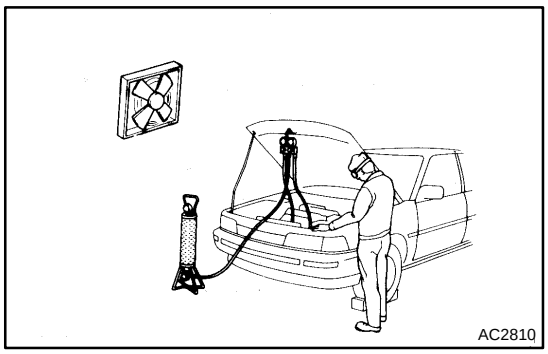

AC2810

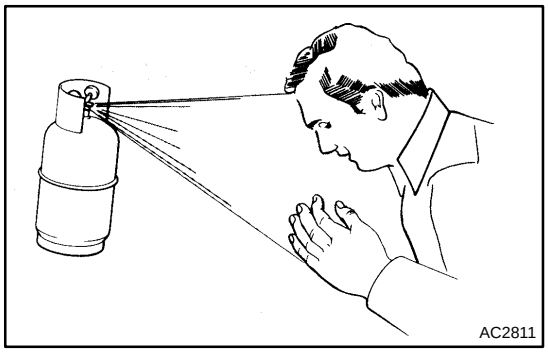
AIR CONDITIONING SYSTEM

AC15I-04

PRECAUTION

1. DO NOT HANDLE REFRIGERANT IN AN ENCLOSED AREA OR NEAR AN OPEN FLAME

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 lots of cool water.

CAUTION:

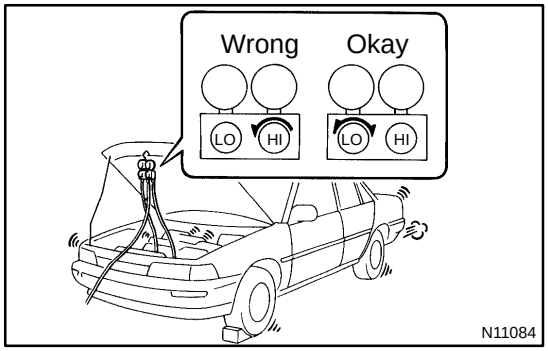
Do not rub your eyes or skin.

(b) Apply clean petroleum jelly to the skin.

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

4. NEVER HEAT CONTAINER OR EXPOSE IT TO NAKED FLAME

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



N11084

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

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

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

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

8. BE CAREFUL NOT TO OVERCHARGE SYSTEM WITH REFRIGERANT

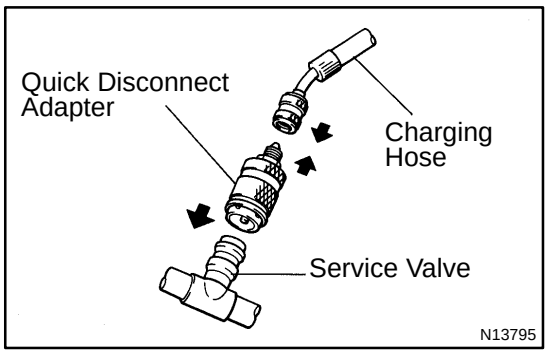
If refrigerant is overcharged, it causes problems such as insufficient cooling, poor fuel economy, engine overheating etc.

9. SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The LEXUS IS300 is equipped with an SRS (Supplemental Restraint System) such as the driver, passenger and side airbag. Failure to carry out service operations in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident. Before servicing (including removal or installation of parts, inspection or replacement), be sure to read the precautionary notices in the RS section.

AC15K-05

EVACUATING



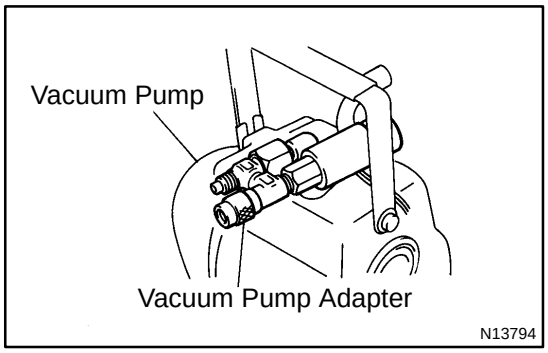
1. CONNECT QUICK DISCONNECT ADAPTER TO CHARGING HOSES

2. REMOVE CAPS FROM SERVICE VALVES ON REFRIGERANT LINES

3. SET ON MANIFOLD GAUGE SET

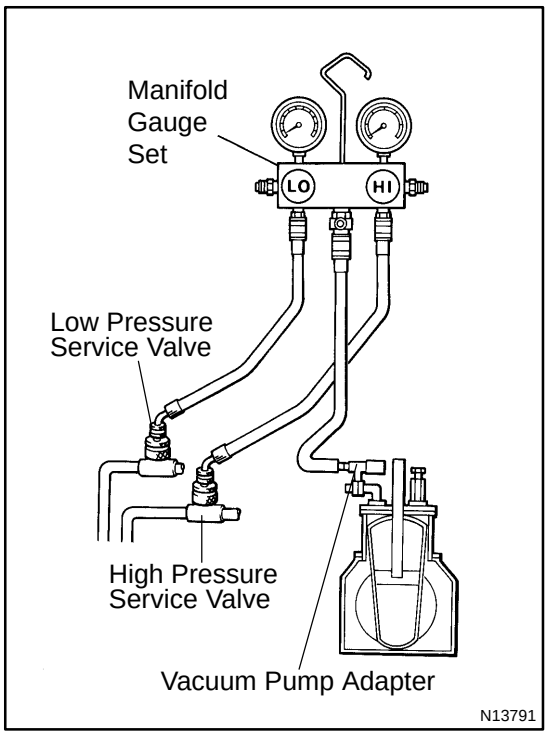
(a) Close both hand valves of manifold gauge set.

(b) Connect the quick disconnect adapters to the service valves.



4. EVACUATE AIR FROM REFRIGERATION SYSTEM

(a) Connect the vacuum pump adapter to the vacuum pump.



(b) Connect the center hose of the manifold gauge set to the vacuum pump adapter.

(c) Open both the high and low hand valves and run the vacuum pump.

(d) After 10 minutes or more, check that the low pressure gauge indicates 750 mmHg (30 in. Hg) or more.

HINT:

If the reading is 750 mmHg (30 in. Hg) or more, close both hand valves of manifold gauge set and stop the vacuum pump.

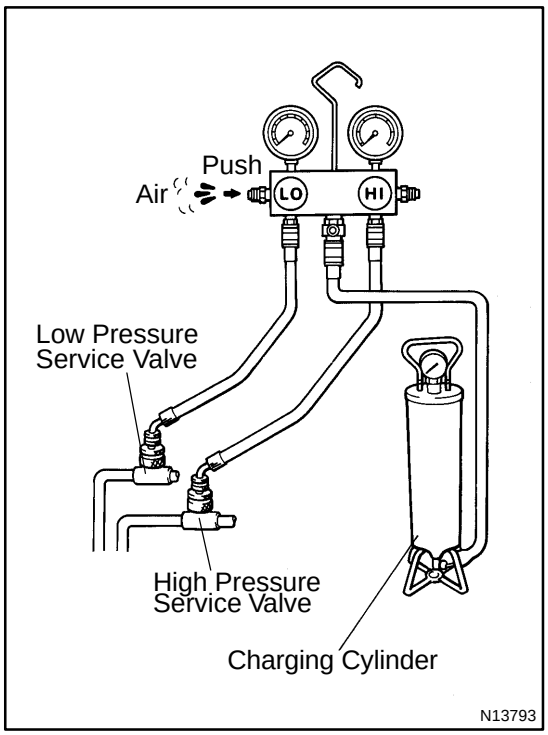
Check the system for leaks and repair if necessary.

(e) Close both the high and low hand valves and stop the vacuum pump.

(f) Leave the system in this condition for 5 minutes or more and check that there is no gauge indicator.

AC25K-02

CHARGING



1. 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.

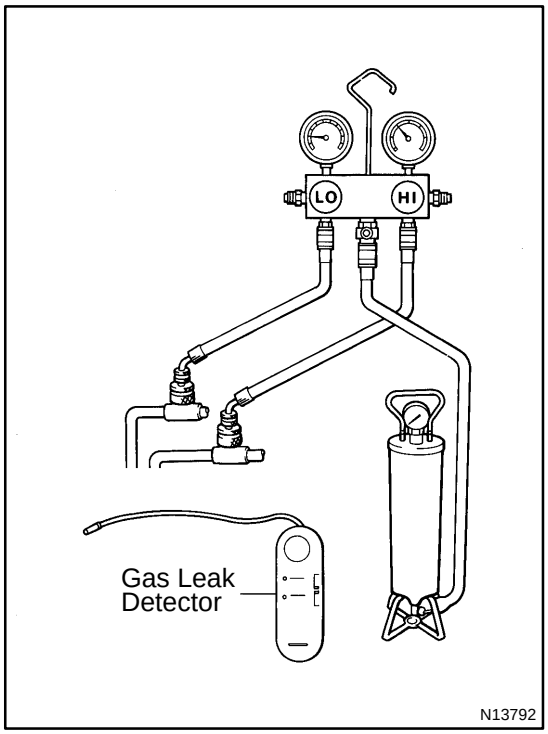
(b) Connect the center hose to the charging cylinder.

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 expel the air inside of the center hose.



2. INSPECT REFRIGERATION SYSTEM FOR LEAKS

(a) Open the high pressure hand valve and charge refrigerant.

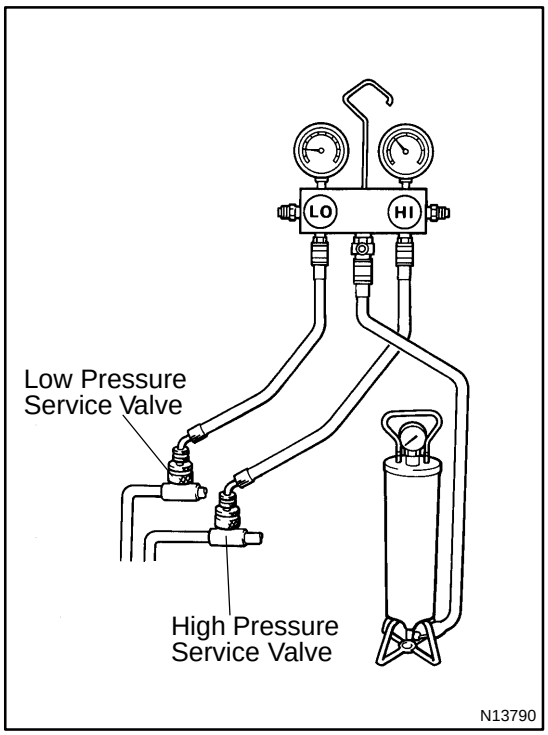
(b) When the low pressure gauge indicates 98 kPa (1 kgf/cm^2, 14 psi) close the high pressure hand valve.

(c) Using a gas leak detector, check the system for leakage.

If leak is found, repair the faulty component or connection.

CAUTION:

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



3. CHARGE REFRIGERANT INTO REFRIGERATION SYSTEM

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

CAUTION:

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

(a) Open he high pressure hand valve fully.

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

HINT:

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

(c) Charge partially refrigeration system with refrigerant.

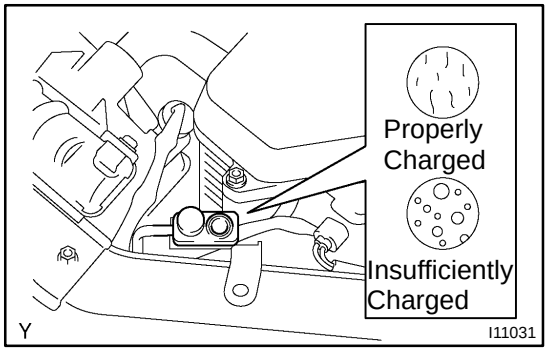
(1) Set vehicle in these conditions:

- Running engine at 1,500 rpm
- Blower speed control set at ”HI”
- Temperature control set at ”MAX. COOL” position
- Air inlet control set at ”RECIRC”
- Fully open doors (Sliding roof : closed)

(2) Open the low pressure hand valve.

CAUTION:

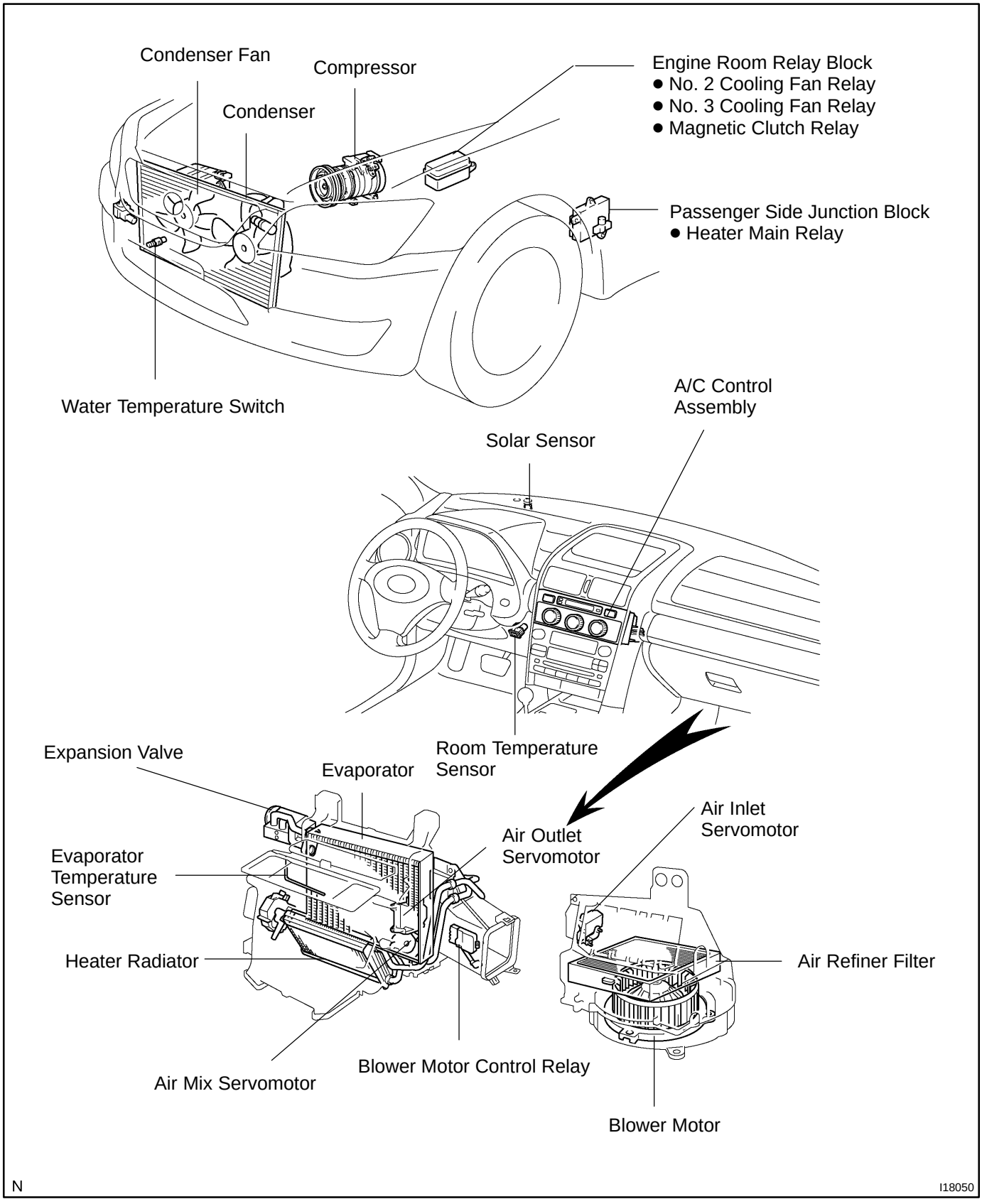
Do not open the high pressure hand valve.



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

AC15M-03

LOCATION



N

I18050

TROUBLESHOOTING

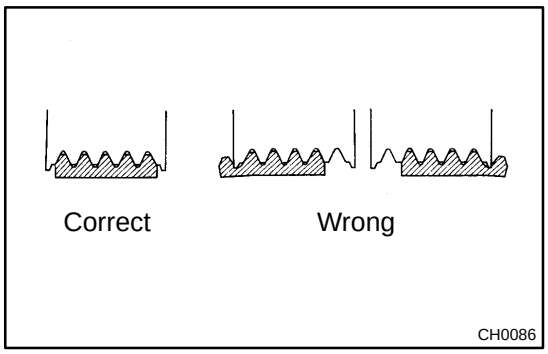
AC20D-03

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
Whole functions of A/C system do not operate	1. A.C Fuse	-
	2. A/C control assembly	AC-79
No blower operation	1. Heater main relay	AC-69
	2. Blower motor	AC-55
	3. Blower motor control relay	AC-56
	4. A/C control assembly	AC-79
	5. Wire harness	-
No blower control	1. Blower motor	AC-55
	2. Blower motor control relay	AC-56
	3. A/C control assembly	AC-79
	4. Wire harness	-
Insufficient air out	1. Blower motor	AC-55
No cool air comes out	1. Refrigerant volume	AC-3
	2. Drive belt	AC-16
	3. Refrigerant pressure	AC-3
	4. Compressor	AC-38
	5. Pressure switch	AC-66
	6. Igniter circuit	-
	7. Air mix servomotor	AC-30
	8. Room temp. sensor	AC-62
	9. Ambient temp. sensor	AC-63
	10.A/C control assembly	AC-79
	11.Wire harness	-
No warm air comes out	1. Engine coolant volume	-
	2. Air mix servomotor	AC-30
	3. Ambient temp. sensor	AC-63
	4. Room temp. sensor	AC-62
	5. A/C control assembly	AC-79
	6. Heater radiator	AC-30
Out put air is warmer or cooler than the set temperature or response is slow	1. Refrigerant volume	AC-3
	2. Engine coolant volume	-
	3. Drive belt	AC-16
	4. Refrigerant pressure	AC-3
	5. Condenser fan	AC-72
	6. Ambient temp. sensor	AC-63
	7. Evaporator temp. sensor	AC-64
	8. Solar sensor	AC-61
	9. Air mix servomotor	AC-30
	10.Compressor	AC-38
	11.Condenser	AC-47
	12.Evaporator	AC-30
	13.Heater radiator	AC-30
	14.Expansion valve	AC-52
	15.A/C control assembly	AC-79
	16.Wire harness	-
No temperature control	1. Air mix servomotor	AC-30
	2. A/C control assembly	AC-79

No air inlet control	1. Air inlet servomotor 2. A/C control assembly 3. Wire harness	AC-57 AC-79 -
No mode control	1. Air outlet servomotor 2. A/C control assembly 3. Wire harness	AC-59 AC-79 -
No engine idle-up when A/C switch ON	1. A/C control assembly 2. Wire harness	AC-79 -
Set temperature value does not match up with operation of temperature control switch	1. A/C control assembly	AC-79
Brightness does not change when light control switch is turned	1. Headlight and taillight system 2. A/C control assembly	BE-31 AC-79



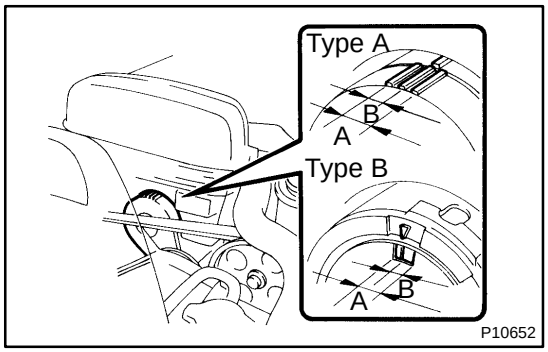
DRIVE BELT

AC37T-01

ON-VEHICLE INSPECTION

1. INSPECT DRIVE BELT'S INSTALLATION CONDITION

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



2. INSPECT DRIVE BELT TENSION

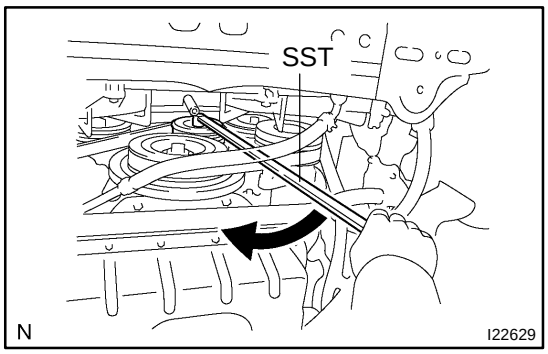
Check that the arrow mark on the belt tensioner falls within area "A" of the scale.

If it is out side area "A", replace the drive belt.

HINT:

When a new belt is installed, it should be lie within area B.

AC17Z-05



REMOVAL

1. REMOVE ENGINE UNDER COVER

2. REMOVE DRIVE BELT

Using SST, loosen the drive belt tension by turning the drive belt tensioner arm clockwise from the bottom side, and remove the drive belt.

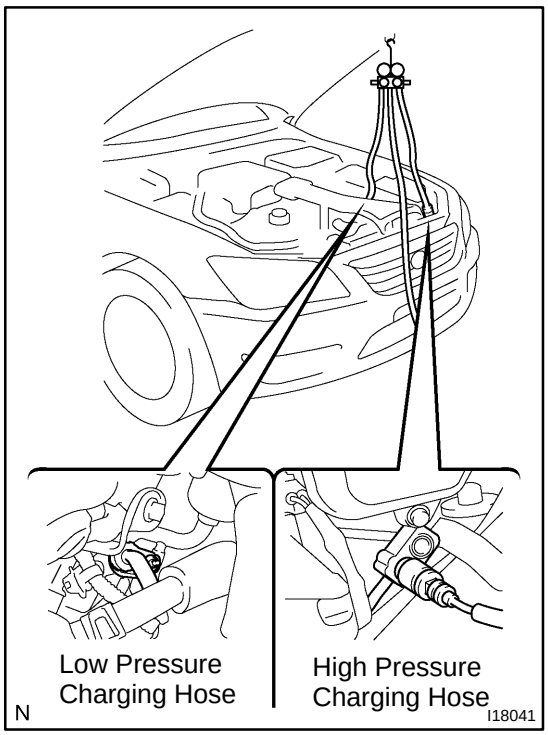
SST 09216-00041

AC37U-01

INSTALLATION

Installation is in the reverse order of removal (See page AC-17).

AFTER INSTALLATION, CHECK DRIVE BELT'S INSTALLATION CONDITION



MANIFOLD GAUGE SET

AC15Q-04

SET ON

1. CONNECT CHARGING HOSES TO MANIFOLD GAUGE SET

Tighten the nuts by hand.

CAUTION:

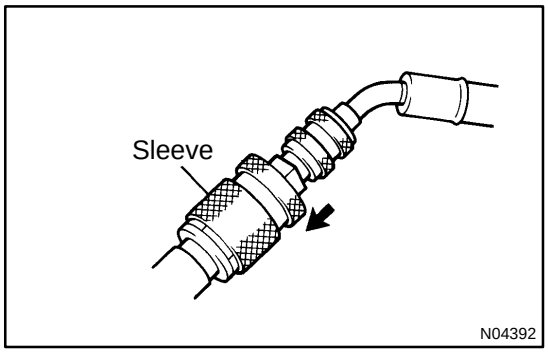
Do not connect the wrong hoses.

2. CONNECT QUICK DISCONNECT ADAPTERS TO CHARGING HOSES

Tighten the nuts by hand.

3. CLOSE BOTH HAND VALVES OF MANIFOLD GAUGE SET

4. REMOVE CAPS FROM SERVICE VALVE ON REFRIGERANT LINES

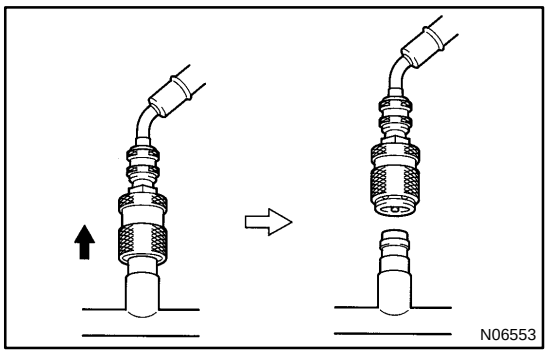


5. CONNECT QUICK DISCONNECT ADAPTERS TO SERVICE VALVES

HINT:

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

AC15R-04



SET OFF

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

HINT:

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

3. **INSTALL CAPS TO SERVICE VALVES ON REFRIGERANT LINES**

REFRIGERANT LINE

AC15S-01

ON-VEHICLE INSPECTION

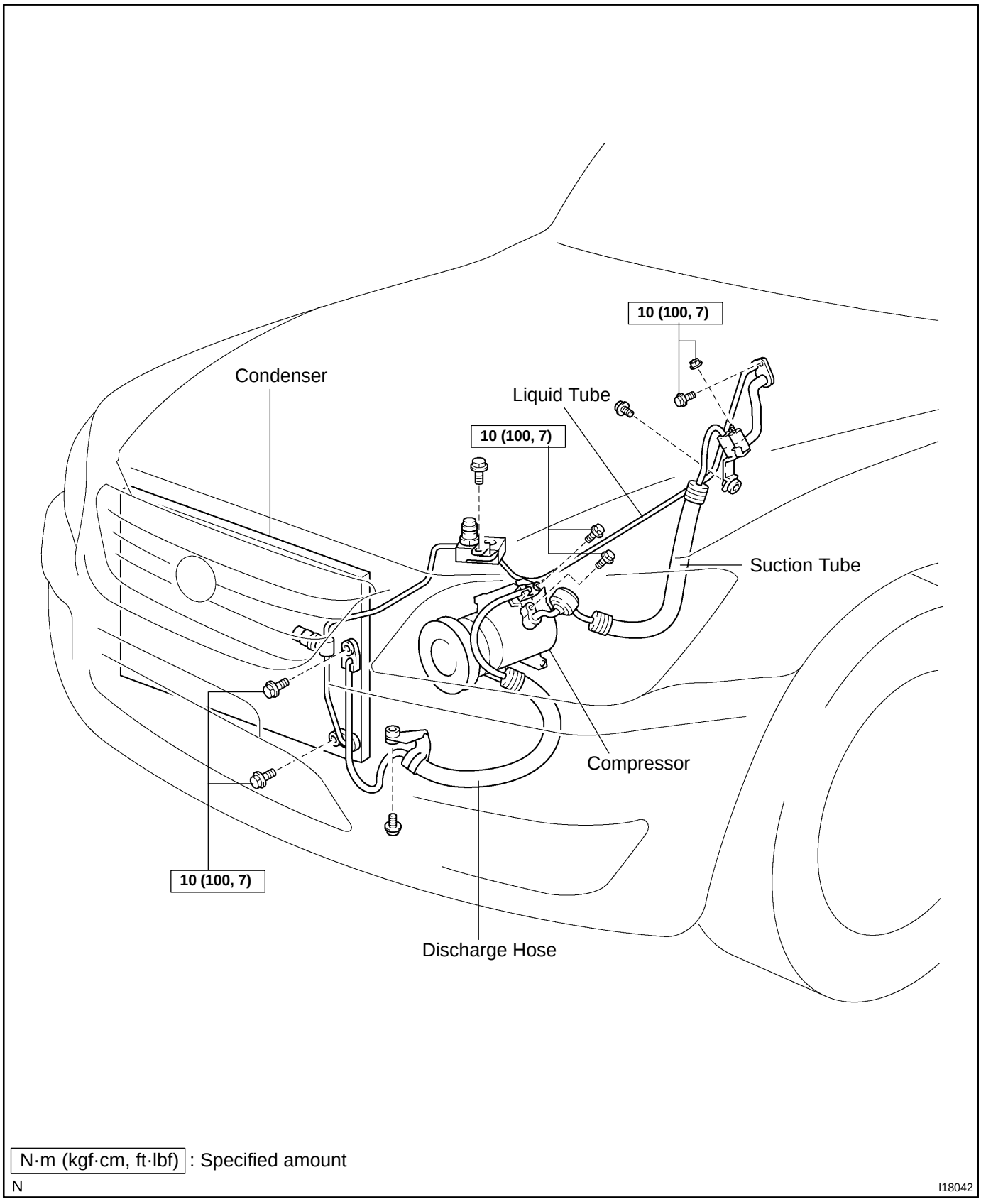
1. INSPECT HOSE AND TUBE CONNECTIONS FOR LOOSENESS

2. INSPECT HOSES AND TUBES FOR LEAKAGE

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

AC15T-04

COMPONENTS



AC15U-02

REPLACEMENT

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

2. REPLACE FAULTY TUBE OR HOSE

NOTICE:

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

3. TIGHTEN JOINT OF BOLT OR NUT TO SPECIFIED TORQUE

NOTICE:

Connections should not be torqued tighter than the specified torqued.

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

4. EVACUATE AIR FROM REFRIGERATION SYSTEM AND CHARGE SYSTEM WITH REFRIGERANT
Specified amount: 600 ± 50 g (21.16 ± 1.76 oz.)

5. INSPECT FOR LEAKAGE OF REFRIGERANT

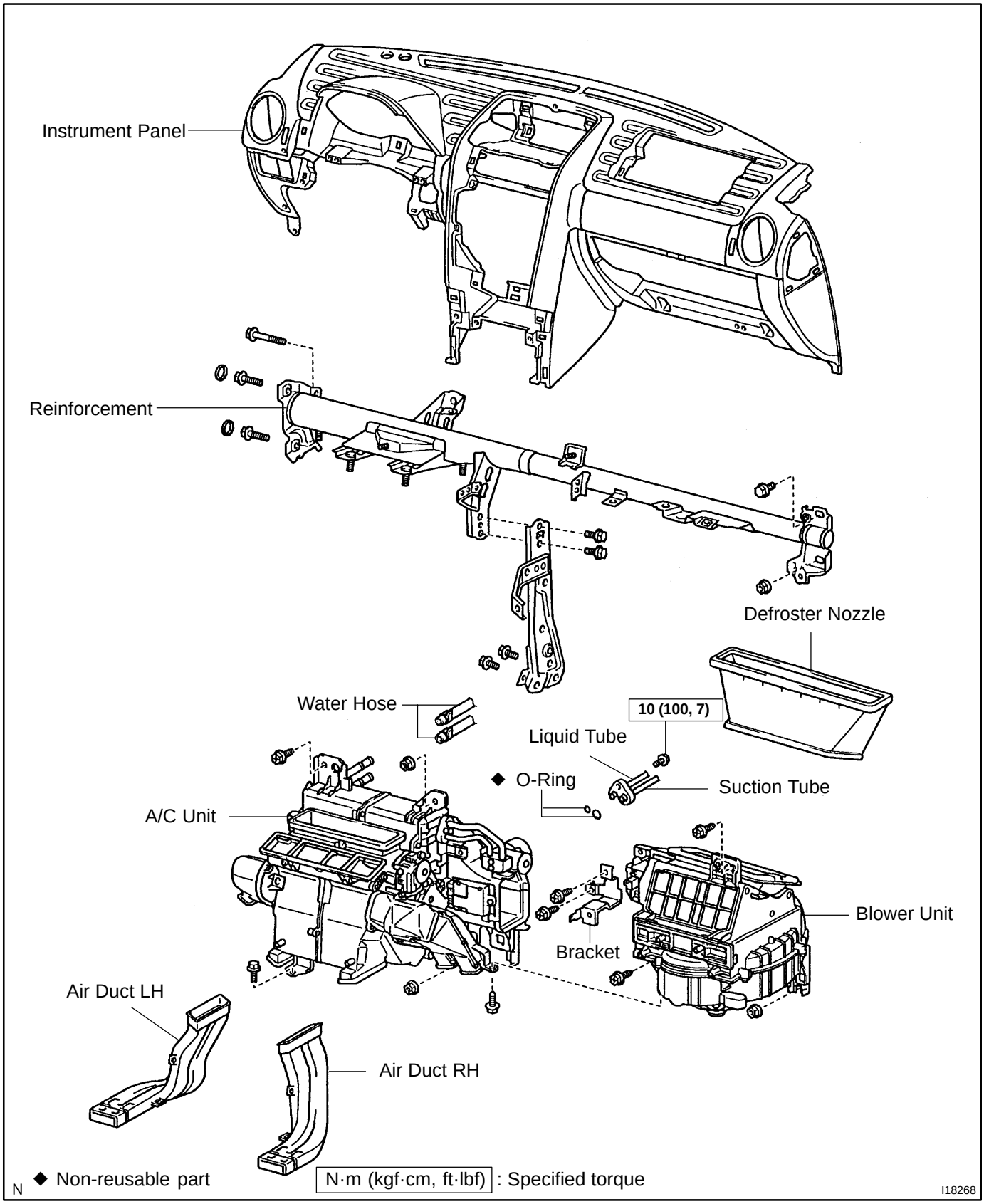
Using a gas leak detector, check for leakage of refrigerant.

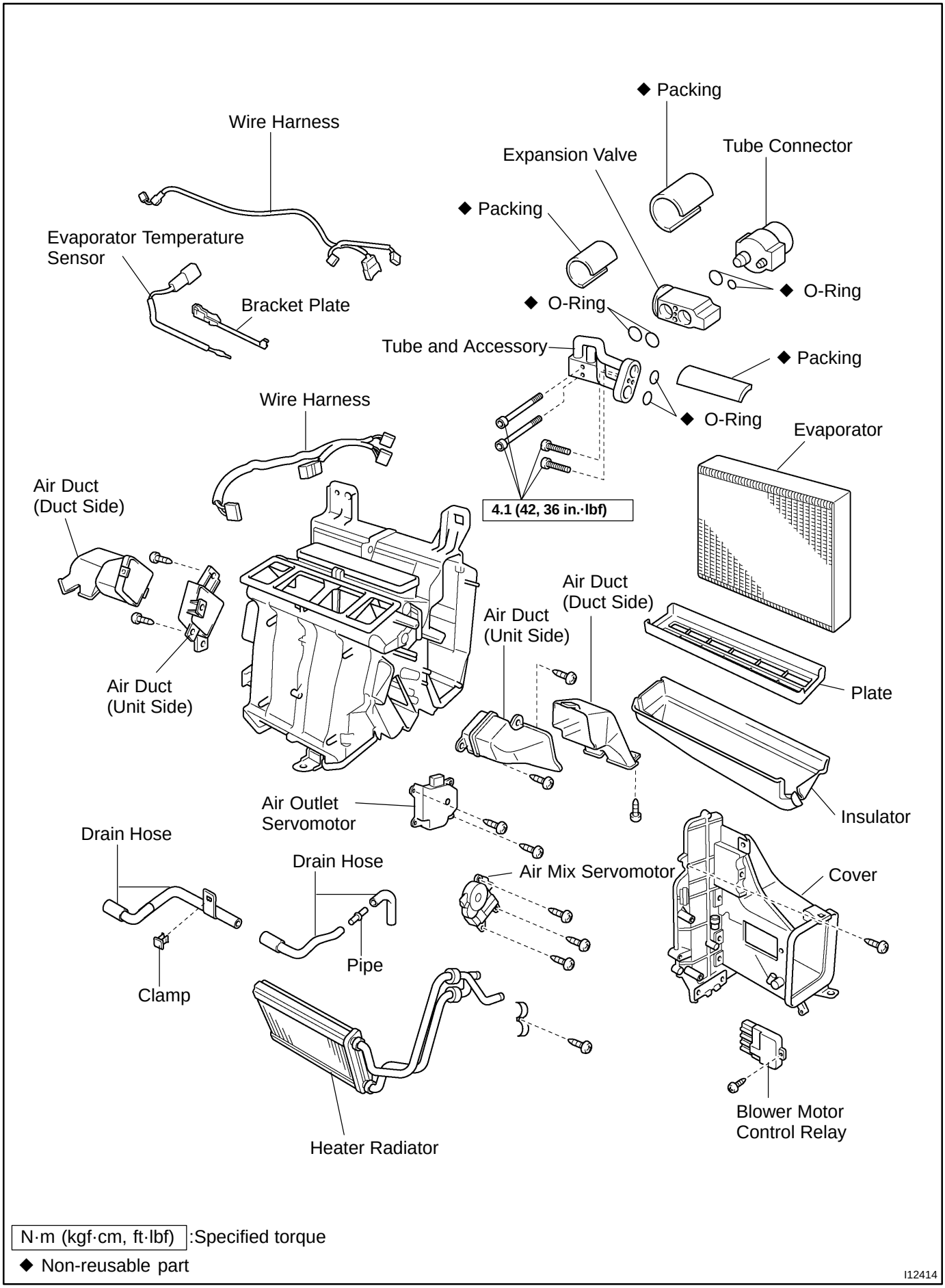
6. INSPECT AIR CONDITIONING OPERATION

AIR CONDITIONING UNIT

AC37V-01

COMPONENTS




◆ Packing
Wire Harness
Expansion Valve
Tube Connector
◆ Packing
Evaporator Temperature Sensor
◆ O-Ring
Bracket Plate
◆ O-Ring
Tube and Accessory
◆ Packing
◆ O-Ring
Wire Harness
Evaporator
Air Duct (Duct Side)
4.1 (42, 36 in.·lbf)
Air Duct (Duct Side)
Air Duct (Unit Side)
Air Duct (Unit Side)
Plate
Air Outlet Servomotor
Insulator
Drain Hose
Drain Hose
Air Mix Servomotor
Cover
Pipe
Clamp
Blower Motor Control Relay
Heater Radiator
N·m (kgf·cm, ft·lbf) :Specified torque
◆ Non-reusable part
I12414

AC15W-03

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

HINT:

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

Evacuate air from refrigeration system.

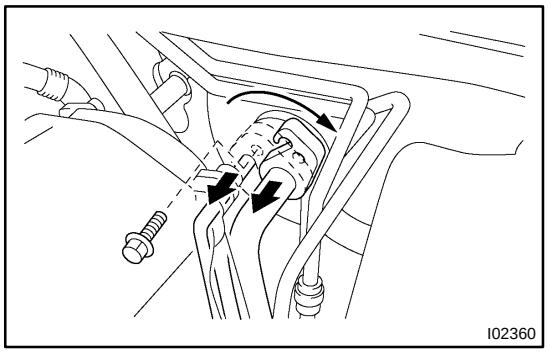
Charge system with refrigerant and inspect for leakage of refrigerant.

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

2. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all coolant.



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

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

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

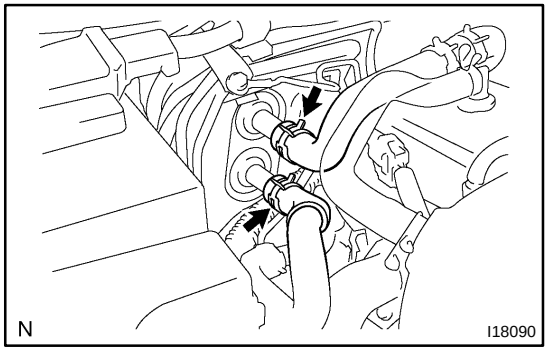
NOTICE:

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

HINT:

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

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

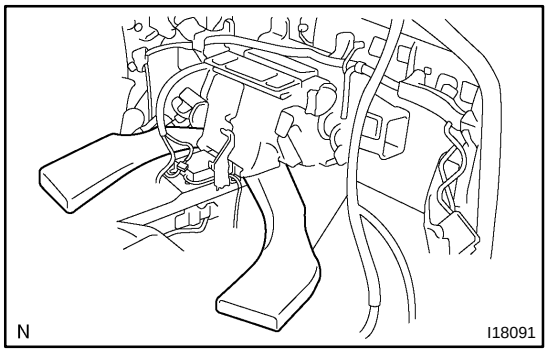


4. DISCONNECT WATER HOSES FROM HEATER RADIATOR PIPES

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

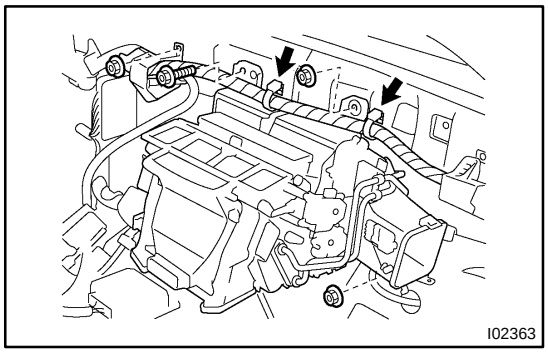
(b) Disconnect the water hose.

5. **REMOVE COOLER NO. 1 GROMMET**
6. **REMOVE HEATER PIPE GROMMET**
7. **REMOVE DRAIN HOSE GROMMET**
8. **REMOVE INSTRUMENT PANEL AND REINFORCEMENT (See page BO-139)**
9. **REMOVE BLOWER UNIT (See page AC-34)**



10. REMOVE 2 AIR DUCTS

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



11. REMOVE A/C UNIT

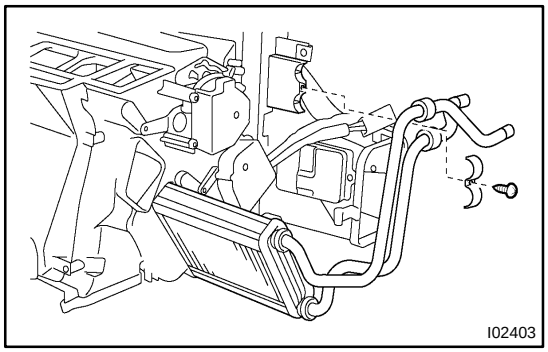
(a) Disconnect the connectors.
(b) Disconnect the wire harness clamps.
(c) Remove the 2 nuts, 2 bolt and A/C unit.

AC37W-01

DISASSEMBLY

1. REMOVE WIRE HARNESS

2. REMOVE DRAIN HOSE



3. REMOVE HEATER RADIATOR

(a) Remove the screw and clamp.

(b) Pull out the heater radiator.

4. REMOVE BLOWER MOTOR CONTROL RELAY

Remove the screw and blower motor control relay.

5. REMOVE AIR MIX SERVOMOTOR

Remove the 3 screws and servomotor.

6. REMOVE AIR OUTLET SERVOMOTOR

Remove the 2 screws and servomotor.

7. REMOVE EXPANSION VALVE

(a) Pry out the packing.

HINT:

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

Do not reuse the packing.

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

SST 07110-61050

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

HINT:

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

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

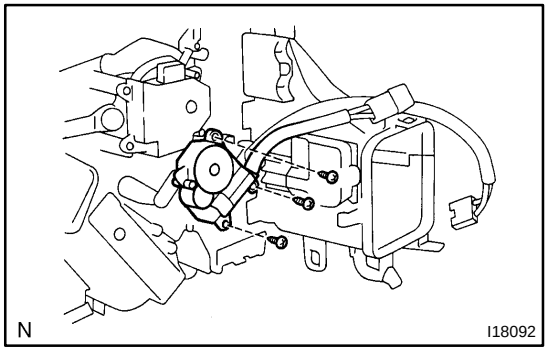
8. REMOVE EVAPORATOR TEMPERATURE SENSOR

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

HINT:

Tape the screwdriver tip before use.

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

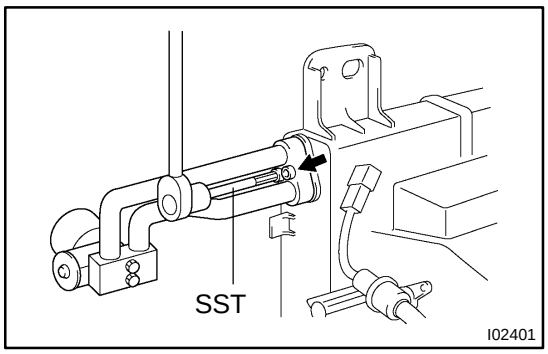


9. REMOVE EVAPORATOR

(a) Remove air mix servomotor.

(1) Disconnect the connector.

(2) Remove the 3 screws and servomotor.



(b) Remove tube and accessory.

(1) Pry out packing.

HINT:

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

Do not reuse the packing.

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

SST 07110-61050

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

NOTICE:

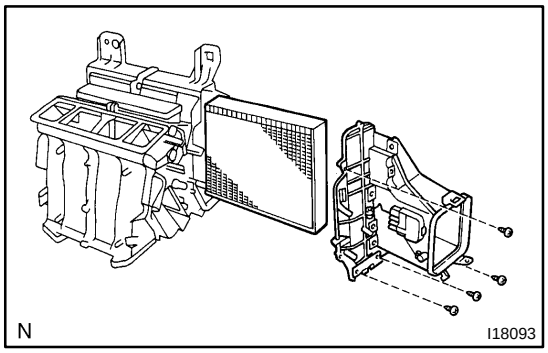
Cap the open fittings immediately to keep moisture or dirt out of the system.

HINT:

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

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

(3) Remove screw and drain pipe.



(c) Remove evaporator.

(1) Remove the screw and drain hose.

(2) Remove the 4 screws and cover.

(3) Pull out the evaporator.

HINT:

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

If evaporator is replaced, add compressor oil to evaporator.

Add 40 cc (1.4 fl.oz.)

Compressor oil: ND-OIL 8 or equivalent

10. REMOVE INSULATOR FROM HEATER CASE

11. REMOVE AIR DUCT

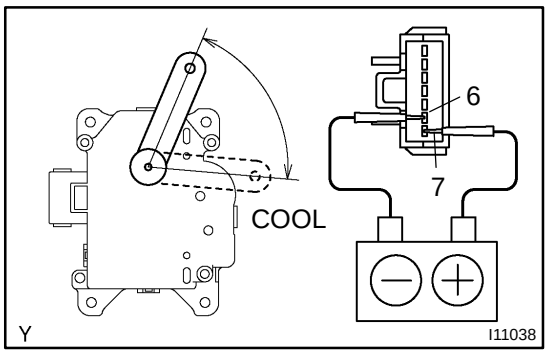
AC25N-02

INSPECTION

1. INSPECT AIR MIX SERVOMOTOR

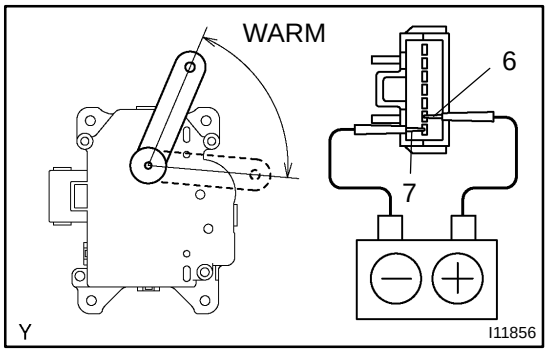
(a) Inspect the air mix servomotor operation.

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



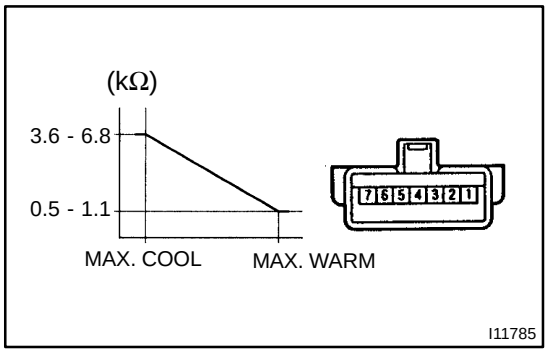
(2) Connect the positive (+) lead from the battery to terminal 6 and negative (-) lead to terminal 7, then check that the arm turns to "WARM" side smoothly.

If operations are not as specified, replace the servomotor.



(b) Inspect position sensor resistance.

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



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

If resistance is not as specified, replace the servomotor.

2. INSPECT EVAPORATOR

(a) Check evaporator fins for blockage.

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

NOTICE:

Never use water to clean the evaporator.

(b) Check fitting for cracks or scratches.

If necessary, repair or replace.

3. INSPECT HEATER RADIATOR

Inspect fins for blockage.

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

AC15Y-02

REASSEMBLY

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

AC15Z-02

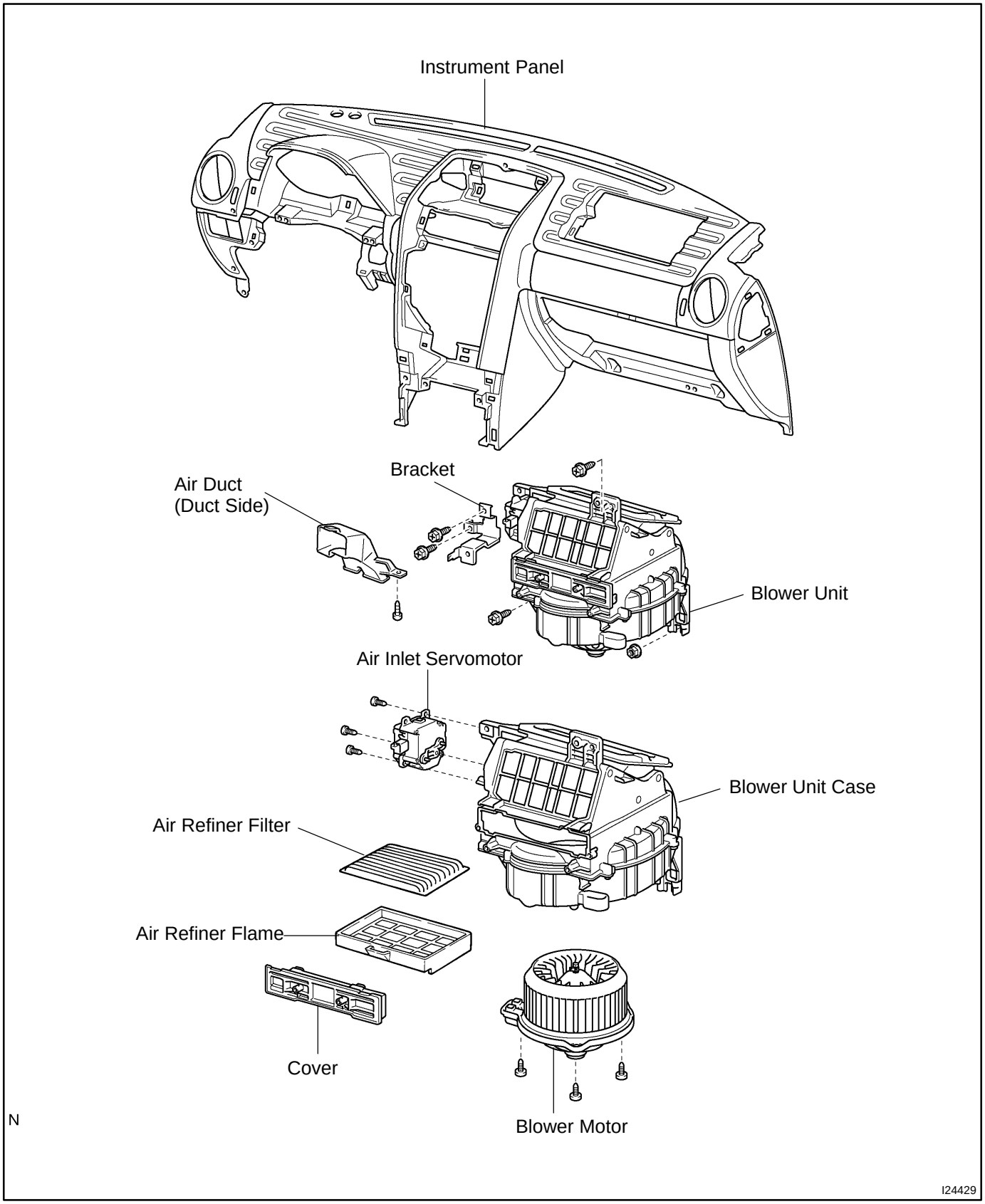
INSTALLATION

Installation is in the reverse order of removal (See page AC-26).

BLOWER UNIT

COMPONENTS

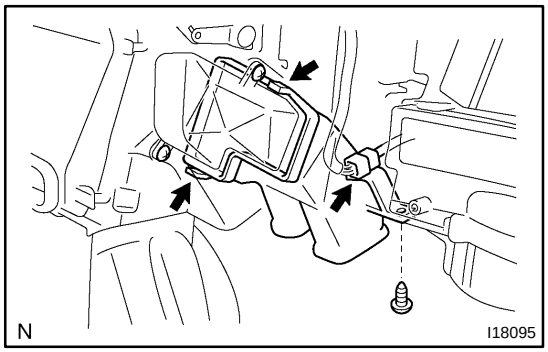
AC160-05



AC25O-03

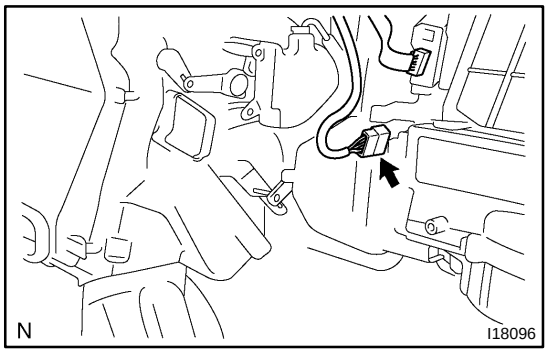
REMOVAL

1. REMOVE INSTRUMENT PANEL (See page BO-139)



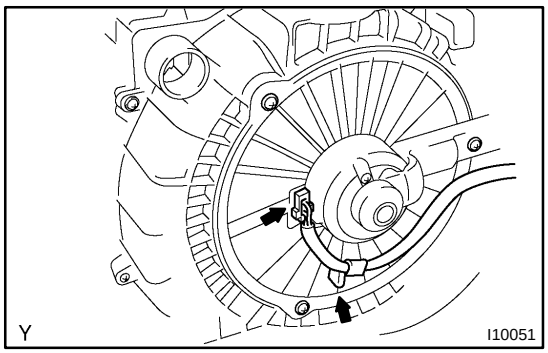
2. REMOVE AIR DUCT (DUCT SIDE)

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

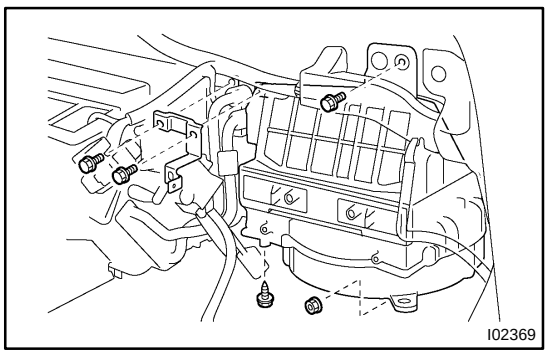


3. DISCONNECT WIRE HARNESS

(a) Disconnect the connector and connector clamp.



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



4. REMOVE BLOWER UNIT

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

AC162-02

DISASSEMBLY

1. REMOVE AIR REFINER FILTER

(a) Release the 4 claws and remove the cover.

(b) Pull out the air refiner filter.

2. REMOVE AIR INLET SERVOMOTOR

Remove the 3 screws and servomotor.

3. REMOVE BLOWER MOTOR

Remove the 3 screws and blower motor.

AC163-01

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page AC-35).

AC164-01

INSTALLATION

Installation is in the reverse order of removal (See page AC-34).

COMPRESSOR AND MAGNETIC CLUTCH

AC37X-01

ON-VEHICLE INSPECTION

1. INSPECT COMPRESSOR FOR METALLIC SOUND

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

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

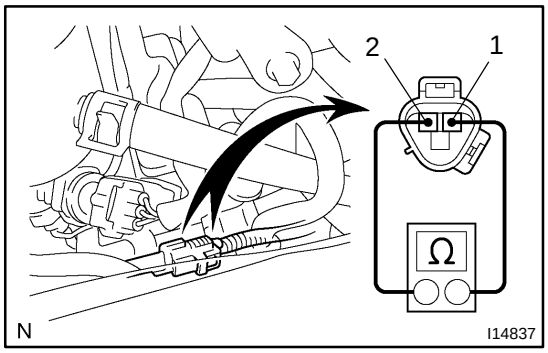
2. INSPECT REFRIGERANT PRESSURE

(See page AC-3)

3. INSPECT VISUALLY FOR LEAKAGE OF REFRIGERANT

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

If there is any leakage, replace the compressor assembly.



4. INSPECT COMPRESSOR LOCK SENSOR RESISTANCE

(a) Disconnect the connector.

(b) Measure resistance between terminals 1 and 2.

Standard resistance: 990 - 1,210 Ω at 20˚C (68 ˚F)

If resistance is not as specified, replace the compressor.

5. MAKE THESE VISUAL CHECKS:

(a) Leakage of grease from the clutch bearing.

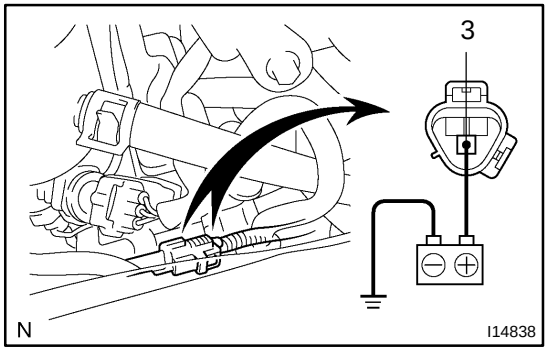
(b) Signs of oil on the pressure plate or rotor.

6. INSPECT MAGNETIC CLUTCH BEARING FOR NOISE

(a) Start engine.

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

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



7. INSPECT MAGNETIC CLUTCH OPERATION

(a) Disconnect the connector.

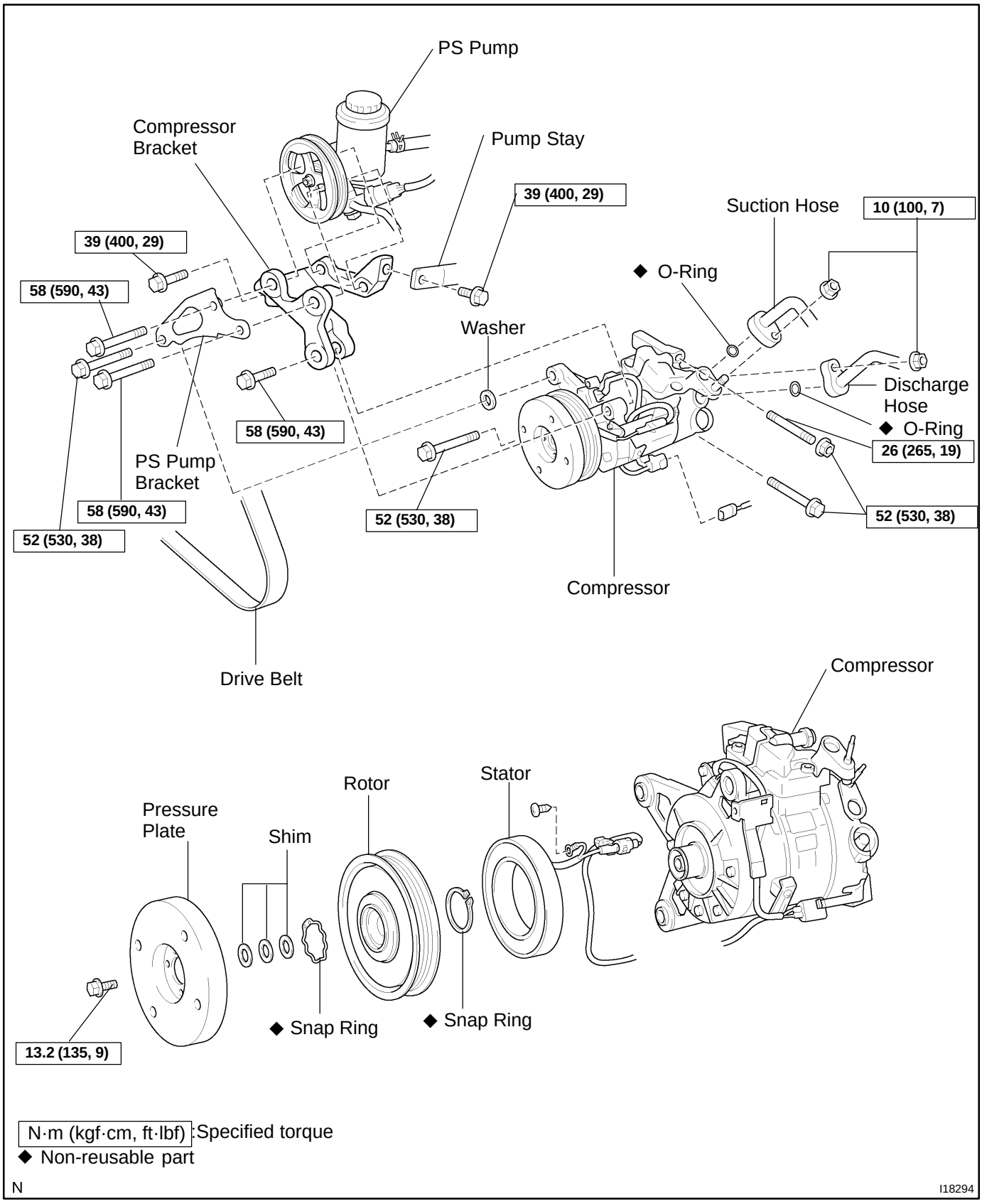
(b) Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to the body ground.

(c) Check that the magnetic clutch is energized.

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

AC0YY-05

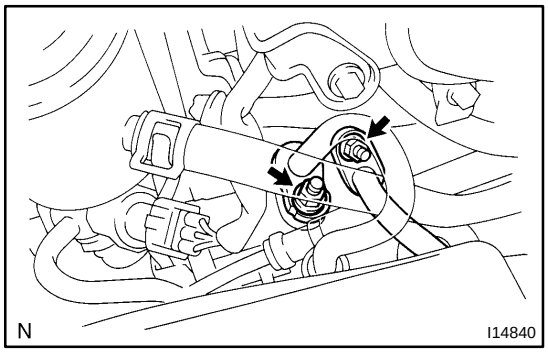
COMPONENTS



AC37Y-01

REMOVAL

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

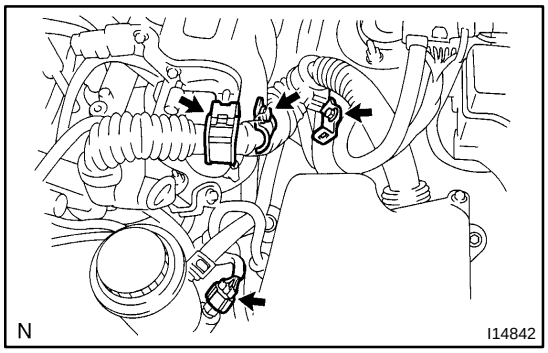


6. **DISCONNECT DISCHARGE AND SUCTION HOSES**

Remove the 2 nuts and disconnect the both hoses.

NOTICE:

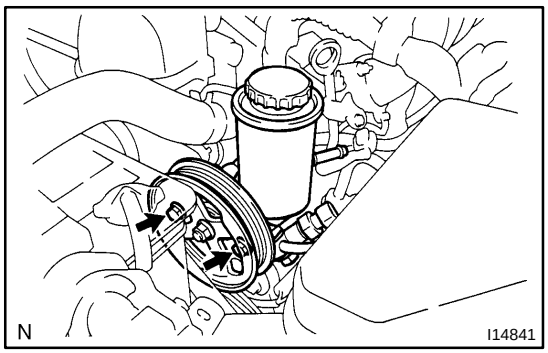
Cap the open fitting immediately to keep moisture or dirt out of the system.



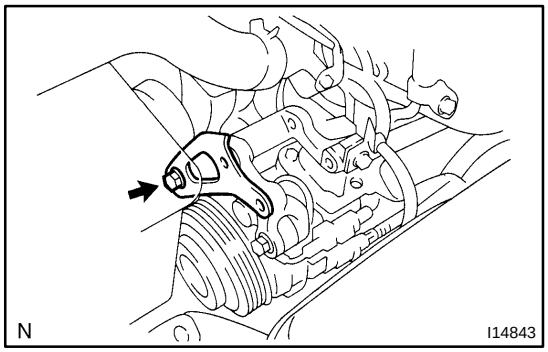
7. **REMOVE PS PUMP WITH PRESSURE FEED AND RETURN TUBES STILL CONNECTED**

(a) Disconnect the PS pump connector and PS pump tube clamp.

(b) Disconnect the engine wire.

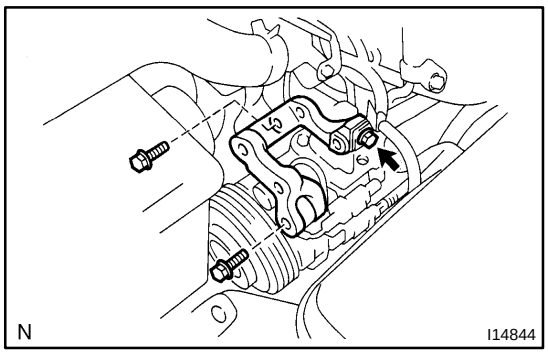


(c) Remove the 2 PS pump set bolts and slide the PS pump backward.

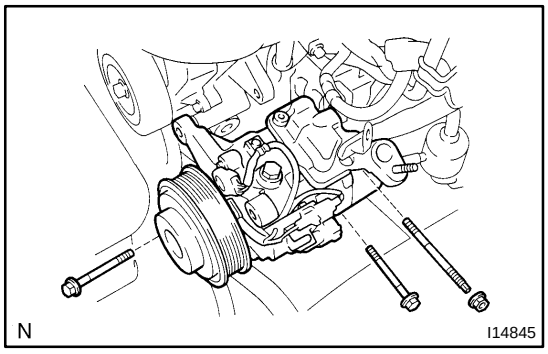


8. **REMOVE COMPRESSOR**

(a) Remove the bolt and PS pump bracket.



(b) Remove the 3 bolts and compressor bracket.
(c) Disconnect the connector.



(d) Remove the nut and 2 bolts.
(e) Using a torx socket (E10), remove the stud bolt and compressor.

AC37Z-01

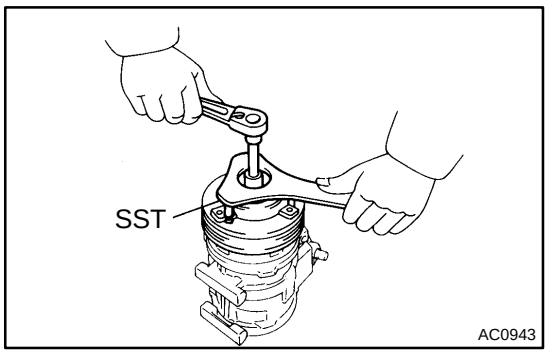
DISASSEMBLY

DISASSEMBLE MAGNETIC CLUTCH

(a) Remove the pressure plate.

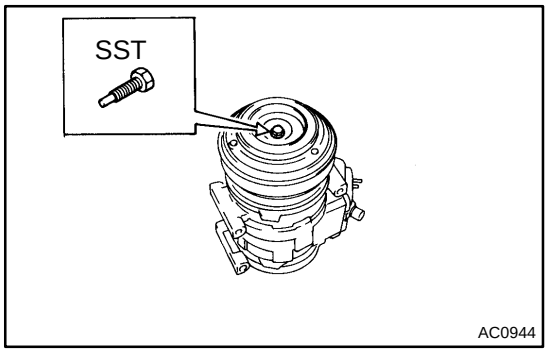
(1) Using SST and a socket wrench, remove the shaft bolt.

SST 07112-76060



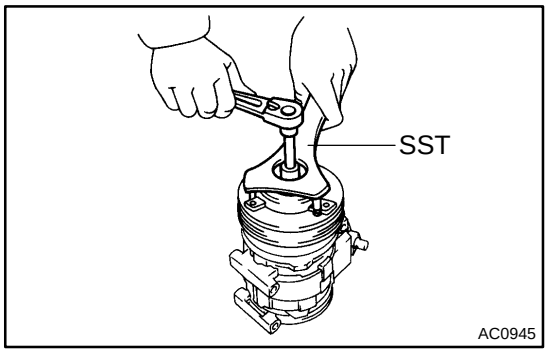
(2) Install SST on the pressure plate.

SST 07112-66040

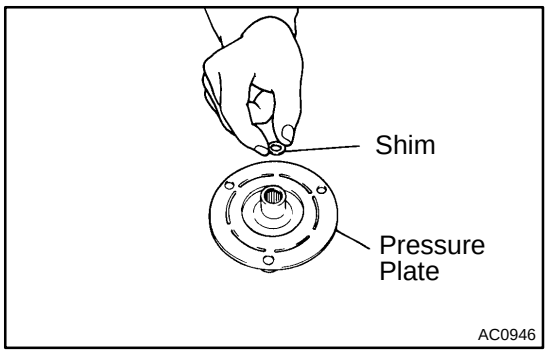


(3) Using SST and a socket wrench, remove the pressure plate.

SST 07112-66040, 07112-76060

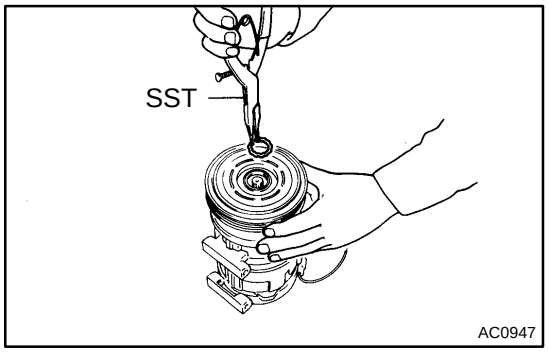


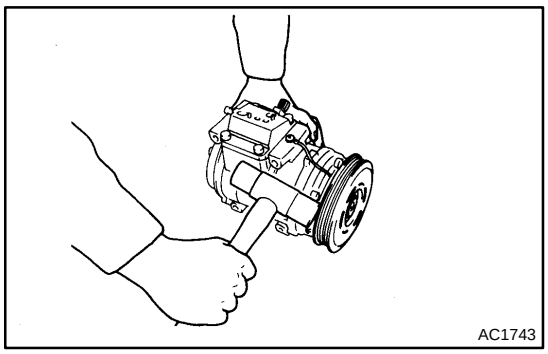
(4) Remove the shims from the pressure plate.



(b) Remove the rotor.

(1) Remove the snap ring.

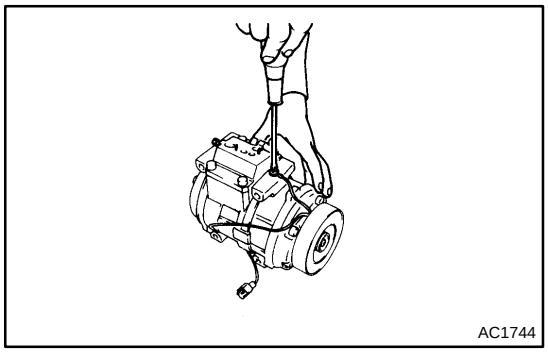




(2) Using a plastic hammer, tap the rotor off the shaft.

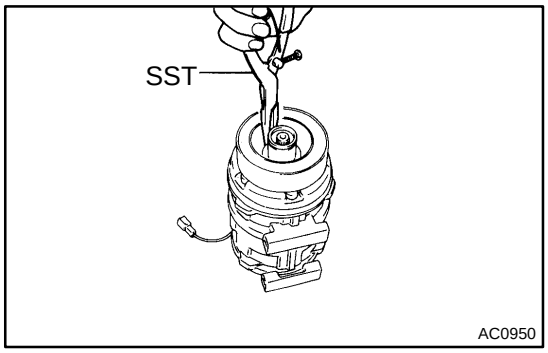
NOTICE:

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

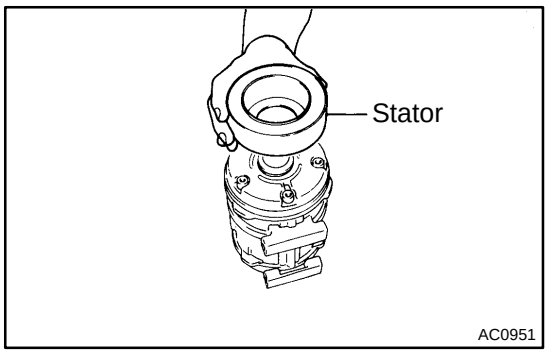


(c) Remove the stator.

(1) Disconnect the stator lead wire from the compressor.



(2) Remove the snap ring.



(3) Remove the stator.

AC380-01

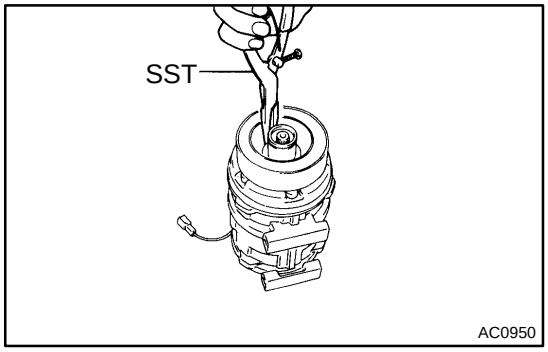
REASSEMBLY

1. ASSEMBLE MAGNETIC CLUTCH

(a) Install the stator.

(1) Install the stator on compressor.

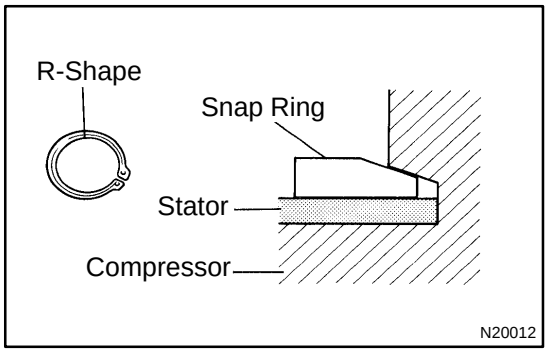
(2) Install the new snap ring.



NOTICE:

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

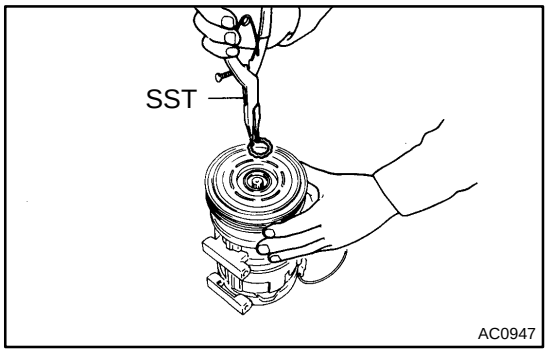
(3) Connect the stator lead wire to the compressor.



(b) Install the rotor.

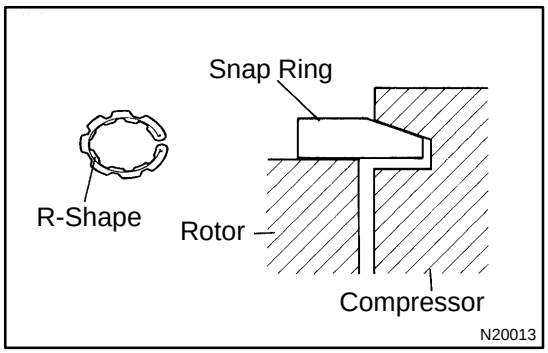
(1) Install the rotor on the compressor.

(2) Install the new snap ring.



NOTICE:

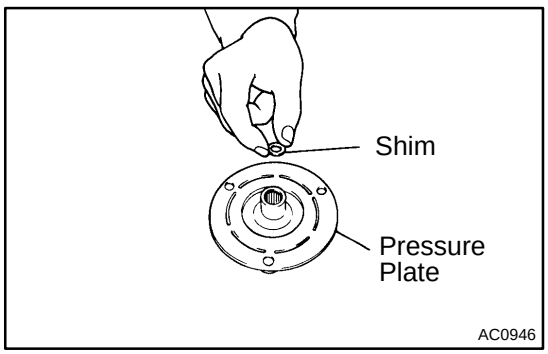
The snap ring should be installed so that its beveled side faces up.

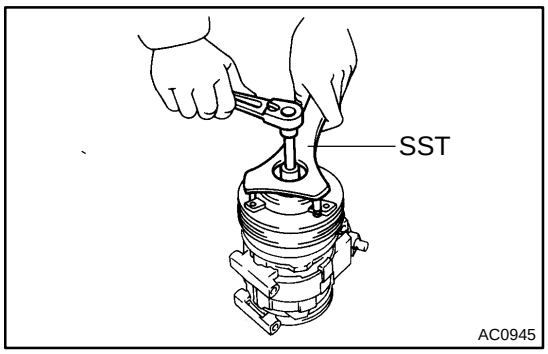


(c) Install the pressure plate.

(1) Install the shims to the pressure plate.

(2) Install the pressure plate on the rotor.

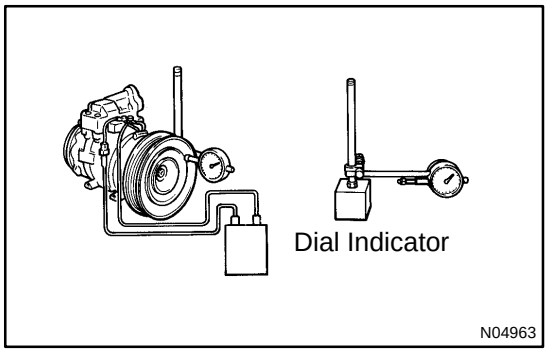




(3) Using SST and a torque wrench, install the shaft bolt.

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

SST 07112-76060



2. AFTER REASSEMBLY, CHECK MAGNETIC CLUTCH CLEARANCE

(a) Set the dial indicator to the pressure plate of the magnetic clutch.

(b) Connect the magnetic clutch lead wire to the positive (+) terminal of the battery.

(c) Check the clearance between the pressure plate and rotor when connecting the negative (-) terminal to the battery.

Standard clearance:

0.5 ± 0.15 mm (0.020 ± 0.0059 in.)

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

Shim thickness:

0.1 mm (0.004 in.)

0.3 mm (0.012 in.)

0.5 mm (0.020in.)

AC381-01

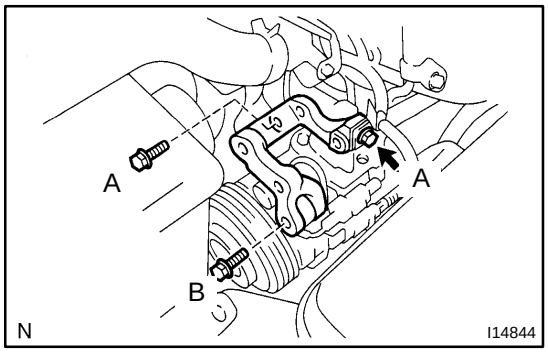
INSTALLATION

1. INSTALL COMPRESSOR

(a) Install the compressor with the stud bolt.
Torque: 26 N·m (265 kgf·cm, 19 ft·lbf)

(b) Install the 2 bolts and nut.
Torque:
Bolt: 52 N·m (530 kgf·cm, 38 ft·lbf)
Nut: 52 N·m (530 kgf·cm, 38 ft·lbf)

(c) Connect the connector.



(d) Install the compressor bracket with the 3 bolts.
Torque:
bolt A: 39 N·m (400 kgf·cm, 29 ft·lbf)
bolt B: 52 N·m (530 kgf·cm, 38 ft·lbf)

(e) Install the PS pump bracket with the bolt.
Torque: 52 N·m (530 kgf·cm, 38 ft·lbf)

2. INSTALL PS PUMP

(a) Install 2 PS pump set bolt.
Torque: 58 N·m (590 kgf·cm, 43 ft·lbf)

(b) Connect the engine wire.

(c) Connect the PS pump connector and wire harness clamp.

3. CONNECT DISCHARGE AND SUCTION HOSES

Connect the both hoses with 2 nut.
Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

NOTICE:
Hose should be connected immediately after the caps have been removed.

HINT:
Lubricate 2 new O-rings with compressor oil and install them to the hoses.

4. INSTALL DRIVE BELT (See page AC-18)

5. INSPECT DRIVE BELT TENSION (See page AC-16)

6. CONNECT NEGATIVE (-) TERMINAL CABLE TO BATTERY

7. EVACUATE AIR FROM REFRIGERATION SYSTEM AND CHARGE SYSTEM WITH REFRIGERANT
Specified amount: 600 ± 50 g (21.16 ± 1.76 oz.)

8. 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.

9. INSPECT A/C OPERATION

CONDENSER

AC16B-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.

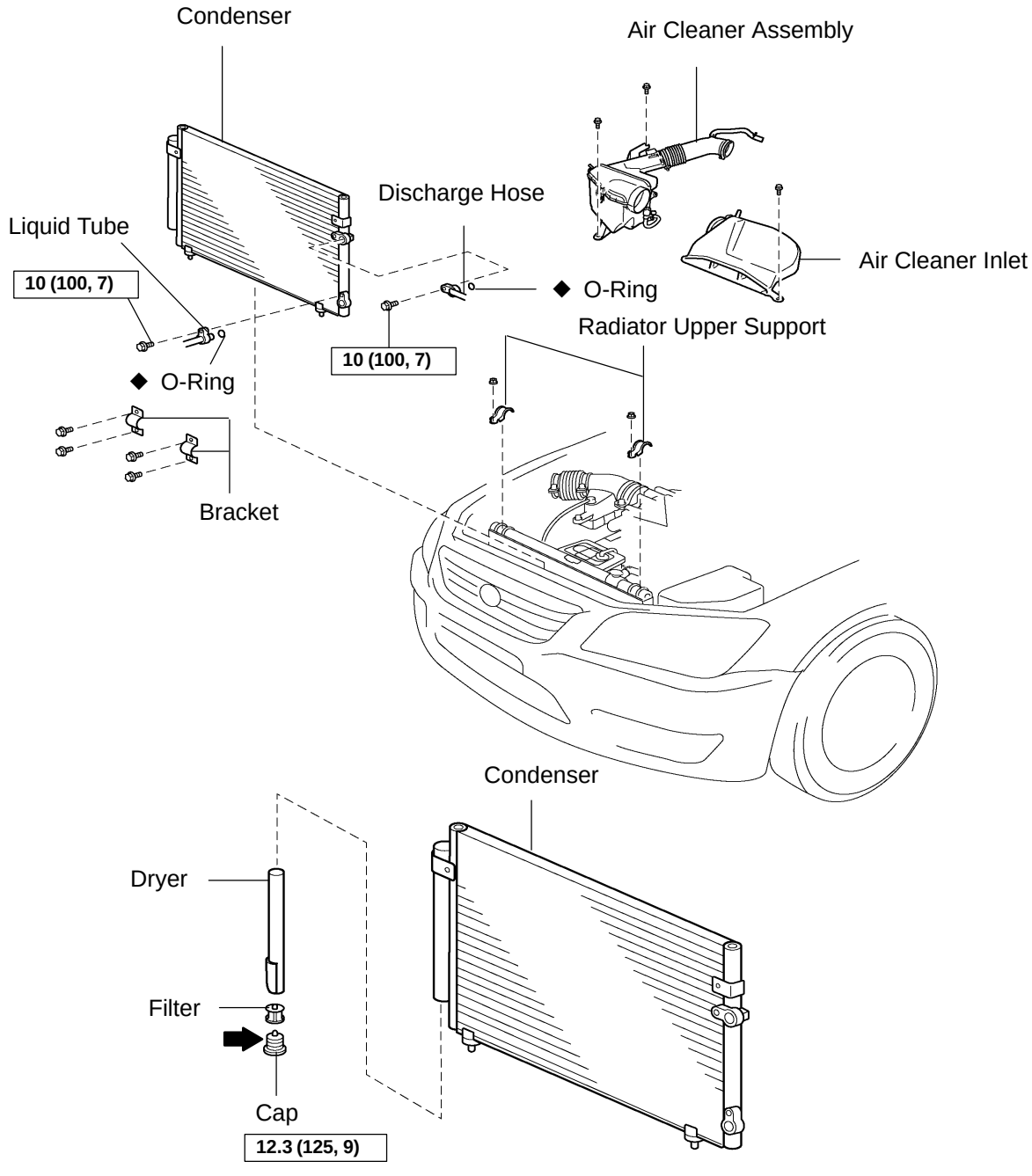
2. INSPECT CONDENSER AND FITTINGS FOR LEAKAGE OF REFRIGERANT

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

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

AC25R-03

COMPONENTS



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

◆ Non-reusable part

⬅ Compressor oil ND-OIL 8 or equivalent

I18097

AC382-01

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

HINT:

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

Evacuate air from refrigeration system.

Charge system with refrigerant and inspect for leakage of refrigerant.

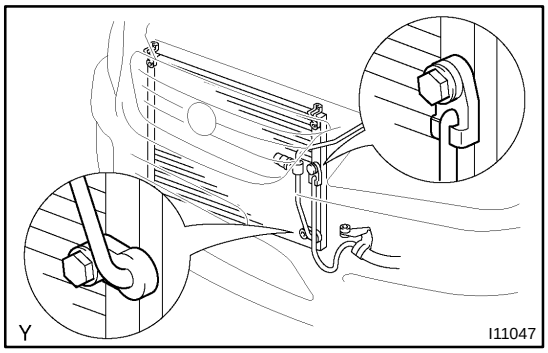
Specified amount : 600 ± 50 g (21.16 ± 1.76 oz.)

2. REMOVE AIR CLEANER DUCT AND AIR CLEANER ASSEMBLY

3. REMOVE ECU OUTLET DUCT

4. REMOVE 2 RADIATOR UPPER SUPPORTS

Remove the 2 bolts and upper supports.



5. DISCONNECT DISCHARGE HOSE AND LIQUID TUBE

Remove the 2 bolts and disconnect the hose and tube.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

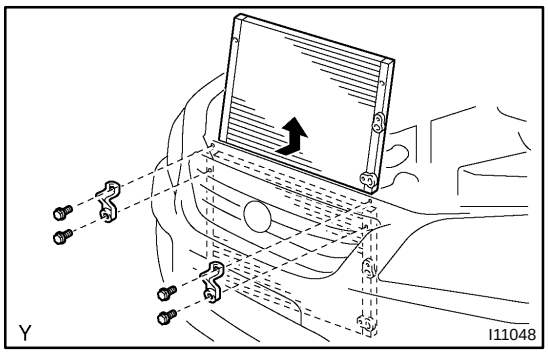
NOTICE:

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

HINT:

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

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



6. REMOVE CONDENSER

(a) Remove the 4 bolts and 2 brackets.

(b) Push the radiator toward engine.

(c) Push the condenser toward radiator and pull it upward.

HINT:

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

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

Add 40 cc (1.4 fl. oz)

Compressor oil: ND - OIL 8 or equivalent

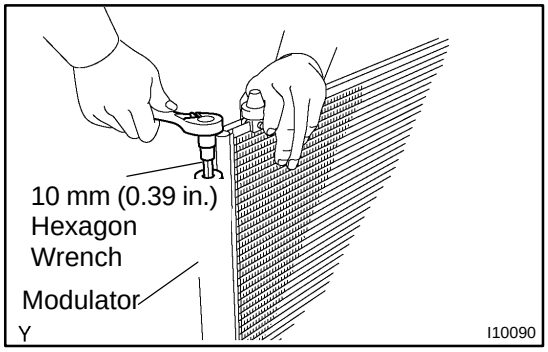
AC22C-07

REPLACEMENT

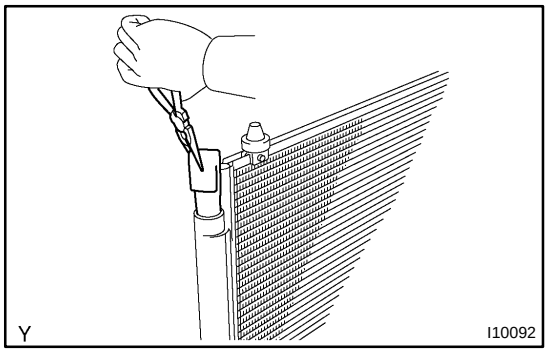
REPLACE DRYER FROM MODULATOR

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

(b) Remove the filter from the modulator.



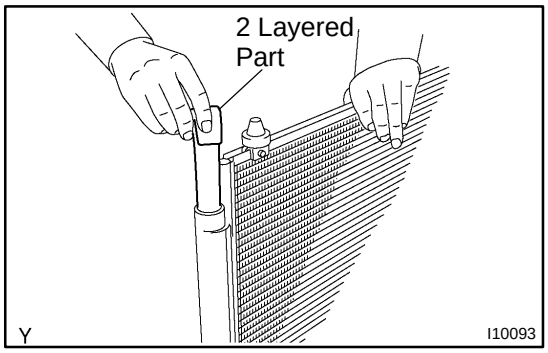
(c) Using pliers, remove the dryer.



(d) Insert a new dryer into the modulator.

NOTICE:

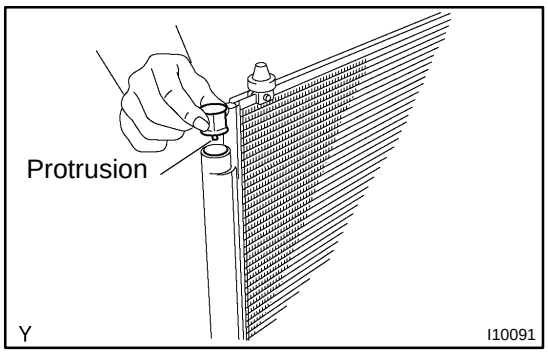
- **Do not remove the dryer from a vinyl bag until inserting it into the modulator.**
- **Install the dryer with its 2 layered part faced upward to the modulator.**



(e) Insert the filter into the modulator.

NOTICE:

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



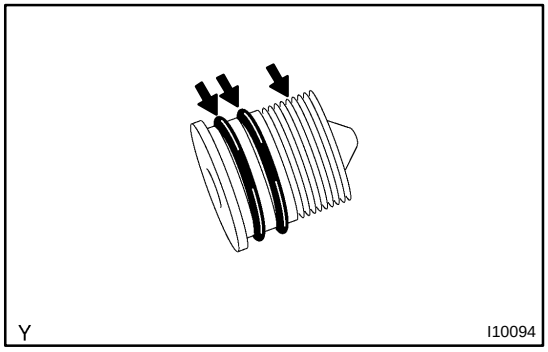
(f) Install the cap to the modulator.

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

Compressor oil: ND-OIL 8 or equivalent

(2) Using a hexagon wrench (10 mm, 0.39 in.), install the caps.

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



AC16D-01

INSTALLATION

Installation is in the reverse order of removal (See page AC-49).

EXPANSION VALVE

AC16K-03

ON-VEHICLE INSPECTION

1. CHECK QUANTITY OF GAS DURING REFRIGERATION CYCLE

2. SET ON MANIFOLD GAUGE SET (See page AC-19)

3. RUN ENGINE

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

Then check that the high pressure reading is 1.37 - 1.57 MPa (14 - 16 kgf/cm^2, 199 -228 psi).

4. CHECK EXPANSION VALVE

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

AC383-01

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

HINT:

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

Evacuate air from refrigeration system.

Charge system with refrigerant and inspect for leakage of refrigerant.

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

2. REMOVE INSTRUMENT PANEL (See page BO-139)

3. REMOVE EXPANSION VALVE

(a) Pry out the packings.

HINT:

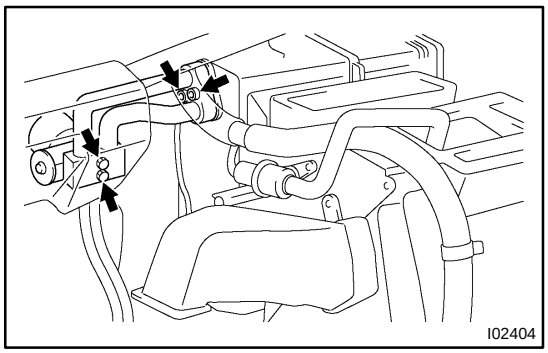
At the time of installation, please refer to the following item.

Do not reuse the packing.

(b) Using SST, remove the 4 bolts and separate the expansion valve and tube and accessory.

SST 07110-61050

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



NOTICE:

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

HINT:

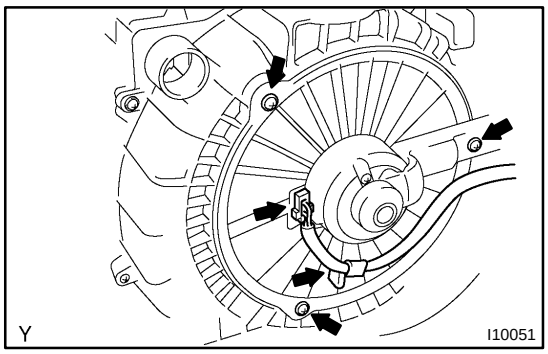
At the time of installation, please refer to the following item.

Lubricate 6 new O-rings with compressor oil and install them to the tube and valve.

AC16M-01

INSTALLATION

Installation is in the reverse order of removal (See page AC-53).



BLOWER MOTOR

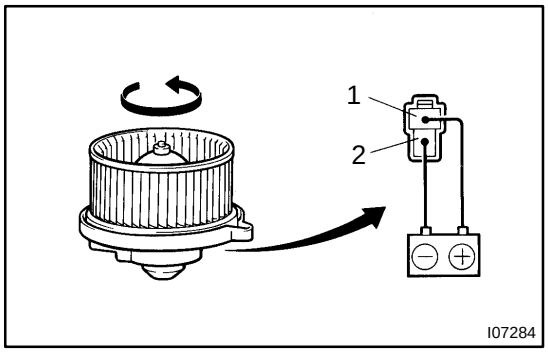
AC20I-03

INSPECTION

1. REMOVE BLOWER MOTOR

(a) Remove the wire harness clamp and disconnect the connector.

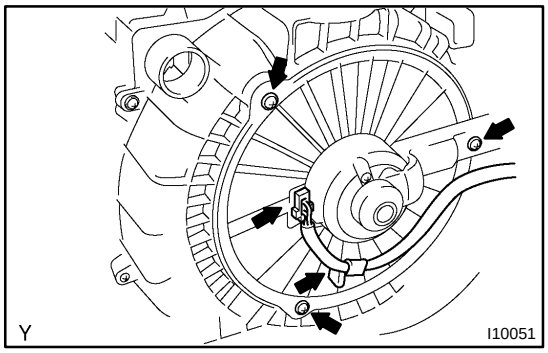
(b) Remove the 3 screws and blower motor.



2. INSPECT BLOWER MOTOR OPERATION

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

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



3. INSTALL BLOWER MOTOR

(a) Install the blower motor with the 3 screws.

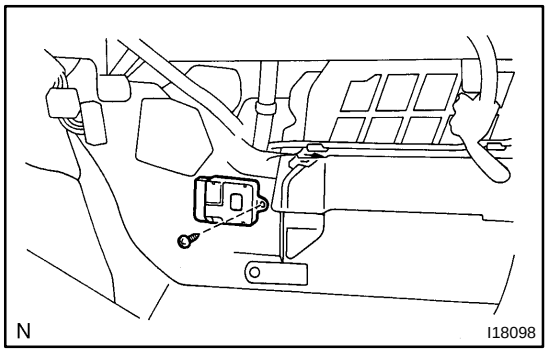
(b) Connect the connector and wire harness clamp.

BLOWER MOTOR CONTROL RELAY

AC25T-02

INSPECTION

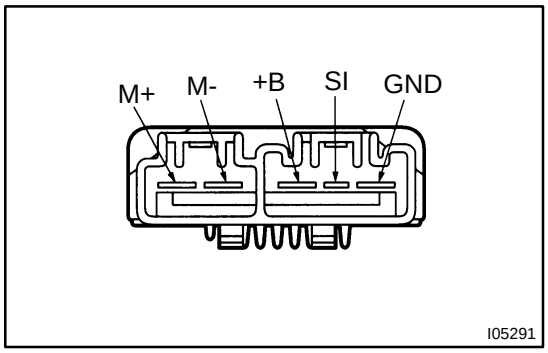
1. **REMOVE GLOVE COMPARTMENT DOOR**
   (See page BO-139)



2. **REMOVE BLOWER MOTOR CONTROL RELAY**

(a) Disconnect the connectors.

(b) Remove the screw and blower motor control relay.



3. **INSPECT BLOWER MOTOR CONTROL CIRCUIT**

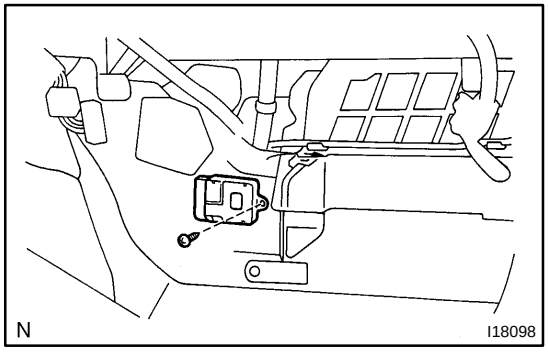
Inspect the wire harness side connector from the back side, as shown in the chart.

Test conditions:

- Turn ignition switch to ON
- Operate blower motor (High blower speed)

Terminals	Standard Value
GND ↔ Body Ground	Continuity
+B ↔ Body Ground	Battery positive voltage
+M ↔ Body Ground	Battery positive voltage
M+ ↔ M-	Battery positive voltage
SI ↔ Body Ground	1 - 3 V

If resistance is not as specified, replace the blower motor control relay.



4. **INSTALL BLOWER MOTOR CONTROL RELAY**

(a) Install the blower motor control relay with the screw.

(b) Connect the connectors.

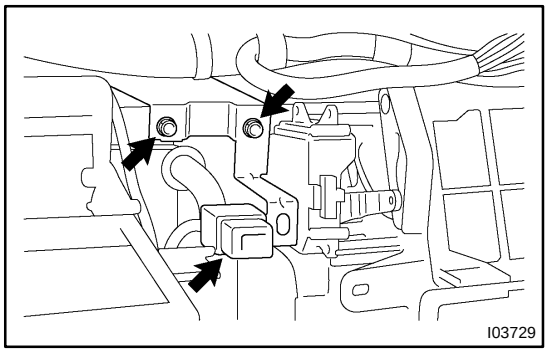
5. **INSTALL GLOVE COMPARTMENT DOOR**
   (See page BO-149)

AIR INLET SERVOMOTOR

AC384-01

INSPECTION

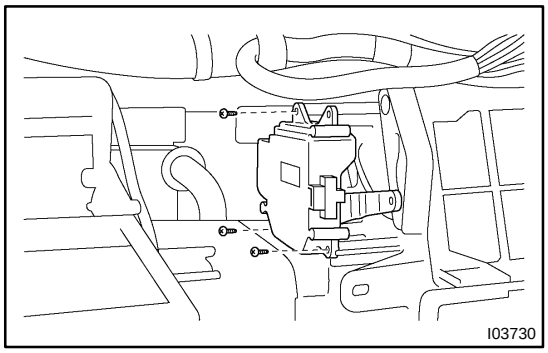
1. REMOVE GLOVE COMPARTMENT DOOR
(See page BO-139)



2. REMOVE BRACKET

(a) Disconnect the wire harness clamp.

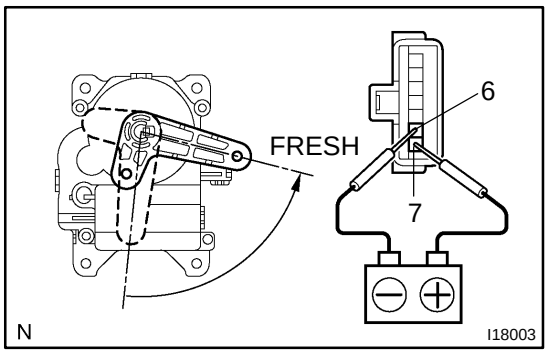
(b) Remove the 2 bolts and bracket.



3. REMOVE AIR INLET SERVOMOTOR

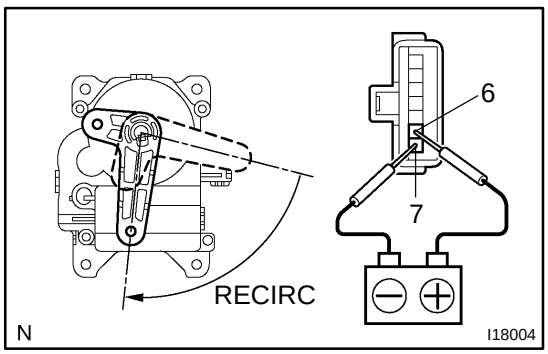
(a) Disconnect the connector.

(b) Remove the 3 screws and servomotor.



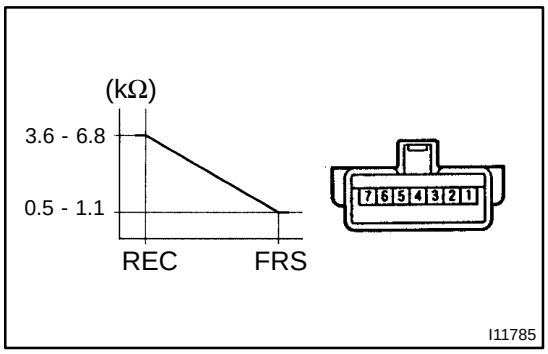
4. INSPECT AIR INLET SERVOMOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 7 and negative (-) lead to terminal 6, then check that the arm turns to ”FRESH” side smoothly.



(b) Connect the positive (+) lead from the battery to terminal 6 and negative (-) lead to terminal 7, then check that the arm turns to ”RECIRC” side smoothly.

If operations are not as specified, replace the servomotor.

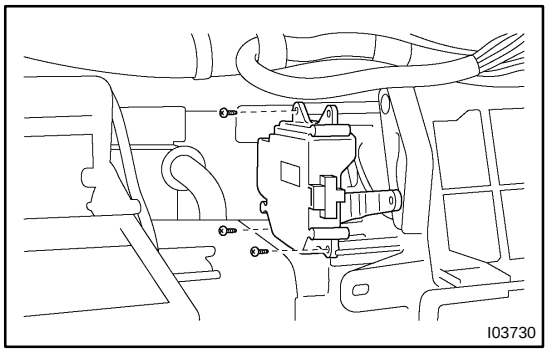


5. INSPECT POSITION SENSOR RESISTANCE

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

Tester connection	Condition	Specified condition
1 - 3	Constant	4.2 - 7.8 kΩ
3 - 5	REC	3.1 - 5.8 kΩ
3 - 5	FRS	0.8 - 1.6 kΩ

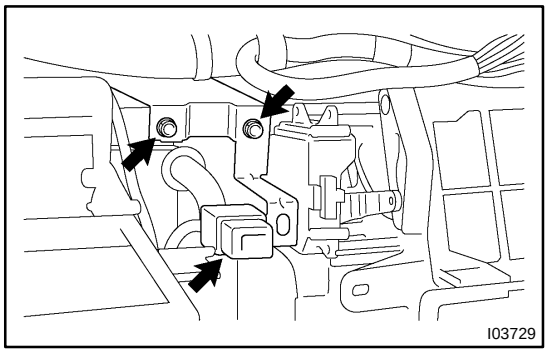
If resistance is not as specified, replace the servomotor.



6. INSTALL AIR INLET SERVOMOTOR

(a) Install the servomotor with the 3 screws.

(b) Connect the connector.



7. INSTALL BRACKET

(a) Install the bracket with 2 bolts.

(b) Connect the wire harness clamp.

8. INSTALL GLOVE COMPARTMENT DOOR

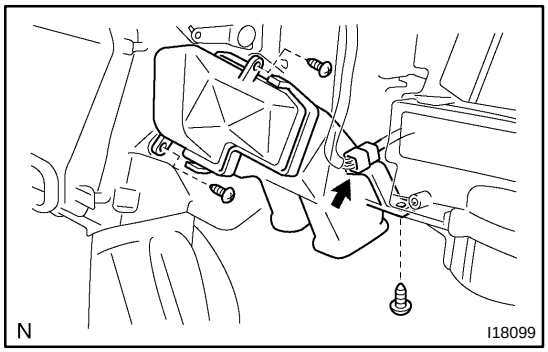
(See page BO-149)

AIR OUTLET SERVOMOTOR

AC25W-02

INSPECTION

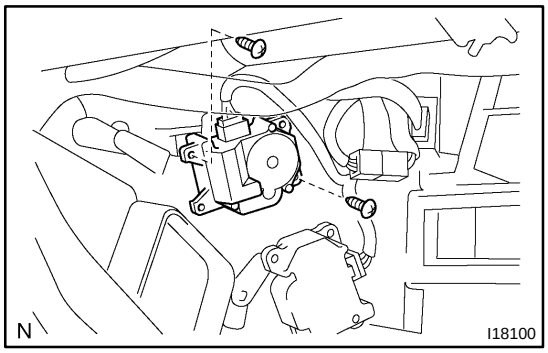
1. REMOVE INSTRUMENT PANEL (See page BO-139)



2. REMOVE AIR DUCT

(a) Disconnect the connector clamp.

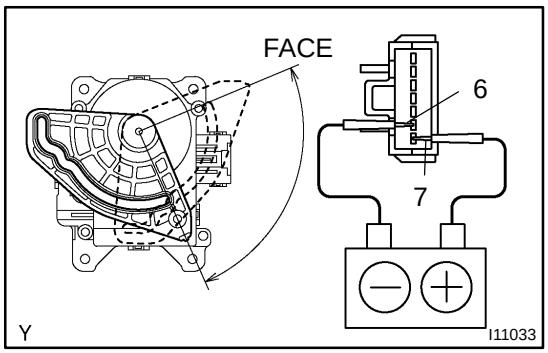
(b) Remove the 3 screws and air duct.



3. REMOVE AIR OUTLET SERVOMOTOR

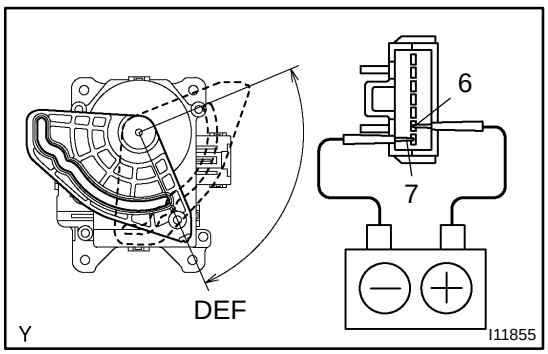
(a) Disconnect the connector.

(b) Remove the 2 screws and servomotor.



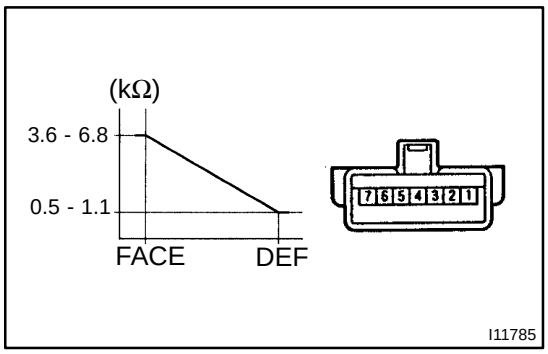
4. INSPECT AIR OUTLET SERVOMOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 7 and negative (-) lead to terminal 6, then check that the arm turns to ”FACE” side smoothly.



(b) Connect the positive (+) lead from the battery to terminal 6 and negative (-) lead to terminal 7, then check that the arm turns to ”DEF” side smoothly.

If operations are not as specified, replace the servomotor.

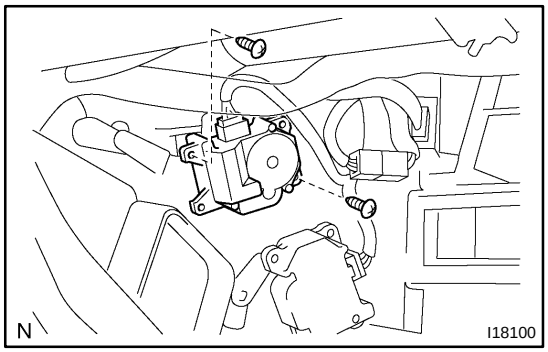


5. INSPECT POSITION SENSOR RESISTANCE

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

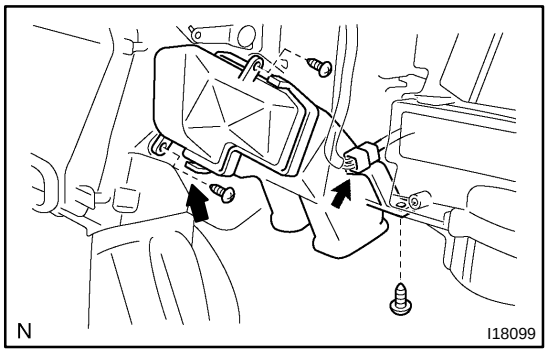
Tester connection	Condition	Specified condition
1 - 3	Constant	4.2 - 7.8 kΩ
3 - 5	FACE	3.6 - 6.8 kΩ
3 - 5	DEF	0.5 - 1.1 kΩ

If resistance is not as specified, replace the servomotor.



6. INSTALL AIR OUTLET SERVOMOTOR

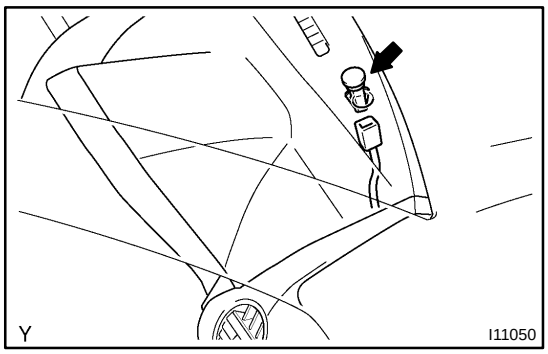
(a) Install the servomotor with the 2 screws.
(b) Connect the connector.



7. INSTALL AIR DUCT

(a) Install the air duct with the 3 screws.
(b) Connect the connector clamp.

8. INSTALL INSTRUMENT PANEL (See page BO-149)



SOLAR SENSOR

AC25X-02

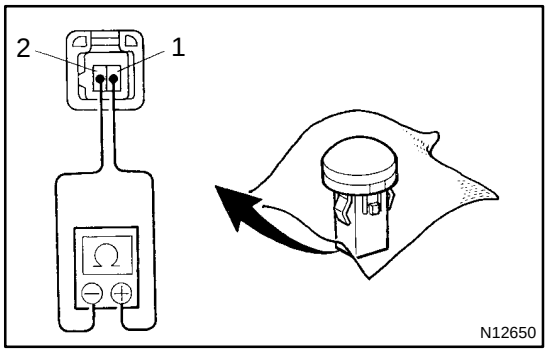
INSPECTION

1. REMOVE SOLAR SENSOR

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

HINT:

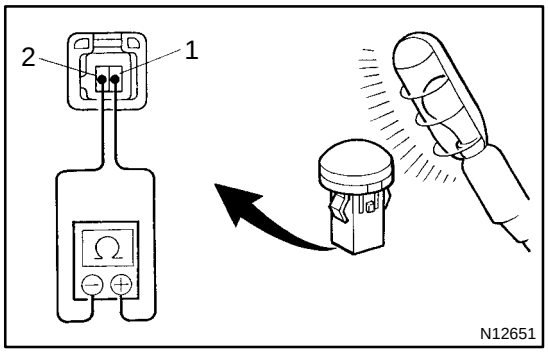
Tape the screwdriver tip before use.



2. INSPECT SOLAR SENSOR CONTINUITY

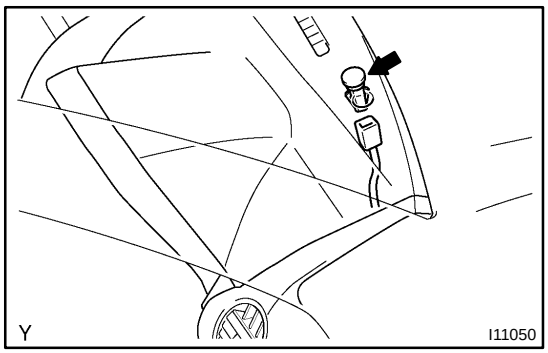
(a) Cover the sensor with a cloth, check that the no continuity exists between terminals.

If continuity exists, replace the sensor.



(b) Remove the cloth from the sensor and subject the sensor to electric light, check that continuity exists between terminals.

If no continuity exists, replace the sensor.



3. INSTALL SOLAR SENSOR

Connect the connector and install the solar sensor.

ROOM TEMPERATURE SENSOR

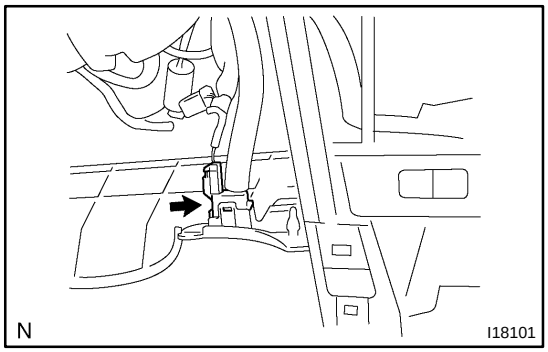
AC20Q-04

INSPECTION

1. REMOVE LOWER FINISH PANEL

(a) Remove the 3 screws.

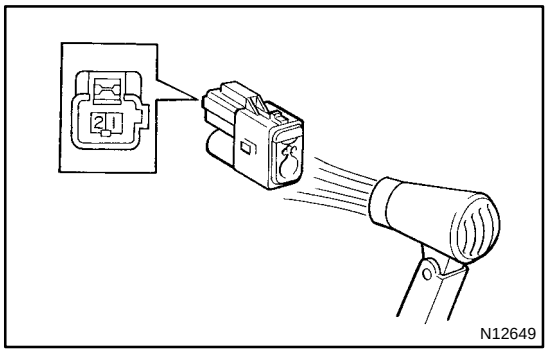
(b) Release the 3 claws and pull out the lower finish panel.



2. REMOVE ROOM TEMPERATURE SENSOR

(a) Disconnect the connector and aspirator hose.

(b) Release the 2 claws and pull out the sensor.

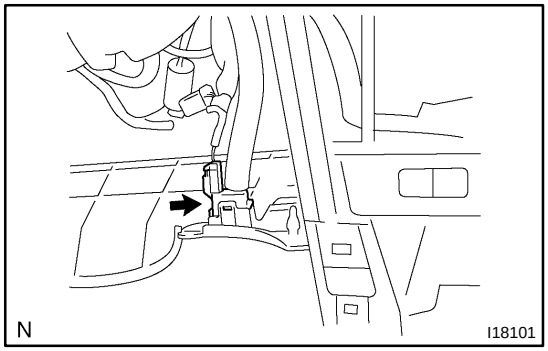


3. INSPECT ROOM TEMPERATURE SENSOR RESISTANCE

Measure resistance between terminals at each temperature as shown in the chart.

Temperature	Specified condition
25 °C (77 °F)	1.6 - 1.8 kΩ
50 °C (122 °F)	0.6 - 0.8 kΩ

If resistance is not as specified, replace the sensor.



4. INSTALL ROOM TEMPERATURE SENSOR

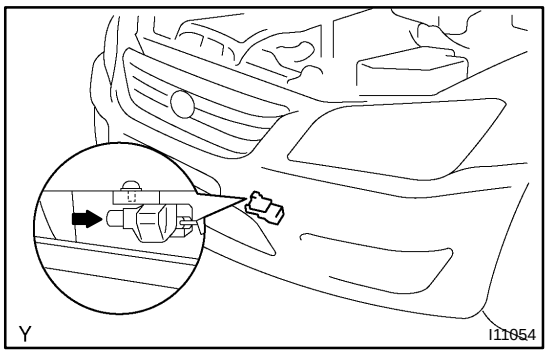
(a) Install the sensor and fit the 2 claws.

(b) Connect the aspirator hose and connector.

5. INSTALL LOWER FINISH PANEL

(a) Install the lower finish panel and fit the 3 claws.

(b) Install the 3 screws.



AMBIENT TEMPERATURE SENSOR

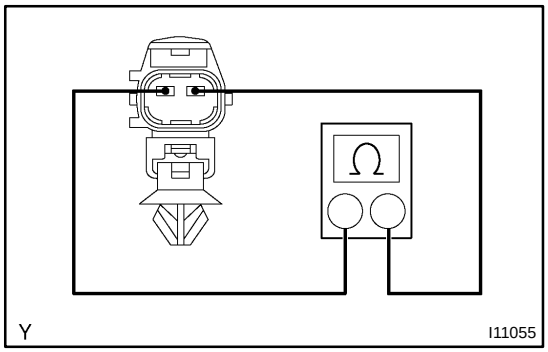
AC20R-03

INSPECTION

1. REMOVE AMBIENT TEMPERATURE SENSOR

(a) Disconnect the connector.

(b) Using a clip remover, pull out the sensor from bumper reinforcement.

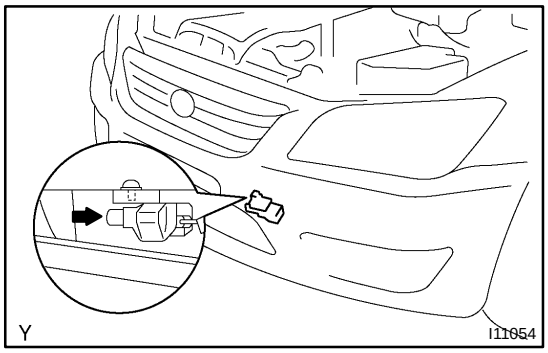


2. INSPECT AMBIENT TEMPERATURE SENSOR RESISTANCE

Measure resistance between terminals at each temperature as shown in the chart.

Temperature	Specified condition
25 °C (77 °F)	1.6 - 1.8 kΩ
50 °C (122 °F)	0.5 - 0.7 kΩ

If resistance is not as specified, replace the sensor.



3. INSTALL AMBIENT TEMPERATURE SENSOR

(a) Push the sensor in bumper reinforcement.

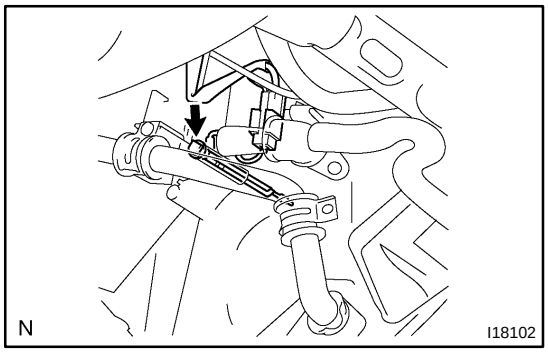
(b) Connect the connector.

EVAPORATOR TEMPERATURE SENSOR

AC25Y-02

INSPECTION

1. REMOVE LOWER FINISH PANEL (See page BO-139)



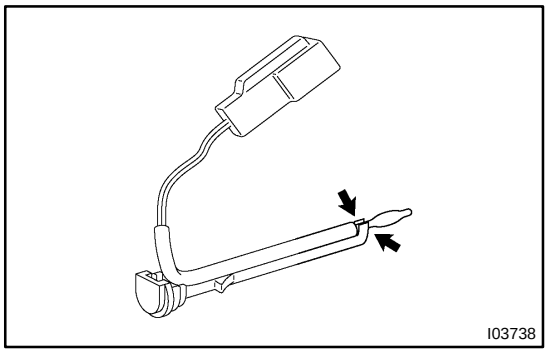
2. REMOVE EVAPORATOR TEMPERATURE SENSOR

(a) Disconnect the connector.

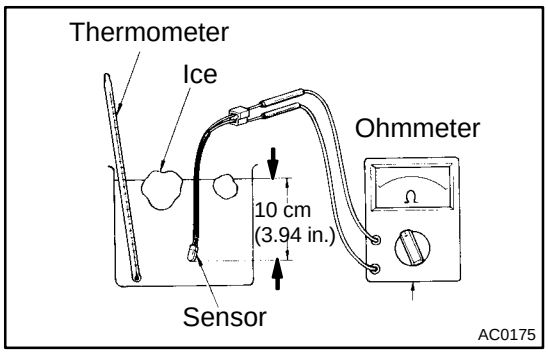
(b) Using a screwdriver, pull out the sensor with bracket plate.

HINT:

Tape the screwdriver tip before use.

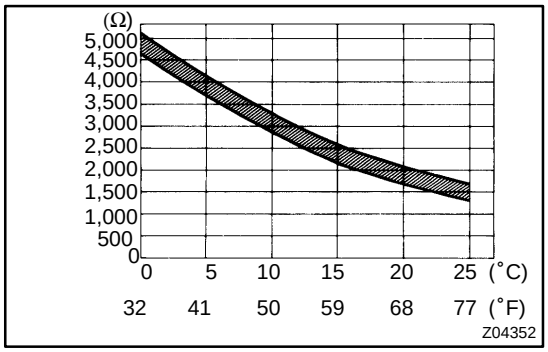


(c) Release the 2 claws and remove the sensor from bracket plate.



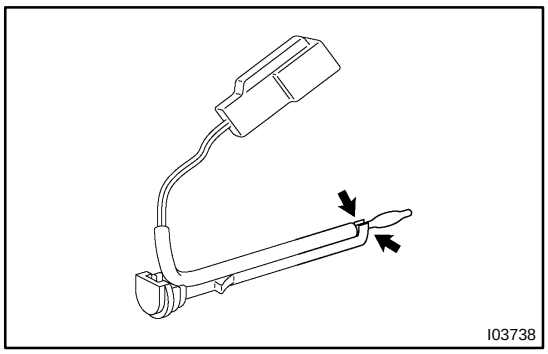
3. INSPECT EVAPORATOR TEMPERATURE SENSOR RESISTANCE

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



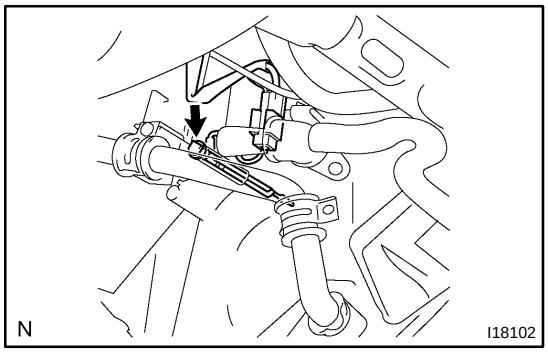
(b) Compare the 2 readings on the chart.

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



4. INSTALL EVAPORATOR TEMPERATURE SENSOR

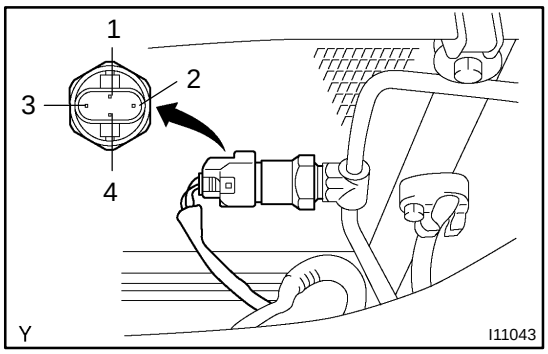
(a) Install the sensor in bracket plate and 2 claws.



(b) Push in the sensor with the bracket plate.

(c) Connect the connector.

5. INSTALL LOWER FINISH PANEL (See page BO-149)

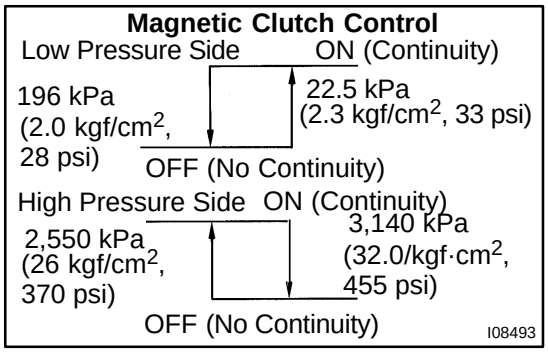


PRESSURE SWITCH

AC16Z-04

ON-VEHICLE INSPECTION

1. **SET ON MANIFOLD GAUGE SET (See page AC-19)**
2. **DISCONNECT CONNECTOR FROM PRESSURE SWITCH**
3. **RUN ENGINE AT APPROX. 1,500 RPM**

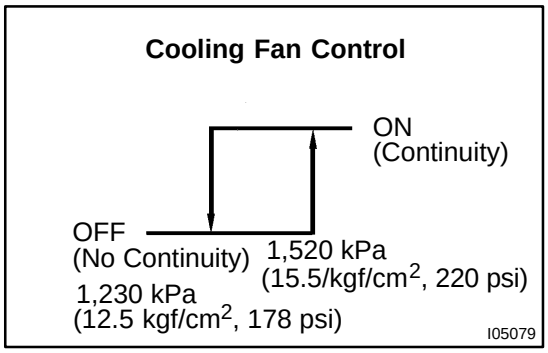


4. **Magnetic clutch control:**
   INSPECT PRESSURE SWITCH OPERATION

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

(b) Check continuity between terminals when refrigerant pressure is changed, as shown in the illustration.

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



5. **Cooling fan control:**
   INSPECT PRESSURE SWITCH OPERATION

(a) Connect the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 3.

(b) Check continuity between terminals when refrigerant pressure is changed, as shown in the illustration.

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

6. **STOP ENGINE AND SET OFF MANIFOLD GAUGE SET**
7. **CONNECT CONNECTOR TO PRESSURE SWITCH**

AC170-04

REMOVAL

1. DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM

HINT:

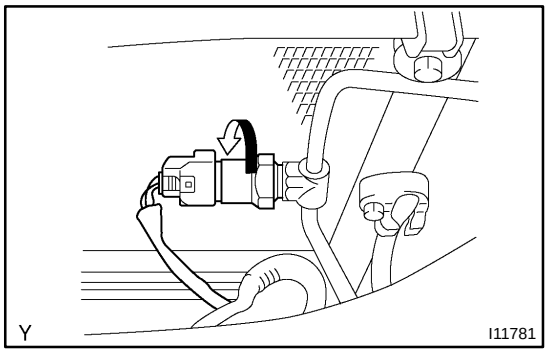
At the time of installation, please refer to the following item.

Evacuate air from refrigeration system.

Charge system with refrigerant and inspect for leakage of refrigerant.

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

2. REMOVE RADIATOR GRILLE (See page BO-4)



3. REMOVE PRESSURE SWITCH FROM LIQUID TUBE

Disconnect the connector and remove the pressure switch.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

HINT:

- Lock the switch mount on the tube with an open end wrench, being careful not to deform the tube, and remove the switch.
- At the time of installation, please refer to the following item.
  Lubricate a new O-ring with compressor oil and install the switch.

AC171-01

INSTALLATION

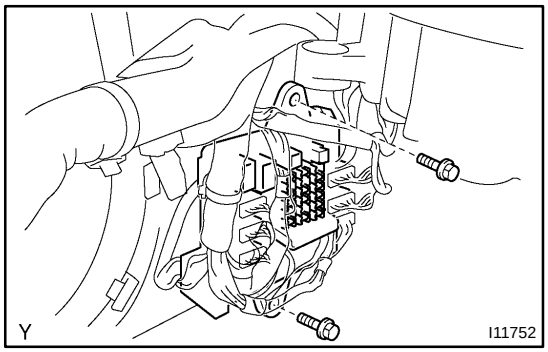
Installation is in the reverse order of removal (See page AC-67).

HEATER MAIN RELAY

AC25Z-02

INSPECTION

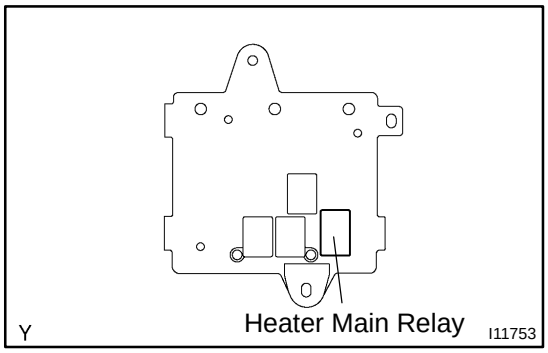
1. **REMOVE FRONT DOOR SCUFF PLATE LH**
   (See page BO-139)
2. **REMOVE COWL SIDE TRIM BOARD LH**
   (See page BO-139)



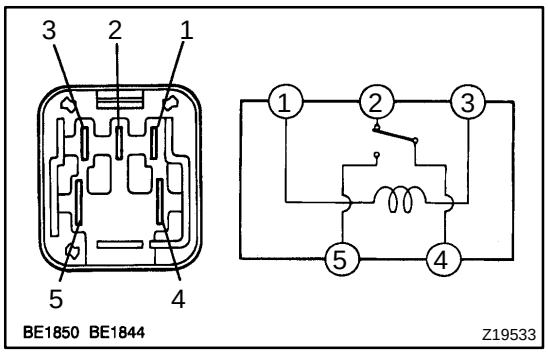
3. **REMOVE HEATER MAIN RELAY**

(a) Disconnect the connectors.

(b) Remove the 2 passenger side junction block set nuts.



(c) Remove the heater main relay from passenger side junction block.



4. **INSPECT HEATER MAIN RELAY CONTINUITY**

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

If continuity is not as specified, replace the relay.

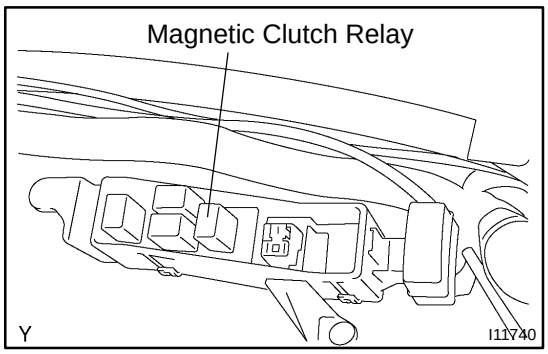
5. **INSTALL HEATER MAIN RELAY**

(a) Install the heater main relay to passenger side junction block.

(b) Install the passenger side junction block set nuts.

(c) Connect the connectors.

6. **INSTALL COWL SIDE TRIM BOARD LH**
   (See page BO-149)
7. **INSTALL FRONT DOOR SCUFF PLATE LH**
   (See page BO-149)

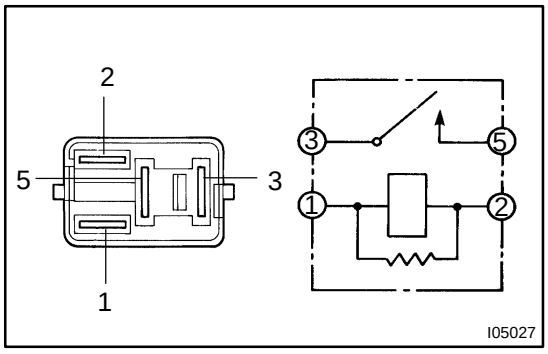


MAGNETIC CLUTCH RELAY

AC20U-05

INSPECTION

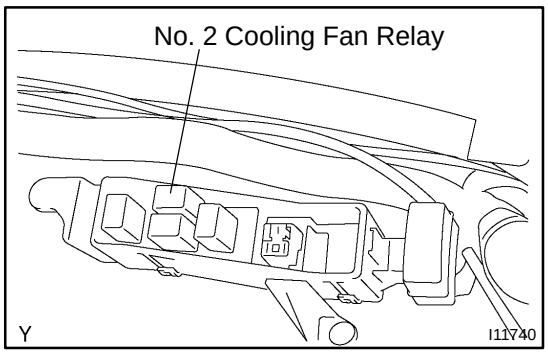
1. REMOVE MAGNETIC CLUTCH RELAY FROM RELAY BLOCK NO.3



2. INSPECT MAGNETIC CLUTCH RELAY (Marking: A.C COMP) CONTINUITY

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

If continuity is not as specified, replace the relay.

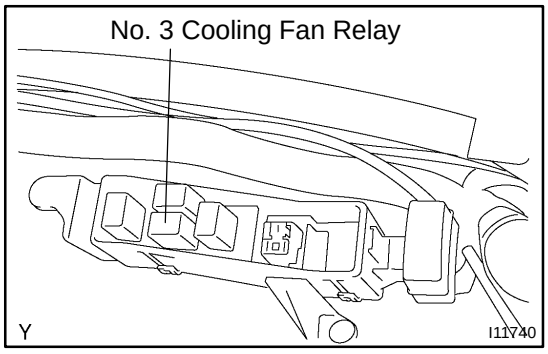


COOLING FAN RELAY

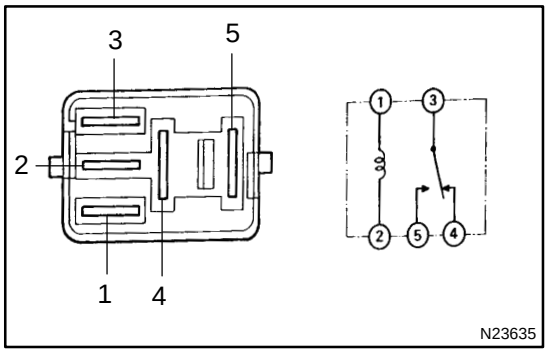
AC260-02

INSPECTION

1. REMOVE NO.2 COOLING FAN RELAY FROM RELAY BLOCK NO.3



2. REMOVE NO.3 COOLING FAN RELAY FROM RELAY BLOCK NO.3



3. INSPECT NO.2 COOLING FAN RELAY (Marking: FAN NO.2) CONTINUITY

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

If continuity is not as specified, replace the relay.

4. INSPECT NO.3 COOLING FAN RELAY (Marking: FAN NO.3) CONTINUITY

Check the relay in the same way as for ”MAGNETIC CLUTCH RELAY”.

CONDENSER FAN

AC173-03

ON-VEHICLE INSPECTION

1. INSPECT CONDENSER FAN OPERATION

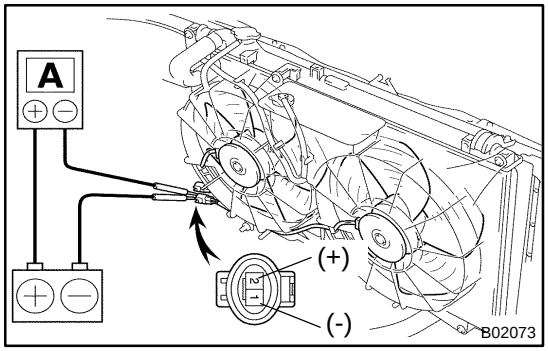
Inspect the fan operation, as shown in the chart below.

Test conditions:

- Ignition switch ON
- Blower speed control switch position ”HI”
- Temperature control dial at ”MAX. COOL” position
- Install manifold gauge set”
- A/C switch ON

Condition	Fan operation (Fan speed)
Engine coolant temperature 91˚C (196 ˚F) or below	Rotate (Low speed)
Engine coolant temperature 100˚C (212 ˚F) or above	Rotate (High speed)
Refrigerant pressure is less than 1,520 kPa (15.5 kgf·cm^2, 220 psi)	Rotate (Low speed)
Refrigerant pressure is 1,520 kPa (15.5 kgf·cm^2, 220 psi) or above	Rotate (High speed)

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



2. INSPECT CONDENSER FAN MOTOR OPERATION

(a) Disconnect the fan connector.

(b) Connect battery and ammeter.

(c) Check that the fan rotates smoothly, and then check the reading on the ammeter.

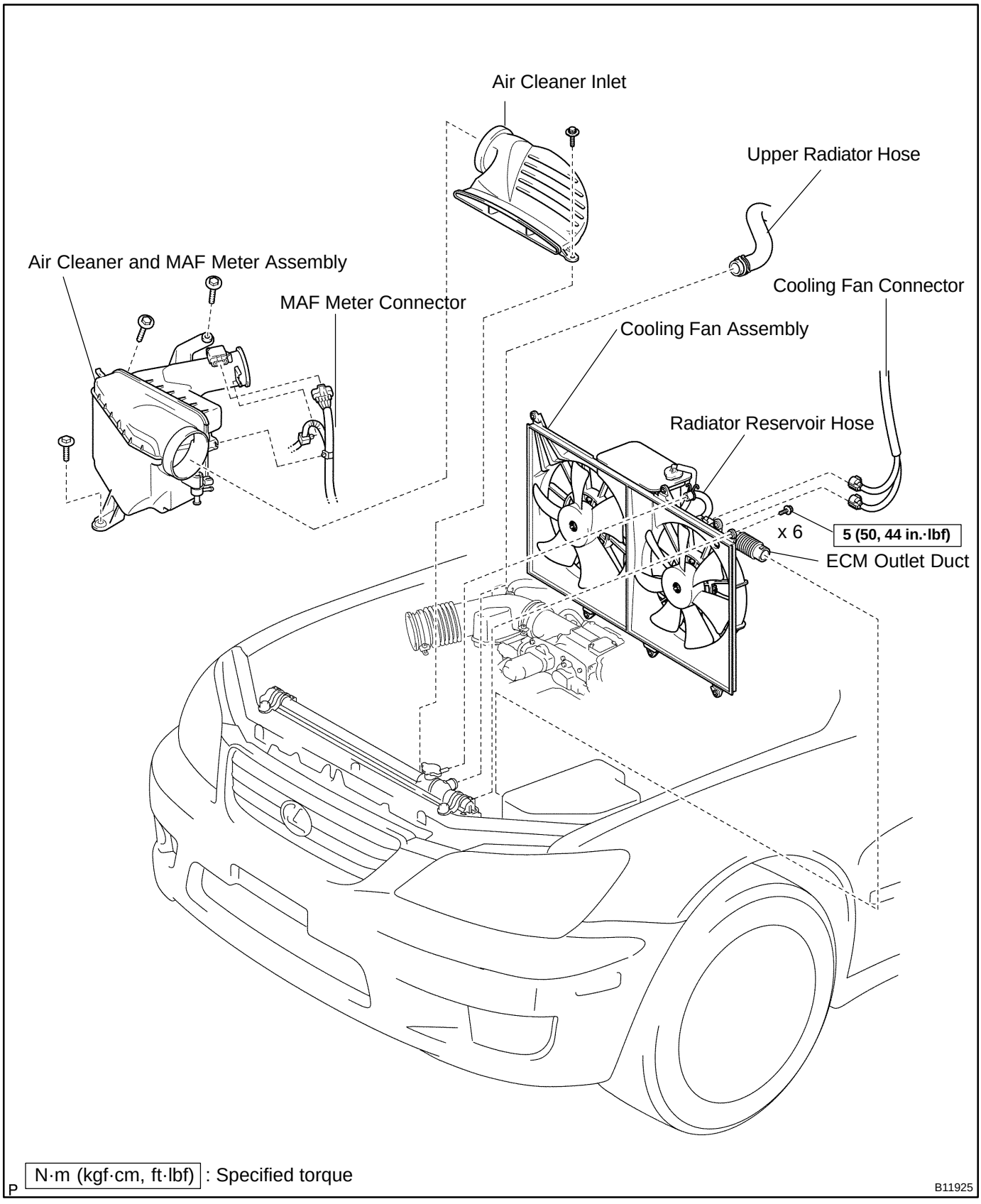
Specified amperage: 8.5 - 11.5 A ar 20 ˚C (68 ˚F)

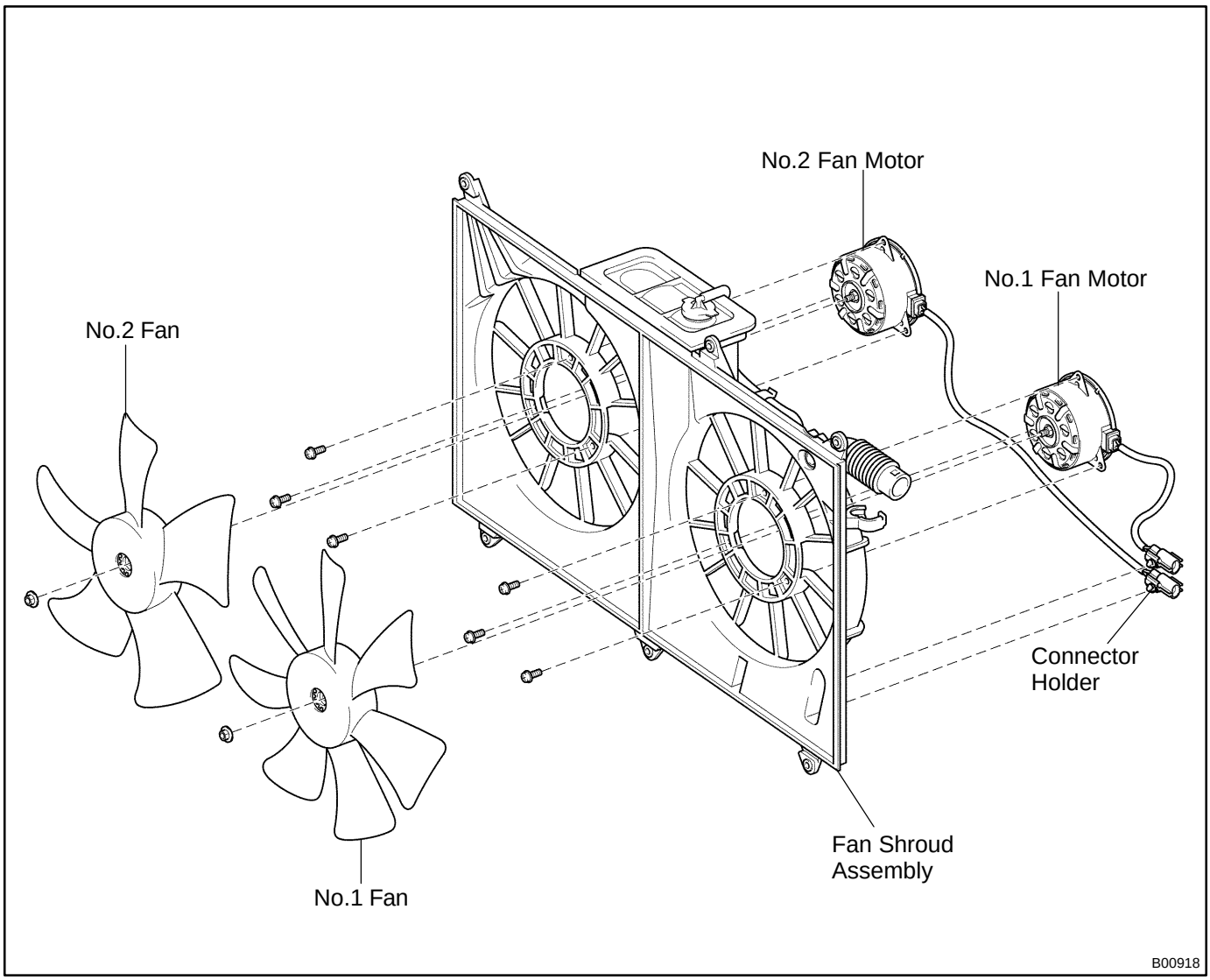
If operation is not as specified, replace the fan motor.

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

AC386-01

COMPONENTS




No.2 Fan Motor
No.1 Fan Motor
No.2 Fan
Connector Holder
Fan Shroud Assembly
No.1 Fan
B00918

AC387-01

REMOVAL

1. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all coolant.

2. REMOVE AIR CLEANER INLET

3. REMOVE AIR CLEANER AND MAF METER ASSEMBLY

4. REMOVE COOLING FAN

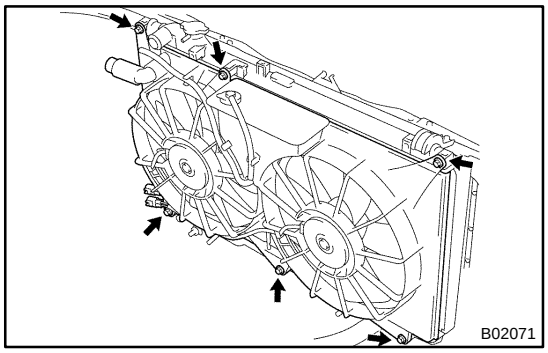
(a) Disconnect the upper radiator hose from the radiator.

(b) Disconnect the ECM outlet duct from the ECM box.

(c) Disconnect the wire for cooling fan from the clamp on the cooling fan.

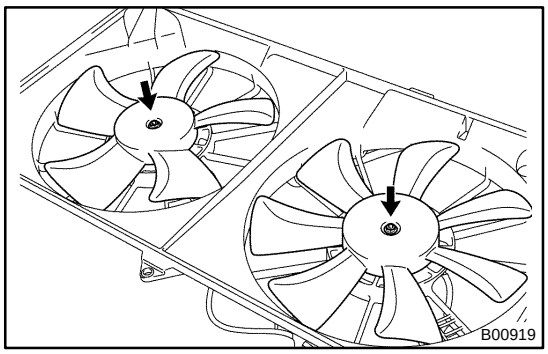
(d) Disconnect the 2 cooling fan connector.

(e) Disconnect the radiator reservoir hose from the radiator.



(f) Remove the 6 bolts and cooling fan.

AC388-01

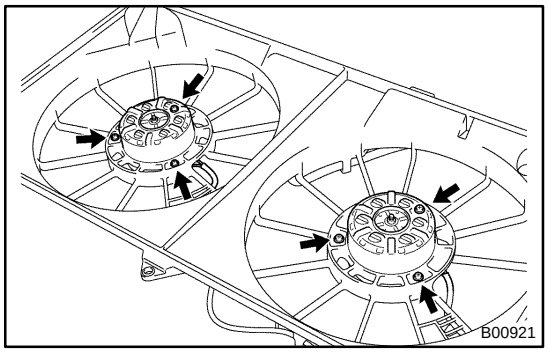


DISASSEMBLY

1. REMOVE FANS

(a) Remove the nut and fan.

(b) Remove the 2 fans.



2. REMOVE FAN MOTORS

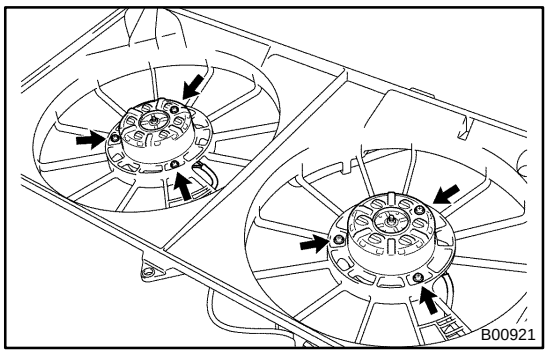
(a) Disconnect the wires and connector holders from the fan shroud.

(b) Remove the 3 screws and fan motor.

(c) Remove the 2 fan motors.

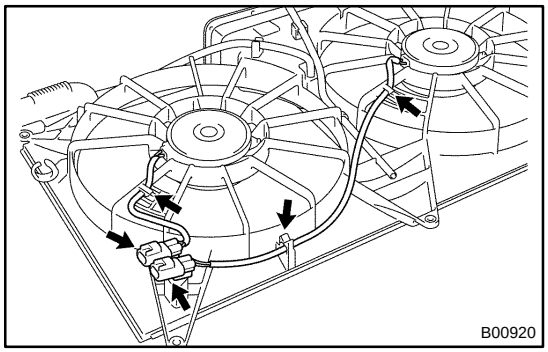
AC389-01

REASSEMBLY

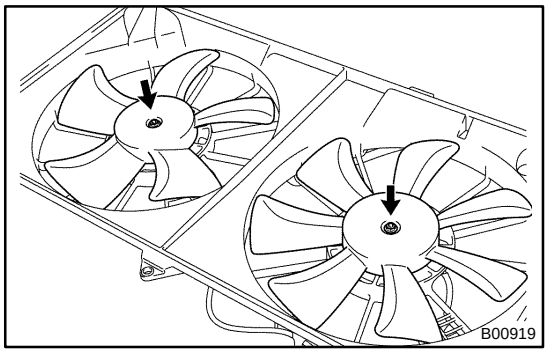


1. INSTALL FAN MOTORS

(a) Install the fan motor with the 3 screws. Install the 2 fan motors.



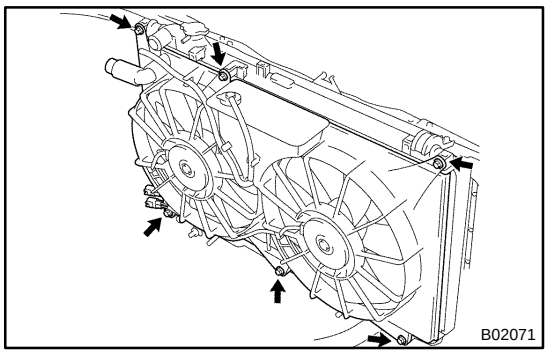
(b) Install the wires and connector holders to the fan shroud as shown in the illustration.



2. INSTALL FANS

Install the fan with the nut. Install the 2 fans.

AC38A-01



INSTALLATION

1. INSTALL COOLING FAN

(a) Install the cooling fan with the 6 bolts.
Torque: 5.0 N·m (50 kgf·cm, 44 in.·lbf)

(b) Connect the upper radiator hose to the radiator.

(c) Connect the ECM outlet duct to the ECM box.

(d) Connect the wire for cooling fan to clamp on the cooling fan.

(e) Connect the 2 cooling fan connectors.

(f) Connect the radiator reservoir hose to the radiator.

2. INSTALL AIR CLEANER AND MAF METER ASSEMBLY

3. INSTALL AIR CLEANER INLET

4. FILL WITH ENGINE COOLANT

5. START ENGINE AND CHECK FOR COOLANT LEAKS

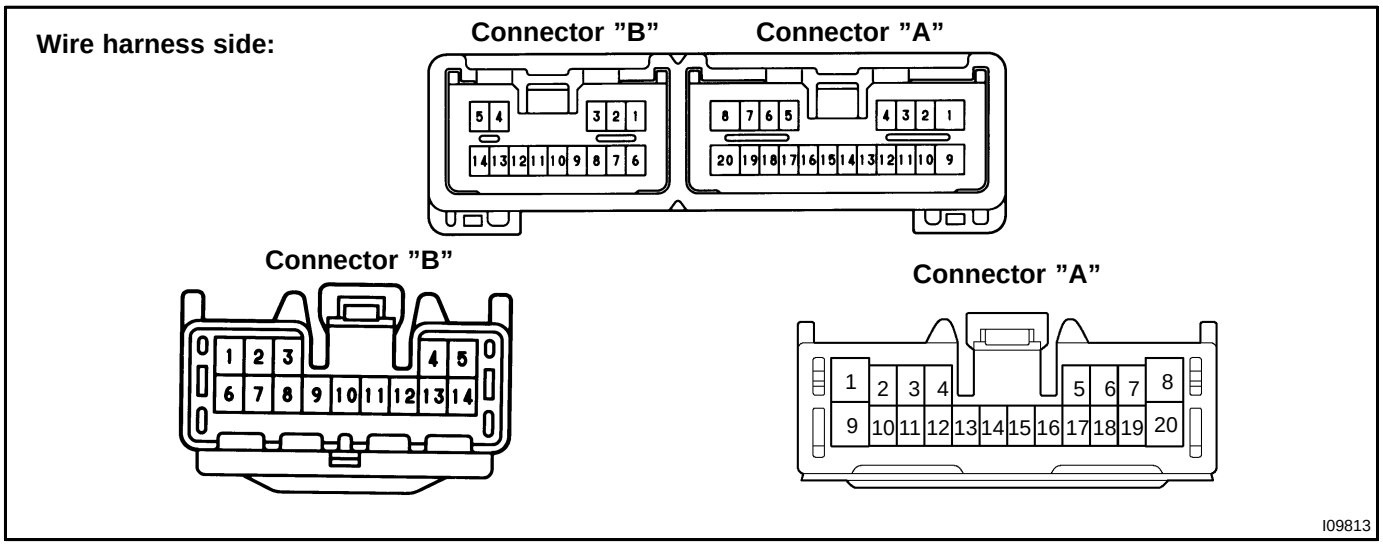
AIR CONDITIONING CONTROL ASSEMBLY

AC261-03

ON-VEHICLE INSPECTION

1. **REMOVE A/C CONTROL ASSEMBLY**
   (See page AC-84)
2. **INSPECT A/C CONTROL ASSEMBLY CIRCUIT**

(a) Disconnect the connector from the A/C control assembly and inspect the connector on the wire harness side, as shown in the chart below.
Test condition:
Turn ignition switch ON



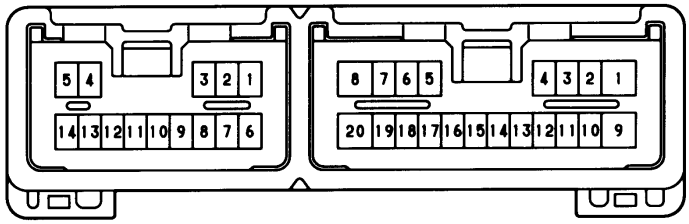
Tester connection	Condition	Specified condition
A13 - A6	Cover solar sensor with a cloth	No continuity
	Solar sensor subject to electric light	Continuity
B14 - Ground	Constant	Continuity
A17 - A18	Cabin temperature at 25 °C (77 °F)	Approx. 1.7 kΩ
A5 - A18	Evaporator temperature at 25 °C (77 °F)	Approx. 1.5 kΩ
B4 - Ground	Turn ignition switch to ACC	Battery positive voltage
B13 - Ground	Turn ignition switch to ON	Battery positive voltage
	Turn ignition switch to LOCK or ACC	No voltage
B12 - Ground	Turn light control switch to "TAIL"	Battery positive voltage
B5 - Ground	Constant	Battery positive voltage

If the circuit is not as specified, inspect the circuit connected to other parts.
If the circuit is as specified, proceed to "INSPECTION" on page AC-88 .

(b) Connect the connector to amplifier and inspect the wire harness side connector from the back side, as shown in the chart.
Test conditions:
- Running engine at idle speed
- Blower speed control dial at ”HI” position
- Temperature control dial at ”MAX. COOL” position
- A/C switch ON

From back side:

Connector ”B” **Connector ”A”**



I07266

Tester connection	Condition	Specified condition
A18 - Ground	Constant	Continuity
A1 - Ground	Hazard switch: OFF	No continuity
	Hazard switch: ON	Continuity
A2 - Ground	R/F switch: FRESH	Battery positive voltage
	R/F switch: RECIRC	Below 1.0 V
A3 - Ground	Mode control dial: FACE	Below 1.0 V
	Mode control dial: DEF	Battery positive voltage
A4 - Ground	Temperature control dial: MAX COOL	Below 1.0 V
	Temperature control dial: MAX HOT	Battery positive voltage
A6 - A18	Constant	5.0 ± 0.5 V
A9 - Ground	R/F switch: FRESH	Below 1.0 V
	R/F switch: RECIRC	Battery positive voltage
A10 - Ground	Mode control dial: DEF	Below 1.0 V
	Mode control dial: FACE	Battery positive voltage
A11 - Ground	Temperature control dial: MAX HOT	Below 1.0 V
	Temperature control dial: MAX COOL	Battery positive voltage
A14 - A18	Temperature control dial: MAX HOT	Approx. 1.0 V
	Temperature control dial: MAX COOL	Approx. 4.0 V
A15 - A18	Mode control dial: DEF	Approx. 1.0 V
	Mode control dial: FACE	Approx. 4.0 V
A16 - A18	R/F switch: FRESH	Approx. 1.0 V
	R/F switch: RECIRC	Approx. 4.0 V
B2 - Ground	Parking drake lever: Release	Battery positive voltage
	Parking drake lever: Operate	Below 1.0 V
B3 - Ground	Pattern select switch: Except PWR	Battery positive voltage
	Pattern select switch: PWR	Below 1.0 V

B6 - Ground	Ignition switch: ON	Below 1.0 V
	Ignition switch: OFF	Battery positive voltage
B7 - Ground	Blower motor: ON	Pulse generation
	Blower motor: OFF	Approx. 5.0 V
B8 - Ground	Pattern select switch: Except SNOW	Battery positive voltage
	Pattern select switch: SNOW	Below 1.0 V
B10 - Ground	Passenger seat belt: unfastened	Below 1.0 V
	Passenger seat belt: fasted	Battery positive voltage

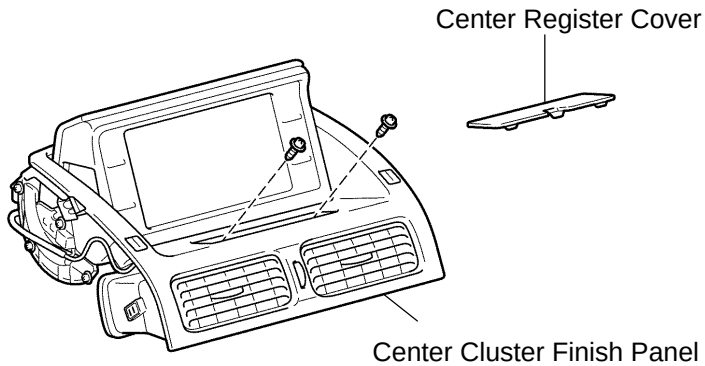
If the circuit is not as specified, proceed to ”INSPECTION” on page AC-88 .

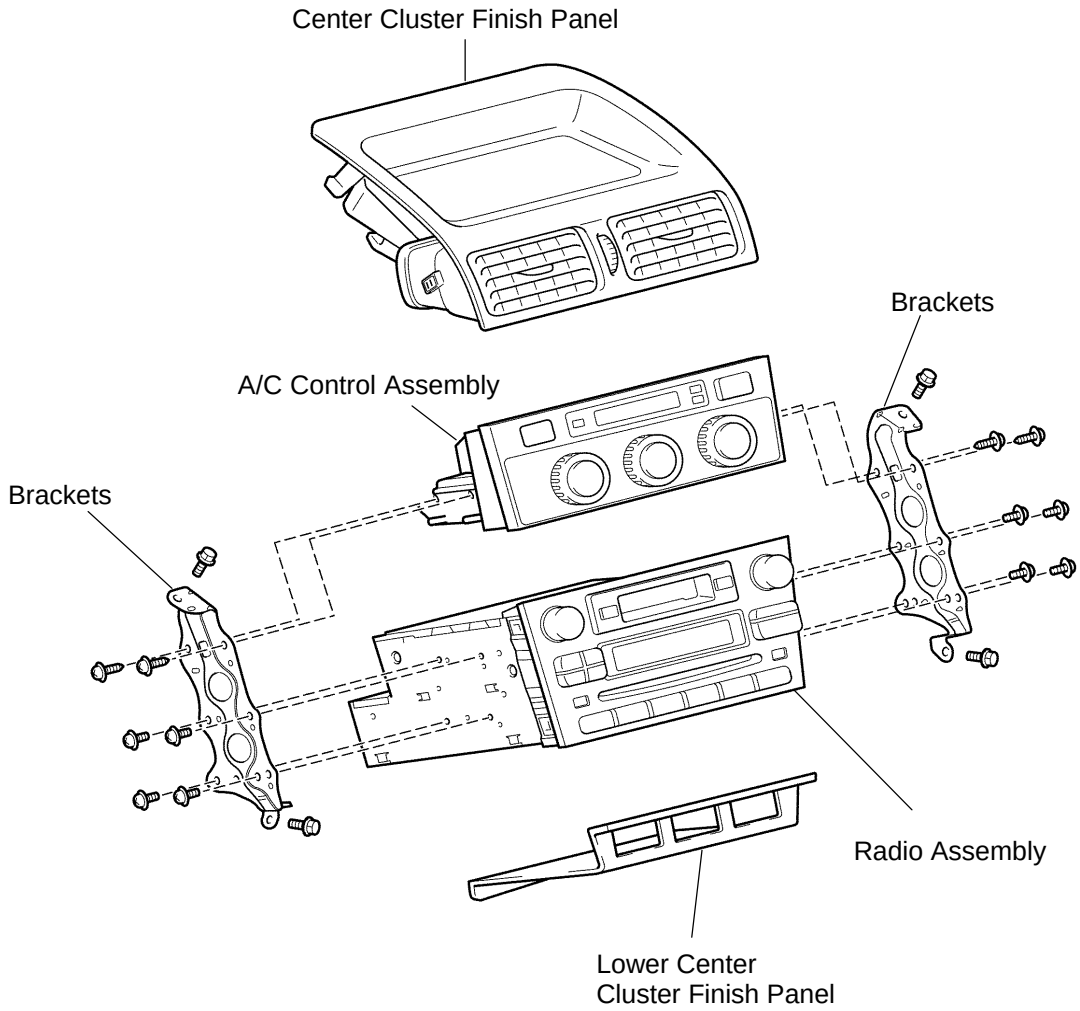
3. INSTALL A/C CONTROL ASSEMBLY
(See page AC-91)

AC262-02

COMPONENTS

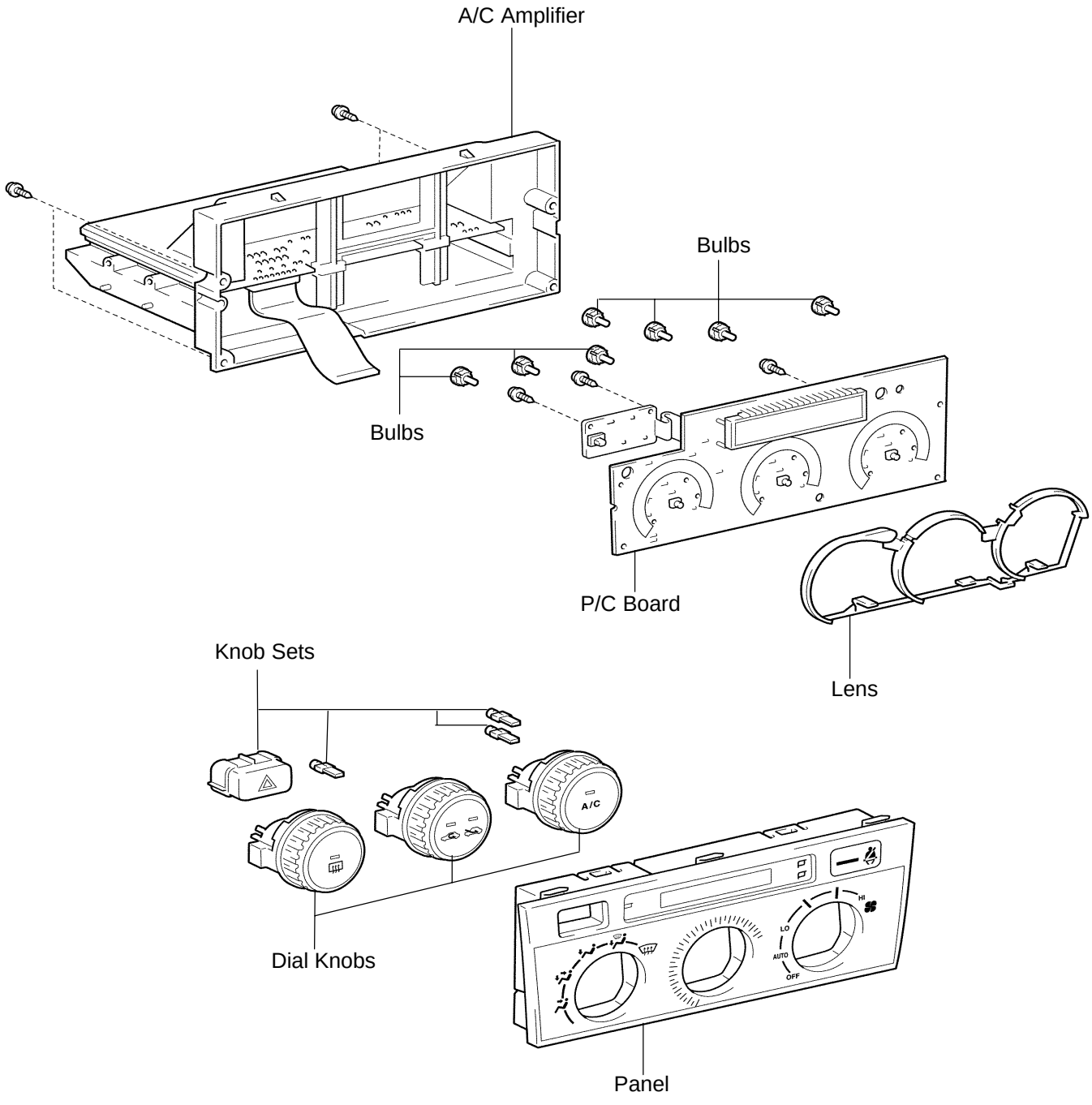
w/ LEXUS Navigation System:





P

I11755

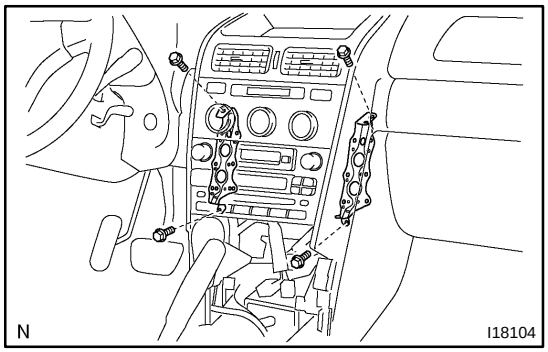

A/C Amplifier
Bulbs
Bulbs
P/C Board
Lens
Knob Sets
A/C
Dial Knobs
HI
LO
AUTO
OFF
Panel
I18269

P

AC263-02

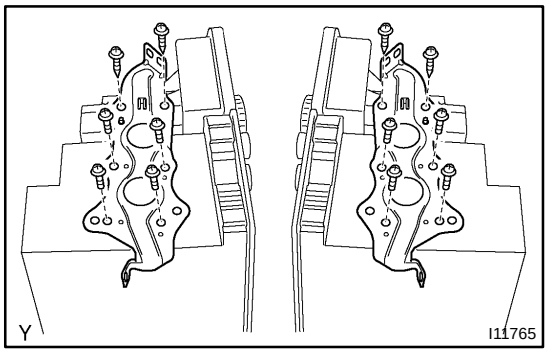
REMOVAL

1. **REMOVE CENTER CLUSTER FINISH PANEL (See page BO-139)**
2. **REMOVE LOWER CENTER CLUSTER FINISH PANEL (See page BO-139)**



3. **REMOVE A/C CONTROL ASSEMBLY**

(a) Remove the 4 bolts and pull out the A/C control assembly with radio assembly, then disconnect the connectors.



(b) Remove the 12 screws and 2 brackets.

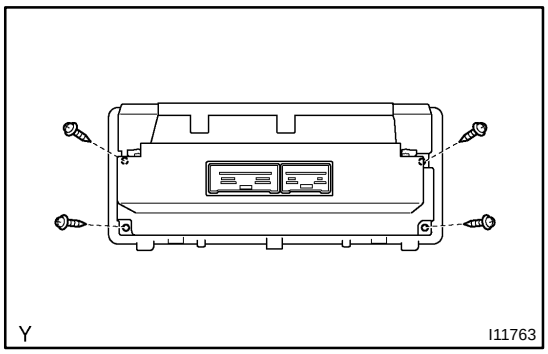
(c) Separate the A/C control assembly and radio assembly.

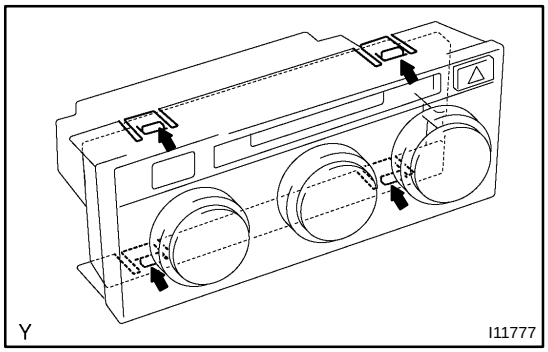
AC264-02

DISASSEMBLY

1. REMOVE A/C AMPLIFIER

(a) Remove the 4 screws.

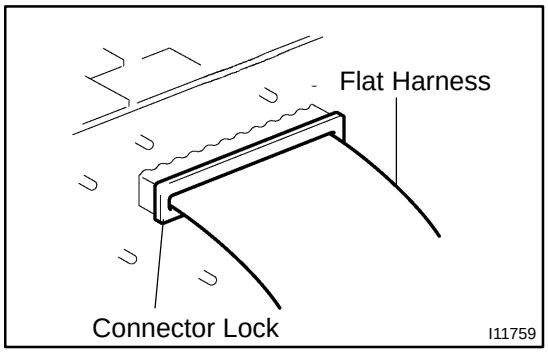




(b) Using a screwdriver, release the 4 claws and pull out the A/C amplifier.

HINT:

Tape the screwdriver tip before use.



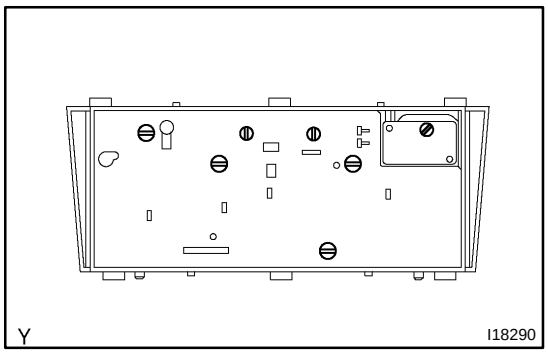
(c) Release the connector lock and pull out the flat harness.

NOTICE:

Pull the lock of the connector securely toward you and pull off the flexible flat cable.

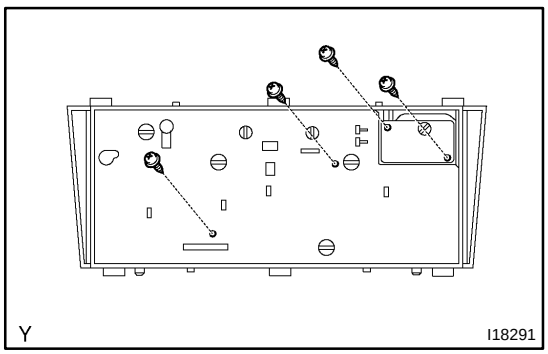
2. REMOVE BULBS

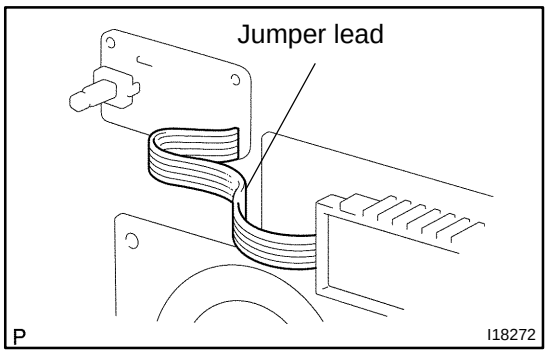
Using a screwdriver, turn the bulbs to the left and pull out the bulbs.



3. REMOVE P/C BOARD

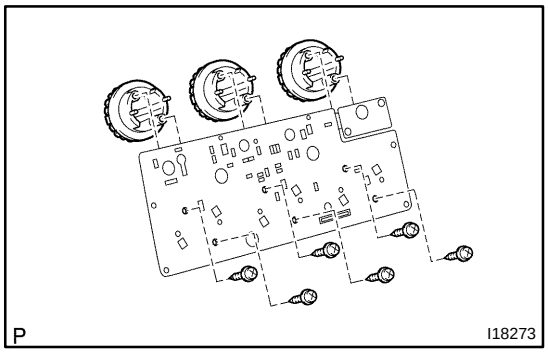
Remove the 4 screws and P/C board.





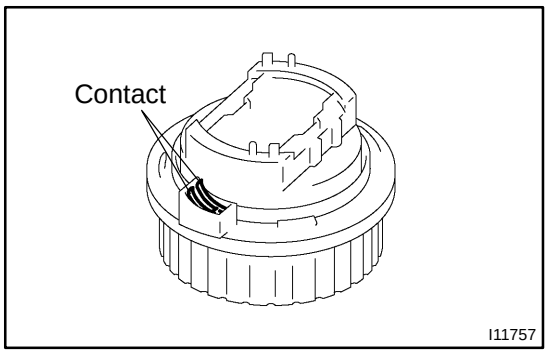
NOTICE:

- **Do not let any oil, dirt or foreign object on the connecting part of the P/C board.**
- **When holding the P/C board by hand, hold it at the edge and do not touch the soldered part and connecting part.**
- **Do not apply unnecessary force to the jumper lead.**
- **Do not let the accumulated static electricity in an operator apply to the electronic components.**
- **Do not tumble the LED as this soldered to the P/C board at right angles.**



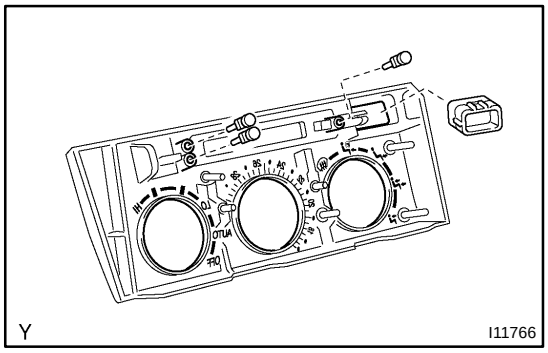
4. REMOVE DIAL KNOBS

Remove the 6 screws and dial knobs.



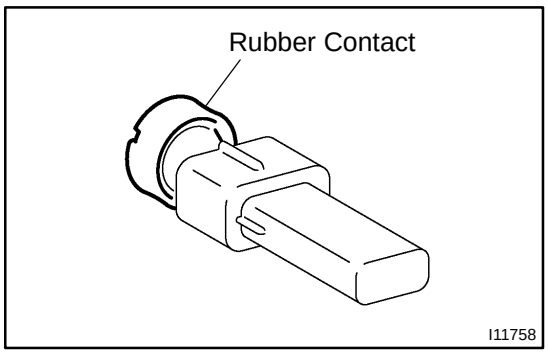
NOTICE:

- **Do not let any oil, dirt or foreign object attach on the connecting part of the connector.**
- **Do not deform the contact.**
- **Be careful not to drop the contact.**

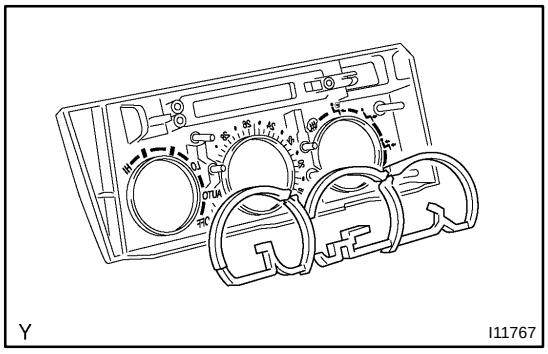


5. REMOVE KNOB SETS

Pull out the knob sets.

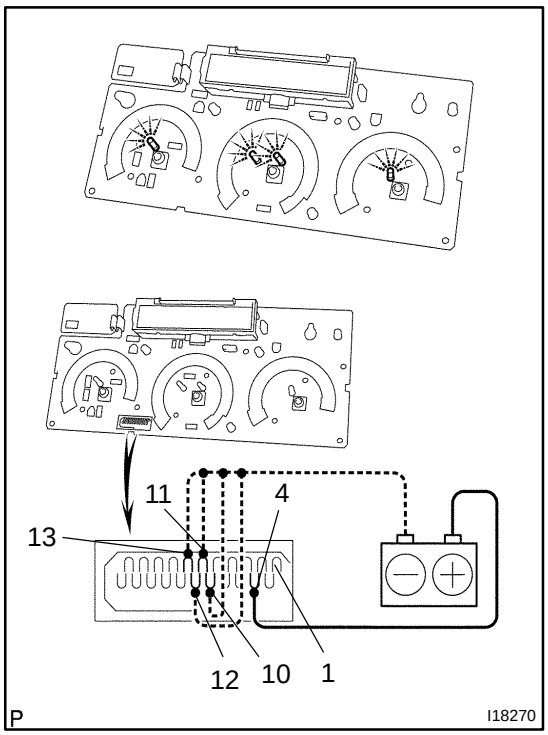


NOTICE:
Do not let any oil, dirt or foreign object attach on the rubber contact part.



6. REMOVE LENS

AC265-03



INSPECTION

1. INSPECT INDICTOR OPERATION

Connect the positive (+) lead from the battery to terminal 4 and negative (-) lead to each terminal, then check that the indicator lights up as shown in the chart.

Switch	Tester connection
DEF	13
FRESH	12
RECIRC	11
A/C	10

If operation is not as specified, replace the P/C board.

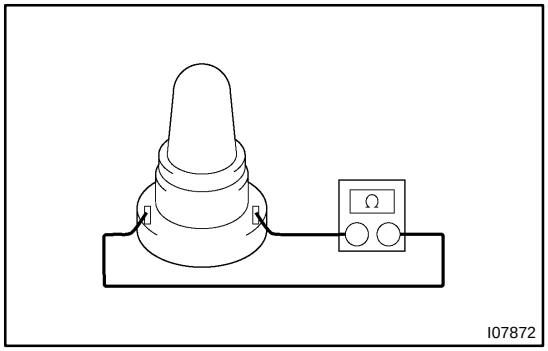
2. INSPECT INDICATOR DIMMING OPERATION

(a) Perform each indicator light up (See step 1).

(b) Connect the positive (+) lead from the battery to terminal 1 and check that the each indicator dims.

If the operation is not as specified, replace the P/C board.

If the operation is as specified, replace the A/C amplifier.

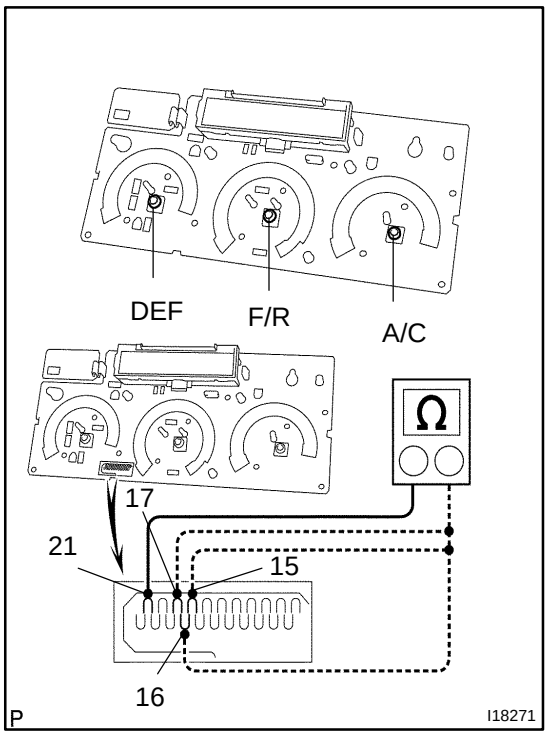


3. INSPECT BULB OPERATION

Apply the tester as shown in the illustration to the test for continuity.

If continuity exists, replace the P/C board.

If on continuity exists, replace the bulb.



4. INSPECT SWITCH OPERATION

Check the continuity exists between terminals while the switch is pressed.

Switch	Tester connection	Specified condition
A/C	15 - 21	Continuity
DEF	16 - 21	Continuity
F/R	17 - 21	Continuity

If operations is not as specified, replace the P/C board.
If operations is as specified, check the wire harness or replace the A/C amplifier.

AC266-02

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page AC-85).

AC267-02

INSTALLATION

Installation is in the reverse order of removal (See page AC-84).

ENGINE COOLANT TEMPERATURE (ECT) SWITCH

AC385-01

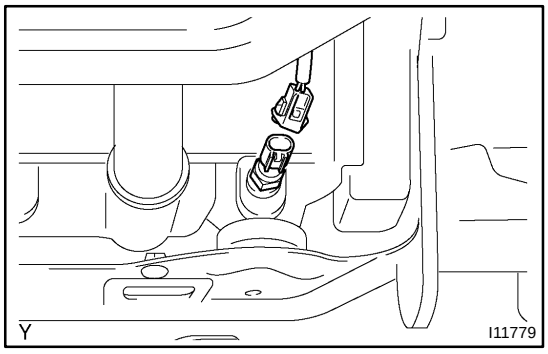
INSPECTION

1. REMOVE ENGINE UNDER COVER

2. DRAIN ENGINE COOLANT FROM RADIATOR

HINT:

It is not necessary to drain out all coolant

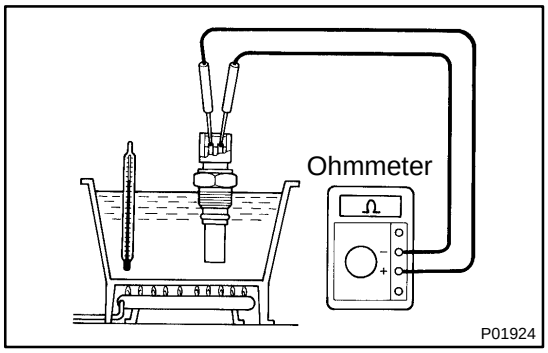


3. REMOVE ENGINE COOLANT TEMPERATURE SWITCH

(a) Disconnect the connector.

(b) Remove the engine coolant temperature switch.

(c) Remove the O-ring from the switch.



4. INSPECT ENGINE COOLANT TEMPERATURE SWITCH

(a) Using an ohmmeter, check that no continuity exists between the terminals when the coolant temperature is above 100 ˚C (212 ˚F).

If continuity exists, replace the switch.

(b) Using an ohmmeter, check that continuity exists between the terminals when the coolant temperature is below 91 ˚C (196 ˚F).

If there no continuity exists, replace the switch.

5. INSTALL ENGINE COOLANT TEMPERATURE SWITCH

(a) Install the new O-ring to the switch.

(b) Install the engine coolant temperature switch.

Torque: 7.4 N·m (75 kgf·cm, 65 in.·lbf)

6. FILL WITH ENGINE COOLANT TO RADIATOR

7. INSTALL ENGINE UNDER COVER

AC0Y1-01

INSTALLATION

Installation is in the reverse order of removal (See page AC-93).