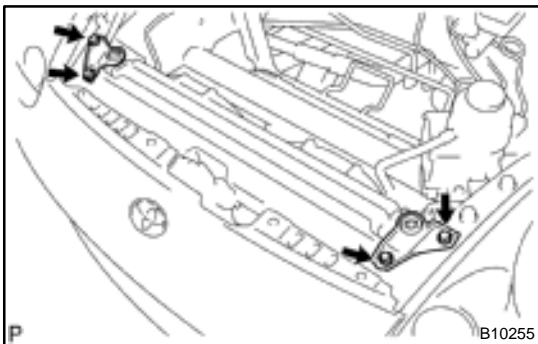
REMOVAL

1. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER AND TOOL BOX ASSEMBLY
2. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

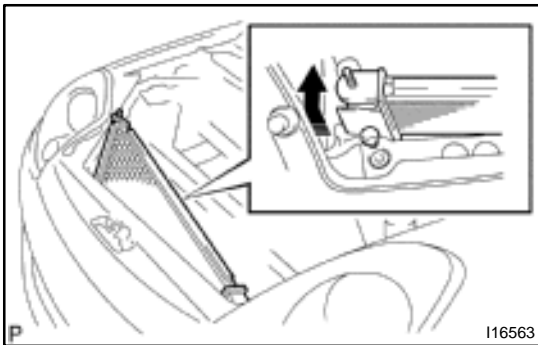


3. DISCONNECT RADIATOR ASSEMBLY

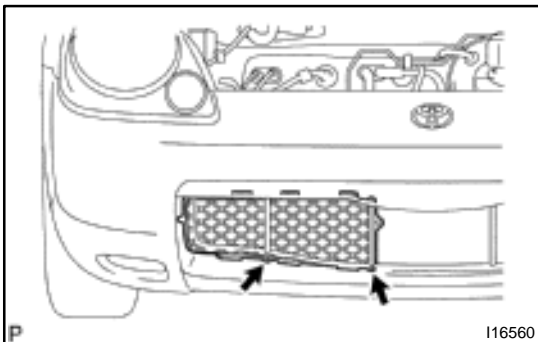
- (a) Remove the 2 nuts, 2 bolts and 2 spare wheel carrier extensions.



- (b) Remove the 4 bolts and 2 radiator upper support.

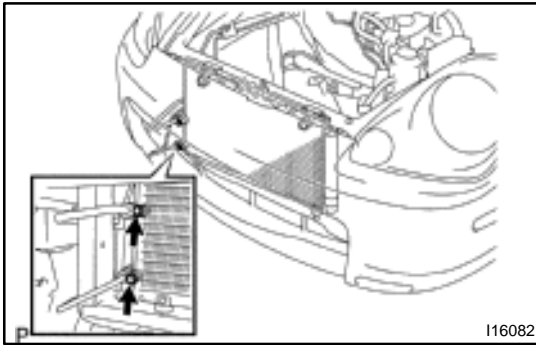


- (c) Pull up the radiator right side, remove the bush at the bottom side of the radiator from the existing concave, and move it backward.



4. REMOVE LIQUID TUBE AND DISCHARGE TUBE

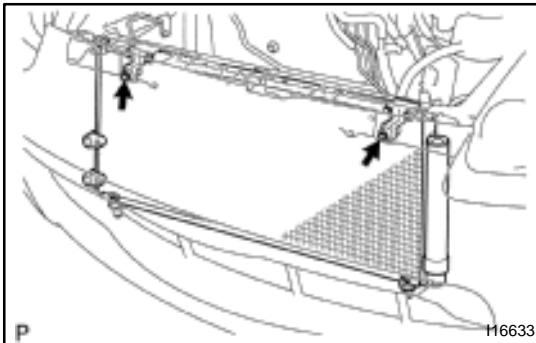
- (a) Remove the 4 screws, RH and LH radiator grilles.



(b) Remove 2 bolts and both tubes.

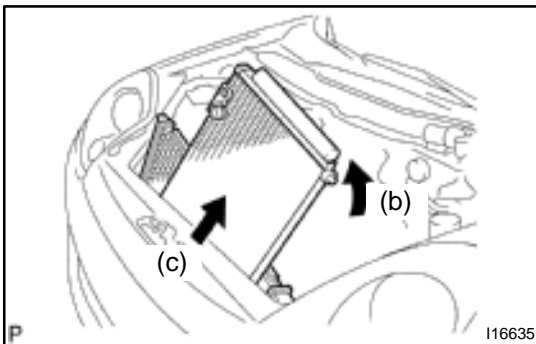
NOTICE:

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



5. REMOVE CONDENSER

(a) Remove the 2 bolts.

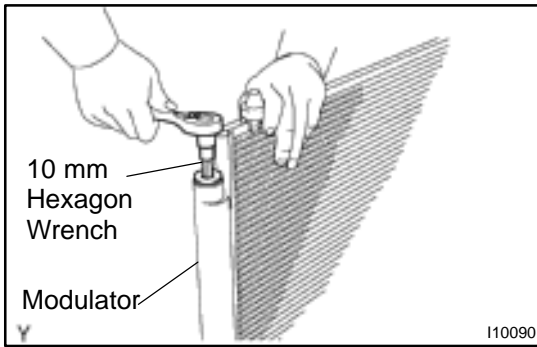


(b) As shown in the illustration, turn the condenser and pull up the half of it.

(c) Then pull up the condenser at a slant.

NOTICE:

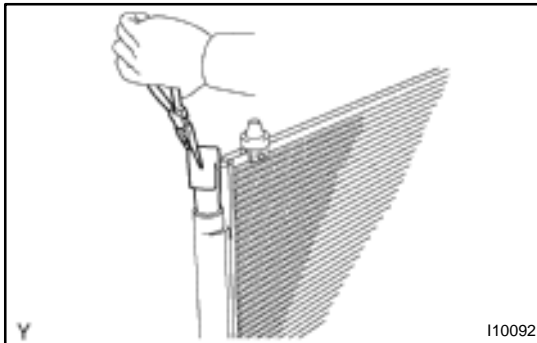
Be careful not to damage the radiator and condensor.



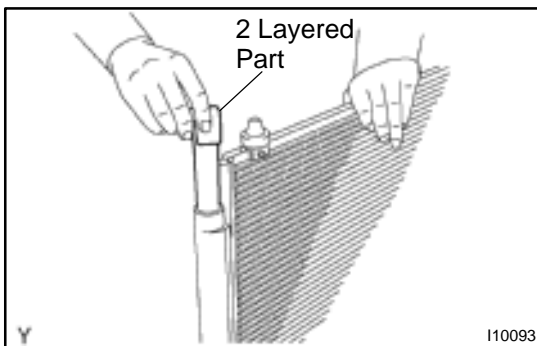
REPLACEMENT

REPLACE DRYER FROM MODULATOR

- (a) Using a 10 mm hexagon wrench, remove the cap from the modulator.
- (b) Remove the filter from the modulator.



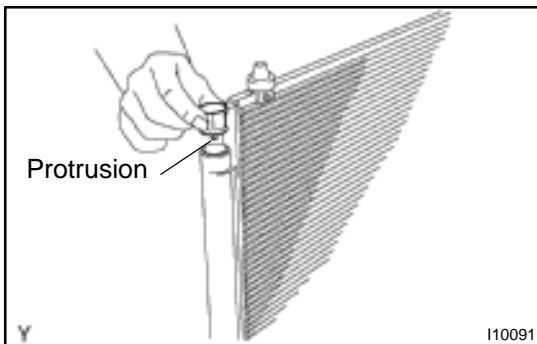
- (c) Using pliers, remove the dryer.



- (d) Insert a new dryer into the modulator.

NOTICE:

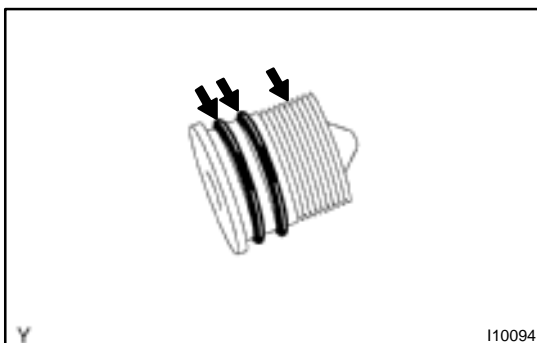
- Do not remove the dryer from a vinyl bag until inserting it into the modulator.
- Install the dryer with its 2 layered part faced upward to the modulator.



- (e) Insert the filter into the modulator.

NOTICE:

Install the filter with its protrusion faced downward to the modulator.

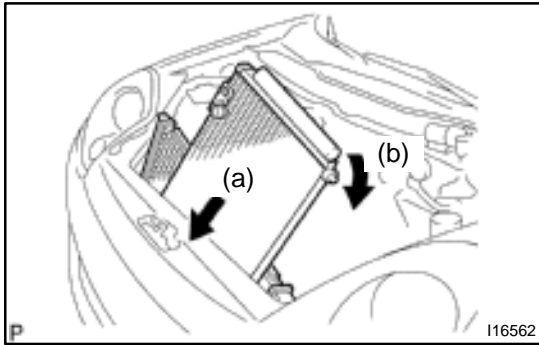


- (f) Install the cap to the modulator.
 - (1) Apply compressor oil to the O-rings and screw part of the cap.

Compressor oil: ND-OIL 8 or equivalent

- (2) Using a 10 mm hexagon wrench, install the caps.

Torque: 12.3 N·m (125 kgf·cm, 9 ft·lbf)



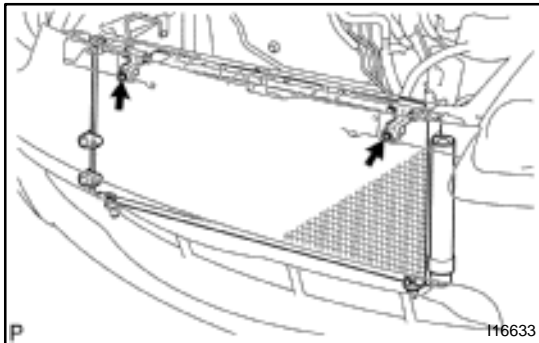
INSTALLATION

1. INSTALL CONDENSER

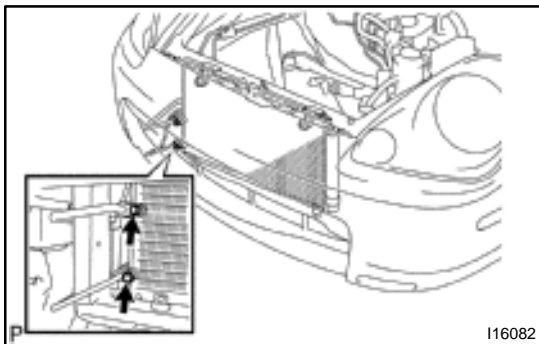
- (a) As shown in the illustration, tilt the condenser and insert the half of it.
- (b) At the time when the half of the condenser is inserted, turn it.
- (c) Place the condenser in the front of the radiator temporarily.

NOTICE:

Be careful not to damage the condenser and radiator.



- (d) Install the condenser with the 2 bolts.
Torque: 8.8 N·m (90 kgf·cm, 78 in.-lbf)



2. INSTALL LIQUID TUBE AND DISCHARGE TUBE

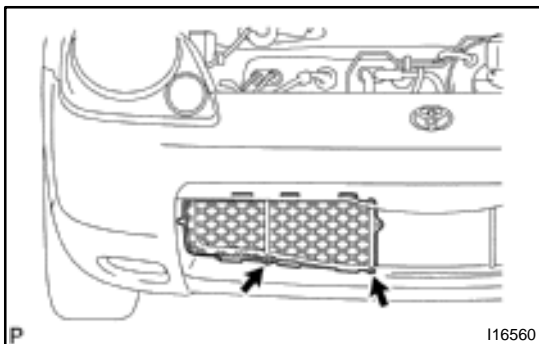
- (a) Remove the cap.
- (b) Coat 2 new O-rings with compressor oil.
- (c) Install both tubes with the 2 bolts.

Torque: 9.8 N·m (100 kgf·cm, 87 in.-lbf)

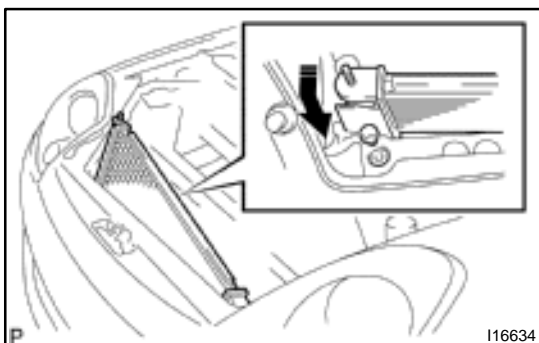
If condenser was replaced, add compressor oil to the compressor.

Add: 40 cc (1.4 fl.oz.)

Compressor oil: ND-OIL 8 or equivalent

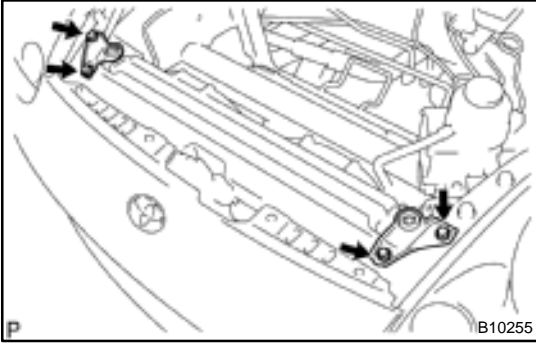


- (d) Install the RH and LH radiator grills with the 4 screws.

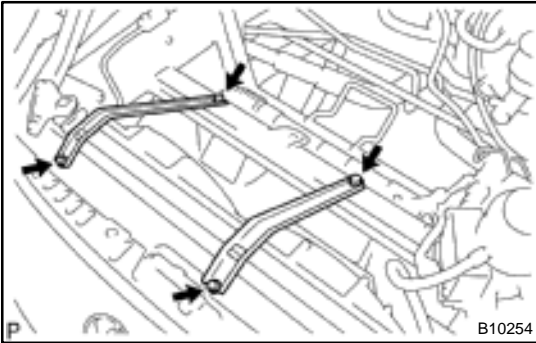


3. INSTALL RADIATOR ASSEMBLY

- (a) Pull up the radiator on right side, install the bush at the bottom side of the radiator to the existing concave, and move it forward.



- (b) Install the 2 radiator upper supports with the 4 bolts.



- (c) Install the 2 spare wheel carrier extensions with the 2 nuts and 2 bolts.

Torque: 8 N·m (82 kgf·cm, 70 in.-lbf)

4. CHARGE REFRIGERANT TO REFRIGERATION SYSTEM

- (a) Evacuate air from the refrigeration system.
 (b) Charge system with refrigerant and inspect for leakage of refrigerant.

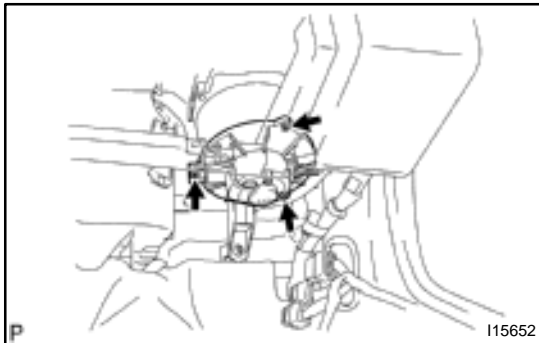
Specified amount: 500 ± 30 g (17.64 ± 1.06 oz.)

5. INSTALL TOOL BOX ASSEMBLY AND LUGGAGE COMPARTMENT TRIM BOX COVER

BLOWER MOTOR INSPECTION

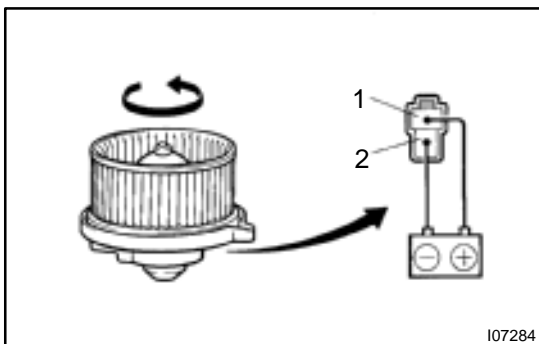
AC1GP-03

1. REMOVE GLOVE COMPARTMENT DOOR
2. REMOVE DOOR SCUFF PLATE
3. REMOVE COWL SIDE TRIM



4. REMOVE BLOWER MOTOR

- (a) Disconnect the blower motor connector.
- (b) Using a torx wrench, remove the 3 screws and blower motor.



5. INSPECT 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 operations smoothly.

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

6. INSTALL BLOWER MOTOR

- (a) Using a torx wrench, install the blower motor with the 3 screws.
- (b) Connect the blower motor connector.

7. REINSTALL COWL SIDE TRIM

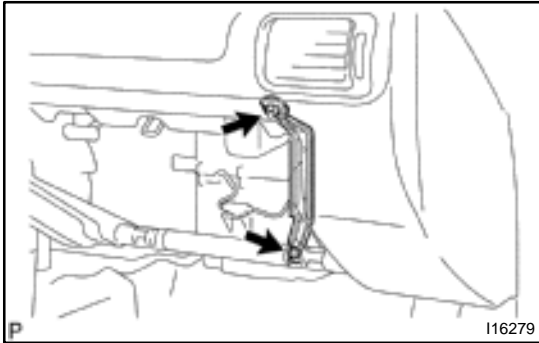
8. REINSTALL DOOR SCUFF PLATE

9. REINSTALL GLOVE COMPARTMENT DOOR

BLOWER RESISTOR INSPECTION

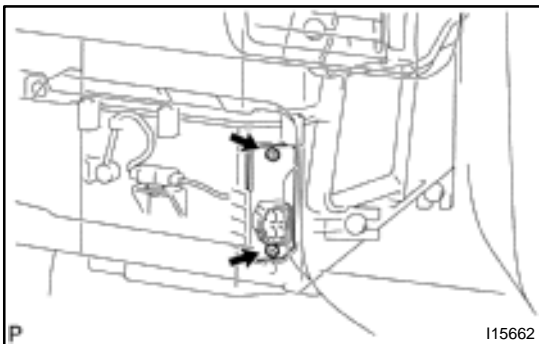
AC201-01

1. REMOVE GLOVE COMPARTMENT DOOR



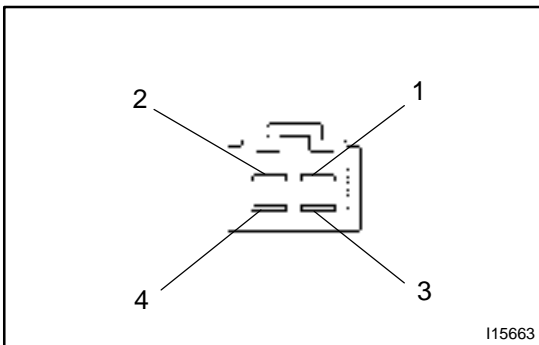
2. REMOVE NO.1 INSTRUMENT PANEL LOWER BRACKET

Remove the nut, screw and No.1 instrument panel lower bracket.



3. REMOVE BLOWER RESISTOR

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



4. INSPECT BLOWER RESISTOR CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 – 2 – 3 – 4	Continuity

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

5. REINSTALL BLOWER RESISTOR

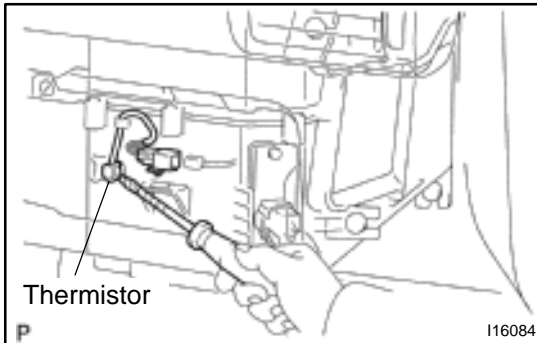
- (a) Install the blower resistor with the 2 screws.
- (b) Connect the blower resistor connector.

6. REINSTALL NO.1 INSTRUMENT PANEL LOWER BRACKET

7. REINSTALL GLOVE COMPARTMENT DOOR

THERMISTOR INSPECTION

1. REMOVE GLOVE COMPARTMENT DOOR

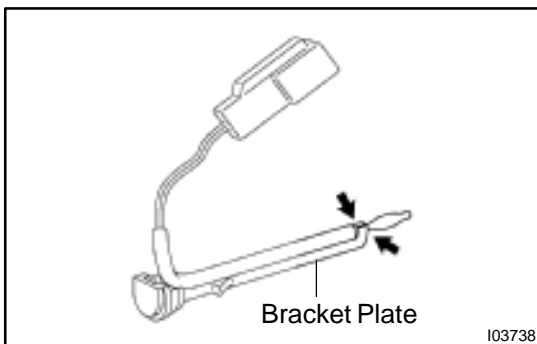


2. REMOVE THERMISTOR

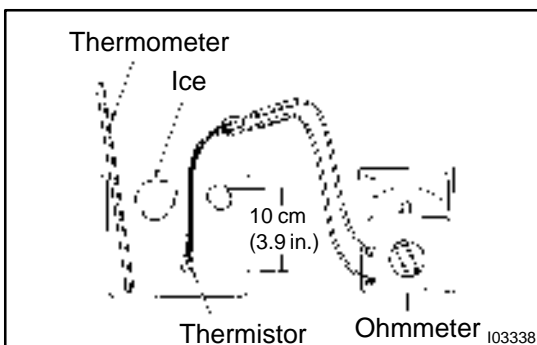
- Disconnect the thermistor connector.
- Using a screwdriver, pull out the thermistor.

HINT:

Tape the screwdriver tip before use.

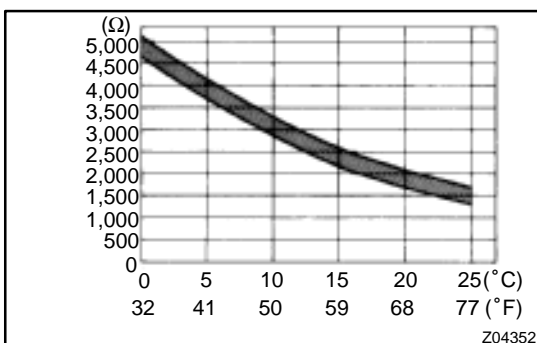


- Release the 2 claws and remove the thermistor from the bracket plate.



3. INSPECT THERMISTOR

- 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.

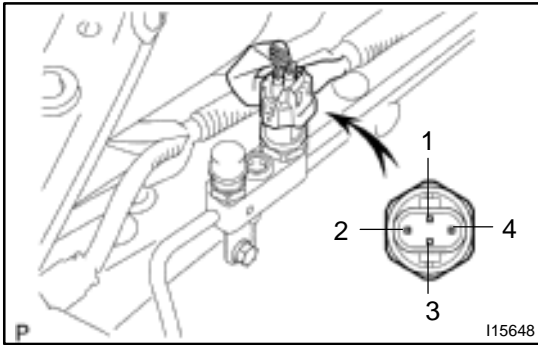


- Compare the 2 readings on the chart. If resistance is not as specified, replace the thermistor.

4. REINSTALL THERMISTOR

- Install the thermistor to the bracket plate.
- Install the thermistor to A/C unit.
- Connect the thermistor connector.

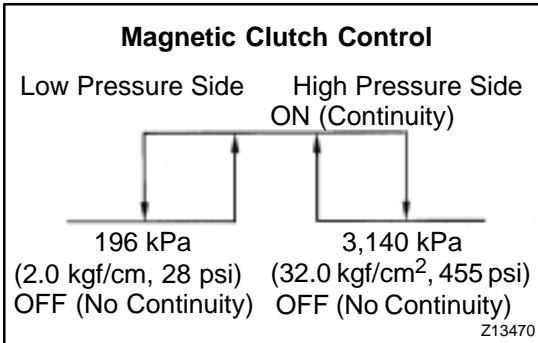
5. REINSTALL GLOVE COMPARTMENT DOOR



PRESSURE SWITCH ON-VEHICLE INSPECTION

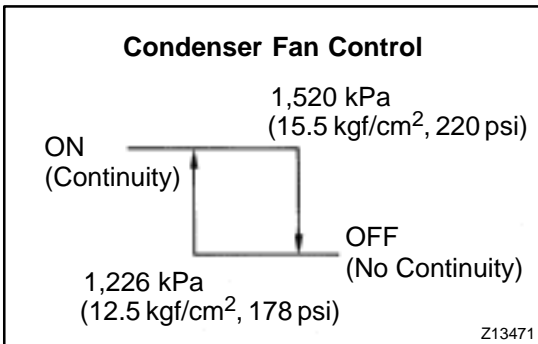
AC1GU-03

1. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER
2. SET ON MANIFOLD GAUGE SET (See page AC-18)
3. DISCONNECT CONNECTOR FROM PRESSURE SWITCH
4. RUN ENGINE AT APPROX. 1,500 RPM



5. **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 charged, as shown in the illustration.

If operation is not as specified, replace the pressure switch.

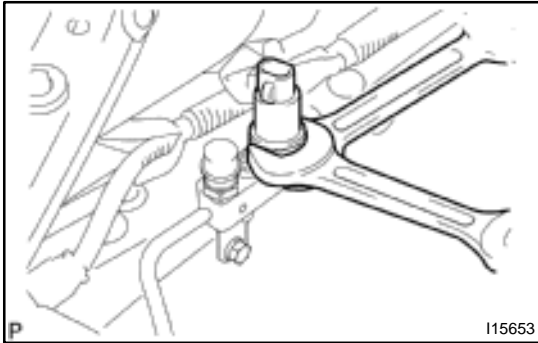


6. **Condenser fan control:**
INSPECT PRESSURE SWITCH OPERATION
 - (a) Connect the positive (-) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 3.
 - (b) Check continuity between terminals when refrigerant pressure is changed, as shown in the illustration.

If operation is not as specified, replace the pressure switch.
7. **STOP ENGINE AND SET OFF MANIFOLD GAUGE SET**
8. **RECONNECT CONNECTOR TO PRESSURE SWITCH**
9. **REINSTALL LUGGAGE COMPARTMENT TRIM BOX COVER**

REMOVAL

1. REMOVE LUGGAGE COMPARTMENT TRIM BOX COVER
2. REMOVE TOOL BOX ASSEMBLY
3. DISCHARGE REFRIGERANT FROM REFRIGERANT SYSTEM



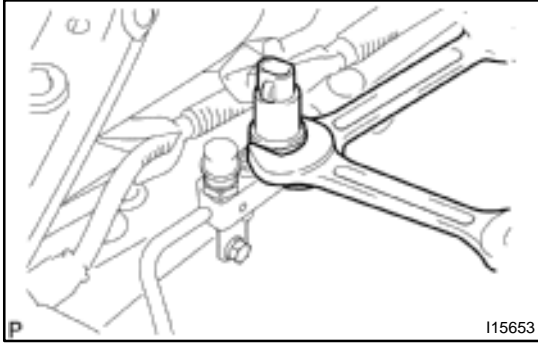
4. REMOVE PRESSURE SWITCH

- (a) Disconnect the pressure switch connector.
- (b) Remove the pressure switch from the liquid tube.

Torque: 10.8 N·m (110 kgf·cm, 8 ft·lbf)

HINT:

Lock the switch mount on the tube with an open end wrench, being careful not to deform the tube, and remove the switch.



INSTALLATION

1. INSTALL PRESSURE SWITCH

- (a) Coat a new O-ring with compressor oil.
- (b) Install the pressure switch to the liquid tube.

Torque: 10.8 N·m (110 kgf·cm, 8 ft·lbf)

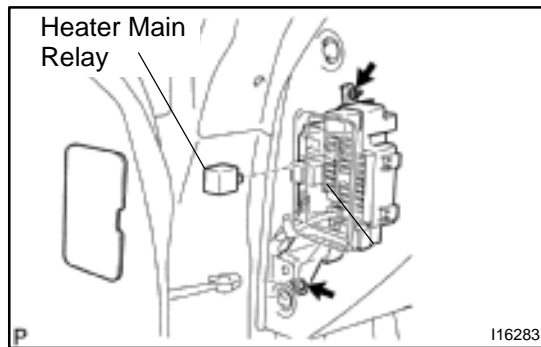
2. CHARGE REFRIGERANT TO REFRIGERANT SYSTEM

- (a) Evacuate air from refrigeration system.
- (b) Charge system with refrigerant and inspect for leakage of refrigerant.

Specified amount: 500 ± 30 g (17.64 ± 1.06 oz.)

3. INSTALL LUGGAGE COMPARTMENT TRIM BOX COVER

4. INSTALL TOOL BOX ASSEMBLY



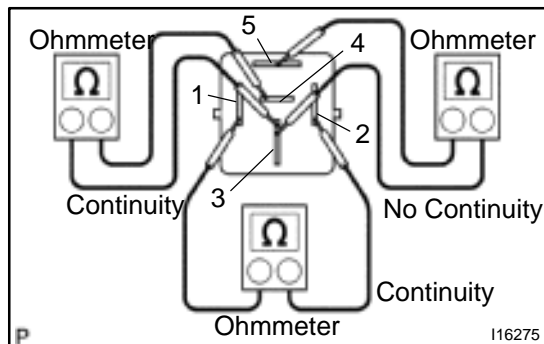
HEATER MAIN RELAY INSPECTION

AC204-02

1. DISCONNECT R/B NO. 3

Remove the bolt and nut holding to the R/B No. 3.

2. REMOVE HEATER MAIN RELAY FROM INSTRUMENT PANEL RELAY BLOCK



3. INSPECT HEATER MAIN RELAY

(a) Inspect the relay continuity.

- (1) Using an ohmmeter, check that there is continuity between terminals 1 and 2.

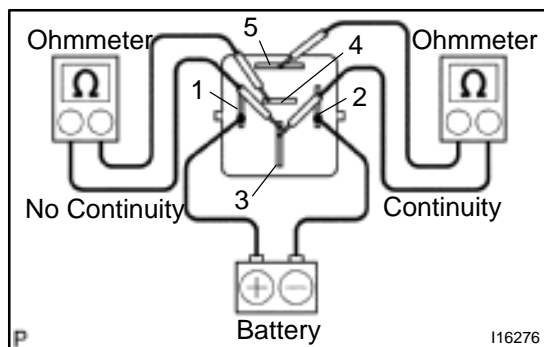
If there is no continuity, replace the relay.

- (2) Check that there is continuity between terminals 3 and 4.

If there is no continuity, replace the relay.

- (3) Check that there is no continuity between terminals 3 and 5.

If there is continuity, replace the relay.



(b) Inspect relay operation.

- (1) Apply battery positive voltage across terminals 1 and 2.

- (2) Using an ohmmeter, check that there is continuity between terminals 3 and 5.

If there is no continuity, replace the relay.

- (3) Check that there is no continuity between terminals 3 and 4.

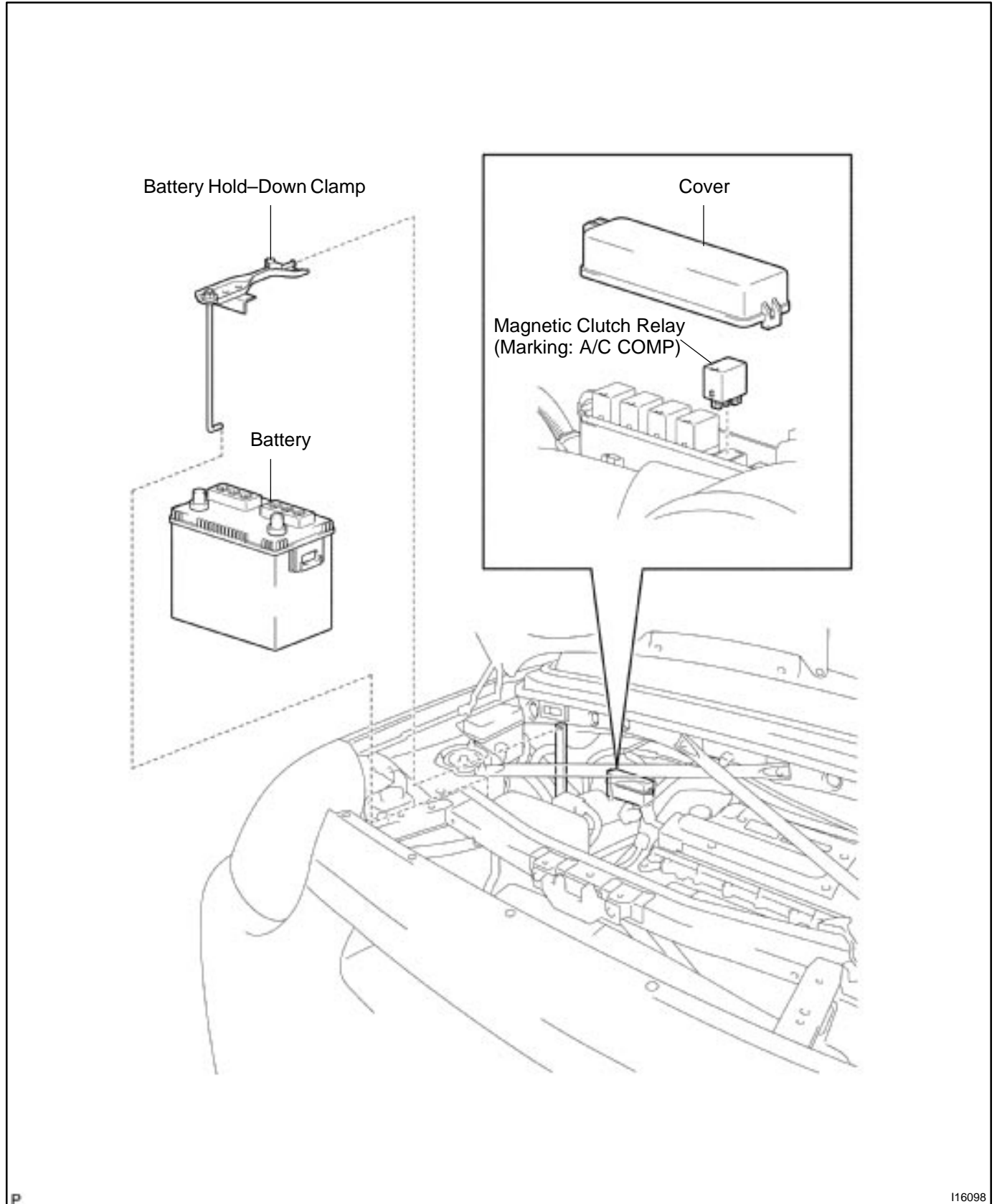
If there is no continuity, replace the relay.

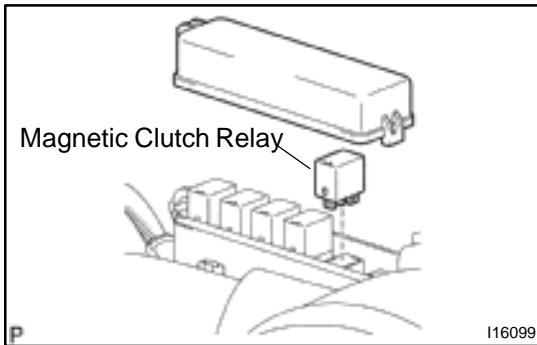
4. REINSTALL HEATER MAIN RELAY

5. RECONNECT INSTRUMENT PANEL RELAY BLOCK

MAGNETIC CLUTCH RELAY COMPONENTS

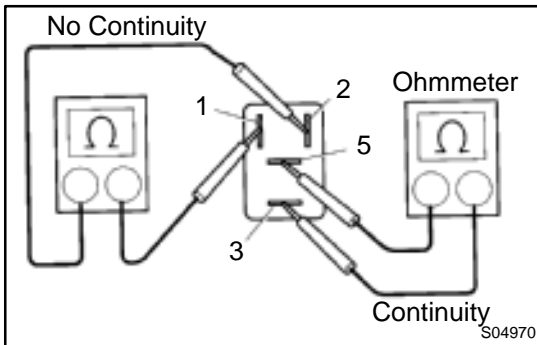
AC205-01





INSPECTION

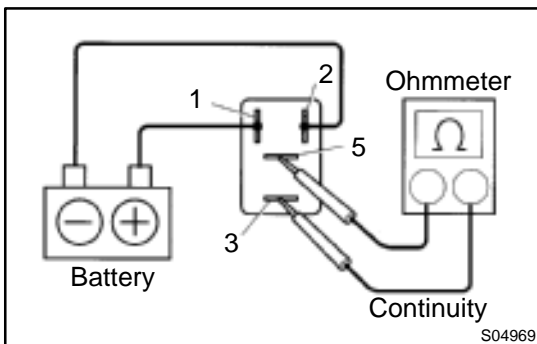
1. REMOVE BATTERY
2. REMOVE MAGNETIC CLUTCH RELAY (Marking: A/C COMP) FROM ENGINE ROOM R/B



3. INSPECT MAGNETIC CLUTCH RELAY

- (a) Inspect the relay continuity.
 - (1) Using an ohmmeter, check that there is continuity between terminals 1 and 2.
- If there is no continuity, replace the relay.
- (2) Check that there is no continuity between terminals 3 and 5.

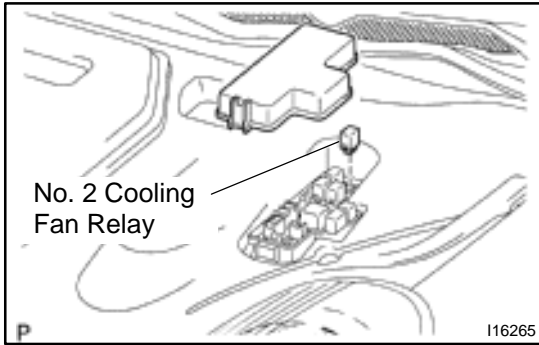
If there is continuity, replace the relay.



- (b) Inspect the relay operation.
 - (1) Apply battery positive voltage across terminals 1 and 2.
 - (2) Using an ohmmeter, check that there is continuity between terminals 3 and 5.

If there is no continuity, replace the relay.

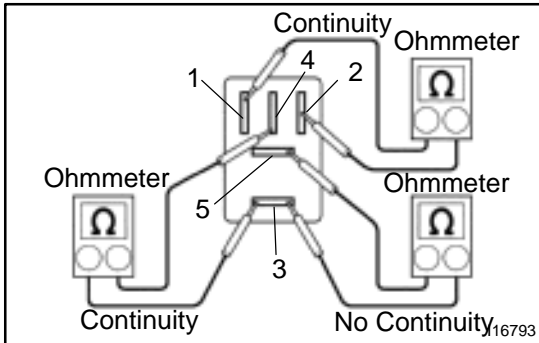
4. REINSTALL MAGNETIC CLUTCH RELAY
5. REINSTALL BATTERY



COOLING FAN RELAY INSPECTION

AC207-01

1. REMOVE NO. 2 COOLING FAN RELAY (Marking: FAN NO.2) FROM R/B NO. 4



2. INSPECT NO. 2 COOLING FAN RELAY

(a) Inspect relay continuity.

(1) Using an ohmmeter, check that there is continuity between terminals 1 and 2.

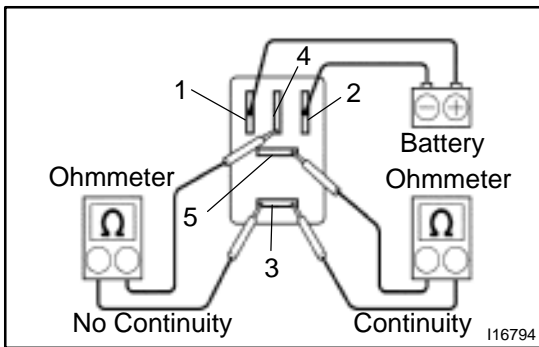
If there is no continuity, replace the relay.

(2) Check that there is continuity between terminals 3 and 4.

If there is no continuity, replace the relay.

(3) Check that there is no continuity between terminals 3 and 5.

If there is continuity, replace the relay.



(b) Inspect the relay operation.

(1) Apply battery positive voltage across terminals 1 and 2.

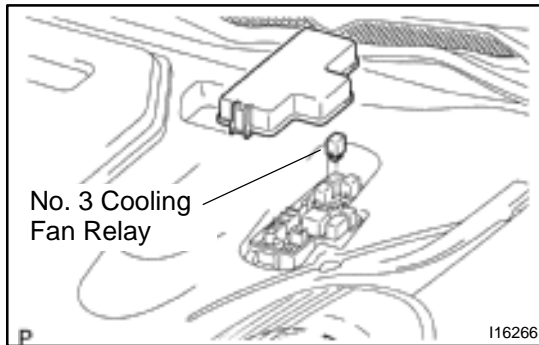
(2) Using an ohmmeter, check that there is no continuity between terminals 3 and 4.

If there is continuity, replace the relay.

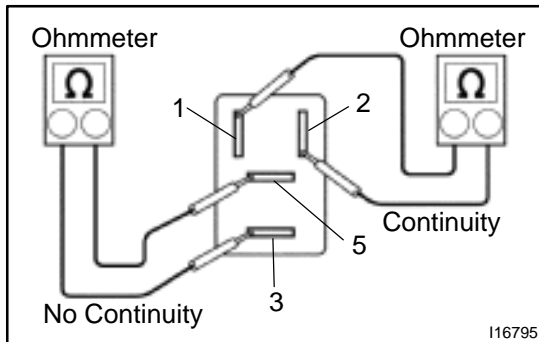
(3) Check that there is continuity between terminals 3 and 5.

If there is no continuity, replace the relay.

3. REINSTALL NO. 2 COOLING FAN RELAY



4. REMOVE NO. 3 COOLING FAN (Marking: FAN NO.3) RELAY FROM R/B NO. 4



5. INSPECT NO. 3 COOLING FAN RELAY

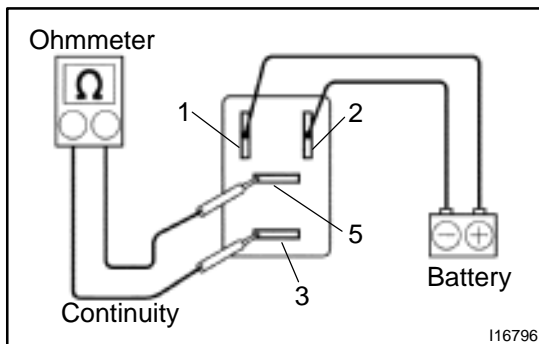
(a) Inspect the relay continuity.

- (1) Using an ohmmeter, check that there is continuity between terminals 1 and 2.

If there is no continuity, replace the relay.

- (2) Check that there is no continuity between terminals 3 and 5.

If there is continuity, replace the relay.



(b) Inspect the relay operation.

- (1) Apply battery positive voltage across terminals 1 and 2.

- (2) Using an ohmmeter, check that there is continuity between terminals 3 and 5.

If there is no continuity, replace the relay.

6. REINSTALL NO.3 COOLING FAN RELAY

CONDENSER FAN ON-VEHICLE INSPECTION

AC1HO-03

1. INSPECT CONDENSER FAN OPERATION

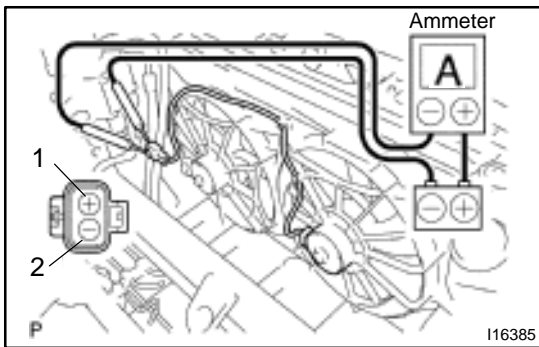
Inspect the fan operation at these condition, as shown in the table.

Test conditions:

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

Condition	Fan operation (Fan speed)
Engine coolant temperature 88 °C (190 °F) or below	Rotated (Low speed)
Engine coolant temperature 98 °C (208 °F) or above	Rotated (High speed)
Refrigerant pressure is less than 1,520 kPa (15.5 kgf/cm ² , 220 psi)	Rotated (Low speed)
Refrigerant pressure is 1,520 kPa (15.5 kgf/cm ² , 220 psi) or above	Rotated (High speed)

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



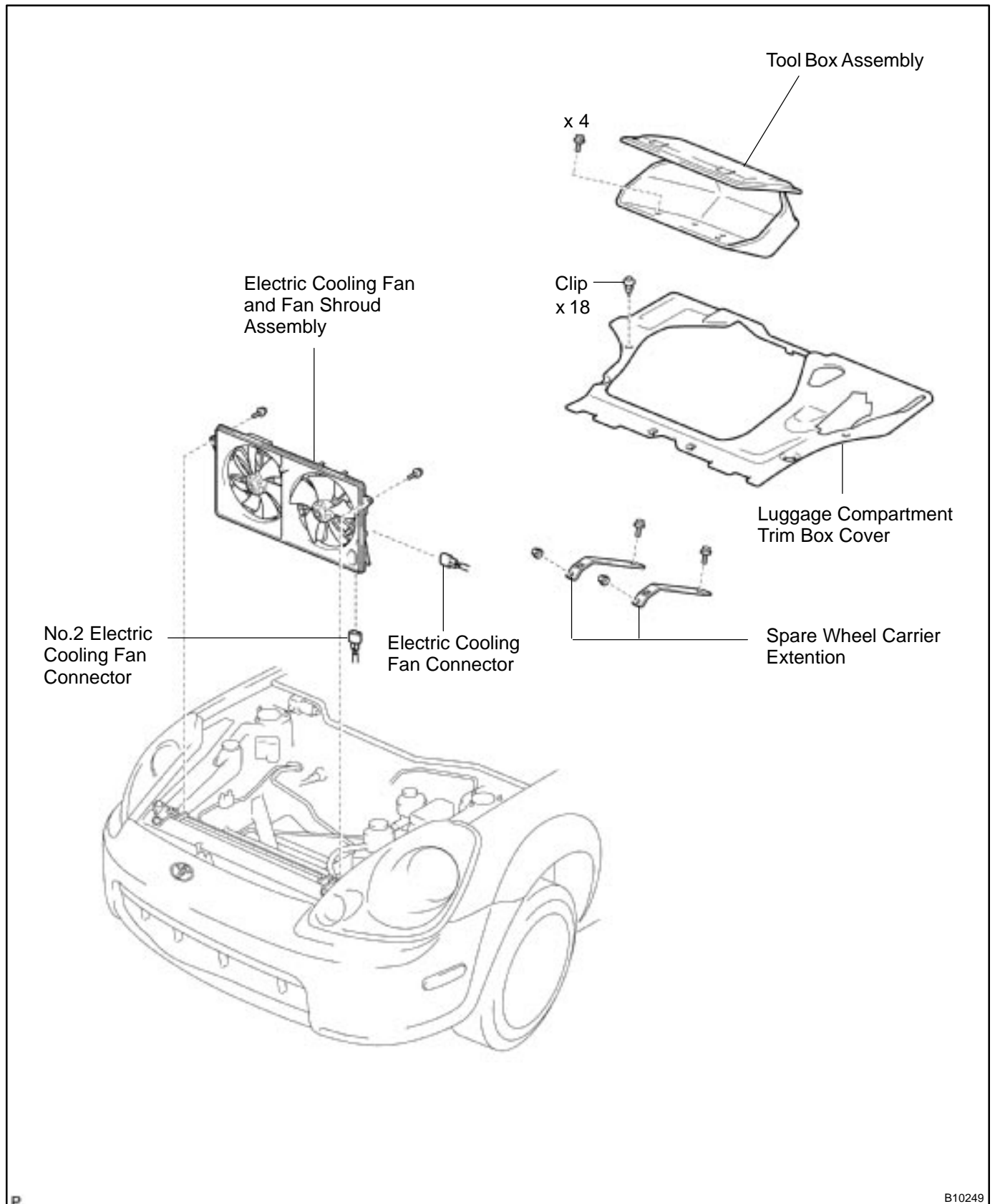
2. INSPECT CONDENSER FAN MOTOR OPERATION

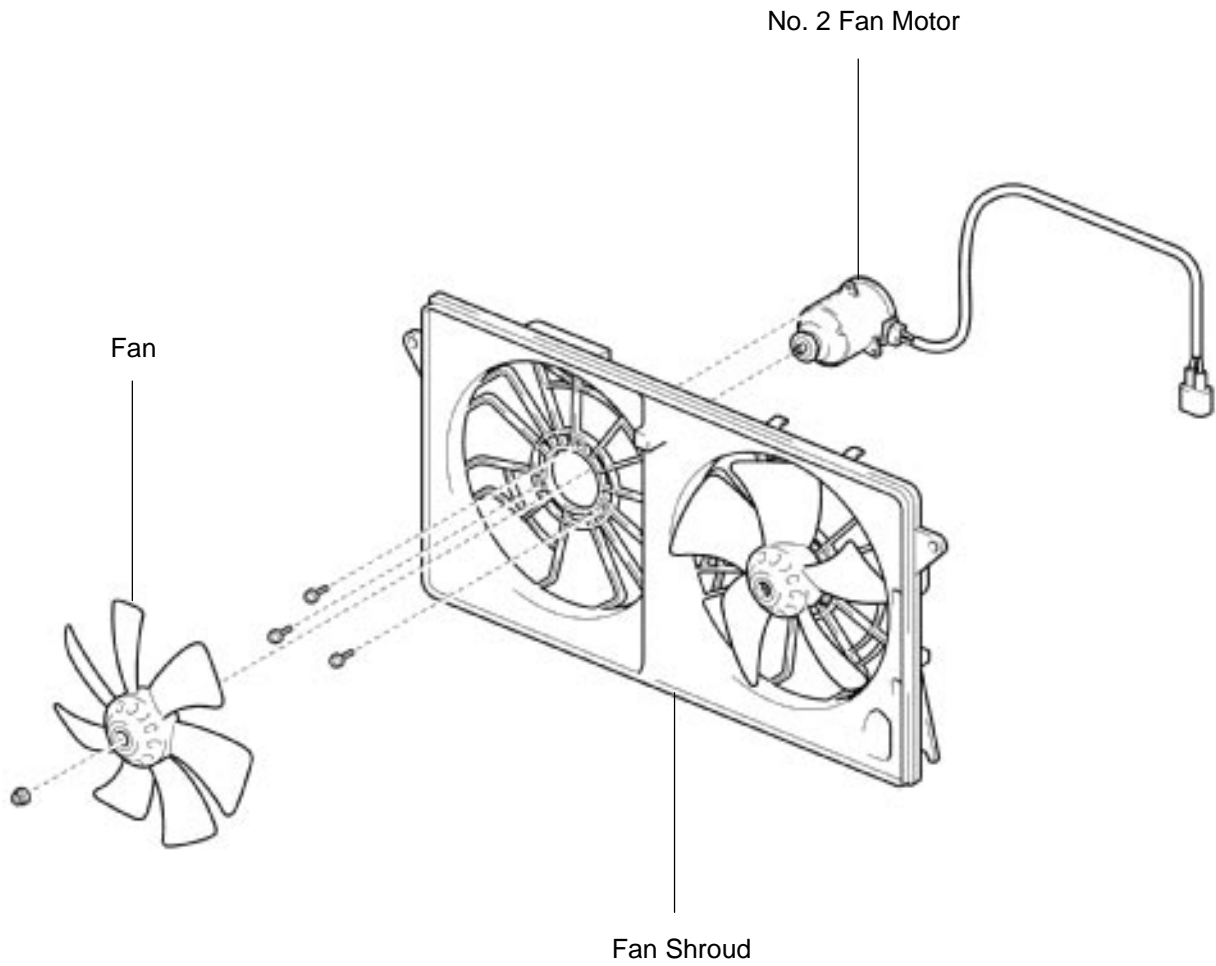
- (a) Disconnect the connector.
- (b) Connect battery and ammeter.
- (c) Check that the fan rotates smoothly, and then check the reading on the ammeter.

Specified amperage: 9.2 – 11.0 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 engine coolant temp. switch.

COMPONENTS





AIR CONDITIONING CONTROL SYSTEM

AC209-01

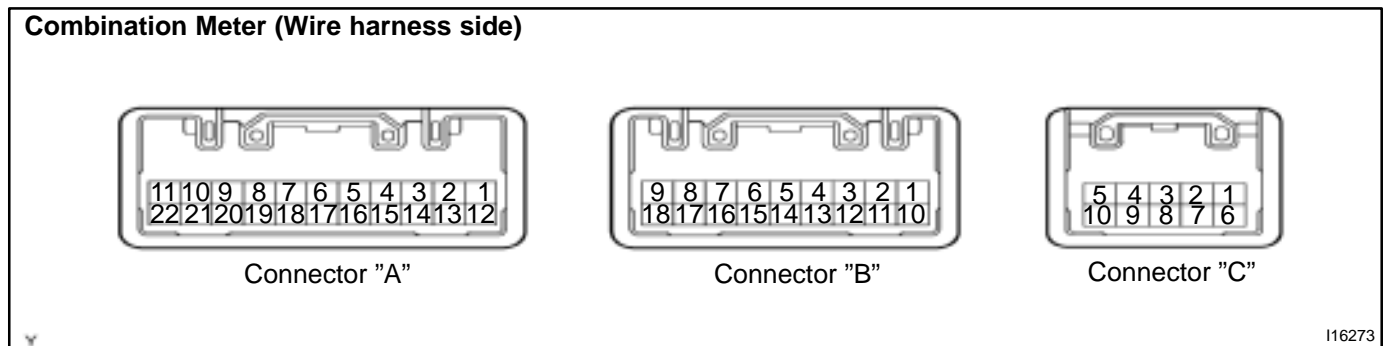
ON-VEHICLE INSPECTION

1. DISCONNECT COMBINATION METER
2. DISCONNECT ECM (See page SF-62)
3. INSPECT A/C CONDITIONING CONTROL SYSTEM CIRCUIT

(a) Disconnect the connector from the combination meter and inspect the connector on the wire harness side, as shown in the diagram below.

Test condition:

Turn ignition switch to ON



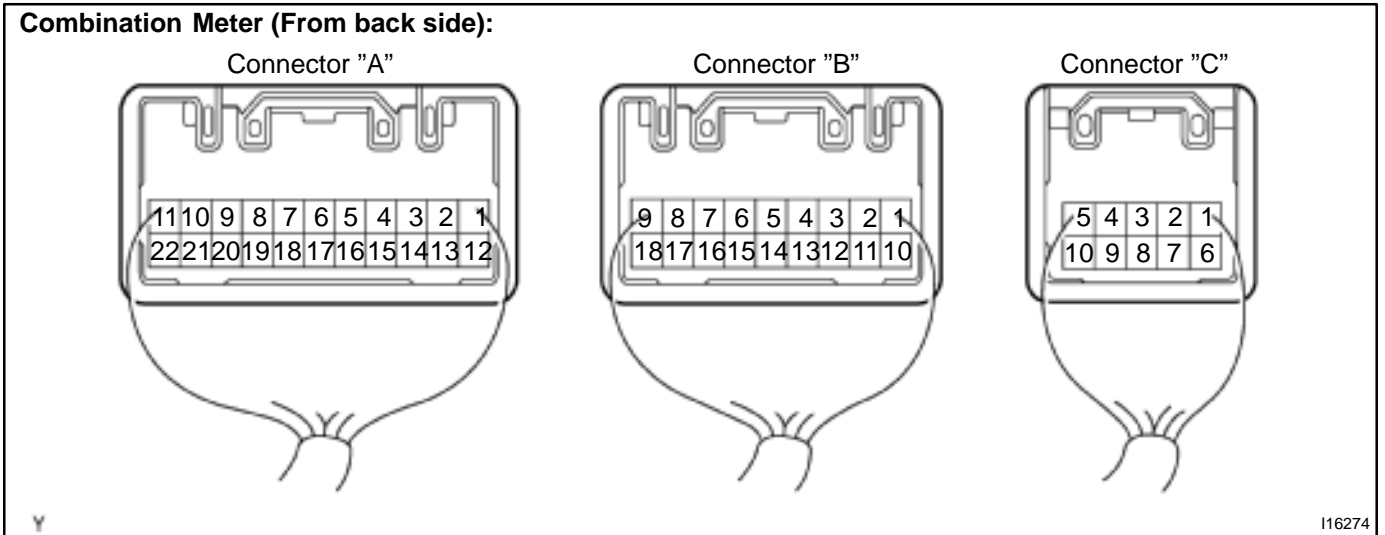
Tester connection	Condition	Specified condition
B8 – Ground	Constant	Continuity
C1 – C4	Evaporator temperature at 25°C (77°F)	1.5 kΩ

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

- (b) Reconnect the connector to combination meter and inspect the wire harness side from the back side, as shown in the diagram below.

Test condition:

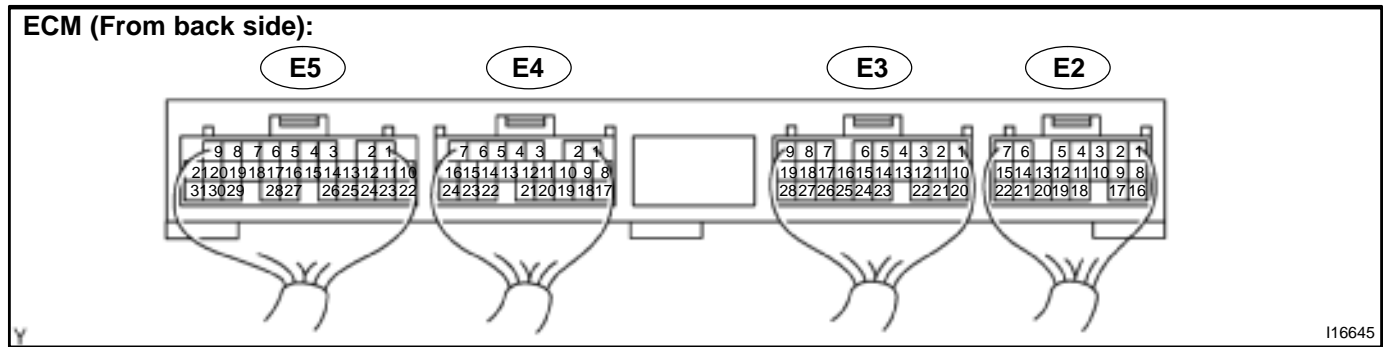
- Run engine at idle speed
- Set on manifold gauge set



Tester connection	Condition	Specified condition
B13 – Ground	A/C switch ON & Blower motor: operative	Below 1.0 V
	A/C switch OFF	Battery positive voltage
C10 – Ground	Mode selector: DEF.	Below 1.0 V
	Mode Selector: Except DEF.	Battery positive voltage
C9 – Ground	A/C switch ON	Below 1.0 V
	A/C switch OFF	Battery positive voltage
A1 – Ground	Blower motor: Operative	Below 2.0 V
	Blower motor: No operative	Battery positive voltage

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

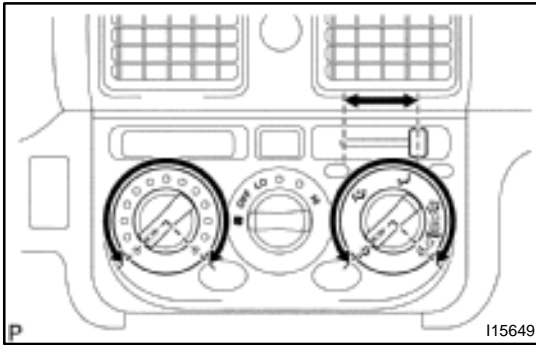
- (c) Inspect the wire harness side connector of the ECM from the back side, as shown in the diagram below.



Tester connection	Condition	Specified condition
E2-12 – Ground	Start engine. Magnetic clutch: ON	Below 1.0 V
	Start engine. Magnetic clutch: OFF	Battery positive voltage
E3-28 – Ground	Start engine. A/C switch ON	Battery positive voltage
	Start engine. A/C switch OFF	No voltage
E3-18 – Ground	Refrigerant pressure: 196 – 1,340 kPa	Battery positive voltage
	Refrigerant pressure: less than 196 or more than 1,340 kPa	No voltage

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

4. RECONNECT ECM (See page SF-62)
5. RECONNECT COMBINATION METER



HEATER CONTROL ASSEMBLY ON-VEHICLE INSPECTION

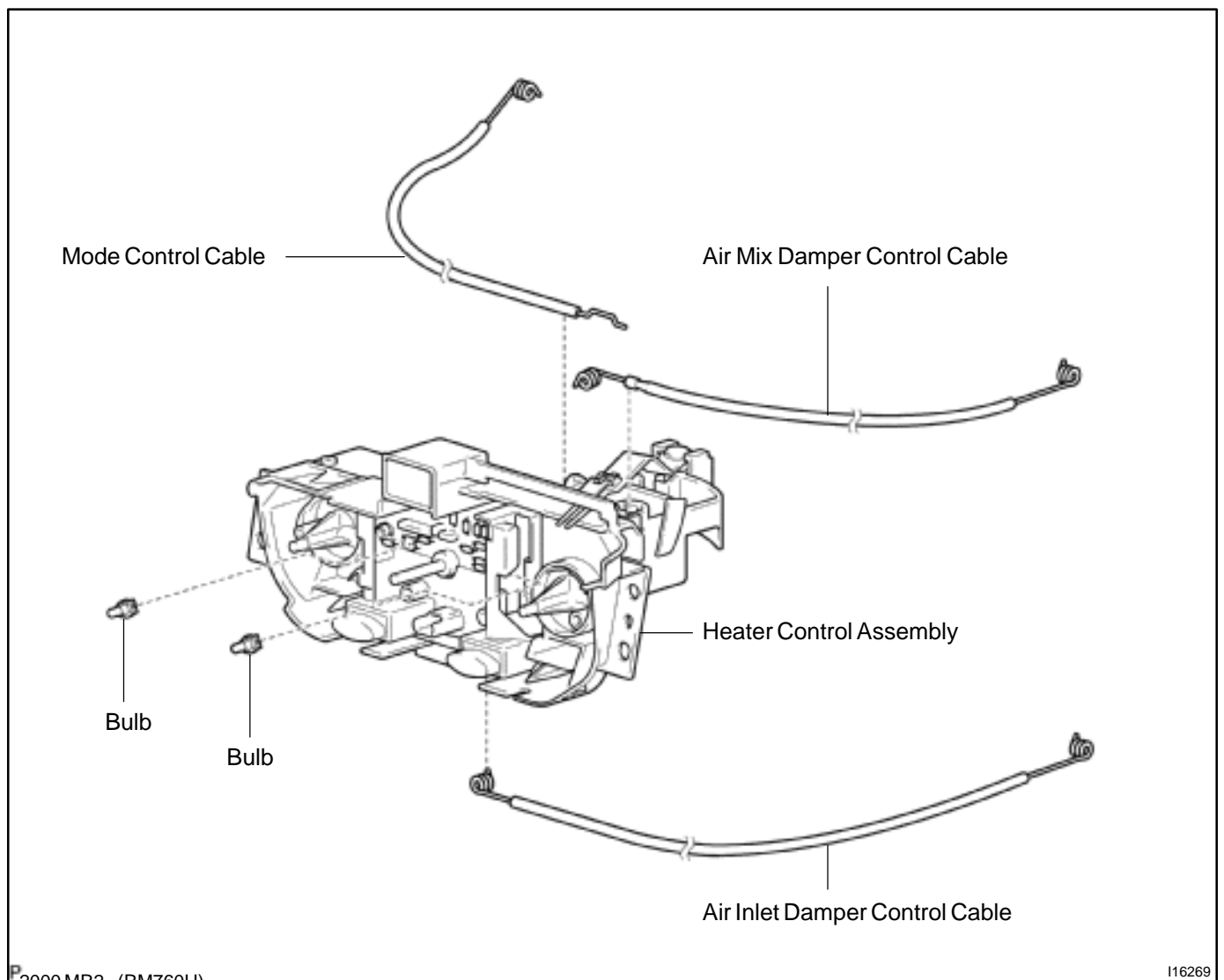
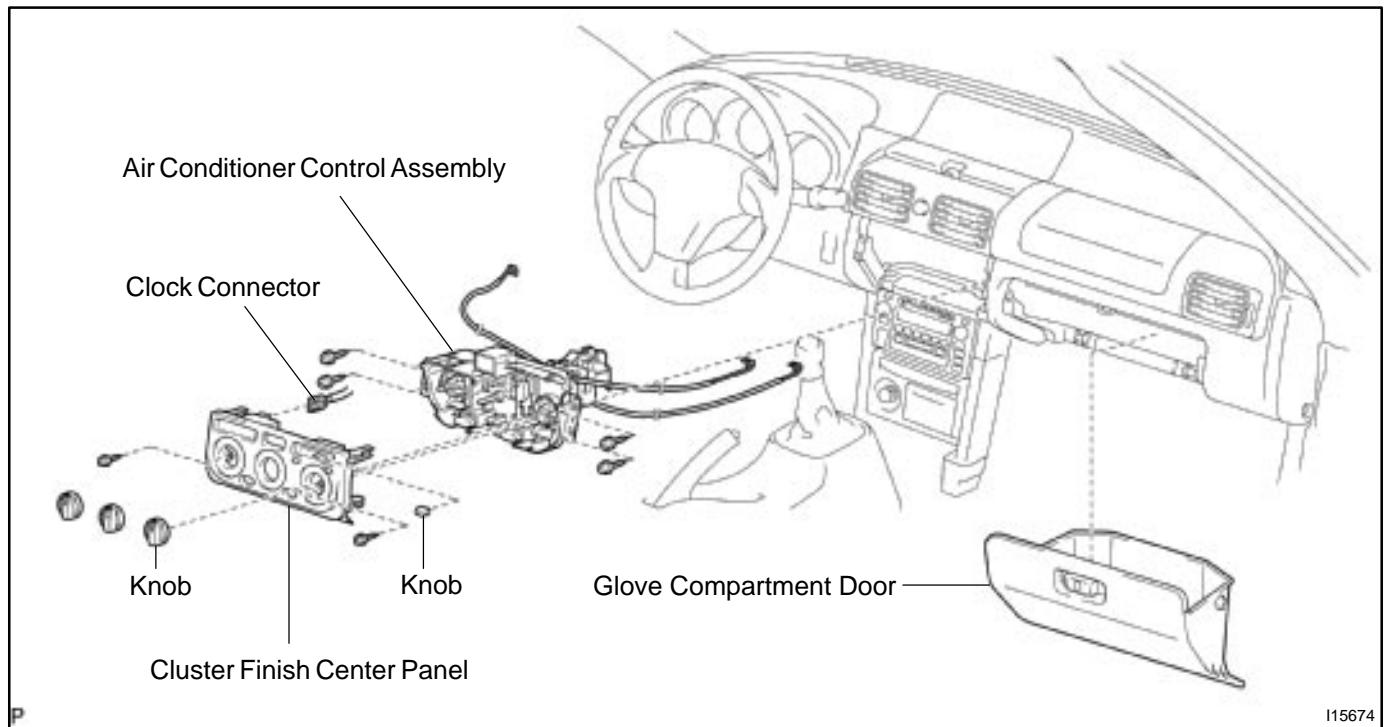
AC2HD-02

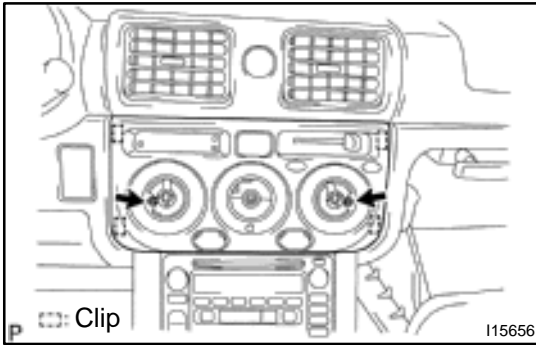
INSPECT HEATER CONTROL DIALS OPERATION

Turn the control lever and 2 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.

COMPONENTS





REMOVAL

1. REMOVE CENTER CLUSTER FINISH PANEL

- (a) Remove the 4 knobs.
- (b) Remove the 2 screws.
- (c) Using a screwdriver, remove the center cluster finish panel.

HINT:

Tape the screwdriver tip before use.

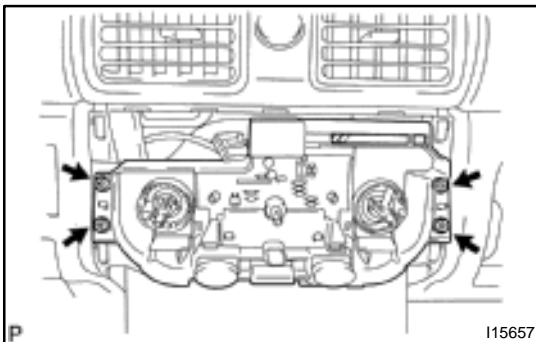
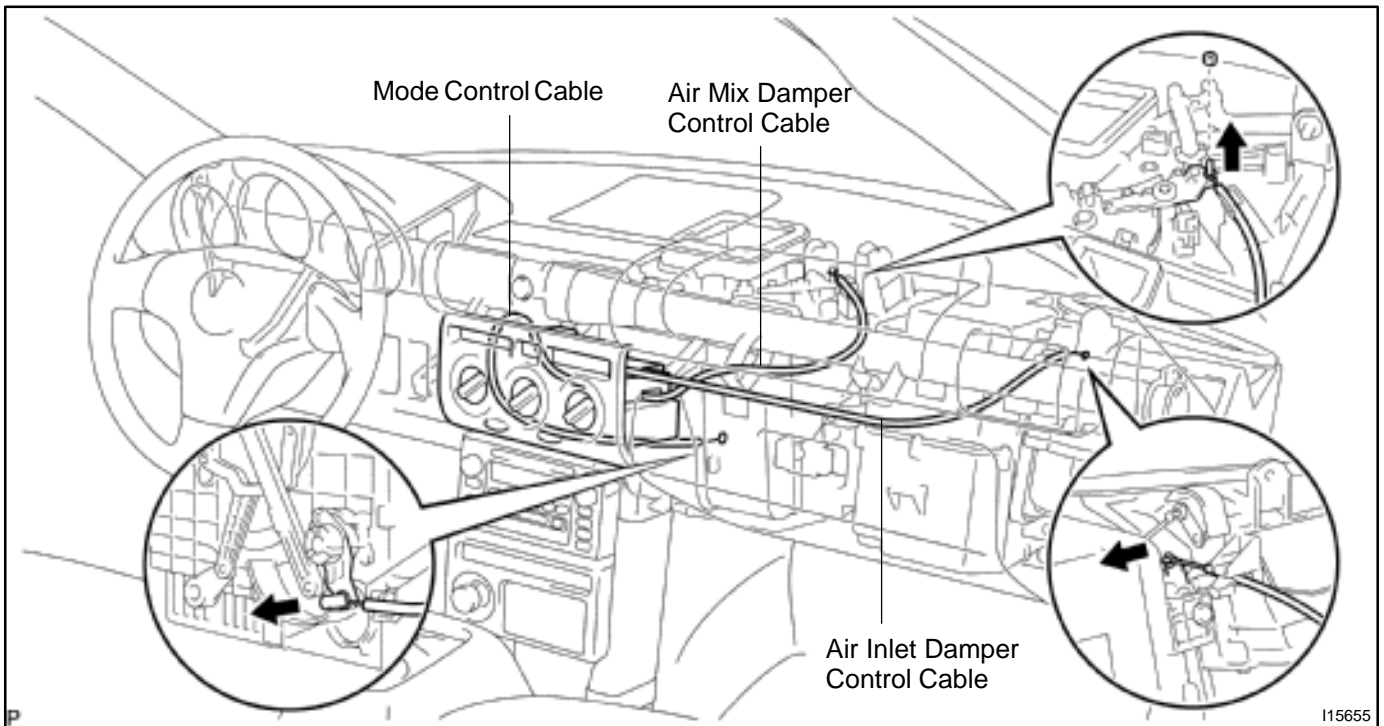
- (d) Disconnect the clock connector from the clock.
- (e) Remove the center cluster finish panel.

2. REMOVE GLOVE COMPARTMENT DOOR

3. DISCONNECT HEATER CONTROL CABLES

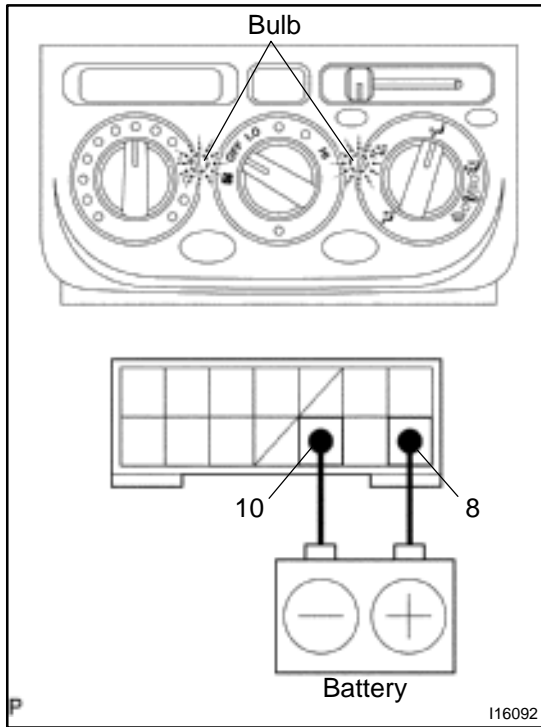
NOTICE:

When the cables are disconnected, be careful not to bend the cable.



4. REMOVE HEATER CONTROL ASSEMBLY

Remove the 4 screws and control assembly, then disconnect the 2 connectors.

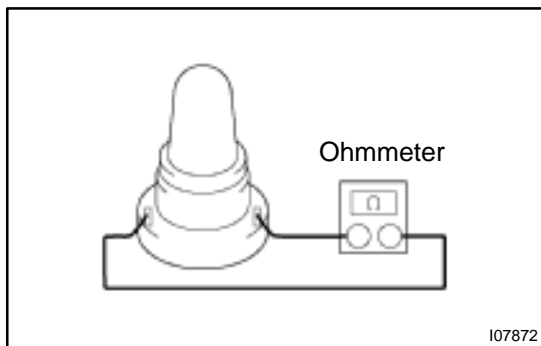


INSPECTION

1. INSPECT ILLUMINATION OPERATION

Connect the positive (+) lead from the battery to terminal 8 and negative (-) lead to terminal 10 then check that the illuminations lights up.

If operation is not as specified, check the faulty bulb.

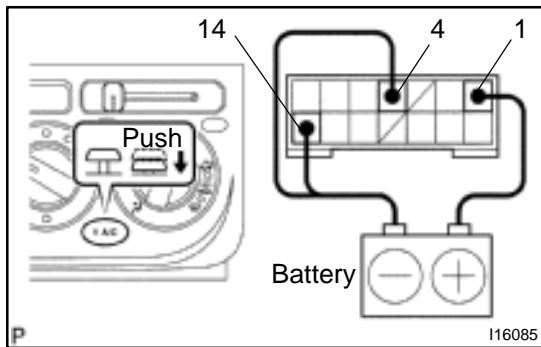


2. INSPECT BULB

Using an ohmmeter, apply the tester as shown in the illustration to the test for continuity.

If continuity exists, replace the heater control.

If no continuity exists, replace the bulb.

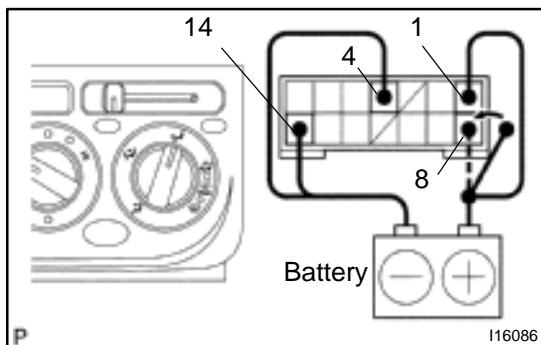


3. INSPECT A/C INDICATOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminals 4 and 14.

(b) Push the A/C button in and then check that the indicator lights up.

If operation is not as specified, replace the switch.

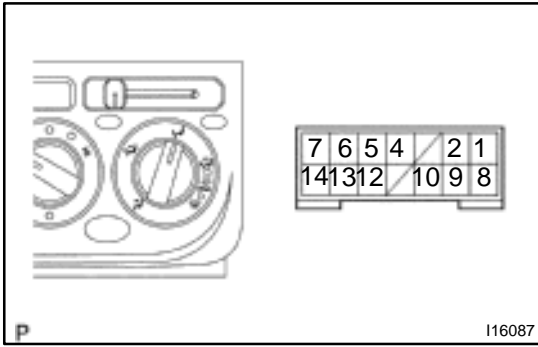


4. INSPECT DIMMING OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminals 4 and 14 while pressing the switch.

(b) Connect the positive (+) lead from battery to terminal 8 and then check that the indicator dims.

If operation is not as specified, replace the switch.



5. INSPECT A/C SWITCH CONTINUITY

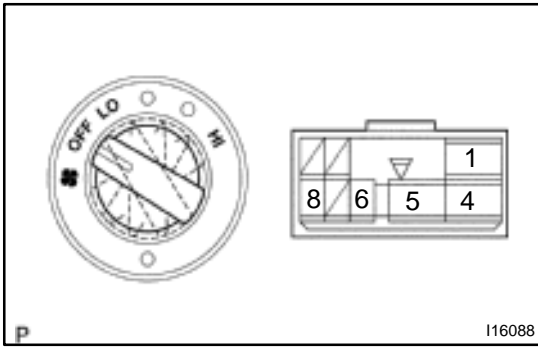
Condition/Circuit	Tester connection	Specified condition
OFF	–	No continuity
ON	7 – 4	Continuity

Switch continuity:

If continuity is not as specified, replace the switch.

Illumination circuit:

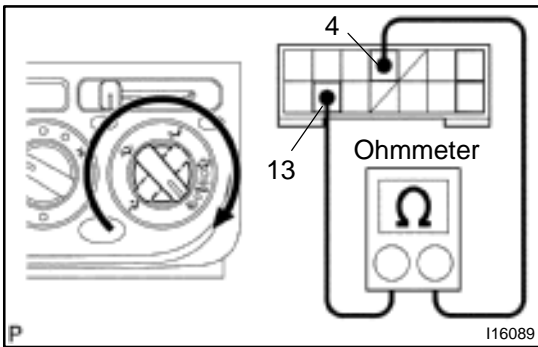
If continuity is not as specified, replace the bulb.



6. INSPECT BLOWER SPEED CONTROL SWITCH CONTINUITY

Position/ Circuit	Tester connection	Specified condition
OFF	–	No continuity
LO	1 – 8	Continuity
M1	1 – 6 – 8	Continuity
M2	1 – 5 – 8	Continuity
HI	1 – 4 – 8	Continuity

If continuity is not as specified, replace the switch.



7. INSPECT DEFROSTER MODE SWITCH OPERATION

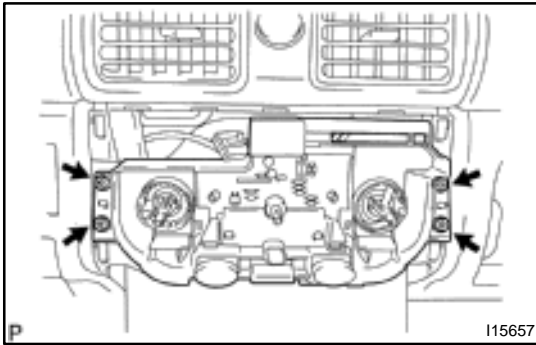
Position/ Circuit	Tester connection	Specified condition
OFF	–	No continuity
ON	4 – 13	Continuity

If no continuity exists, replace the switch.

8. INSPECT REAR DEFOGGER SWITCH OPERATION (See page BE-48)

9. INSPECT SECURITY INDICATOR LIGHT (See page DI-352)

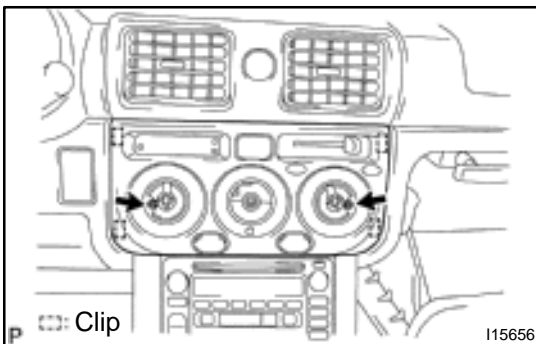
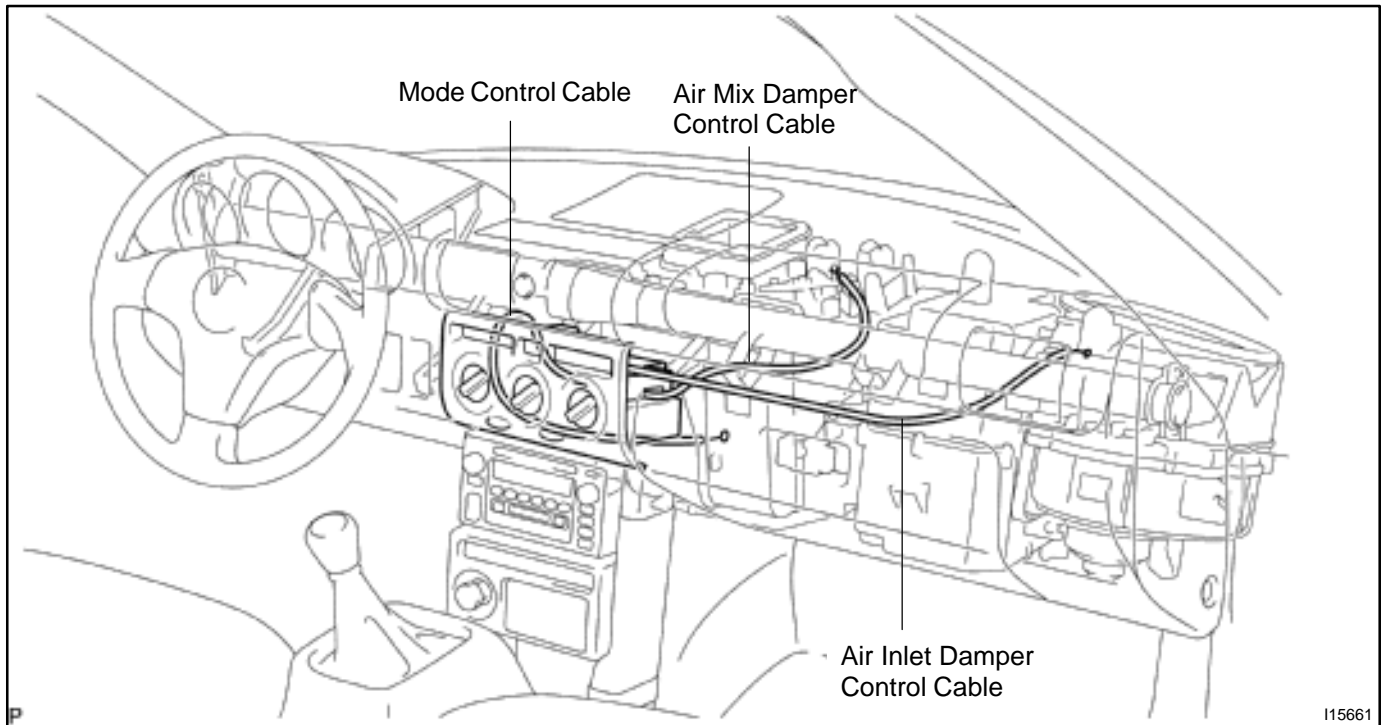
10. INSPECT PASSENGER AIRBAG MANUAL ON-OFF INDICATOR OPERATION (See page RS-50)



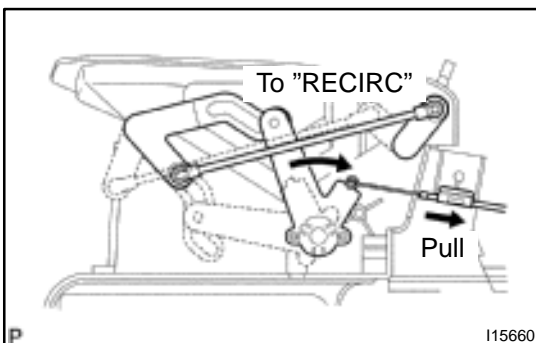
INSTALLATION

1. INSTALL HEATER CONTROL ASSEMBLY

- (a) Connect the 2 connectors to the heater control assembly.
- (b) Pass through the A/C control cables as shown in the illustration.



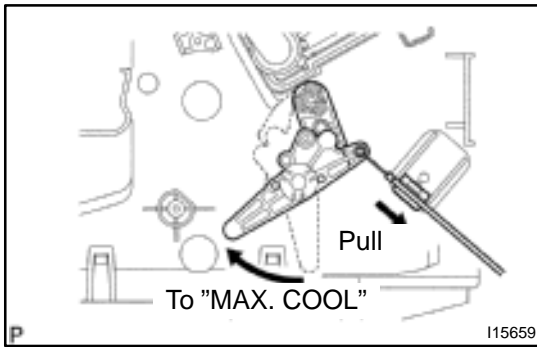
- (c) Install the heater control assembly with the 4 screws.
- ### 2. INSTALL CENTER CLUSTER FINISH PANEL
- (a) Connect the clock connector to the clock.
 - (b) Install the center cluster finish panel with the 2 screws.
 - (c) Install the 4 knobs.
- ### 3. CONNECT HEATER CONTROL CABLES
- (a) Set the air inlet control lever to "RECIRC" position.
 - (b) Set the temperature control dial to "MAX. COOL" position.
 - (c) Set the mode control dial to "FACE" position.



- (d) Adjust the air inlet damper control cable. Set the air inlet damper control lever to "RECIRC" position and connect the inner cable to lever pin and clamp the outer cable.

HINT:

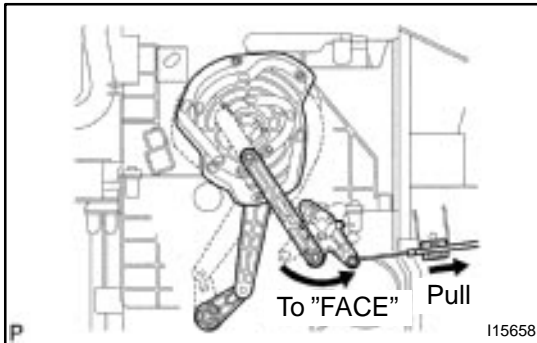
Lock the clamp while lightly pulling the outer cable to the direction shown by arrow in the illustration.



- (e) Adjust air mix damper control cable.
Set the air mix damper control lever to "MAX. COOL" position and connect the 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 arrow in the illustration.



- (f) Adjust the mode control cable.
Pull the air outlet damper control link to "FACE" position, connect the control cable and lock the clamp.

HINT:

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

4. INSTALL GLOVE COMPARTMENT DOOR