

HEATER, VENTILATION & AIR CONDITIONING (HVAC)

07

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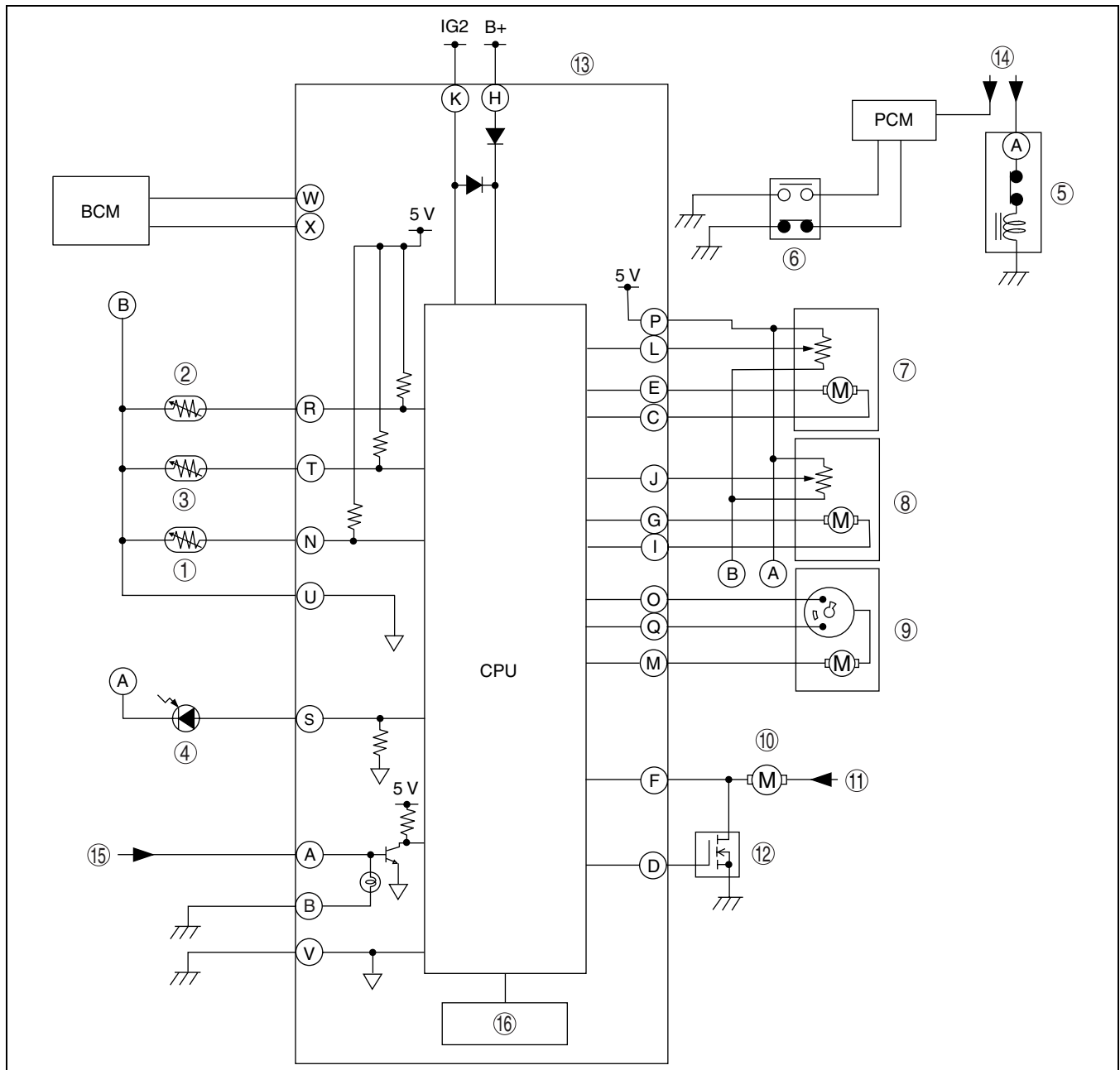
07-02 ON-BOARD DIAGNOSTIC

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ON-BOARD DIAGNOSTIC

HVAC SYSTEM WIRING DIAGRAM

DPE07020000W14



DPE740ZT1101

1	Ambient temperature sensor
2	Cabin temperature sensor
3	Evaporator temperature sensor
4	Solar radiation sensor
5	Magnetic clutch
6	Refrigerant pressure switch
7	Air mix actuator
8	Airflow mode actuator

9	Air intake actuator
10	Blower motor
11	Blower relay
12	Power MOS FET
13	Climate control unit
14	A/C relay
15	TNS relay
16	Each switch

ON-BOARD DIAGNOSTIC

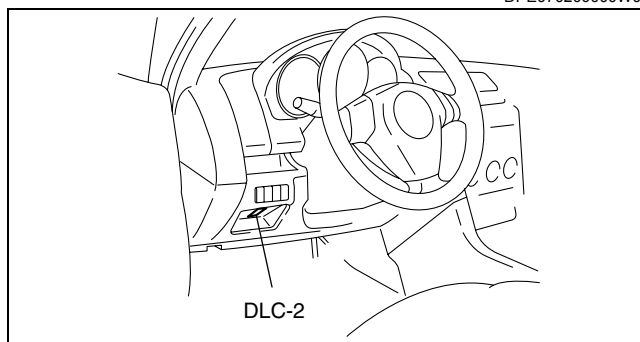
DTC INSPECTION

1. Connect the WDS or equivalent to the DLC-2.
2. Shine a **60 W** incandescent light from a distance of **approx. 100 mm {3.9 in}** directly onto the solar radiation sensor.

Note

- If incandescent light is not shone on the solar radiation sensor, the climate control unit determines a malfunction and indicates DTC "B1260, B1261".

3. Verify if any DTCs are displayed.
 - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.
4. After completion of repairs, clear all DTCs from memory. (See 07-02-3 After Repair Procedure.)

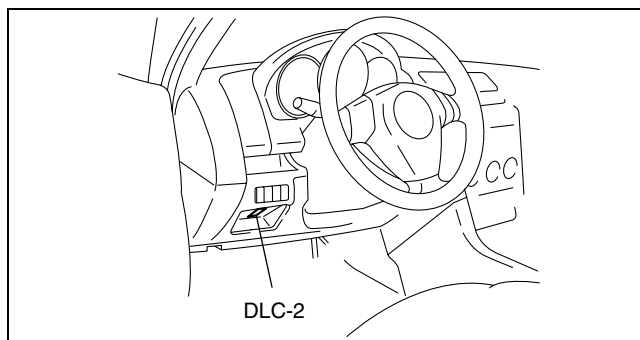


DPE07020000W01

DPE102ZW2001

After Repair Procedure

1. Connect the WDS or equivalent to the DLC-2.
2. Using the WDS or equivalent, clear DTCs from the PCM memory.
3. Turn the ignition switch off.
4. Perform the DTC inspection again and verify that no DTCs are displayed.



DPE102ZW2001

DTC Table

DTC	System malfunction location
B1251	Cabin temperature sensor (Open circuit)
B1253	Cabin temperature sensor (GND short)
B1255	Ambient temperature sensor (Open short)
B1257	Ambient temperature sensor (GND short)
B1260	Solar radiation sensor (Battery short)
B1261	Solar radiation sensor (GND short)
B1274	Airflow mode actuator (potentiometer) (Battery short)
B1275	Airflow mode actuator (potentiometer) (GND short)
B1282	Air mix actuator (potentiometer) (Battery short)
B1283	Air mix actuator (potentiometer) (GND short)
B1947	Evaporator temperature sensor (GND short)
B2014	Evaporator temperature sensor (Open circuit)
B2832	Airflow mode actuator (motor lock)
B2834	Air mix actuator (motor lock)
U0140	CAN communication system (Reception error in signal from BCM)
U0155	CAN communication system (Reception error in signal from (ICM) (MEC))
U0516	CAN communication system (BUS OFF error)

DTC Table (Water Heater System)

DTC	System malfunction location
B1004	Glow plug malfunction: short to battery or transistor failure
B1005	Fuel pump malfunction: short to battery or transistor failure
B1006	Fuel level to low to start the heater
B1007	Coolant pump malfunction: short to battery or transistor failure
B1008	Blower fan malfunction: short to battery

ON-BOARD DIAGNOSTIC

DTC	System malfunction location
B1317	Input voltage high
B1318	Input voltage low
B1342	Malfunction in water heater unit
B2207	ECU ROM checksum error
B2449	Glow plug circuit short to ground
B2450	Glow plug circuit open
B2451	Fuel pump circuit short to ground
B2452	Fuel pump circuit open
B2453	Blower fan circuit short to ground
B2454	Blower fan circuit open
B2455	Blower fan out of range (electromotive force not present)
B2456	Coolant sensor short
B2457	Coolant sensor interrupted
B2458	Overheat sensor short
B2459	Overheat sensor interrupted
B2460	Flame sensor short
B2461	Flame sensor interrupted
B2462	Flame off from max. power
B2463	Overheat
B2464	Start time exceeded
B2465	Start counter overrun/system locked
B2466	Overheat counter overrun/system locked
B2467	Aux. heater cool down time exceeded
B2468	Coolant pump short to ground
B2469	Coolant pump interrupted

* : If a DTC not listed above is detected, there is a water heater malfunction, and the water heater must be replaced.

PID/DATA Monitor and Record

PID Name (Definition)	Unit/Condition	Condition/Specification (Reference)	Action	Water Heater Unit terminal
CCNTFFH (Continuous Codes)	—	- DTC is detected: 1—255 - DTC is not detected: 0	Perform inspection using appropriate DTC.	—
VOLT_MDL (Control Module Voltage)	V	Ignition switch ON: B+	Inspect water heater unit power supply terminal.	A
HEATER (Heater Status)	Inactive/ Active	- Water heater unit is not operating: Inactive - Water heater unit is operating: Active	—	—
FAN (Fan Control)	On/Off	- Blower fan is not operating: 0% - Blower fan is operating: 0—100%	—	—
GLOW (Glow plug)	On/Off	- Water heater unit is not operating: Off - Water heater unit is operating: On	—	—
FUEL_PMP (Fuel pump)	On/Off	- Water heater unit is not operating: Off - Water heater unit is operating: On	—	—

Simulation Test Item Table

Item	Operating part	Condition	Operation
MIX_ACT	Air mix actuator	Operate the ON/OFF and verify the operation sound.	On/Off
REC/FRESH	REC/FRESH switch	Operate the ON/OFF and verify the operation sound.	On/Off
DISPLAY	Information display	Verify that it is displayed correctly.	On/Off
BLOWER	Blower motor	Operate the ON/OFF and verify the operation sound.	On/Off
MODE_ACT	Airflow mode actuator	Operate the ON/OFF and verify the operation sound.	On/Off

Start Heater

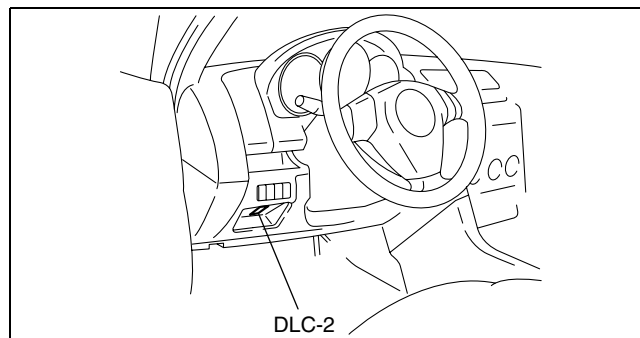
Note

- If the heater is operated for the specified period of time, it stops automatically. After that, the floor fan

ON-BOARD DIAGNOSTIC

operates for several minutes.

1. Verify that the engine coolant temperature is low.
2. Start the engine.
3. Connect the WDS or equivalent to the DLC-2.
4. Select "Electrical" from the menu.
5. Select "Supplemental Heater".
6. Select "FFH".
7. Select "FFH Start Heater Utility" and perform procedure according to the directions on the WDS or equivalent screen.



DPE702ZW1103

DTC B1004, B2449, B2450

DPE070200000W18

DTC	B1004	Glow plug malfunction: short to battery or transistor failure
	B2449	Glow plug circuit short to ground
	B2450	Glow plug circuit open
DETECTION CONDITION		CPU detects malfunction in glow plug circuit
POSSIBLE CAUSE		Water heater unit malfunction

Diagnostic procedure

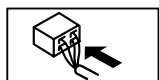
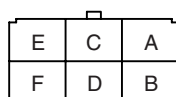
STEP	INSPECTION		ACTION
1	INSPECT WATER HEATER UNIT - Replace the water heater unit. (See 07-40-34 WATER HEATER UNIT REMOVAL/ INSTALLATION [MZR-CD (RF Turbo)].) - Perform the Combustion Test. - Are any DTCs present?	Yes	Go to the applicable DTC troubleshooting.
		No	Troubleshooting completed.

DTC B1005, B1006, B2451, B2452

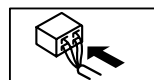
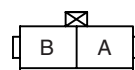
DPE070200000W22

DTC	B1005	Fuel pump malfunction: short to battery or transistor failure
	B1006	Fuel level to low to start the heater
	B2451	Fuel pump (water heater system) circuit short to ground
	B2452	Fuel pump (water heater system) circuit open
DETECTION CONDITION		CPU detects malfunction in fuel pump (water heater system) circuit
POSSIBLE CAUSE		- Fuel pump (water heater system) malfunction - Water heater unit malfunction - Short to ground between water heater unit terminal B and fuel pump (water heater system) terminal A - Open circuit between water heater unit terminal B and fuel pump (water heater system) terminal A - Open circuit between fuel pump (water heater system) terminal B and GND - Battery malfunction

WATER HEATER UNIT CONNECTOR



FUEL PUMP (WATER HEATER SYSTEM) CONNECTOR



ON-BOARD DIAGNOSTIC

Diagnostic procedure

STEP	INSPECTION	ACTION
1	INSPECT WIRING HARNESS BETWEEN WATER HEATER UNIT AND FUEL PUMP (WATER HEATER SYSTEM) FOR CONTINUITY - Start engine. - Is voltage at fuel pump (water heater system) connector terminal A approx. 12 V?	Yes Go to next step
		No Repair wiring harness.
2	INSPECT FUEL PUMP (WATER HEATER SYSTEM) - Inspect fuel pump (water heater system). (See 07-40-35 FUEL PUMP (WATER HEATER SYSTEM) INSPECTION [MZR-CD (RF Turbo)].) - Is fuel pump (water heater system) okay?	Yes Go to next step
		No Replace fuel pump (water heater system). (See 07-40-35 FUEL PUMP (WATER HEATER SYSTEM) REMOVAL/INSTALLATION [MZR-CD (RF TURBO)].)
3	INSPECT WIRING HARNESS BETWEEN FUEL PUMP (WATER HEATER SYSTEM) AND GROUND FOR CONTINUITY Is there continuity fuel pump (water heater system) connector terminal B and ground?	Yes Go to next step
		No Repair wiring harness.
4	INSPECT WATER HEATER UNIT - Clear the DTC. - Perform the KOEO Self Test. - Is the same DTC present?	Yes Replace the water heater unit. (See 07-40-34 WATER HEATER UNIT REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)
		No Go to the next step.
5	VERIFY AFTER REPAIR PROCEDURE - Perform after repair procedure. (See 07-02-3 DTC INSPECTION.) - Are any DTCs present?	Yes Go to the applicable DTC troubleshooting.
		No Troubleshooting completed.

DTC B1008, B2453, B2454, B2455

DPE070200000W20

DTC	B1008	Blower fan malfunction: short to battery
	B2453	Blower fan circuit short to ground
	B2454	Blower fan circuit open
	B2455	Blower fan out of range (electromotive force not present)
DETECTION CONDITION		CPU detects Malfunction in blower fan circuit
POSSIBLE CAUSE		Water heater unit malfunction

Diagnostic procedure

ACTION
Replace water heater unit. (See 07-40-34 WATER HEATER UNIT REMOVAL/INSTALLATION [MZR-CD (RF Turbo)])

DTC B1251, B1253

DPE070200000W03

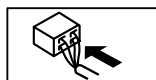
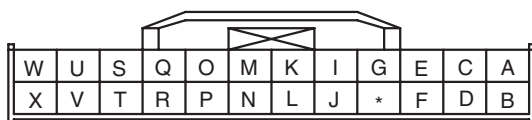
DTC B1251, B1253	Cabin temperature sensor system
POSSIBLE CAUSE	- Cabin temperature sensor malfunction - Open or short circuit in wiring harness between climate control unit and cabin temperature sensor

ON-BOARD DIAGNOSTIC

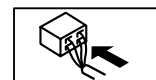
Diagnostic Procedure

STEP	INSPECTION	ACTION	
1	- Inspect the cabin temperature sensor. (See 07-40-30 CABIN TEMPERATURE SENSOR INSPECTION.) - Is it normal?	Yes	Go to the next step.
		No	Replace the cabin temperature sensor. (See 07-40-29 CABIN TEMPERATURE SENSOR REMOVAL/INSTALLATION.)
2	- Disconnect the climate control unit connector and the cabin temperature sensor connector. - Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the cabin temperature sensor? — R—B — U—A	Yes	Repair the wiring harness.
		No	Go to the next step.
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal R and cabin temperature sensor terminal B?	Yes	Repair the wiring harness.
		No	Connect the climate control unit connector, then go to the next step.
4	- Turn the ignition switch to the ON position. - Inspect the voltage at the following climate control unit terminal (wiring harness-side). — Terminal R (cabin temperature sensor input signal) - Is the voltage normal? (Approx. 5 V)	Yes	The system is normal at present. (Clear the malfunction from the memory.)
		No	Inspect the connection of the climate control unit connector. (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CLIMATE CONTROL UNIT CONNECTOR



CABIN TEMPERATURE SENSOR CONNECTOR



DTC B1251, B1253, B1255, B1257, B1274, B1275, B1282, B1283, B1947, B2014 (MULTIPLE DTCS INDICATED)

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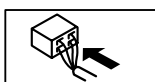
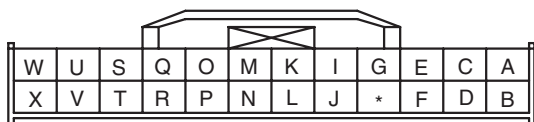
DTC B1251, B1253, B1255, B1257, B1947, B2014, B1282, B1283, B1274, B1275	Climate control unit (+5 V power supply or sensor ground) system
POSSIBLE CAUSE	Open circuit in wiring harnesses between climate control unit and each temperature sensor, air mix actuator, or airflow mode actuator

ON-BOARD DIAGNOSTIC

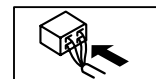
Diagnostic Procedure

STEP	INSPECTION	ACTION
1	- Disconnect the climate control unit connector and the evaporator temperature sensor connector. - Is there an open circuit in the wiring harness between climate control unit terminal U and evaporator temperature sensor terminal A?	Yes
		No

CLIMATE CONTROL UNIT CONNECTOR



EVAPORATOR TEMPERATURE SENSOR CONNECTOR



DTC B1255, B1257

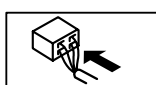
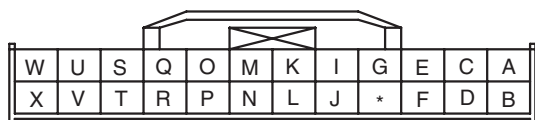
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DTC B1255, B1257	Ambient temperature sensor system
POSSIBLE CAUSE	- Ambient temperature sensor malfunction - Open or short circuit in wiring harness between climate control unit and ambient temperature sensor

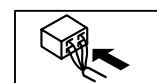
Diagnostic Procedure

STEP	INSPECTION	ACTION
1	- Inspect the ambient temperature sensor. (See 07-40-29 AMBIENT TEMPERATURE SENSOR INSPECTION.) - Is it normal?	Yes
		No
2	- Disconnect the climate control unit connector and the ambient temperature sensor connector. - Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the ambient temperature sensor? — N—B — U—A	Yes
		No
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal N and ambient temperature sensor terminal B?	Yes
		No
4	- Turn the ignition switch to the ON position. - Inspect the voltage at the following climate control unit terminal (wiring harness-side). — Terminal N (ambient temperature sensor input signal) - Is the voltage normal? (Approx. 5 V)	Yes
		No

CLIMATE CONTROL UNIT CONNECTOR



AMBIENT TEMPERATURE SENSOR CONNECTOR



ON-BOARD DIAGNOSTIC

DTC B1260, B1261

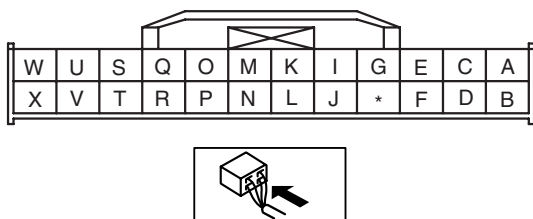
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DTC B1260, B1261	Solar radiation sensor system
POSSIBLE CAUSE	- Solar radiation sensor malfunction - Open or short circuit in wiring harness between climate control unit and solar radiation sensor

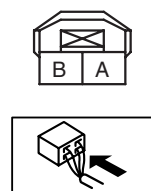
Diagnostic Procedure

STEP	INSPECTION	ACTION
1	- Inspect the solar radiation sensor. (See 07-40-28 SOLAR RADIATION SENSOR INSPECTION.) - Is it normal?	Yes Go to the next step.
		No Replace the solar radiation sensor. (See 07-40-28 SOLAR RADIATION SENSOR REMOVAL/INSTALLATION.)
2	- Disconnect the climate control unit connector and the solar radiation sensor connector. - Is there continuity between the following terminals of the climate control unit and the solar radiation sensor? — S—B — P—A	Yes Go to the next step.
		No Repair the wiring harness.
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal S and solar radiation sensor terminal B?	Yes Repair the wiring harness.
		No Inspect the connection of the climate control unit connector. (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CLIMATE CONTROL UNIT CONNECTOR



SOLAR RADIATION SENSOR CONNECTOR



DTC B1260, B1261, B1274, B1275, B1282, B1283 (MULTIPLE DTCS INDICATED)

DPE070200000W07

DTC B1260, B1261, B1282, B1283, B1274, B1275	Climate control unit (+5 V power supply) system
POSSIBLE CAUSE	Open or short circuit in wiring harnesses between climate control unit and solar radiation sensor, air mix actuator, or airflow mode actuator

ON-BOARD DIAGNOSTIC

Diagnostic Procedure

STEP	INSPECTION	ACTION	
1	- Disconnect the climate control unit connector and the airflow mode actuator connector. - Is there an open circuit in the wiring harness between climate control unit terminal P and airflow mode actuator terminal A?	Yes	Repair the wiring harness.
		No	Go to the next step.
2	Is there a short circuit to ground in the wiring harness between climate control unit terminal P and airflow mode actuator terminal A?	Yes	Repair the wiring harness.
		No	Go to the next step.
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal P and air mix actuator terminal A?	Yes	Repair the wiring harness.
		No	Go to the next step.
4	Is there a short circuit to ground in the wiring harness between climate control unit terminal P and solar radiation sensor terminal A?	Yes	Repair the wiring harness.
		No	The system is normal at present. (Clear the malfunction from the memory.)

CLIMATE CONTROL UNIT CONNECTOR	AIR MIX ACTUATOR CONNECTOR	AIRFLOW MODE ACTUATOR CONNECTOR	SOLAR RADIATION SENSOR CONNECTOR

DTC B1274, B1275

DPE070200000W08

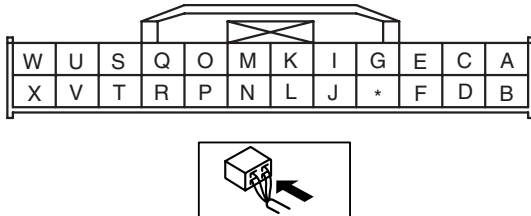
DTC B1274, B1275	Airflow mode actuator (potentiometer) system
POSSIBLE CAUSE	- Airflow mode actuator malfunction - Open circuit in wiring harness between climate control unit and airflow mode actuator - Short circuit in wiring harness between climate control unit (terminal L) and air mix actuator (terminal C)

ON-BOARD DIAGNOSTIC

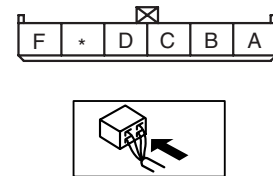
Diagnostic Procedure

STEP	INSPECTION	ACTION	
1	- Inspect the airflow mode actuator. (See 07-40-9 AIRFLOW MODE ACTUATOR INSPECTION.) - Is it normal?	Yes	Go to the next step.
		No	Replace the airflow mode actuator. (See 07-40-9 AIRFLOW MODE ACTUATOR REMOVAL/ INSTALLATION.)
2	- Disconnect the climate control unit connector and the airflow mode actuator connector. - Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the airflow mode actuator? — P—A — J—C — U—B	Yes	Repair the wiring harness.
		No	Go to the next step.
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal J and airflow mode actuator terminal C?	Yes	Repair the wiring harness.
		No	The system is normal at present. (Clear the malfunction from the memory.)

CLIMATE CONTROL UNIT CONNECTOR



AIRFLOW MODE ACTUATOR CONNECTOR



DTC B1282, B1283

DPE07020000W09

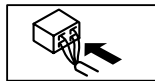
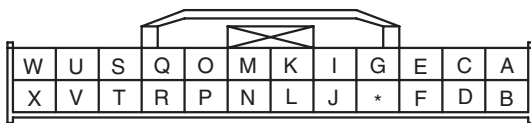
DTC B1282, B1283	Air mix actuator (potentiometer) system
POSSIBLE CAUSE	- Air mix actuator malfunction - Open circuit in wiring harness between climate control unit and air mix actuator - Short circuit in wiring harness between climate control unit (terminal L) and air mix actuator (terminal C)

ON-BOARD DIAGNOSTIC

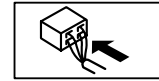
Diagnostic Procedure

STEP	INSPECTION	ACTION	
1	- Inspect the air mix actuator. (See 07-40-8 AIR MIX ACTUATOR INSPECTION.) - Is it normal?	Yes	Go to the next step.
		No	Replace the air mix actuator. (See 07-40-7 AIR MIX ACTUATOR REMOVAL/INSTALLATION.)
2	- Disconnect the climate control unit connector and the air mix actuator connector. - Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the air mix actuator? — P—A — L—C — U—B	Yes	Repair the wiring harness.
		No	Go to the next step.
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal L and air mix actuator terminal C?	Yes	Repair the wiring harness.
		No	The system is normal at present. (Clear the malfunction from the memory.)

CLIMATE CONTROL UNIT CONNECTOR



AIR MIX ACTUATOR CONNECTOR

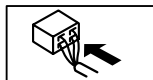
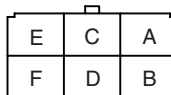


DTC B1317

DPE07020000W15

DTC B1317	Input voltage high
DETECTION CONDITION	Voltage detected at water heater unit terminals E is more than 16 V.
POSSIBLE CAUSE	- Short to power circuit between the generator and PCM - Generator malfunction - Battery malfunction

WATER HEATER UNIT CONNECTOR



Diagnostic procedure

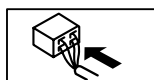
STEP	INSPECTION	ACTION	
1	INSPECT BATTERY VOLTAGE - Measure battery voltage. - Is voltage less than 16 V?	Yes	Go to next step.
		No	Inspect charging system.
2	INSPECT WATER HEATER UNIT - Clear the DTC. - Perform the KOEO Self Test. - Is the same DTC present?	Yes	Replace the water heater unit. (See 07-40-34 WATER HEATER UNIT REMOVAL/INSTALLATION [MZR-CD (RF Turbo)])
		No	Go to the next step.
3	VERIFY AFTER REPAIR PROCEDURE - Perform the after repair procedure. (See 07-02-3 DTC INSPECTION.) - Are any DTCs present?	Yes	Go to the applicable DTC troubleshooting.
		No	Troubleshooting completed.

DTC B1318

DPE07020000W16

DTC B1318	Input voltage low
------------------	--------------------------

ON-BOARD DIAGNOSTIC

DETECTION CONDITION	• Voltage detected at water heater unit terminals E is less than 9 V.						
POSSIBLE CAUSE	• Generator malfunction • Battery malfunction						
WATER HEATER UNIT CONNECTOR <table><tr><td>E</td><td>C</td><td>A</td></tr><tr><td>F</td><td>D</td><td>B</td></tr></table> 		E	C	A	F	D	B
E	C	A					
F	D	B					

Diagnostic procedure

STEP	INSPECTION		ACTION
1	INSPECT BATTERY VOLTAGE - Measure battery voltage. - Is voltage more than 9 V?	Yes	Go to next step.
		No	Battery is weak. Inspect charging system.
2	INSPECT WIRING HARNESS BETWEEN W.HEAT 40 A FUSE AND WATER HEATER UNIT - Turn ignition switch to ON position. - Measure voltage at water heater unit connector terminal A. - Is voltage more than 9 V?	Yes	Go to next step.
		No	Repair wiring harness.
3	INSPECT WATER HEATER UNIT - Clear the DTC. - Perform the KOEO Self Test. - Is the same DTC present?	Yes	Replace the water heater unit. (See 07-40-34 WATER HEATER UNIT REMOVAL/ INSTALLATION [MZR-CD (RF Turbo)])
		No	Go to the next step.
4	VERIFY AFTER REPAIR PROCEDURE - Perform the after repair procedure. (See 07-02-3 DTC INSPECTION.) - Are any DTCs present?	Yes	Go to the applicable DTC troubleshooting.
		No	Troubleshooting completed.

DTC B1342, B2207, B2463, B2464, B2465, B2466, B2467, B2537, B2538, B2547

DPE07020000W17

DTC	B1342	Malfunction in water heater unit
	B2207	ECU ROM checksum error
	B2463	Overheat
	B2464	Start time exceeded
	B2465	Start counter overrun/system locked
	B2466	Overheat counter overrun/system locked
	B2467	AUX. heater cool down time exceeded
	B2537	Water heater system does not start
	B2538	Unstable flame
	B2547	Flame prior to operation
DETECTION CONDITION		CPU detects malfunction in water heater unit
POSSIBLE CAUSE		- Water heater unit malfunction — CPU malfunction — Glow plug malfunction — Flame detection sensor malfunction

ON-BOARD DIAGNOSTIC

Diagnostic procedure

STEP	INSPECTION	ACTION
1	INSPECT WATER HEATER UNIT - Replace the water heater unit. (See 07-40-34 WATER HEATER UNIT REMOVAL/ INSTALLATION [MZR-CD (RF Turbo)]) - Perform the Combustion Test. - Are any DTCs present?	Yes Go to the applicable DTC troubleshooting.
		No Troubleshooting completed.

DTC B1947, B2014

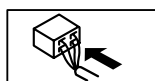
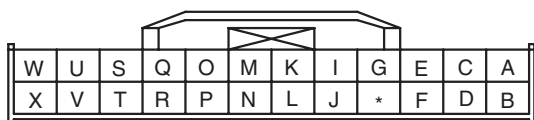
DPE070200000W10

DTC B1947, B2014	Evaporator temperature sensor system
POSSIBLE CAUSE	- Evaporator temperature sensor malfunction - Open or short circuit in wiring harness between climate control unit and evaporator temperature sensor

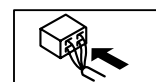
Diagnostic Procedure

STEP	INSPECTION	ACTION
1	- Inspect the evaporator temperature sensor. (See 07-40-31 EVAPORATOR TEMPERATURE SENSOR INSPECTION.) - Is it normal?	Yes Go to the next step.
		No Replace the evaporator temperature sensor. (See 07-40-31 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION.)
2	- Disconnect the climate control unit connector and the evaporator temperature sensor connector. - Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the evaporator temperature sensor? — T—B — U—A	Yes Repair the wiring harness.
		No Go to the next step.
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal T and evaporator temperature sensor terminal B?	Yes Repair the wiring harness.
		No Connect the climate control unit connector, then go to the next step.
4	- Turn the ignition switch to the ON position. - Inspect the voltage at the following climate control unit terminal (wiring harness-side). — Terminal T (evaporator temperature sensor input signal) - Is the voltage normal? (Approx. 5 V)	Yes The system is normal at present. (Clear the malfunction from the memory.)
		No Inspect the connection of the climate control unit connector. (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CLIMATE CONTROL UNIT CONNECTOR



EVAPORATOR TEMPERATURE SENSOR CONNECTOR



DTC B2456, B2457, B2458, B2459, B2460, B2461, B2462

DPE070200000W21

DTC	B2456	Coolant sensor short
	B2457	Coolant sensor interrupted
	B2458	Overheat sensor short
	B2459	Overheat sensor interrupted
	B2460	Flame sensor short
	B2461	Flame sensor interrupted
	B2462	Flame off from max. power
DETECTION CONDITION		CPU detects malfunction in sensor (water heater unit)

ON-BOARD DIAGNOSTIC

DTC	B2456	Coolant sensor short
	B2457	Coolant sensor interrupted
	B2458	Overheat sensor short
	B2459	Overheat sensor interrupted
	B2460	Flame sensor short
	B2461	Flame sensor interrupted
	B2462	Flame off from max. power
POSSIBLE CAUSE		Water heater unit malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	INSPECT WATER HEATER UNIT - Replace the water heater unit. (See 07–40–34 WATER HEATER UNIT REMOVAL/ INSTALLATION [MZR-CD (RF Turbo)]) - Perform the Combustion Test. - Are any DTCs present?	Yes	Go to the applicable DTC troubleshooting.
		No	Troubleshooting completed.

DTC B2832

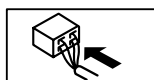
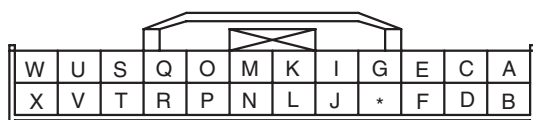
DPE07020000W11

DTC B2832	Airflow mode actuator (motor lock) system
POSSIBLE CAUSE	- Airflow mode actuator malfunction - A/C unit (airflow mode link and airflow mode crank) malfunction - Open or short circuit in wiring harness between climate control unit and airflow mode actuator

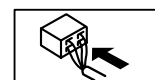
Diagnostic Procedure

STEP	INSPECTION		ACTION
1	- Disconnect the airflow mode actuator connector. - Connect battery positive voltage to airflow mode actuator terminal D (or terminal F) and terminal F (or terminal D) to ground. - Does the airflow mode actuator operate?	Yes	Connect the connector, then go to Step 3.
		No	Go to the next step.
2	- Remove the airflow mode actuator. - Operate the airflow mode main link manually. - Does the airflow mode main link operate smoothly?	Yes	Replace the airflow mode actuator. (See 07–40–9 AIRFLOW MODE ACTUATOR REMOVAL/ INSTALLATION.)
		No	Replace the airflow mode main link, airflow mode sub link, and the airflow mode crank.
3	- Disconnect the climate control unit connector. - Connect battery positive voltage to climate control unit terminal I (or terminal G) and terminal G (or terminal I) to ground. - Does the airflow mode actuator operate?	Yes	Inspect the connection of the climate control unit connector. (See 07–40–40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)
		No	Repair the wiring harness.

CLIMATE CONTROL UNIT CONNECTOR



AIRFLOW MODE ACTUATOR CONNECTOR



DTC B2834

DPE07020000W12

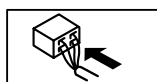
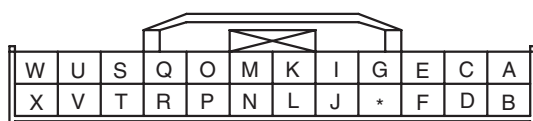
DTC B2834	Air mix actuator (motor lock) system
POSSIBLE CAUSE	- Air mix actuator malfunction - A/C unit (air mix link and air mix crank) malfunction - Open or short circuit in wiring harness between climate control unit and air mix actuator

ON-BOARD DIAGNOSTIC

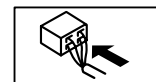
Diagnostic Procedure

STEP	INSPECTION		ACTION
1	- Disconnect the air mix actuator connector. - Connect battery positive voltage to air mix actuator terminal F (or terminal D) and terminal D (or terminal F) to ground. - Does the air mix actuator operate?	Yes	Connect the connector, then go to Step 3.
		No	Go to the next step.
2	- Remove the air mix actuator. - Operate the air mix link manually. - Does the air mix link operate smoothly?	Yes	Replace the air mix actuator. (See 07-40-7 AIR MIX ACTUATOR REMOVAL/INSTALLATION.)
		No	Replace the air mix link and the air mix crank.
3	- Disconnect the climate control unit connector. - Connect battery positive voltage to climate control unit terminal E (or terminal C) and terminal C (or terminal E) to ground. - Does the air mix actuator operate?	Yes	Inspect the connection of the climate control unit connector. (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)
		No	Repair the wiring harness.

CLIMATE CONTROL UNIT CONNECTOR



AIR MIX ACTUATOR CONNECTOR



07-03 SYMPTOM TROUBLESHOOTING

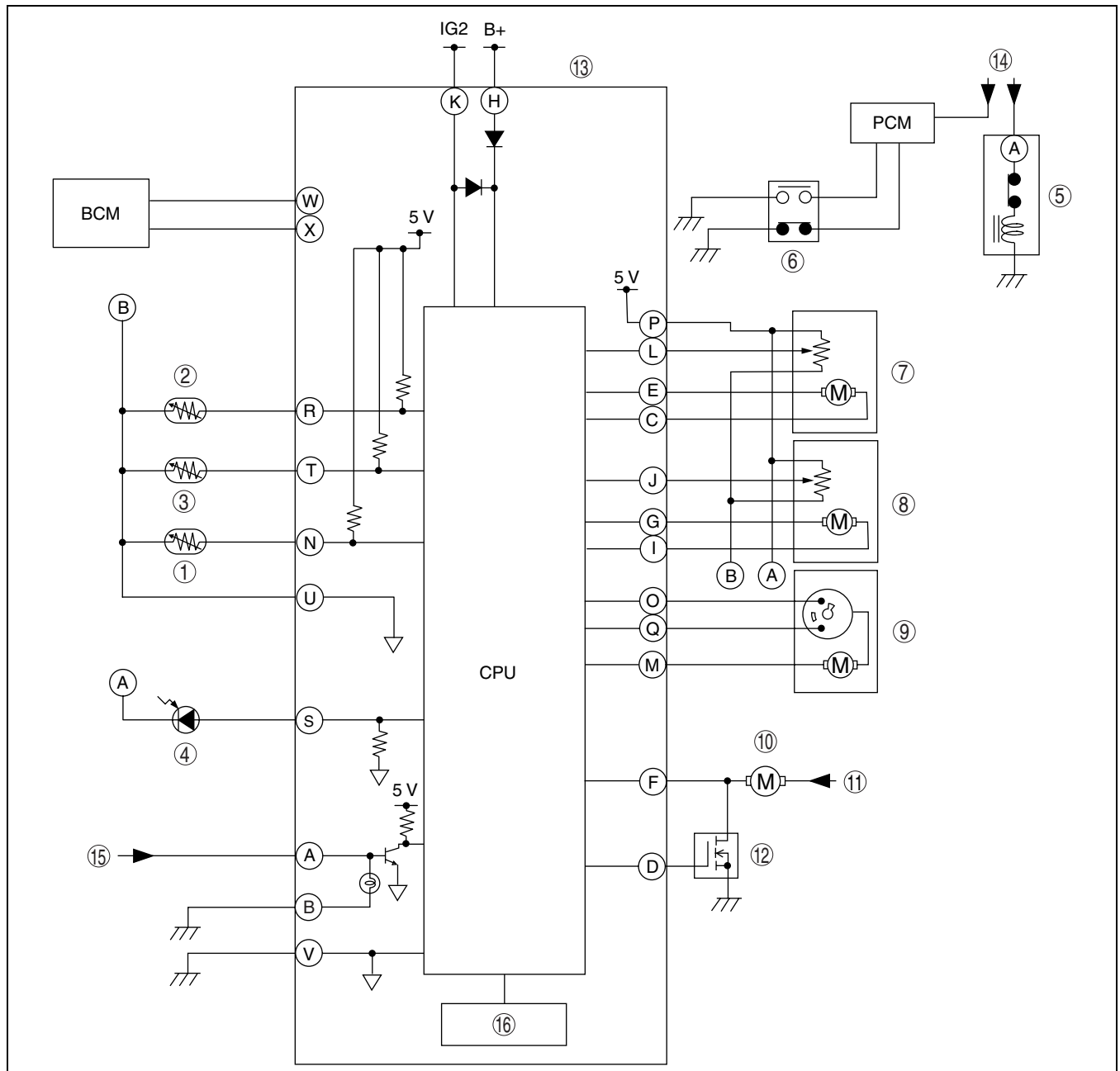
HVAC SYSTEM WIRING DIAGRAM	07-03-1
FOREWORD	07-03-3
TROUBLESHOOTING INDEX	07-03-3
NO.1 INSUFFICIENT AIR (OR NO AIR) BLOWN FROM VENTS	07-03-3
NO.2 AMOUNT OF AIR BLOWN FROM VENTS DOES NOT CHANGE	07-03-4
NO.3 AMOUNT OF AIR BLOWN FROM VENTS DOES NOT CHANGE	07-03-6

NO.4 AIR INTAKE MODE DOES NOT CHANGE	07-03-7
NO.5 NO TEMPERATURE CONTROL WITH CLIMATE CONTROL UNIT	07-03-9
NO.6 WINDSHIELD FOGGED	07-03-10
NO.7 AIR FROM VENTS NOT COLD ENOUGH	07-03-12
NO.8 NO COOL AIR	07-03-15
NO.9 NOISE WHILE OPERATING A/C SYSTEM	07-03-17

HVAC SYSTEM WIRING DIAGRAM

Full-auto air conditioner

DPE070300000W12



DPE740ZT1101

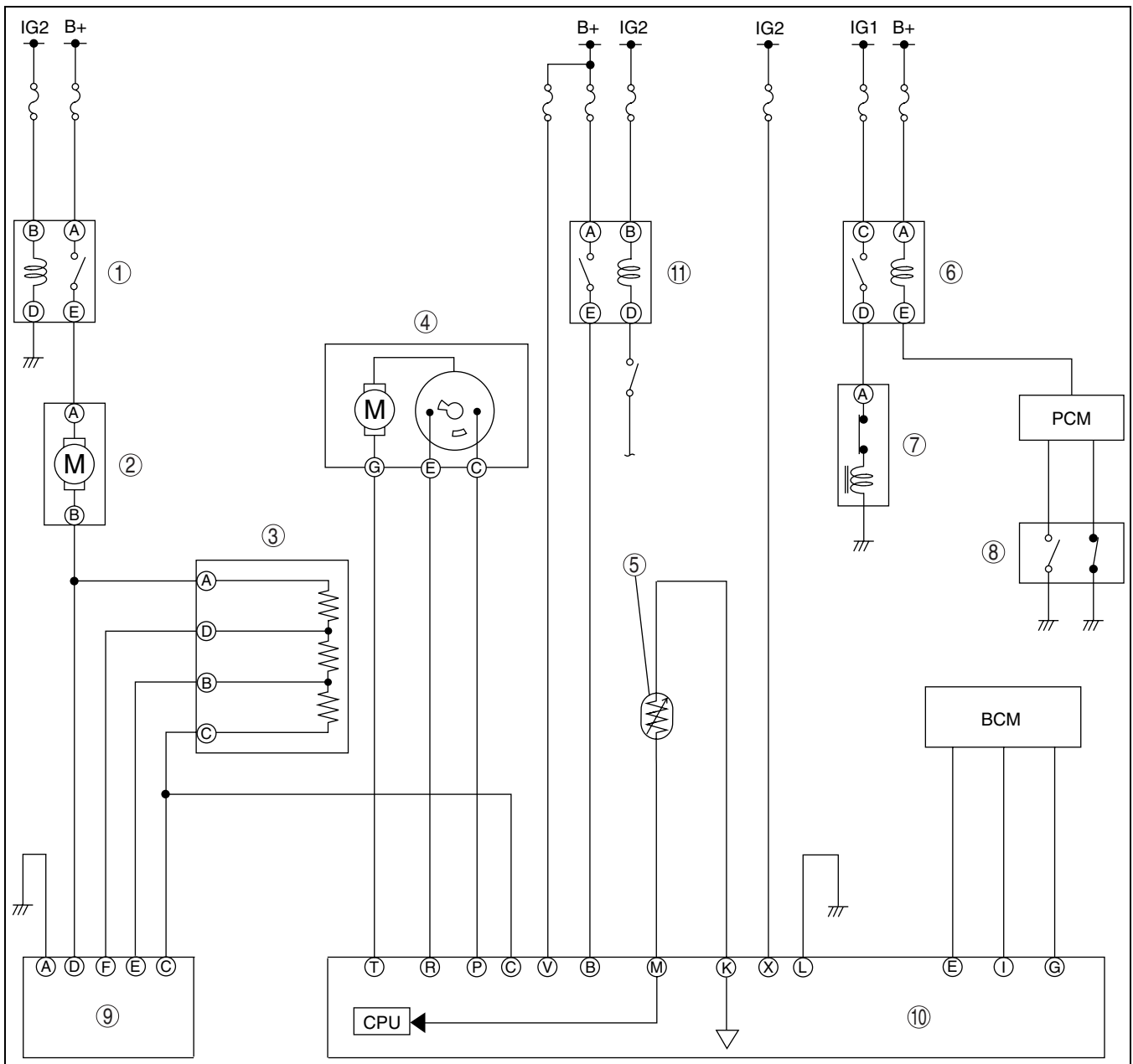
1	Ambient temperature sensor
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2	Cabin temperature sensor
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SYMPTOM TROUBLESHOOTING

3	Evaporator temperature sensor
4	Solar radiation sensor
5	Magnetic clutch
6	Refrigerant pressure switch
7	Air mix actuator
8	Airflow mode actuator
9	Air intake actuator
10	Blower motor
11	Blower relay
12	Power MOS FET
13	Climate control unit
14	A/C relay
15	TNS relay
16	Each switch

Manual air conditioner



DPE740ZT1102

1	Blower relay
2	Blower motor

3	Resistor
4	Air intake actuator

SYMPTOM TROUBLESHOOTING

5	Evaporator temperature sensor
6	A/C relay
7	Magnetic clutch
8	Refrigerant pressure switch
9	Fan switch
10	Climate control unit
11	TNS relay

FOREWORD

DPE07030000W01

- The areas for inspection (steps) are given according to various circuit malfunctions. Use the following chart to verify the symptoms of the trouble in order to diagnose the appropriate area.

TROUBLESHOOTING INDEX

DPE07030000W02

No.	TROUBLESHOOTING ITEM	DESCRIPTION
1	Insufficient air (or no air) blown from vents	- Problem with each vent and/or duct - Airflow mode does not change
2	Amount of air blown from vents does not change. (Full-auto air conditioner)	Malfunction in blower system
3	Amount of air blown from vents does not change. (Manual air conditioner)	Malfunction in blower system
4	Air intake mode does not change.	Air intake mode does not change when switching REC/FRESH mode.
5	No temperature control with climate control unit	Malfunction in A/C unit and/or climate control unit air mix system
6	Windshield fogged.	- A/C compressor does not operate while airflow mode is in DEFROSTER or HEAT/DEF modes. - Air intake mode does not change to FRESH while airflow mode is in DEFROSTER or HEAT/DEF modes.
7	Air from vents not cold enough	Magnetic clutch operates but A/C system malfunctions.
8	No cool air	Magnetic clutch does not operate.
9	Noise while operating A/C system	Noise from magnetic clutch, A/C compressor, hose or refrigerant line

NO.1 INSUFFICIENT AIR (OR NO AIR) BLOWN FROM VENTS

DPE07030000W03

1	Insufficient air (or no air) blown from vents
DESCRIPTION	- Problem with each vent and/or duct. - Airflow mode does not change.
POSSIBLE CAUSE	- Malfunction in airflow mode actuator - Malfunction in VENT mode system - Malfunction in HEAT mode system - Malfunction in DEFROSTER mode system

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION		ACTION
1	INSPECT AIRFLOW MODE ACTUATOR - Inspect airflow mode actuator. - Is it okay?	Yes	Go to the next step.
		No	Repair or replace malfunctioning part in accordance with inspection result.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN VENT MODE OR OTHER MODES Does air blow out when in the VENT mode?	Yes	Go to Step 5.
		No	Go to the next step.
3	INSPECT VENT Is the vent clogged?	Yes	Remove obstruction, then go to Step 9.
		No	Go to the next step.
4	VERIFY THAT DUCT IN DASHBOARD IS INSTALLED Is the duct in the dashboard properly installed?	Yes	Inspect the duct for clogging, deformation and air leakage, then go to Step 9.
		No	Install the duct securely in the proper position, then go to Step 9.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN HEAT MODE OR DEFROSTER MODE Does air blow out when in the HEAT mode?	Yes	Go to the next step.
		No	Inspect the vent for clogging, then go to Step 9.
6	INSPECT DEFROSTER MODE Does air blow out when in the DEFROSTER mode?	Yes	Operation is normal. Recheck malfunction symptoms.
		No	Go to the next step.
7	INSPECT VENT Is the vent clogged?	Yes	Remove obstruction, then go to Step 9.
		No	Go to the next step.
8	VERIFY THAT DEFROSTER DUCT IS INSTALLED Is the defroster duct properly installed?	Yes	Inspect the duct for clogging, deformation, and air leakage, then go to the next step.
		No	Install the duct securely in proper position, then go to the next step.
9	CONFIRM THAT MALFUNCTION SYMPTOM DOES NOT RECUR AFTER REPAIR Does air blow out?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.2 AMOUNT OF AIR BLOWN FROM VENTS DOES NOT CHANGE

DPE07030000W04

Full-auto Air Conditioner

2	Amount of air blown from vents does not change.
DESCRIPTION	Malfunction in blower system
POSSIBLE CAUSE	- A/C unit malfunction - Blower motor malfunction - Malfunction in power MOS FET system - Climate control unit malfunction

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while performing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect make sure connectors, terminals and wiring harnesses are connected correctly and undamaged.

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION	ACTION	
1	INSPECT HEATER BLOWER 40 A FUSE - Inspect the HEATER BLOWER 40 A fuse. - Is it normal?	Yes	Go to the next step.
		No	Replace the fuse, then go to Step 15. If the fuse burns out immediately, go to the next step.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C UNIT OR ELSEWHERE - Turn the ignition switch to the ON position. - Turn the fan switch to ON position. - Recirculate air inside the vehicle. - Does the blower motor rotate smoothly?	Yes	Go to Step 4.
		No	Go to the next step.
3	INSPECT A/C UNIT INTAKE VENT Is A/C unit intake vent clogged?	Yes	Remove obstruction, then go to Step 15.
		No	Inspect if there are any obstruction in the A/C unit passage, then go to Step 15.
4*	INSPECT TO SEE WHETHER MALFUNCTION IS IN BLOWER RELAY SYSTEM OR POWER MOS FET SYSTEM - Turn the ignition switch to ON position. - Turn the fan switch to OFF position. - Measure the voltage at the following blower motor terminal. - Terminal B (blower motor operation signal) - Is voltage approx. 12 V?	Yes	Go to Step 8.
		No	Go to the next step.
5*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN FUSE BLOCK AND BLOWER RELAY) OR ELSEWHERE - Measure the voltage at the following blower relay terminals. - Terminal B (IG2 signal) - Terminal A (B+ signal) - Is the voltage approx. 12 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the blower relay and HEATER BLOWER 40 A fuse, then go to Step 15.
6*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN BLOWER RELAY AND GROUND) OR ELSEWHERE - Measure the voltage at the following blower relay terminal. - Terminal D (GND signal) - Is the voltage approx. 0 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the blower relay and ground, then go to Step 15.
7*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN BLOWER RELAY AND BLOWER MOTOR) OR BLOWER RELAY - Measure the voltage at the following blower relay terminal. - Terminal E (blower motor operation signal) - Is the voltage approx. 12 V?	Yes	Repair the wiring harness between the blower relay and blower motor, then go to Step 15.
		No	Replace the blower relay, then go to Step 15.
8*	INSPECT TO SEE WHETHER MALFUNCTION IS IN BLOWER MOTOR OR ELSEWHERE - Measure the voltage at the following blower motor terminal. - Terminal B (blower motor operation signal) - Is the voltage approx. 12 V?	Yes	Go to the next step.
		No	Inspect the blower motor, then go to Step 15.
9*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN BLOWER MOTOR AND POWER MOS FET) OR ELSEWHERE - Measure the voltage at the following terminal of power MOS FET. - Terminal C (blower motor operation signal) - Is voltage approx. 12 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the blower motor and power MOS FET, then go to Step 15.

SYMPTOM TROUBLESHOOTING

STEP	INSPECTION	ACTION	
10*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN POWER MOS FET AND GROUND) OR ELSEWHERE - Measure the voltage at the following power MOS FET terminal. - Terminal A (blower motor operation signal) - Is the voltage approx. 0 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the power MOS FET and ground, then go to Step 15.
11	INSPECT A/C UNIT - Inspect the fan in A/C unit. - Is the fan free of interference with the A/C unit case? - Is the fan free of foreign material and obstruction? - Is the fan normal?	Yes	Go to the next step.
		No	Remove obstruction, repair or replace the fan and A/C unit case, then go to Step 15.
12*	INSPECT TO SEE WHETHER MALFUNCTION IS IN POWER MOS FET OR ELSEWHERE - Disconnect power MOS FET connector. - Turn the fan switch to 1st position from off. - Measure the voltage at the following power MOS FET terminal. - Terminal B (blower motor control signal) - Is voltage approx. 10 V?	Yes	Replace the power MOS FET, then go to Step 15.
		No	Go to the next step.
13*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN POWER MOS FET AND CLIMATE CONTROL UNIT) OR ELSEWHERE - Turn the ignition switch to the LOCK position. - Disconnect climate control unit connector. - Inspect for continuity at the following terminals between the power MOS FET and climate control unit. - Terminal B—F (blower motor control signal) - Terminal C—D (blower motor feedback signal) - Is there continuity?	Yes	Go to the next step.
		No	Repair the wiring harness between the power MOS FET and climate control unit, then go to Step 15.
14*	INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR WIRING HARNESS (SHORT TO GROUND IN WIRING HARNESS BETWEEN POWER MOS FET AND CLIMATE CONTROL UNIT) - Inspect for continuity at the following terminal between the power MOS FET and ground. - Terminal A (blower motor control signal)—ground - Is there continuity?	Yes	Repair the wiring harness between the power MOS FET and ground, then go to the next step.
		No	Replace the climate control unit, then go to the next step.
15	CONFIRM THAT MALFUNCTION SYMPTOM DOES NOT RECUR AFTER REPAIR Is air discharged from vent?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.3 AMOUNT OF AIR BLOWN FROM VENTS DOES NOT CHANGE

DPE07030000W05

Manual Air Conditioner

3	Amount of air blown from vents does not change.
DESCRIPTION	Malfunction in blower system
POSSIBLE CAUSE	- Blower relay, blower motor, resistor, fan switch malfunction - A/C unit malfunction

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION	ACTION	
1	INSPECT BLOWER SYSTEM - Inspect the following systems and electrical parts. — Blower relay — Blower motor — Resistor — Fan switch — Related wiring harnesses - Are they normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part, then go to Step 5.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C UNIT OR ELSEWHERE - Turn the ignition switch to the ON position. - Turn the fan switch on. - Recirculate air inside the vehicle. - Does the blower motor rotate smoothly?	Yes	Go to Step 4.
		No	Go to the next step.
3	INSPECT A/C UNIT - Inspect blower motor. — Is the fan free of interference from the A/C unit case? — Is the fan free of foreign material and obstructions? - Is the fan normal?	Yes	Go to the next step.
		No	Remove obstruction, repair or replace the fan and A/C unit case, then go to Step 5.
4	INSPECT A/C UNIT INTAKE VENT Is the A/C unit intake vent clogged?	Yes	Remove obstruction, then go to the next step.
		No	Inspect if there are any obstructions in the A/C unit passage, then go to the next step.
5	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Does air blow out?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.4 AIR INTAKE MODE DOES NOT CHANGE

DPE070300000W06

4	Air intake mode does not change.
DESCRIPTION	Air intake mode does not change when switching REC/FRESH mode.
POSSIBLE CAUSE	- Air intake actuator malfunction - Air intake door malfunction

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while performing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harnesses are connected correctly and undamaged.

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION	ACTION	
1	INSPECT AIR INTAKE ACTUATOR (Auto A/C) - Inspect the following items using WDS or equivalent simulation function. — MIX-ACT (Air intake actuation) - Is it okay? (Manual A/C) - Inspect air intake actuator. - Is it okay?	Yes	Go to the next step.
		No	Replace the air intake actuator, then go to Step 9.
2*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR, WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE - Turn the ignition switch to the ON position. - Measure the voltages at the following climate control unit terminals. — Terminal O (24-pin, FRESH motor drive signal) — Terminal Q (24-pin, RECIRCULATE motor drive signal) (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].) - Are voltages normal?	Yes	Go to the next step.
		No	Go to Step 4.
3*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR OR WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) - Measure the voltages at the following air intake actuator terminals. — Terminal E (FRESH motor drive signal) — Terminal C (RECIRCULATE motor drive signal) - Are voltages as shown below? — Terminal E: approx. 0.5 V during RECIRCULATE and approx. 10 V during FRESH — Terminal C: approx. 10 V during RECIRCULATE and approx. 0.5 V during FRESH	Yes	Go to Step 7.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 9.
4	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR INTAKE ACTUATOR OR ELSEWHERE - Disconnect the air intake actuator connector. - Measure the voltages at the following climate control unit terminals. — Terminal O (FRESH motor drive signal) — Terminal Q (RECIRCULATE motor drive signal) (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].) - Are voltages normal?	Yes	Inspect the air intake actuator, then go to Step 9.
		No	Go to the next step.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO B+ BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE - Disconnect the climate control unit connector. - Measure the voltages at the following climate control unit terminals. — Terminal O (FRESH motor drive signal) — Terminal Q (RECIRCULATE motor drive signal) - Are voltages approx. 0 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 9.

SYMPTOM TROUBLESHOOTING

STEP	INSPECTION	ACTION
6	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO GROUND BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Turn the ignition switch to the LOCK position. • Inspect for continuity at the following terminals between the climate control unit and ground. — Terminal O (FRESH motor drive signal) — Terminal Q (RECIRCULATE motor drive signal) • Is there continuity?	Yes Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 9.
		No Go to the next step.
7	INSPECT AIR INTAKE LINK • Inspect the air intake links. — Is there grease on link? — Are the links securely and properly installed? — Are the links free of obstructions and hindrances? • Are the above items normal?	Yes Go to the next step.
		No Apply grease to the links. If any the links are damaged, replace the air intake actuator, then go to Step 9.
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR AIR INTAKE DOOR • Inspect the A/C unit air intake door. — Is the door free of obstructions, cracks, and damage? — Are the doors securely and properly installed? • Are the above items normal?	Yes Replace the climate control unit, then go to the next step.
		No Remove obstruction, or install the doors in the proper position. If any doors are cracked or damaged, replace them, then go to the next step.
9	CONFIRM THAT MALFUNCTION SYMPTOMS DO NOT RECUR AFTER REPAIR • Does the air intake mode change smoothly?	Yes Troubleshooting completed. Explain repairs to customer.
		No Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.5 NO TEMPERATURE CONTROL WITH CLIMATE CONTROL UNIT

DPE070300000W07

5	No temperature control with climate control unit
DESCRIPTION	• Malfunction in A/C unit and/or climate control unit air intake system
POSSIBLE CAUSE	• A/C unit air intake link, air intake crank, air intake rod, air intake wire, wire clamp malfunction • Climate control unit rack-and-pinion, air intake wire malfunction • A/C unit air intake door malfunction • Heater piping malfunction

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION	ACTION
1	INSPECT COOLANT TEMPERATURE Is the coolant sufficiently warmed up?	Yes Go to the next step.
		No Warm up the engine, then go to Step 8.
2	INSPECT A/C UNIT AIR INTAKE SYSTEM - Inspect the A/C unit air intake links, air intake cranks, air intake rods, air intake actuator, and wire clamp. - Is there grease on links and cranks? - Are links, cranks, and rods securely installed in their proper positions? - Is wire clamp free of deformation? - Are the above items normal?	Yes Go to the next step.
		No Apply grease or install the links, cranks, and rods securely in their proper positions, repair or replace the air intake actuator or wire clamp, then go to Step 8.
3	VERIFY THAT AIR INTAKE WIRE FROM A/C UNIT IS POSITIONED SECURELY AND CORRECTLY (IF AVAILABLE) Is the air intake wire securely installed in the correct position in relation to the A/C unit air intake links?	Yes Go to the next step.
		No Adjust the air intake wire or install securely in the correct position, then go to Step 8.
4	INSPECT CLIMATE CONTROL UNIT - Inspect the climate control unit. - Is the climate control unit normal?	Yes Go to the next step.
		No Repair or replace the climate control unit, then go to Step 8.
5	INSPECT A/C UNIT Is there any foreign material or obstruction in the A/C unit air intake doors?	Yes Remove obstruction, then go to Step 8.
		No Go to the next step.
6	INSPECT A/C UNIT AIR INTAKE DOOR Is the A/C unit air intake door securely and properly installed?	Yes Inspect the air intake door for cracks or damage, then go to the next step.
		No Install the air intake door securely in the proper position, then go to the next step.
7	INSPECT HEATER LINE - Inspect the heater lines. - Is the heater piping free of damage and cracks? - Are the heater piping connections free of engine coolant leakage? - Are the heater piping connections securely tightened? - Are the heater piping installation points on A/C unit free of engine coolant leakage? - Are the above items normal?	Yes Operation is normal. Recheck malfunction symptoms.
		No If heater piping connections are loose, tighten the connections to the specified torque. Repair or replace the heater piping, then go to the next step.
8	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Does the unit operate in every temperature setting?	Yes Troubleshooting completed. Explain repairs to customer.
		No Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.6 WINDSHIELD FOGGED

DPE07030000W08

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while doing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harness are connected correctly and undamaged.

6	Windshield fogged.
DESCRIPTION	- A/C compressor does not operate while airflow mode is in DEFROSTER or HEAT/DEF modes. - Air intake mode does not change to FRESH while airflow mode is in DEFROSTER or HEAT/DEF modes.
POSSIBLE CAUSE	- Climate control unit (B+ signal) system malfunction - Air intake actuator malfunction - Climate control unit (RECIRCULATE, FRESH signal) system malfunction - A/C unit air intake door malfunction

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION		ACTION
1	COOL AIR BLOW OUT INSPECTION When both the A/C and fan switch in the climate control unit are on, does cool air blow out from the front vent?	Yes	Go to the next step.
		No	Go to Step 1 of troubleshooting index No.8.
2	INSPECT CLIMATE CONTROL UNIT POWER SUPPLY FUSE FOR B+ SIGNAL Is the climate control unit power supply fuse for B+ signal normal?	Yes	Go to the next step.
		No	Inspect for a short to ground on blown fuse circuit. Repair or replace if necessary. Install appropriate amperage fuse.
3	INSPECT AIR INTAKE ACTUATOR - Inspect the air intake actuator. - Is there grease on the link? - Is the link securely and properly positioned? - Is the link free of obstructions? - Are the above items normal?	Yes	Go to the next step.
		No	Apply grease or install the link properly and securely, remove obstruction, then go to Step 14.
*4	INSPECT WIRING HARNESS BETWEEN FUSE BLOCK AND CLIMATE CONTROL UNIT FOR CONTINUITY - Disconnect the climate control unit connector (24-pin). - Turn the ignition switch to the ON position. - Measure the voltage at climate control unit terminal H (B+ signal). - Is the voltage approx. 12 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the fuse block and climate control unit, then go to Step 14.
*5	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND GROUND FOR VOLTAGE - Measure the voltage at climate control unit terminal V (Ground). - Is the voltage approx. 0V?	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and ground, then go to Step 14.
6	VERIFY WHETHER MALFUNCTION IS IN A/C UNIT AIR INTAKE DOOR OR ELSEWHERE - Turn the ignition switch to the LOCK position. - Connect the climate control unit connector (24-pin). - Remove the air intake actuator. - Turn the ignition switch to the ON position. - Set the fan switch to 4th position. - Does the air intake mode (RECIRCULATE, FRESH) change smoothly when the air intake link is operated by hand?	Yes	Go to the next step.
		No	Go to Step 12.
7	INSPECT AIR INTAKE ACTUATOR - Inspect the air intake actuator. (See 07-40-6 AIR INTAKE ACTUATOR INSPECTION.) - Is it normal?	Yes	Go to the next step.
		No	Replace the air intake actuator, go to Step 14.
8	INSPECT AIR INTAKE SELECTOR SWITCH AND DEFROSTER SWITCH IN CLIMATE CONTROL UNIT - Measure the voltage at climate control unit connector (24-pin) terminals O and Q. - Is it normal?	Yes	Go to the next step.
		No	Replace the climate control unit, then go to Step 14.
*9	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR CONTINUITY - Turn the ignition switch to the LOCK position. - Is there continuity between the following climate control unit terminals and air intake actuator terminals? - Terminal E —Terminal O (FRESH signal) - Terminal C —Terminal Q (RECIRCULATE signal)	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.

SYMPTOM TROUBLESHOOTING

STEP	INSPECTION	ACTION	
*10	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO GROUND - Is there continuity between the following climate control unit terminals and ground? — Terminal O (FRESH signal) — Terminal Q (RECIRCULATE signal)	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
		No	Go to the next step.
*11	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO B+ - Turn the ignition switch to the ON position - Measure the voltage at the following climate control unit terminals. — Terminal O (FRESH signal) — Terminal Q (RECIRCULATE signal) - Is the voltage approx. 12 V?	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
		No	Replace the climate control unit, then go to Step 14.
12	INSPECT A/C UNIT AIR INTAKE DOOR Is there any foreign material or obstruction in the A/C unit air intake door?	Yes	Remove obstruction, then go to Step 14.
		No	Go to the next step.
13	VERIFY THAT A/C UNIT AIR INTAKE DOOR IS POSITIONED SECURELY AND PROPERLY Is the A/C unit air intake door securely and properly positioned?	Yes	Inspect the air intake door for cracks or damage, then go to the next step.
		No	Install the air intake door securely in the proper position, then go to the next step.
14	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Does the malfunction disappear?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.7 AIR FROM VENTS NOT COLD ENOUGH

DPE07030000W09

7	Air from vents not cold enough.
DESCRIPTION	Magnetic clutch operates but A/C system malfunctions.
POSSIBLE CAUSE	- Drive belt malfunction - A/C unit or condenser malfunction - Receiver/drier or expansion valve malfunction (valve closes too much) - Malfunction in refrigerant lines - A/C compressor system malfunction, insufficient compressor oil - Over filling of compressor oil, malfunction in expansion valve or A/C unit air mix link system

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION		ACTION
1	INSPECT DRIVE BELT - Inspect the drive belt. (See 01-10A-2 DRIVE BELT INSPECTION [L8, LF].) (See 01-10B-3 DRIVE BELT INSPECTION [MZR-CD (RF Turbo)].) - Is it normal?	Yes	Go to the next step.
		No	Adjust or replace the drive belt, then go to Step 20. (See 01-10A-3 DRIVE BELT REPLACEMENT [L8, LF].) (See 01-10B-3 DRIVE BELT REPLACEMENT [MZR-CD (RF Turbo)].)
2	INSPECT REFRIGERANT SYSTEM PERFORMANCE - Perform refrigerant system performance test. (See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.) - Is the operation normal?	Yes	Operation is normal. (Recheck malfunction symptoms.)
		No	Go to the next step.
3	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C UNIT INTAKE AND CONDENSER OR ELSEWHERE Are the refrigerant high-pressure and low-pressure values both high?	Yes	Go to the next step.
		No	Go to Step 6.
4	INSPECT A/C UNIT INTAKE Is the A/C unit intake clogged?	Yes	Remove obstruction, then go to Step 20. (If air does not reach the evaporator in the A/C unit, heat exchange does not occur and refrigerant pressure becomes high. Therefore, removal of obstruction is necessary.)
		No	Go to the next step.
5	INSPECT CONDENSER - Inspect the condenser. (See 07-11-28 CONDENSER INSPECTION.) - Is it normal?	Yes	Adjust refrigerant to the specified amount, then go to Step 20. (Excessive amount of refrigerant.)
		No	Replace the condenser, or repair and clean the condenser fins, then go to Step 20.
6	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE, RECEIVER/DRIER AND REFRIGERANT LINES OR ELSEWHERE Are the refrigerant high-pressure and low-pressure values low?	Yes	Go to the next step.
		No	Go to Step 14.
7	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE AND RECEIVER/DRIER OR ELSEWHERE Immediately after the A/C compressor operates, does the refrigerant high-pressure value momentarily rise to correct value, then fall and stay below it? (Is there negative pressure on low-pressure side?)	Yes	Go to the next step.
		No	Go to Step 10.
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE OR RECEIVER/DRIER - Turn the A/C switch off and let the air conditioner stop for 10 min. - Start the engine. - Turn the both A/C switch and fan switch on. - Does the malfunction occur after the A/C compressor turns on?	Yes	Go to the next step.
		No	Replace the condenser and vacuum the refrigerant line more than 30 min by the vacuum pump, add refrigerant to the specified level, then go to Step 20. (Since water has intermixed in the receiver/drier and it is saturated, replacement is necessary.)
9	VERIFY THAT EXPANSION VALVE HEAT-SENSING TUBE WITHIN A/C UNIT IS POSITIONED SECURELY AND CORRECTLY Is the expansion valve heat-sensing tube in the A/C unit securely installed in the proper position?	Yes	Replace the expansion valve, then go to Step 20. (Since the valve closes too much, replacement is necessary.)
		No	Install the heat-sensing tube securely in the proper position, then go to Step 20.

SYMPTOM TROUBLESHOOTING

STEP	INSPECTION		ACTION
10	INSPECT REFRIGERANT LINE - Inspect the refrigerant lines. - Is the piping free of damage and cracks? - Are the piping connections free of oil grime? (Visual inspection) - Are the piping connections free of gas leakage? - Are the piping installation points on the condenser free of gas leakage? - Are the piping installation points on the receiver/drier free of gas leakage? - Are the piping installation points on the A/C compressor free of gas leakage? - Are the piping installation points on the A/C unit free of gas leakage? - Perform gas leakage inspection using a gas leak tester. - Are the above items normal?	Yes	Go to the next step.
		No	If the piping or A/C component (s) are damaged or cracked, replace them. Then go to Step 20. If there is no damage, go to Step 13.
11	INSPECT EVAPORATOR PIPING CONNECTION IN A/C UNIT FOR GAS LEAKAGE Are piping the connections for the evaporator in the A/C unit free of gas leakage?	Yes	If the vane makes a noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil to the A/C compressor. Verify that the noise is no longer heard. Adjust refrigerant to the specified amount, then go to Step 20.
		No	If the piping is damaged or cracked, replace it. Then go to Step 20. If there is no damage, go to the next step.
12	INSPECT EVAPORATOR PIPING CONNECTION IN A/C UNIT FOR LOOSE Are the piping connections for the evaporator in the A/C unit loose?	Yes	Tighten the connections to the specified torque, adjust both compressor oil and refrigerant to the specified amount, then go to Step 20.
		No	If the vane makes a noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil to the A/C compressor. Verify that the noise is no longer heard. Replace the O-ring on piping, adjust refrigerant to the specified amount, then go to Step 20.
13	INSPECT PIPING CONNECTION FOR LOOSE Are the piping connections loose?	Yes	Tighten the connections to the specified torque, adjust both compressor oil and refrigerant to the specified amount, then go to Step 20.
		No	If the vane makes a noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil to the A/C compressor. Verify that the noise is no longer heard. Replace O-ring on piping, adjust refrigerant to specified amount, then go to Step 20.
14	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE, AIR MIX ACTUATOR AND COMPRESSOR OIL OR ELSEWHERE Does the refrigerant high-pressure value hardly increase?	Yes	Go to the next step. (Pressure hardly increases.)
		No	Go to Step 17.
15	INSPECT TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL AMOUNT AND A/C COMPRESSOR OR ELSEWHERE When the engine is racing, does the high-pressure value increase?	Yes	Return to Step 3.
		No	Go to the next step.
16	INSPECT TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL AMOUNT OR A/C COMPRESSOR After compressor oil is replenished each 10 ml {10 cc, 0.34 fl oz}, does high-pressure value increase?	Yes	Troubleshooting completed. (Explain to customer that cause was insufficient compressor oil.)
		No	Replace the A/C compressor, then go to Step 20. (Cause is defective A/C compressor.)
17	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE OR ELSEWHERE Is only refrigerant low-pressure value high?	Yes	Go to Step 19.
		No	Go to the next step.

SYMPTOM TROUBLESHOOTING

STEP	INSPECTION	ACTION
18	VERIFY THAT AIR MIX IS INSTALLED SECURELY AND PROPERLY Are the A/C unit air mix links, air mix cranks, and air mix rods securely and properly installed?	Yes Set the fan switch to 4th position. Turn the A/C switch on. Set FRESH mode. Set temperature control to MAX COLD. Set VENT mode. (1) Start and run the engine at 1,500 rpm for 10 min. (2) Run the engine at idle for 1 min. (3) Within 12 s , idle → 4,000 rpm → idle. Perform cycle 5 times. (4) Run the engine at idle for 30 s. (5) Drain the compressor oil completely from the A/C compressor and verify the amount. - If there is approx. 90 ml {90 cc, 3.0 fl oz} of compressor oil, go to Step 20. - If there is more than 90 ml {90 cc, 3.0 fl oz} of compressor oil, remove surplus oil and fill the A/C compressor with 90 ml {90 cc, 3.0 fl oz} of compressor oil. Repeat Steps (1) to (5). (Cause is excessive amount of compressor oil.)
		No Repair or install the links, cranks and rods securely in the proper position, then go to Step 20.
19	VERIFY THAT EXPANSION VALVE HEAT-SENSING TUBE WITHIN A/C UNIT IS POSITIONED SECURELY AND CORRECTLY Is the expansion valve heat-sensing tube in the A/C unit securely installed in the proper position?	Yes Replace the expansion valve, then go to the next step. (Since the valve opens too much, replacement is necessary.)
		No Install the heat-sensing tube securely in the proper position, then go to the next step.
20	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Does cool air blow out? (Are results of refrigerant system performance test normal?)	Yes Troubleshooting completed. Explain repairs to customer.
		No Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.8 NO COOL AIR

DPE07030000W10

8	No cool air
DESCRIPTION	Magnetic clutch does not operate.
POSSIBLE CAUSE	- Malfunction in PCM A/C cut control system - Malfunction in climate control unit - Malfunction in refrigerant pressure switch - Malfunction in PCM (A/C signal) - Malfunction in PCM (IG1 signal) - Malfunction in A/C compressor - Malfunction in A/C relay - Malfunction in evaporator temperature sensor - Malfunction in BCM unit - Malfunction in CAN communication

07

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while performing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, check to make sure connectors, terminals and wiring harnesses are connected correctly and undamaged.

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION	ACTION	
1	INSPECT AIR BLOW OUT Does air blow out?	Yes	Go to the next step.
		No	Go to Step 1 of troubleshooting indexes No.1 and 2.
2	INSPECT A/C COMPRESSOR OPERATION - Start engine. - Turn A/C switch and fan switch on. - Does A/C compressor operate?	Yes	Go to Step 1 of troubleshooting index No.7.
		No	Go to the next step.
3	INSPECT FOR DTC IN PCM - Inspect for DTCs related to the PCM on-board diagnostic system. - Are any DTCs displayed?	Yes	Go to appropriate inspection procedure.
		No	(Auto A/C) Go to the next step. (Manual A/C) Go to Step 5.
4	CONFIRM DTC U0073, U0140, U0166 AND U2516 USING WDS OR EQUIVALENT - Retrieve DTC from EATC and BCM. - Are DTCs (U0073, U0140, U0166, U2516) retrieved?	Yes	Network communication, for related system is malfunction. Go to appropriate inspection procedure.
		No	Go to Step 6.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR ELSEWHERE Does cool air blow out when terminal E of climate control unit connector (24-pin, A/C signal) is grounded?	Yes	Replace climate control unit, then go to Step 18.
		No	Release short, then go to the next step.
6*	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C SIGNAL CIRCUIT (BETWEEN REFRIGERANT PRESSURE SWITCH AND PCM) OR ELSEWHERE - Test voltage at following terminal of refrigerant pressure switch. — Terminal B (A/C signal) - Is voltage approx. 12 V?	Yes	Go to Step 8.
		No	Go to the next step.
7*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN WIRING HARNESS (BETWEEN REFRIGERANT PRESSURE SWITCH AND PCM) OR PCM - Test voltage at A/C signal terminal of PCM. - Is voltage approx. 12 V?	Yes	Repair wiring harness between PCM and refrigerant pressure switch, then go to Step 18.
		No	Inspect PCM, then go to Step 18.
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN REFRIGERANT PRESSURE SWITCH, REFRIGERANT AMOUNT, OR ELSEWHERE Does cool air blow out when terminals A and B of refrigerant pressure switch connector are shorted?	Yes	Go to Step 10.
		No	(Auto A/C) Go to Step 11. (Manual A/C) Go to the next step.
9*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (BETWEEN REFRIGERANT PRESSURE SWITCH AND CLIMATE CONTROL UNIT) OR ELSEWHERE - Test voltage at following terminal of climate control unit. — Terminal E (24-pin, A/C signal) - Is voltage approx. 12 V?	Yes	Go to Step 10.
		No	Repair wiring harness between refrigerant pressure switch and climate control unit, then go to Step 18.
10	INSPECT TO SEE WHETHER MALFUNCTION IS IN REFRIGERANT PRESSURE SWITCH OR REFRIGERANT AMOUNT - Inspect refrigerant pressure switch. - Is it okay?	Yes	If refrigerant amount is empty, replace condenser, vacuum refrigerant line more than 30 min by vacuum pump, and add refrigerant to specified level, then go to Step 18.
		No	Replace refrigerant pressure switch, then go to Step 18.
11	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN A/C CONTROL SIGNAL CIRCUIT (BETWEEN A/C RELAY AND PCM) OR ELSEWHERE Does cool air blow out when terminal E of A/C relay connector (A/C control signal) is grounded?	Yes	Release short, then go to the next step.
		No	Go to Step 13.

SYMPTOM TROUBLESHOOTING

STEP	INSPECTION	ACTION	
12*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN PCM OR WIRING HARNESS (BETWEEN A/C RELAY AND PCM) - Test voltage at the A/C relay control signal terminal of PCM. - Is voltage approx. 12 V?	Yes	Inspect PCM, then go to Step 18.
		No	Repair wiring harness between A/C relay and PCM, then go to Step 18.
13*	INSPECT TO SEE WHETHER MALFUNCTION IS IN MAGNETIC CLUTCH OR ELSEWHERE - Test voltage at the following terminal of magnetic clutch thermal protector. - Terminal A (magnetic clutch operation signal) - Is voltage approx. 12 V?	Yes	Inspect magnetic clutch, then go to Step 18.
		No	Go to the next step.
14	INSPECT FUSE Are A/C relay power supply fuses okay?	Yes	Go to the next step.
		No	Replace fuse, then go to Step 18. If fuse burns out immediately, go to the next step.
15	INSPECT WIRING HARNESS BETWEEN FUSE BLOCK AND A/C RELAY FOR LACK OF CONTINUITY - Test voltages at following terminals of A/C relay. - Terminal A (A/C relay control signal) - Terminal C (A/C control signal) - Are voltages approx. 12 V?	Yes	Go to the next step.
		No	Repair wiring harness between fuse block and A/C relay, then go to Step 18.
16	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C RELAY OR WIRING HARNESS (BETWEEN A/C RELAY AND MAGNETIC CLUTCH) AND EVAPORATOR TEMPERATURE SENSOR - Test voltage at the following terminal of A/C relay. - Terminal D (magnetic clutch operation signal) - Is voltage approx. 12 V?	Yes	Inspect wiring harness between A/C relay and magnetic clutch. - If above wiring harness is OK, go to the next step. - If above wiring harness malfunctions, repair wiring harness, then go to Step 18.
		No	Replace A/C relay, then go to Step 18.
17	INSPECT EVAPORATOR TEMPERATURE SENSOR - Inspect evaporator temperature sensor. - Is it okay?	Yes	Go to the next step.
		No	Replace evaporator temperature sensor, then go to the next step.
18	CONFIRM THAT MALFUNCTION SYMPTOMS DO NOT RECUR AFTER REPAIR Does cool air blow out? (Are the results of refrigerant system performance test okay?)	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

NO.9 NOISE WHILE OPERATING A/C SYSTEM

DPE070300000W11

9	Noise while operating A/C system.
DESCRIPTION	Noise from magnetic clutch, A/C compressor, hose or refrigerant line.
POSSIBLE CAUSE	- Magnetic clutch operation noise - A/C compressor vane noise - A/C compressor slippage noise - Hose or refrigerant line interference noise

SYMPTOM TROUBLESHOOTING

Diagnostic procedure

STEP	INSPECTION		ACTION
1	CHECK A/C COMPRESSOR VANE NOISE Is there a jingling, popping, beeping, or buzzing sound (A/C compressor vane noise)?	Yes	Go to Step 5.
		No	Go to the next step.
2	INSPECT A/C COMPRESSOR SLIPPAGE NOISE Is there a squeaking or whirling sound (A/C compressor slippage noise)?	Yes	Go to Step 14.
		No	Go to the next step.
3	INSPECT A/C COMPRESSOR INTERFERENCE NOISE Is there a rattling or vibrating sound (interference noise)?	Yes	Go to Step 18.
		No	Go to the next step.
4	INSPECT MAGNETIC CLUTCH OPERATION NOISE Is there a clicking sound (magnetic clutch operation noise)?	Yes	Adjust clearance between pressure plate of magnetic clutch and A/C compressor pulley, then go to Step 19. (See 07–40–26 MAGNETIC CLUTCH ADJUSTMENT [LF, L8].) (See 07–40–26 MAGNETIC CLUTCH ADJUSTMENT [MZR-CD (RF Turbo)].)
		No	Condition is normal. (Recheck malfunction symptoms.)
5	INSPECT A/C COMPRESSOR NOISE TIME Is noise heard continuously for more than 3 s after A/C compressor comes on?	Yes	Go to the next step.
		No	Condition is normal. (Noise occurs for 2—3 s immediately after A/C compressor turns on.)
6	INSPECT IDLE SPEED - Inspect idle speed. (See 01–10A–30 ENGINE TUNE-UP [L8, LF].) (See 01–10B–30 ENGINE TUNE-UP [MZR-CD (RF Turbo)].) - Is it okay?	Yes	Go to the next step.
		No	Follow the repair instruction described in section 01, then go to Step 19.
7	INSPECT REFRIGERANT AMOUNT - Inspect refrigerant amount. - Is it okay?	Yes	Go to Step 10.
		No	Go to the next step.
8	INSPECT REFRIGERANT LINES - Inspect refrigerant lines. - Is piping free of damage and cracks? - Are piping connections free of oil grime? (Visual inspection) - Are piping connections free of gas leakage? - Are piping installation points on condenser free of gas leakage? - Are piping installation points on receiver/drier free of gas leakage? - Are piping installation points on A/C compressor free of gas leakage? - Are piping installation points on A/C unit free of gas leakage? - Perform gas leak inspection using gas leak tester. - Are above items okay?	Yes	Go to the next step.
		No	If piping or A/C component(s) is damaged or cracked, replace then go to Step 19. If there is gas leakage, repair or replace connection and replace condenser*, then go to Step 19.
9	INSPECT EVAPORATOR PIPING CONNECTIONS IN A/C UNIT FOR GAS LEAKAGE Are piping connections for evaporator in A/C unit free of gas leakage?	Yes	Adjust refrigerant amount to specified level, then go to Step 19.
		No	If piping is damaged or cracked, replace then go to Step 19. If there is gas leakage, repair or replace connection and replace condenser*, then go to Step 19.
10	CHECK TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL OR ELSEWHERE - Add 20 ml {20 cc, 0.8 fl oz} of compressor oil. - Is noise heard when racing engine?	Yes	Go to the next step.
		No	Troubleshooting completed. Explain repair to customer.
11	CHECK TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR ELSEWHERE - Drain compressor oil. - Is it contaminated with metal particles?	Yes	Go to the next step.
		No	Replace A/C compressor, then go to Step 19.

SYMPTOM TROUBLESHOOTING

STEP	INSPECTION		ACTION
12	CHECK TO SEE WHETHER MALFUNCTION IS SOMEWHERE IN A/C SYSTEM OR ELSEWHERE Is compressor oil whitish and mixed with water?	Yes	Replace entire A/C system (excluding heater), then go to Step 19.
		No	Go to the next step.
13	INSPECT A/C COMPRESSOR OIL Is compressor oil darker than normal and contaminated with aluminum chips?	Yes	Replace A/C compressor and condenser, then go to Step 19. (Since A/C compressor may be worn and receiver/drier may be clogged, replacement of receiver/drier is necessary.)
		No	Condition is normal. Recheck malfunction symptoms.
14	CHECK TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR ELSEWHERE Is noise heard immediately after A/C compressor is stopped?	Yes	Replace A/C compressor, then go to Step 19. (A/C compressor discharge valve left open)
		No	Go to the next step.
15	INSPECT DRIVE BELT - Inspect drive belt. (See 01-10A-2 DRIVE BELT INSPECTION [L8, LF].) (See 01-10B-3 DRIVE BELT INSPECTION [MZR-CD (RF Turbo)].) - Is it okay?	Yes	Go to the next step.
		No	Adjust or replace drive belt, then go to Step 19.
16	INSPECT DRIVE BELT CONDITION - Is drive belt worn? - Does it have foreign material imbedded in it, or have oil on it?	Yes	Remove obstruction, remove oil, or replace drive belt, then go to Step 19.
		No	Go to the next step.
17	INSPECT MAGNETIC CLUTCH - Inspect magnetic clutch. (See 07-40-27 MAGNETIC CLUTCH INSPECTION [LF, L8].) (See 07-40-28 MAGNETIC CLUTCH INSPECTION [MZR-CD (RF Turbo)].) - Is it okay?	Yes	Replace A/C compressor (excluding pressure plate, A/C compressor pulley, and stator), then go to Step 19.
		No	Replace magnetic clutch, then go to Step 19.
18	CHECK TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR REFRIGERANT LINES Is noise emitted from A/C compressor?	Yes	Visually inspect A/C compressor, replace appropriate parts if necessary, then go to the next step.
		No	If noise is due to refrigerant lines, repair detached or missing clips, tighten loose bolts, then go to the next step.
19	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Has A/C compressor noise stopped?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

- * : If there is gas leakage, air enters into the A/C system. The desiccant within the receiver/drier absorbs the moisture from the air and becomes saturated. If the A/C system is used in this condition, the inside of the A/C compressor will begin to rust due to this moisture, which may cause lock up or noise to occur. Therefore, replacement of the receiver/drier is necessary.

REFRIGERANT SYSTEM

07-10 REFRIGERANT SYSTEM

REFRIGERANT SYSTEM SERVICE		REFRIGERANT CHARGING	07-10-2
WARNINGS	07-10-1	REFRIGERANT PRESSURE CHECK . . .	07-10-5
REFRIGERANT SYSTEM SERVICE		REFRIGERANT SYSTEM PERFORMANCE	
CAUTIONS	07-10-1	TEST	07-10-6
REFRIGERANT SYSTEM GENERAL		REFRIGERANT RECOVERY	07-10-7
PROCEDURES	07-10-2		

REFRIGERANT SYSTEM SERVICE WARNINGS

DPE07100000W01

Handling Refrigerant

- Avoid breathing air conditioning refrigerant or lubricant vapor. Exposure may irritate eyes, nose and throat. Also, due to environmental concerns, we urge use of recovery/recycling/recharging equipment when draining R-134a from the air conditioning system. If accidental system discharge occurs, ventilate work area before resuming service.
- Do not perform pressure test or leak test for R-134a service equipment and/or vehicle air conditioning system using compressed air. Some mixtures of air and R-134a have been shown to be combustible at elevated pressures. These mixtures, if ignited, may cause injury or property damage. Additional health and safety information may be obtained from refrigerant manufacturers.
- Do not allow the refrigerant to leak near fire or any kind of heat. A poisonous gas may be generated if the refrigerant gas contacts fire or heat such as from cigarettes and heaters. When carrying out any operation that can cause refrigerant leakage, extinguish or remove the above-mentioned heat sources and maintain adequate ventilation.
- Handling liquid refrigerant is dangerous. A drop of it on the skin can result in localized frostbite. When handling the refrigerant, wear gloves and safety goggles. If refrigerant splashes into the eyes, immediately wash them with clean water and consult a doctor.

Storing Refrigerant

- The refrigerant container is highly pressurized. If it is subjected to high heat, it could explode, scattering metal fragments and liquid refrigerant that can seriously injure you. Store the refrigerant at temperatures below 40 °C {104 °F}.

REFRIGERANT SYSTEM SERVICE CAUTIONS

DPE07100000W02

Handling Insufficient Refrigerant Level

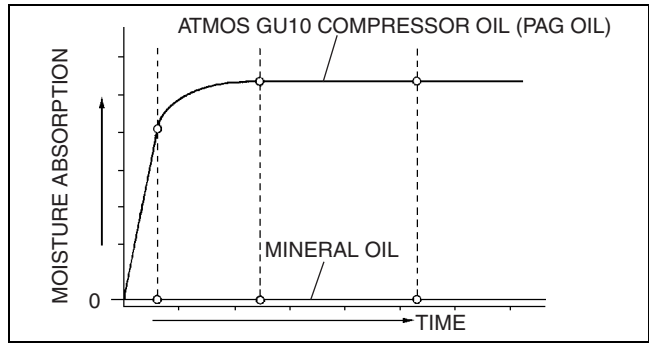
- If an insufficient refrigerant level is detected at troubleshooting, do not charge (add) the refrigerant. Because an accurate amount of refrigerant cannot be determined from the pressure indicated on the manifold gauge, never charge the refrigerant. If there is too much or too little refrigerant from the refilling, there may be secondary problems such as damage to the refrigerant cycle parts, or a decrease of cooling performance. Therefore, if it is determined that the refrigerant level is insufficient, completely remove refrigerant from the refrigerant cycle and refill with refrigerant to the specified amount.

Handling Compressor Oil

- Use only ATMOS GU10 compressor oil for this vehicle. Using a PAG oil other than ATMOS GU10 compressor oil can damage the A/C compressor.
- Do not spill ATMOS GU10 compressor oil on the vehicle. A drop of compressor oil on the vehicle surface can eat away at the paint. If oil gets on the vehicle, wipe it off immediately.
- ATMOS GU10 compressor oil (PAG oil) has a higher moisture absorption efficiency than the previously used mineral oil. If moisture mixes with the compressor oil, the refrigerant system could be damaged. Therefore, install caps immediately after using the compressor oil or removing refrigerant system parts to prevent moisture absorption.

REFRIGERANT SYSTEM

- If the refrigerant gas is completely discharged from the system for reasons such as a malfunction during A/C operation, repair or replace the malfunctioning part, charge the refrigerant to the specified amount and always add 60 ml {60 cc, 2.03 fl oz} of compressor. If the compressor oil is not adequately replenished, the A/C compressor may quickly deteriorate, abnormal noise may develop, cooling performance may be affected or, in the worst case, the A/C compressor may seize.

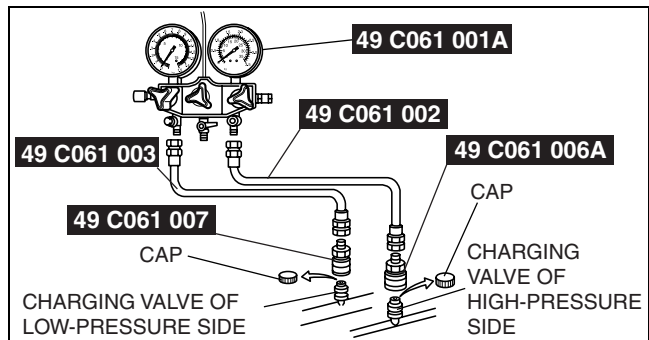


B3E0710W001

REFRIGERANT SYSTEM GENERAL PROCEDURES

1. Fully close the valves of the **SST** (49 C061 001A).
2. Connect the **SSTs** (49 C061 002, 49 C061 003) to the high- and low-pressure side joints of the **SST** (49 C061 001A).
3. Connect the **SSTs** (49 C061 006A, 49 C061 007) to the ends of the **SSTs** (49 C061 002, 49 C061 003).
4. Connect the **SSTs** (49 C061 006A, 49 C061 007) to the charging valves.

DPE07100000W04



BHE0710W001

REFRIGERANT CHARGING

DPE071078834W01

Caution

- Do not exceed the specification when charging the system with refrigerant. Doing so will decrease the efficiency of the air conditioner or damage the refrigeration cycle parts.

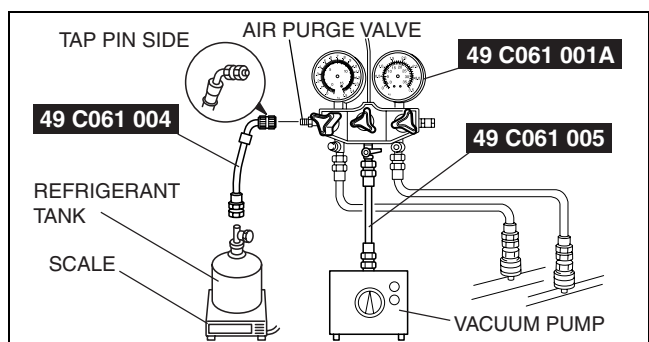
Charging Recycled R-134a Refrigerant

1. Connect an R-134a recovery/recycling/recharging device to the vehicle and follow the device manufacturer's instructions.

Charging Preparation

1. Install the **SSTs** (49 C061 0A0B).
2. Connect the tap pin side of the **SST** (49 C061 004) to the air purge valve of the **SST** (49 C061 001A).
3. Connect the **SST** (49 C061 005) to the center joint of the **SST** (49 C061 001A).
4. Connect the **SST** (49 C061 005) to the vacuum pump.
5. Connect the **SST** (49 C061 004) to the refrigerant tank.
6. Place the refrigerant tank on the scale.

Regular amount of refrigerant (approx. quantity)
500 g {17.65 oz}



DPE710ZW1104

Evacuation

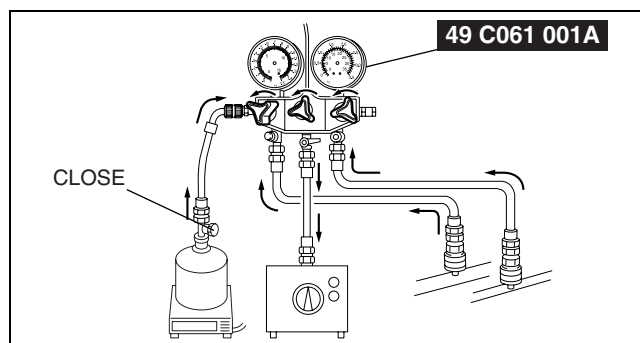
1. Open all the valves of the **SST** (49 C061 001A).

REFRIGERANT SYSTEM

Caution

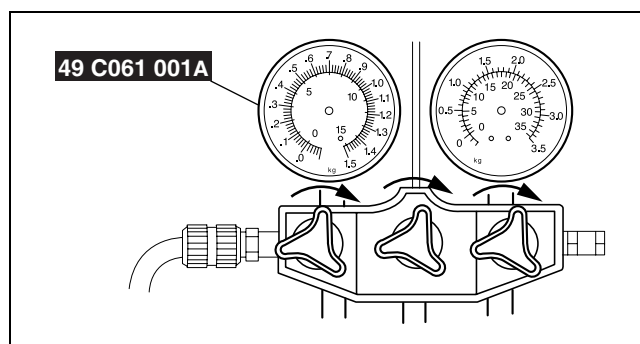
- Close the SST (49 C061 001A) valve immediately after stopping the vacuum pump. If the valve is left open, the vacuum pump oil will flow back into the refrigeration cycle and cause a decrease in the efficiency of the air conditioner.

2. Start the vacuum pump and let it operate for 15 min.



DPE710ZW1105

3. Verify that high- and low-pressure side readings of the SST (49 C061 001A) are at **-101 kPa {-760 mmHg, -29.9 inHg}**. Close each valve of the SST (49 C061 001A).



BHE0710W002

Airtightness Check

1. Stop the vacuum pump and wait for 5 min.
2. Check the high- and low-pressure side readings of the SST (49 C061 001A).
 - If the reading has changed, inspect for leakage and go to Evacuation. (See 07-10-2 Evacuation.)
 - If the reading has not changed, go to Charging New R-134a Refrigerant. (See 07-10-3 Charging New R-134a Refrigerant.)

Charging New R-134a Refrigerant

1. Open the valve of the refrigerant tank.
2. Weigh the refrigerant tank to charge the suitable amount of refrigerant.

Warning

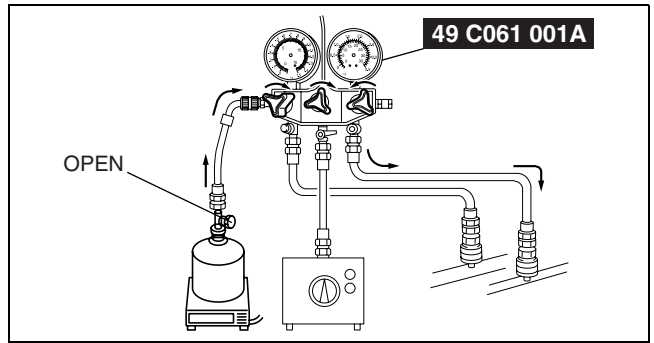
- If the refrigerant system is charged with a large amount of refrigerant when inspecting for gas leakage, and if any leakage should occur, the refrigerant will be released into the atmosphere. In order to prevent the accidental release of refrigerant which can destroy the ozone layer in the stratosphere, follow the proper procedures and charge with only a small amount of refrigerant when inspecting for gas leakage.
- If charging the system with refrigerant using service cans, running the engine with the high-pressure side valve open is dangerous. Pressure within the service cans will increase and the cans could explode, scattering metal fragments and liquid refrigerant that can seriously injure you. Therefore, do not open the high-pressure side valve while the engine is running.

Caution

- Always being charging of refrigerant from the high-pressure side. If changing is begun from the low-pressure side, the vanes of the A/C compressor will not be released and abnormal noise may result.

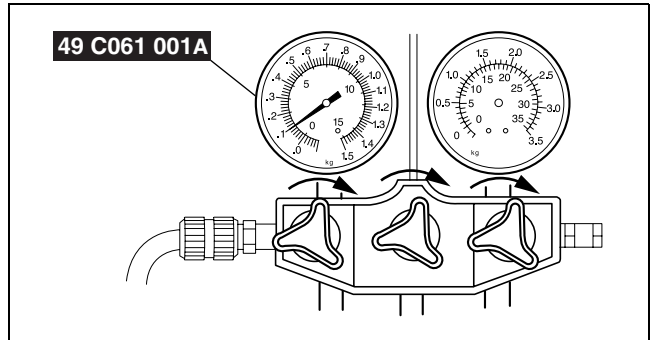
REFRIGERANT SYSTEM

- Open the high-pressure side valve of the **SST** (49 C061 001A).



DPE710ZW1106

- When the low-pressure side reading increases to **0.098 MPa {1.0 kgf/cm², 14 psi}**, close the high-pressure side valve of the **SST** (49 C061 001A).
- Inspect for leakage from the cooler pipe/hose connections using the **SST** (49 C061 013).
 - If there is no leakage, go to Step 7.
 - If leakage is found at a loose joint, tighten the joint, then go to the next step.
- Inspect for leakage again.
 - If there is no leakage after tightening the joint, go to the next step.
 - If there is still a leakage at the same joint, discharge the refrigerant and then repair the joint. Repeat the charging procedure from evacuation.

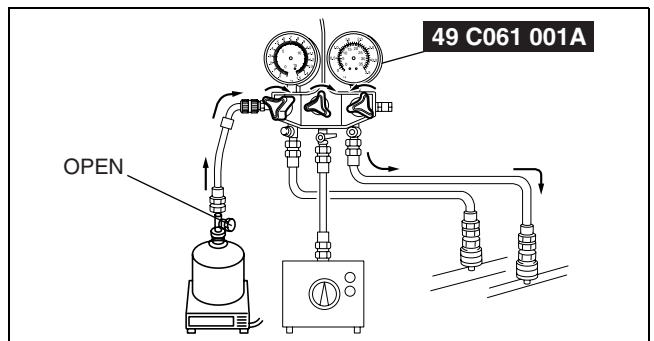


B3E0710W003

Warning

- If charging the system with refrigerant using service cans, running the engine with the high-pressure side valve open is dangerous. Pressure within the service cans will increase and the cans could explode, scattering metal fragments and liquid refrigerant that can seriously injure you. Therefore, do not open the high-pressure side valve while the engine is running.

- Open the high-pressure side valve of the **SST** (49 C061 001A) and charge with refrigerant until the weight of refrigerant tank has decreased **250 g {8.83 oz}** from the amount in Step 2.

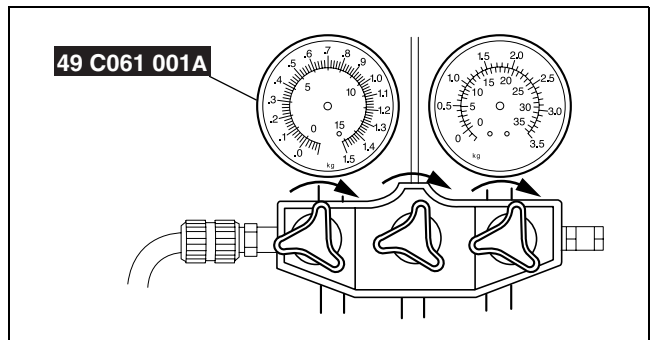


DPE710ZW1106

- Close the low-pressure side valve of the **SST** (49 C061 001A).

Warning

- If charging the system with refrigerant using service cans, running the engine with the high-pressure side valve open is dangerous. Pressure within the service cans will increase and the cans could explode, scattering metal fragments and liquid refrigerant that can seriously injure you. Therefore, do not open the high-pressure side valve while the engine is running.

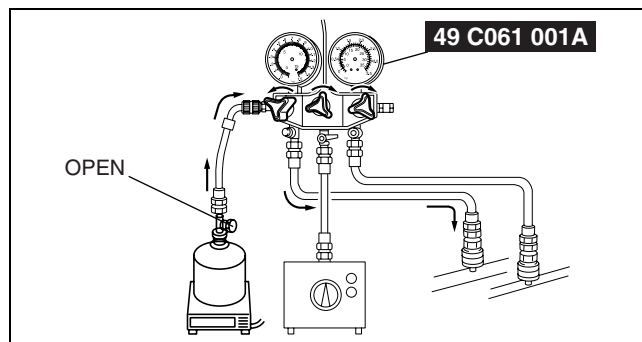


BHE0710W002

- Start the engine and actuate the A/C compressor.

REFRIGERANT SYSTEM

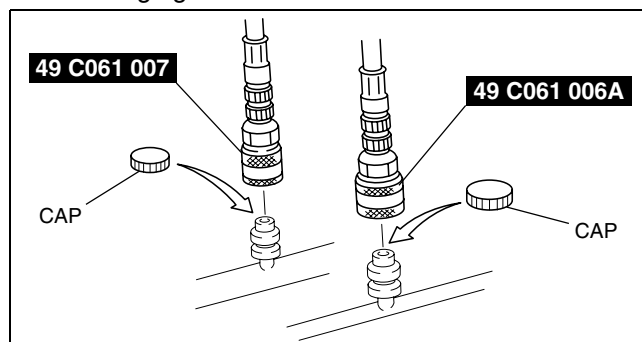
10. Open the low-pressure side valve of the **SST** (49 C061 001A) and charge with refrigerant until the weight of the refrigerant tank has decreased regular amount from the amount in Step 2.
11. Close the low-pressure side valve of the **SST** (49 C061 001A) and the valve of the refrigerant tank.
12. Stop the engine and A/C compressor.



DPE710ZW1107

Leak Test

1. Inspect for leakage using the **SST** (49 C061 013).
 - If there is no leakage, go to Step 3.
 - If leakage is found at a loose joint, tighten the joint, then go to the next step.
2. Inspect for leakage again.
 - If there is no leakage after tightening the joint, go to the next step.
 - If there is still leakage at the same joint, discharge the refrigerant and then repair the joint. Repeat the charging procedure from evacuation.
3. Disconnect the **SSTs** (49 C061 006A, 49 C061 007) from the charging valves.
4. Install the caps to the charging valves.



B3E0710W002

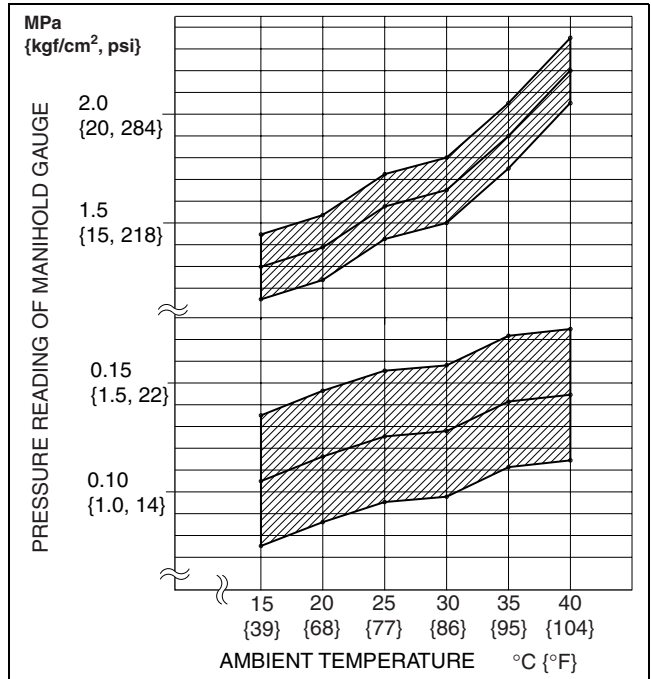
REFRIGERANT PRESSURE CHECK

1. Install the **SSTs** (49 C061 0A0B). (See 07-10-2 REFRIGERANT SYSTEM GENERAL PROCEDURES.)
2. Start the engine and after it is warmed up, run it at a constant **1,500 rpm**.
3. Set the fan speed MAX HI.
4. Turn the A/C switch on.
5. Set to RECIRCULATE mode.
6. Set the temperature control to MAX COLD.
7. Set to VENT mode.
8. Close all the doors and all the windows.
9. Measure the ambient temperature and high- and low- pressure side reading of the **SST** (49 C061 001A).
10. Verify that the intersection of the pressure reading of the **SST** (49 C061 001A) and ambient temperature is in the shaded zone.
 - If there is any malfunction, inspect the refrigerant system according to the troubleshooting chart.

DPE071078834W03

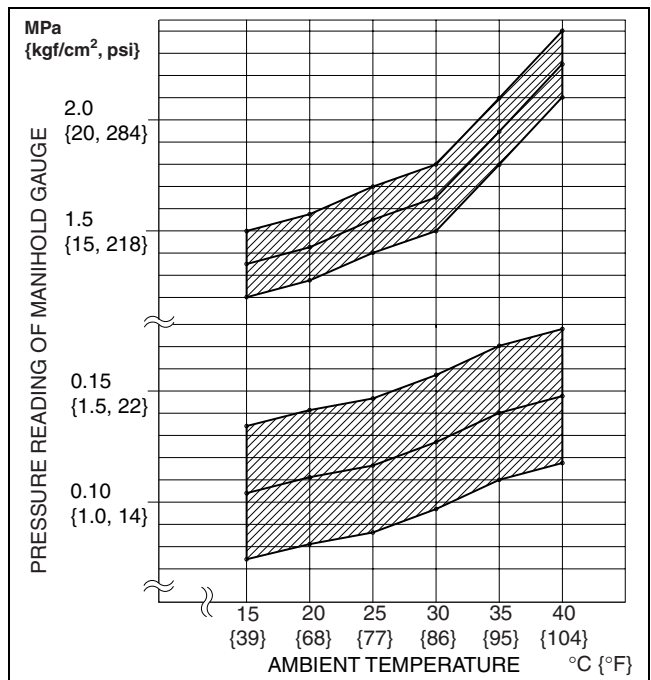
REFRIGERANT SYSTEM

LF, L8



DPE710ZW1108

MZR-CD (RF Turbo)

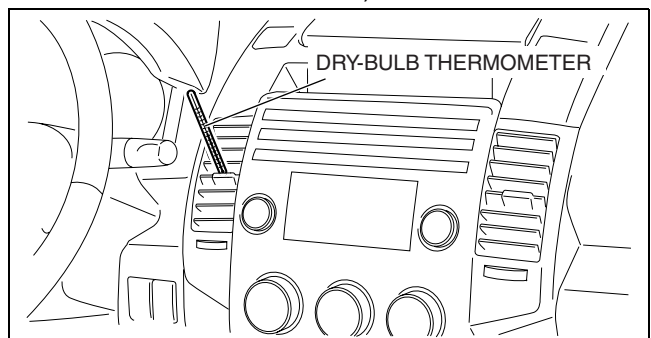


DPE710ZW1109

REFRIGERANT SYSTEM PERFORMANCE TEST

DPE071078834W05

1. Inspect the refrigerant pressure. (See 07-10-5 REFRIGERANT PRESSURE CHECK.)
2. Place a dry-bulb thermometer in the driver-side center ventilator outlet.
3. Start the engine and after it is warmed up, run it at a constant **1,500 rpm**.
4. Set the fan speed to MAX HI.
5. Turn the A/C switch on.
6. Set to RECIRCULATE mode.
7. Set the temperature control to MAX COLD.
8. Set to VENT mode.
9. Close all the doors and windows.
10. Wait until the air conditioner output temperature stabilizes.



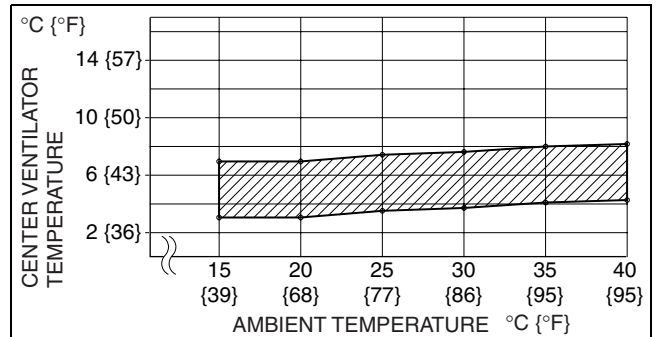
DPE710ZW1101

REFRIGERANT SYSTEM

Stabilized condition

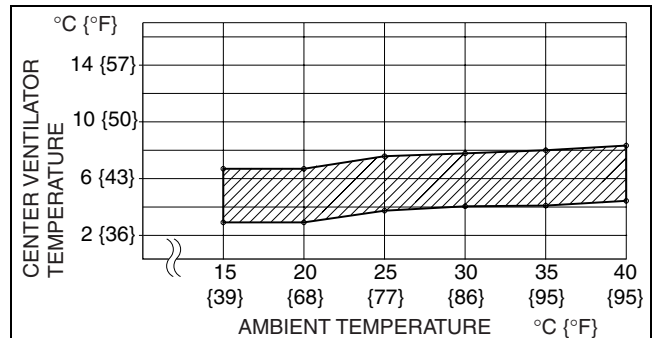
- The A/C compressor repeatedly turns on and off at regular intervals.
11. After the blower air is stabilized, read the dry-bulb thermometer.
 12. Verify the ambient temperature.
 13. Verify that the temperature reading is in the shaded zone.
 - If there is any malfunction, inspect the refrigerant system according to the troubleshooting chart.

LF, L8



DPE710ZW1110

MZR-CD (RF Turbo)



DPE710ZW1111

REFRIGERANT RECOVERY

DPE071078834W04

1. Connect an R-134a recovery/recycling/recharging device to the vehicle and follow the device manufacturer's instructions.

BASIC SYSTEM

07-11 BASIC SYSTEM

HVAC BASIC SYSTEM LOCATION

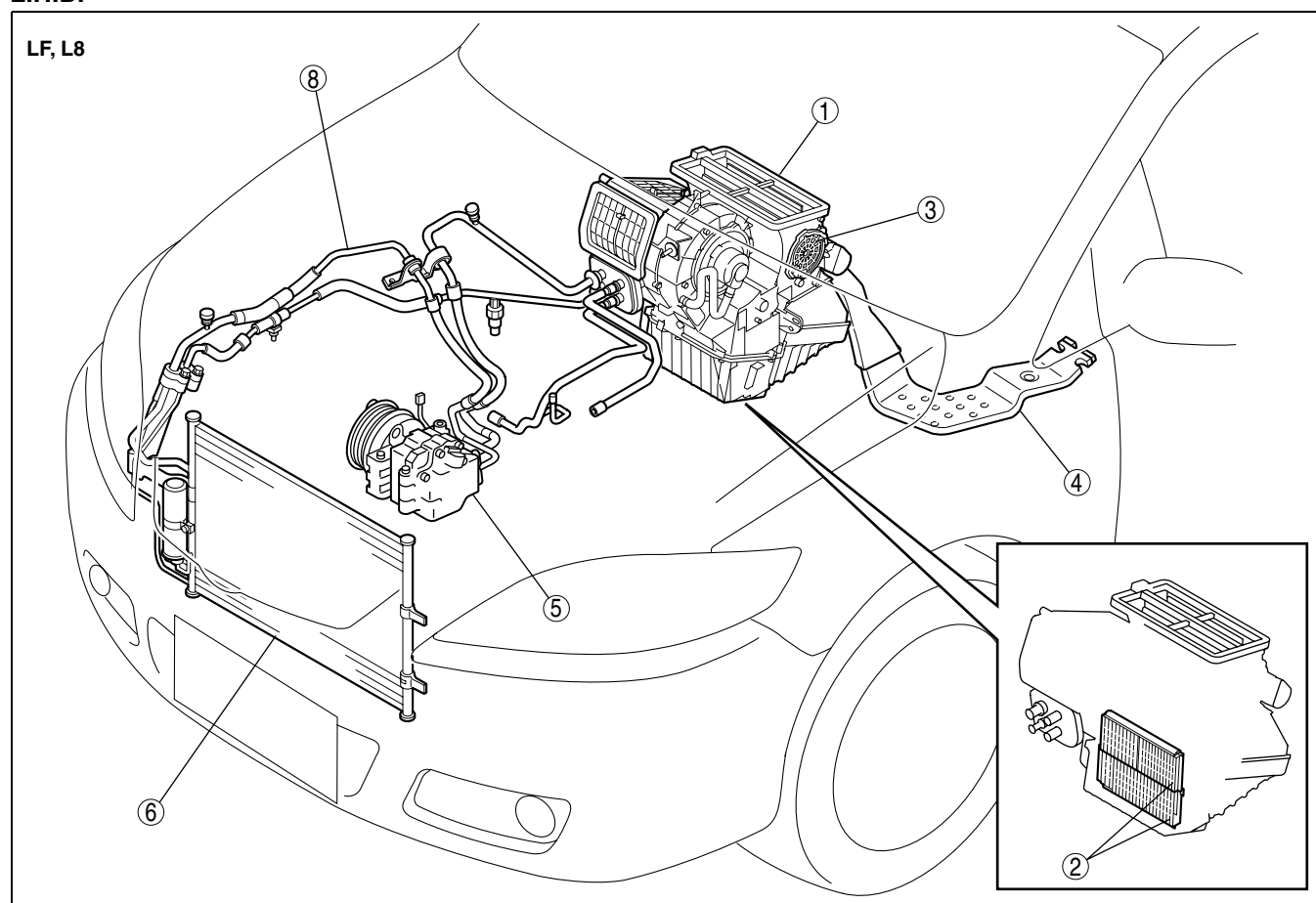
INDEX	07-11-1
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REFRIGERANT LINES REMOVAL/ INSTALLATION [LF, L8]	07-11-29
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HVAC BASIC SYSTEM LOCATION INDEX

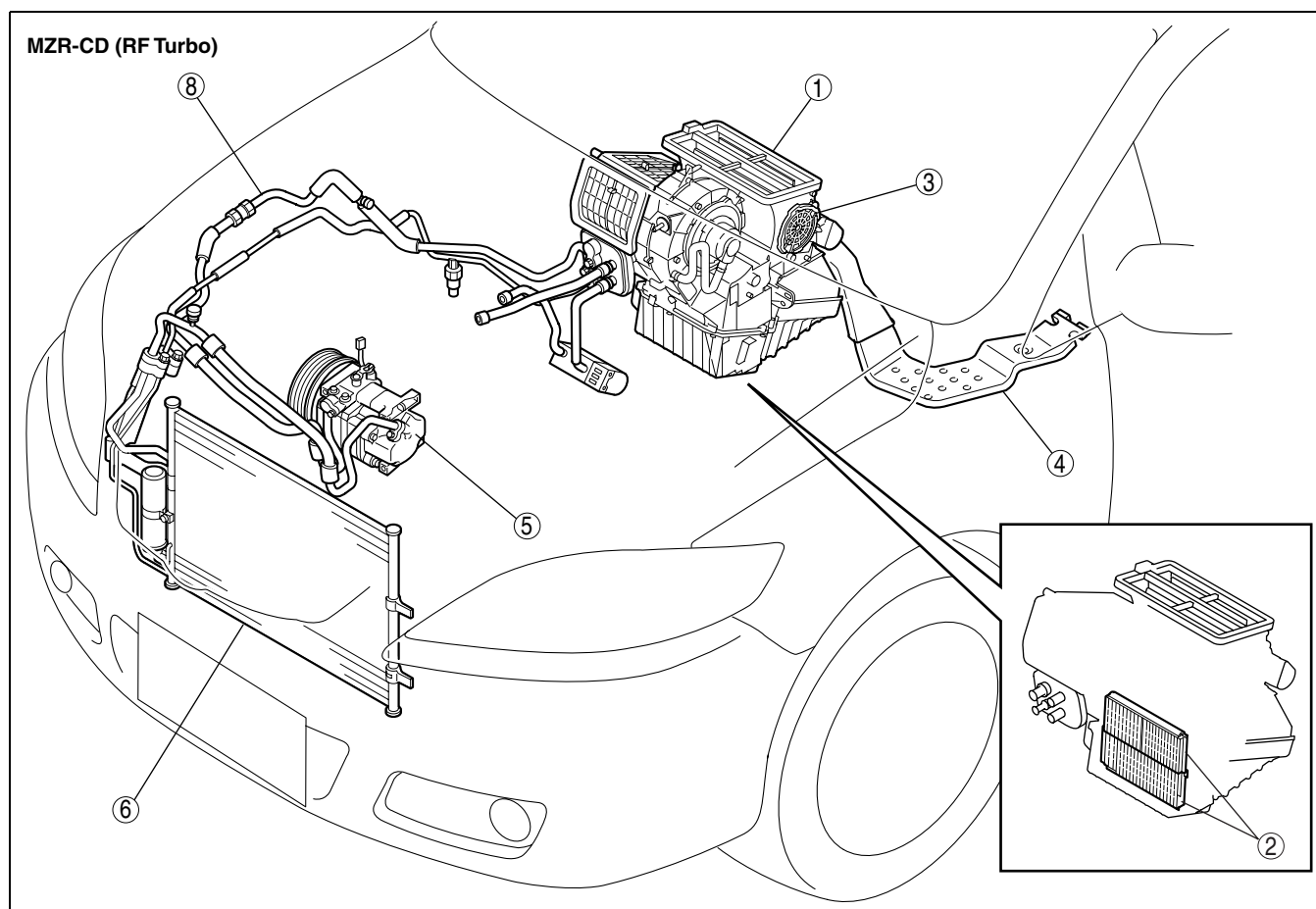
L.H.D.

DPE07110000W01



DPE711ZW1001

BASIC SYSTEM

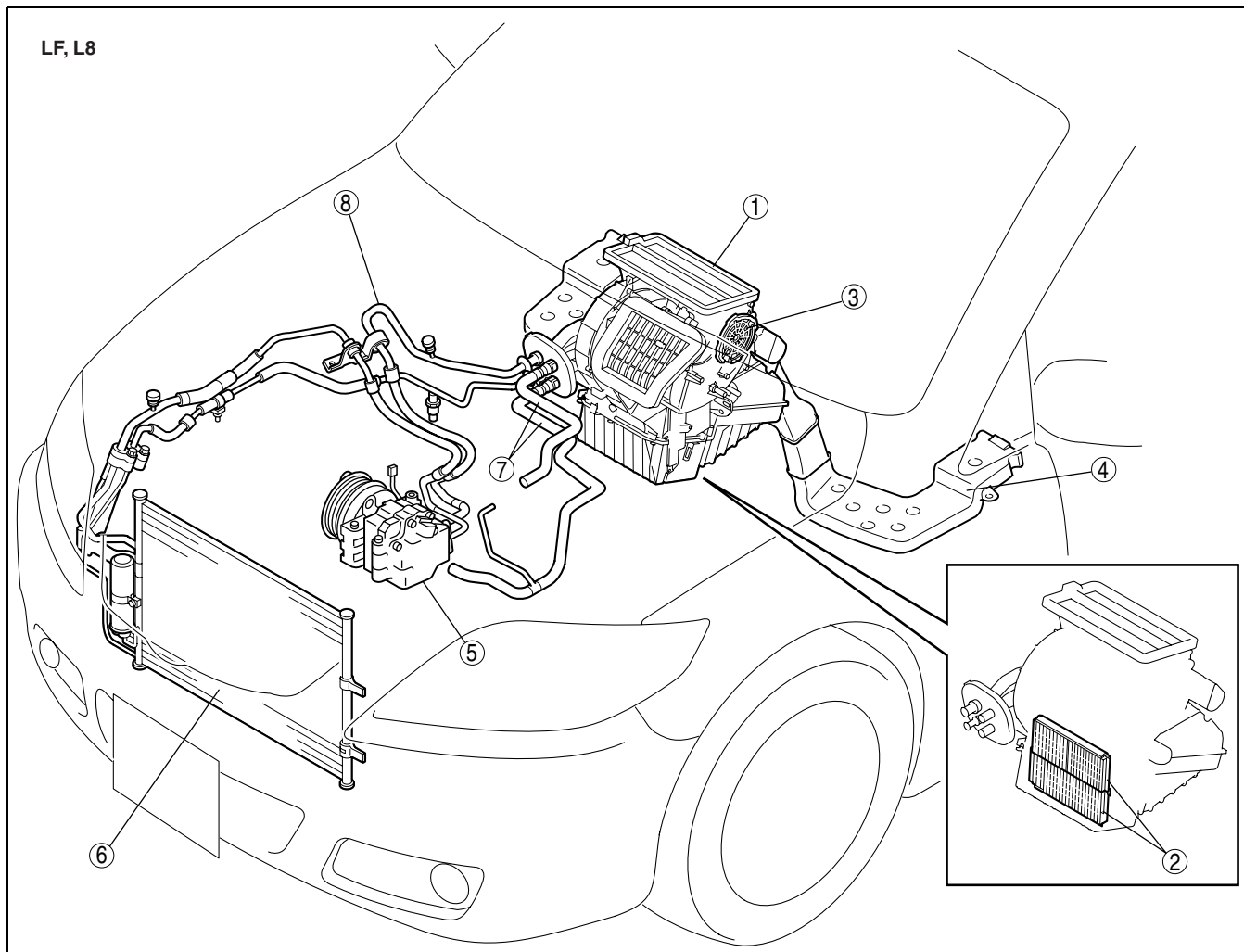


DPE711ZW1002

BASIC SYSTEM

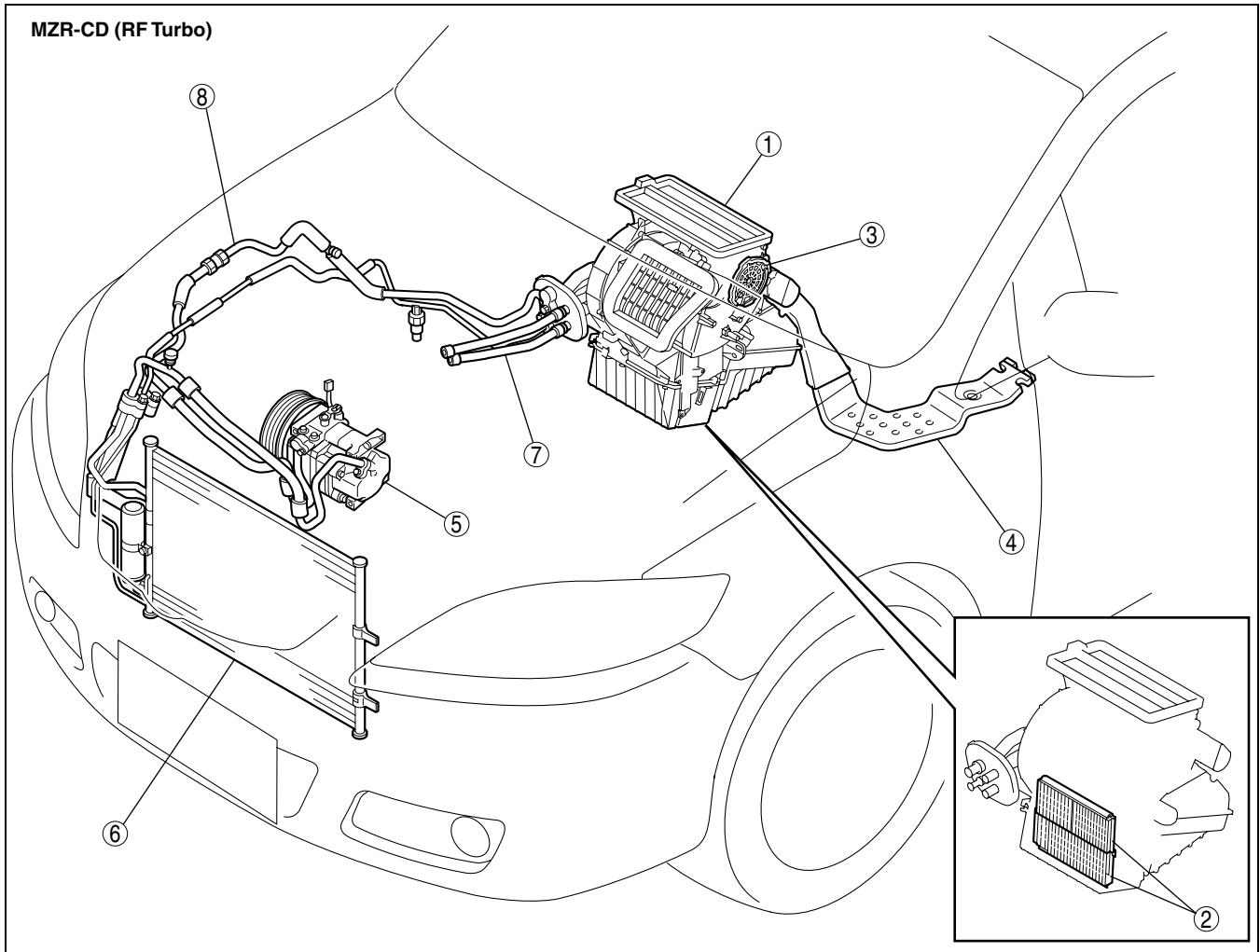
R.H.D.

LF, L8



DPE711ZW1110

BASIC SYSTEM



DPE711ZW1003

1	A/C unit (See 07-11-4 A/C UNIT REMOVAL/INSTALLATION.) (See 07-11-7 A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER (LF, L8)].) (See 07-11-10 A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER (MZR-CD (RF Turbo))].) (See 07-11-14 A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER (LF, L8)].) (See 07-11-17 A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER (MZR-CD (RF Turbo))].) (See 07-11-21 EXPANSION VALVE REMOVAL/INSTALLATION.) (See 07-11-22 EVAPORATOR INSPECTION.) (See 07-11-22 HEATER CORE INSPECTION.)
2	Air filter (See 07-11-20 AIR FILTER REMOVAL/INSTALLATION.) (See 07-11-21 AIR FILTER INSPECTION.)

3	Airflow mode main link (See 07-11-23 AIRFLOW MODE MAIN LINK REMOVAL/INSTALLATION.)
4	Rear heat duct (See 07-11-24 REAR HEAT DUCT REMOVAL/INSTALLATION.)
5	A/C compressor (See 07-11-25 A/C COMPRESSOR REMOVAL/INSTALLATION [LF, L8].) (See 07-11-27 A/C COMPRESSOR REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)
6	Condenser (See 07-11-27 CONDENSER REMOVAL/INSTALLATION.) (See 07-11-28 CONDENSER INSPECTION.)
7	Heater hose
8	Refrigerant line (See 07-11-29 REFRIGERANT LINES REMOVAL/INSTALLATION [LF, L8].) (See 07-11-32 REFRIGERANT LINES REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)

A/C UNIT REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.

07-11-4

DPE071161132W01

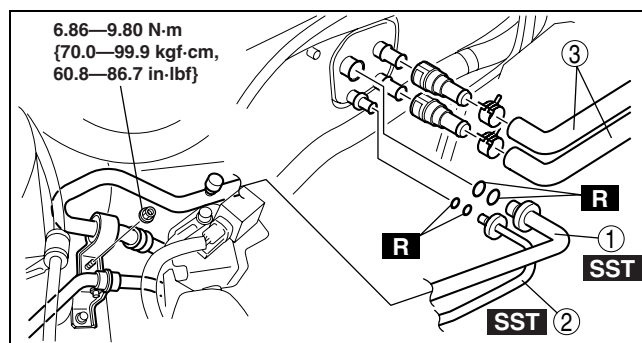
BASIC SYSTEM

2. Discharge the refrigerant. (See 07-10-2 REFRIGERANT CHARGING.)
3. Drain the engine coolant. (See 01-12A-3 ENGINE COOLANT REPLACEMENT [L8, LF].) (See 01-12B-3 ENGINE COOLANT REPLACEMENT [MZR-CD (RF Turbo)].)
4. Disconnect from the A/C unit in the order indicated in the table.

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunction could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

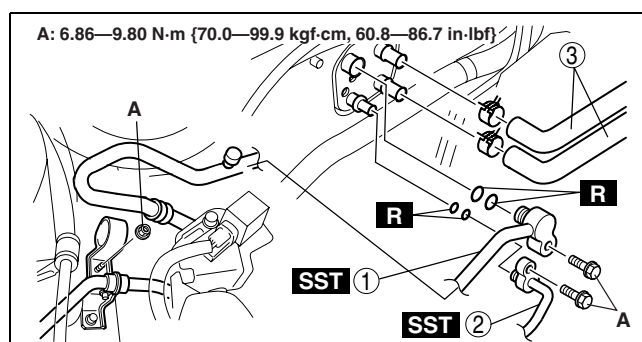
LF, L8



DPE711ZW1101

MZR-CD (RF Turbo)

1	Cooler hose (LO) (LF, L8), cooler pipe No.2 (MZR-CD (RF Turbo)) (See 07-11-30 Refrigerant Line Removal Note.) (See 07-11-31 Refrigerant Line Installation Note.)
2	Cooler pipe No.1 (See 07-11-30 Refrigerant Line Removal Note.) (See 07-11-31 Refrigerant Line Installation Note.)
3	Heater hose



DPE711ZW1004

5. Remove the following parts:
 - (1) Front doors (See 09-11-2 FRONT DOOR REMOVAL/INSTALLATION.)
 - (2) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (3) Front side trim (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (4) Side panel (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (5) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (6) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (7) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (8) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (9) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
 - (10) Lower panel (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.)
 - (11) Center panel module (vehicles with audio unit) (See 09-20-6 CENTER PANEL MODULE REMOVAL/INSTALLATION.)
 - (12) Center panel (vehicles without audio unit) (See 09-17-15 CENTER PANEL REMOVAL/INSTALLATION.)
 - (13) Driver-side air bag module (See 08-10-5 DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION.)
 - (14) Meter hood (See 09-17-7 METER HOOD REMOVAL/INSTALLATION.)
 - (15) Lower column cover (See 09-17-7 COLUMN COVER REMOVAL/INSTALLATION.)
 - (16) Instrument cluster (See 09-22-1 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
 - (17) Steering shaft (See 06-14-7 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)
 - (18) A-pillar trim (See 09-17-15 A-PILLAR TRIM REMOVAL/INSTALLATION.)
 - (19) Air mix wire (Manual air conditioner)
 - (20) Airflow mode wire (Manual air conditioner)
 - (21) Climate control unit (See 07-40-35 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40-36 CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].) (See 07-40-37 CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER].)
 - (22) Windshield wiper arm and blade (See 09-19-3 WINDSHIELD WIPER ARM AND BLADE REMOVAL/

BASIC SYSTEM

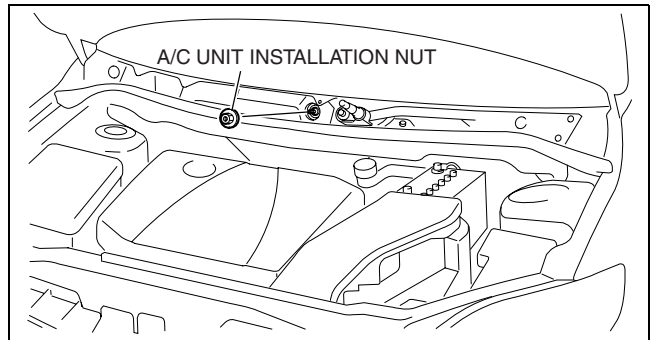
INSTALLATION.)

(23)Cowl grille (See 09-16-2 COWL GRILLE REMOVAL/INSTALLATION.)

(24)Cowl panel (See 09-10-11 COWL PANEL REMOVAL/INSTALLATION.)

(25)Engine cover (MZR-CD (RF Turbo)

6. Remove the A/C unit installation nut from the engine compartment, then remove the A/C unit. (See 07-11-6 A/C Unit Installation Nut Removal Note.)
7. Remove the rear heat duct (1). (See 07-11-24 REAR HEAT DUCT REMOVAL/INSTALLATION.)
8. Disconnect the drain hose connected to the A/C unit.
9. Remove the dashboard with A/C unit. (See 09-17-4 DASHBOARD REMOVAL/INSTALLATION.)



DPE711ZW1102

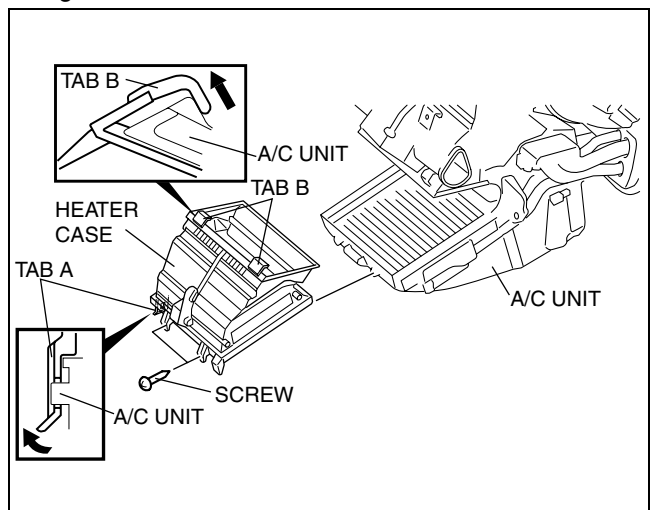
Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunction could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

10. Disconnect the following connectors:
 - Blower motor connector
 - Power MOS FET connector (Full-auto air conditioner)
 - Evaporator temperature sensor connector
 - Air intake actuator connector
 - Air mix actuator connector (Full-auto air conditioner)
 - Airflow mode actuator connector (Full-auto air conditioner)
 - Resistor connector. (Manual air conditioner)

11. Remove the heater case.
 1. Remove the screws.
 2. Pull up tab A in the direction shown by the arrow in the figure and remove it from the A/C unit.
 3. Pull up tabs B in the direction shown by the arrow in the figure and remove it from the A/C unit.

12. Remove the front heat ducts.
13. Remove the nuts and bolts for installing the A/C unit to the dashboard.
14. Remove the A/C unit.



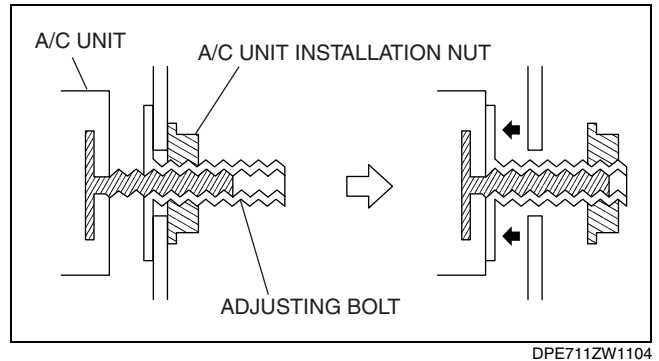
DPE711ZW1103

A/C Unit Installation Nut Removal Note

Note

- If the adjusting bolt rotates when removing the A/C unit nut, keep rotating the nut. The adjusting bolt stops rotating when it contacts the A/C unit and the nut can be removed.

BASIC SYSTEM

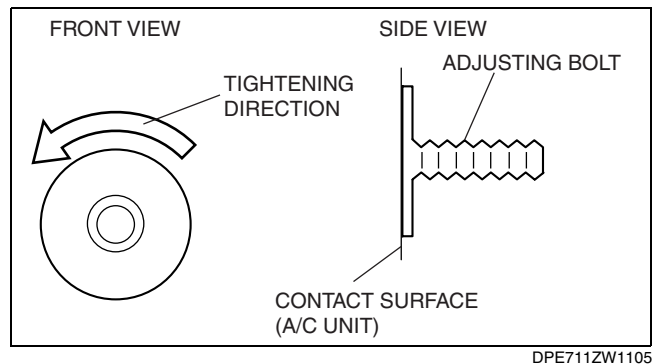


A/C Unit Installation Note

1. When replacing the A/C unit or evaporator, add compressor oil to the refrigerant cycle.

Supplemental oil amount (approx. quantity)
25 ml {25 cc, 0.8 fl oz}

2. Tighten the A/C unit adjusting bolt until it lightly touches the A/C unit.



A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER (LF, L8)]

DPE071161132W03

1. Disassemble in the order indicated in the table.

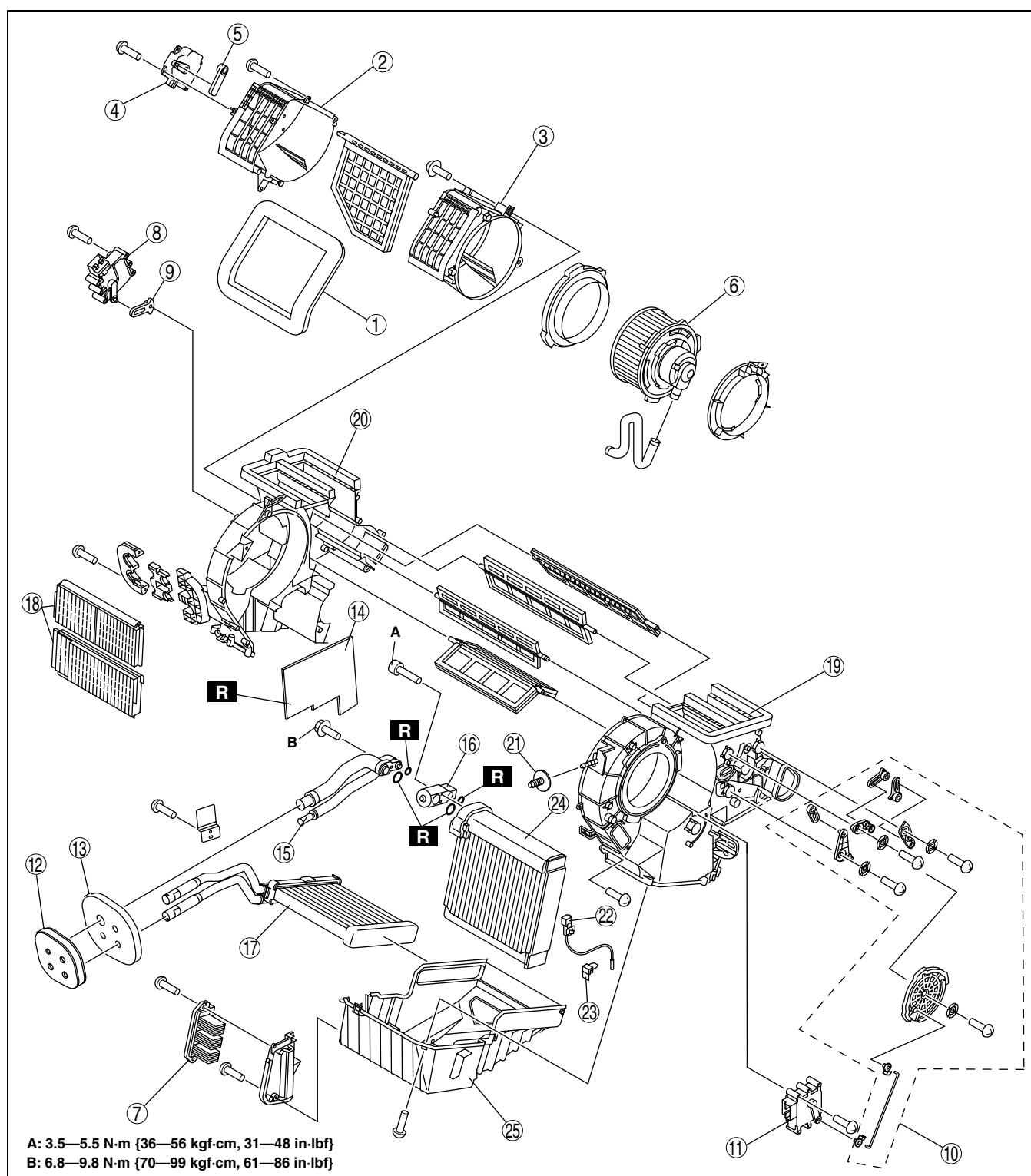
Caution

- If a non-specified grease is used, it may result in abnormal noise or improper operation of the links. Apply only the specified grease to each link.

2. Assemble in the reverse order of disassembly.

BASIC SYSTEM

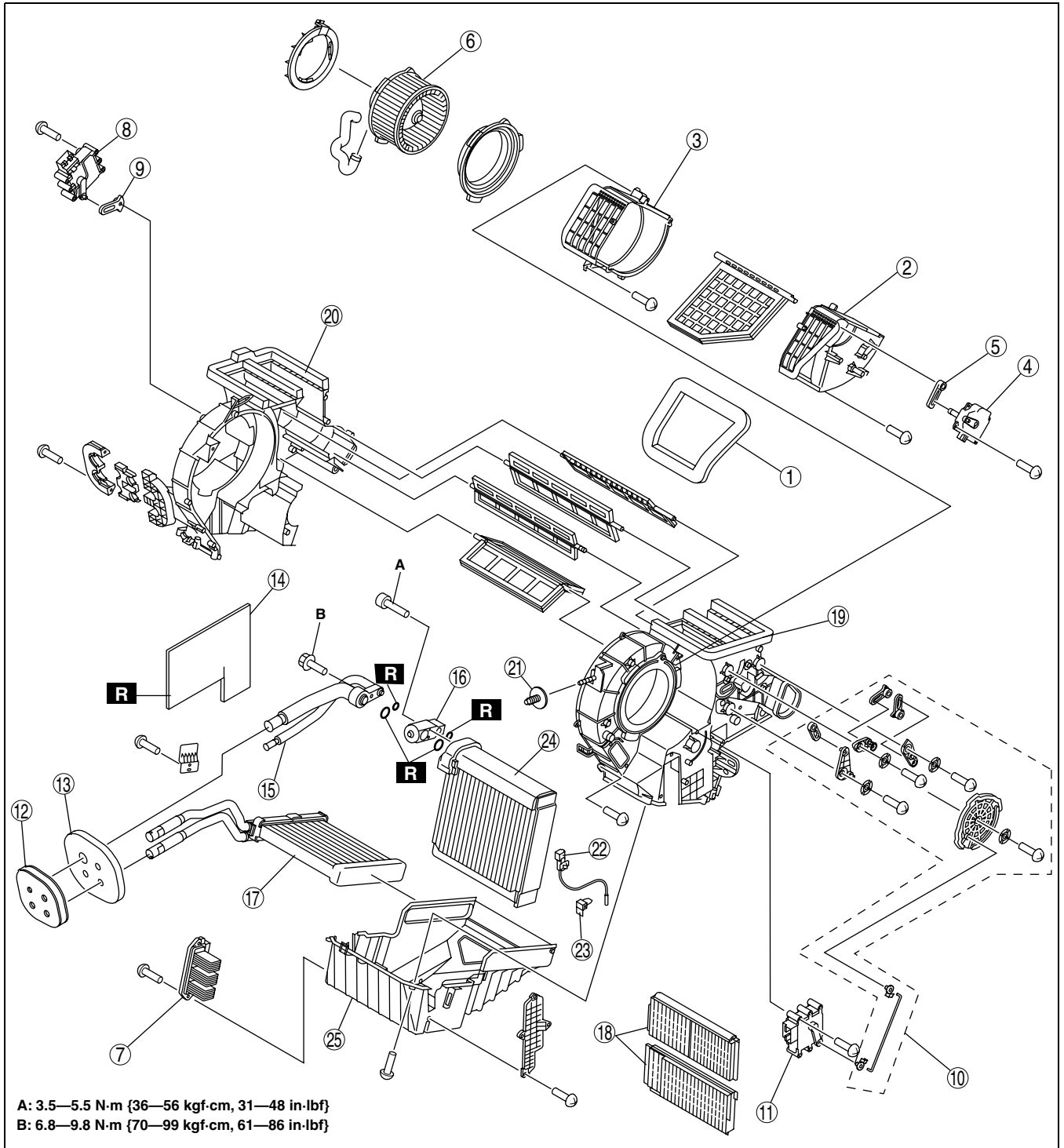
L.H.D.



DPE711ZW1005

BASIC SYSTEM

R.H.D.



DPE711ZW1006

1	Adhesive polyurethane (1)
2	Blower case (1)
3	Blower case (2)
4	Air intake actuator
5	Air intake link set
6	Blower motor (See 07-40-10 BLOWER MOTOR REMOVAL.) (See 07-40-16 BLOWER MOTOR INSTALLATION.)
7	Power MOS FET
8	Air mix actuator

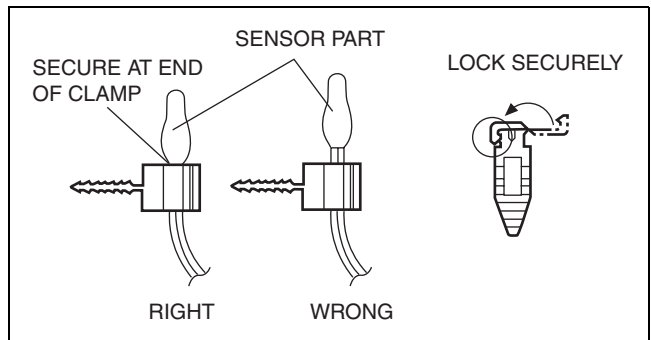
9	Air mix link set
10	Airflow mode link set
11	Airflow mode actuator
12	Polyurethane foam
13	Adhesive polyurethane (2)
14	Adhesive polyurethane (3) (See 07-11-13 Adhesive Polyurethane Assembly Note.)
15	Evaporator pipe
16	Expansion valve
17	Heater core

BASIC SYSTEM

18	Air filter
19	A/C case (1)
20	A/C case (2)
21	Adjusting bolt (See 07-11-7 A/C Unit Installation Note.)
22	Evaporator temperature sensor (See 07-11-10 Evaporator Temperature Sensor Assembly Note.)
23	Sensor clamp (See 07-11-10 Sensor Clamp Assembly Note.)
24	Evaporator
25	A/C case (3)

Sensor Clamp Assembly Note

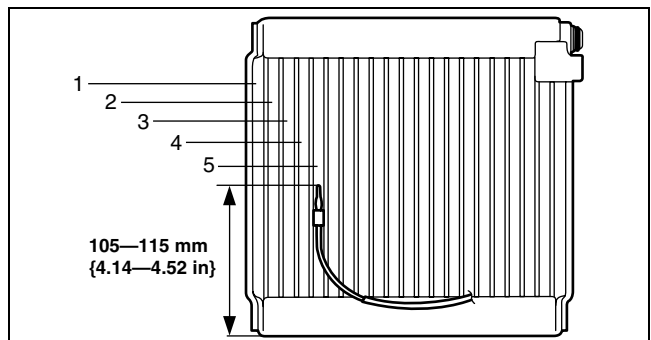
1. Attach the sensor clamp as shown in the figure.



B3E0711W010

Evaporator Temperature Sensor Assembly Note

1. Assemble the evaporator temperature sensor as shown in the figure.



B3E0711W009

A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER (MZR-CD (RF TURBO))]

DPE071161132W04

1. Disassemble in the order indicated in the table.

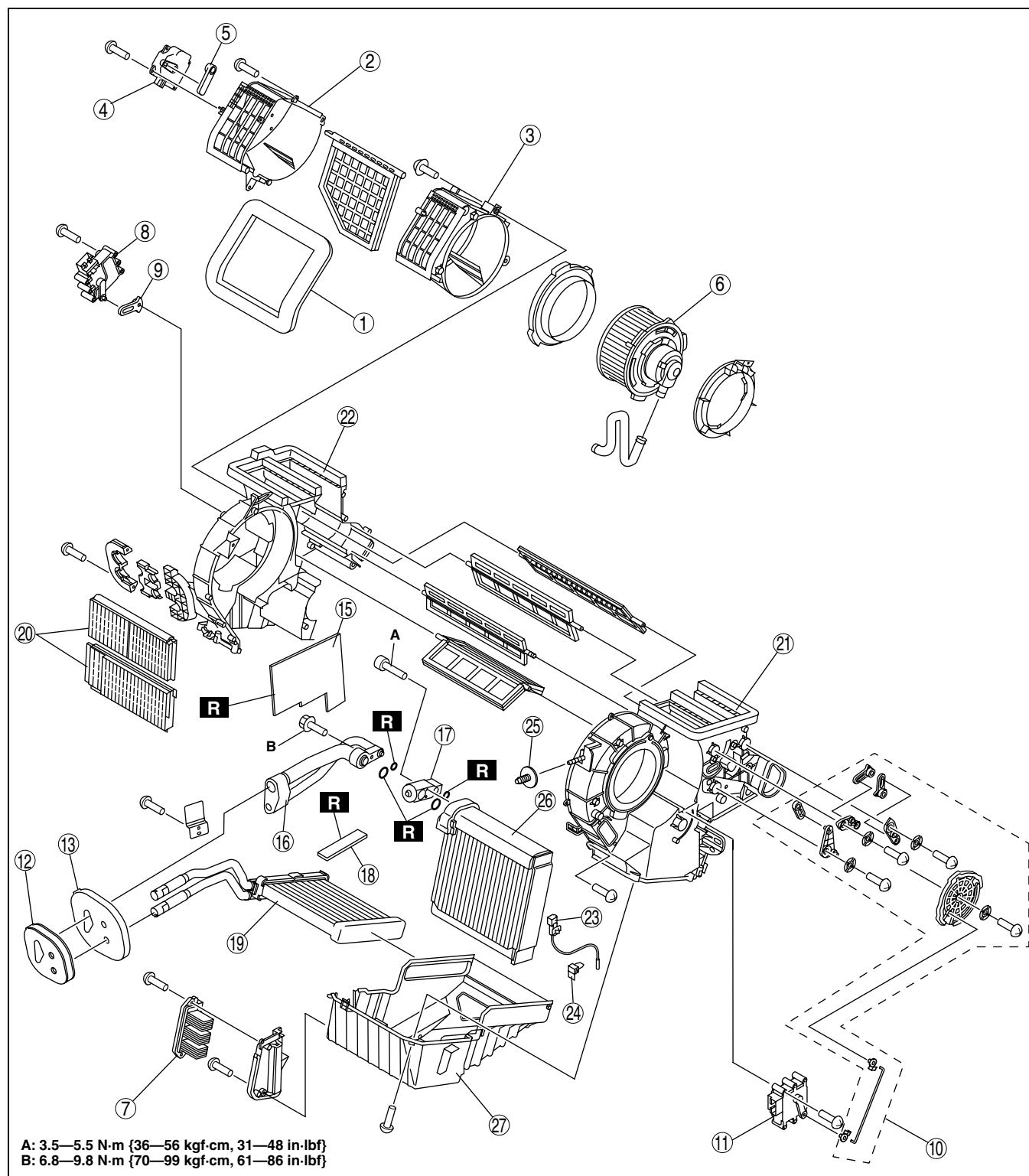
Caution

- If a non-specified grease is used, it may result in abnormal noise or improper operation of the links. Apply only the specified grease to each link.

2. Assemble in the reverse order of disassembly.

BASIC SYSTEM

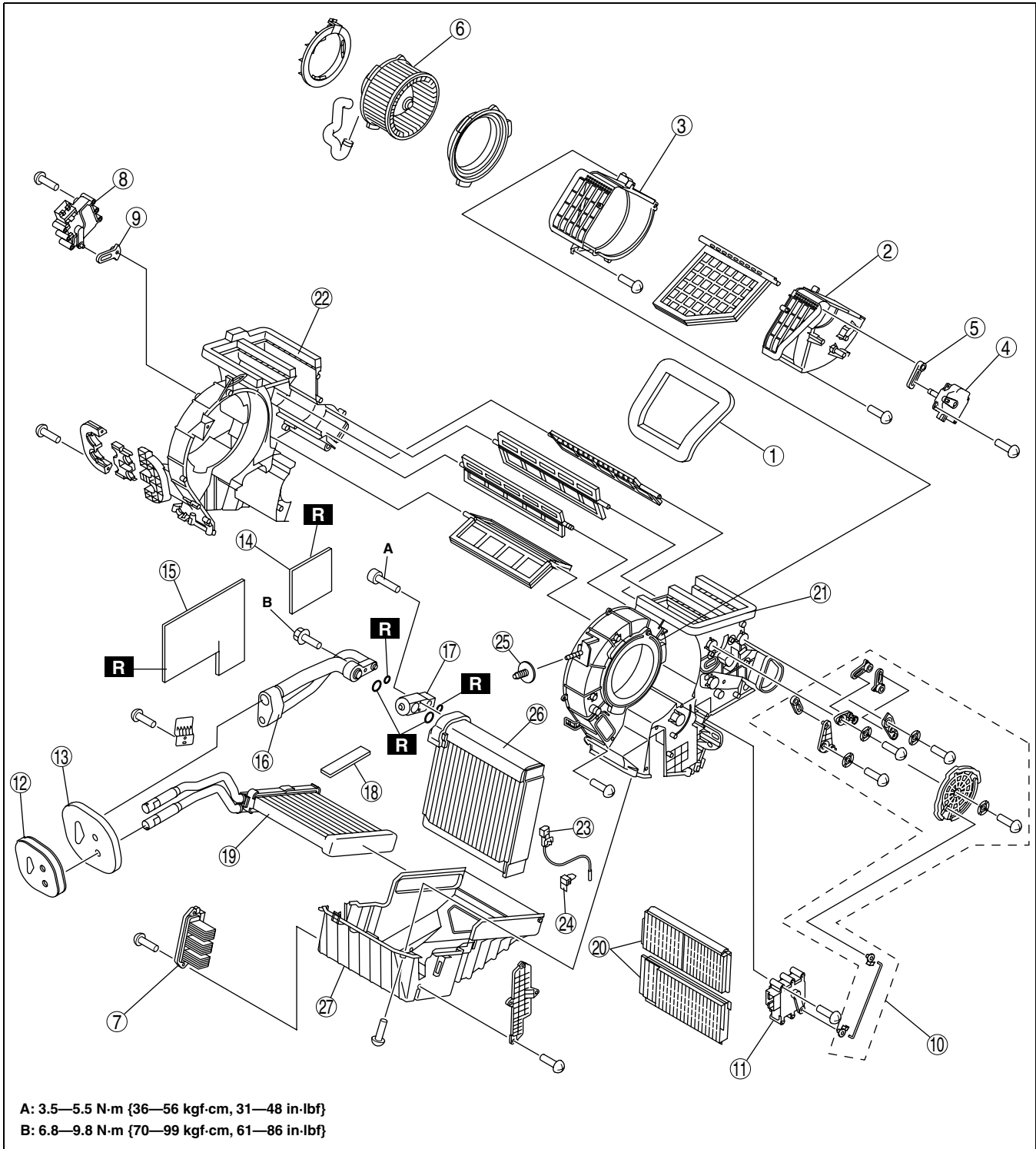
L.H.D.



DPE711ZW1007

BASIC SYSTEM

R.H.D.



DPE711ZW1008

1	Adhesive polyurethane (1)
2	Blower case (1)
3	Blower case (2)
4	Air intake actuator
5	Air intake link set
6	Blower motor (See 07-40-10 BLOWER MOTOR REMOVAL.) (See 07-40-16 BLOWER MOTOR INSTALLATION.)
7	Power MOS FET

8	Air mix actuator
9	Air mix link set
10	Airflow mode link set
11	Airflow mode actuator
12	Polyurethane foam
13	Adhesive polyurethane (2)
14	Adhesive polyurethane (4) (R.H.D.) (See 07-11-13 Adhesive Polyurethane Assembly Note.)

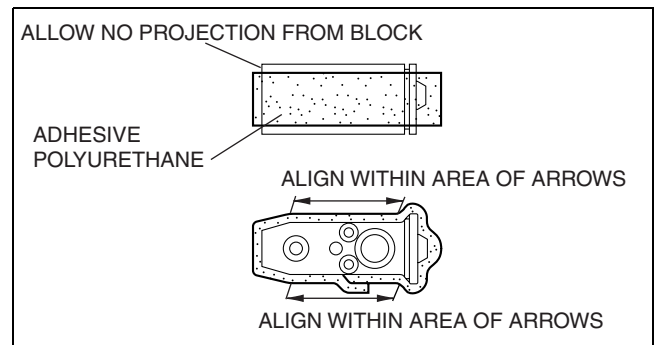
BASIC SYSTEM

15	Adhesive polyurethane (3) (See 07-11-13 Adhesive Polyurethane Assembly Note.)
16	Evaporator pipe
17	Expansion valve
18	Adhesive polyurethane (5) (See 07-11-13 Adhesive Polyurethane Assembly Note.)
19	Heater core
20	Air filter
21	A/C case (1)
22	A/C case (2)
23	Evaporator temperature sensor (See 07-11-10 Evaporator Temperature Sensor Assembly Note.)
24	Sensor clamp (See 07-11-10 Sensor Clamp Assembly Note.)
25	Adjusting bolt (See 07-11-7 A/C Unit Installation Note.)
26	Evaporator
27	A/C case (3)

Adhesive Polyurethane Assembly Note

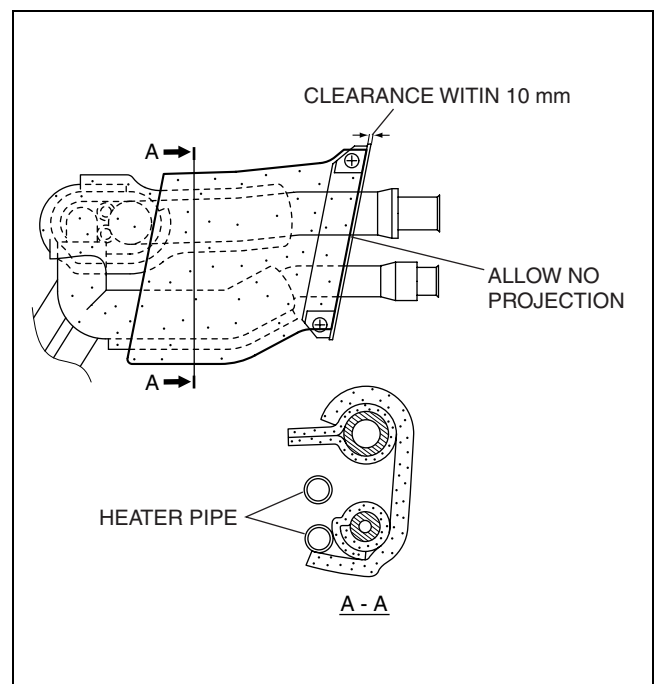
1. Assemble the adhesive polyurethane as shown in the figure.

Adhesive polyurethane (5)



B3E0711W415

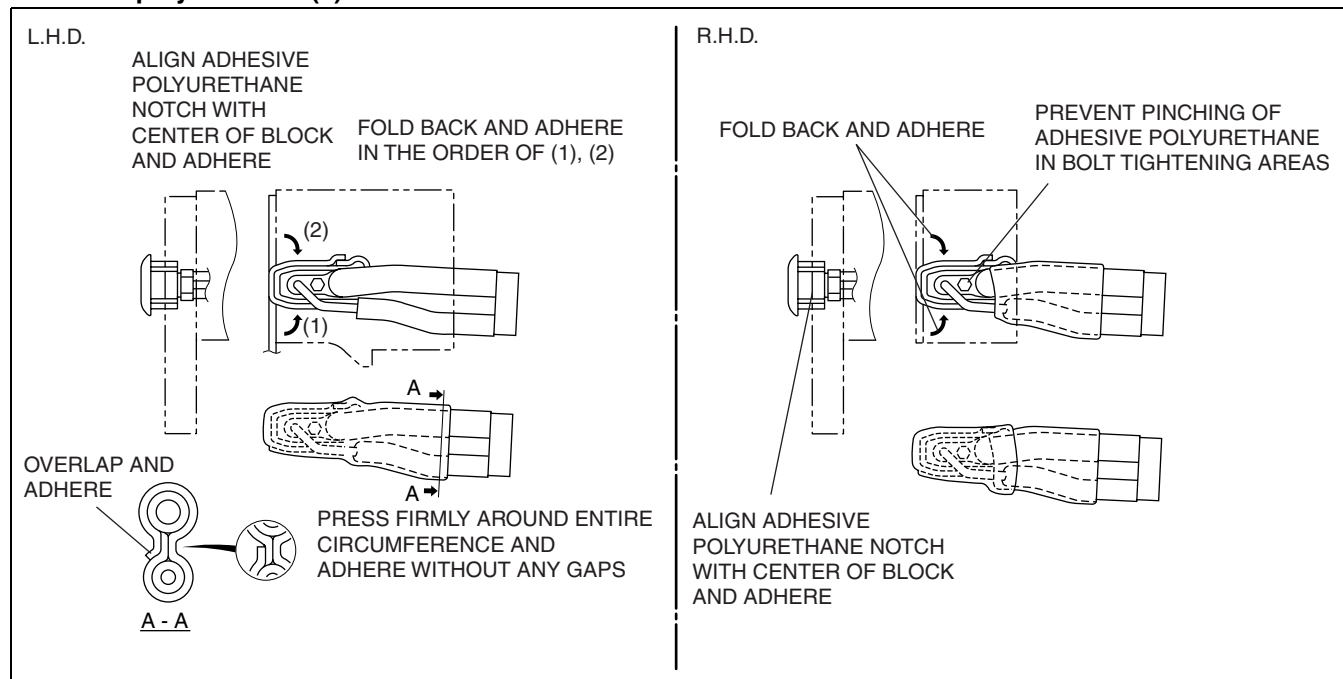
Adhesive polyurethane (4)



DPE711ZW1111

BASIC SYSTEM

Adhesive polyurethane (3)



DPE711ZW1017

A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER (LF, L8)]

DPE071161132W05

1. Disassemble in the order indicated in the table.

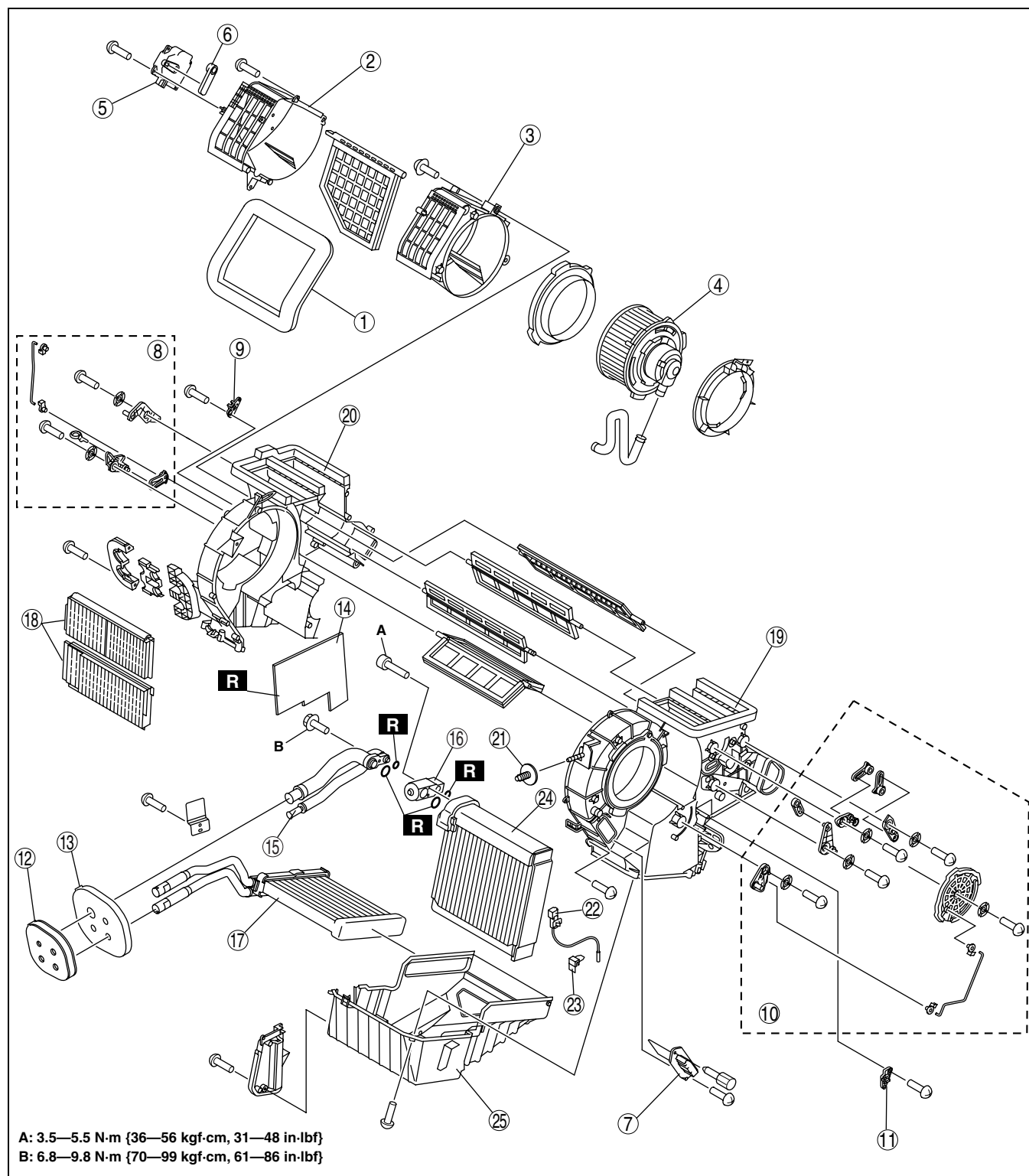
Caution

- If a non-specified grease is used, it may result in abnormal noise or improper operation of the links. Apply only the specified grease to each link.

2. Assemble in the reverse order of disassembly.

BASIC SYSTEM

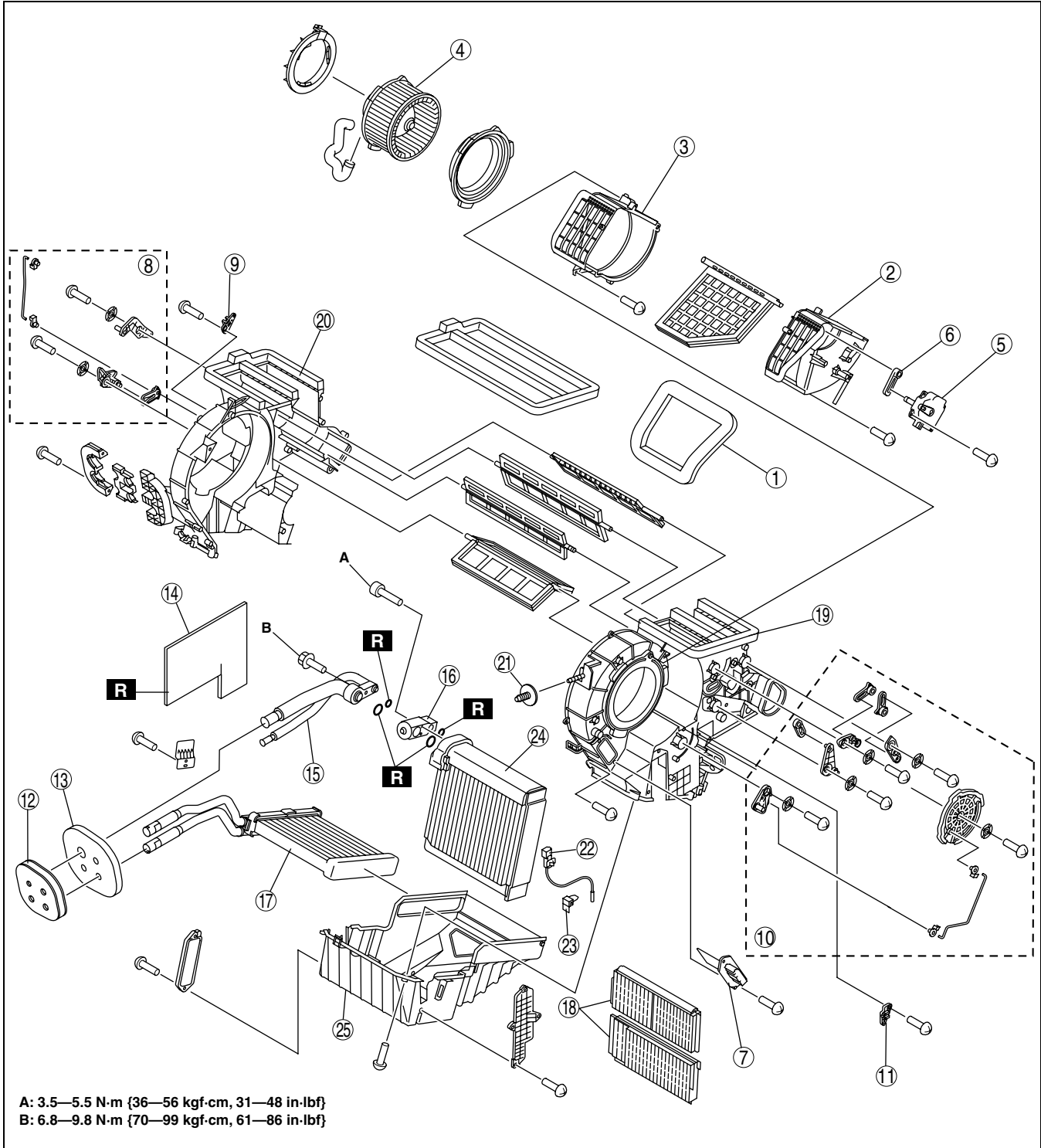
L.H.D.



DPE711ZW1009

BASIC SYSTEM

R.H.D.



DPE711ZW1010

1	Adhesive polyurethane (1)
2	Blower case (1)
3	Blower case (2)
4	Blower motor (See 07-40-10 BLOWER MOTOR REMOVAL.) (See 07-40-16 BLOWER MOTOR INSTALLATION.)
5	Air intake actuator
6	Air intake link set
7	Resistor
8	Air mix link set

9	Wire clamp
10	Airflow mode link set
11	Wire clamp
12	Polyurethane foam
13	Adhesive polyurethane (2)
14	Adhesive polyurethane (3) (See 07-11-13 Adhesive Polyurethane Assembly Note.)
15	Evaporator pipe
16	Expansion valve

07-11-16

BASIC SYSTEM

17	Heater core
18	Air filter
19	A/C case (1)
20	A/C case (2)
21	Adjusting bolt (See 07-11-7 A/C Unit Installation Note.)
22	Evaporator temperature sensor (See 07-11-10 Evaporator Temperature Sensor Assembly Note.)
23	Sensor clamp (See 07-11-10 Sensor Clamp Assembly Note.)
24	Evaporator
25	A/C case (3)

A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER (MZR-CD (RF TURBO))]

DPE071161132W06

1. Disassemble in the order indicated in the table.

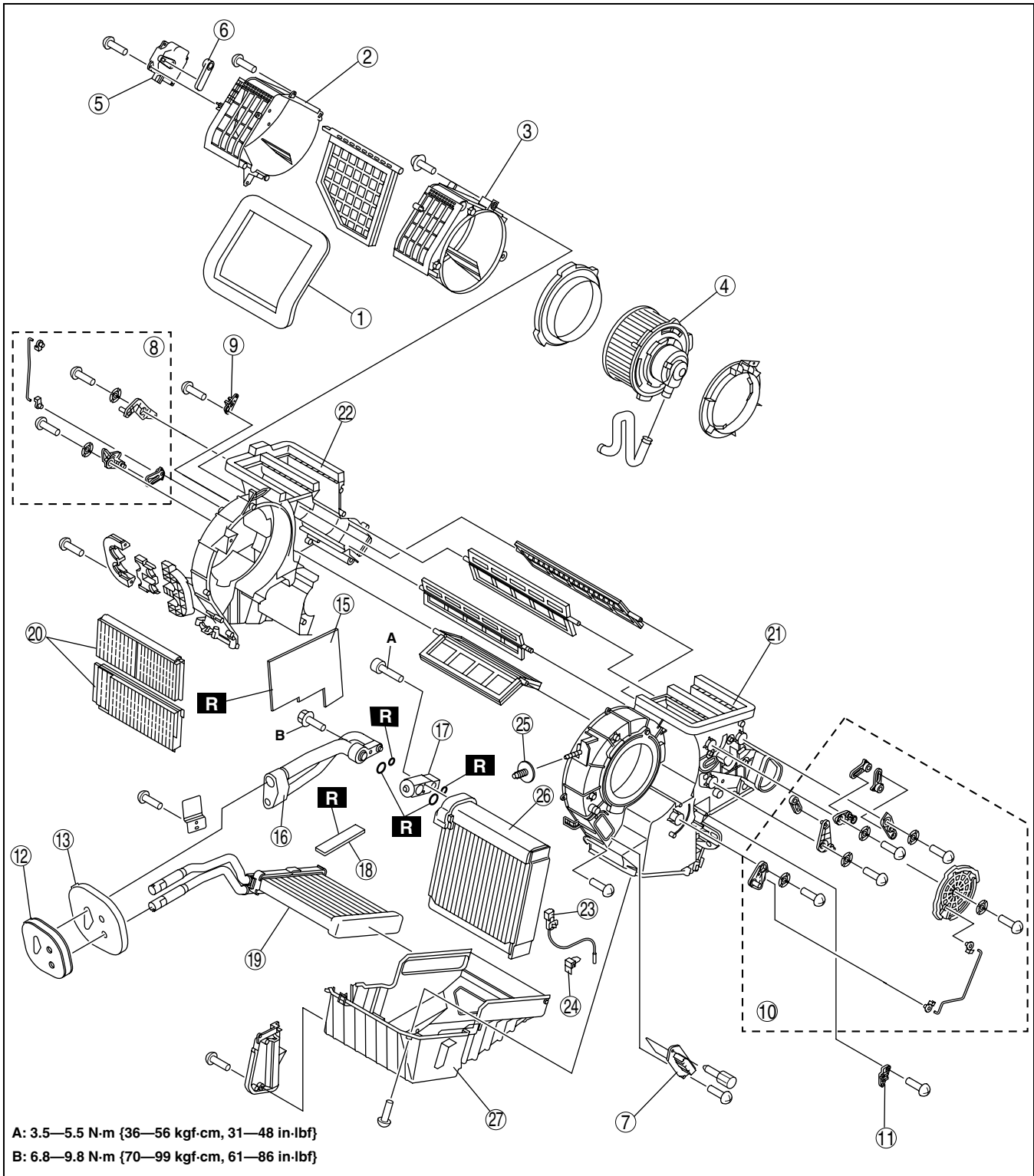
Caution

- If a non-specified grease is used, it may result in abnormal noise or improper operation of the links. Apply only the specified grease to each link.

2. Assemble in the reverse order of disassembly.

BASIC SYSTEM

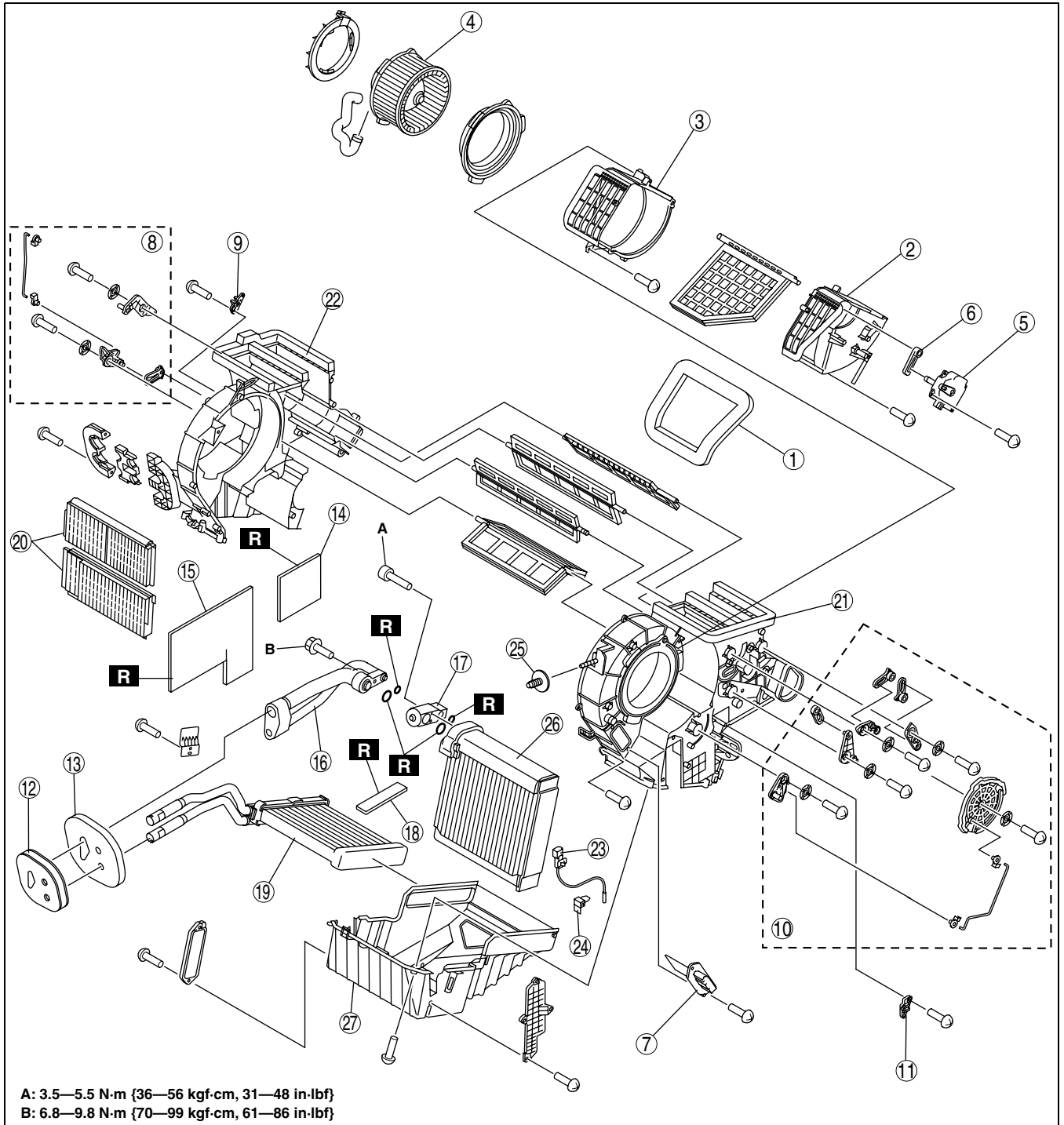
L.H.D.



DPE711ZW1011

BASIC SYSTEM

R.H.D.



DPE711ZW1012

1	Adhesive polyurethane (1)
2	Blower case (1)
3	Blower case (2)
4	Blower motor (See 07-40-10 BLOWER MOTOR REMOVAL.) (See 07-40-16 BLOWER MOTOR INSTALLATION.)
5	Air intake actuator
6	Air intake link set
7	Resistor
8	Air mix link set
9	Wire clamp

10	Airflow mode link set
11	Wire clamp
12	Polyurethane foam
13	Adhesive polyurethane (2)
14	Adhesive polyurethane (4) (R.H.D.) (See 07-11-13 Adhesive Polyurethane Assembly Note.)
15	Adhesive polyurethane (3) (See 07-11-13 Adhesive Polyurethane Assembly Note.)
16	Evaporator pipe
17	Expansion valve

BASIC SYSTEM

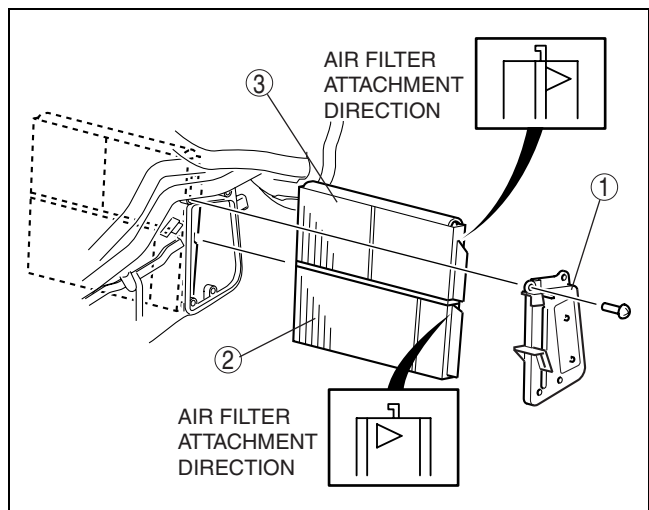
18	Adhesive polyurethane (5) (See 07-11-13 Adhesive Polyurethane Assembly Note.)
19	Heater core
20	Air filter
21	A/C case (1)
22	A/C case (2)
23	Evaporator temperature sensor (See 07-11-10 Evaporator Temperature Sensor Assembly Note.)
24	Sensor clamp (See 07-11-10 Sensor Clamp Assembly Note.)
25	Adjusting bolt (See 07-11-7 A/C Unit Installation Note.)
26	Evaporator
27	A/C case (3)

AIR FILTER REMOVAL/INSTALLATION

DPE071161142W01

1. Disconnect the negative battery cable.
2. Remove the under cover.
3. Partially open the floor mat and slide the BCM bracket. (R.H.D.)
4. Disconnect the evaporator temperature sensor connector. (L.H.D.)
5. Disconnect the power MOS FET connector. (L.H.D. Full-auto air conditioner)
6. Remove in the order indicated in the table.

L.H.D.

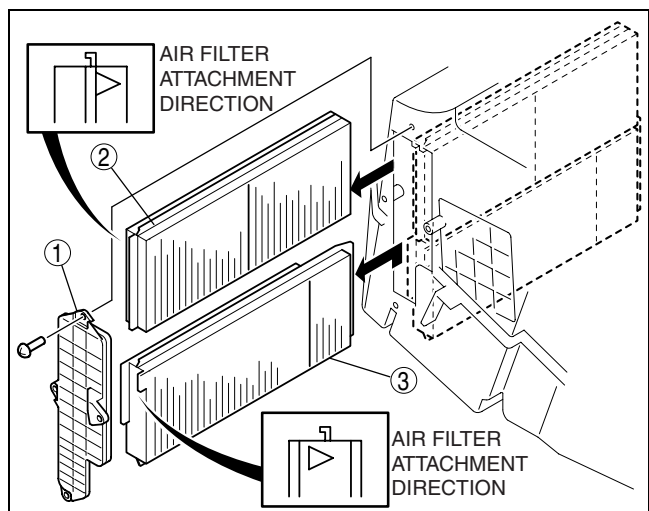


B3E0711W401

R.H.D.

1	Air filter cover
2	Air filter (1) (L.H.D.), (2) (R.H.D.)
3	Air filter (2) (L.H.D.), (1) (R.H.D.)

7. Install in the reverse order of removal.



DPE711ZW1112

BASIC SYSTEM

AIR FILTER INSPECTION

DPE071161142W03

1. Verify that there is no damage, excessive dirt, or abnormal odor on the air filter.
 - If there is any malfunction, replace the air filter.

Note

- The air filter cannot be reused by cleaning it with water or compressed air.

EXPANSION VALVE REMOVAL/INSTALLATION

DPE071161014W01

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-7 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise will occur. Always immediately plug all open fittings after removing any refrigeration cycle parts to keep moisture or foreign material out of the cycle.

3. Remove the engine cover. (MZR-CD (RF Turbo))
4. Disconnect the cooler hose (LO) (LF, L8) or cooler pipe No.2 (MZR-CD (RF Turbo)) and cooler pipe No.1. Do not allow compressor oil to spill. (See 07-11-29 REFRIGERANT LINES REMOVAL/INSTALLATION [LF, L8].) (See 07-11-32 REFRIGERANT LINES REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)
5. Remove the following parts:
 - (1) Front scuff plate inner (RH) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (2) Front side trim (RH) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (3) Side panel (RH) (L.H.D.) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (4) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (5) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (6) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (7) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (8) Glove compartment (L.H.D.) (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.) (L.H.D.)
 - (9) Lower panel (R.H.D.) (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.) (R.H.D.)
6. Remove the adhesive polyurethane covering the evaporator pipe.

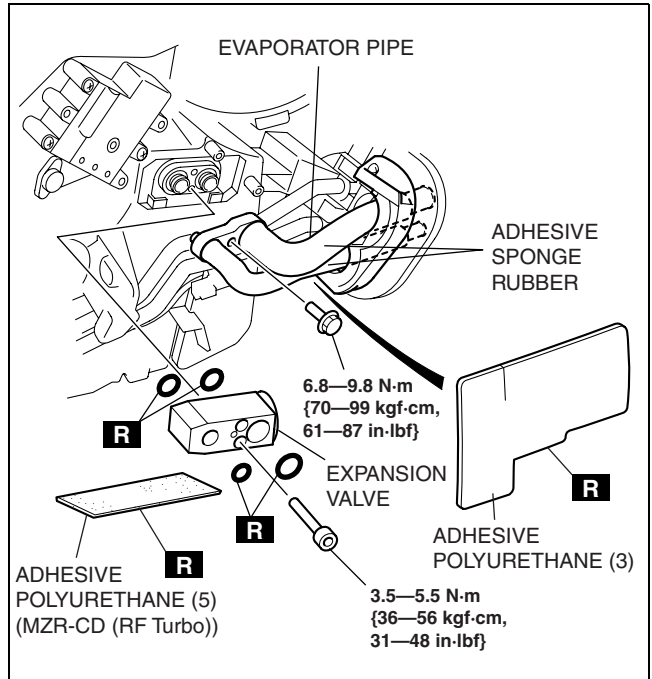
Caution

- Being careful not to damage the adhesive sponge rubber, remove adhesive polyurethane completely.

7. Remove the bolt and shift the evaporator pipe. Do not allow compressor oil to spill.
8. Remove the expansion valve. Do not allow compressor oil to spill.

BASIC SYSTEM

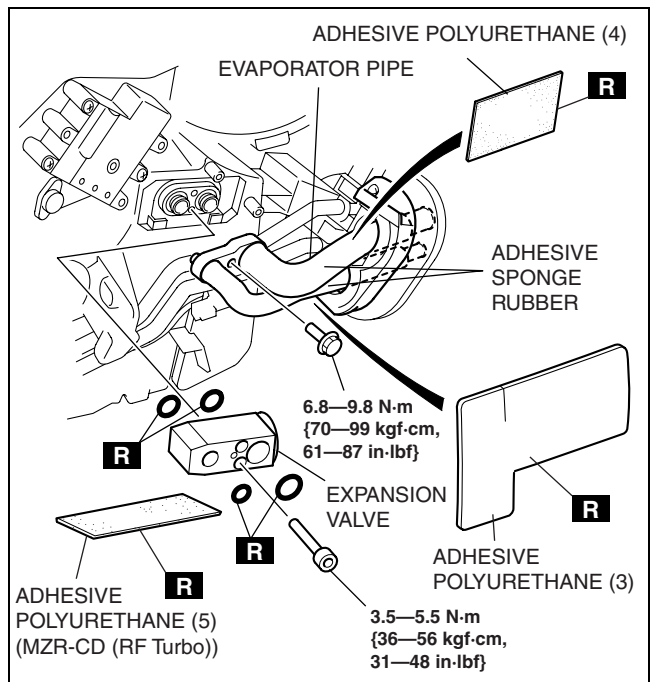
LF, L8, MZR-CD (RF Turbo) (L.H.D.)



DPE711ZW1113

MZR-CD (RF Turbo) (R.H.D.)

9. Install in the reverse order of removal.
10. Perform the refrigerant system performance test.
(See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



DPE711ZW1114

EVAPORATOR INSPECTION

1. Inspect the evaporator for damage, cracks, and oil leakage.
 - If there is any malfunction, replace the evaporator.
2. Visually inspect the fins for bending.
 - If there is any bending, use the end of a flathead screwdriver to straighten the fins.

DPE071161810W01

HEATER CORE INSPECTION

1. Inspect the heater core for damage, cracks, and water leakage.
 - If there is any malfunction, replace the heater core.
2. Visually inspect the fins for bending.
 - If there is any bending, use the end of a flathead screwdriver to straighten the fins.
3. Visually inspect the heater hose for deformation.
 - Repair with pliers if there is deformation. If there is any malfunction, replace the heater core.

DPE071161910W01

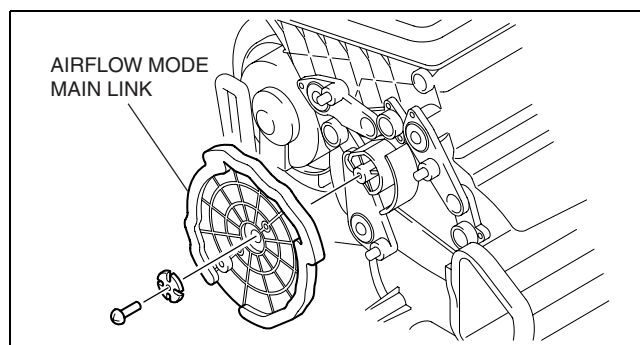
BASIC SYSTEM

AIRFLOW MODE MAIN LINK REMOVAL/INSTALLATION

DPE071161030W01

L.H.D.

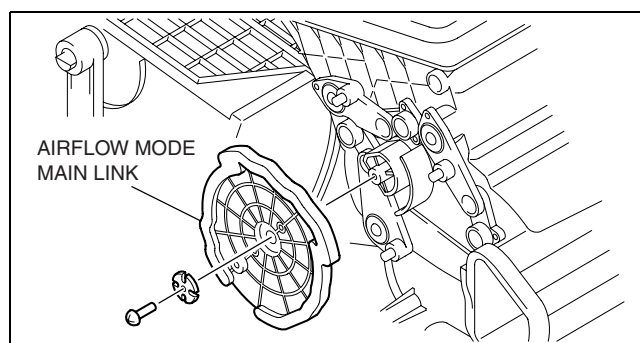
1. Disconnect the negative battery cable.
2. Removal the following parts.
 - (1) Side wall. (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (3) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
3. Detach the bonnet release lever from the lower panel. (See 09-14-5 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
4. Remove the front scuff plate (LH). (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
5. Remove the front side trim (LH). (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
6. Remove the lower panel. (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.)
7. Remove the column cover (See 09-17-7 COLUMN COVER REMOVAL/INSTALLATION.)
8. Remove the front heat duct (LH).
9. Remove the airflow mode rod (1).
10. Remove the airflow mode actuator. (full-auto air conditioner) (See 07-40-9 AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.)
11. Remove the airflow mode main link.
12. Install in the reverse order of removal.
13. Adjust the airflow mode wire. (See 07-40-40 CLIMATE CONTROL UNIT WIRE ADJUSTMENT.)



B3E0711W013

R.H.D.

1. Disconnect the negative battery cable.
2. Removal the following parts.
 - (1) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (3) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (5) Front scuff plate inner (passenger's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (6) Front side trim (passenger's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (7) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (8) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
3. Remove the airflow mode rod (1).
4. Remove the air mix actuator. (full-auto air conditioner)
5. Remove the airflow mode main link.
6. Install in the reverse order of removal.
7. Adjust the airflow mode wire. (See 07-40-40 CLIMATE CONTROL UNIT WIRE ADJUSTMENT.)



B3E0711W413

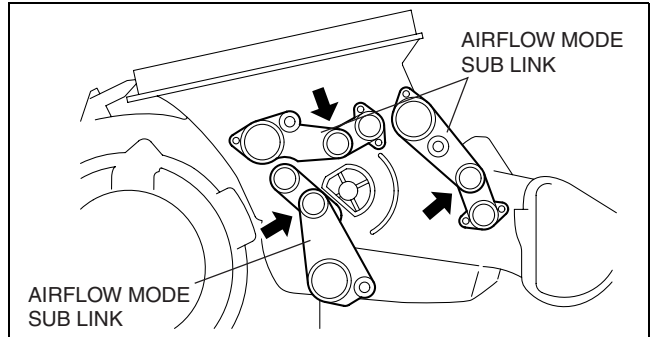
BASIC SYSTEM

Airflow Mode Main Link Installation Note

Caution

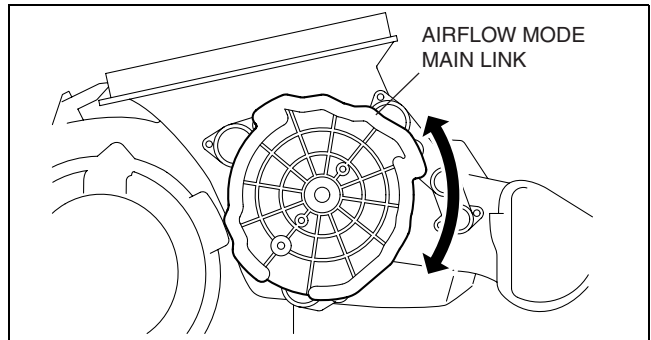
- Apply only the specified grease to links. Otherwise abnormal noise or improper operation may result.

1. Push and hold each airflow mode sub link in the direction of the arrow.
2. Set the airflow mode main link to the A/C unit as shown in the figure.
3. Press the airflow mode main link lightly to the A/C unit in the direction shown by the arrow, then set the projections of each airflow mode sub link into the grooves of the airflow mode main link.



B3E0711W014

4. Rotate airflow mode main link and verify that each mode is accessed properly.



B3E0711W015

REAR HEAT DUCT REMOVAL/INSTALLATION

DPE071161273W01

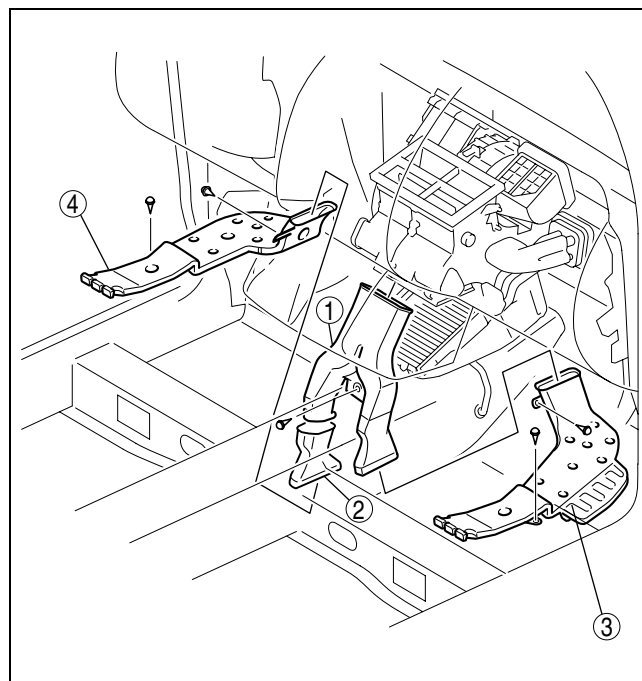
1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Front seat (See 09-13-1 FRONT SEAT REMOVAL/INSTALLATION.)
 - (2) Center console (See 09-17-14 CENTER CONSOLE REMOVAL/INSTALLATION.)
 - (3) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (4) Front side trim (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (5) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (6) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (7) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (8) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (9) Dust cover (See 06-14-7 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)
3. Partially open the floor mat. (See 09-17-23 FLOOR COVERING REMOVAL/INSTALLATION.)

BASIC SYSTEM

4. Remove in the order indicated in the table.

1	Rear heat duct (1)
2	Rear heat duct (2)
3	Rear heat duct (3)
4	Rear heat duct (4)

5. Install in the reverse order of removal.



DPE711ZW1013

A/C COMPRESSOR REMOVAL/INSTALLATION [LF, L8]

DPE071161450W02

1. Disconnect the negative battery cable.
2. Discharge the refrigerant. (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the splash shield.
4. Remove the A/C drive belt. (See 01-10A-3 DRIVE BELT REPLACEMENT [L8, LF].)
5. Detach the two wiring harness clamps.
6. Disconnect the magnetic clutch connector.
7. Remove the A/C compressor protector.
8. Disconnect the cooler hose (LO) and cooler hose (HI). Do not allow remaining compressor oil in the refrigerant line to spill. (See 07-11-30 Refrigerant Line Removal Note.) (See 07-11-31 Refrigerant Line Installation Note.)

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunction could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

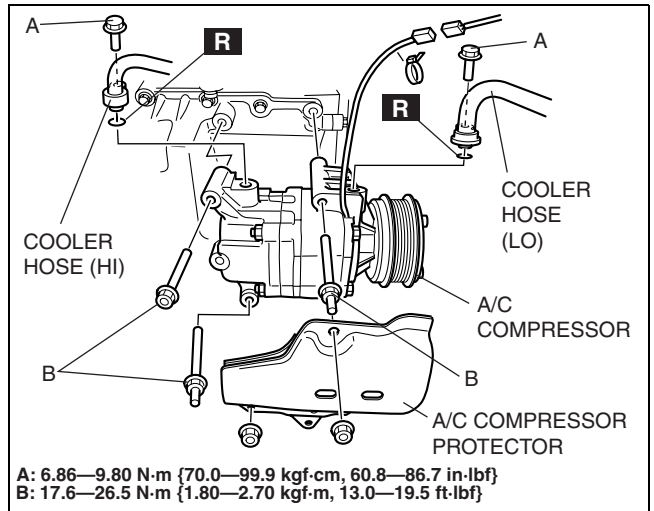
9. Remove the compressor protector.
10. Remove in the A/C compressor. Do not allow remaining compressor oil in the A/C compressor to spill.

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunction could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

BASIC SYSTEM

11. Install in the reverse order of removal.
12. Perform the refrigerant system performance test.
(See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



DPE711ZW1107

A/C Compressor Installation Note

Caution

- Due to the high moisture-absorption characteristics of the compressor oil, it may absorb moisture if left over a long period of time thereby negatively affecting A/C operation. Drain the compressor oil and refill within 10 min. of each other.

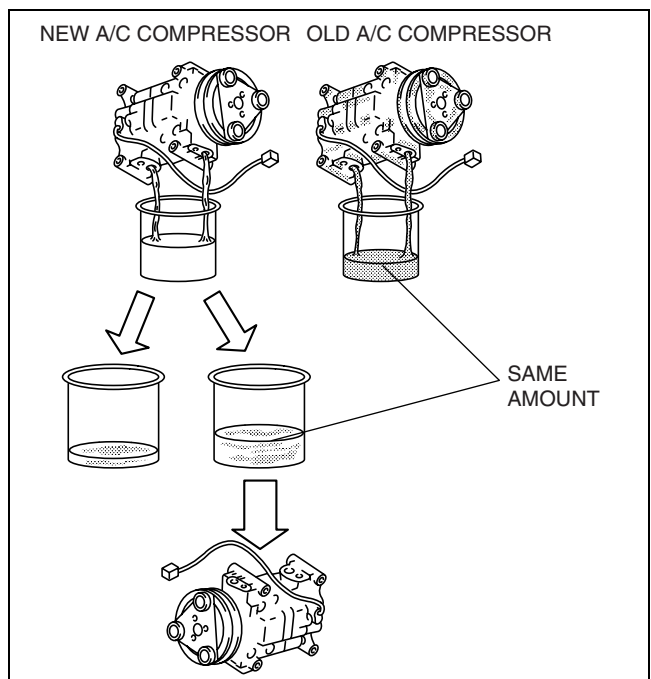
1. Rotate new A/C compressor shaft six to eight revolutions while collecting refrigerant oil in a clean measuring device. Use this refrigerant oil to refill new compressor. Do not allow refrigerant oil to become contaminated.
2. Rotate old A/C compressor shaft six to eight revolutions while collecting refrigerant oil in a separate, clean measuring device.
3. Compare those oil amounts. The amount of the oil drained from the new A/C compressor should be greater than the old one.
4. Pour the same amount oil of drained from the old A/C compressor back into the new A/C compressor.

A/C compressor oil type

- ATMOS GU10

A/C compressor oil sealed volume (approx. quantity)

- 150 ml {150 cc, 5.07 fl oz}



DPE711ZW1106

BASIC SYSTEM

A/C COMPRESSOR REMOVAL/INSTALLATION [MZR-CD (RF TURBO)]

DPE071161450W03

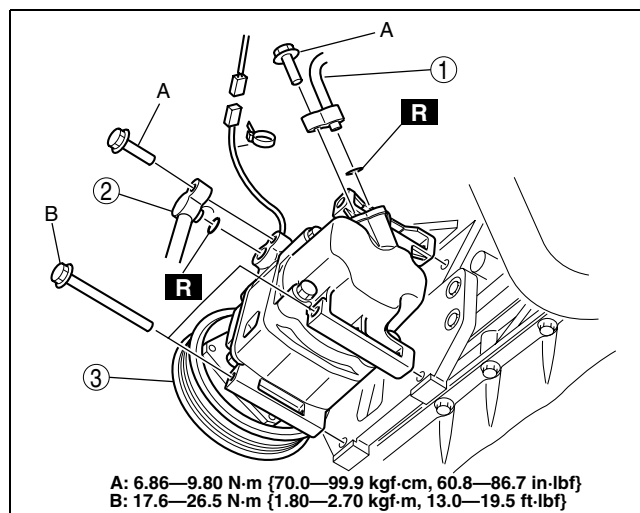
1. Disconnect the negative battery cable.
2. Discharge the refrigerant. (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the splash shield.
4. Remove the drive belt. (See 01-10B-3 DRIVE BELT REPLACEMENT [MZR-CD (RF Turbo)].)
5. Detach the wiring harness clamp and disconnect the magnetic clutch connector.
6. Remove in the order indicated in the table. Do not allow remaining compressor oil in the refrigerant line and A/C compressor to spill.

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunction could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

1	Cooler hose (HI) (See 07-11-33 Refrigerant Line Removal Note.) (See 07-11-34 Refrigerant Line Installation Note.)
2	Cooler hose (LO) (See 07-11-33 Refrigerant Line Removal Note.) (See 07-11-34 Refrigerant Line Installation Note.)
3	A/C compressor (See 07-11-26 A/C Compressor Installation Note.)

7. Install in the reverse order of removal.
8. Perform the refrigerant system performance test.
(See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



DPE711ZW1014

CONDENSER REMOVAL/INSTALLATION

DPE071161480W01

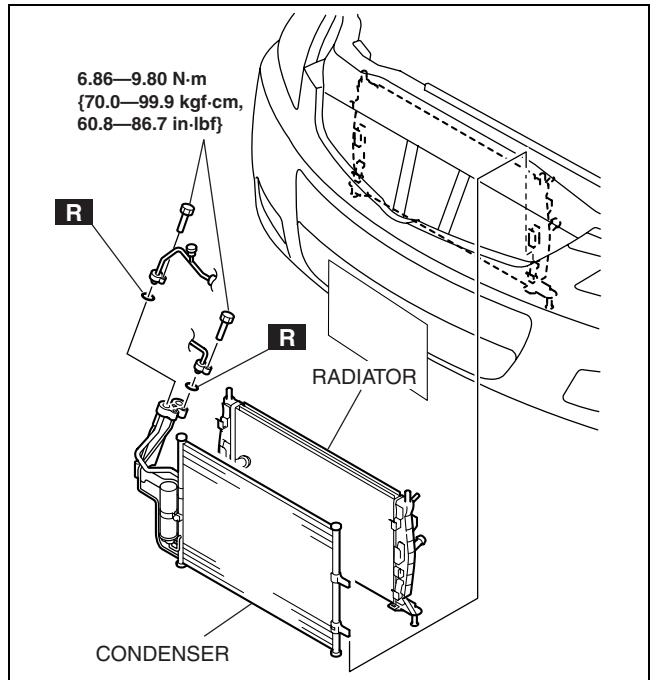
1. Disconnect the negative battery cable.
2. Discharge the refrigerant. (See 07-10-2 REFRIGERANT CHARGING.)
3. Drain the engine coolant. (See 01-12A-3 ENGINE COOLANT REPLACEMENT [L8, LF].) (See 01-12B-3 ENGINE COOLANT REPLACEMENT [MZR-CD (RF Turbo)].)
4. Remove the battery cover. (LF, L8)
5. Remove the battery air duct. (LF, L8)
6. Remove the splash shield.
7. Remove the radiator grill (normal bumper), front bumper (sports bumper).
8. Remove the radiator upper mount.
9. Remove the rubber plate between radiator and shroud.
10. Disconnect the cooler hose (HI) and cooler pipe No.1. Do not allow remaining compressor oil in the refrigerant line to spill.
11. Remove the cooling fan.
12. Disconnect the water hose from radiator.
13. Remove the radiator with the condenser installed. (See 01-12A-6 RADIATOR REMOVAL/INSTALLATION [L8, LF].) (See 01-12B-6 RADIATOR REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)
14. Release the radiator hook and pull the condenser up, being careful not to allow remaining compressor oil in the condenser to spill. (See 07-11-28 Condenser Installation Note.)

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunction could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

BASIC SYSTEM

15. Install in the reverse order of removal.
16. Perform the refrigerant system performance test.
(See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



DPE711ZW1108

Condenser Installation Note

1. After replacing the condenser, add compressor oil to the refrigeration cycle.

Supplemental oil amount (approx. quantity)
20 ml {20 cc, 0.7 fl oz}

CONDENSER INSPECTION

DPE071161480W03

1. Inspect the condenser for cracks, damage, and oil leakage.
 - If there is any malfunction, replace the condenser.
2. Visually inspect the fins for clogging of foreign material.
 - If any fins are clogged, remove the foreign material.
3. Visually inspect the fins for bending.
 - If there is any bending, use the end of a flathead screwdriver to straighten fins.

RECEIVER/DRIER REMOVAL/INSTALLATION

DPE071161501W01

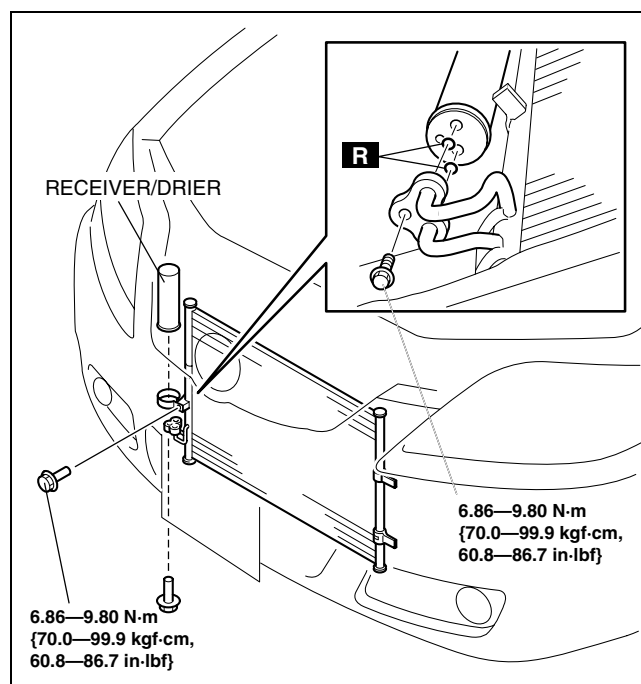
1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-7 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the under cover.

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise will occur. Always immediately plug all open fittings after removing any refrigeration cycle parts to keep moisture or foreign material out of the cycle.

BASIC SYSTEM

4. Remove the receiver/drier. Do not allow compressor oil to spill.
5. Install in the reverse order of removal.
6. Perform the refrigerant system performance test. (See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



DPE711ZW1109

REFRIGERANT LINES REMOVAL/INSTALLATION [LF, L8]

DPE071161460W01

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-7 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the coolant reserve tank. (See 01-12A-5 COOLANT RESERVE TANK REMOVAL/INSTALLATION [L8, LF].)
4. Remove the splash shield.
5. Remove in the order indicated in the table. Do not allow compressor oil to spill.

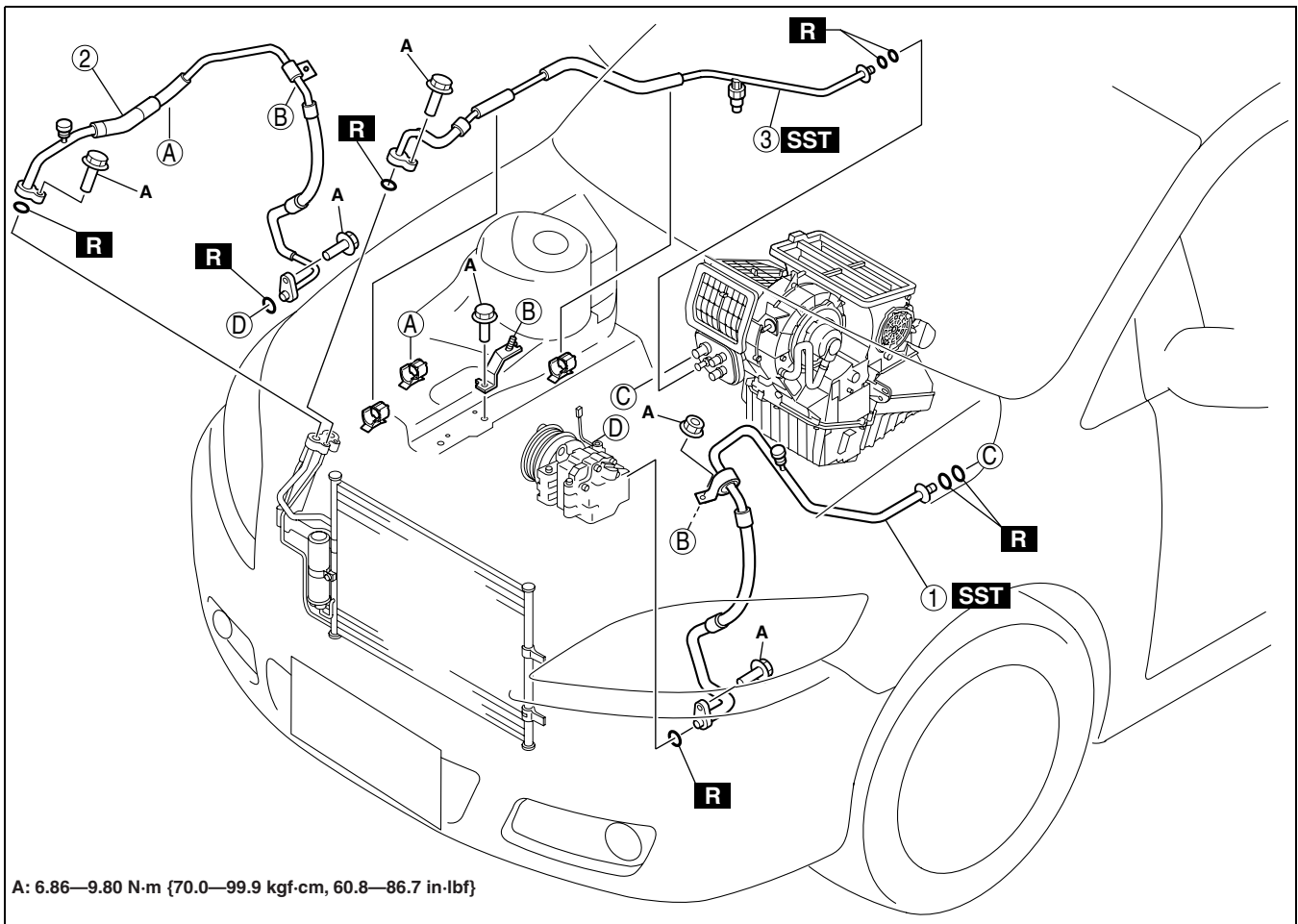
Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise will occur. Always immediately plug all open fittings after removing any refrigeration cycle parts to keep moisture or foreign material out of the cycle.

6. Install in the reverse order of removal.

BASIC SYSTEM

7. Perform the refrigerant system performance test. (See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



DPE711ZW1015

1	Cooler hose (LO) (See 07-11-30 Refrigerant Line Removal Note.) (See 07-11-31 Refrigerant Line Installation Note.)
2	Cooler hose (HI) (See 07-11-30 Refrigerant Line Removal Note.) (See 07-11-31 Refrigerant Line Installation Note.)

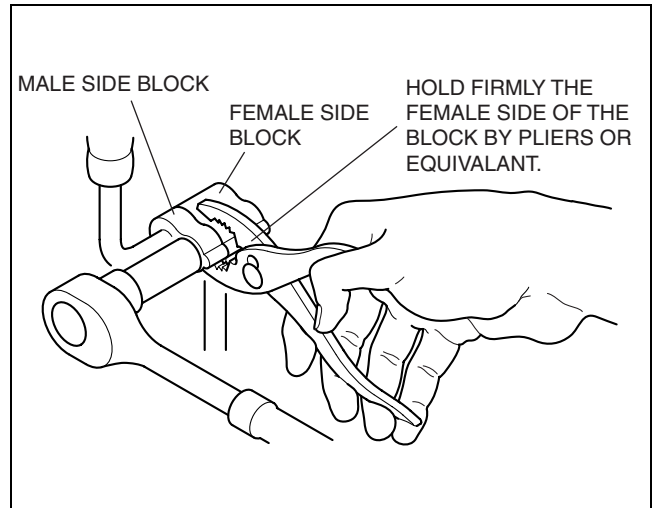
3	Cooler pipe No.1 (See 07-11-30 Refrigerant Line Removal Note.) (See 07-11-31 Refrigerant Line Installation Note.)
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Refrigerant Line Removal Note

Block joint type

1. Disconnect the block joint type pipes by grasping female side of the block with pliers or similar tool and holding firmly, then remove the connection bolt or nut.

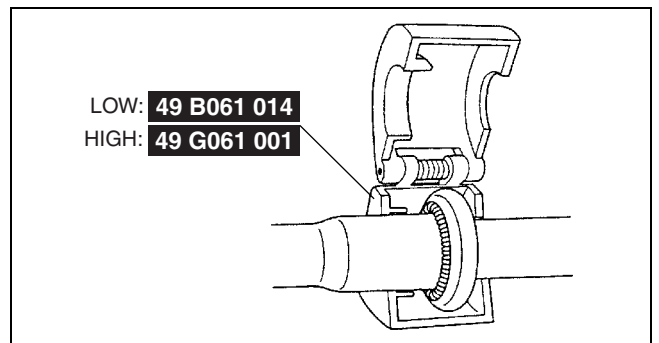
BASIC SYSTEM



B3E0711W024

Spring-lock coupling type (LF, L8)

1. Set the SST.

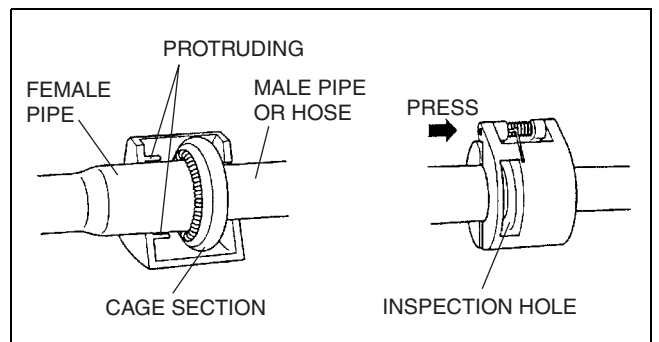


ADA8516W022

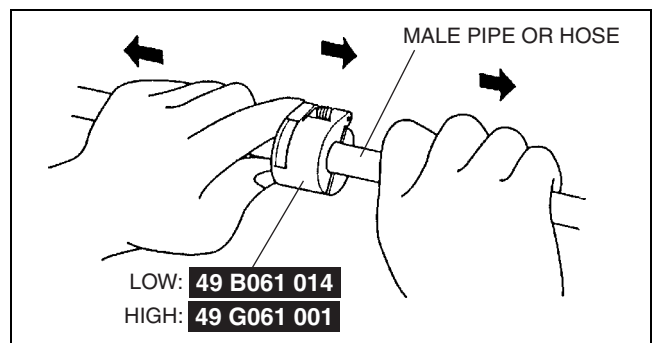
2. While looking through the inspection hole of the SST, insert the protruding part of the SST until it makes contact with the cage section.
3. Use the SST to disconnect the male pipe or hose from the female by pulling the male pipe or hose.

Note

- The male pipe or hose can be disconnected easily from the female pipe by pulling from the male pipe or hose while maintaining the pressure of the protruding part of the SST.



A6E8516W015



ADA8516W021

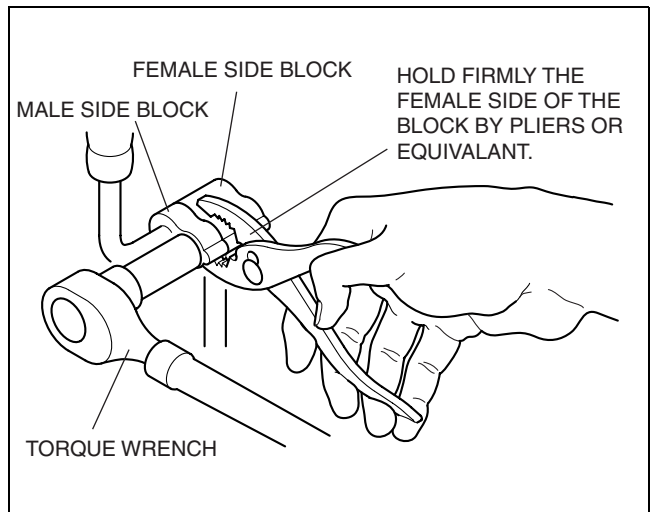
Refrigerant Line Installation Note

1. Apply compressor oil to the O-rings and connect the joints.
2. Tighten the joints.

BASIC SYSTEM

Block joint type

1. Tighten the bolt of joint by hand.
2. Connect the block joint type pipes by grasping the female side of the block with pliers or similar tool and holding firmly, then tighten the connection bolt or nut with a torque wrench.



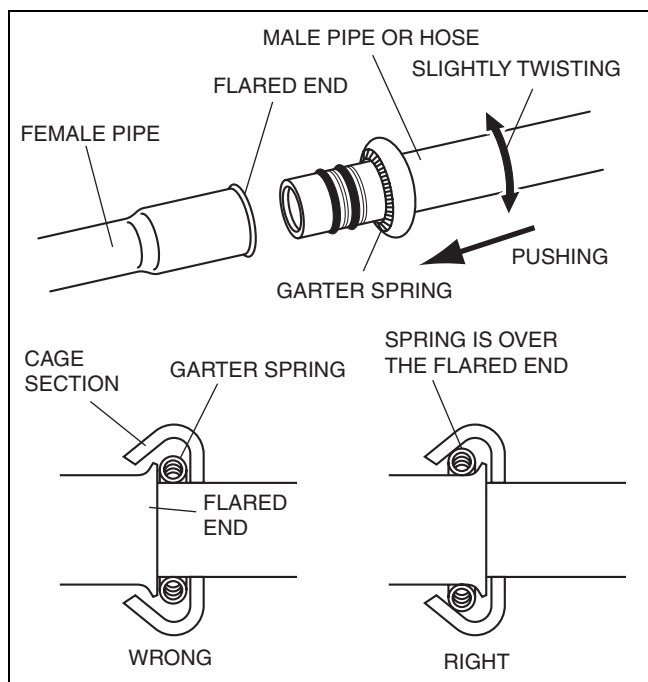
B3E0711W023

Spring-lock coupling type

1. Connect the male pipe or hose by twisting it onto female pipe until the garter spring at the male pipe or hose is over the flared end of female pipe.

Note

- When the male pipe or hose is replaced, the indicator ring comes out after connecting to indicate that it is locked.



C3U0711W011

REFRIGERANT LINES REMOVAL/INSTALLATION [MZR-CD (RF TURBO)]

DPE071161460W03

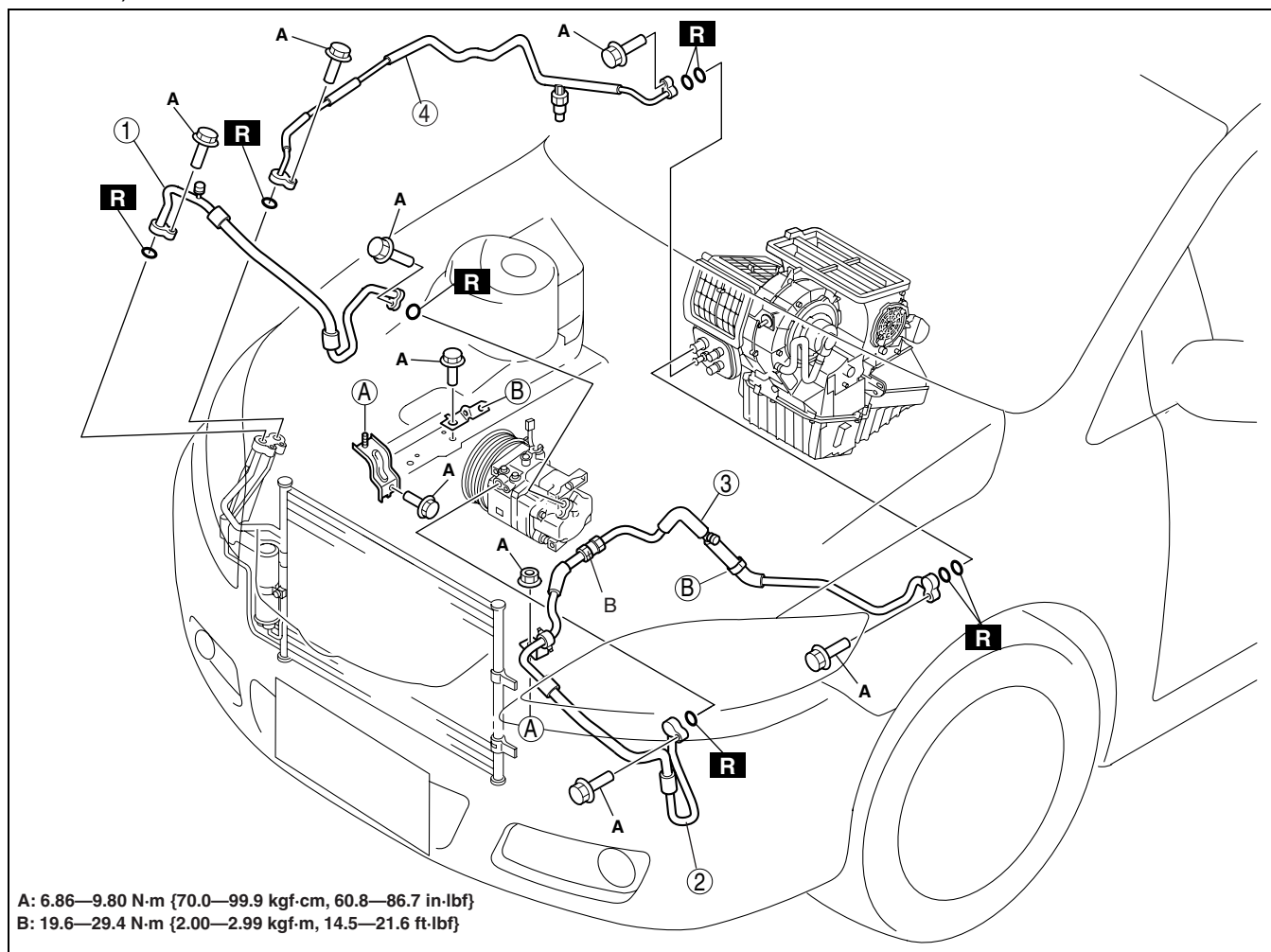
1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-7 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the coolant reserve tank. (See 01-12B-5 COOLANT RESERVE TANK REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)
4. Remove the fuel filter. (L.H.D.)
5. Remove the splash shield.
6. Remove in the order indicated in the table. Do not allow compressor oil to spill.

BASIC SYSTEM

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise will occur. Always immediately plug all open fittings after removing any refrigeration cycle parts to keep moisture or foreign material out of the cycle.

7. Install in the reverse order of removal.
8. Perform the refrigerant system performance test. (See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



DPE711ZW1016

1	Cooler hose (HI) (See 07-11-33 Refrigerant Line Removal Note.) (See 07-11-34 Refrigerant Line Installation Note.)
2	Cooler hose (LO) (See 07-11-33 Refrigerant Line Removal Note.) (See 07-11-34 Refrigerant Line Installation Note.)

3	Cooler pipe No.2 (See 07-11-33 Refrigerant Line Removal Note.) (See 07-11-34 Refrigerant Line Installation Note.)
4	Cooler pipe No.1 (See 07-11-33 Refrigerant Line Removal Note.) (See 07-11-34 Refrigerant Line Installation Note.)

07

Refrigerant Line Removal Note

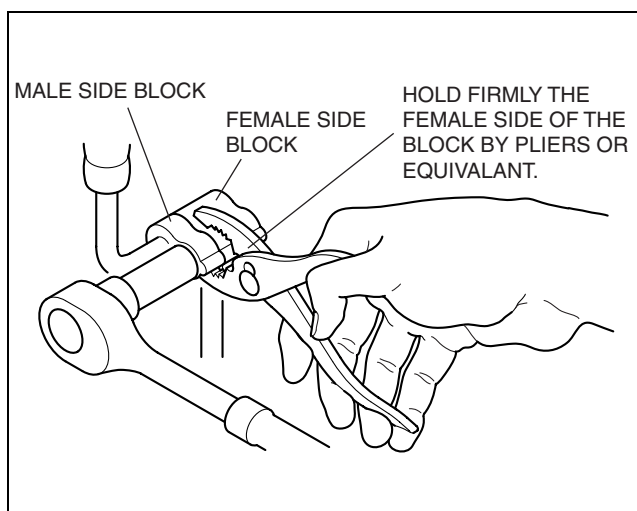
Nut joint type

1. Loose the nut using two spanners and remove the pipe.

Block joint type

1. Disconnect the block joint type pipes by grasping female side of the block with pliers or similar tool and holding firmly, then remove the connection bolt or nut.

BASIC SYSTEM



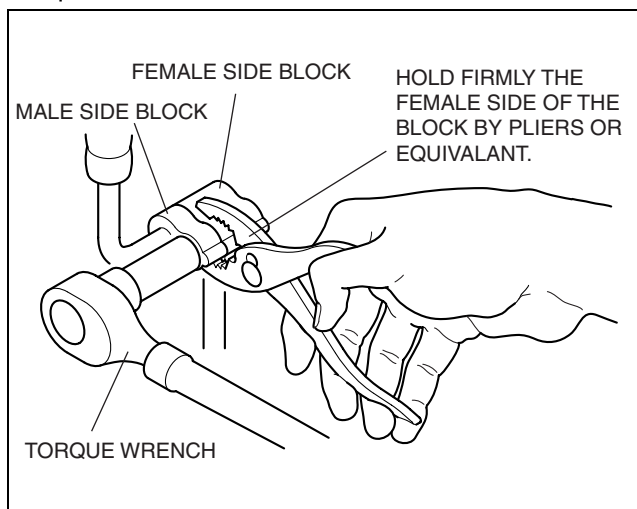
B3E0711W024

Refrigerant Line Installation Note

1. Apply compressor oil to the O-rings and connect the joints.
2. Tighten the joints.

Nut or Block joint type

1. Temporarily tighten the nut or bolt at the connection as much as possible by hand.
2. Tighten to the specified torque using a torque wrench. Tighten the nut joint using a double spanner.
 - Connect the block joints by grasping the female side of the block with pliers or similar tool and holding firmly, then tighten the connection bolt or nut using a torque wrench.



B3E0711W023

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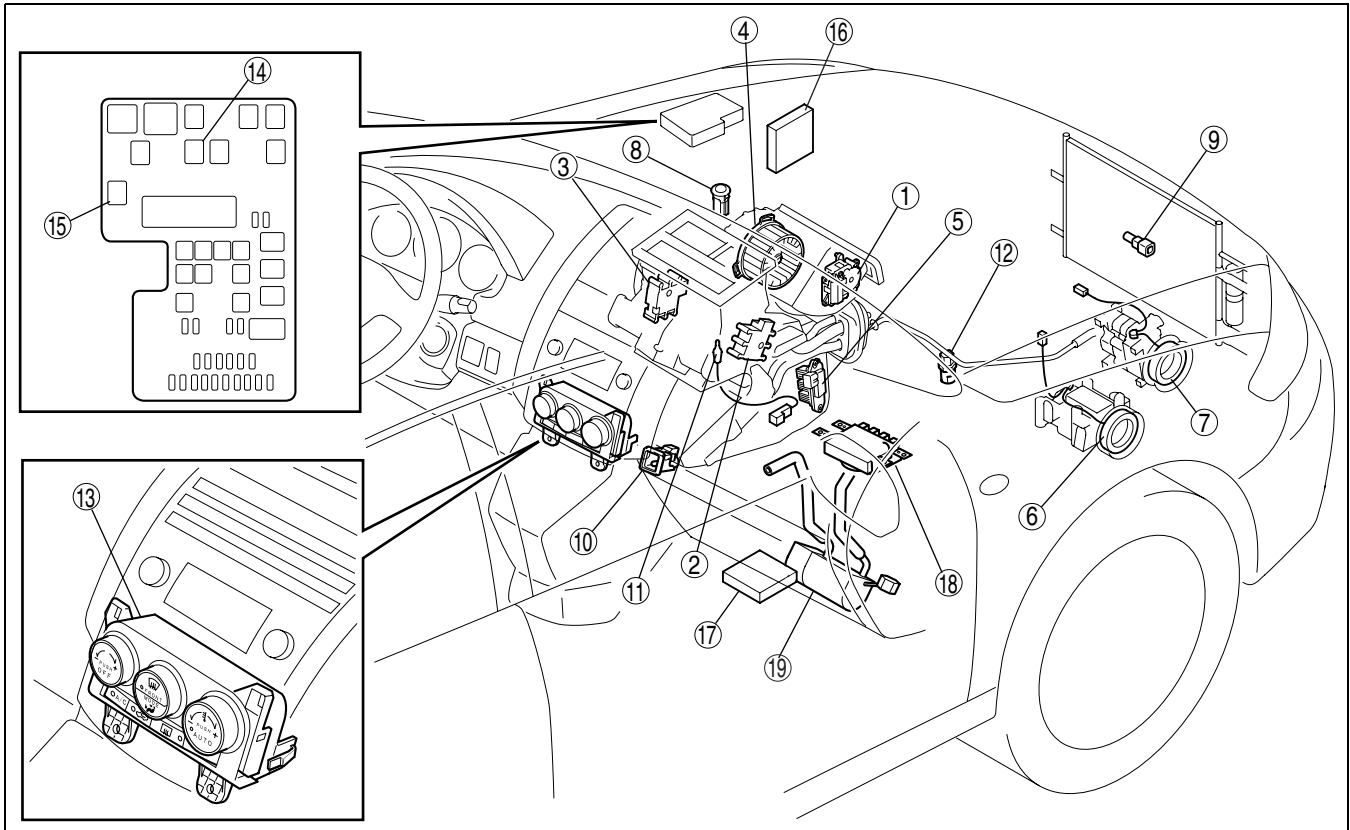
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CONTROL SYSTEM

HVAC CONTROL SYSTEM LOCATION INDEX [FULL-AUTO AIR CONDITIONER]

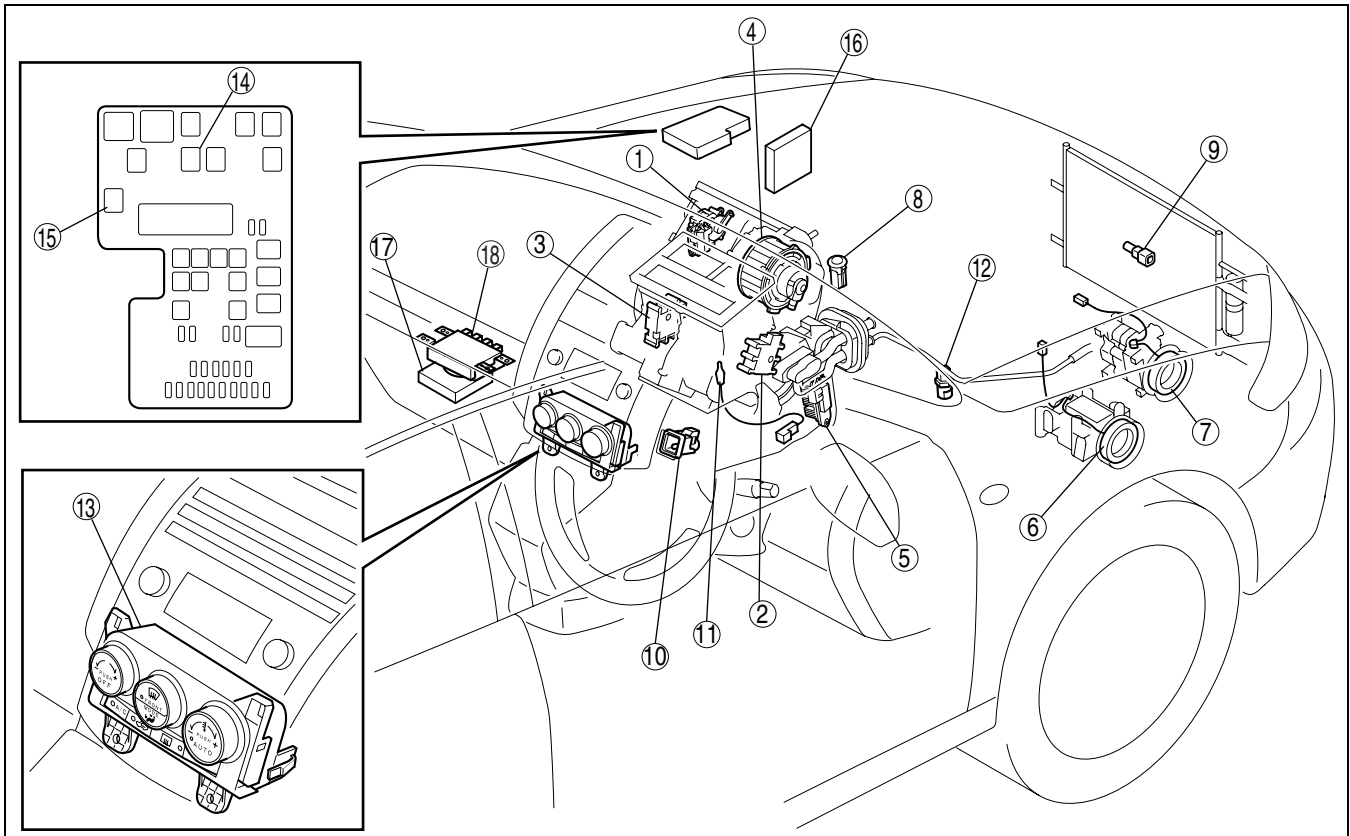
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R.H.D.



DPE740ZW1002

CONTROL SYSTEM

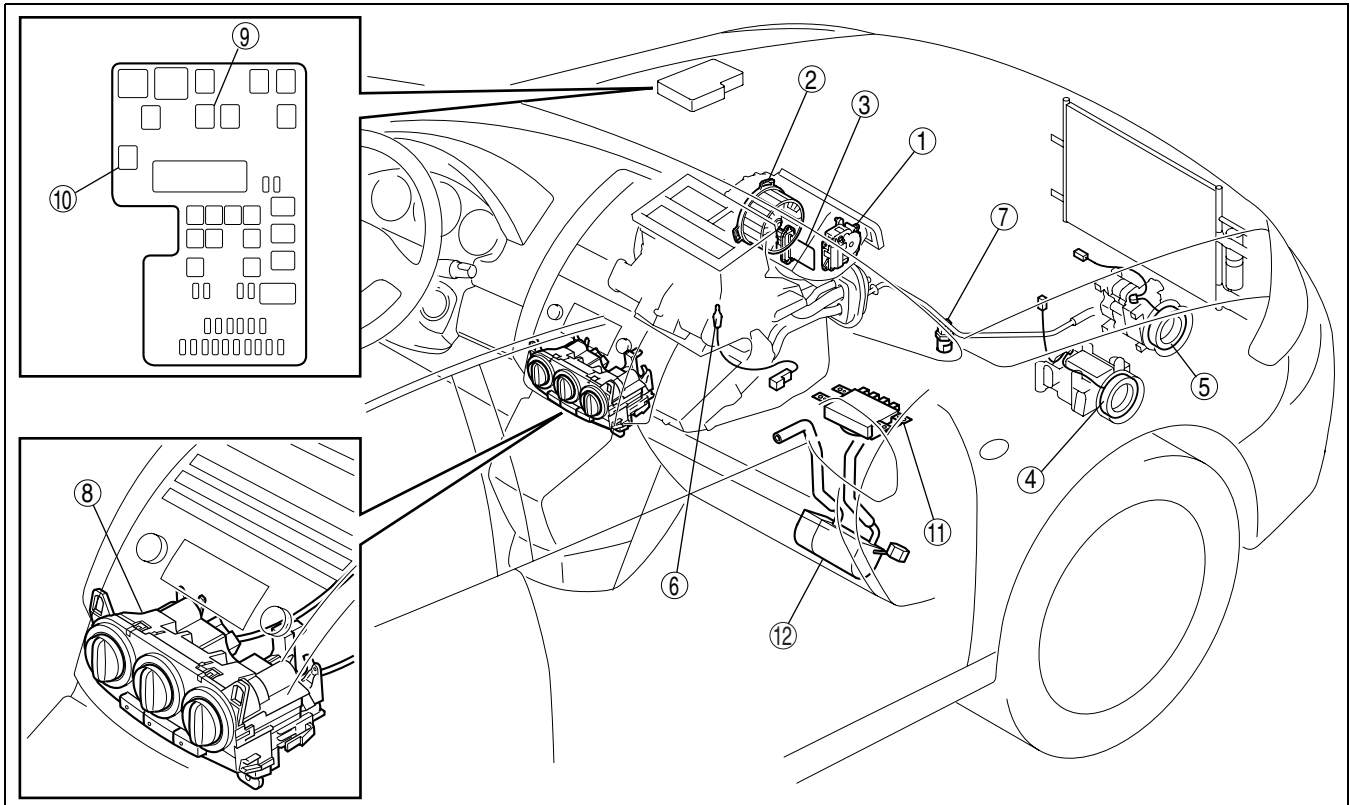
1	Air intake actuator (See 07-40-5 AIR INTAKE ACTUATOR REMOVAL/INSTALLATION.) (See 07-40-6 AIR INTAKE ACTUATOR INSPECTION.)	9	Ambient temperature sensor (See 07-40-29 AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See 07-40-29 AMBIENT TEMPERATURE SENSOR INSPECTION.)
2	Air mix actuator (See 07-40-7 AIR MIX ACTUATOR REMOVAL/INSTALLATION.) (See 07-40-8 AIR MIX ACTUATOR INSPECTION.)	10	Cabin temperature sensor (See 07-40-29 CABIN TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See 07-40-30 CABIN TEMPERATURE SENSOR INSPECTION.)
3	Airflow mode actuator (See 07-40-9 AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.) (See 07-40-9 AIRFLOW MODE ACTUATOR INSPECTION.)	11	Evaporator temperature sensor (See 07-40-31 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See 07-40-31 EVAPORATOR TEMPERATURE SENSOR INSPECTION.)
4	Blower motor (See 07-40-10 BLOWER MOTOR REMOVAL.) (See 07-40-16 BLOWER MOTOR INSTALLATION.) (See 07-40-20 BLOWER MOTOR INSPECTION.)	12	Refrigerant pressure switch (See 07-40-32 REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION.) (See 07-40-33 REFRIGERANT PRESSURE SWITCH INSPECTION.)
5	Power MOS FET (See 07-40-21 POWER MOS FET REMOVAL/INSTALLATION.) (See 07-40-21 POWER MOS FET INSPECTION.)	13	Climate control unit (See 07-40-35 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)
6	Magnetic clutch (LF, L8) (See 07-40-24 MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [LF, L8].) (See 07-40-26 MAGNETIC CLUTCH ADJUSTMENT [LF, L8].) (See 07-40-27 MAGNETIC CLUTCH INSPECTION [LF, L8].)	14	A/C relay (See 09-21-3 RELAY INSPECTION.)
7	Magnetic clutch (MZR-CD (RF Turbo)) (See 07-40-25 MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [MZR-CD (RF Turbo)].) (See 07-40-26 MAGNETIC CLUTCH ADJUSTMENT [MZR-CD (RF Turbo)].) (See 07-40-28 MAGNETIC CLUTCH INSPECTION [MZR-CD (RF Turbo)].)	15	Blower relay (See 09-21-3 RELAY INSPECTION.)
8	Solar radiation sensor (See 07-40-28 SOLAR RADIATION SENSOR REMOVAL/INSTALLATION.) (See 07-40-28 SOLAR RADIATION SENSOR INSPECTION.)	16	PCM (LF, L8) (See 01-40A-7 PCM INSPECTION [L8, LF].)
		17	PCM (MZR-CD (RF Turbo)) (See 01-40B-10 PCM INSPECTION [MZR-CD (RF Turbo)].)
		18	BCM (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.) (See 09-40-1 BODY CONTROL MODULE (BCM) INSPECTION.)
		19	Water heater unit (MZR-CD (RF Turbo)) (See 07-40-34 WATER HEATER UNIT REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)

CONTROL SYSTEM

HVAC CONTROL SYSTEM LOCATION INDEX [MANUAL AIR CONDITIONER]

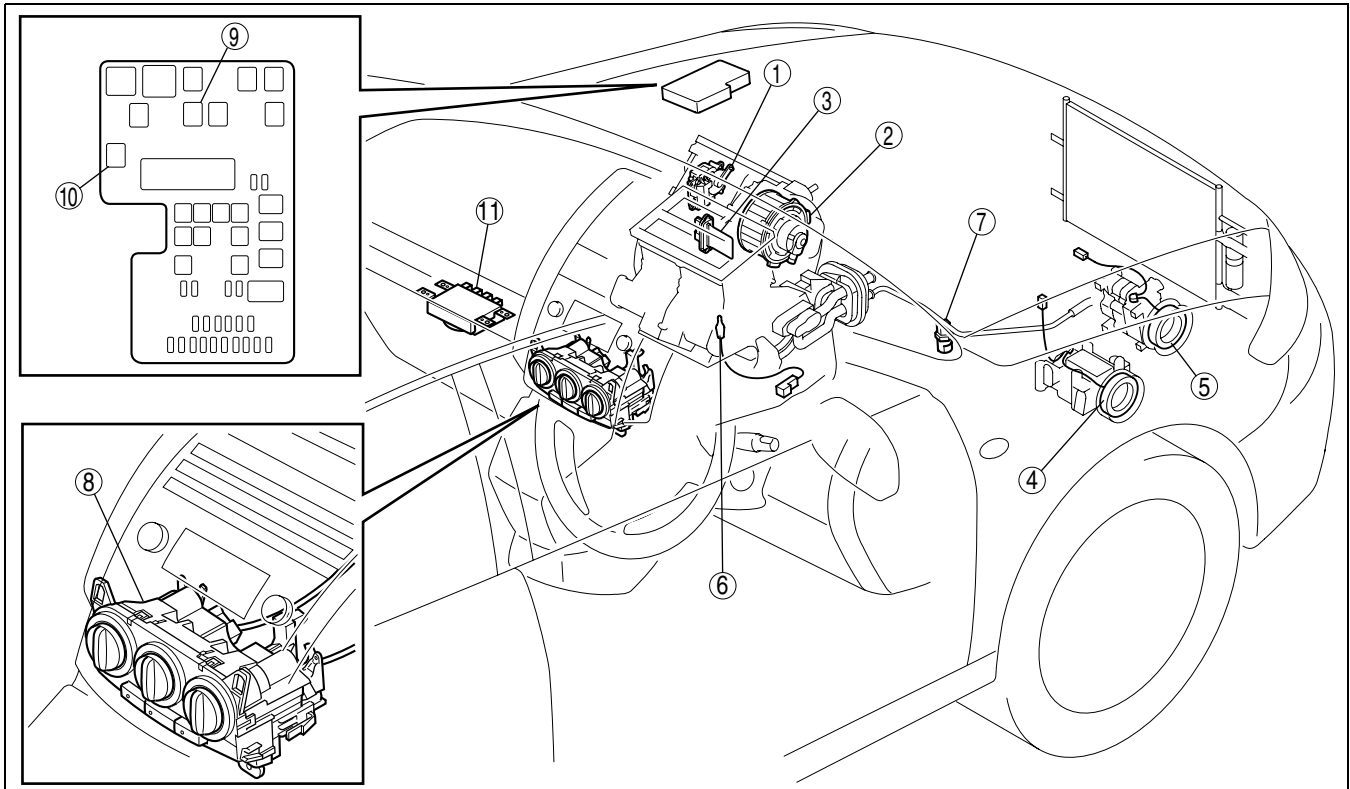
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L.H.D.



DPE740ZW1003

R.H.D.



DPE740ZW1004

CONTROL SYSTEM

1	Air intake actuator (See 07-40-5 AIR INTAKE ACTUATOR REMOVAL/INSTALLATION.) (See 07-40-6 AIR INTAKE ACTUATOR INSPECTION.)	6	Evaporator temperature sensor (See 07-40-31 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See 07-40-31 EVAPORATOR TEMPERATURE SENSOR INSPECTION.)
2	Blower motor (See 07-40-10 BLOWER MOTOR REMOVAL.) (See 07-40-16 BLOWER MOTOR INSTALLATION.) (See 07-40-20 BLOWER MOTOR INSPECTION.)	7	Refrigerant pressure switch (See 07-40-32 REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION.) (See 07-40-33 REFRIGERANT PRESSURE SWITCH INSPECTION.)
3	Resistor (See 07-40-22 RESISTOR REMOVAL/INSTALLATION.) (See 07-40-23 RESISTOR INSPECTION.)	8	Climate control unit (See 07-40-36 CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].) (See 07-40-37 CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER].) (See 07-40-38 CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER].) (See 07-40-44 CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER].)
4	Magnetic clutch (LF, L8) (See 07-40-24 MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [LF, L8].) (See 07-40-26 MAGNETIC CLUTCH ADJUSTMENT [LF, L8].) (See 07-40-27 MAGNETIC CLUTCH INSPECTION [LF, L8].)	9	A/C relay (See 09-21-3 RELAY INSPECTION.)
5	Magnetic clutch (MZR-CD (RF Turbo)) (See 07-40-25 MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [MZR-CD (RF Turbo)].) (See 07-40-26 MAGNETIC CLUTCH ADJUSTMENT [MZR-CD (RF Turbo)].) (See 07-40-28 MAGNETIC CLUTCH INSPECTION [MZR-CD (RF Turbo)].)	10	Blower relay (See 09-21-3 RELAY INSPECTION.)
		11	BCM (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.) (See 09-40-1 BODY CONTROL MODULE (BCM) INSPECTION.)
		12	Water heater unit (MZR-CD (RF Turbo)) (See 07-40-34 WATER HEATER UNIT REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)

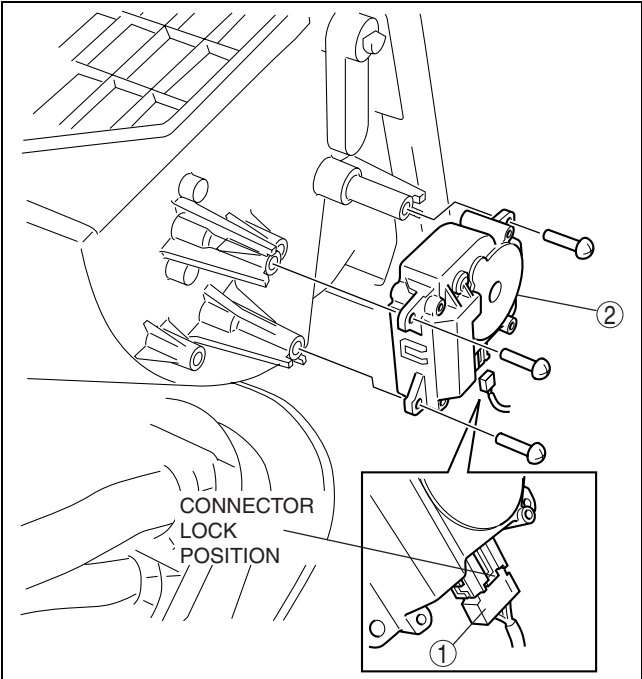
AIR INTAKE ACTUATOR REMOVAL/INSTALLATION

DPE074061060W01

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (3) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (5) Front scuff plate inner (passenger's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (6) Front side trim (passenger's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (7) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (8) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
 - (9) Car-navigation unit (See 09-20-8 CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.)
3. Slide the blower case to the position shown in the figure. (See 07-40-10 BLOWER MOTOR REMOVAL.) (R.H.D.)
4. Remove in the order indicated in the table.

CONTROL SYSTEM

L.H.D.

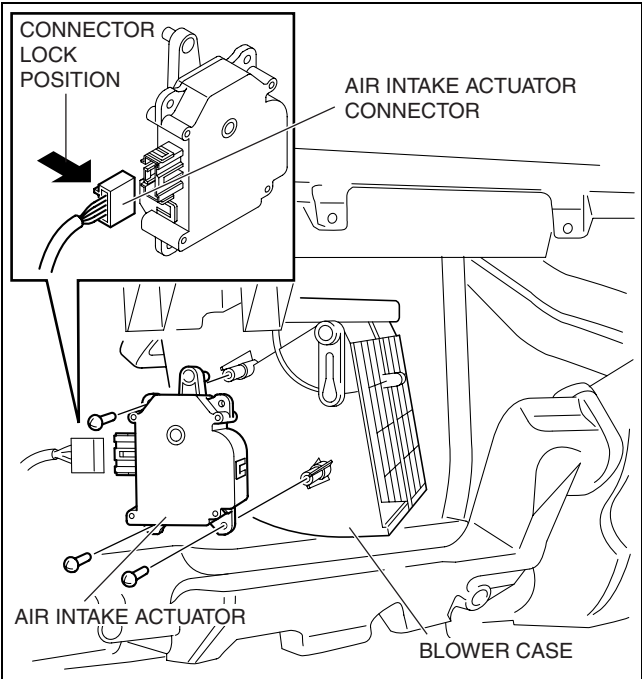


B3E0740W003

R.H.D.

1	Air intake actuator connector
2	Air intake actuator

5. Install in the reverse order of removal.



DPE740ZW1101

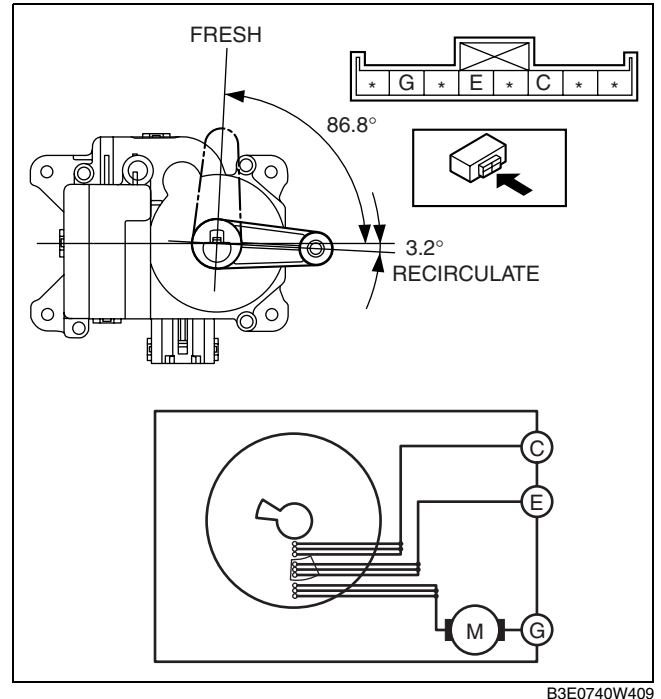
AIR INTAKE ACTUATOR INSPECTION

1. Connect battery positive voltage to air intake actuator terminal C (or G), connect terminal G (or E) to ground, and then verify that the air intake actuator operates as shown in the table.
 - If the operation condition is not normal, replace the air intake actuator.

DPE074061060W02

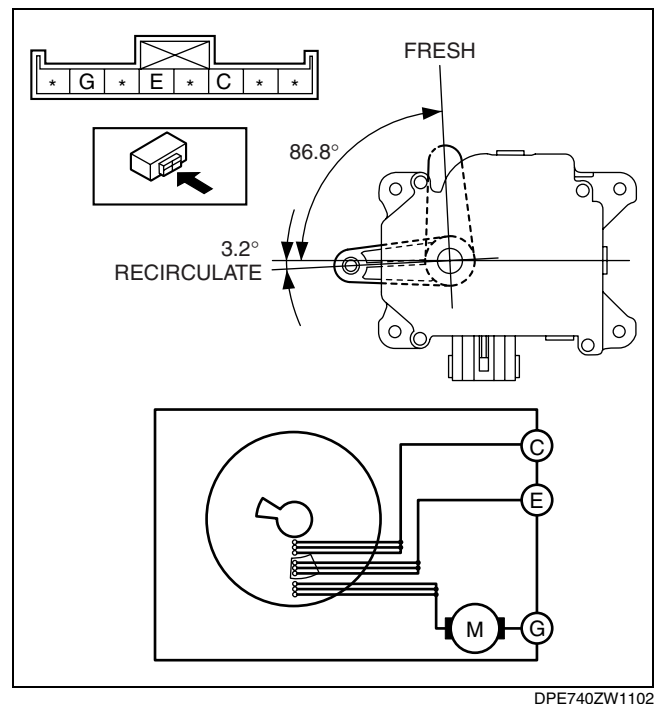
CONTROL SYSTEM

L.H.D.



R.H.D.

Terminal			Air intake actuator operation
C	E	G	
B+	–	Ground	FRESH→RECIRCULATE
–	Ground	B+	RECIRCULATE→FRESH



AIR MIX ACTUATOR REMOVAL/INSTALLATION

DPE074061415W01

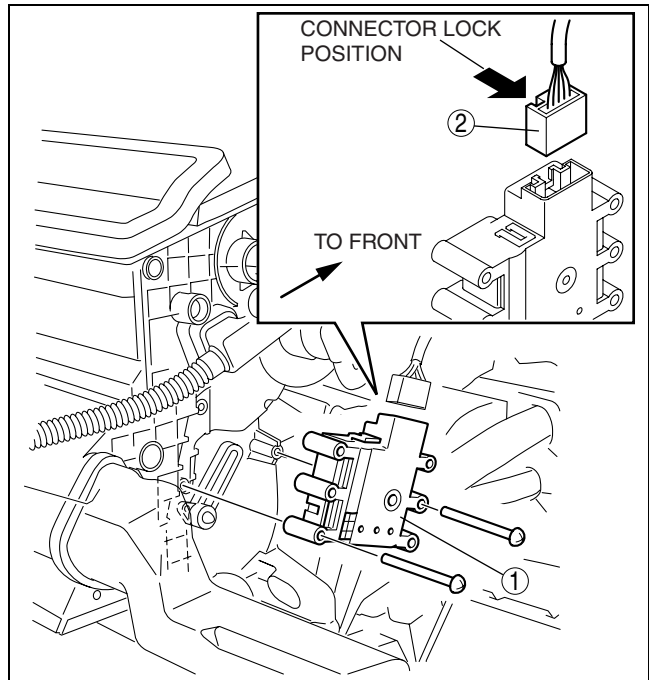
1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Side wall (L.H.D.) (See 09–17–11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Front console (L.H.D.) (See 09–17–13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (3) Front scuff plate inner (passenger's side) (L.H.D.) (See 09–17–19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (4) Front side trim (passenger's side) (L.H.D.) (See 09–17–15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (5) Side panel. (passenger's side) (L.H.D.) (See 09–17–11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (6) Glove compartment (L.H.D.) (See 09–17–7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
 - (7) Column cover (R.H.D.) (See 09–17–7 COLUMN COVER REMOVAL/INSTALLATION.)
 - (8) Front heat duct (driver's side) (R.H.D.)

CONTROL SYSTEM

3. Remove in the order indicated in the table.

1	air mix actuator
2	Air mix actuator connector

4. Install in the reverse order of removal.



DPE740ZW1103

AIR MIX ACTUATOR INSPECTION

DPE074061415W03

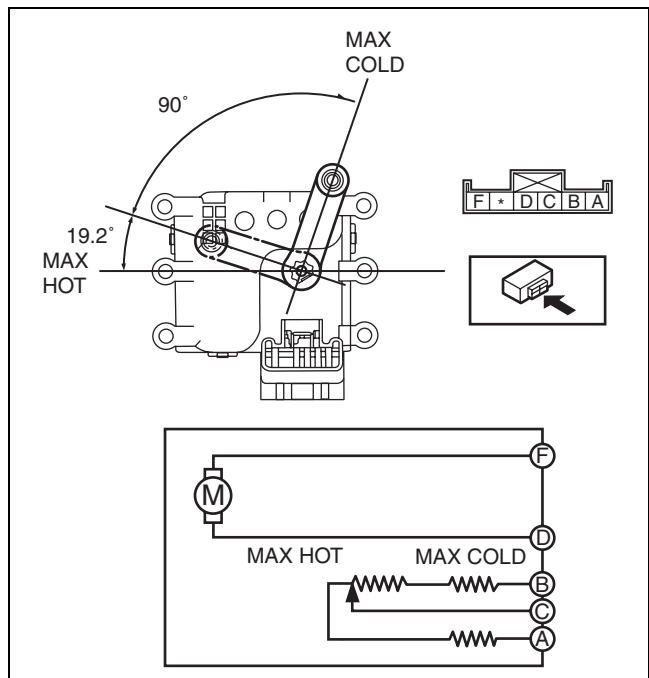
Caution

- If the lever position exceeds the operation range shown in the figure, the circuit in the actuator could be damaged. Always perform an actuator operation inspection with the lever movement within the range shown in the figure.

- Connect battery positive voltage to air mix actuator terminal D (or F), connect terminal F (or D) to ground, and then verify that the air mix actuator operates as shown in the table.
 - If the operation condition is not normal, replace the air mix actuator.

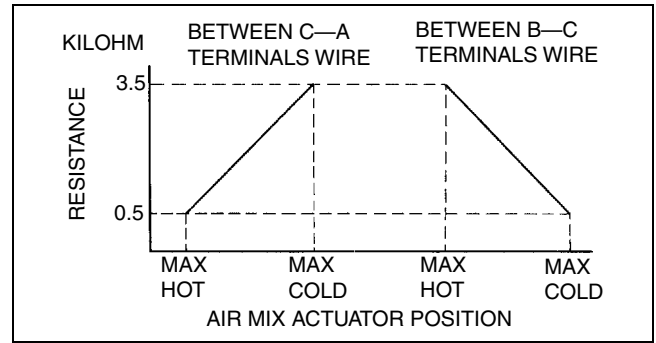
Terminal		Air mix actuator operation
D	F	
B+	Ground	HOT→COLD
Ground	B+	COLD→HOT

- Verify that the resistance between terminals B and C, and C and A matches the air mix actuator operation as shown in the graph.
 - If the operation condition and resistance are not normal, replace the air mix actuator.



DPE740ZW1104

CONTROL SYSTEM



B3E0740W007

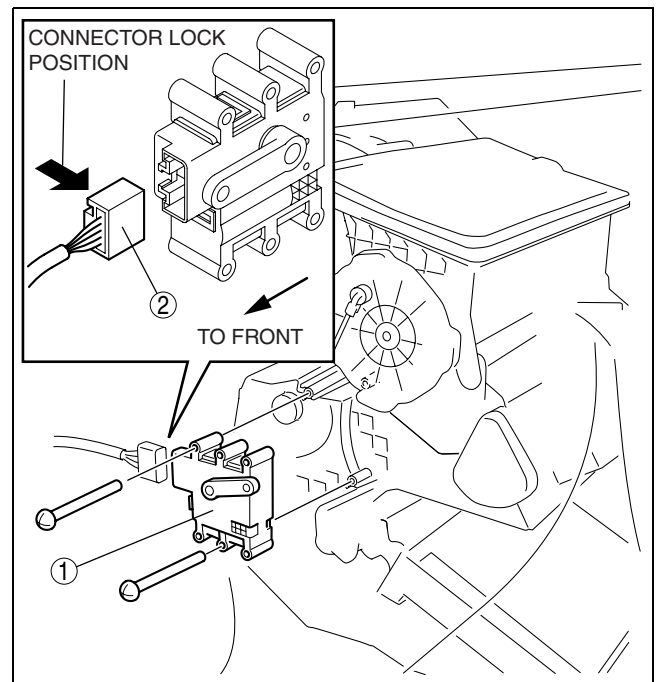
AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION

DPE074061070W01

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Side wall (R.H.D.) (See 09–17–11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Front console (R.H.D.) (See 09–17–13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (3) Front scuff plate inner (passenger's side) (R.H.D.) (See 09–17–19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (4) Front side trim (passenger's side) (R.H.D.) (See 09–17–15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (5) Side panel. (passenger's side) (R.H.D.) (See 09–17–11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (6) Glove compartment (R.H.D.) (See 09–17–7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
 - (7) Column cover (L.H.D.) (See 09–17–7 COLUMN COVER REMOVAL/INSTALLATION.)
 - (8) Front heat duct (driver's side) (L.H.D.)
3. Remove in the order indicated in the table.

1	Airflow mode actuator
2	Airflow mode actuator connector

4. Install in the reverse order of removal.



DPE740ZW1105

AIRFLOW MODE ACTUATOR INSPECTION

DPE074061070W03

Caution

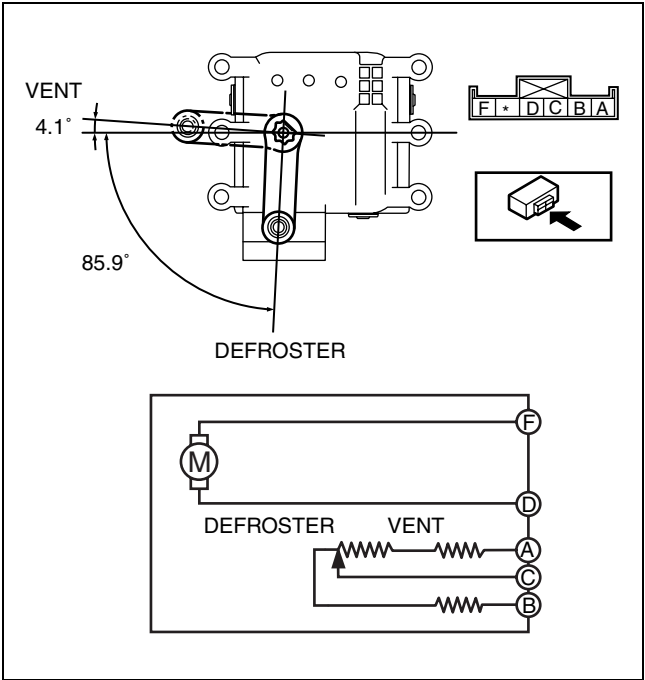
- If the lever position exceeds the operation range shown in the figure, the circuit in the actuator could be damaged. Always perform an actuator operation inspection with the lever movement within the range shown in the figure.

1. Connect battery positive voltage to airflow mode actuator terminal D (or F), connect terminal F (or D) to ground, and then verify that the airflow mode actuator operates as shown in the table.
 - If the operation condition is not normal, replace the airflow mode actuator.

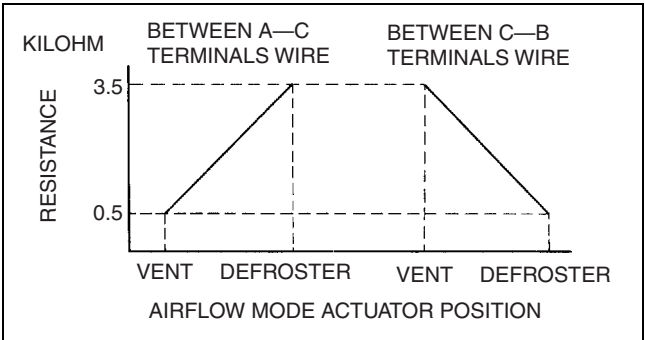
CONTROL SYSTEM

Terminal		Airflow mode actuator operation
D	F	
B+	Ground	VENT → DEFROSTER
Ground	B+	DEFROSTER → VENT

- Verify that the resistance between terminals A and C, and C and B matches the airflow mode actuator operation as shown in the graph.
 - If the operation condition and resistance are not normal, replace the airflow mode actuator.



DPE740ZW1106



DPE740ZW1127

BLOWER MOTOR REMOVAL

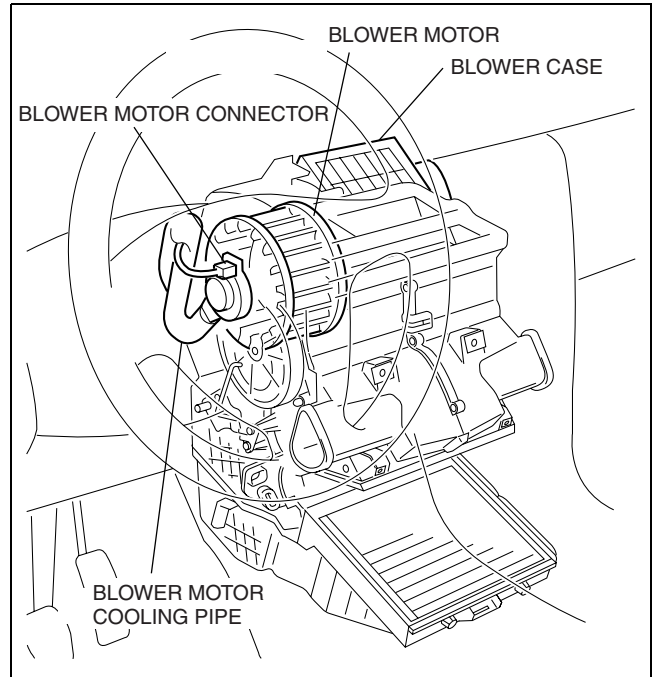
DPE074061020W01

Note

- The blower motor is located on the A/C unit as shown in the figure.

CONTROL SYSTEM

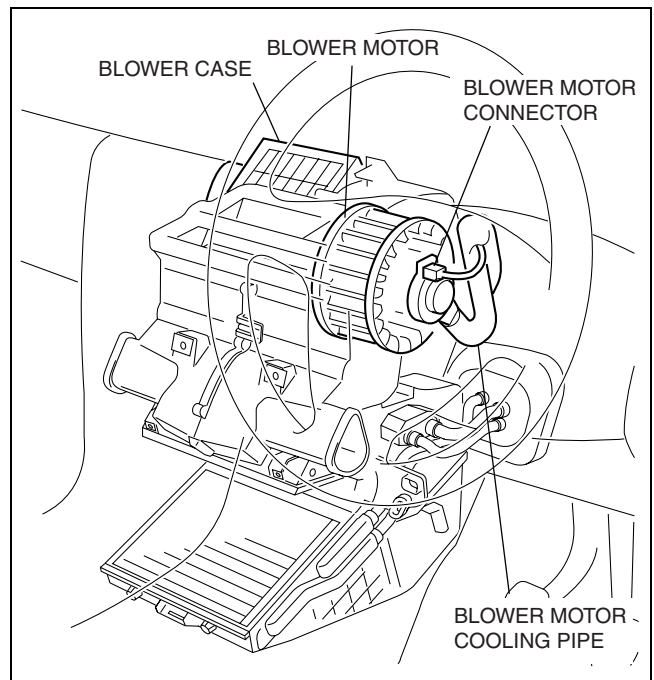
L.H.D.



C3U0740W004

R.H.D.

1. Set the air intake mode to FRESH.
2. Disconnect the negative battery cable.
3. Remove the following parts:
 - (1) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (3) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (5) Front scuff plate inner (passenger's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (6) Front side trim (passenger's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (7) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (8) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
 - (9) Car-navigation unit (See 09-20-8 CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.)
 - (10) Bonnet release lever (See 09-14-5 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
 - (11) Lower panel (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.)
 - (12) Airflow mode actuator (L.H.D.) (See 07-40-9 AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.)
4. Remove the BCM wiring harness grommets.
5. Set the car-navigation unit wiring harness out of the way to secure the operation space.
6. Disconnect the airflow mode main link side airflow mode rod. (R.H.D.)
7. Remove the screws shown in the figure and slide the blower case.



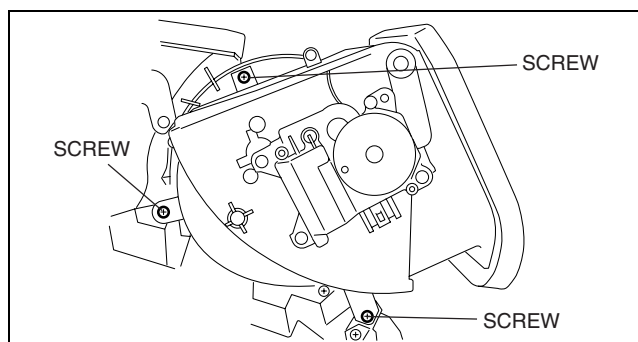
B3E0740W402

Caution

- Slide the blower case while pressing the dashboard insulator, otherwise the blower case could be damaged.

CONTROL SYSTEM

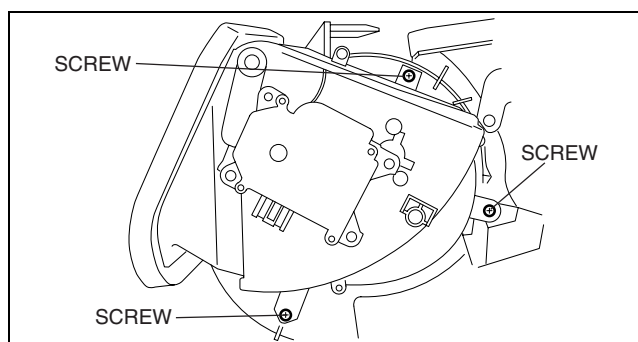
L.H.D.



B3E0740W012

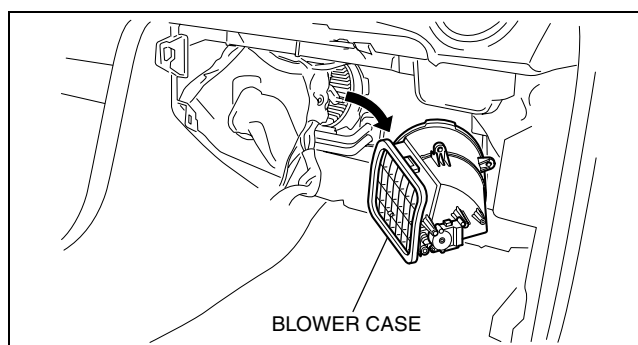
R.H.D.

8. Disconnect the air intake actuator connector.
9. Remove the blower case shown in the figure.



B3E0740W413

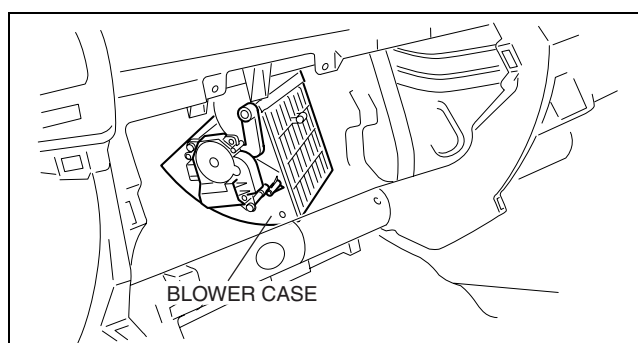
L.H.D.



DPE740ZW1005

R.H.D.

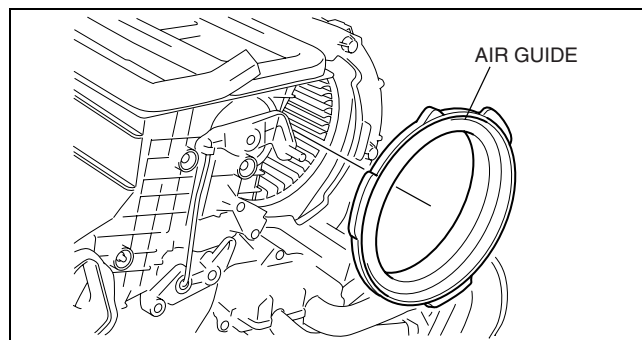
10. Remove the air guide.



DPE740ZW1107

CONTROL SYSTEM

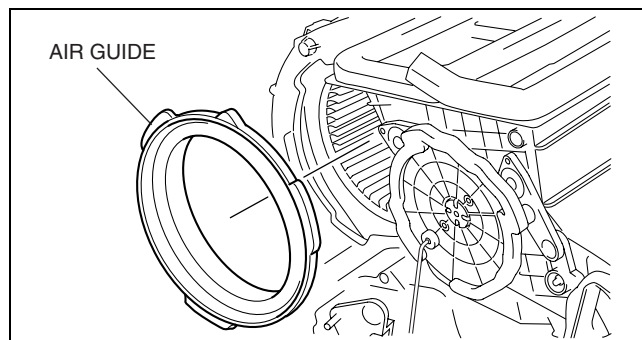
L.H.D.



C3U0740W002

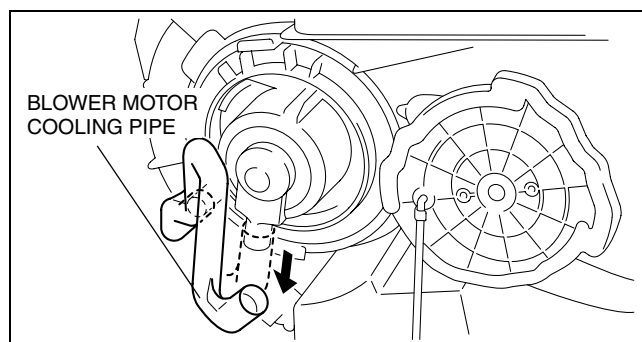
R.H.D.

11. Install the **SST (49 B061 015)** to the blower motor.
(See 07-40-14 SST Installation Note.)
12. Disconnect the blower motor cooling pipe
connected to the blower motor.



B3E0740W415

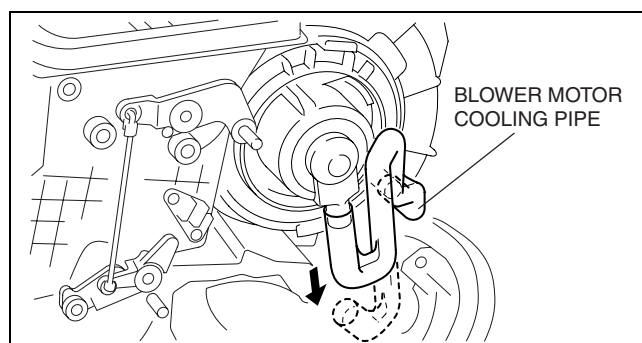
L.H.D.



B3E0740W017

R.H.D.

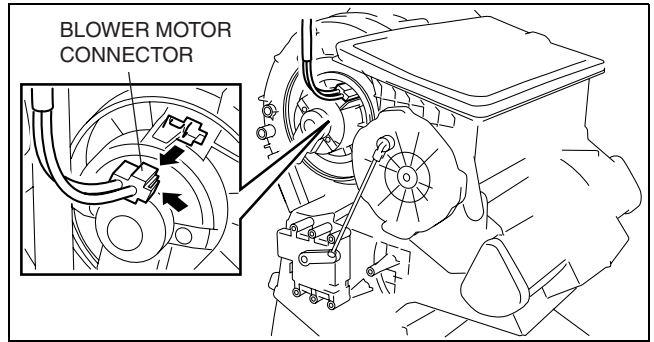
13. Disconnect the blower motor connector as shown
in the figure.



B3E0740W432

CONTROL SYSTEM

L.H.D.



B3E0740W433

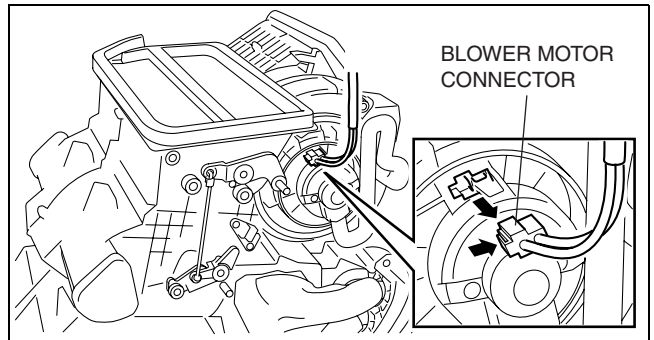
R.H.D.

14. Remove the blower motor cover. (See 07-40-15 Blower Motor Cover Removal Note.)

Caution

- When the blower motor cover is removed, the blower motor could fall in the A/C unit case causing the sirocco fan to be damaged. Therefore another person must hold the blower motor at the installation position.

15. Remove the blower motor by pulling it out. (See 07-40-15 Blower Motor Removal Note.)

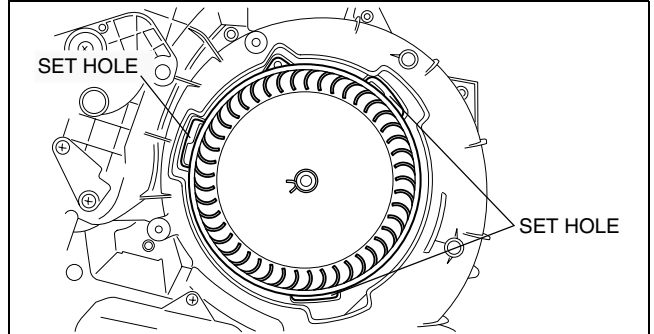


B3E0740W404

SST Installation Note

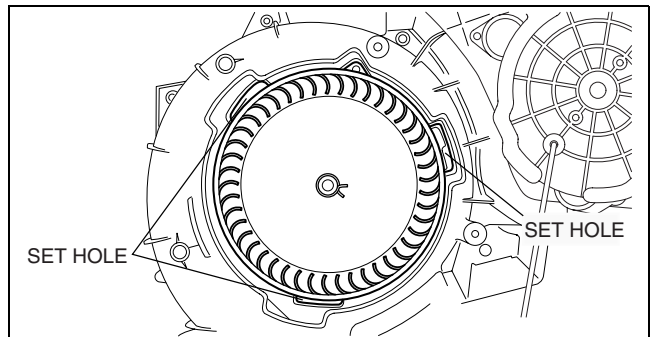
1. Align the **SST** guide with the sirocco fan clip position and press the **SST** tabs (3) into the three set holes on the blower motor until they are inserted.

L.H.D.



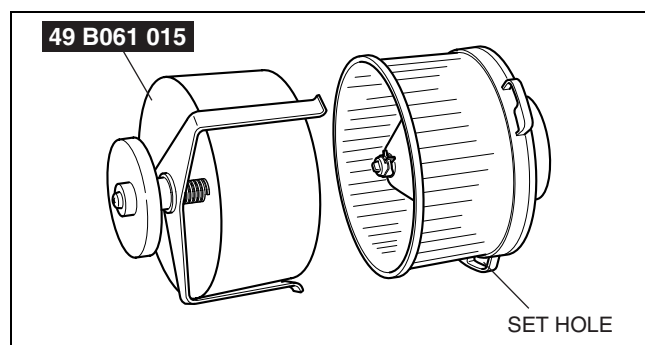
B3E0740W015

R.H.D.

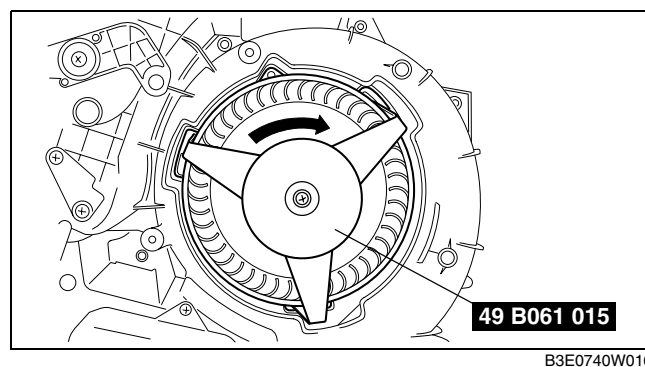


B3E0740W417

CONTROL SYSTEM



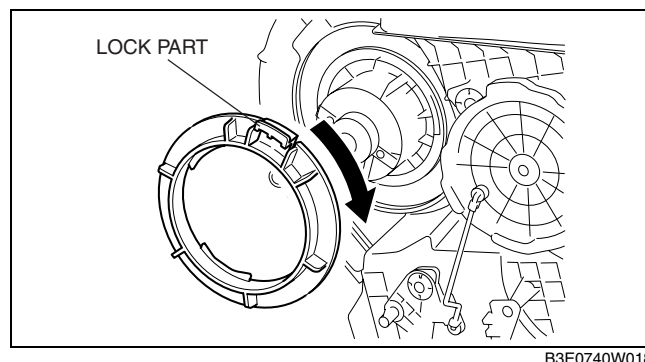
2. Rotate the **SST (49 B061 015)** clockwise to lock the **SST** and blower motor.



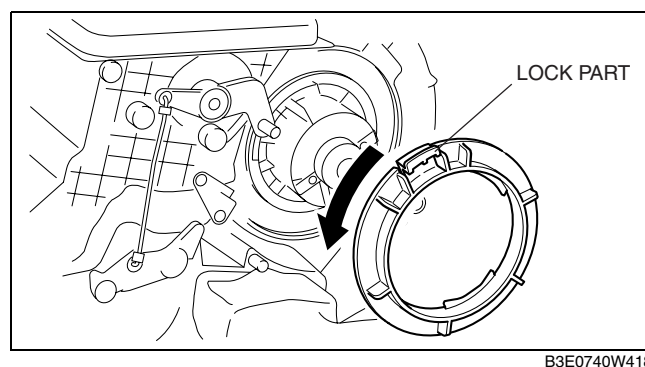
Blower Motor Cover Removal Note

1. Pull the lock on the top of the blower motor cover and rotate the blower motor cover .

L.H.D.



R.H.D.



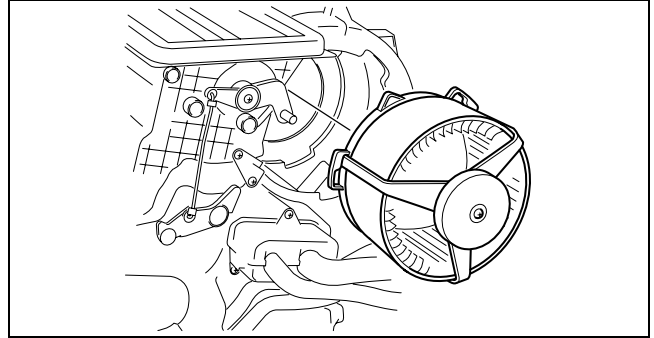
Blower Motor Removal Note

Caution

- To prevent damage to the sirocco fan, pull the blower motor out being careful that the blower motor does not interfere with the A/C unit.

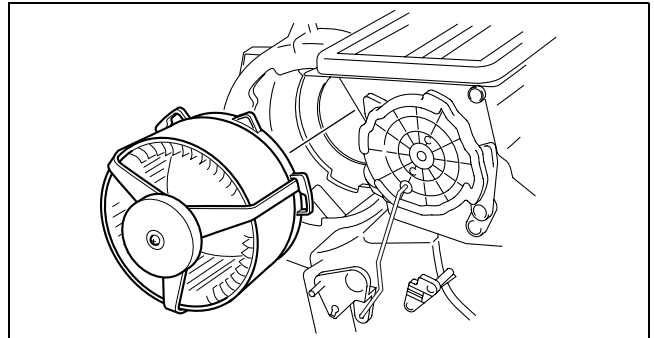
CONTROL SYSTEM

L.H.D.



B3E0740W019

R.H.D.



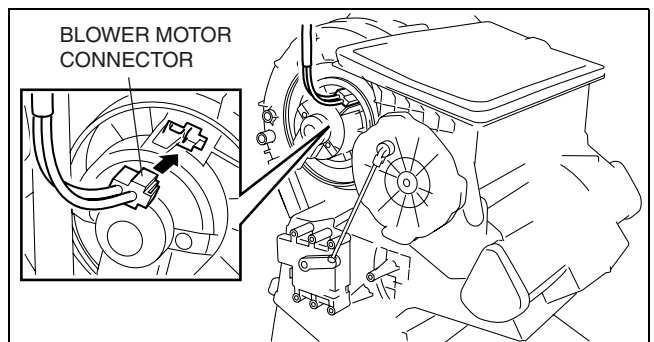
B3E0740W405

BLOWER MOTOR INSTALLATION

DPE074061020W02

1. Install the **SST** to the blower motor. (See 07-40-14 SST Installation Note.)
2. Install the blower motor with the **SST (49 B061 015)** installed, to the A/C unit. (See 07-40-17 Blower Motor Installation Note.)
3. Install the blower motor cover from the driver's side. (See 07-40-18 Blower Motor Cover Installation Note.)
4. Connect the blower motor connector as shown in the figure.

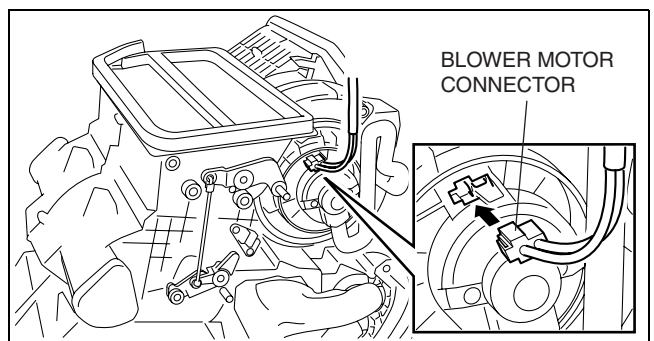
L.H.D.



B3E0740W435

R.H.D.

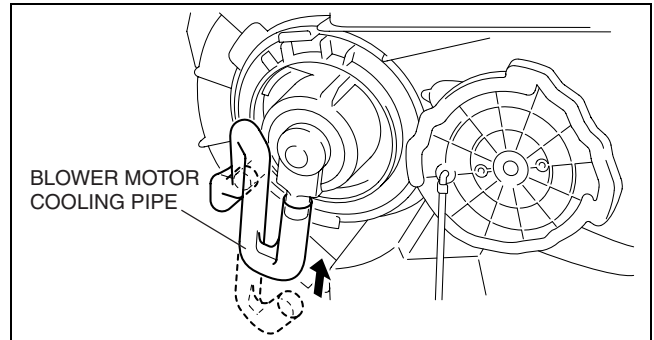
5. Install the blower motor cooling pipe.



B3E0740W436

CONTROL SYSTEM

L.H.D.



B3E0740W024

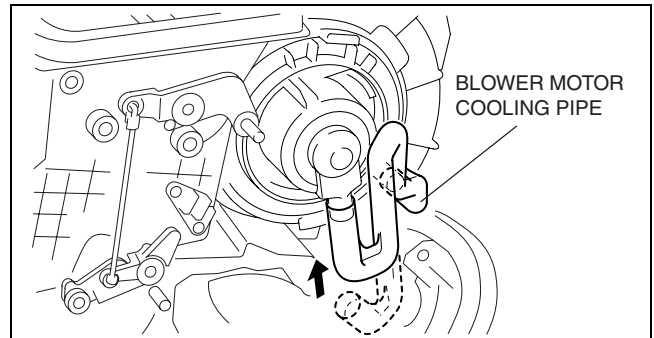
R.H.D.

6. Remove the **SST (49 B061 015)** from the blower motor.
7. Install the air guide.

Caution

- **Install the blower case while pressing the dashboard insulator, otherwise the blower case could be damaged.**

8. Temporarily install the blower case.
9. Connect the air intake actuator connector.
10. Install the blower case.
11. Install the airflow mode rod. (R.H.D.)
12. Install the following parts:



B3E0740W419

- (1) Airflow mode actuator (L.H.D.) (See 07-40-9 AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.)
- (2) Lower panel (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.)
- (3) Bonnet release lever (See 09-14-5 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
- (4) BCM harness grommet
- (5) Car-navigation unit (See 09-20-8 CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.)
- (6) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
- (7) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
- (8) Front side trim (passenger's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
- (9) Front scuff plate inner (passenger's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
- (10) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
- (11) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
- (12) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
- (13) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)

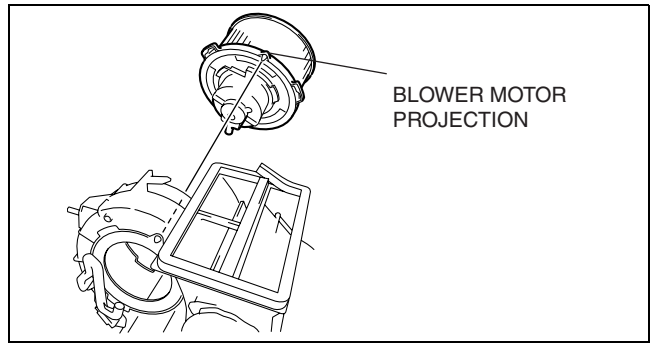
Blower Motor Installation Note

1. Position the blower motor projection upward and install the blower motor to the A/C unit.

Caution

- **To prevent damage to the sirocco fan, install the blower motor being careful that the blower motor does not interfere with the A/C unit. Also, another person must hold the blower motor at the installation position.**

CONTROL SYSTEM

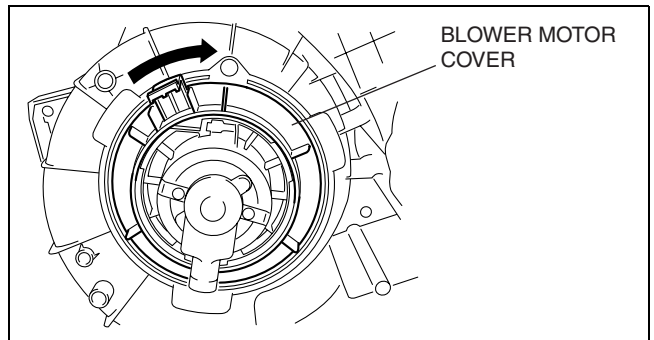


B3E0740W022

Blower Motor Cover Installation Note

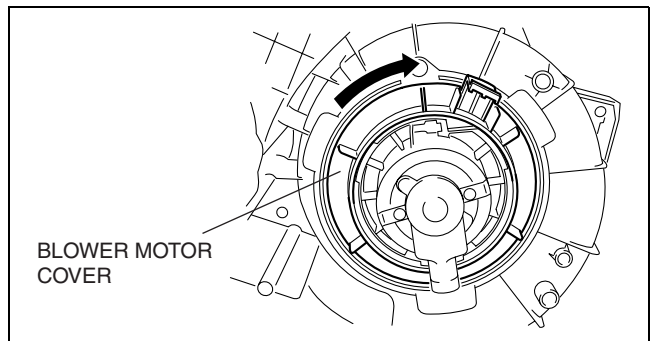
1. To install, rotate the blower motor cover until a click is heard.

L.H.D.



B3E0740W023

R.H.D.



B3E0740W420

Blower Case Installation Note

1. If not replacing the blower case, replace the adhesive polyurethane on the fresh-air inlet of the blower case.

Caution

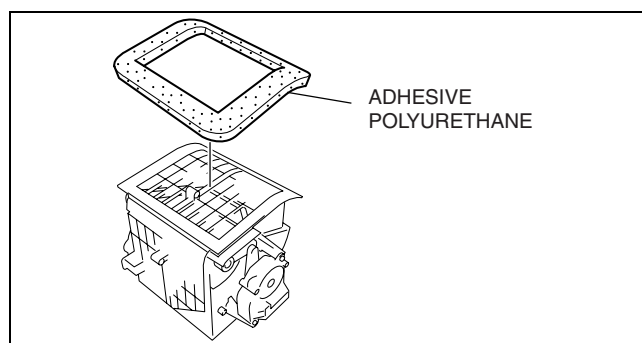
- To adhere new polyurethane properly, be sure to remove the adhesive agent and adhesive polyurethane completely.

Note

- If the blower case is removed or installed, the adhesive polyurethane can be damaged. Damaged adhesive polyurethane could cause abnormal noise or other malfunctions, therefore replace it.

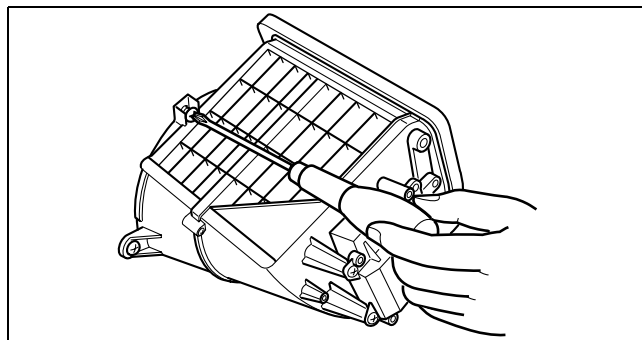
CONTROL SYSTEM

2. Insert the screw into the blower case.



B3E0740W025

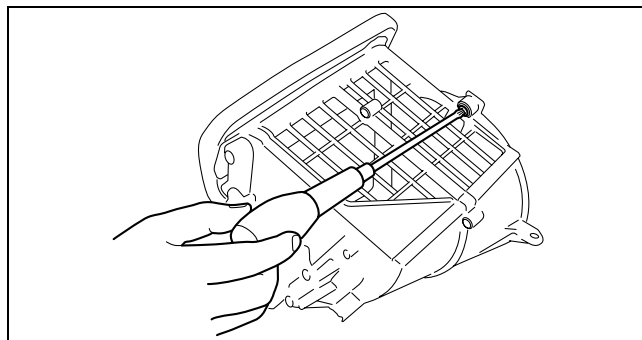
L.H.D.



DPE740ZW1006

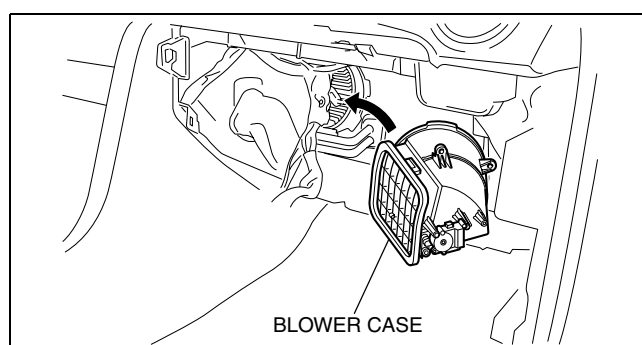
R.H.D.

3. Insert the blower case in the direction shown in the figure.



CPJ740ZWB036

L.H.D.

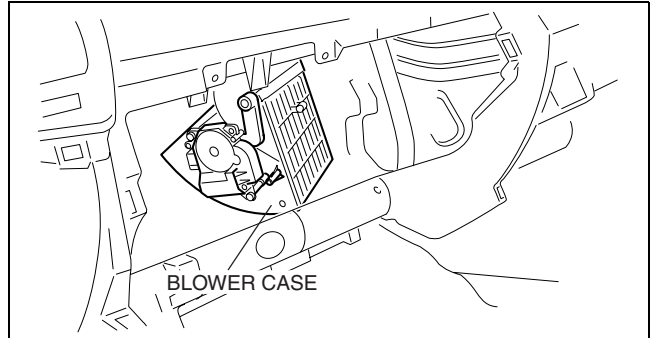


DPE740ZW1128

CONTROL SYSTEM

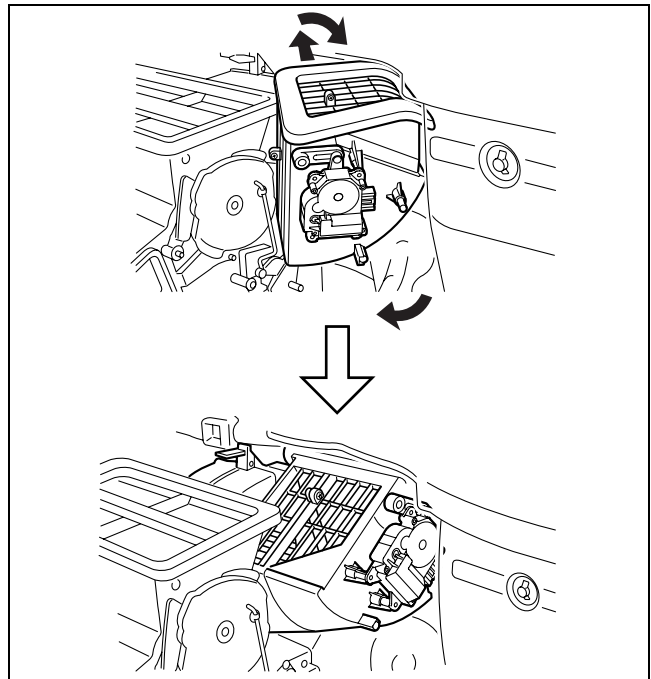
R.H.D.

4. Insert and rotating it in the directions of the arrows shown in the figure.



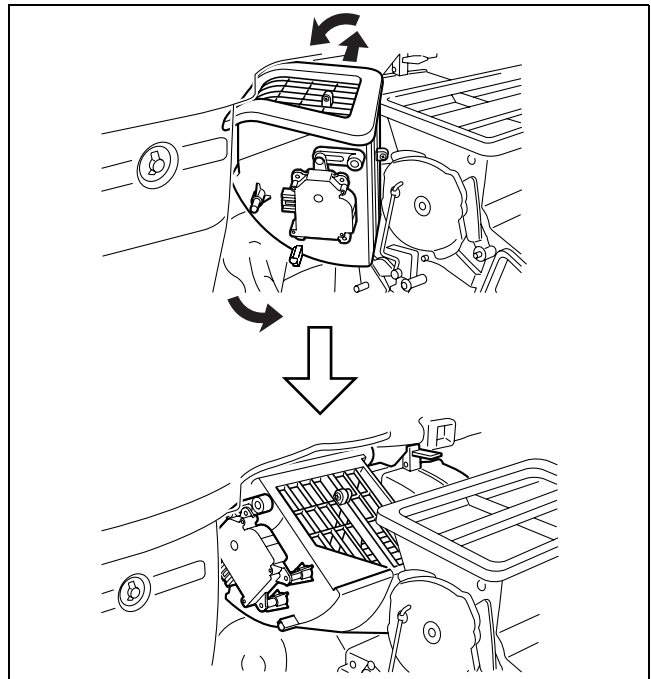
DPE740ZW1107

L.H.D.



B3E0740W437

R.H.D.



B3E0740W438

BLOWER MOTOR INSPECTION

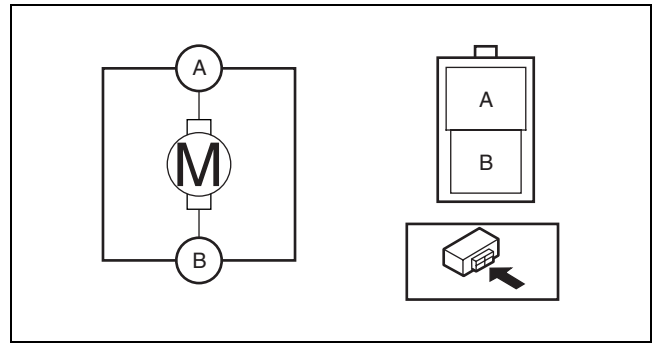
Connect battery positive voltage to blower motor terminal A, connect terminal B to ground, and then verify its

DPE074061020W03

CONTROL SYSTEM

operation.

- If there is any malfunction, replace the blower motor.



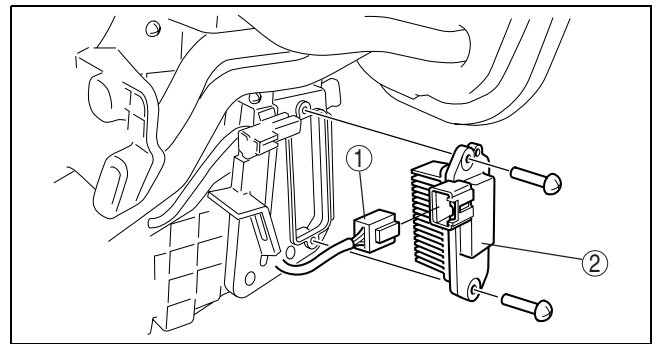
ADJ8540W108

POWER MOS FET REMOVAL/INSTALLATION

DPE074000116W01

1. Disconnect the negative battery cable.
2. Remove the side wall. (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
3. Remove the under cover. (L.H.D.)
4. Remove in the order indicated in the table.

L.H.D.

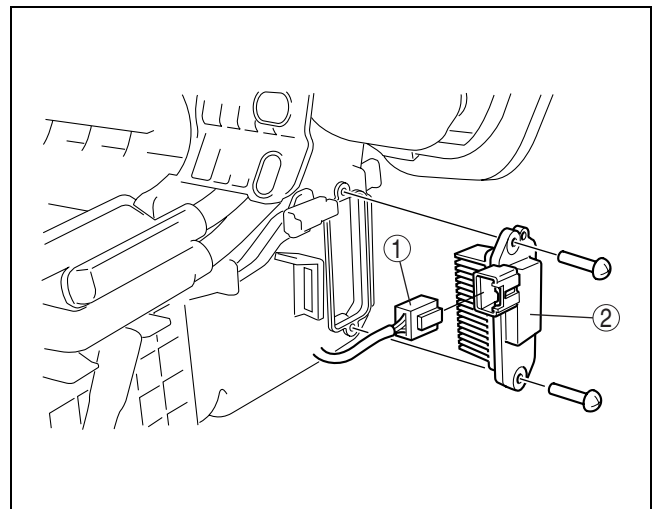


B3E0740W027

R.H.D.

1	Power MOS FET connector
2	Power MOS FET

5. Install in the reverse order of removal.



B3J0740W029

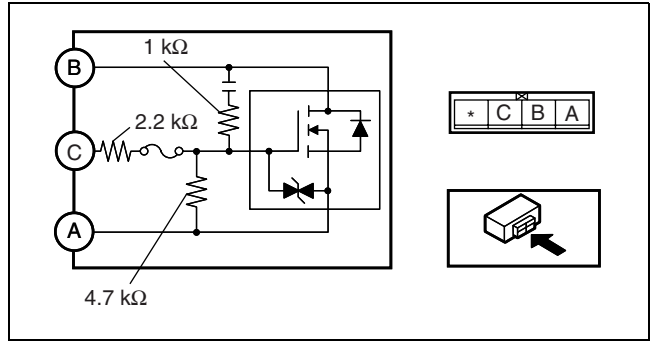
POWER MOS FET INSPECTION

DPE074000116W02

1. Verify that the continuity between the power MOS FET terminals is as indicated in the table.
 - If there is any malfunction, replace the power MOS FET.
 - If the blower motor operation is not normal even though no malfunction can be verified, inspect the climate control unit. (See 07-40-40 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CONTROL SYSTEM

Tester lead		Resistance (kilohm)
+	-	
A	B	∞
A	C	6.9
B	A	Continuity detected
B	C	Continuity detected
C	A	6.9
C	B	∞



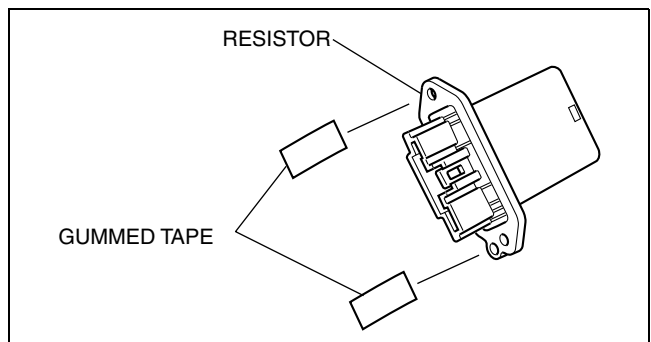
CPJ740ZWB110

RESISTOR REMOVAL/INSTALLATION

L.H.D.

DPE074061015W01

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Front scuff plate inner (driver's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (2) Front side trim (driver's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (3) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (4) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (5) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (6) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (7) Bonnet release lever (See 09-14-5 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
 - (8) Lower panel (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.)
3. Disconnect the blower motor cooling pipe connected to the blower motor.
4. Disconnect the resistor connector.
5. Remove the resistor.
6. Affix the gummed tape to the thread hole area as shown in the figure. (Do not wrap the gummed tape around the backside of the resistor.)

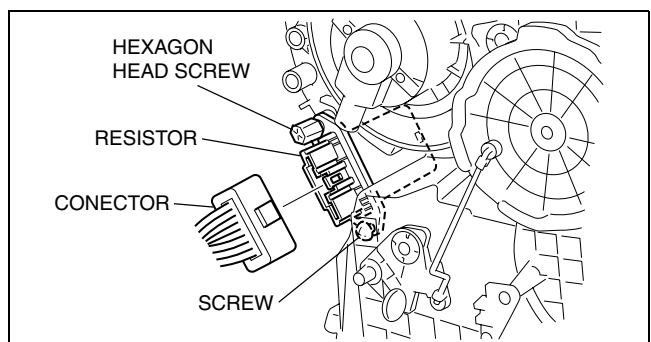


DPE740ZW1007

7. Stick the screw into the thread hole.
8. Set the resistor to the A/C unit and temporarily tighten the hexagon head screw.

Caution

- While setting the resistor, be careful not to damage the pattern surface. Otherwise it could cause a resistor operation malfunction.



DPE740ZW1008

9. Tighten the lower screw.
10. Tighten the hexagon head screw.
11. Connect the resistor connector.
12. Connect the blower motor cooling pipe.
13. Install the following parts:
 - (1) Accelerator pedal
 - (2) Lower panel (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.)
 - (3) Bonnet release lever (See 09-14-5 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
 - (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (5) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (6) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)

CONTROL SYSTEM

INSTALLATION.)

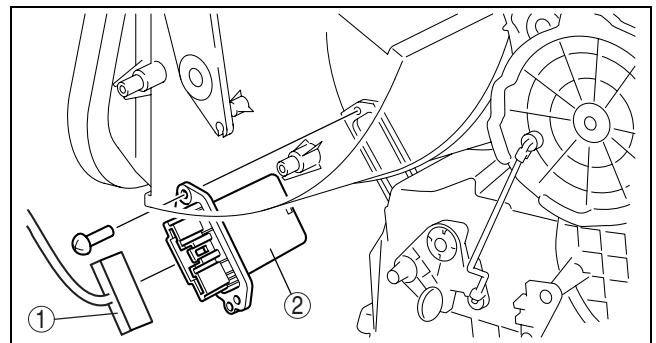
- (7) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (8) Front side trim (driver's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (9) Front scuff plate inner (driver's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
14. Connect the negative battery cable.

R.H.D.

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (3) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (5) Front scuff plate inner (passenger's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (6) Front side trim (passenger's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (7) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (8) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
3. Remove in the order indicated in the table.

Caution

- While setting the resistor, be careful not to damage the pattern surface. Otherwise it could cause a resistor operation malfunction.



B3J0740W033

1	Resister connector
2	Resister

4. Install in the reverse order of removal.

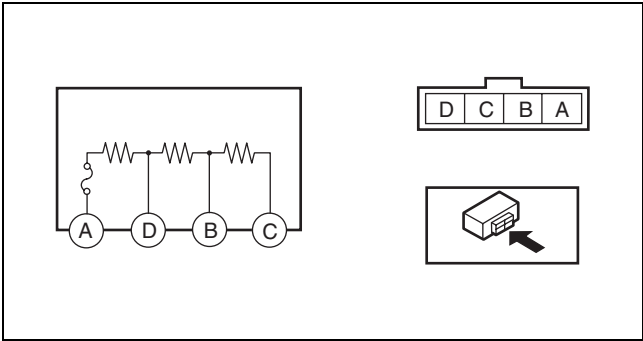
RESISTOR INSPECTION

1. Verify that the resistance between the resistor terminals is as shown in the table.
 - If there is any malfunction, replace the resistor.

Terminal	Resistance (ohm)
A—D	0.27—0.30
A—B	0.77—0.87
A—C	3.05—3.49

DPE074061015W02

CONTROL SYSTEM



B3E0740W030

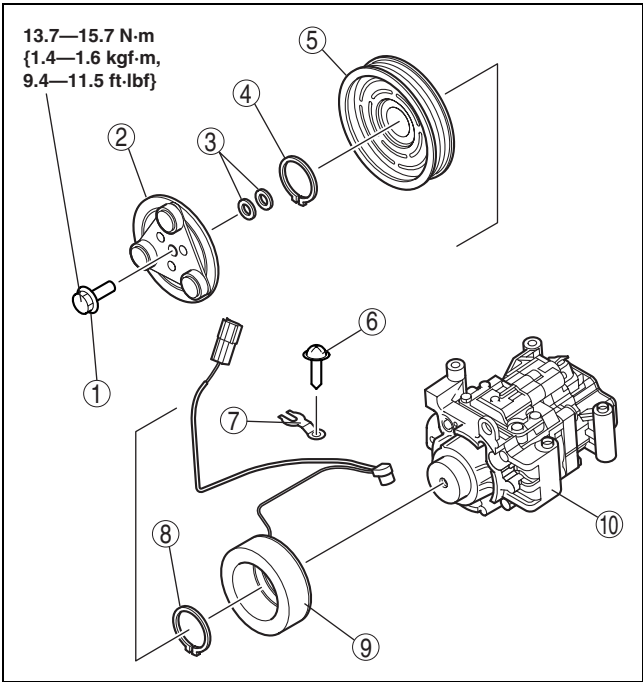
MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [LF, L8]

DPE074061010W02

1. Disassemble in the order indicated in the table.

1	Bolt (See 07-40-25 Bolt Removal/Installation Note.)
2	Pressure plate
3	Shim
4	Snap ring (See 07-40-26 Snap Ring Installation Note.)
5	A/C compressor pulley
6	Screw (See 07-40-25 Screw Installation Note.)
7	Clamp (See 07-40-26 Clamp Installation Note.)
8	Snap ring (See 07-40-26 Snap Ring Installation Note.)
9	Stator and thermal protector (See 07-40-25 Stator and Thermal Protector Removal Note.) (See 07-40-25 Stator and Thermal Protector Installation Note.)
10	A/C compressor body

2. Assemble in the reverse order of disassembly.
3. Adjust the magnetic clutch clearance. (See 07-40-26 MAGNETIC CLUTCH ADJUSTMENT [LF, L8].)



DPE740ZW1133

CONTROL SYSTEM

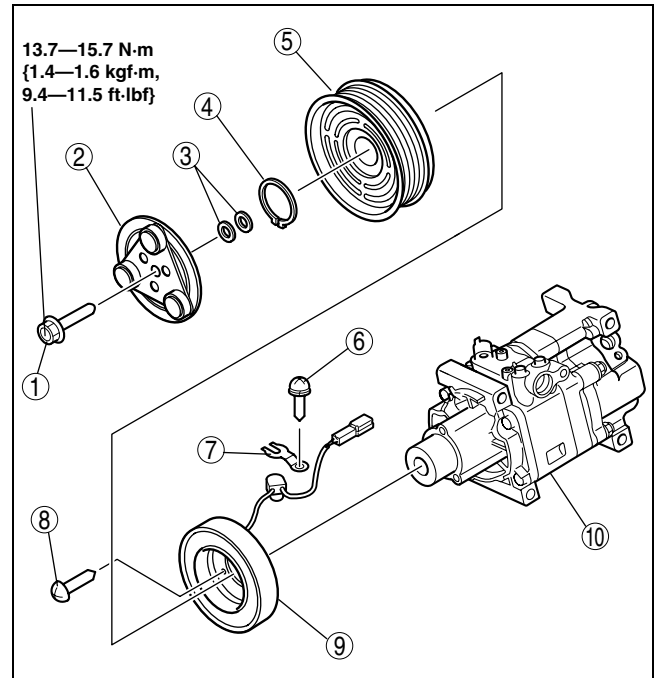
MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [MZR-CD (RF TURBO)]

DPE074061010W01

1. Disassemble in the order indicated in the table.

1	Bolt (See 07-40-25 Bolt Removal/Installation Note.)
2	Pressure plate
3	Shim
4	Snap ring (See 07-40-26 Snap Ring Installation Note.)
5	A/C compressor pulley
6	Screw (See 07-40-25 Screw Installation Note.)
7	Clamp (See 07-40-26 Clamp Installation Note.)
8	Screw (See 07-40-25 Screw Installation Note.)
9	Stator and thermal protector (See 07-40-25 Stator and Thermal Protector Removal Note.) (See 07-40-25 Stator and Thermal Protector Installation Note.)
10	A/C compressor body

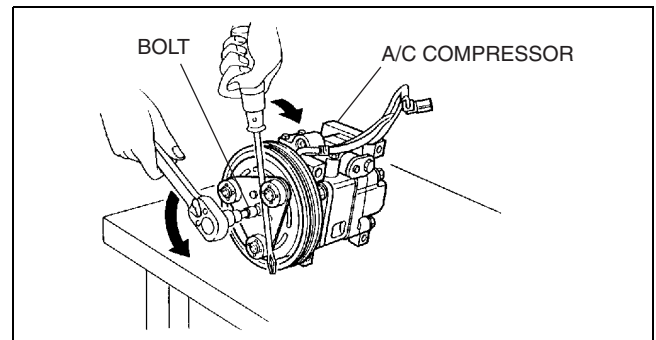
2. Assemble in the reverse order of disassembly.
3. Adjust the magnetic clutch clearance. (See 07-40-26 MAGNETIC CLUTCH ADJUSTMENT [MZR-CD (RF Turbo)].)



DPE740ZW1009

Bolt Removal/Installation Note

1. When removing or installing the bolt, hold the pressure plate in place as shown in the figure.
2. When installing a new A/C compressor body, replace the recommended bolt.



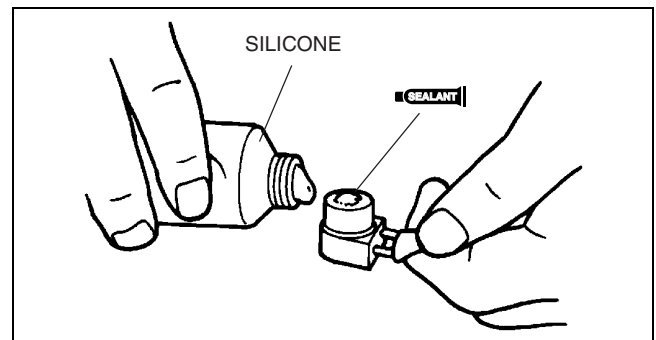
A6E8540W048

Stator and Thermal Protector Removal Note

1. After removing the stator and thermal protector, completely remove the silicone adhering to the A/C compressor side.

Stator and Thermal Protector Installation Note

1. Apply **approx. 1 g {0.04 oz}** of silicone (Shin-Etsu Silicone KE-347W or similar) to the contact surface of the thermal protector, then thoroughly install it onto the A/C compressor, leaving no gaps.



A6E8540W049

Screw Installation Note

1. When installing a new stator and thermal protector, replace the screw.

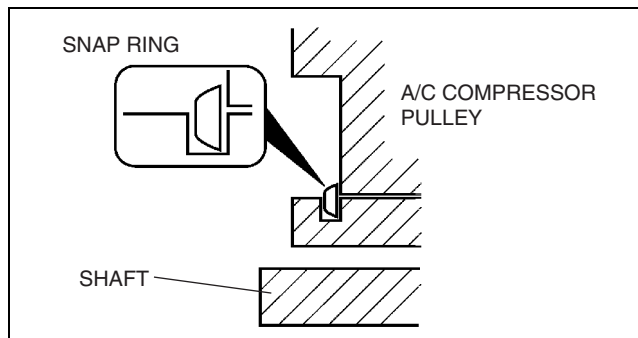
CONTROL SYSTEM

Clamp Installation Note

1. When installing a new stator and thermal protector, replace the clamp.

Snap Ring Installation Note

1. When installing a new pressure plate, A/C compressor pulley, stator, or A/C compressor body, replace the snap ring.

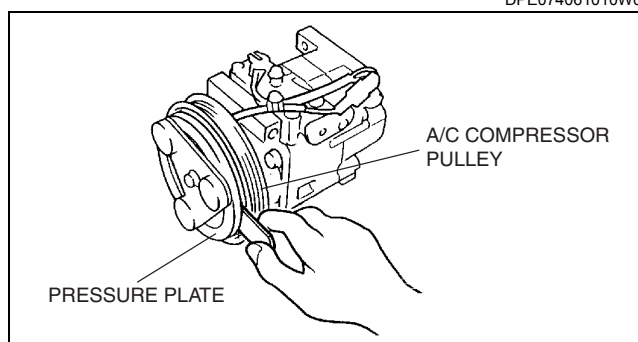


A6E8540W050

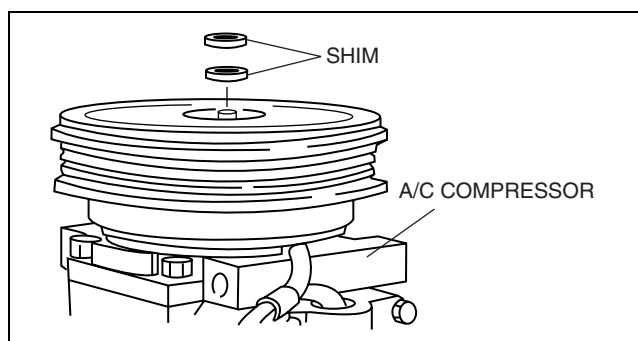
MAGNETIC CLUTCH ADJUSTMENT [LF, L8]

1. Measure the clearance around the entire circumference between the pressure plate and A/C compressor pulley using a thickness gauge.
2. Verify that the clearance.
 - If not within the specification, remove the pressure plate and adjust the clearance by changing the shim (**0.2 mm {0.008 in}**, **0.5 mm {0.02 in}**) or the number of shims.

Magnetic clutch clearance
0.3—0.5 mm {0.012—0.019 in}



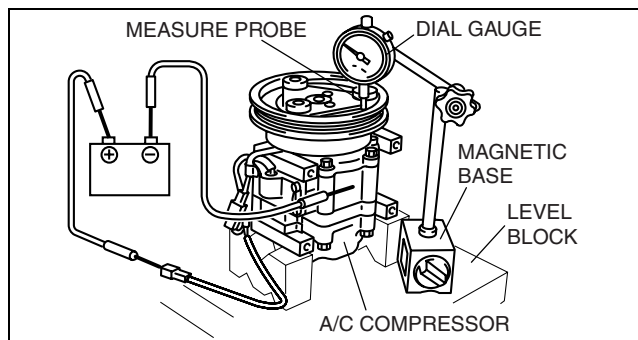
A6E8540W051



DPE740ZW1109

MAGNETIC CLUTCH ADJUSTMENT [MZR-CD (RF TURBO)]

1. Set the A/C compressor on a level block.
2. Turn on the magnetic clutch by connecting the battery positive voltage to the magnetic clutch connector terminal and ground to the A/C compressor body.
3. Fix a dial gauge on a magnetic base and send the measuring probe onto point A on the pressure plate surface.

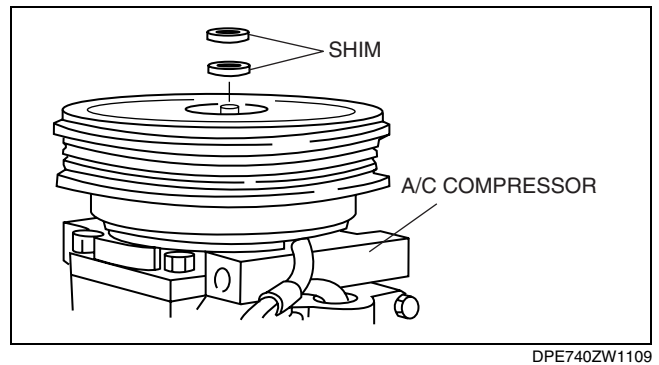
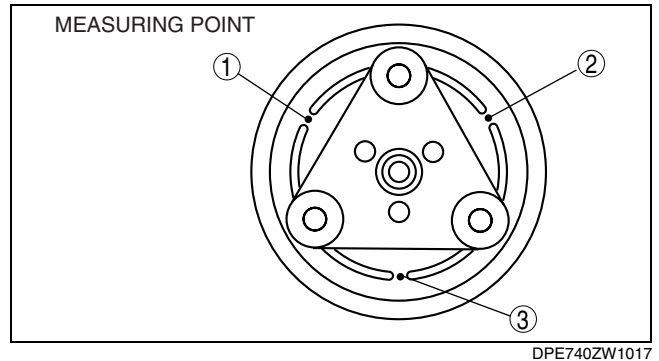


DPE740ZW1016

CONTROL SYSTEM

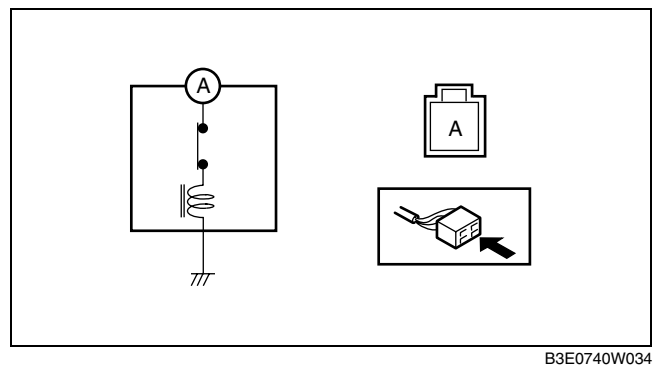
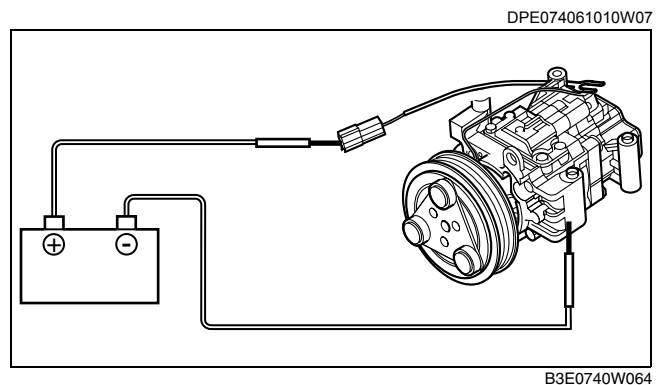
4. Turn off the magnetic clutch by disconnecting the ground from the A/C compressor body, then measure the dial gauge readings.
5. Measure the clearance for points B and C on the pressure plate surface by repeating the above Step 2 through 4.
6. Verify that the clearance.
 - If not within the specification, remove the pressure plate and adjust the clearance by changing the shim (**0.2 mm {0.008 in}**, **0.5 mm {0.02 in}**) or the number of shims.

Magnetic clutch clearance
0.3—0.5 mm {0.012—0.019 in}



MAGNETIC CLUTCH INSPECTION [LF, L8]

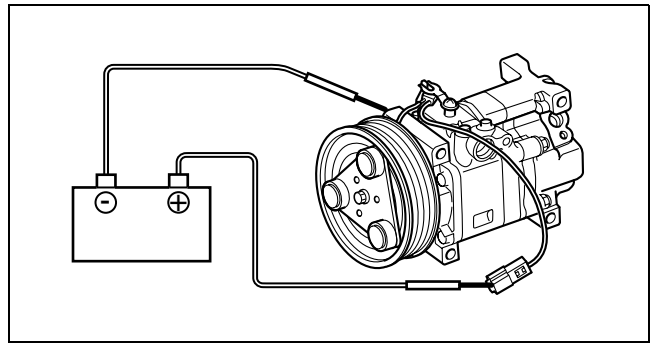
1. Connect battery positive voltage to magnetic clutch terminal A and the A/C compressor body to ground.
2. Verify that the magnetic clutch operates.
 - If there is any malfunction, replace the stator and thermal protector.



CONTROL SYSTEM

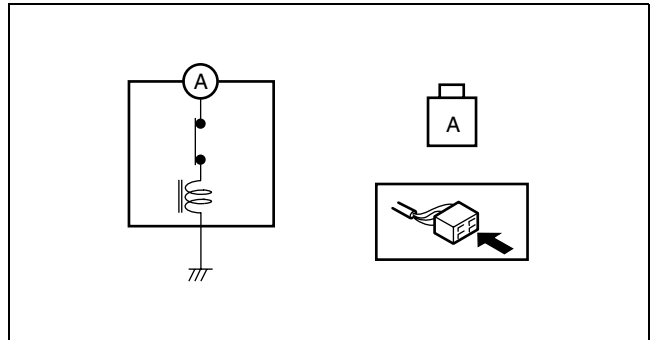
MAGNETIC CLUTCH INSPECTION [MZR-CD (RF TURBO)]

1. Connect battery positive voltage to magnetic clutch terminal A and the A/C compressor body to ground.



DPE074061010W06

2. Verify that the magnetic clutch operates.
 - If there is any malfunction, replace the stator and thermal protector.



DPE740ZW1010

CPJ740ZWB117

SOLAR RADIATION SENSOR REMOVAL/INSTALLATION

1. Disconnect the negative battery cable.
2. Pry the solar radiation sensor from the dashboard using a flathead screwdriver wrapped with protective tape.
3. Remove in the order indicated in the table.

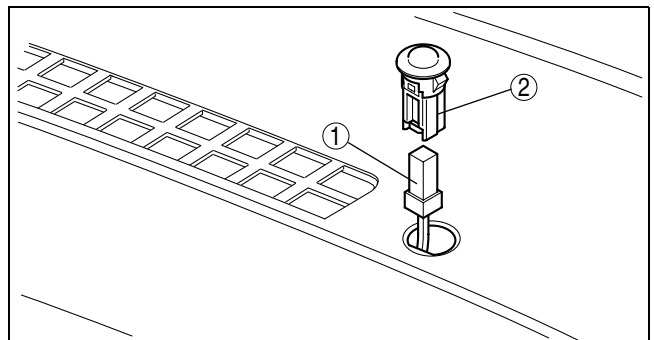
DPE074061751W01

Caution

- After the solar radiation sensor removal, the sensor connector could fall in the dashboard making the installation difficult. Therefore, hold the rooted end of the sensor connector using a clip or similar tool to prevent it from falling.

1	Solar radiation sensor connector
2	Solar radiation sensor

4. Install in the reverse order of removal.



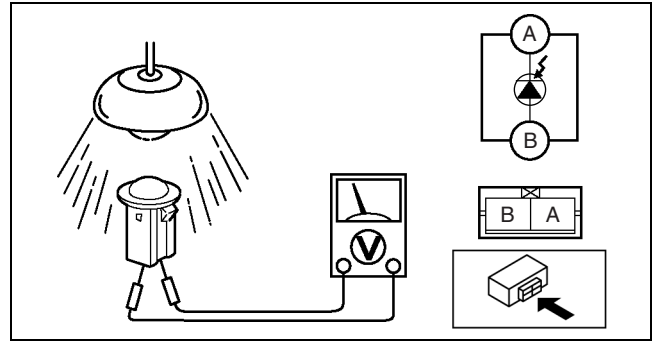
CPJ740ZWB007

SOLAR RADIATION SENSOR INSPECTION

1. Shine an incandescent light (**approx. 60 W**) directly on the solar radiation sensor from **approx. 100 mm {3.9 in}**.
2. Using a tester, connect the positive (+) lead to solar radiation sensor terminal A, the negative (-) lead to terminal B and verify that the output voltage is **approx. 0.45 V**.
 - If the voltage is not normal, replace the solar radiation sensor.

DPE074061751W02

CONTROL SYSTEM



B3E0740W062

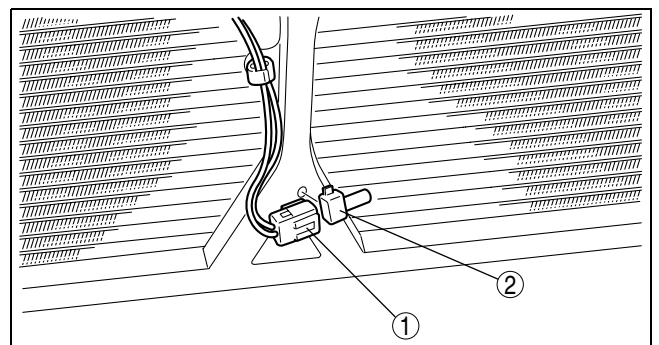
AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION

DPE074061764W01

1. Disconnect the negative battery cable.
2. Remove the radiator grille. (normal bumper)
3. Remove the under cover. (sport bumper)
4. Remove in the order indicated in the table.

1	Ambient temperature sensor connector
2	Ambient temperature sensor

5. Install in the reverse order of removal.

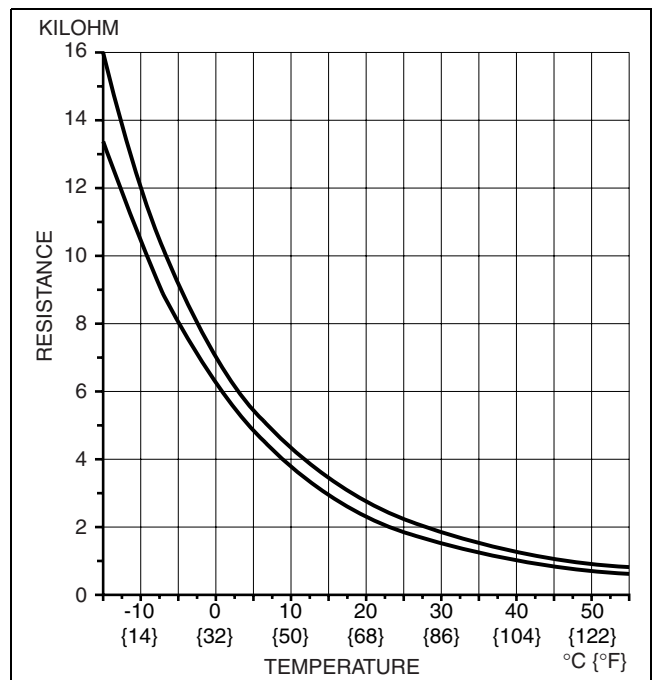


CPJ740ZW008

AMBIENT TEMPERATURE SENSOR INSPECTION

DPE074061764W02

1. Measure the temperature around the ambient temperature sensor and measure the resistance between the ambient temperature sensor terminal.
 - If the characteristics of the ambient temperature sensor are not as shown in the graph, replace the ambient temperature sensor.



B3E0740W037

CABIN TEMPERATURE SENSOR REMOVAL/INSTALLATION

DPE074061758W01

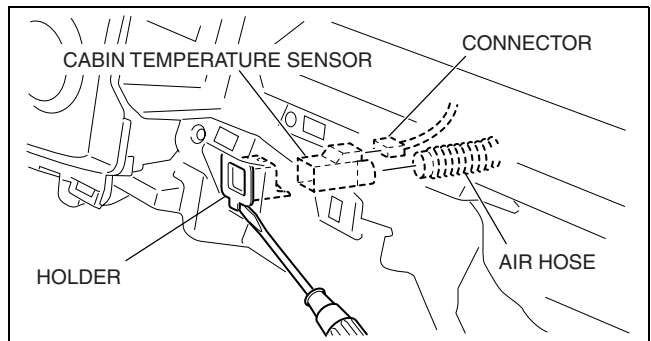
1. Disconnect the negative battery cable.
2. Remove the following parts: (L.H.D.)
 - (1) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/

CONTROL SYSTEM

INSTALLATION.)

- (3) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
- (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
- (5) Front scuff plate inner (passenger's side) (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
- (6) Front side trim (passenger's side) (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
- (7) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
- (8) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
3. Remove the column cover. (R.H.D.) (See 09-17-7 COLUMN COVER REMOVAL/INSTALLATION.)
4. Remove the air hose.
5. Disconnect the cabin temperature sensor connector.
6. Insert a tape-wrapped flathead screwdriver into the convex part of the cabin temperature sensor and pry it to remove the cabin temperature sensor together with cabin temperature sensor holder. (L.H.D.)
7. Remove the cabin temperature sensor.

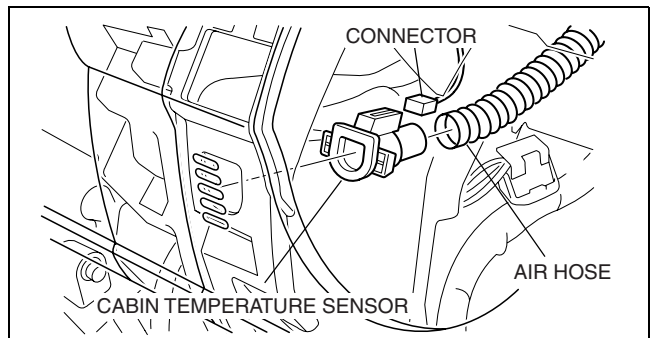
L.H.D.



DPE740ZW1011

R.H.D.

8. Install in the reverse order of removal.

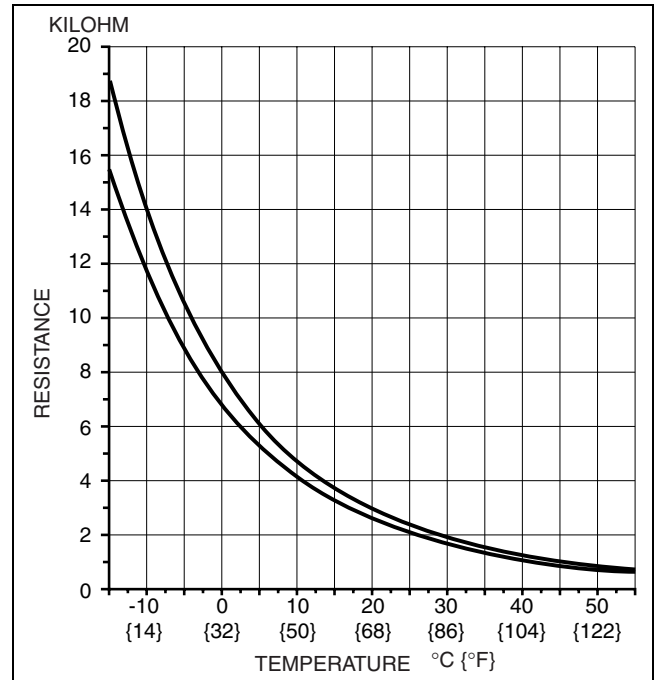


DPE740ZW1110

CABIN TEMPERATURE SENSOR INSPECTION

DPE074061758W02

1. Measure the temperature around the cabin temperature sensor and measure the resistance between cabin temperature sensor terminals A and B.
 - If the characteristics of the cabin temperature sensor are not as shown in the graph, replace the cabin temperature sensor.



DPE740ZW1111

EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION

DPE074061022W01

1. Remove the evaporator temperature sensor from the A/C unit. (See 07-11-7 A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER (LF, L8)].) (See 07-11-10 A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER (MZR-CD (RF Turbo))].) (See 07-11-14 A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER (LF, L8)].) (See 07-11-17 A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER (MZR-CD (RF Turbo))].)

EVAPORATOR TEMPERATURE SENSOR INSPECTION

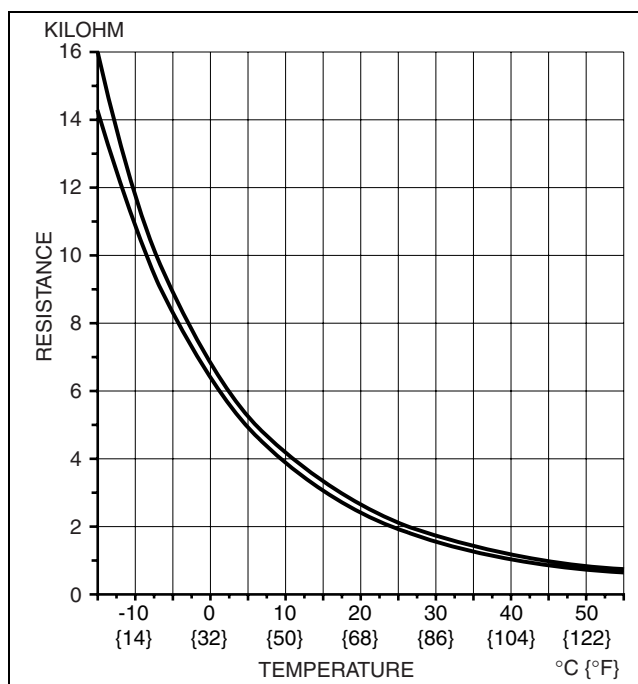
DPE074061022W02

Note

- Inspect the evaporator temperature sensor when it is installed to the A/C unit.

1. Set the fan speed MAX HI.
2. Set the temperature control at MAX COLD.
3. Set the RECIRCULATE mode.
4. Turn the A/C switch off.
5. Close all doors and windows.
6. Wait for **5 min.**
7. Disconnect the evaporator temperature sensor connector.
8. Measure the temperature at the blower inlet.
9. Measure the resistance between the evaporator temperature sensor terminals.
 - If the resistance is not as shown in the graph, replace the evaporator temperature sensor.

CONTROL SYSTEM



B3E0740W041

REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION

DPE074061503W01

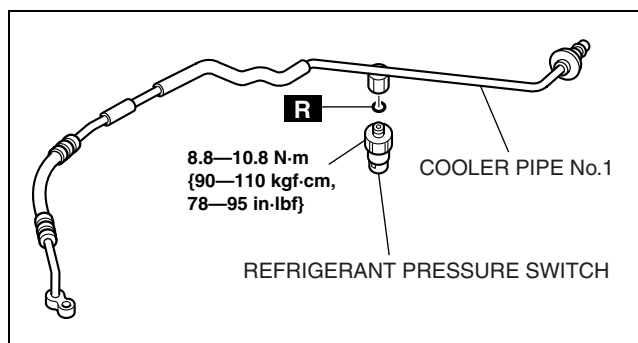
1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-7 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the clip and bracket.
4. Disconnect the refrigerant pressure switch connector.
5. Remove the cooler pipe No.1. Do not allow compressor oil to spill. (See 07-11-29 REFRIGERANT LINES REMOVAL/INSTALLATION [LF, L8].) (See 07-11-32 REFRIGERANT LINES REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise will occur. Always immediately plug all open fittings after removing any refrigeration cycle parts to keep moisture or foreign material out of the cycle.

6. Loosen the refrigerant pressure switch using two spanners.
7. Remove in the order indicated in the table.

L.H.D.

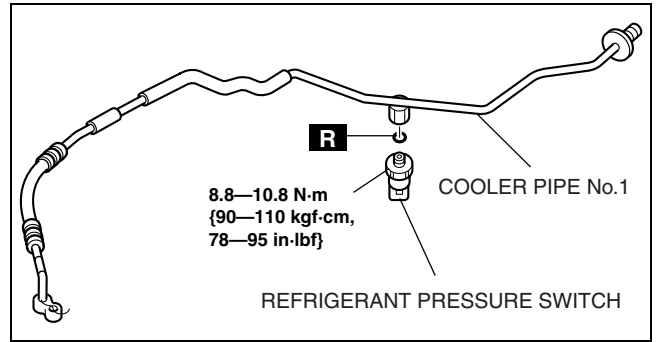


DPE740ZW1012

CONTROL SYSTEM

R.H.D.

8. Install in the reverse order of removal.
9. Perform the refrigerant system performance test.



DPE740ZW1112

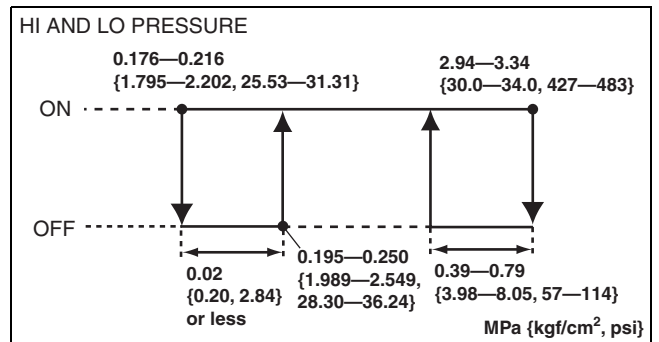
Refrigerant Pressure Switch Installation Note

1. Apply compressor oil to O-ring and connect the joint.

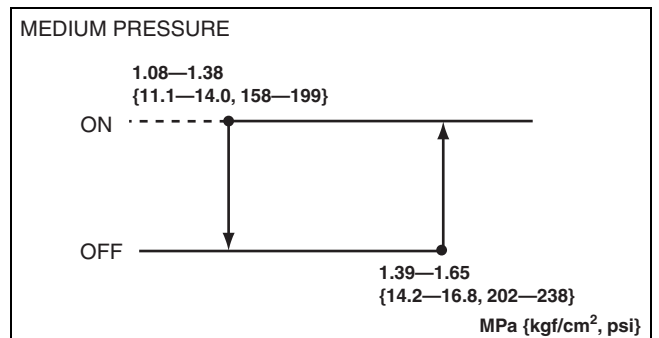
REFRIGERANT PRESSURE SWITCH INSPECTION

DPE074061503W03

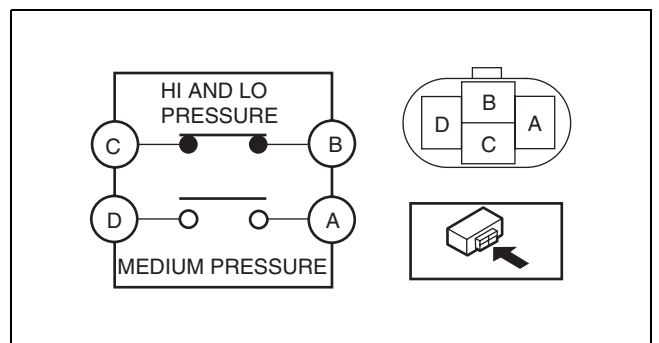
1. Install the **SST** (gas charging set).
2. Disconnect the refrigerant pressure switch connector.
3. Verify the high-pressure side reading of the **SST** (manifold gauge) and continuity between the refrigerant pressure switch terminals.
 - If there is any malfunction, replace the refrigerant pressure switch.



DPE740ZW1129



B3E0740W044



B3E0740W045

CONTROL SYSTEM

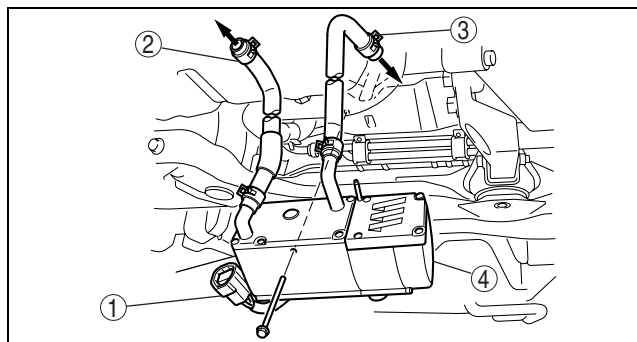
WATER HEATER UNIT REMOVAL/INSTALLATION [MZR-CD (RF TURBO)]

DPE074000170W01

Caution

- If the negative battery cable is disconnected during the purge cycle of the water heater unit, the gas in the unit may not be properly scavenged, causing white smoke (unburnt gas) to emit from the exhaust pipe. Before disconnecting the negative battery cable, verify that the water heater unit is not operating (no blower fan operation noise).

1. Disconnect the negative battery cable.
2. Drain the engine coolant.
3. Remove the under cover.
4. Remove the oxidation catalytic converter. (See 01-15B-1 EXHAUST SYSTEM REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)
5. Remove the front pipe bracket.
6. Remove the engine cover.
7. Remove the exhaust manifold insulator (upper).
8. Remove the exhaust pipe. (See 01-15B-1 EXHAUST SYSTEM REMOVAL/INSTALLATION [MZR-CD (RF Turbo)].)
9. Disconnect the air intake hose.
10. Remove the bolts.
11. Disconnect the fuel hose.
12. Remove in the order indicated in the table.



DPE740ZW1014

1	Connector
2	Heater hose No.1
3	Heater hose No.3
4	Water heater unit

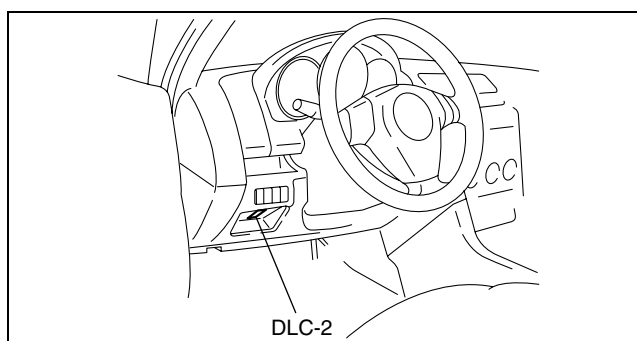
13. Install in the reverse order of removal.
14. Refill the engine coolant.
15. Perform water heater system initial setting. (See 07-40-34 WATER HEATER SYSTEM INITIAL SETTING [MZR-CD (RF Turbo)].)

WATER HEATER SYSTEM INITIAL SETTING [MZR-CD (RF TURBO)]

DPE074000170W02

Unlock Utility

1. Connect the WDS or equivalent to the DLC-2.
2. Select "Electrical" from the menu.
3. Select "Supplemental Heater".
4. Select "FFH".
5. Select "FFH Unlock Utility" and perform procedure according to the directions on the WDS or equivalent screen.

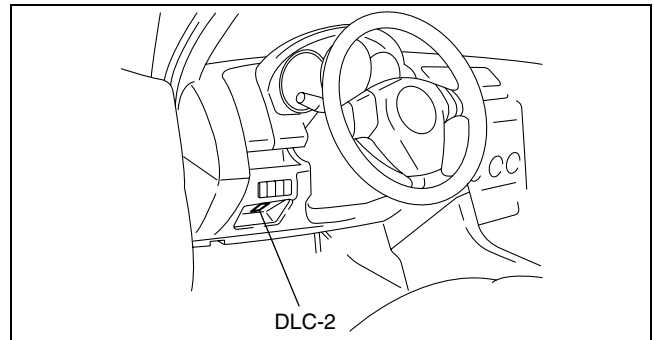


DPE702ZW1103

CONTROL SYSTEM

Selftest and Prefilling Utility

1. Connect the WDS or equivalent to the DLC-2.
2. Select "Electrical" from the menu.
3. Select "Supplemental Heater".
4. Select "FFH".
5. Select "FFH SelfTest and Prefill Utility" and perform procedure according to the directions on the WDS or equivalent screen.

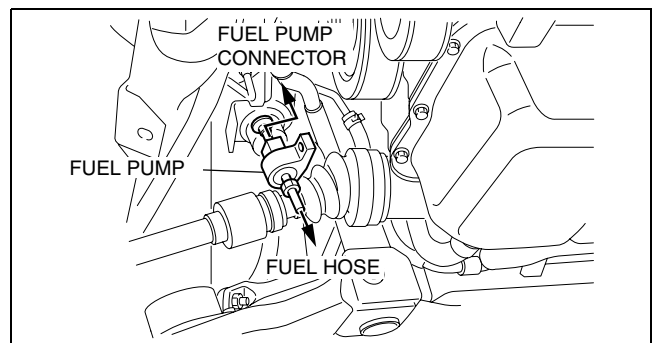


DPE702ZW1103

FUEL PUMP (WATER HEATER SYSTEM) REMOVAL/INSTALLATION [MZR-CD (RF TURBO)]

DPE074013350W02

1. Disconnect the negative battery cable.
2. Remove the under cover.
3. Disconnect the fuel hose.
4. Slide the water heater unit to the left.
5. Disconnect the fuel pump connector.
6. Remove the fuel pump.
7. Install in the reverse order of removal.
8. Perform water heater system initial setting. (See 07-40-34 WATER HEATER SYSTEM INITIAL SETTING [MZR-CD (RF Turbo)].)

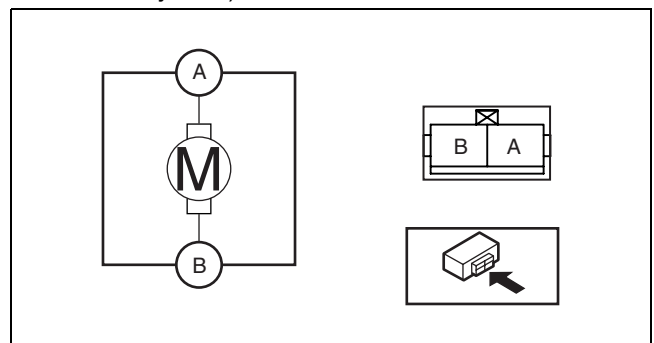


DPE740ZW1015

FUEL PUMP (WATER HEATER SYSTEM) INSPECTION [MZR-CD (RF TURBO)]

DPE074013350W01

1. Inspect for continuity between fuel pump terminal A and B using a tester.
 - If there is any malfunction, replace the fuel pump (water heater system).



DPE740ZW1113

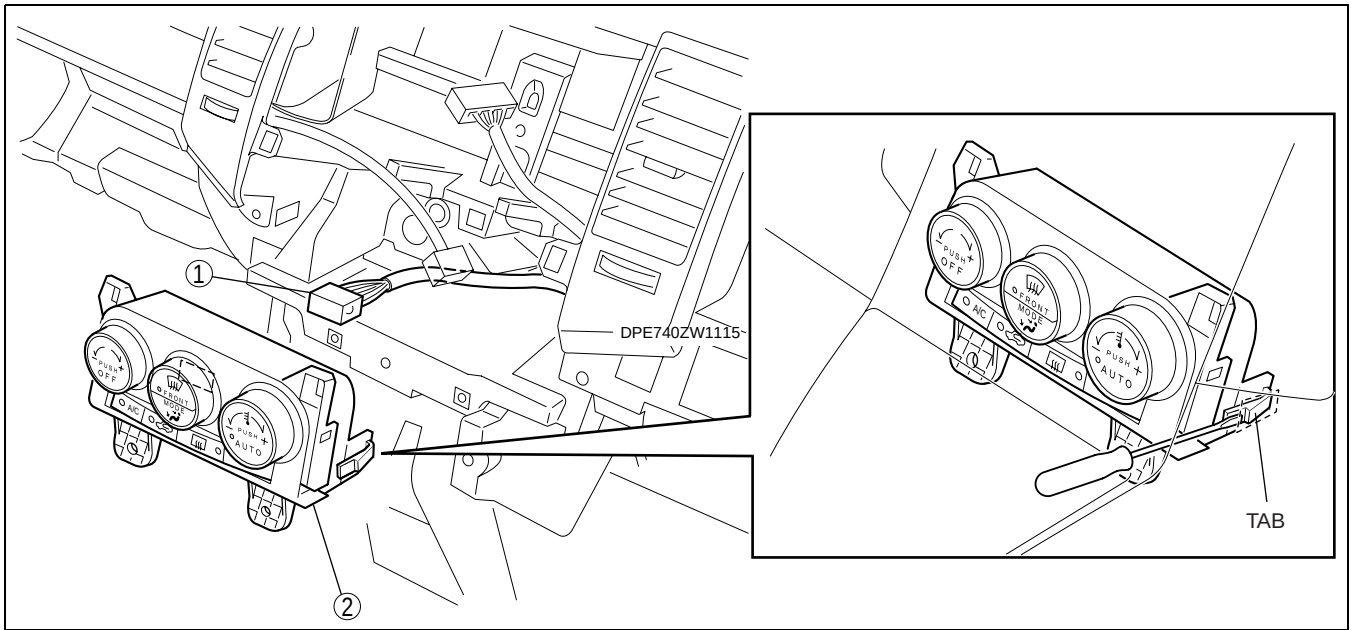
CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER]

DPE074061190W01

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (2) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (3) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (4) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (5) Center panel module. (See 09-20-6 CENTER PANEL MODULE REMOVAL/INSTALLATION.)

CONTROL SYSTEM

3. Release the left and right tabs and remove as shown in the figure.



DPE740ZW1114

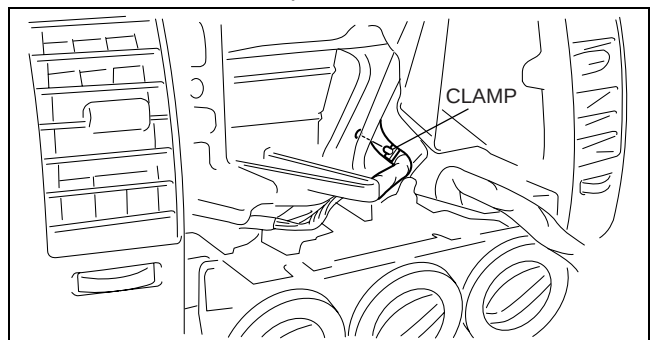
1	Climate control unit connector
2	Climate control unit

4. Install in the reverse order of removal.

CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER]

DPE074061190W02

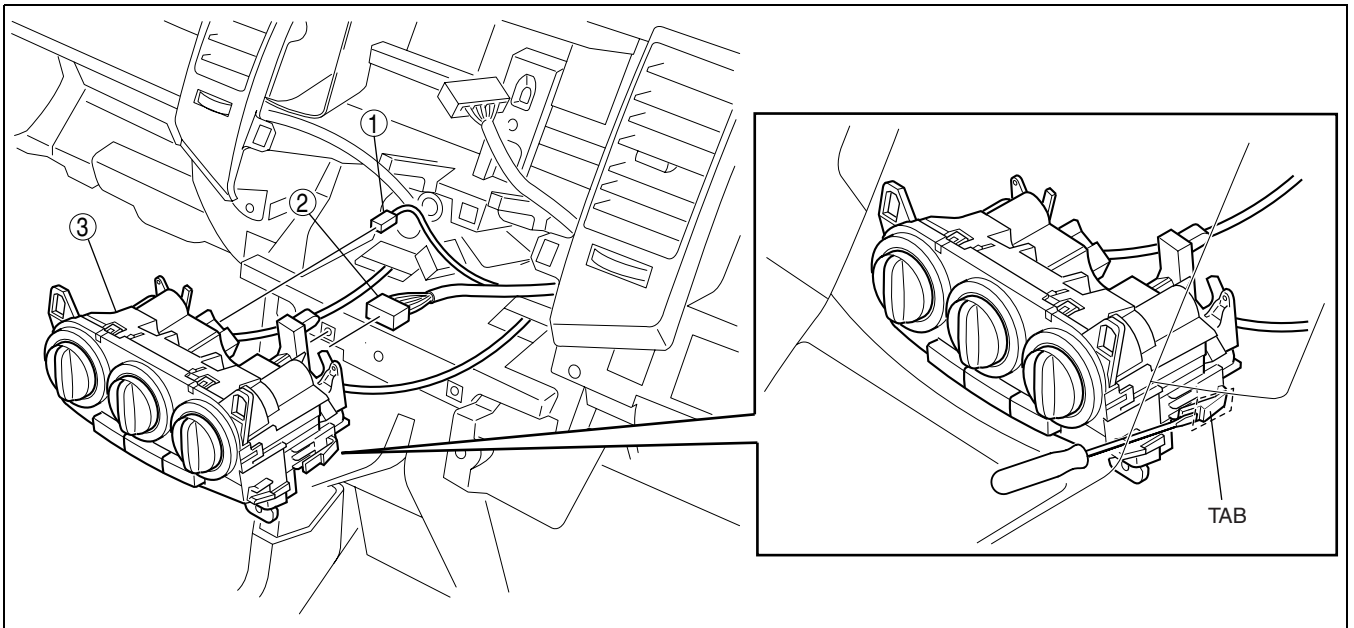
1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
 - (2) Front side trim (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (3) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (4) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (5) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (6) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (7) Bonnet release lever (See 09-14A-5 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
 - (8) Lower panel (See 09-17-8 LOWER PANEL REMOVAL/INSTALLATION.)
 - (9) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (10) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
 - (11) Column cover (See 09-17-7 COLUMN COVER REMOVAL/INSTALLATION.)
3. Remove the clamp.
4. Remove the center panel module. (See 09-20-7 CENTER PANEL MODULE REMOVAL/INSTALLATION.)
5. Remove the wire clamp with air mix wire and airflow mode wire from the A/C unit.



DPE740ZW1130

CONTROL SYSTEM

6. Release the left and right tabs and remove in the order indicated in the table.



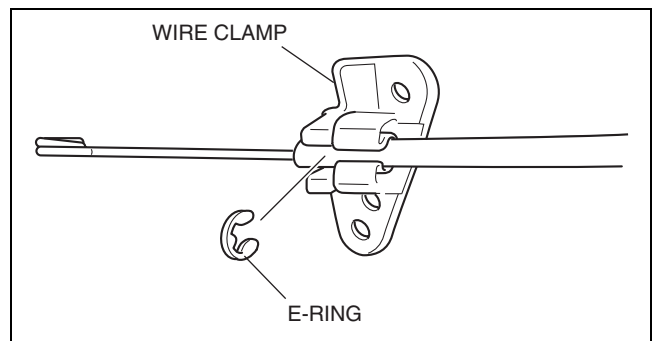
DPE740ZW1115

1	Fan switch connector
2	Climate control unit connector

3	Climate control unit
---	----------------------

Wire Removal Note

1. Remove the E-ring from wire clamp.
2. Slide the wire clamp in the direction shown in the figure and remove it.



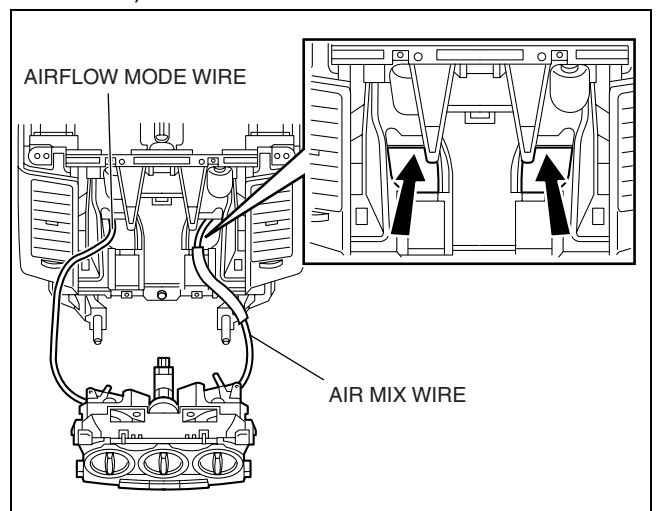
DPE740ZW1116

CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER]

DPE074061190W03

07

1. Install the wire clamp to A/C unit.
2. Install E-ring to each wire. (See 07-40-38 E-ring Installation Note.)
3. Pass each wire through the following routes and connect to A/C unit.
4. Connect the climate control unit connector, fan switch connector.
5. Install the climate control unit.
6. Connect each wire to A/C unit.
7. Install the center panel module. (See 09-20-6 CENTER PANEL MODULE REMOVAL/INSTALLATION.)
8. Install the following parts:
 - (1) Column cover (See 09-17-7 COLUMN COVER REMOVAL/INSTALLATION.)
 - (2) Glove compartment (See 09-17-7 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
 - (3) Side panel. (passenger's side) (See 09-17-11 SIDE PANEL REMOVAL/INSTALLATION.)
 - (4) Lower panel (See 09-17-8 LOWER PANEL



DPE740ZW1117

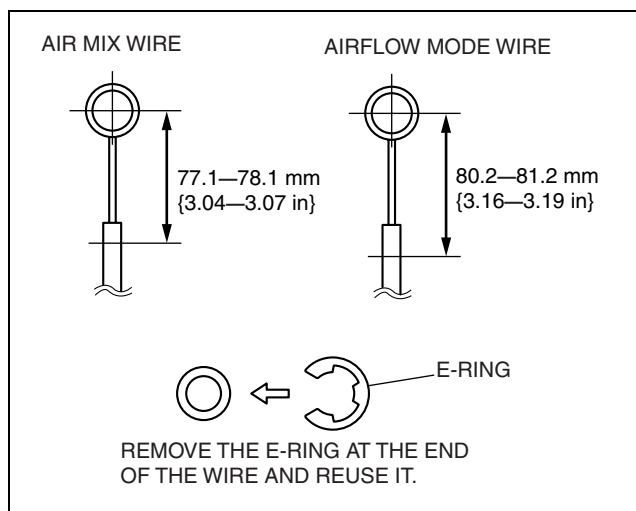
CONTROL SYSTEM

REMOVAL/INSTALLATION.)

- (5) Bonnet release lever (See 09-14-5 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
 - (6) Front console (See 09-17-13 FRONT CONSOLE REMOVAL/INSTALLATION.)
 - (7) Selector lever component (ATX) (See 05-18-5 SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.)
 - (8) Shift lever component (MTX) (See 05-16-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION.)
 - (9) Side wall (See 09-17-11 SIDE WALL REMOVAL/INSTALLATION.)
 - (10) Front side trim (See 09-17-15 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
 - (11) Front scuff plate (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
9. Connect the negative battery cable.

E-ring Installation Note

1. Install the wires as shown in the figure.



DPE740ZW1118

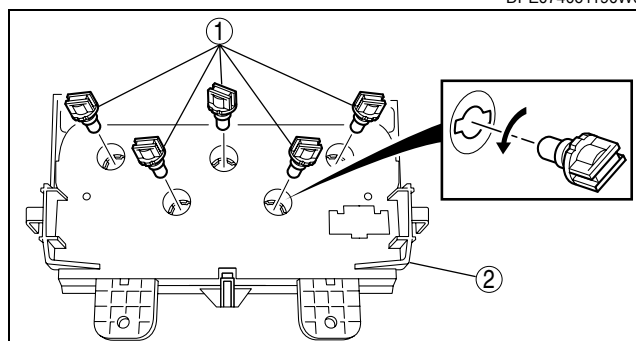
CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER]

DPE074061190W04

1. Disassemble in the order indicated in the table.

1	Bulb
2	Body

2. Assemble in the reverse order of disassembly.



CPJ740ZWB018

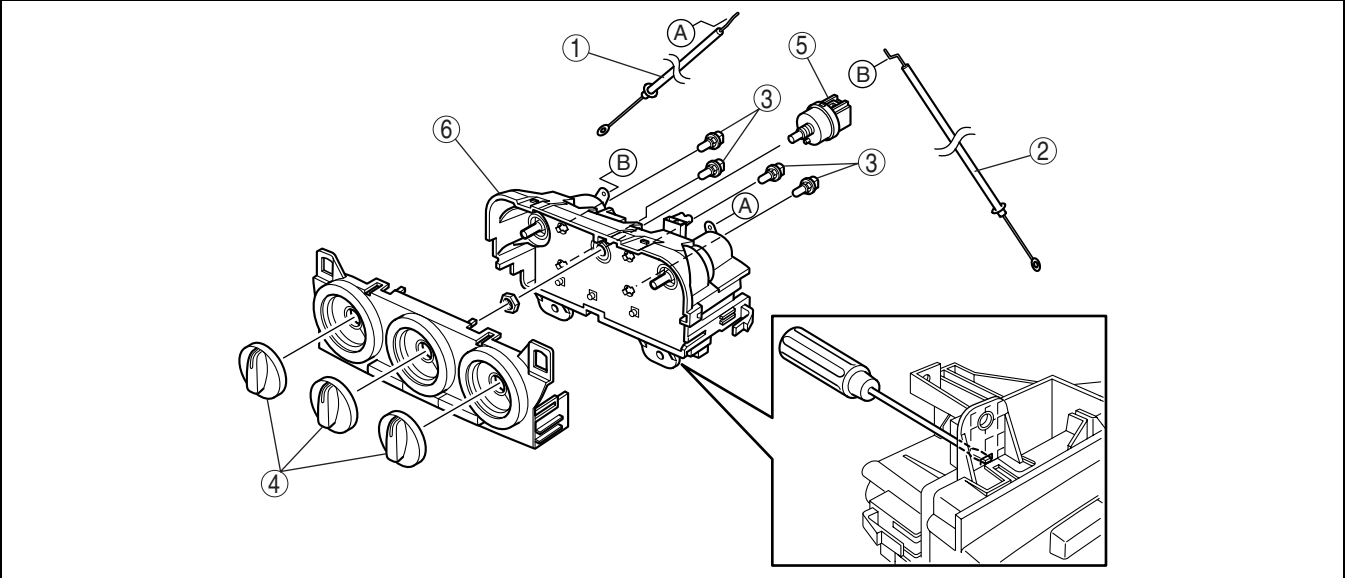
CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER]

DPE074061190W05

1. Set the airflow mode selector dial at defroster.
2. Set the temperature control dial at MAX COLD.

CONTROL SYSTEM

3. Disassemble in the order indicated in the table.



CPJ740ZWB019

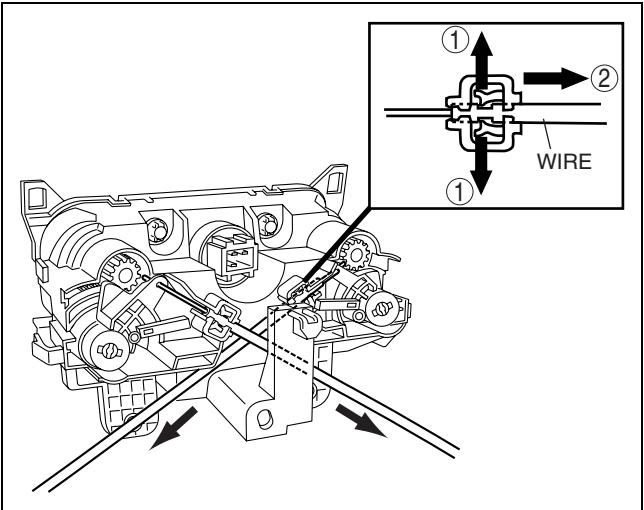
1	Airflow mode wire (See 07-40-39 Wire Disassembly Note.) (See 07-40-40 Wire Assembly Note.)
2	Air mix wire (See 07-40-39 Wire Disassembly Note.) (See 07-40-40 Wire Assembly Note.)

3	Illumination bulb
4	Knob
5	Fan switch
6	Body

4. Assemble in the reverse order of disassembly.

Wire Disassembly Note

1. Disassemble the wires as shown in the figure.

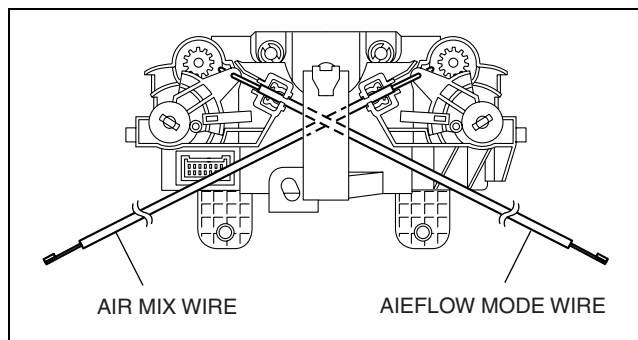


DPE740ZW1119

CONTROL SYSTEM

Wire Assembly Note

1. Assemble the wires at the positions shown in the figure.



DPE740ZW1120

CLIMATE CONTROL UNIT WIRE ADJUSTMENT

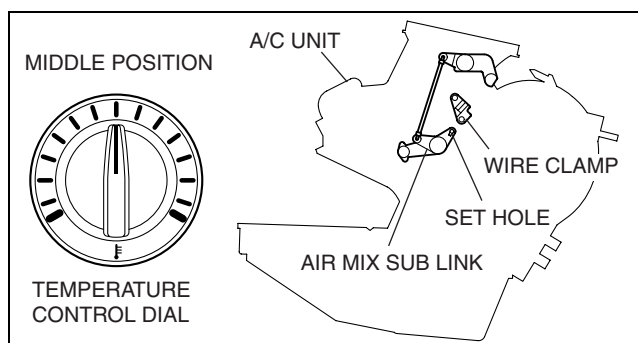
Air Mix Wire

1. Set the temperature control dial at middle position (MAX HOT—MAX COLD).

Caution

- If the air mix wire is set without first fixing the air mix link position, it is possible that the air mix door cannot be switched normally.

2. Install the wire clamp as it was originally installed.
3. Connect the air mix wire to air mix link.
4. Clamp the air mix wire to wire clamp.
5. Verify that the temperature control dial can move its full stroke.



DPE740ZW1131

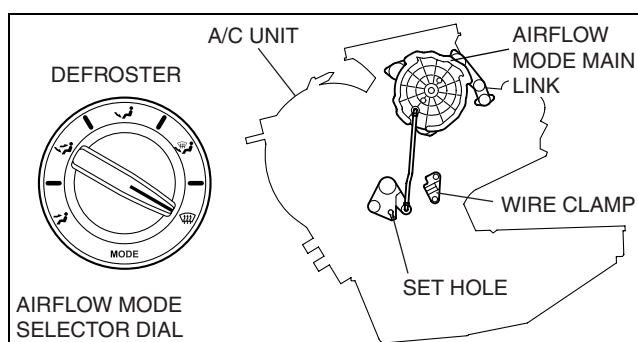
Airflow Mode Wire

1. Set the airflow mode selector dial at defroster.

Caution

- If the airflow mode wire is set without first fixing the airflow mode main link position, it is possible that the airflow mode door cannot be switched normally.

2. Install the wire clamp as it was originally installed.
3. Connect the airflow mode wire to airflow mode main link.
4. Clamp the airflow mode wire to wire clamp.
5. Verify that the airflow mode selector dial can move its full stroke.



DPE740ZW1132

CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER]

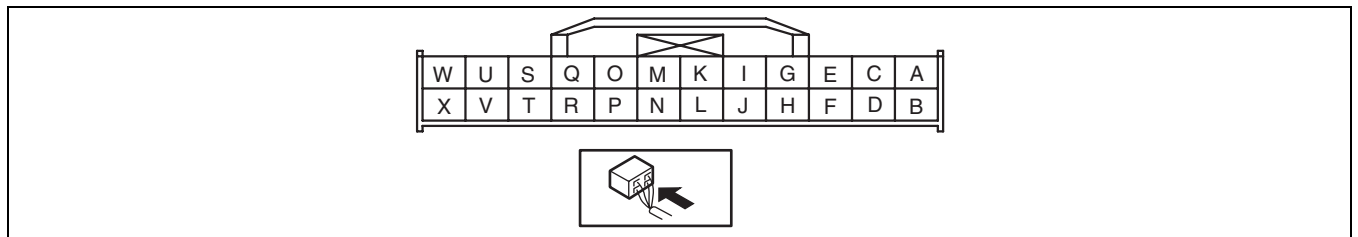
1. Install the audio.
2. Connect the climate control unit.
3. Turn the ignition switch to the ON position.
4. Connect the negative (-) lead of the tester to body ground.
5. By inserting the positive (+) lead of the tester into each climate control unit terminal, measure the voltage according to the terminal voltage table.
 - If there is any malfunction, inspect the parts under "Inspection item (s)".
 - If the parts under "Inspection item (s)" are found to be normal (except for terminal F), replace the

DPE074061190W07

CONTROL SYSTEM

- climate control unit.
- For terminal F, first try replacing the power MOS FET. If there is still any malfunction, replace the climate control unit.

Terminal Voltage Table (Reference)



B3E0740W055

Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
A	TNS signal	BCM	Headlight switch OFF	1.0 or less	- Wiring harness: short circuit (Climate control unit—BCM: A—4C) - BCM - Headlight switch
			Headlight switch ON	B+	- Wiring harness: continuity, short circuit (Climate control unit—BCM: A—4C) - BCM - Headlight switch
B	Panel light control	Instrument cluster	Headlight switch ON and panel light control switch at max. illumination	1.0 or less	- Wiring harness: continuity (Climate control unit—instrument cluster: B—1F) - Instrument cluster
			Headlight switch ON and panel light control switch at min. illumination	12	Wiring harness: short circuit (Climate control unit—instrument cluster: B—1F)
C	Motor operation	Air mix actuator	Moving towards COLD	12	- Wiring harness: continuity, short circuit (Climate control unit—air mix actuator: C—D, E—F) - Air mix actuator
			Moving towards HOT	1.0 or less	
D	Blower fan speed control	Power MOS FET	Fan stopped	1.0 or less	Climate control unit: terminal voltage (F)
			Fan: manual LO	2.9	
			Fan: manual HI	9.7	
E	Motor operation	Air mix actuator	Moving towards COLD	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit—air mix actuator: E—F, C—D) - Air mix actuator
			Moving towards HOT	12	
F	Blower motor feedback	- Blower motor - Power MOS FET	Fan stopped	B+	- Wiring harness: continuity, short circuit (Climate control unit—blower motor: F—B) (Climate control unit—power MOS FET: F—B, D—C) (Blower motor—blower relay: A—D) (Blower relay—fuse: A—BLOWER 40 A) - Wiring harness: continuity (Power MOS FET—body ground: A—GND) (Blower relay—body ground: —GND) - Power MOS FET - Blower motor - Blower relay - BLOWER 40 A fuse - Power MOS FET replacement
			Fan: manual LO	9.8	
			Fan: manual HI	0.4	
G	Motor operation	Airflow mode actuator	Switched to DEFROSTER	12	- Wiring harness: continuity, short circuit (Climate control unit—airflow mode actuator: G—D, I—F) - Airflow mode actuator
			Switched to VENT	1.0 or less	
H	B+	ROOM 15 A fuse	Under any condition	B+	- Wiring harness: continuity, short circuit (Climate control unit— fuse: H—ROOM 15 A) - ROOM 15 A fuse

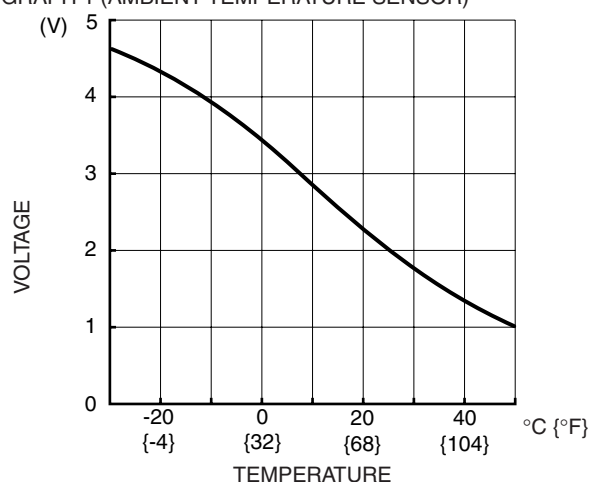
CONTROL SYSTEM

Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
I	Motor operation	Airflow mode actuator	Switched to DEFROSTER	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit—airflow mode actuator: I—F, G—D) - Airflow mode actuator
			Switched to VENT	12	
J	Potentiometer input	Airflow mode actuator	VENT	4.5	- Wiring harness: continuity, short circuit (Climate control unit—airflow mode actuator: J—C) - Airflow mode actuator - Climate control unit: terminal voltage (P)
			BI-LEVEL	3.6	
			HEAT	2.6	
			HEAT/DEF	1.7	
			DEFROSTER	0.7	
K	IG2	A/C 10 A fuse	IG SW ON	B+	- Wiring harness: continuity, short circuit (Climate control unit— fuse: K—A/C 10 A) - A/C 10 A fuse
			IG SW LOCK	1.0 or less	Wiring harness: continuity, short circuit (Climate control unit— fuse: K—A/C 10 A)
L	Potentiometer input	Air mix actuator	Set temperature at MAX COLD	0.7	- Wiring harness: continuity, short circuit (Climate control unit—air mix actuator: L—C) - Air mix actuator - Climate control unit: terminal voltage (P)
			Set temperature at MAX HOT	4.5	
M	Motor operation	Air intake actuator	Switched to RECIRCULATE	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit—air intake actuator: M—G, O—E, Q—C) - Air intake actuator
			Switched to FRESH	12	
N	Ambient temperature sensor input	Ambient temperature sensor	Compared with temperature detected by ambient temperature sensor	Refer to graph 1	- Wiring harness: continuity (Climate control unit—ambient temperature sensor: U—A, N—B) - Wiring harness: short circuit (Climate control unit—ambient temperature sensor: N—B) - Ambient temperature sensor - Climate control unit: terminal voltage (K, V)
O	Motor operation	Air intake actuator	Switched to RECIRCULATE	12	- Wiring harness: continuity, short circuit (Climate control unit—air intake actuator: M—G, O—E) - Air intake actuator
			Switched to FRESH	1.0 or less	
P	+5 V	- Air mix actuator - Airflow mode actuator - Solar radiation sensor	IG SW ON	5.2	- Wiring harness: short circuit (Climate control unit—air mix actuator, airflow mode actuator, solar radiation sensor: P—A, A, A) - Air mix actuator - Airflow mode actuator - Solar radiation sensor - Climate control unit: terminal voltage (K, V)
			IG SW LOCK	0	Climate control unit replacement
Q	Motor operation	Air intake actuator	Switched to RECIRCULATE	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit—air intake actuator: Q—C, M—G) - Air intake actuator
			Switched to FRESH	12	
R	Cabin temperature sensor input	Cabin temperature sensor	Compared with temperature detected by cabin temperature sensor	Refer to graph 2	- Wiring harness: continuity (Climate control unit—cabin temperature sensor: R—B, U—A) - Wiring harness: short circuit (Climate control unit—cabin temperature sensor: R—B) - Cabin temperature sensor - Climate control unit: terminal voltage (K, V)

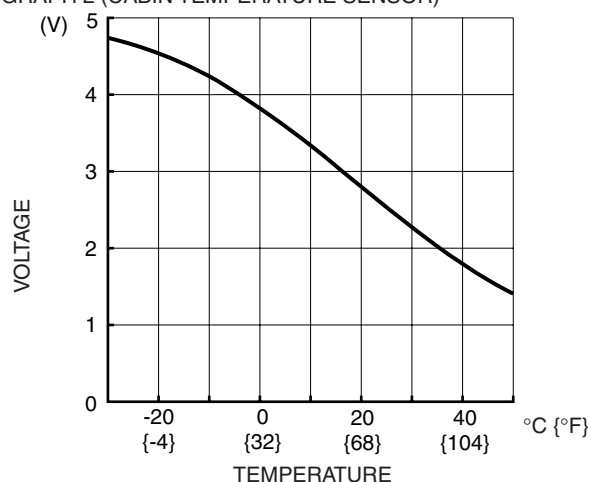
CONTROL SYSTEM

Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
S	Solar radiation sensor input	Solar radiation sensor	Incandescent light (approx. 60 W) shined directly on the solar radiation sensor from a distance of approx. 100 mm {3.9 in}	4.0	- Wiring harness: continuity (Climate control unit—solar radiation sensor: S—B, P—A) - Climate control unit: terminal voltage (P) - Solar radiation sensor
			Blocking light to solar radiation sensor	1.0 or less	
T	Evaporator temperature sensor input	Evaporator temperature sensor	Compared with temperature detected by evaporator temperature sensor	Refer to graph 3	- Wiring harness: continuity (Climate control unit—evaporator temperature sensor: T—B, U—A) - Wiring harness: short circuit (Climate control unit—evaporator temperature sensor: T—B) - Evaporator temperature sensor - Climate control unit: terminal voltage (K, V)
U	Sensor GND	- Ambient temperature sensor - Cabin temperature sensor - Evaporator temperature sensor - Air mix actuator - Airflow mode actuator	Under any condition	1.0 or less	Climate control unit: terminal voltage (V)
V	GND	Body ground	Under any condition	1.0 or less	Wiring harness: continuity (Climate control unit—GND: V—GND)
W	Signal	—	—	—	—
X	Signal	—	—	—	—

GRAPH 1 (AMBIENT TEMPERATURE SENSOR)

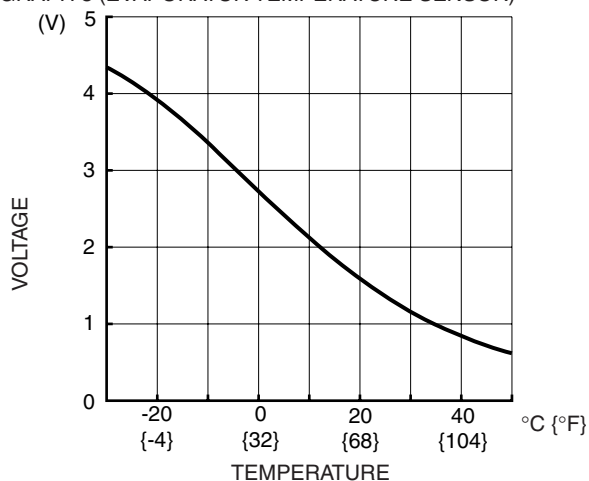


GRAPH 2 (CABIN TEMPERATURE SENSOR)



CONTROL SYSTEM

GRAPH 3 (EVAPORATOR TEMPERATURE SENSOR)

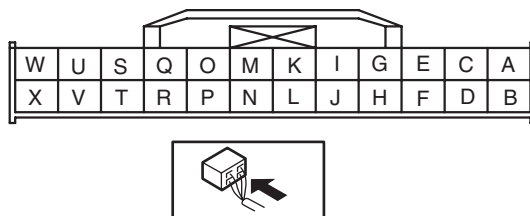


CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER]

DPE074061190W09

1. Connect the climate control unit connector.
2. Turn the ignition switch to the ON position.
3. Connect the negative (-) lead of the tester to body ground.
4. By inserting the positive (+) lead of the tester into each climate control unit terminal, measure the voltage according to the terminal voltage table.
 - If there is any malfunction, inspect the parts under “Inspection item (s)”.
 - If the parts under “Inspection item (s)” are found to be normal, replace the climate control unit.

Terminal Voltage Table (Reference)



B3E0740W058

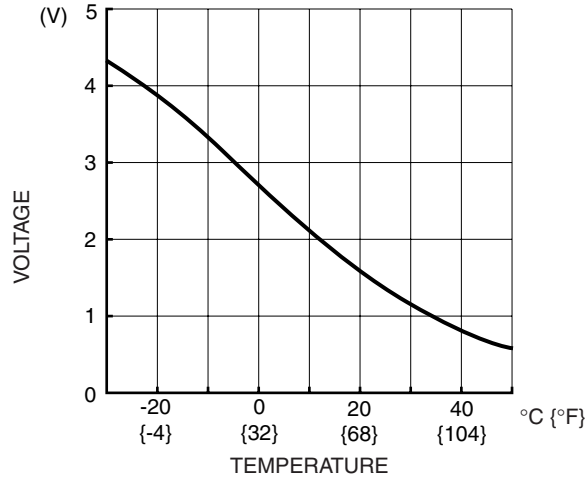
Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
A	—	—	—	—	—
B	TNS signal	BCM	Headlight switch OFF	1.0 or less	• Wiring harness: short circuit (Climate control unit—BCM: B—4C) • BCM • Headlight switch
			Headlight switch ON	B+	• Wiring harness: continuity, short circuit (Climate control unit—BCM: B—4C) • BCM • Headlight switch
C	FAN ON/OFF	Fan switch	FAN switch ON	1.0 or less	• Wiring harness: continuity (Climate control unit—fan switch: C—C) • Fan switch
			FAN switch OFF	12	• Wiring harness: continuity (Climate control unit—fan switch: C—C) • Climate control unit: terminal voltage (X) • Fan switch
D	—	—	—	—	—
E	A/C	BCM	A/C switch ON, fan switch at 1st	1.0 or less	• Wiring harness: continuity (Climate control unit—BCM: E—3S) • BCM
			A/C switch OFF	B+	• Wiring harness: continuity, short circuit (Climate control unit—BCM: E—3S)

CONTROL SYSTEM

Term inal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
F	Panel light control	Instrument cluster	Headlight switch ON and panel light control switch at max. illumination	1.0 or less	- Wiring harness: continuity (Climate control unit—instrument cluster: F—1F) - Instrument cluster
			Headlight switch ON and panel light control switch at min. illumination	12	Wiring harness: short circuit (Climate control unit—instrument cluster: F—1F)
G	Rear window defroster switch indicator light	BCM	Rear window defroster switch ONt	1.0 or less	- Wiring harness: continuity (Climate control unit—BCM: G—3P) - BCM
			Rear window defroster switch OFF	B+	- Wiring harness: short circuit (Climate control unit—BCM: G—3P) - BCM
H	—	—	—	—	—
I	Rear window defroster switch	BCM	Rear window defroster switch ONt	1.0 or more → 5.04	- Wiring harness: continuity, short circuit (Climate control unit—BCM: I—3V) - Climate control unit: terminal voltage (L) - BCM
			Rear window defroster switch OFF		
J	—	—	—	—	—
K	Sensor GND	Evaporator temperature sensor	Under any condition	1.0 or less	Climate control unit: terminal voltage (L)
L	GND	Body ground	Under any condition	1.0 or less	Wiring harness: continuity (Climate control unit—GND: L—GND)
M	Evaporator temperature sensor input	Evaporator temperature sensor	Compared with temperature detected by evaporator temperature sensor	Refer to graph 1	- Wiring harness: continuity (Climate control unit—evaporator temperature sensor: M—B, K—A) - Wiring harness: short circuit (Climate control unit—evaporator temperature sensor: M—B) - Evaporator temperature sensor - Climate control unit: terminal voltage (L, X)
N	—	—	—	—	—
O	—	—	—	—	—
P	Motor operation	Air intake actuator	Switched to RECIRCULATE	10.9	- Wiring harness: continuity, short circuit (Climate control unit—air intake actuator: P—C, T—G) - Air intake actuator
			Switched to FRESH	1.41	
Q	—	—	—	—	—
R	Motor operation	Air intake actuator	Switched to RECIRCULATE	9.90	- Wiring harness: continuity, short circuit (Climate control unit—air intake actuator: T—G, R—E) - Air intake actuator
			Switched to FRESH	1.39	
S	—	—	—	—	—
T	Motor operation	Air intake actuator	Switched to RECIRCULATE	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit—air intake actuator: T—G, R—E, P—C) - Air intake actuator
			Switched to FRESH	10.63	
U	—	—	—	—	—
V	B+	ROOM 15 A fuse	Under any condition	B+	- Wiring harness: continuity, short circuit (Climate control unit— fuse: V—ROOM 15 A) - ROOM 15 A fuse
W	—	—	—	—	—
X	IG2	A/C 10 A fuse	IG SW ON	B+	- Wiring harness: continuity, short circuit (Climate control unit— fuse: X—A/C 10 A) - A/C 10 A fuse
			IG SW LOCK	1.0 or less	Wiring harness: continuity, short circuit (Climate control unit— fuse: X—A/C 10 A)

CONTROL SYSTEM

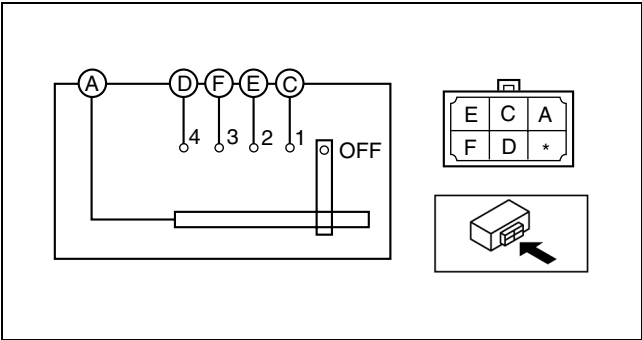
GRAPH 1 (EVAPORATOR TEMPERATURE SENSOR)



FAN SWITCH INSPECTION

DPE074061050W01

1. Remove the climate control unit.
2. Verify that the continuity between the fan switch terminals is as indicated in the table.
 - If there is any malfunction, replace the fan switch.



DPE740ZW1125

○—○: Continuity

Switch position	Terminal				
	A	C	D	E	F
0					
1	○—○				
2	○—○			○—○	
3	○—○				○—○
4	○—○		○—○		

DPE740ZW1126

TECHNICAL DATA

07–50 TECHNICAL DATA

HVAC TECHNICAL DATA 07–50–1

HVAC TECHNICAL DATA

DPE07500000W01

Item		Specification	
REFRIGERANT SYSTEM			
Refrigerant	Type	R-134a	
	Regular amount (approx. quantity) (g {oz})	500 {17.65}	
BASIC SYSTEM			
A/C compressor	Lubrication oil	Type	ATMOS GU10
		Sealed volume (approx. quantity) (ml {cc, fl oz})	150 {150, 5.07}
CONTROL SYSTEM			
A/C compressor	Magnetic clutch clearance (mm {in})	0.30—0.50 {0.012—0.019}	

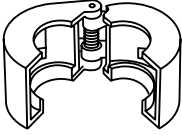
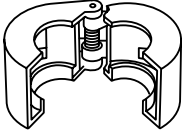
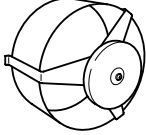
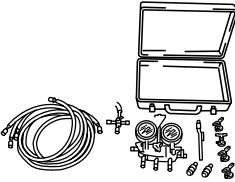
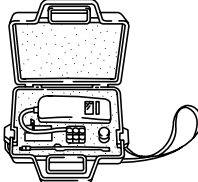
SERVICE TOOLS

07–60 SERVICE TOOLS

HEATER, VENTILATION & AIR CONDITIONING
(HVAC) SST..... 07–60–1

HEATER, VENTILATION & AIR CONDITIONING (HVAC) SST

DPE07600000W01

49 B061 014 Spring Lock Coupling Disconnect Tool 	49 G061 001 Spring Lock Coupling Disconnect Tool 	49 B061 015 Holder 
49 C061 0A0B Gas Charge Set 	49 C061 013 Gas Leak Tester 	WDS 