

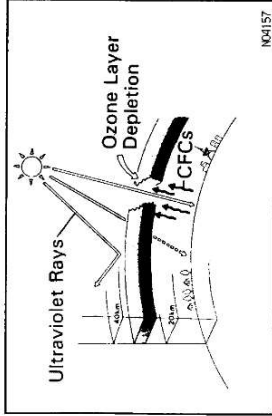
AIR CONDITIONING SYSTEM

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GENERAL INFORMATION

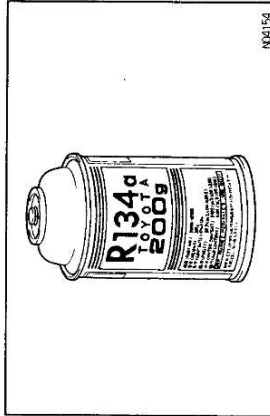
NEW AIR CONDITIONING SYSTEM WITH R134a

Refrigerant R 12 (CFC 12), previously used in automobiles' air conditioning systems is believed to contribute towards the depletion of the earth's ozone layer. The ozone layer help to protect us against the harmful ultraviolet rays of the sun.



N04157

A newly developed refrigerant, R 134a (HFC134a), reduces the destruction of the ozone layer. This refrigerant is used in the specially redesigned air conditioning systems fitted into the AT190, ST191 and CT190 series vehicle.

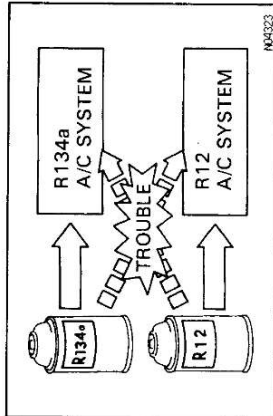


N04158

PRECAUTIONS FOR SERVICING R134a AIR CONDITIONERS

1. USE OF NEW REFRIGERANT R134a

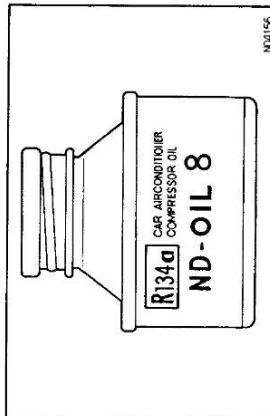
The very different characteristics of refrigerants R134a and R12 have determined the design of their respective air conditioning systems. Under no circumstances allow R12 to enter an R134a system, or vice versa, because serious damage could occur.



N04159

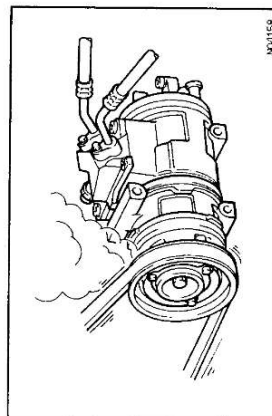
2. USE OF PROPER COMPRESSOR OIL

Compressor oil used in conventional R12 air conditioning systems cannot be used in R134a air conditioning systems. Always use genuine Toyota R134a air conditioning oil ND—OIL 8, made expressly for use with R134a.



N04156

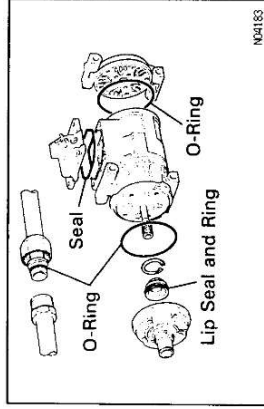
If even a small amount of the wrong oil is changed, it will result in clouding of the refrigerant. A large amount will cause the compressor to seize up.



N04158

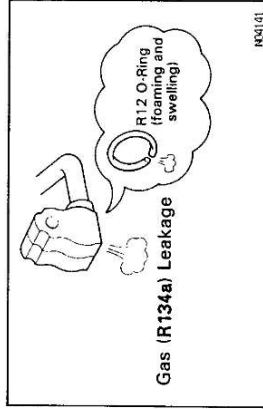
3. USE OF PROPER O—RINGS AND SEALS

O—rings and seals used for conventional R12 air conditioning systems cannot be used for R134a air conditioning systems. Always use genuine Toyota R134a system O—rings and seals for R134a air conditioning systems.



N04153

If O—rings and/or seals for R12 air conditioning systems are used by mistake in the connections of an R134a air conditioning system, the O—ring and seals will foam and swell resulting in leakage of refrigerant.



N04151

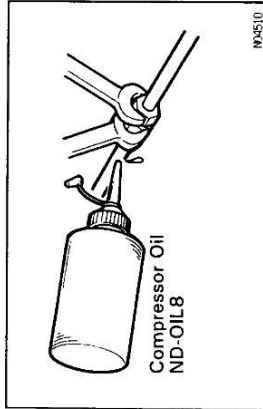
4. TIGHTEN CONNECTING PARTS SECURELY

Securely tighten the connecting parts to prevent leakage of refrigerant gas.

- Apply a few drops of compressor oil to O—ring fittings for easy tightening and to prevent leaking of refrigerant gas.

CAUTION: Apply only ND—OIL 8 compressor oil

- Tighten the nuts using two wrenches to avoid twisting the tube.
- Tighten the O—ring fittings or the bolted type fittings to the specified torque.

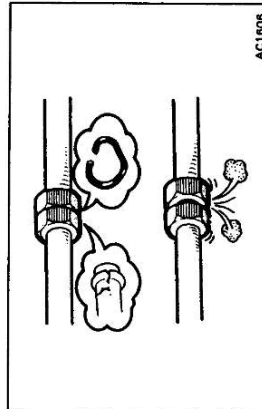


N04150

5. INSERT PLUG IMMEDIATELY IN DISCONNECTED PARTS

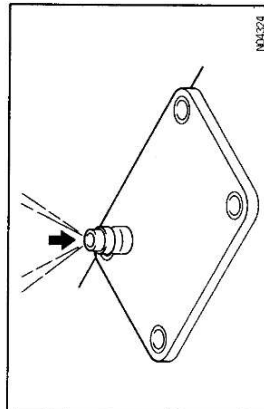
Insert a plug immediately in the disconnected parts to prevent the ingress of moisture and dust.

DO NOT REMOVE PLUG FROM NEW PARTS UNTIL IMMEDIATELY BEFORE INSTALLATION



AC1008

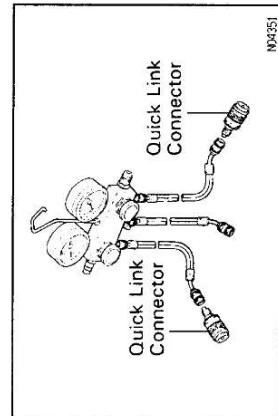
7. DISCHARGE GAS IN NEW COMPRESSOR FROM CHARGING VALVE BEFORE INSTALLING IT
If the gas in the new compressor is not discharged first, compressor oil will spray out with gas when the plug is removed.



N04154

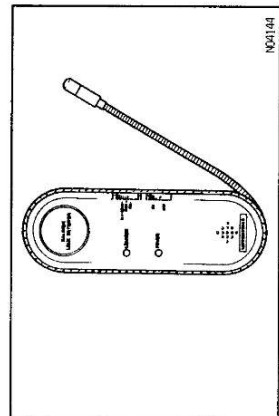
SERVICE TOOLS FOR R134a AIR CONDITIONER

When servicing R 134 a air conditioning systems always use the R134a dedicated manifold gauges, gas leak detector and vacuum pump adaptor.



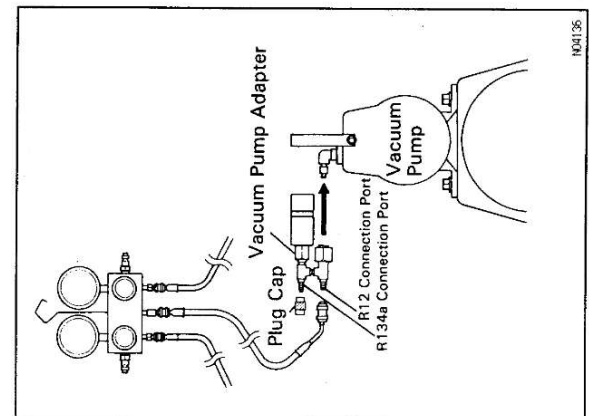
1. USE MANIFOLD GAUGES FOR R134a AIR CONDITIONER

Always use R 134 a dedicated manifold gauges to prevent R12 and R12 compressor oil contaminating the R134a system.



2. USE R134a GAS LEAK DETECTOR

Similarly, always use an R134a dedicated leak detector. The R12 leak detector is not sufficiently sensitive.



3. USE VACUUM PUMP ADAPTER

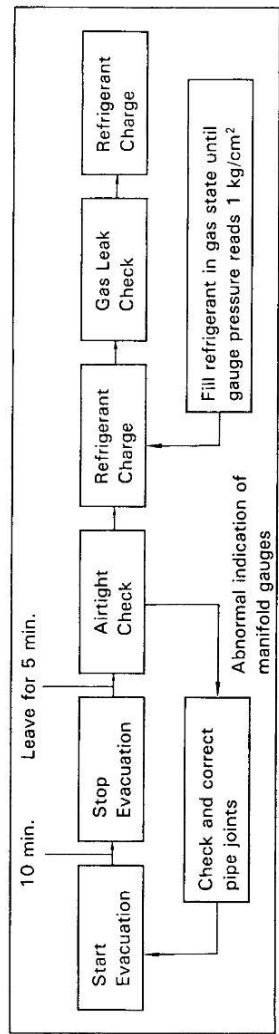
By correcting a vacuum pump adapter, the vacuum pump can be used for both R134a and R12 air conditioning systems.

The vacuum pump adaptor has an internal magnetic valve. When evacuation is completed and the vacuum pump switch is turned off, the magnetic valve opens allowing the introduction of atmospheric air into the manifold gauges to prevent the back flow of oil from the vacuum pump into the gauge hose.

CAUTION:
Be sure to turn off the manifold gauge valve immediately after evacuating the system. Then you may switch off the vacuum pump. If this order is reversed, the line will be temporarily open to atmosphere.

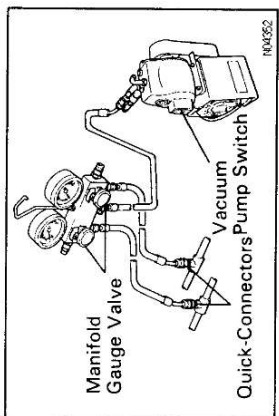
CHARGING AND LEAK — CHECK METHODS

Evacuate the refrigeration system according to the following procedures.



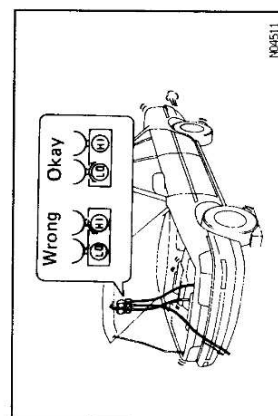
CAUTION:

- Be sure to connect both the high and low pressure quick — connectors onto the A / C system when evacuating. If only one side is connected, the system would be open to atmosphere through the other connector, making it impossible to maintain vacuum.
- Be sure to turn off the manifold gauge valve immediately after evacuating the system. Then you may switch off the vacuum pump.



PRECAUTIONS WHEN CHARGING REFRIGERANT

- DO NOT OPERATE COMPRESSOR WITHOUT ENOUGH REFRIGERANT IN REFRIGERANT CYCLE**
If there is not enough refrigerant in the refrigerant cycle, oil lubrication will be insufficient and compressor burnout may occur, so take care to avoid this.
- DO NOT OPEN HIGH PRESSURE MANIFOLD VALVE WHILE COMPRESSOR IS OPERATING**
If the high pressure valve is opened, refrigerant flows in the reverse direction and could cause the charging cylinder to rupture, so open and close the low pressure valve only.
- BE CAREFUL NOT TO OVERCHARGE WITH REFRIGERANT IN SYSTEM**
If refrigerant is overcharged, it causes problems such as insufficient cooling, poor fuel economy, engine overheating etc.



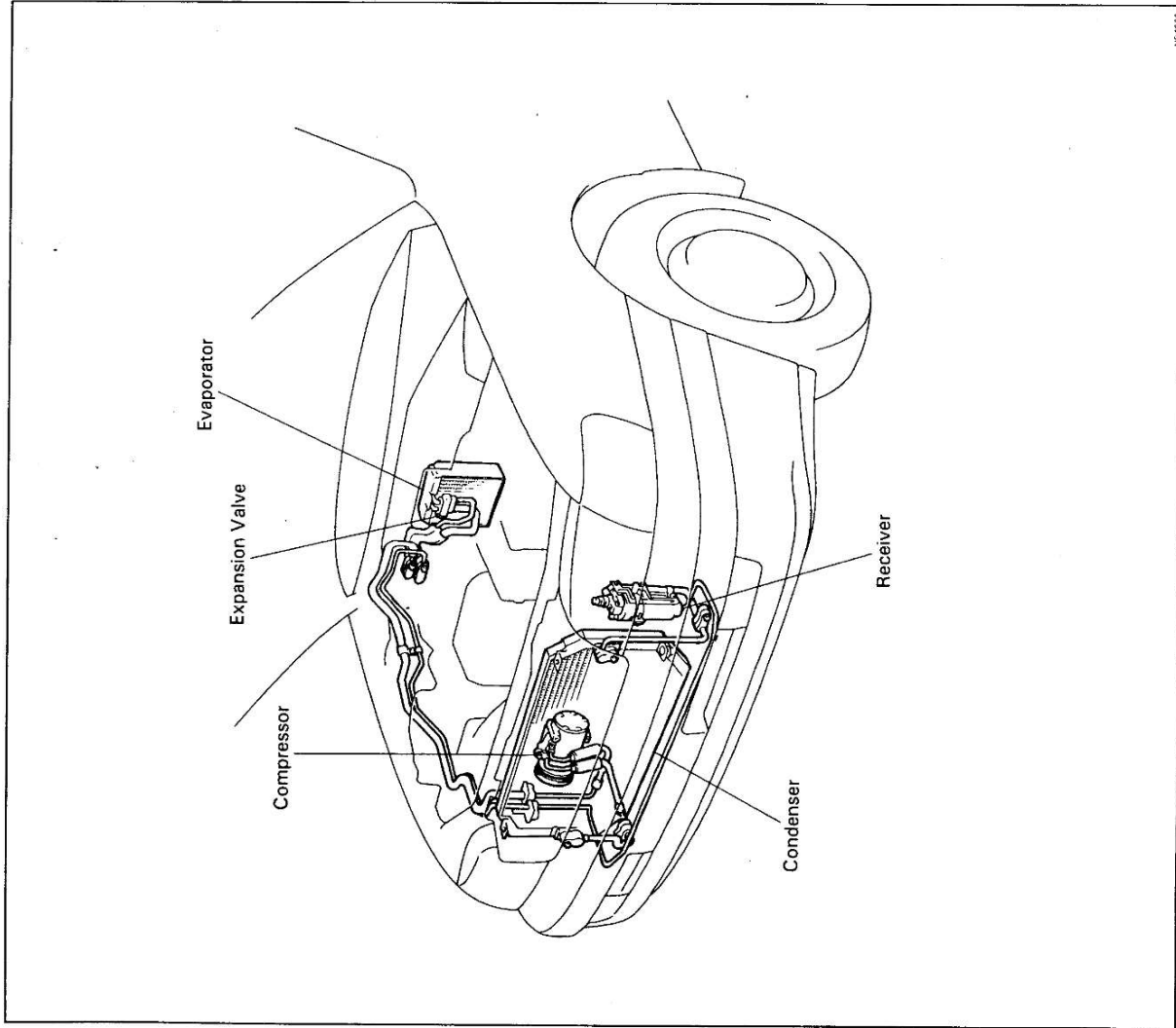
ELECTRICAL PARTS

ACR3-1)

Before removing and inspecting the electrical parts, set the ignition switch to the LOCK position and disconnect the negative (–) terminal cable from battery.

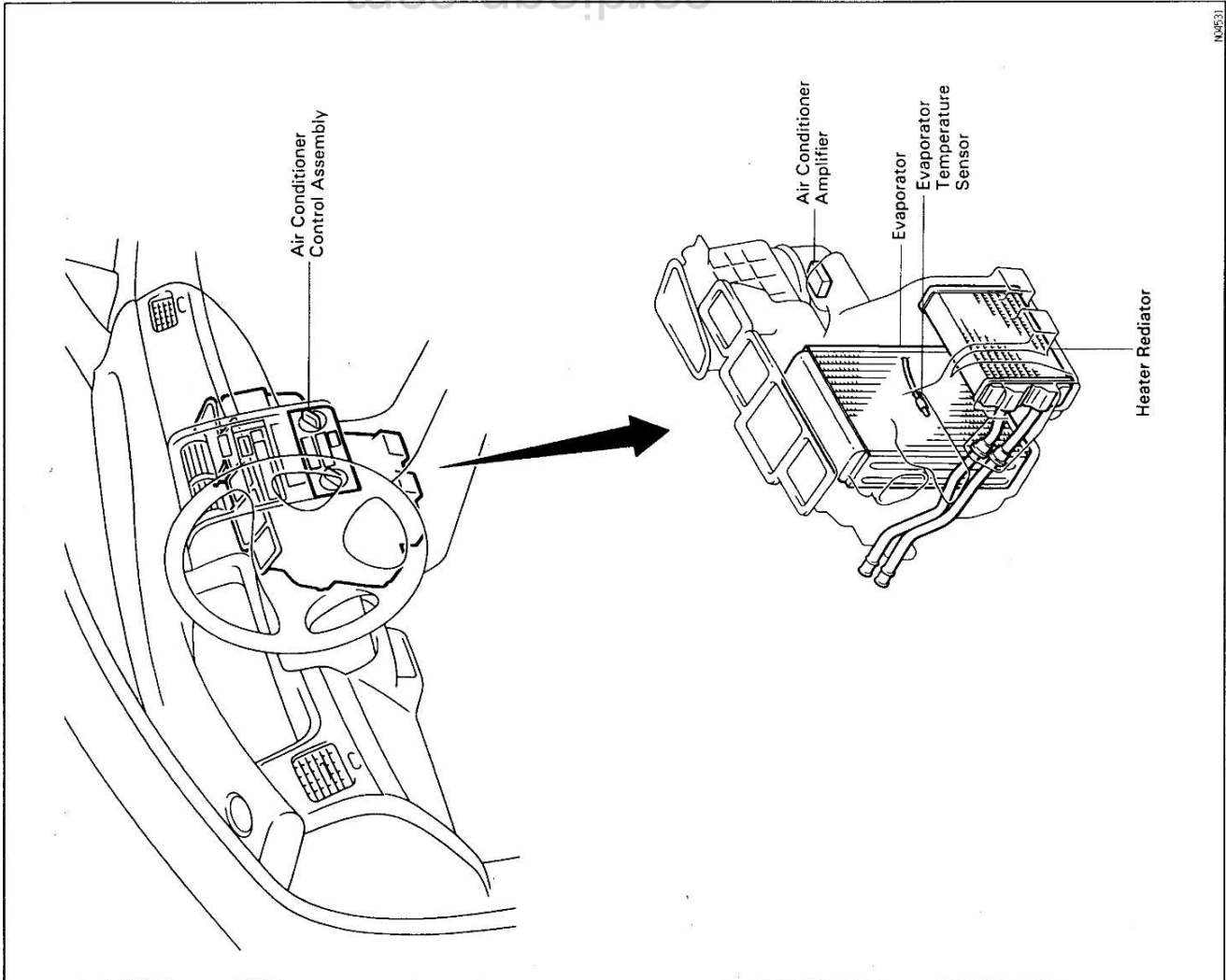
DESCRIPTION
PARTS LOCATION

AC800-01



M4933

PARTS LOCATION(CONT'D)

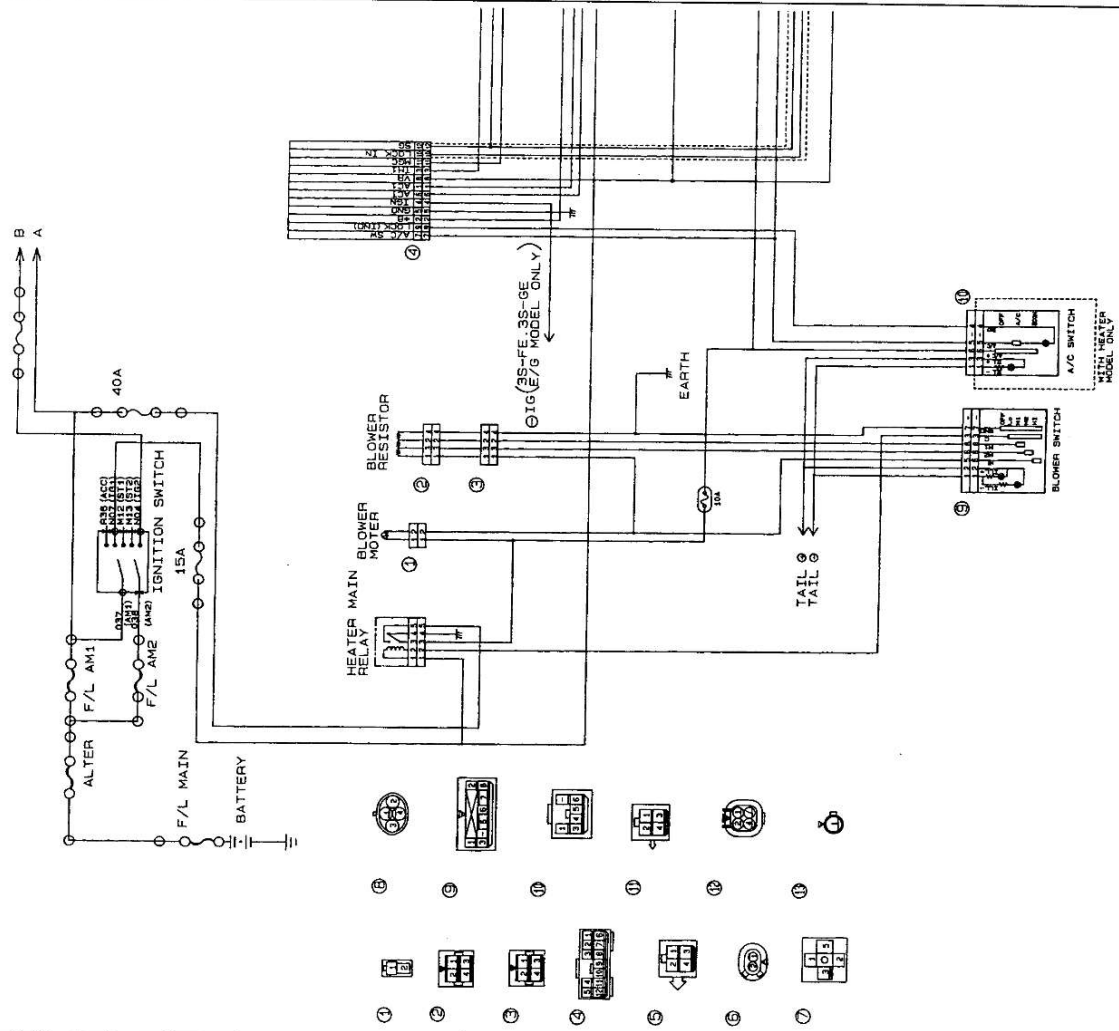


M4933

ELECTRICAL WIRING DIAGRAM

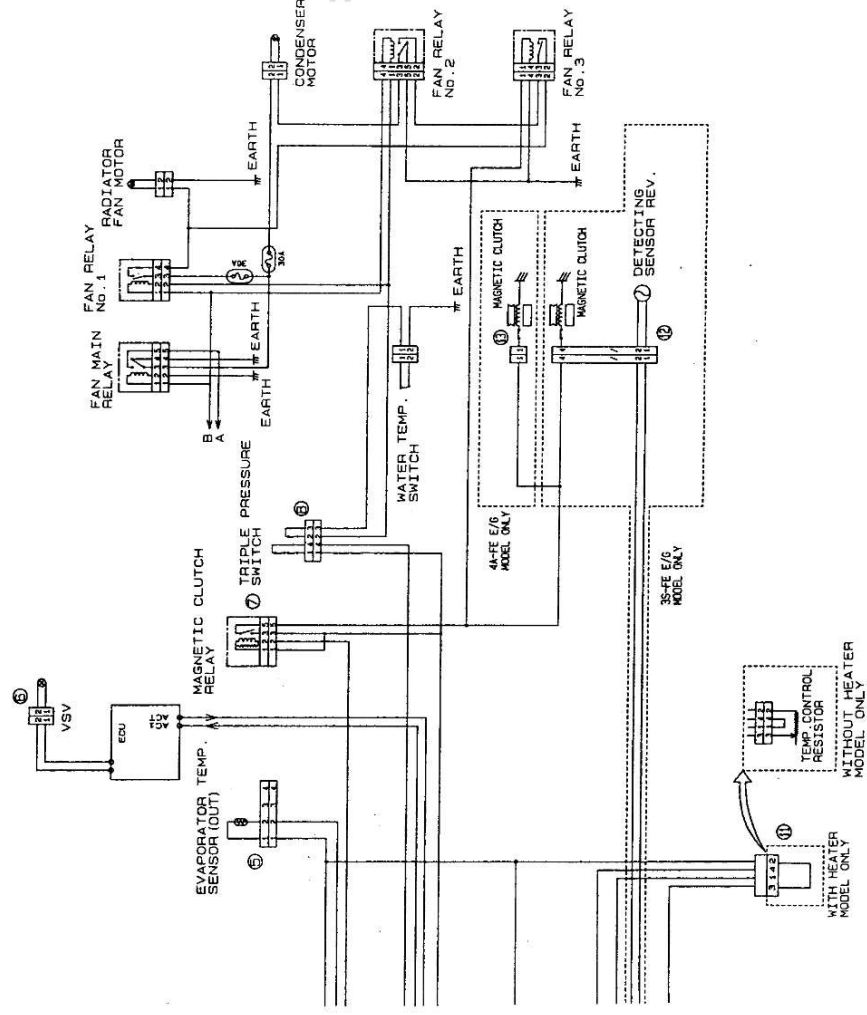
AC08B-91

■ 4A-FE, 3S-FE, 3S-GE ENGINE MODEL (DIAL TYPE HEATER CONTROL)



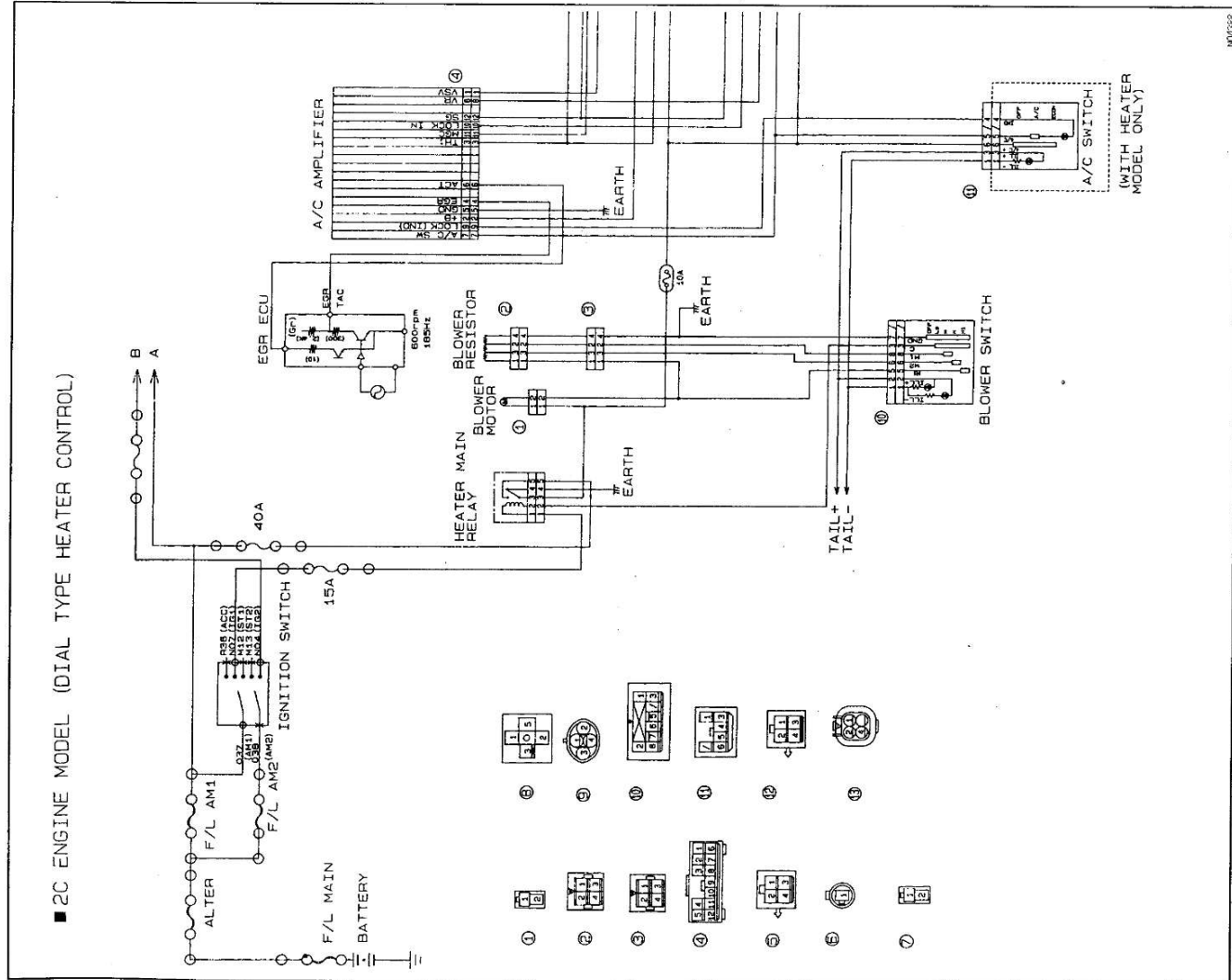
N1236

ELECTRICAL WIRING DIAGRAM (CONT'D)

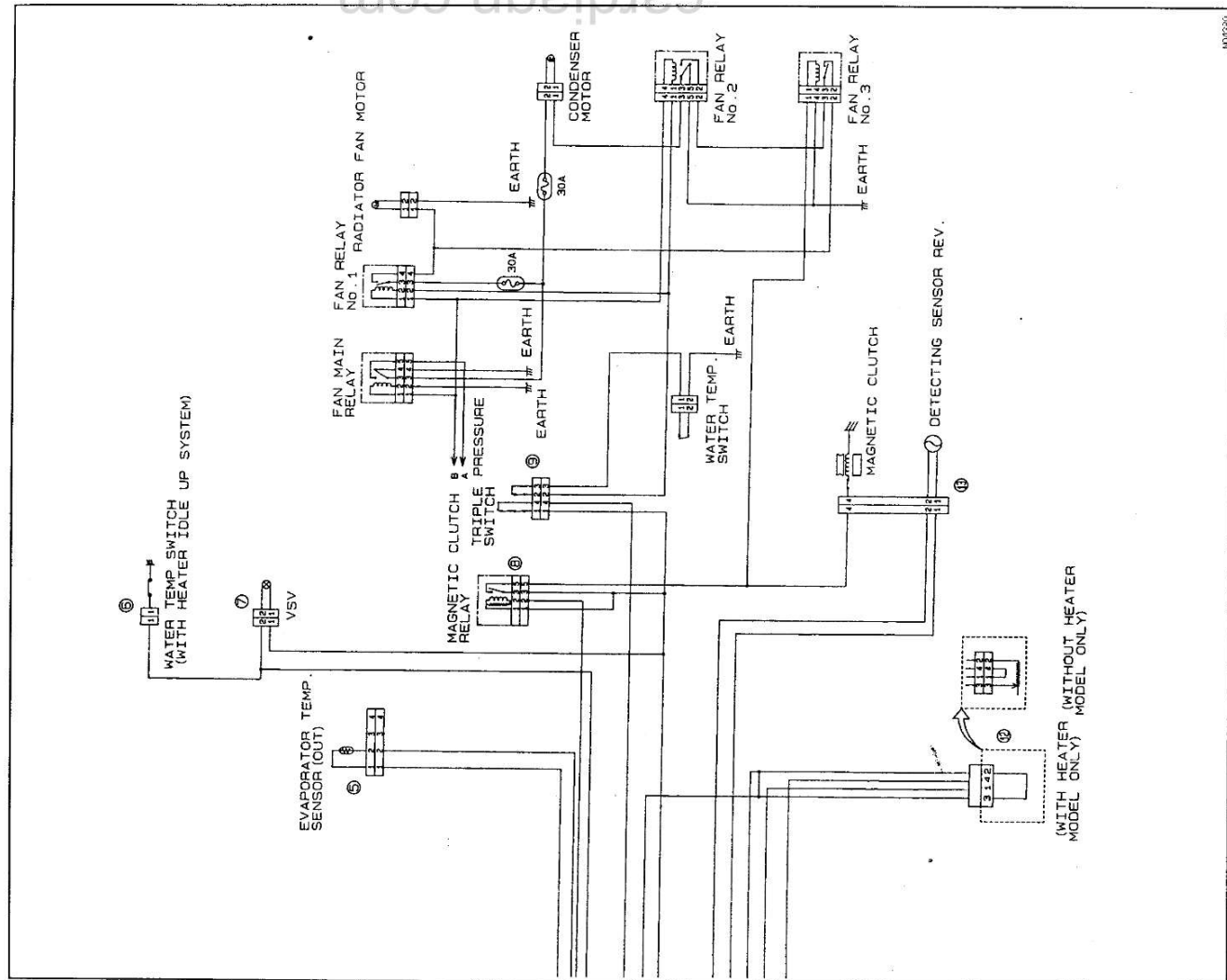


N04397

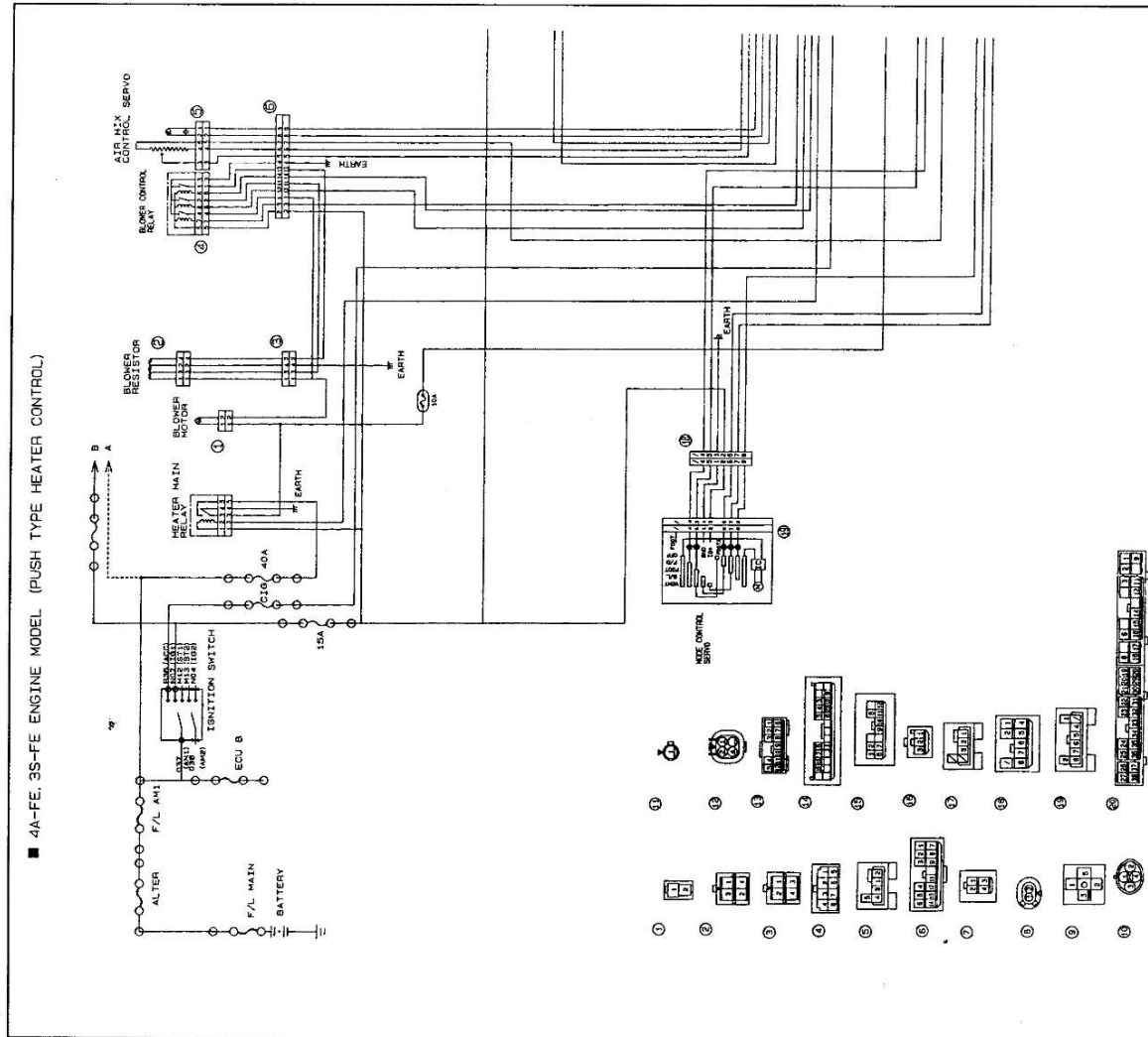
ELECTRICAL WIRING DIAGRAM (CONT'D)



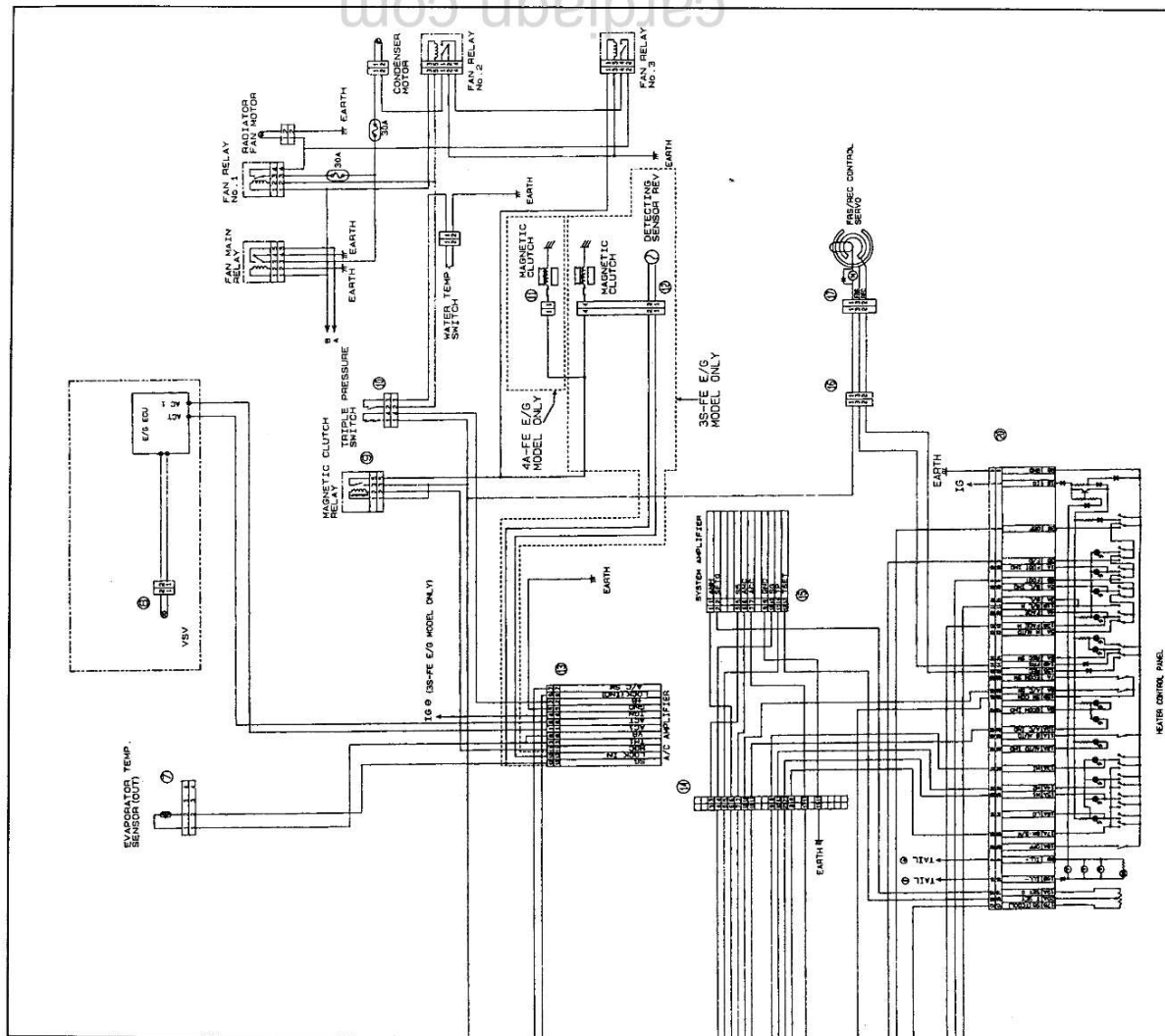
ELECTRICAL WIRING DIAGRAM (CONT'D)



ELECTRICAL WIRING DIAGRAM (CONT'D)

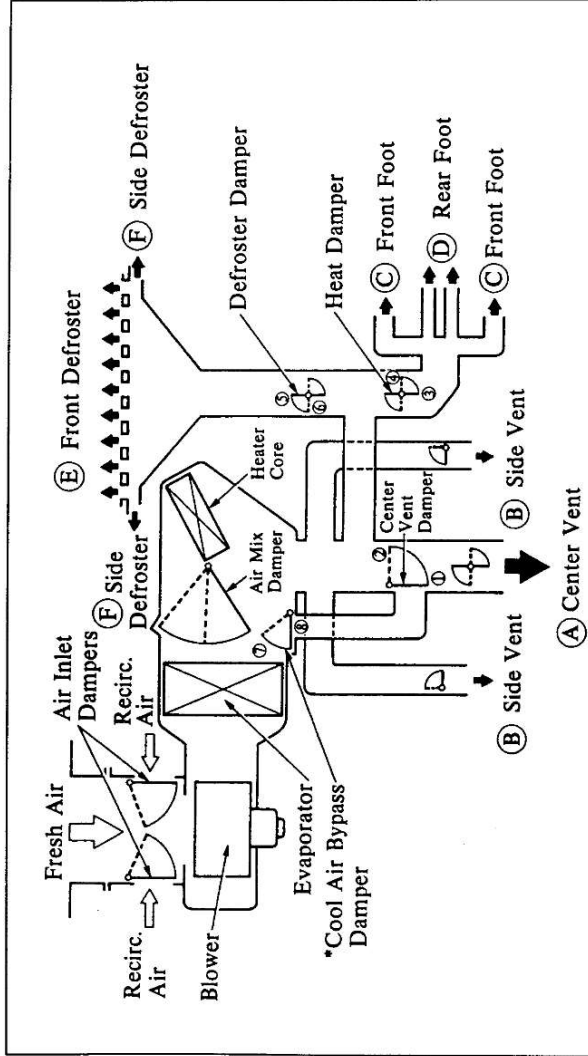


ELECTRICAL WIRING DIAGRAM (CONT'D)



DAMPERS POSITION

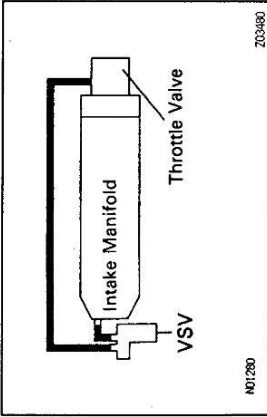
AC088-01



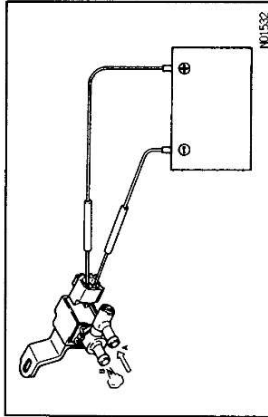
* This damper is provided only on models with the "fresh feeling" heater system.

Air Outlet Mode	Mode Control Damper Position	Vent		Foot		Defroster	
		(A) Center	(B) Side	(C) Front	(D) Rear	(E) Front	(F) Side
Face	1 4 6 8	O	O	-	-	-	-
Bi-Level	1 3 6 8	O	O	O	O	-	-
Foot	2 3 6 7	●	O	O	O	O	O
Foot/Defroster	2 3 5 7	●	O	O	O	O	O
Defroster	2 4 5 7	●	O	-	-	O	O

- NOTES:
- The size of the circle O and ● indicates the proportion of air flow volume.
 - O indicates temperature-controlled (heated) air flow.
 - O indicates cool air flow (not heated).
 - The circle ● indicates blowers exclusively for models with the "fresh feeling" heater system.

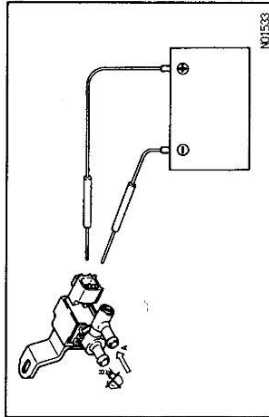


VACUUM SWITCHING VALVE (VSV) (4A — FE, 3S — FE and 3S — GE) VACUUM HOSE CIRCUIT

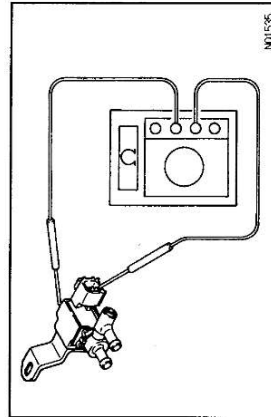


VSV INSPECTION

1. REMOVE VSV
2. CHECK VACUUM CIRCUIT CONTINUITY IN VSV BY BLOWING AIR INTO PIPES
 - (a) Connect the VSV terminals to the battery terminals as illustrated.
 - (b) Blow into pipe "A" and check that air comes out of pipe "B".

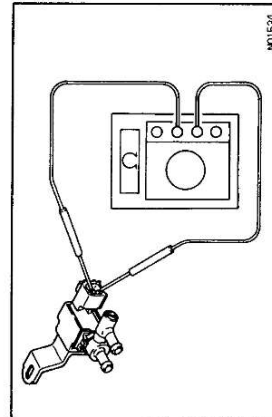


- (c) Disconnect the battery.
- (d) Blow into pipe "A" and check that air does not come out of pipe "B".
If a problem is found, replace the VSV.



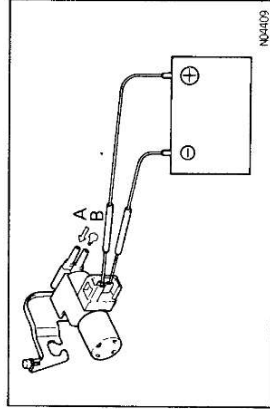
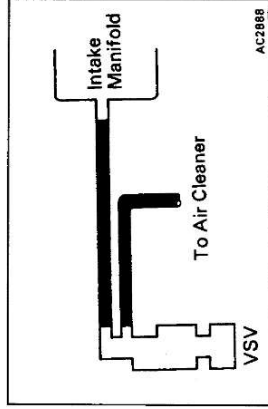
3. CHECK FOR SHORT CIRCUIT

Using an ohmmeter, check that there is no continuity between each terminal and the VSV.
If there is continuity, replace the VSV.



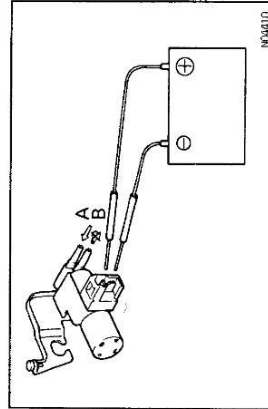
4. CHECK FOR OPEN CIRCUIT

Using an ohmmeter, measure the resistance between the two terminals.
Resistance:
30 — 34 Ω at 20°C (68°F)
If resistance value is not as specified, replace the VSV.

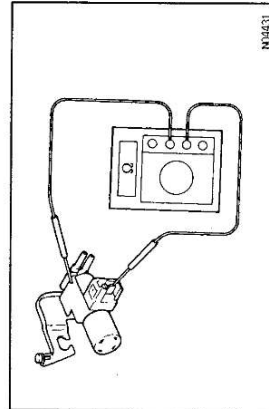


VSV INSPECTION

1. REMOVE VSV
2. CHECK VACUUM CIRCUIT CONTINUITY IN VSV BY BLOWING AIR INTO PIPES
 - (a) Connect the VSV terminals to the battery terminals as illustrated.
 - (b) Blow into pipe "A" and check that air comes out of pipe "B".

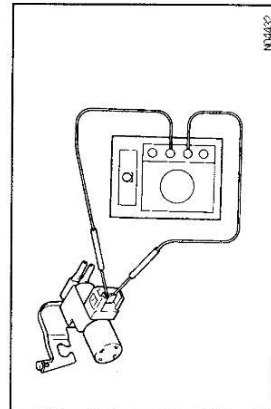


- (c) Disconnect the battery.
- (d) Blow into pipe "A" and check that air does not come out of pipe "B".
If a problem is found, replace the VSV.



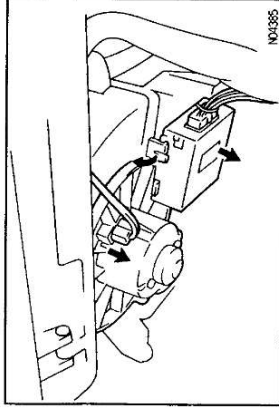
3. CHECK FOR SHORT CIRCUIT

Using an ohmmeter, check that there is no continuity between each terminal and the VSV body.
If there is continuity, replace the VSV.



4. CHECK FOR OPEN CIRCUIT

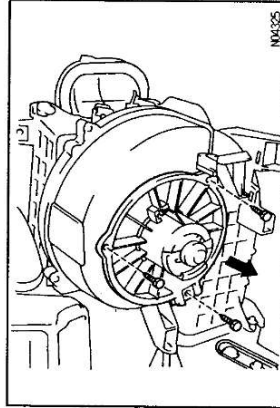
Using an ohmmeter, the resistance between the two terminals.
Resistance:
30 — 34 Ω at 20°C (68°F)
If the resistance is not within specification, replace the VSV.



BLOWER MOTOR BLOWER MOTOR REMOVAL

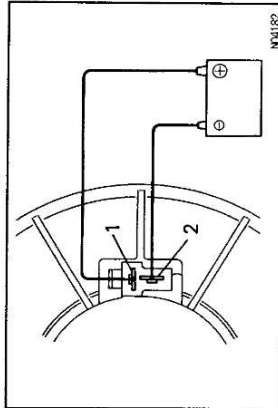
1. REMOVE INSTRUMENT LOWER PANEL AND UNDER COVER NO.2
(See page B0-59)
2. DISCONNECT CONNECTOR
3. REMOVE A/C AMPLIFIER

AC6PM-01



4. REMOVE MOTOR

Remove the three screws and the motor.



BLOWER MOTOR INSPECTION

INSPECT BLOWER MOTOR OPERATION

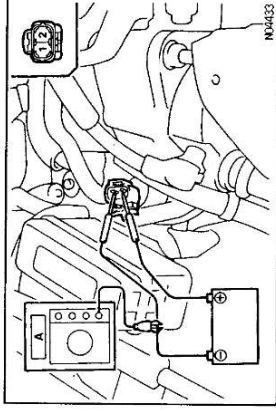
Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, then check that the motor operation is smooth.

AC61D-02

BLOWER MOTOR INSTALLATION

INSTALL BLOWER MOTOR BY FOLLOWING
REMOVAL SEQUENCE IN REVERSE

AC6PM-01



CONDENSER FAN MOTOR CONDENSER FAN MOTOR INSPECTION

1. DISCONNECT CONNECTOR
2. INSPECT CONDENSER FAN MOTOR

(a) Using the wire harness, apply battery voltage to the connector. Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 2.

(b) Confirm smooth rotation of the motor within the specified current flow.

Standard current:

Vehicles for Europe (3S—GE, 2C)

$6.5 \pm 1.0 \text{ A}$

Others

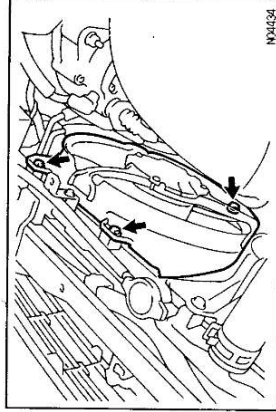
$6.0 \pm 1.5 \text{ A}$

If current is not as specified, replace the motor.

CONDENSER FAN REMOVAL

1. DISCONNECT CONNECTOR
2. REMOVE CONDENSER FAN

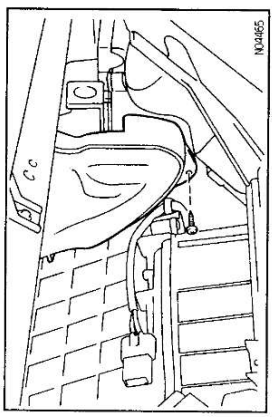
Remove three bolts and pull out the condenser fan upward.



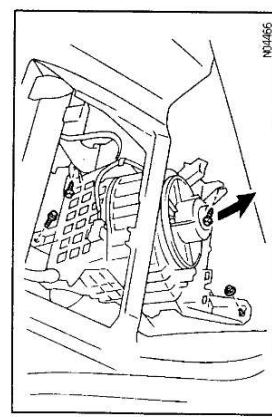
**AIR INLET CONTROL SERVOMOTOR
AIR INLET CONTROL SERVOMOTOR
REMOVAL**

ACFR-01

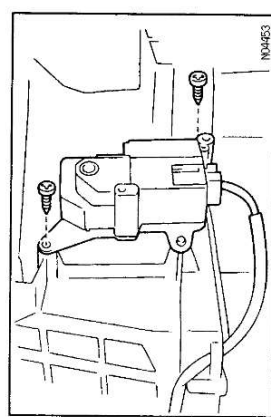
1. REMOVE INSTRUMENT PANEL UNDER TRAY,
GLOVE COMPARTMENT DOOR AND BOX
UPPER SHELL
(See page B0 - 59)
2. REMOVE AIR DUCT NO.2



3. REMOVE BLOWER UNIT
 - (a) Disconnect connectors.
 - (b) Remove the bolt, the nut and two screws.
 - (c) Remove the blower unit.



4. REMOVE SERVOMOTOR
 - (a) Disconnect the connector.
 - (b) Remove two screws and the servomotor.

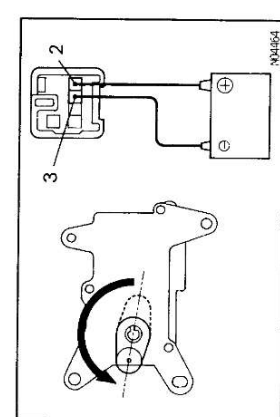
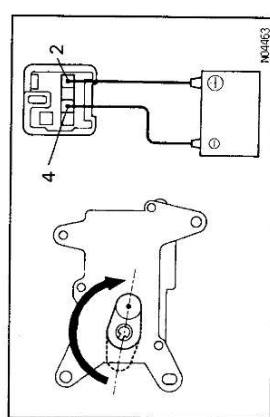


**AIR INLET CONTORL SERVOMOTOR
INSPECTION**

ACCR-02

INSPECT SERVOMOTOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 4, check that the arm rotates to the "FRESH" side smoothly.
- (b) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 3, check that the arm rotates to the "RECIRC" side smoothly.
If operation is not as specified, replace the servo motor.



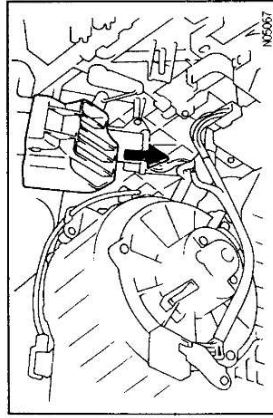
AIR MIX CONTROL SERVOMOTOR

AC078-01

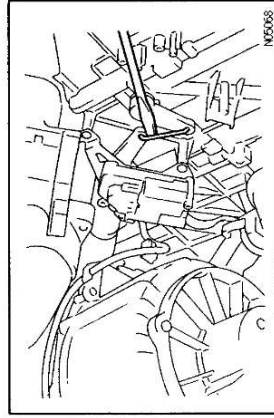
AIR MIX CONTROL SERVOMOTOR REMOVAL

1. REMOVE INSTRUMENT PANEL
(See page 80-59)

2. REMOVE AIR DUCT

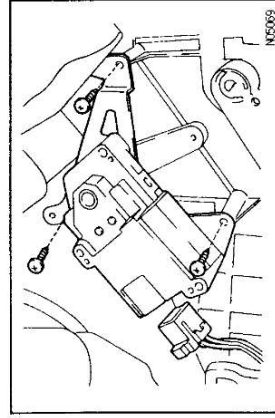


3. REMOVE CONTROL LINK

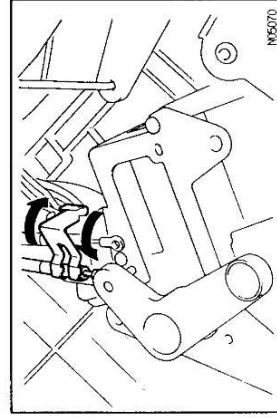


4. REMOVE SERVOMOTOR

- (a) Disconnect the connector.
- (b) Remove the three screws and the servomotor.



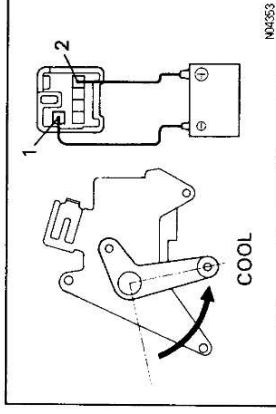
- (c) Disconnect the control cable from the servomotor.



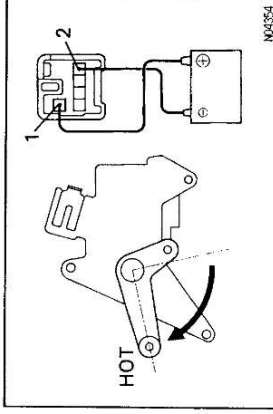
AIR MIX CONTROL SERVOMOTOR INSPECTION

1. INSPECT SERVOMOTOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the lever moves smoothly from HOT to COOL.



- (b) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the lever moves smoothly from COOL to HOT.
If operation is not as specified, replace the motor.



2. INSPECT POSITION SENSOR OPERATION

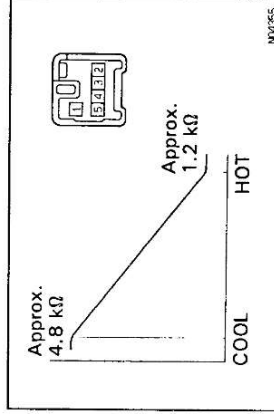
- (a) Measure the resistance between terminals 5 and 4.

Resistance: Approx. 6 k Ω

- (b) Set the arm to COOL position.

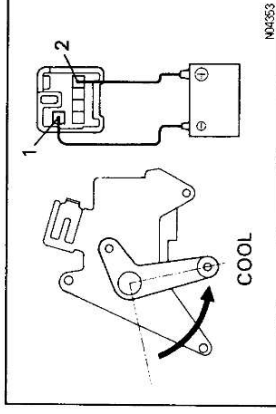
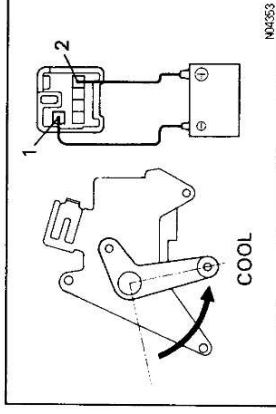
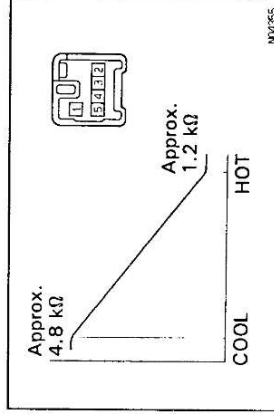
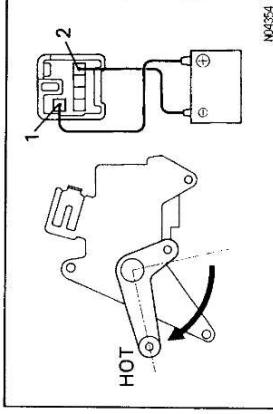
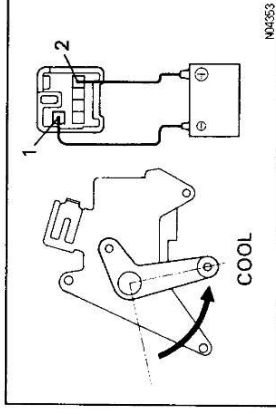
- (c) Check that the resistance between terminals 3 and 4 decreases from approx. 4.8 k Ω to 1.2 k Ω , when the arm is rotated from COOL to HOT position.

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



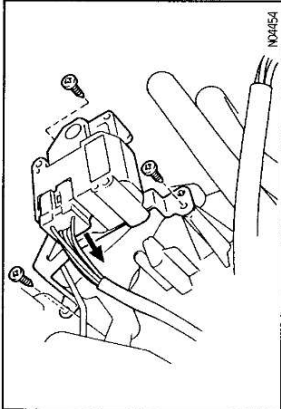
AIR MIX CONTROL SERVOMOTOR INSTALLATION

INSTALL SERVOMOTOR BY FOLLOWING REMOVAL SEQUENCE IN REVERSE



**AIR VENT MODE CONTROL SERVOMOTOR
MODE CONTROL SERVOMOTOR
REMOVAL**

1. REMOVE INSTRUMENT FINISH LOWER PANEL AND DUCT (HEATER TO RESISTER NO.2)
(See page BO — 59)



NO454

2. REMOVE SERVOMOTOR

- (a) Disconnect the connector.
(b) Remove three screws and the servomotor.

**MODE CONTROL SERVOMOTOR
INSPECTION**

INSPECT SERVOMOTOR OPERATION

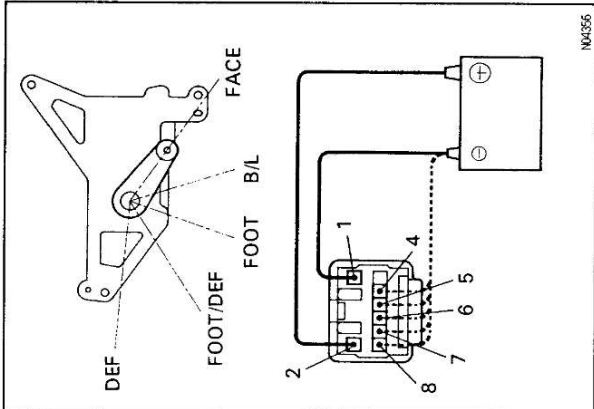
- (a) Connect the positive (+) lead from the battery to terminal 2 and the negative (–) lead to terminal 1.
- (b) Connect the negative (–) lead from the battery to each terminal and check that the arm rotates to each position as shown below.

Connected terminal	Position
4	DEF
5	FOOT/DEF
6	FOOT
7	B/L
8	FACE

If operation is not as specified, replace the servomotor.

**MODE CONTROL SERVOMOTOR
INSTALLATION**

INSTALL SERVOMOTOR BY FOLLOWING REMOVAL
SEQUENCE IN REVERSE

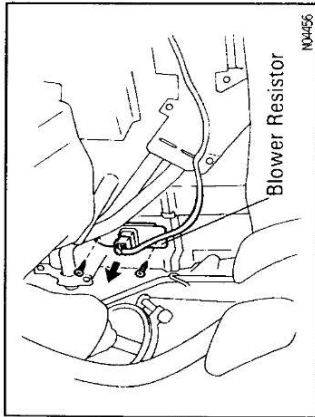


NO455

**BLOWER RESISTOR
BLOWER RESISTOR REMOVAL**

1. DISCONNECT CONNECTOR
2. REMOVE BLOWER RESISTOR

Remove two screws and the resistor.



NO456

BLOWER RESISTOR INSPECTION

INSPECT BLOWER RESISTOR CONTINUITY

Terminal Condition	1	2	3	4
	Constant	Constant	Constant	Constant

g-4-2

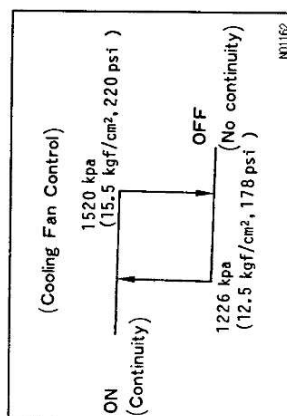
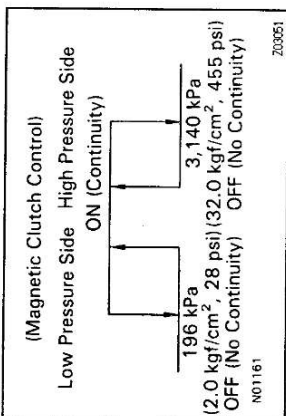
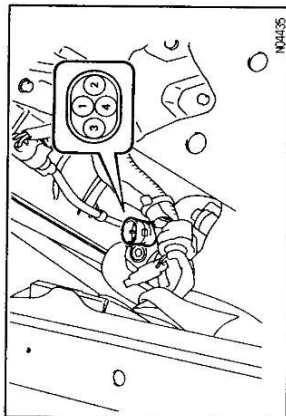
If continuity is not as specified, replace the blower resistor.

BLOWER RESISTOR INSTALLATION

INSTALL BLOWER RESISTOR BY FOLLOWING REMOVAL
AL SEQUENCE IN REVERSE

**PRESSURE SWITCH
ON — VEHICLE INSPECTION**

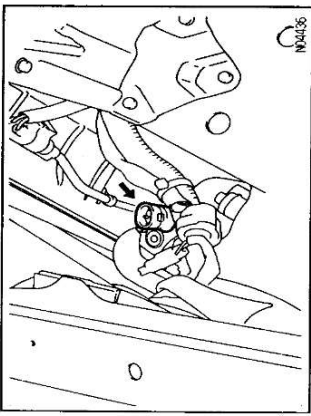
1. **INSTALL MANIFOLD GAUGE SET**
(See page AC-20)
2. **DISCONNECT CONNECTOR FROM PRESSURE SWITCH**
3. **RUN ENGINE AT APPROX. 2000 RPM**



5. **STOP ENGINE AND REMOVE MANIFOLD GAUGE SET**
6. **CONNECT CONNECTOR TO PRESSURE SWITCH**

PRESSURE SWITCH REMOVAL

1. **DISCHARGE REFRIGERANT IN REFRIGERATION SYSTEM**
2. **REMOVE PRESSURE SWITCH**
 - (a) Disconnect the connector.
 - (b) Remove the pressure switch from the liquid tube.
HINT: Lock the switch mount on the tube with an open end wrench, being careful not to deform the tube, and remove the switch.



PRESSURE SWITCH INSTALLATION

1. **INSTALL PRESSURE SWITCH**
 - (a) Install the pressure switch to 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 install the switch.
 - (b) Connect the connector.
2. **EVACUATE AIR IN REFRIGERATION SYSTEM AND CHARGE WITH REFRIGERANT**

Specified amount:
750 ± 50 g (26.45 ± 1.76 oz)
3. **INSPECT FOR LEAKAGE OF REFRIGERANT**

Using a gas leak tester, check for leakage of refrigerant from the pressure switch mount.
4. **INSPECT A/C OPERATION**

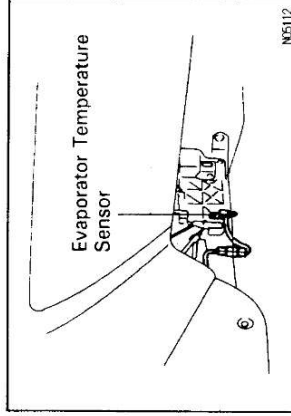
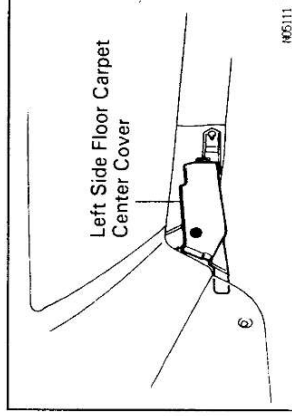
EVAPORATOR TEMPERATURE SENSOR

EVAPORATOR TEMPERATURE SENSOR REMOVAL

1. REMOVE LEFT SIDE FLOOR CARPET CENTER COVER.

Remove the clip and the left side floor carpet center cover.

2. REMOVE EVAPORATOR TEMPERATURE SENSOR
 - (a) Disconnect the evaporator temperature sensor connector.
 - (b) Remove the screw and the evaporator temperature sensor.



EVAPORATOR TEMPERATURE SENSOR INSPECTION

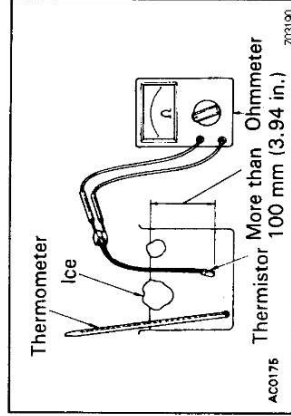
Check resistance between terminals of evaporator temperature sensor (thermistor) connector at each temperature.

Resistance:

at 0°C (32°F): 4.6 — 5.1 kΩ

at 15°C (59°F): 2.1 — 2.6 kΩ

In addition as temperature increases, the resistance decreases gradually.



EVAPORATOR TEMPERATURE SENSOR INSTALLATION

INSTALL EVAPORATOR TEMPERATURE SENSOR

Install evaporator temperature sensor in reverse order of removal procedure.

REVOLUTION DETECTING SENSOR

(Ex. 4A — FE Engine)

ON — VEHICLE INSPECTION

1. DISCONNECT NEGATIVE CABLE FROM BATTERY
2. DISCONNECT CONNECTOR OF REVOLUTION DETECTING SENSOR

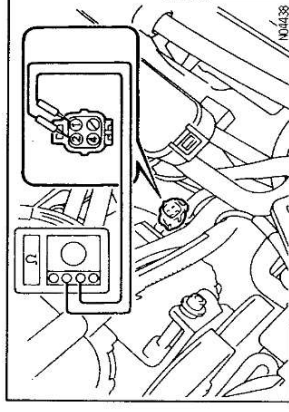
3. INSPECT REVOLUTION DETECTING SENSOR

Check the resistance between terminals 1 and 2 of the sensor.

Specified resistance:

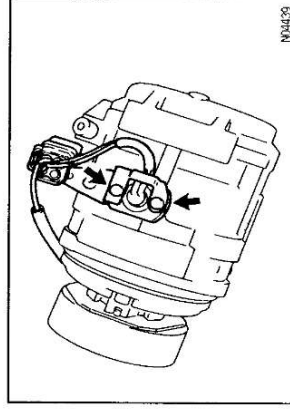
100 — 130 Ω at 20°C (68°F)

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



REVOLUTION DETECTING SENSOR REMOVAL

1. REMOVE COMPRESSOR
(See page AC-39)
2. REMOVE REVOLUTION DETECTING SENSOR
 - (a) Using a hexagon wrench, remove two bolts.
 - (b) Pull out the revolution detecting sensor.



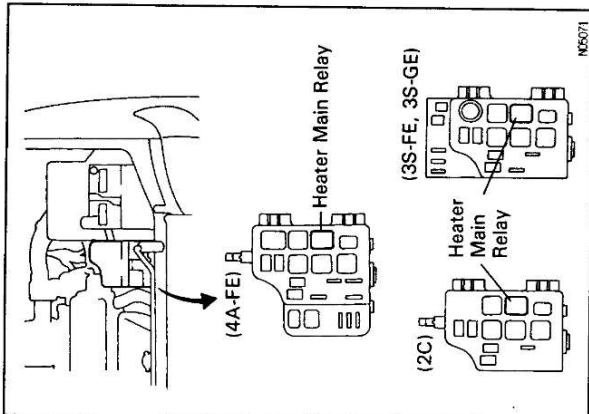
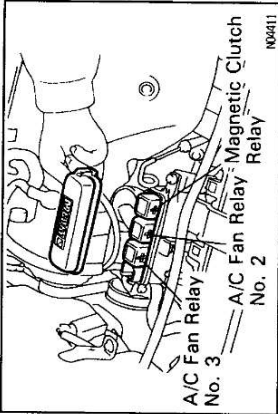
REVOLUTION DETECTING SENSOR INSTALLATION

1. INSTALL REVOLUTION DETECTING SENSOR
Install the revolution detecting sensor with two bolts.
Torque: 5.9 N·m (60 kgf·cm, 52 in.-lbf)
2. INSTALL COMPRESSOR
(See page AC-53)

RELAYS

RELAYS REMOVAL

- 1. DISCONNECT NEGATIVE (–) CABLE FROM BATTERY
- 2. REMOVE RELAYS



RELAYS INSPECTION

- 1. INSPECT MAGNETIC CLUTCH RELAY CONTINUITY
- If continuity is not as specified, replace the relay.

Terminal Condition	1	2	3	5
	Constant	Apply battery voltage to terminal 1 and 2.		
Apply battery voltage to terminal 1 and 2.				

- 2. INSPECT A/C FAN RELAY NO. 2 CONTINUITY
- If continuity is not as specified, replace the relay.

Terminal Condition	1	2	3	4	5
	Constant	Apply battery voltage to terminal 1 and 2.			
Apply battery voltage to terminal 1 and 2.					

- 3. INSPECT A/C FAN RELAY NO. 3 CONTINUITY
- If continuity is not as specified, replace the relay.

Terminal Condition	1	2	3	5
	Constant	Apply battery voltage to terminal 1 and 2.		
Apply battery voltage to terminal 1 and 2.				

- 4. INSPECT HEATER MAIN RELAY CONTINUITY
- If continuity is not as specified, replace the relay.

Terminal Condition	1	2	3	4	5
	Constant	Apply battery voltage to terminal 1 and 3.			
Apply battery voltage to terminal 1 and 3.					

RELAYS INSTALLATION

- 1. INSTALL RELAYS
- 2. CONNECT NEGATIVE (–) CABLE TO BATTERY

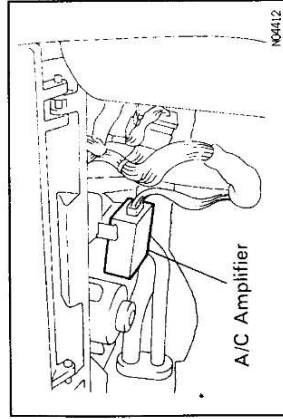
AIR CONDITIONER AMPLIFIER A/C AMPLIFIER INSPECTION

INSPECT AMPLIFIER CIRCUIT

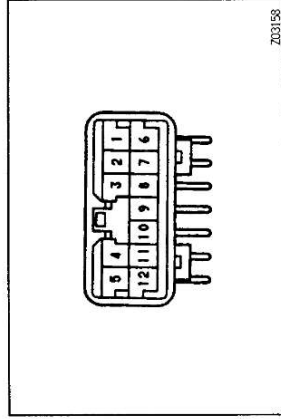
Disconnect the amplifier and inspect the connector on the wire harness side as shown in the chart below.

Test conditions

- (1) Ignition switch : ON
- (2) Temperature control dial : MAX COOL
- (3) Blower switch : HI



N04158



Z03158

Check for	Tester connection	Condition	Specified value
Continuity	5 — ground	Constant	Continuity
Resistance	*1 3 — 8	A/C switch on (MAX. COOL to MAX. WARM)	Approx. 0 to 3 kΩ
	3 — 12	A/C switch off	No continuity
	*2 10 — 12	Constant	1.5 kΩ at 25°C (77°F)
Voltage	*3 1 — ground	Constant	Approx. 115 Ω at 20°C (68°F)
		Blower switch off	Battery voltage
	2 — ground	Constant	No voltage
		Blower switch off	Battery voltage
	*4 4 — ground	Start the engine	No voltage
		Stop the engine	Approx. 10 — 14 V
	7 — ground	A/C switch on	No voltage
		A/C switch off	Battery voltage
	11 — ground	A/C switch on	No voltage
		A/C switch off	Battery voltage

*1: Without heater

*2: With revolution detecting sensor

*3: 2C Engine only

*4: Except 4A-FE Engine

N01042

If circuit is not as specified, replace the amplifier.

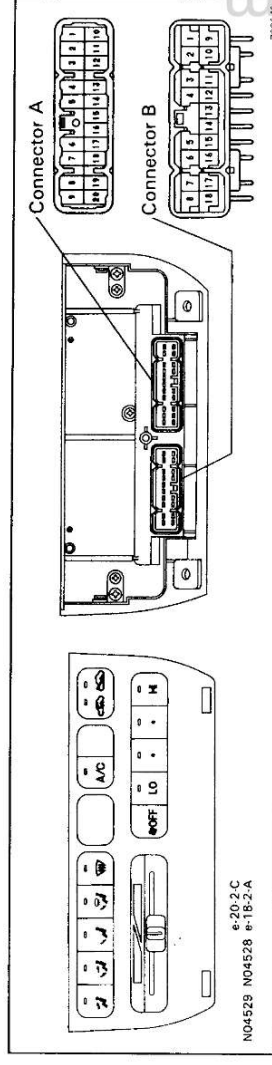
AIR CONDITIONING CONTROL ASSEMBLY

A/C CONTROL ASSEMBLY REMOVAL

(See page B0—59)

A/C CONTROL ASSEMBLY INSPECTION

(Push Type Heater Control)

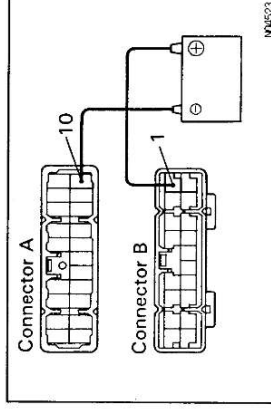


6-220-2-C
N04528 N04528 6-118-2-A

Z03040

1. INSPECT A/C INDICATOR

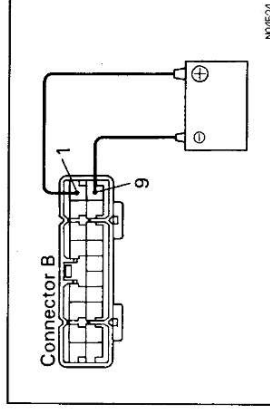
- (a) Connect the positive (+) lead from the battery to terminal B-1 and the negative (—) lead to terminal A-10.
- (b) Push the A/C button in and check that the indicator light up.
If operation is not as specified replace the A/C control assembly.



N04523

2. INSPECT MODE INDICATOR

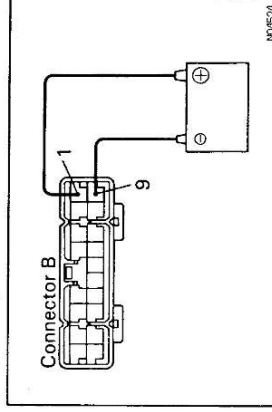
- (a) Connect the positive (+) lead from the battery to terminal B-1 and the negative (—) lead to terminal B-9.
- (b) Push each of the mode buttons in and check that their indicators light up.
If operation is not as specified replace the A/C control assembly.



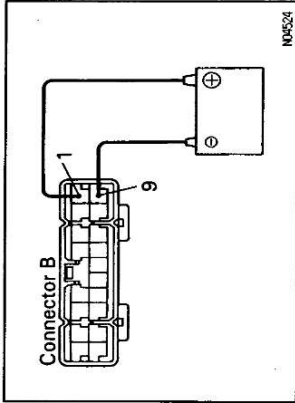
N04524

3. INSPECT AIR INLET INDICATOR

- (a) Connect the positive (+) lead from the battery to terminal B-1 and the negative (—) lead to terminal B-9.
- (b) Check that the FRESH and RECIRC indicators light up alternately each time the air inlet control switch button is pressed.
If operation is not as specified, replace the A/C control assembly.

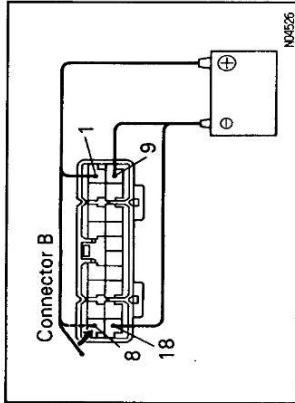


N04524



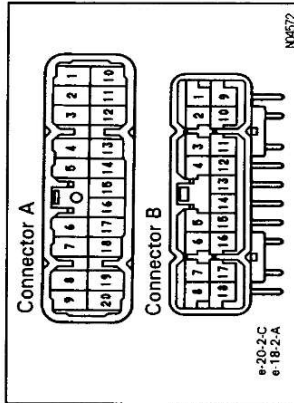
4. INSPECT BLOWER SPEED INDICATOR

- (a) Connect the positive (+) lead from the battery to terminal B-1 and the negative (-) lead to terminal B-9.
 - (b) Push each of the blower buttons in and check that their indicators light up.
- HINT: The indicator will not light up when the blower button is in the OFF position.
- If operation is not as specified, replace the A/C control assembly.



5. INSPECT INDICATOR DIMMING OPERATION

- (a) Connect the positive (+) lead from the battery to terminal B-1 and the negative (-) lead to terminals B-9 and B-18.
- (b) Connect the positive (+) lead from the battery to terminal B-8 and check that the mode indicator dims. If operation is not as specified, replace the A/C control assembly.

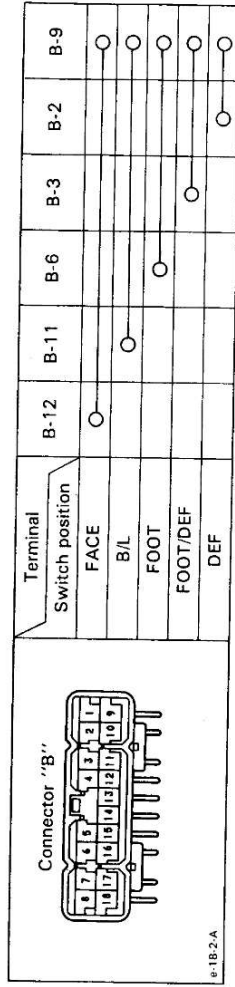


6. INSPECT A/C SWITCH CONTINUITY

Terminal	Switch position	B-16
OFF		
ON		

If continuity is not as specified, replace the A/C control assembly.

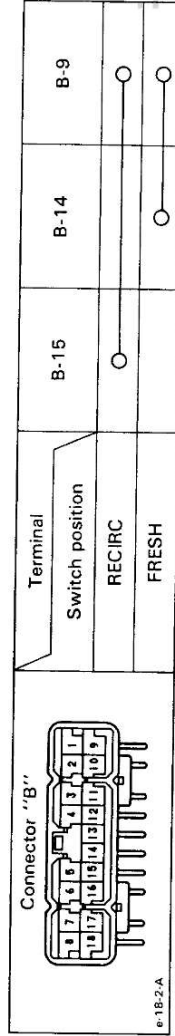
N01024



7. INSPECT MODE CONTROL SWITCH CONTINUITY

If continuity is not as specified, replace the A/C control assembly.

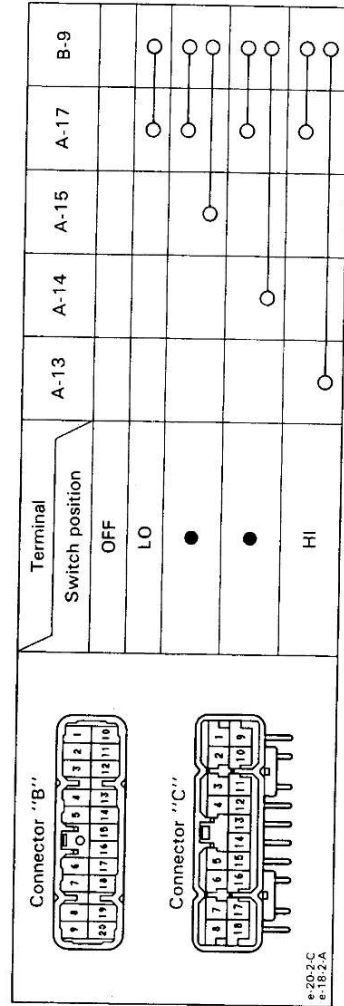
N01026



N01027

8. INSPECT AIR INLET CONTROL SWITCH CONTINUITY

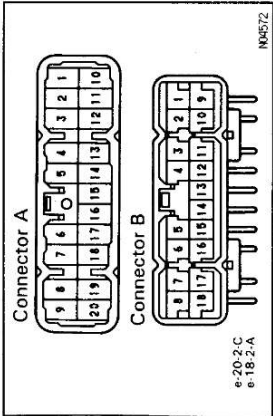
If continuity is not as specified, replace the A/C control assembly.



N01028

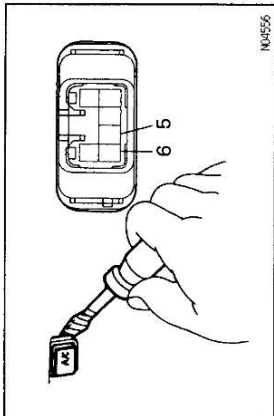
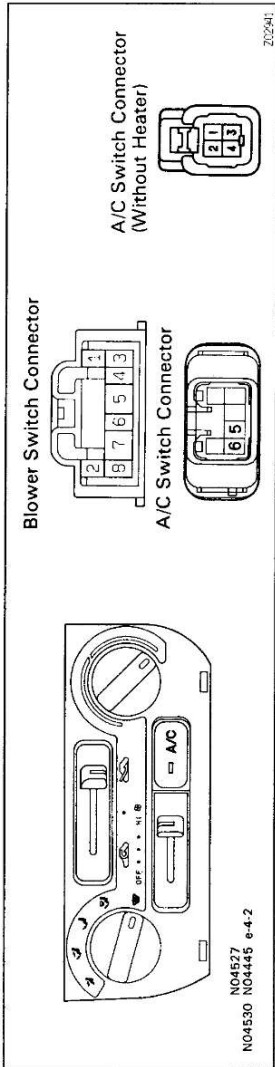
9. INSPECT BLOWER SPEED CONTROL SWITCH CONTINUITY

If continuity is not as specified, replace the A/C control assembly.

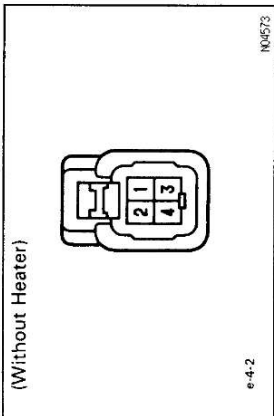


- 10. INSPECT TEMPERATURE CONTROL SWITCH**
- (a) Measure the resistance between terminals A — 19 and B — 17.
Resistance: Approx. 3 k Ω
- (b) Check that the resistance between terminals B — 17 and A — 20 increases from 0 to approx. 3 k Ω when the switch knob is turned from COOL to HOT.
If operation is not as specified, replace the A/C control assembly.

A/C CONTROL ASSEMBLY INSPECTION^{AC084-01}
(Dial Type Heater Control)



- 1. INSPECT A/C SWITCH CONTINUITY**
- | Terminal | Switch position | 5 | 6 |
|----------|-----------------|---|---|
| | OFF | | |
| | ON | | |
- If continuity is not as specified, replace the switch.
(Without Heater)
- (a) Check that there is no continuity between terminals 2 and 3 with the switch is OFF position.
- (b) Check that the resistance between terminals 2 and 3 decreases from 3k to 0 Ω when the switch knob turned to clockwise.
If operation is not as specified, replace the A/C control assembly.

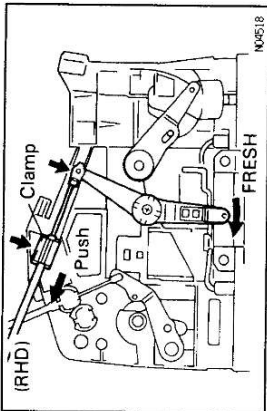
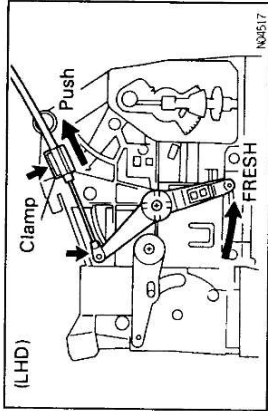


Terminal		7	3	8	5	6	1	2
Switch position								
OFF		●	○					
		●	○					
		●	○					
HI			○					

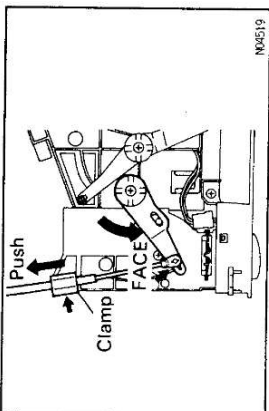
If continuity is not as specified, replace the A/C control assembly.

A/C CONTROL CABLES ADJUSTMENT^{AC085-01}

- 1. ADJUST AIR INLET DAMPER CONTROL CABLE**
Set the air inlet damper and the control lever to "FRESH" position, install the control cable and lock the clamp while lightly pushing the outer cable in the direction shown by the arrow.



- 2. ADJUST AIR VENT MODE CONTROL CABLE**



A/C CONTROL ASSEMBLY
INSTALLATION

(See page B0 –59)

A003A-01

A003A-02

SERVICE SPECIFICATIONS
SERVICE DATA

Refrigerant charge volume	750±50 g 28.45±17.6 oz
Drive belt tension	
(4A – FE) New belt	6.0 – 7.0 mm (0.24 – 0.28 in.)
(4A – FE) Used belt	8.5 – 9.5 mm (0.33 – 0.37 in.)
(3S – FE) New belt	6.0 – 9.0 mm (0.24 – 0.35 in.)
(3S – FE) Used belt	9.0 – 11.0 mm (0.35 – 0.43 in.)
(3S – GE) New belt	9.0 – 11.0 mm (0.35 – 0.43 in.)
(3S – GE) Used belt	13.0 – 16.0 mm (0.51 – 0.61 in.)
(2C) New belt	11.0 – 13.0 mm (0.43 – 0.51 in.)
(2C) Used belt	15.0 – 18.0 mm (0.59 – 0.71 in.)
Idle speed	
(4A – FE and 3S – FE) Magnetic clutch engaged	Approx. 750 rpm
(3S – GE) Magnetic clutch engaged	Approx. 950 rpm
(2C) Magnetic clutch engaged	Approx. 800 rpm
Starting torque of compressor shaft	2.9 N·m (30 kgf·cm, 26 in.·lbf) or less
Compressor magnet clutch clearance	0.5±0.15 mm (0.020±0.006 in.)

TORQUE SPECIFICATIONS

Part tightened	N·m	kgf·cm	ft·lbf
Suction hose x Compressor	9.8	100	7
Discharge hose x Compressor	9.8	100	7
Compressor x Engine	25	250	18
Compressor shftt bolt	13	135	10
Compressor cylinder x Service valve	25	250	18
Compressor x Front housing	25	250	18
Liquid tube x Receiver	5.4	55	48 in.·lbf
Lequid tube x Condensor	9.8	100	7
Expansion valve x Evaporator	5.4	55	48 in.·lbf
Suction tube x A/C unit	9.8	100	7
Liquid tube x A/C unit	9.8	100	7
Pressure switch x Liquid tube	10.8	110	8