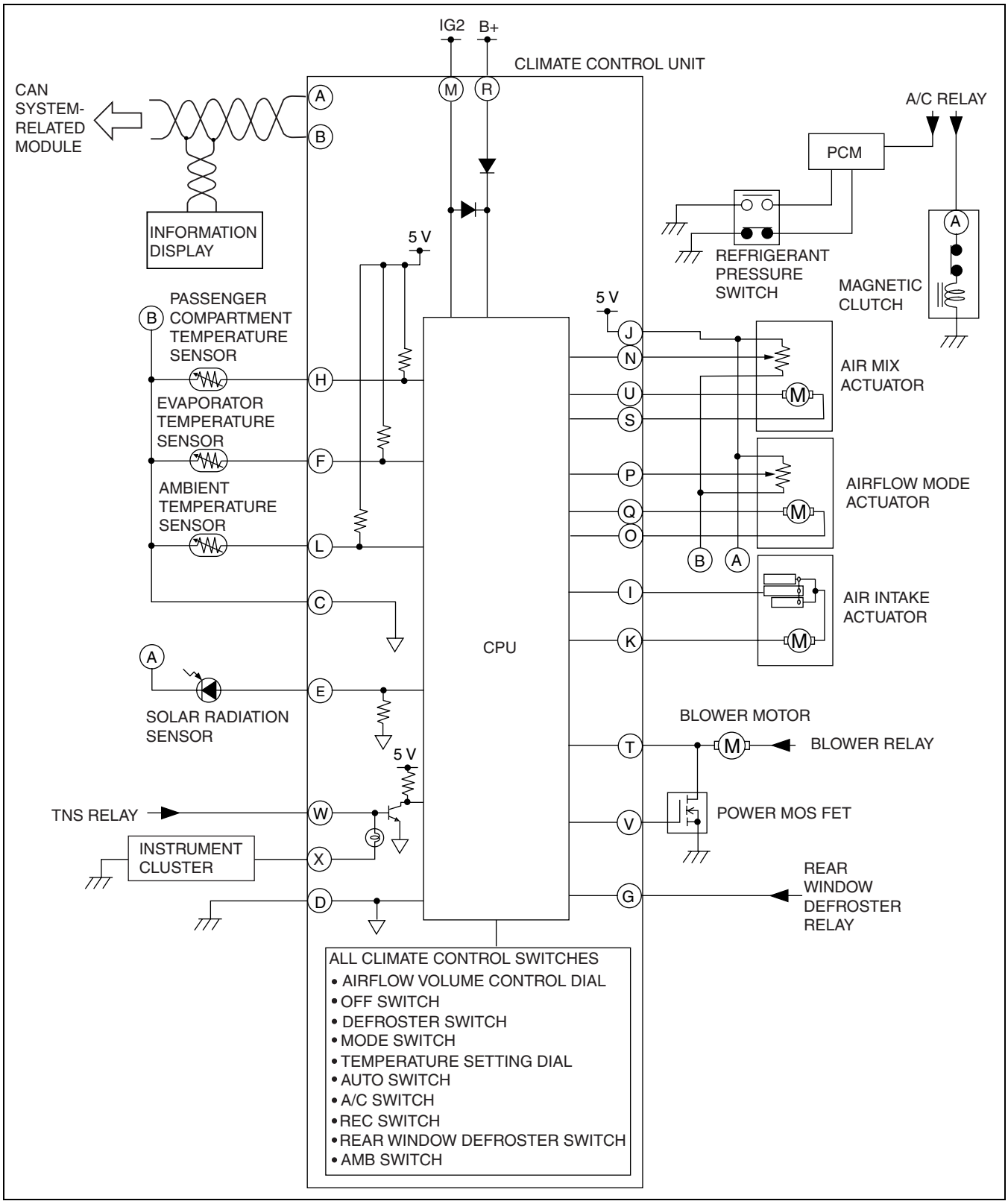
HEATER, VENTILATION & AIR CONDITIONING (HVAC)

07
SECTION

07-02 ON-BOARD DIAGNOSTIC

HVAC SYSTEM WIRING DIAGRAM

id070200800100



acxuuw00002302

DTC B1251, B1253

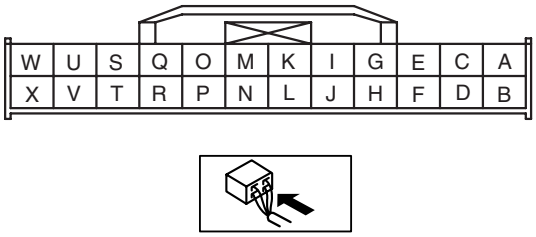
id070200800300

DTC B1251, B1253	Passenger compartment temperature sensor system
POSSIBLE CAUSE	• Passenger compartment temperature sensor malfunction • Open or short circuit in wiring harness between climate control unit and passenger compartment temperature sensor

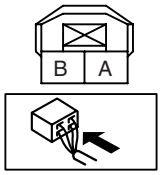
Diagnostic Procedure

STEP	INSPECTION		ACTION
1	• Inspect the passenger compartment temperature sensor. (See 07-40-23 PASSENGER COMPARTMENT TEMPERATURE SENSOR INSPECTION.) • Is it normal?	Yes	Go to the next step.
		No	Replace the passenger compartment temperature sensor. (See 07-40-23 PASSENGER COMPARTMENT TEMPERATURE SENSOR REMOVAL/ INSTALLATION.)
2	• Disconnect the climate control unit connector and the passenger compartment temperature sensor connector. • Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the passenger compartment temperature sensor? — H— B — C— 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 H and passenger compartment 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 H (passenger compartment 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 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CLIMATE CONTROL UNIT CONNECTOR



PASSENGER COMPARTMENT TEMPERATURE SENSOR CONNECTOR



07-02

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

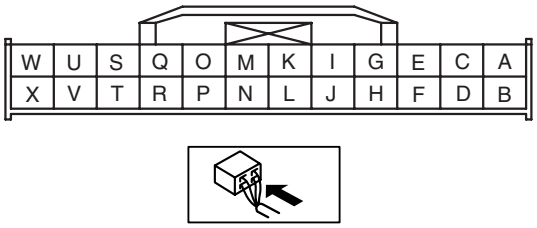
id070200800400

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

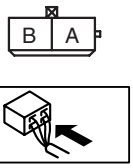
Diagnostic Procedure

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 C and evaporator temperature sensor terminal A?	Yes	Repair the wiring harness.
		No	Inspect the connection of the climate control unit connector.

CLIMATE CONTROL UNIT CONNECTOR



EVAPORATOR TEMPERATURE SENSOR CONNECTOR



DTC B1260, B1261

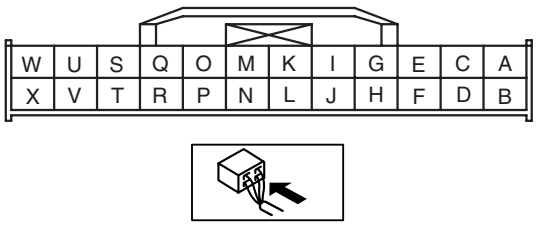
id070200800500

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 07-40-23 SOLAR RADIATION SENSOR INSPECTION.) • Is it normal?	Yes	Go to the next step.
		No	Replace the solar radiation sensor. (See 07-40-22 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? — E— B — J— 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 E and solar radiation sensor terminal B?	Yes	Repair the wiring harness.
		No	Inspect the connection of the climate control unit connector. (See 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CLIMATE CONTROL UNIT CONNECTOR



SOLAR RADIATION SENSOR CONNECTOR

DTC B1255, B1257

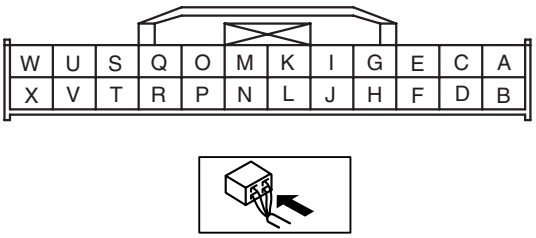
id070200800600

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

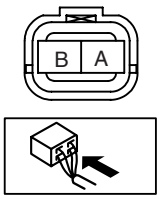
Diagnostic Procedure

STEP	INSPECTION		ACTION
1	• Inspect the ambient temperature sensor. (See 07-40-24 AMBIENT TEMPERATURE SENSOR INSPECTION.) • Is it normal?	Yes	Go to the next step.
		No	Replace the ambient temperature sensor. (See 07-40-24 AMBIENT TEMPERATURE SENSOR REMOVAL/ INSTALLATION.)
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? — L— B — C— 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 L and ambient 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 L (ambient 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 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CLIMATE CONTROL UNIT CONNECTOR



AMBIENT TEMPERATURE SENSOR CONNECTOR



07-02

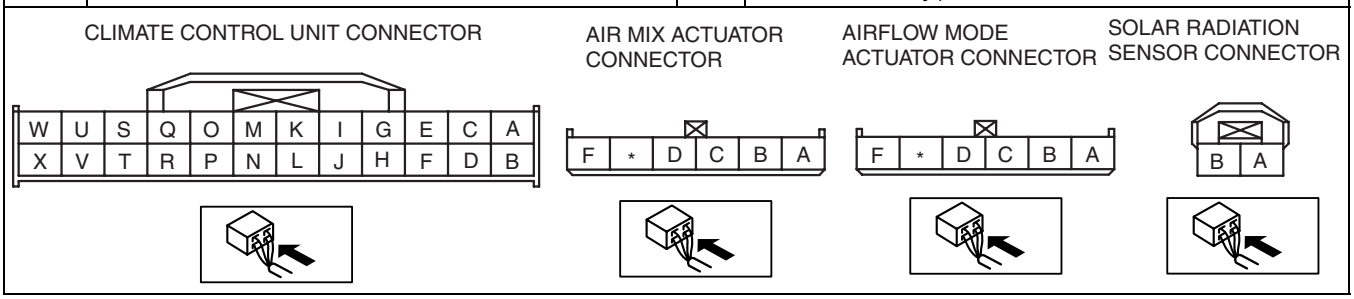
DTC B1260, B1261, B1274, B1275, B1282, B1283 (MULTIPLE DTCS INDICATED)

id070200800700

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

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 J and airflow mode actuator terminal B?	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 J and airflow mode actuator terminal 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 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 J and solar radiation sensor terminal A?	Yes	Repair the wiring harness.
		No	The system is normal at present. (Clear the malfunction from the memory.)



DTC B1274, B1275

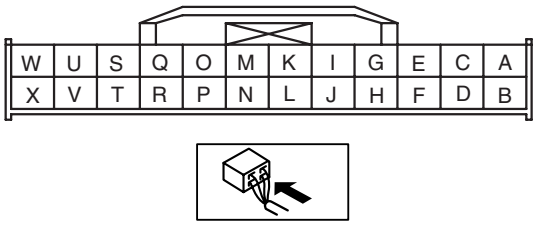
id070200800800

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 P) and airflow mode actuator (terminal C)

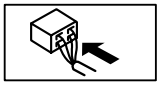
Diagnostic Procedure

STEP	INSPECTION		ACTION
1	• Inspect the airflow mode actuator. (See 07-40-11 AIRFLOW MODE ACTUATOR INSPECTION.) • Is it normal?	Yes	Go to the next step.
		No	Replace the airflow mode actuator. (See 07-40-10 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? — J— B — P— C — C— 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 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



07-02

DTC B1282, B1283

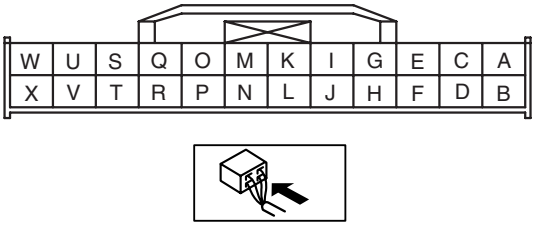
id070200800900

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 N) and air mix actuator (terminal C)

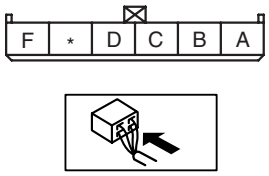
Diagnostic Procedure

STEP	INSPECTION		ACTION
1	• Inspect the air mix actuator. (See 07-40-21 AIR MIX ACTUATOR INSPECTION.) • Is it normal?	Yes	Go to the next step.
		No	Replace the air mix actuator. (See 07-40-19 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? — J— A — N— C — C— 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 N 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 B1947, B2014

id070200801000

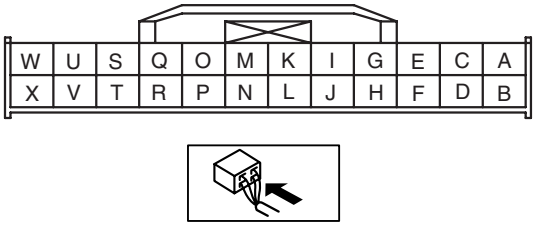
DTC B1947, B2014	Evaporator temperature sensor system
POSSIBLE CAUSE	• Evaporator temperature sensor malfunction • Open or short circuit in wiring harness between climate control unit and evaporator temperature sensor

Diagnostic Procedure

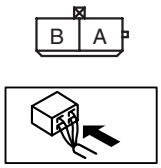
STEP	INSPECTION		ACTION
1	• Inspect the evaporator temperature sensor. (See 07-40-9 EVAPORATOR TEMPERATURE SENSOR INSPECTION.) • Is it normal?	Yes	Go to the next step.
		No	Replace the evaporator temperature sensor. (See 07-40-8 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION.)
2	• Disconnect the 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? — F— B — C— 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 F and evaporator temperature sensor terminal B?	Yes	Repair the wiring harness.
		No	Connect the climate control unit connector, then go to the next step.

STEP	INSPECTION		ACTION
4	• Turn the ignition switch to the ON position. • Inspect the voltage at the following climate control unit terminal (wiring harness-side). — Terminal F (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 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)

CLIMATE CONTROL UNIT CONNECTOR



EVAPORATOR TEMPERATURE SENSOR CONNECTOR



DTC B2832

id070200801100

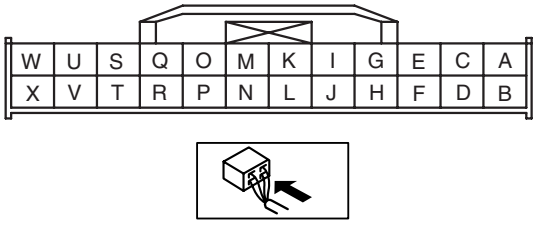
DTC B2832	**Airflow mode actuator (motor lock) system** **Note** • **DTC B2832 will be detected when the ignition switch is turned to the ON position and approx. 30 s have passed since the mode actuator is operated.**
POSSIBLE CAUSE	• Airflow mode actuator malfunction • A/C unit (airflow mode link and airflow mode crank) malfunction • Open or short circuit in wiring harness between climate control unit and airflow mode actuator

07-02

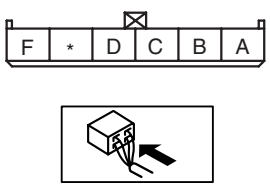
Diagnostic Procedure

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 07-40-10 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 O (or terminal Q) and terminal Q (or terminal O) to ground. • Does the airflow mode actuator operate?	Yes	Inspect the connection of the climate control unit connector. (See 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)
		No	Repair the wiring harness.
4	• Turn the ignition switch to the ON position. • Press the MODE switch to change the mode (operate the airflow mode actuator) and wait for 30 s or more. • Perform the DTC inspection.Is DTC B2832 indicated?	Yes	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.
		No	DTC troubleshooting completed.

CLIMATE CONTROL UNIT CONNECTOR



AIRFLOW MODE ACTUATOR CONNECTOR



DTC B2834

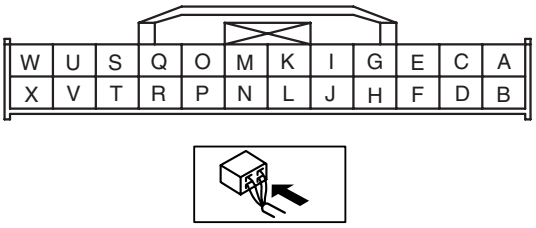
id070200801200

DTC B2834	**Air mix actuator (motor lock) system** **Note** • **DTC B2834 will be detected when the ignition switch is turned to the ON position and approx. 30 s have passed since the mode actuator is operated.**
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

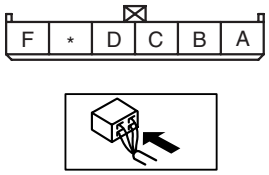
Diagnostic Procedure

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 07-40-19 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 S (or terminal U) and terminal U (or terminal S) to ground. • Does the air mix actuator operate?	Yes	Inspect the connection of the climate control unit connector. (See 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)
		No	Repair the wiring harness.
4	• Turn the ignition switch to the ON position. • Turn the temperature setting dial to change the set temperature (operate the air mix actuator) and wait for 30 s or more. • Perform the DTC inspection.Is DTC B2834 indicated?	Yes	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.
		No	DTC troubleshooting completed.

CLIMATE CONTROL UNIT CONNECTOR



AIR MIX ACTUATOR CONNECTOR



A/C OPERATION CHECK MODE

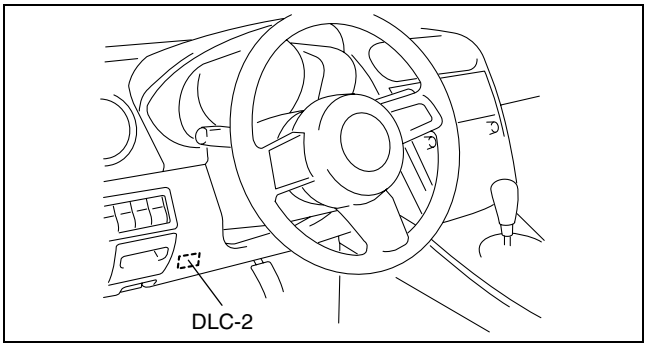
id070200801300

M-MDS display	Target part	Operation condition
Illumination Of All Indicator lights	Climate control unit	All A/C indicator lights illuminated
Blower Motor Speed	Blower motor	OFF→ 1ST→2ND→3RD→ 4TH→ 5TH→6TH→7TH
Air mix Actuator	Air mix door	0 %→50 %→100 %→50 %
Airflow Mode Actuator	Airflow mode door	VENT→BI-LEVEL → HEAT→HEAT/DEF →DEFROSTER
Air Intake Actuator / Air conditioning compressor	Air intake door A/C compressor	FRESH ⇔ REC ON ⇔ OFF

* : Shown on the information display (at the set temperature display) according to each M-MDS display.

A/C OPERATION CHECK MODE DISPLAY

id070200801400



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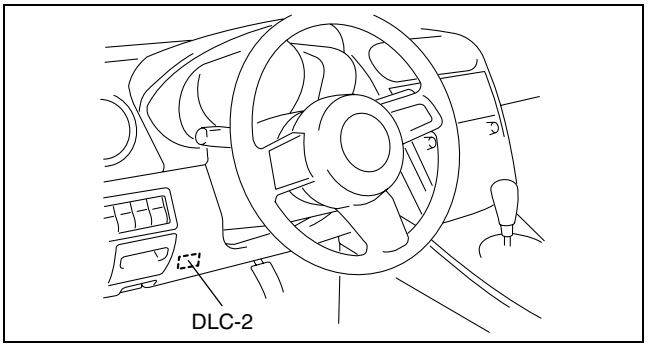
1. Connect the M-MDS to the DLC-2 connector.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
   - When using the IDS (notebook PC)
     — Select the “Body” tab.
   - When using the PDS (pocket PC)
     — Select “All Tests and Calibrations”.
3. Select the “EATC Operation Check” from the screen menu.
4. Verify the A/C operation check mode according to the directions on the screen.

DTC DISPLAY

id070200801500



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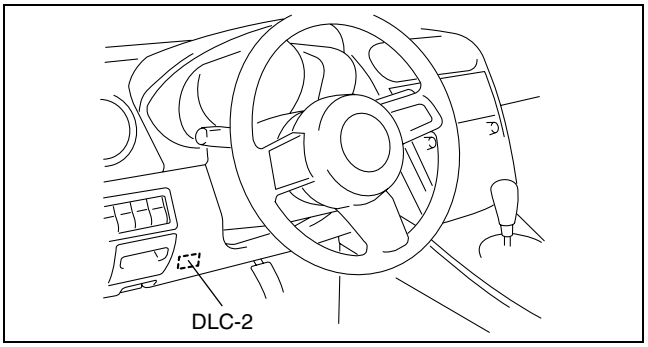
1. Connect the M-MDS to the DLC-2 connector.
2. Shine a **60 W** incandescent light from a distance of **approx. 100 mm {3.9 in}** directly onto the solar radiation sensor.
   Note
   - If incandescent light is not shone on the solar radiation sensor, the climate control unit determines a malfunction and indicates DTC “B1260, B1261”.
3. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
   - When using the IDS (notebook PC)
     — Select the “Toolbox” tab.
     — Select the “Self Test”.
     — Select the “Module”.
     — Select the “EATC”.
   - When using the PDS (pocket PC)
     — Select “All Tests and Calibrations”.
     — Select the “EATC”.
     — Select the “Self Test”.
4. Verify the DTC according to the directions on the screen.
   - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.
5. After completion of repairs, clear all DTCs stored in the Climate control unit. (See 07-02-11 CLEARING DTC.)

CLEARING DTC

id070200801600



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1. Connect the M-MDS to the DLC-2 connector.
2. Shine a fluorescent light directly onto the solar radiation sensor.
   Note
   - If fluorescent light is not shone on the solar radiation sensor, the climate control unit determines a malfunction and indicates DTC “B1260, B1261”.
3. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
   - When using the IDS (notebook PC)
     — Select the “Toolbox” tab.
     — Select the “Self Test”.
     — Select the “Module”.
     — Select the “EATC”.
   - When using the PDS (pocket PC)
     — Select “All Tests and Calibrations”.
     — Select the “EATC”.
     — Select the “Self Test”.
4. Verify the DTC according to the directions on the screen.
5. Press the clear button on the DTC screen to clear the DTC.
6. Verify that no DTCs are displayed.

DTC TABLE

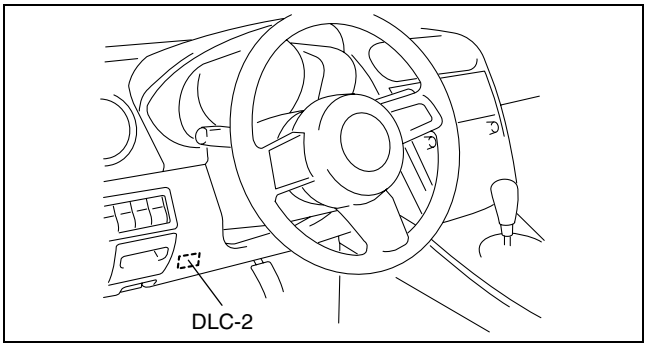
id070200801700

DTC	Malfunction location	Detected condition	Memory function	Page
B1251	Passenger compartment temperature sensor	Passenger compartment temperature sensor circuit open	X	(See 07-02-3 DTC B1251, B1253.) (See 07-02-4 DTC B1251, B1253, B1255, B1257, B1274, B1275, B1282, B1283, B1947, B2014 (MULTIPLE DTCS INDICATED).)
B1253		Passenger compartment temperature sensor circuit short (body ground)	X	
B1255	Ambient temperature sensor	Ambient temperature sensor circuit open	X	(See 07-02-5 DTC B1255, B1257.) (See 07-02-4 DTC B1251, B1253, B1255, B1257, B1274, B1275, B1282, B1283, B1947, B2014 (MULTIPLE DTCS INDICATED).)
B1257		Ambient temperature sensor circuit short (body ground)	X	
B1260	Solar radiation sensor	Solar radiation sensor circuit short (power supply)	X	(See 07-02-4 DTC B1260, B1261.) (See 07-02-6 DTC B1260, B1261, B1274, B1275, B1282, B1283 (MULTIPLE DTCS INDICATED).)
B1261		Solar radiation sensor circuit short (body ground)	—	
B1274	Airflow mode actuator (potentiometer)	Airflow mode actuator (potentiometer) circuit short (power supply)	X	(See 07-02-7 DTC B1274, B1275.) (See 07-02-4 DTC B1251, B1253, B1255, B1257, B1274, B1275, B1282, B1283, B1947, B2014 (MULTIPLE DTCS INDICATED).) (See 07-02-6 DTC B1260, B1261, B1274, B1275, B1282, B1283 (MULTIPLE DTCS INDICATED).)
B1275		Airflow mode actuator (potentiometer) circuit short (body ground)	X	
B1282	Air mix actuator (potentiometer)	Air mix actuator (potentiometer) circuit short (power supply)	X	(See 07-02-8 DTC B1282, B1283.) (See 07-02-4 DTC B1251, B1253, B1255, B1257, B1274, B1275, B1282, B1283, B1947, B2014 (MULTIPLE DTCS INDICATED).) (See 07-02-6 DTC B1260, B1261, B1274, B1275, B1282, B1283 (MULTIPLE DTCS INDICATED).)
B1283		Air mix actuator (potentiometer) circuit short (body ground)	X	
B1947	Evaporator temperature sensor	Evaporator temperature sensor circuit short (body ground)	X	(See 07-02-8 DTC B1947, B2014.) (See 07-02-4 DTC B1251, B1253, B1255, B1257, B1274, B1275, B1282, B1283, B1947, B2014 (MULTIPLE DTCS INDICATED).)
B2014		Evaporator temperature sensor circuit open	X	
B2832	Airflow mode actuator (motor lock)	Airflow mode actuator motor lock	X	(See 07-02-9 DTC B2832.)
B2834	Air mix actuator (motor lock)	Air mix actuator motor lock	X	(See 07-02-10 DTC B2834.)
U0155	CAN communication system	Reception error in signal from ICM (HEC)	X	—
U0516		BUS OFF error	X	—

PID/DATA MONITOR DISPLAY

id070200801800

1. Connect the M-MDS to the DLC-2 connector.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
   - When using the IDS (notebook PC)
     — Select the “Toolbox” tab.
     — Select the “Data Logger”.
     — Select the “Module”.
     — Select the “EATC”.
   - When using the PDS (pocket PC)
     — Select the “Module Tests”.
     — Select the “EATC”.
     — Select the “Data Logger”.
3. Select the applicable PID from the PID table
4. Verify the PID data according to the directions on the screen.



acxuuw00000748

Note

- The PID data screen function is used for monitoring the calculated value. Therefore, if the monitored value of the output parts is not within the specification, inspection of the monitored value of input parts corresponding to applicable output part control is necessary. In addition, because the system does not display output part malfunction as abnormality in the monitored value, it is necessary to inspect the output part individually.

PID/DATA MONITOR TABLE

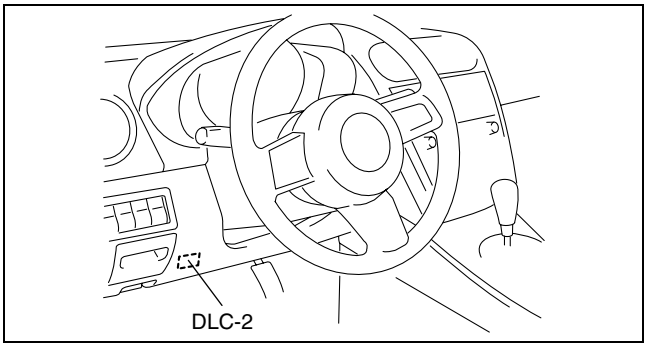
id070200801900

PID name (definition)	Unit/Condition	Operation Condition (Reference)
DTC_CNT (Number of continuous DTCs)	—	Indicates number of DTC

ACTIVE COMMAND MODES DISPLAY

id070200809400

1. Connect the M-MDS to the DLC-2 connector.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
   - When using the IDS (notebook PC)
     — Select the “Toolbox” tab.
     — Select the “Data Logger”.
     — Select the “Module”.
     — Select the “EATC”.
   - When using the PDS (pocket PC)
     — Select the “Module Tests”.
     — Select the “EATC”.
     — Select the “Data Logger”.
3. Select the active command modes from the PID table.
4. Perform the active command modes, inspect the operations for each parts.
   - If there is no operation sound from the relay, motor, and solenoid after the active command mode inspection is performed, it is possible that there is an open or short circuit in the wiring harness, relay, motor or solenoid, or sticking and operation malfunction.



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ACTIVE COMMAND MODES TABLE

id070200809500

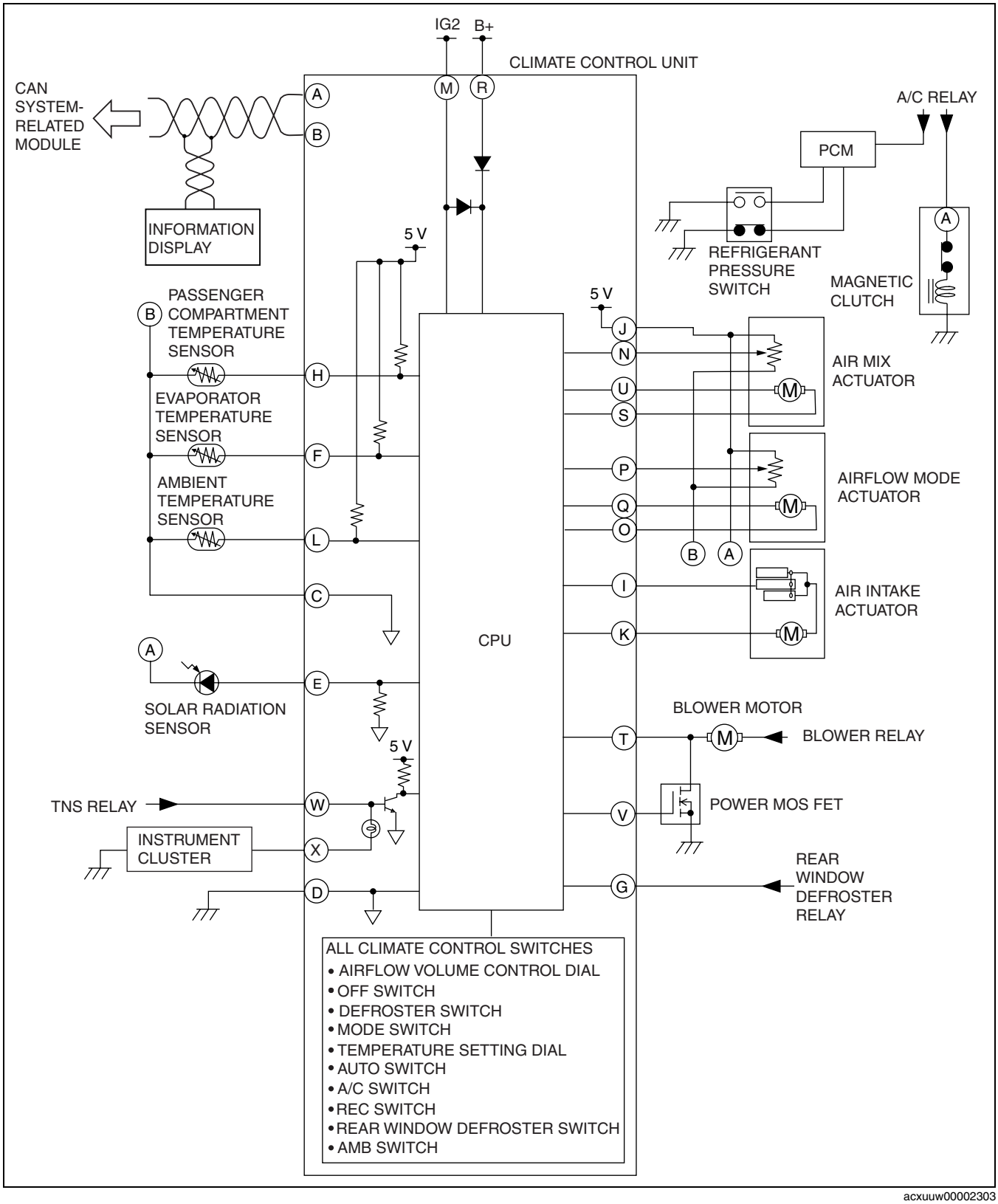
Command name	Output part	Operation	Operating condition
MIX_ACT	Air Mix Actuator	On/Off	Ignition switch at ON
REC/FRESH	REC/FRESH Switch		
DISPLAY	Information Display		
BLOWER	Blower Motor		
MODE_ACT	Airflow Mode Actuator		

07-03 SYMPTOM TROUBLESHOOTING

HVAC SYSTEM WIRING DIAGRAM

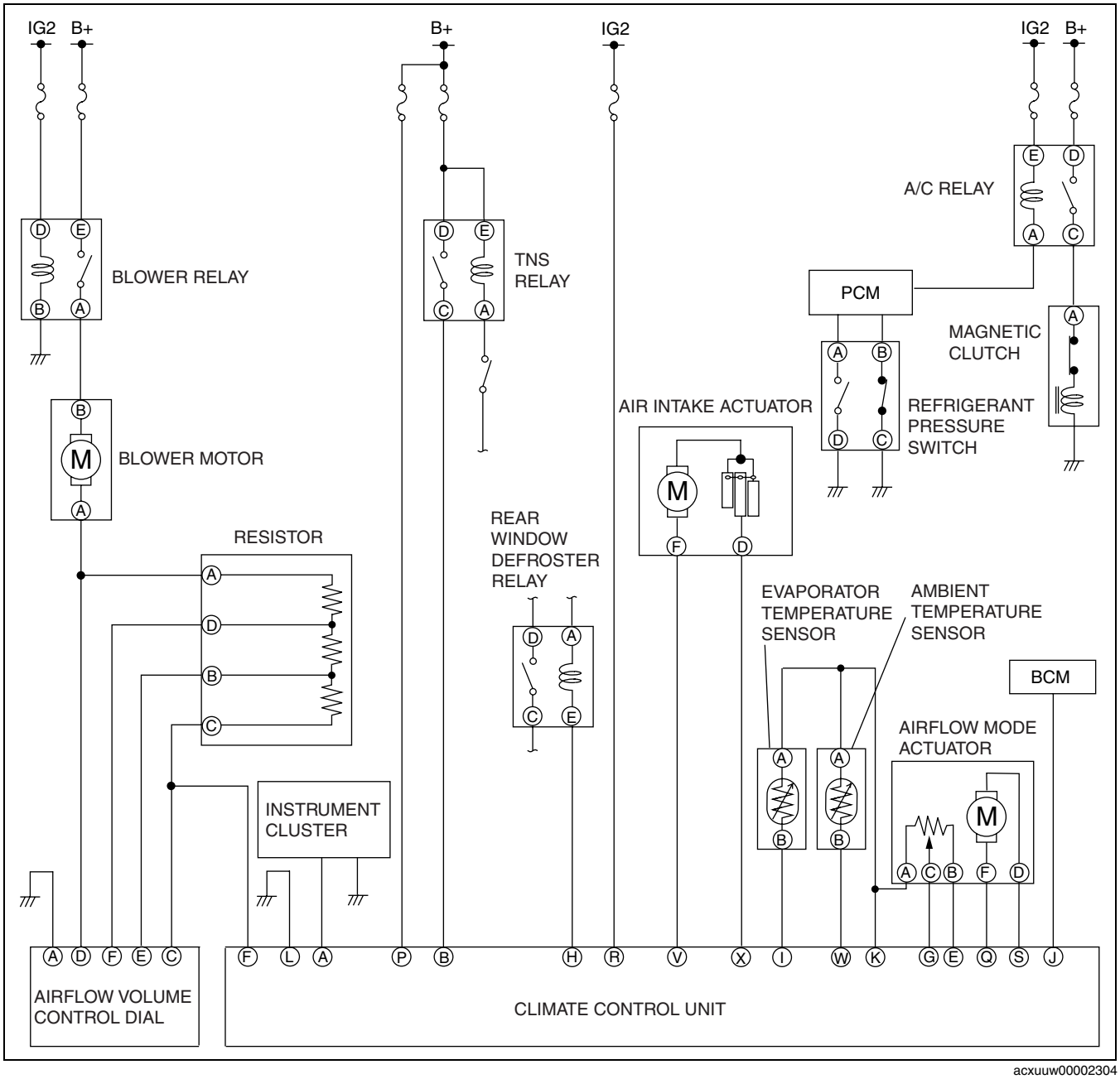
id070300800100

Full-auto Air Conditioner



acxuuw00002303

Manual Air Conditioner



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07-03

FOREWORD

id070300800200

- 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

id070300800300

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 intake 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

id070300800400

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

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 further 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

id070300800500

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.

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 airflow volume control dial 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 airflow volume control dial to OFF position. • Measure the voltage at the following blower motor terminal. — Terminal A (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 C (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.

STEP	INSPECTION		ACTION
8*	**INSPECT TO SEE WHETHER MALFUNCTION IS IN BLOWER MOTOR OR ELSEWHERE** • Measure the voltage at the following blower motor terminal. — Terminal A (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 E (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.
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 airflow volume control dial 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— T (blower motor control signal) — Terminal E— V (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

id070300800600

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, airflow volume control dial malfunction • A/C unit malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	**INSPECT BLOWER SYSTEM** • Inspect the following systems and electrical parts. — Blower relay — Blower motor — Resistor — Airflow volume control dial — 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 airflow volume control dial 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

id070300800700

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.

Diagnostic procedure

STEP	INSPECTION		ACTION
1*	**INSPECT AIR INTAKE ACTUATOR** (Auto A/C) • Inspect the following items using M-MDS simulation function. — MIX_ACT (Air intake actuator) • 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.

STEP	INSPECTION		ACTION
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. (Auto A/C) — Terminal K (24-pin, FRESH motor drive signal) — Terminal I (24-pin, RECIRCULATE motor drive signal) (See 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].) (Manual A/C) — Terminal X (24-pin, FRESH motor drive signal) — Terminal V (24-pin, RECIRCULATE motor drive signal) • 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. (Auto A/C / Manual A/C) — Terminal D (FRESH motor drive signal) — Terminal F (RECIRCULATE motor drive signal) • Are voltages as shown below? (Auto A/C / Manual A/C) — Terminal D: **approx. 0.5 V** during RECIRCULATE and **approx. 10 V** during FRESH — Terminal F: **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. (Auto A/C) — Terminal K (FRESH motor drive signal) — Terminal I (RECIRCULATE motor drive signal) (See 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].) (Manual A/C) — Terminal X (FRESH motor drive signal) — Terminal V (RECIRCULATE motor drive signal) • Are voltages normal?	Yes	Inspect the air intake actuator, then go to Step 9.
		No	Go to the next step.

STEP	INSPECTION		ACTION
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. (Auto A/C) — Terminal K (FRESH motor drive signal) — Terminal I (RECIRCULATE motor drive signal) (Manual A/C) — Terminal X (FRESH motor drive signal) — Terminal V (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.
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. (Auto A/C) — Terminal K (FRESH motor drive signal) — Terminal I (RECIRCULATE motor drive signal) (Manual A/C) — Terminal X (FRESH motor drive signal) — Terminal V (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

id070300800800

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

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 mix 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

id070300800900

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

- 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.

Diagnostic procedure

STEP	INSPECTION		ACTION
1	**COOL AIR BLOW OUT INSPECTION** • When both the A/C and airflow volume control dial 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 the following climate control unit terminal (B+ signal). — R (full-auto air conditioner) — P (manual air conditioner) • 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 the following climate control unit terminal (Ground). — D (full-auto air conditioner) — L (manual air conditioner) • 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 airflow volume control dial 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.

STEP	INSPECTION		ACTION
7	**INSPECT AIR INTAKE ACTUATOR** • Inspect the air intake actuator. (See 07-40-10 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** (Auto A/C) • Measure the voltage at climate control unit connector (24-pin) terminals K and I. (Manual A/C) • Measure the voltage at climate control unit connector (24-pin) terminals X and V. • 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? (Auto A/C) — Terminal D — Terminal K (FRESH signal) — Terminal F — Terminal I (RECIRCULATE signal) (Manual A/C) — Terminal D — Terminal X (FRESH signal) — Terminal F — Terminal V (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.
*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? (Auto A/C) — Terminal K (FRESH signal) — Terminal I (RECIRCULATE signal) (Manual A/C) — Terminal X (FRESH signal) — Terminal V (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. (Auto A/C) — Terminal K (FRESH signal) — Terminal I (RECIRCULATE signal) (Manual A/C) — Terminal X (FRESH signal) — Terminal V (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

id070300801000

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

Diagnostic procedure

STEP	INSPECTION		ACTION
1	**INSPECT DRIVE BELT** • Inspect the drive belt. (See 01-10-3 DRIVE BELT INSPECTION[L3 WITH TC].) • Is it normal?	Yes	Go to the next step.
		No	Adjust or replace the drive belt, then go to Step 20. (See 01-10-3 DRIVE BELT REMOVAL/INSTALLATION[L3 WITH TC].)
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 07-11-18 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 airflow volume control dial 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.)

STEP	INSPECTION		ACTION
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.
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.)

STEP	INSPECTION		ACTION
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.
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 airflow volume control dial 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

id070300801100

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 (Manual A/C) • Malfunction in CAN communication

- 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.

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 airflow volume control dial on. • Does A/C compressor operate?	Yes	Go to Step 1 of troubleshooting index No.7.
		No	Go to the next step.

STEP	INSPECTION		ACTION
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, U0516 USING M-MDS** • Retrieve DTC from EATC and HEC. • DTCs (U0073, U0516) 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 PCM OR ELSEWHERE** • Does cool air blow out when terminal 1AU of PCM connector (A/C signal) is grounded?	Yes	Inspect and/or replace the PCM, 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 PCM) OR ELSEWHERE** • Test voltage at following terminal of PCM. — Terminal 1AU (A/C signal) • Is voltage **approx. 12 V?**	Yes	Go to Step 11.
		No	Repair wiring harness between refrigerant pressure switch and PCM, 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.
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.

STEP	INSPECTION		ACTION
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

id070300801200

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

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 07-40-6 MAGNETIC CLUTCH ADJUSTMENT.)
		No	Condition is normal. (Recheck malfunction symptoms.)

STEP	INSPECTION		ACTION
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 01-10-35 ENGINE TUNE-UP[L3 WITH TC].) • Is it okay?	Yes	Go to the next step.
		No	Follow the repair instruction described in section 01-10, 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.
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 01-10-3 DRIVE BELT INSPECTION[L3 WITH TC].) • Is it okay?	Yes	Go to the next step.
		No	Adjust or replace drive belt, then go to Step 19.

STEP	INSPECTION		ACTION
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 07-40-7 MAGNETIC CLUTCH INSPECTION.) • 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.

07-10 REFRIGERANT SYSTEM

REFRIGERANT SYSTEM SERVICE WARNINGS

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Using/Handling Unapproved Refrigerant

- **Using a flammable refrigerant, such as OZ-12, in this vehicle is dangerous. In an accident, the refrigerant may catch fire, resulting in serious injury or death. When servicing this vehicle, use only R-134a.**
- **Checking for system leakage on a vehicle that has been serviced with flammable refrigerant, such as OZ-12, is dangerous. Conventional leak detectors use an electronically generated arc which can ignite the refrigerant, causing serious injury or death. If a flammable refrigerant may have been used to service the system, or if you suspect a flammable refrigerant has been used, contact the local fire marshal or EPA office for information on handling the refrigerant.**

Handling Refrigerant

- **Avoid breathing air conditioning refrigerant or lubricant vapor. Exposure may irritate eyes, nose and throat. Also, due to environmental concerns, use service equipment certified to meet the requirements of SAE J2210 (R-134a recycling equipment) when draining R-134a from the air conditioning system. If accidental system discharge occurs, ventilate work area before resuming service.**
- **Do not pressure test or leak test R-134a service equipment and/or vehicle air conditioning system with 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

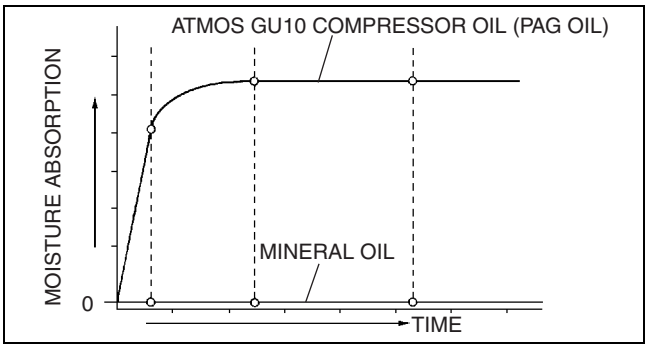
id071000800200

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.**
- **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 A/C 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.**



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REFRIGERANT SYSTEM GENERAL PROCEDURES

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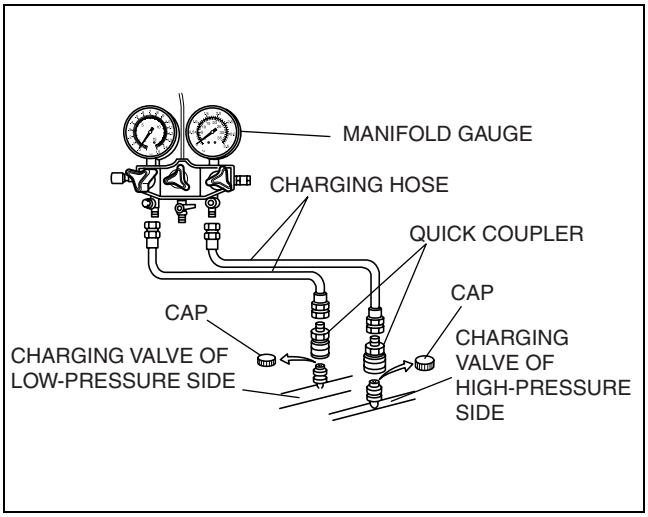
Manifold Gauge Set Installation

1. Fully close the valves of the manifold gauge.
2. Connect the charging hoses to the high and low-pressure side joints of the manifold gauge.
3. Connect the quick couplers to the ends of the charging hoses.
4. Connect the quick couplers to the charging valves.



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REFRIGERANT CHARGING

id071000800400

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.**

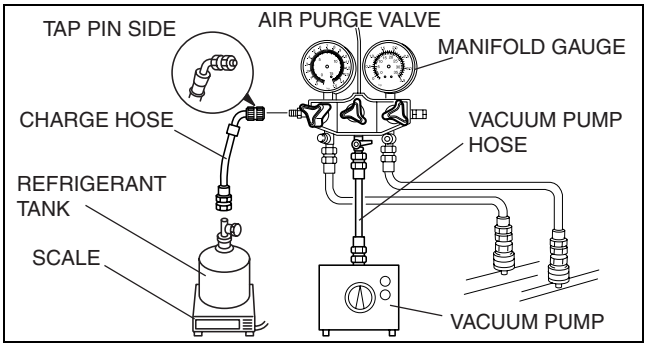
Charging Recycled R-134a Refrigerant

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

Charging Preparation

1. Install the manifold gauge set.
2. Connect the tap pin side of the charging hose to the air purge valve of the manifold gauge.
3. Connect the vacuum pump hose to the center joint of the manifold gauge.
4. Connect the vacuum pump hose to the vacuum pump.
5. Connect the charging hose to the refrigerant tank.
6. Place the refrigerant tank on the scale.

Regular amount of refrigerant (approx. quantity)
500 g {17.7 oz}



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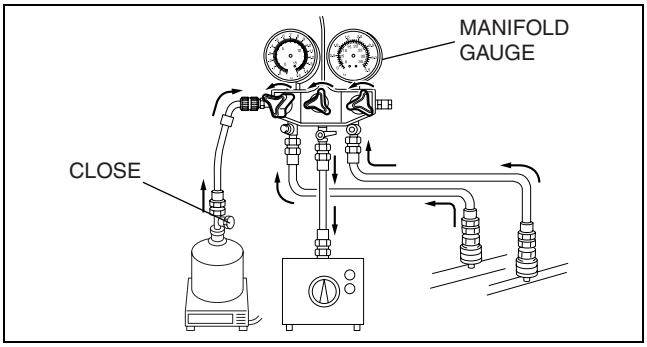
Evacuation

1. Open all the valves of the manifold gauge.

Caution

- **Close the manifold gauge 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.**



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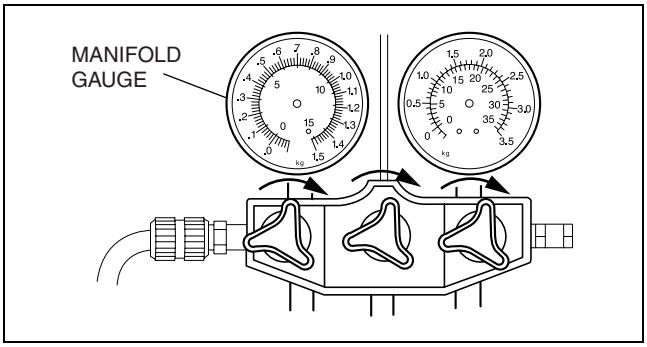
3. Verify that high- and low-pressure side readings of the manifold gauge are at **–101 kPa {–760 mmHg, –29.9 inHg}**. Close each valve of the manifold gauge.



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Airtightness Check

1. Stop the vacuum pump and wait for **5 min.**
2. Check the high- and low-pressure side readings of the manifold gauge.
   - If the reading has changed, inspect for leakage and go to Evacuation. (See 07-10-3 Evacuation.)
   - If the reading has not changed, go to Charging New R-134a Refrigerant. (See 07-10-4 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.

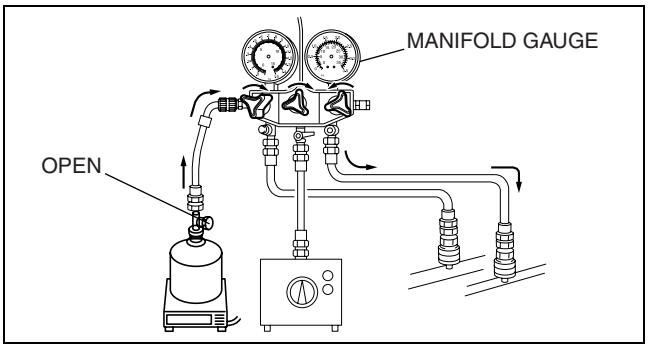
Warning

- **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.**

3. Open the high-pressure side valve of the manifold gauge.



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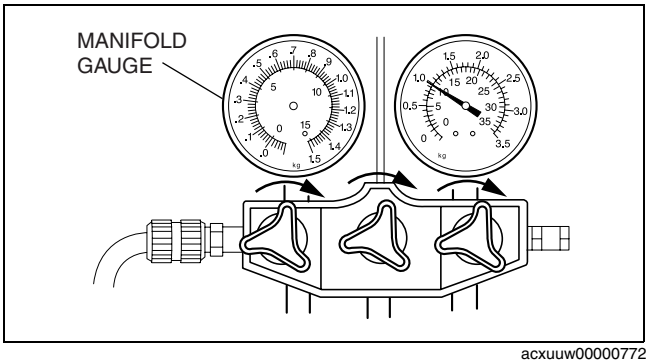
4. When the low-pressure side reading increases to **0.098 MPa {1.0 kgf/cm^2, 14 psi}**, close the high-pressure side valve of the manifold gauge.
5. Inspect for leakage from the cooler pipe/hose connections using a gas leak tester.
   - If there is no leakage, go to Step 7.
   - If leakage is found at a loose joint, tighten the joint, then go to the next step.
6. 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.



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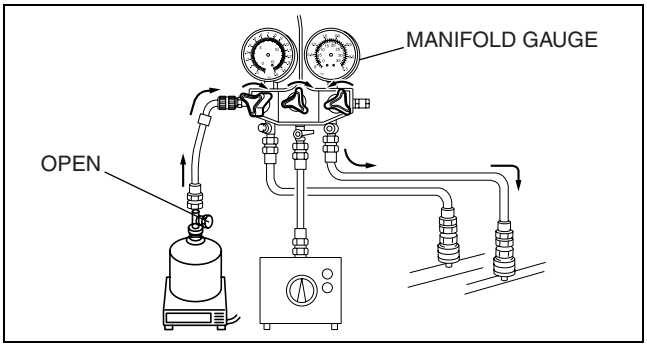
Warning

- **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.**

7. Open the high-pressure side valve of the manifold gauge and charge with refrigerant until the weight of refrigerant tank has decreased **250 g {8.83 oz}** from the amount in Step 2.



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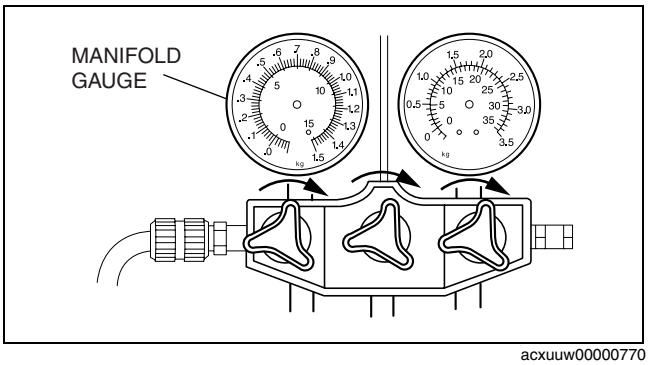
8. Close the low-pressure side valve of the manifold gauge.

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.**



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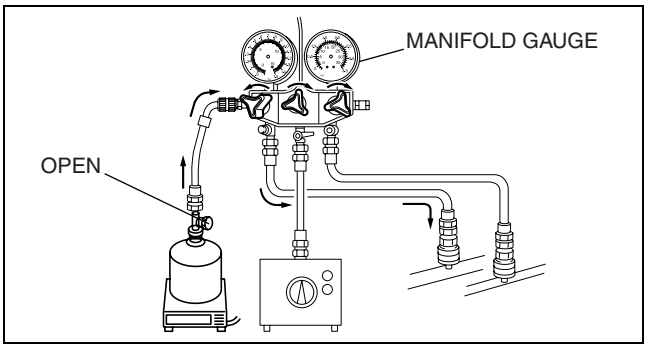
9. Start the engine and actuate the A/C compressor.
10. Open the low-pressure side valve of the manifold gauge and charge with refrigerant until the weight of the refrigerant tank has decreased regular amount from the amount in Step 2.
11. Close the low-pressure side valve of the manifold gauge and the valve of the refrigerant tank.
12. Stop the engine and A/C compressor.



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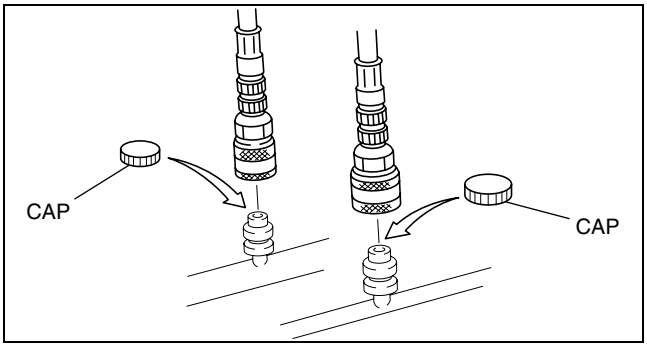
Leak Test

1. Inspect for leakage using the a gas leak tester.
   - 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 manifold gauge from the charging valves.
4. Install the caps to the charging valves.



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REFRIGERANT RECOVERY

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Warning

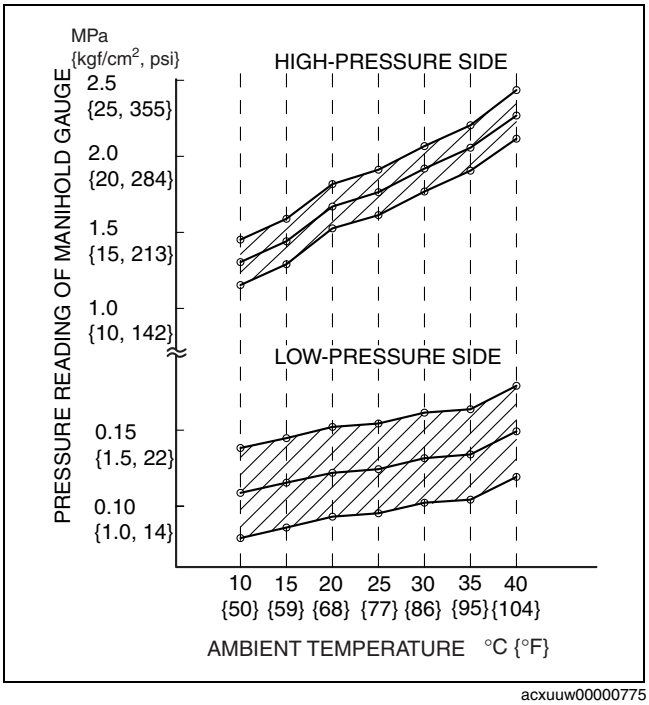
- **Avoid breathing air conditioning refrigerant or lubricant vapor. Exposure may irritate eyes, nose and throat. Also, due to environmental concerns, use service equipment certified to meet the requirements of SAE J2210 (R-134a recycling equipment) when draining R-134a from the air conditioning system. If accidental system discharge occurs, ventilate work area before resuming service.**

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

REFRIGERANT PRESSURE CHECK

id071000800600

1. Connect the manifold gauge. (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 manifold gauge.
10. Verify that the intersection of the pressure reading of the manifold gauge and ambient temperature is in the shaded zone.
    - If there is any malfunction, inspect the refrigerant system according to the troubleshooting chart.



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REFRIGERANT SYSTEM PERFORMANCE TEST

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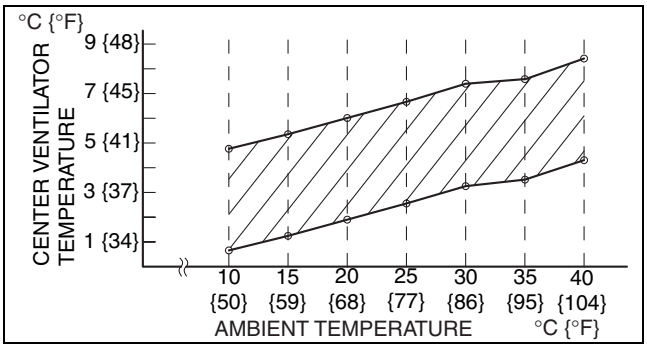
1. Inspect the refrigerant pressure. (See 07-10-6 REFRIGERANT PRESSURE CHECK.)
2. Place a dry-bulb thermometer in the driver-side center ventilator outlet.
3. Start the engine and after it is warmed up, run it at a constant **1,500 rpm.**
4. Set the fan speed to MAX HI.
5. Turn the A/C switch on.
6. 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.
    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 the there is any malfunction, inspect the refrigerant system according to the troubleshooting chart.



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07-11 BASIC SYSTEM

BASIC SYSTEM LOCATION INDEX

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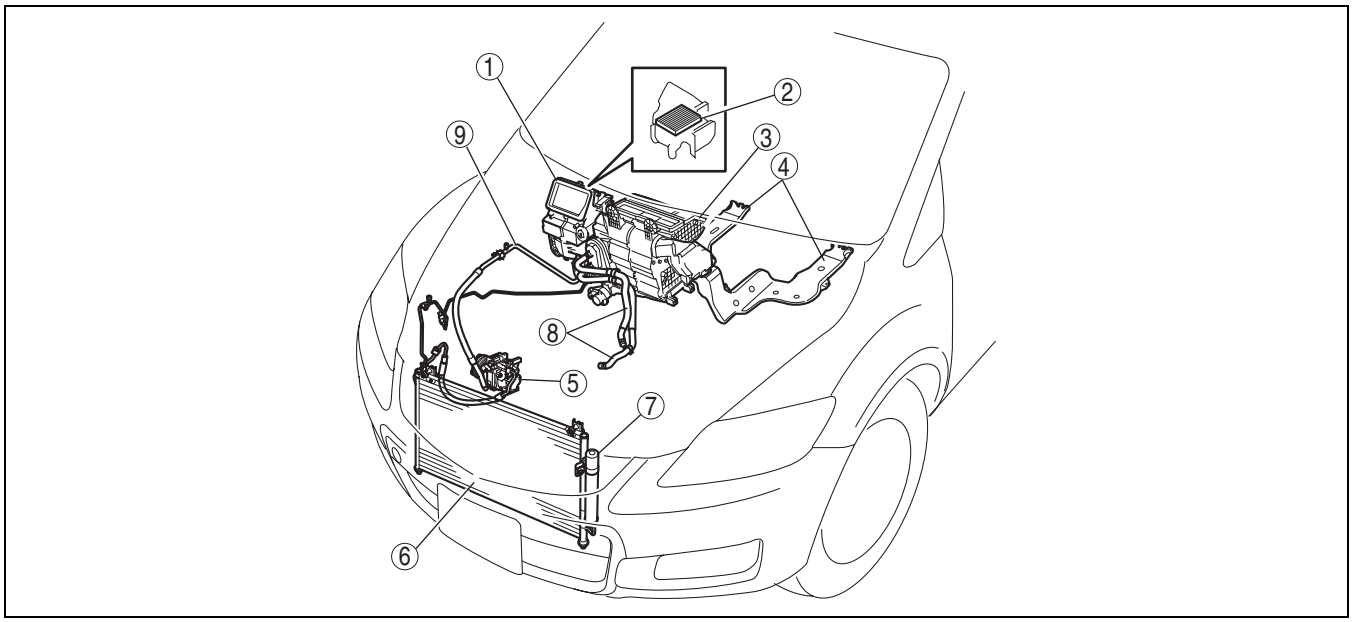

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1	Blower unit (See 07-11-9 BLOWER UNIT REMOVAL/INSTALLATION.) (See 07-11-11 BLOWER UNIT DISASSEMBLY/ASSEMBLY.)
2	Air filter (See 07-11-12 AIR FILTER REMOVAL/INSTALLATION.) (See 07-11-12 AIR FILTER INSPECTION.)
3	A/C unit (See 07-11-2 A/C UNIT REMOVAL/INSTALLATION.) (See 07-11-4 A/C UNIT DISASSEMBLY/ASSEMBLY.)
4	Rear heat duct (See 07-11-13 REAR HEAT DUCT REMOVAL/INSTALLATION.)
5	A/C compressor (See 07-11-13 A/C COMPRESSOR REMOVAL/INSTALLATION.)
6	Condenser (See 07-11-17 CONDENSER REMOVAL/INSTALLATION.) (See 07-11-18 CONDENSER INSPECTION.)
7	Receiver/drier (See 07-11-19 RECEIVER/DRIER REMOVAL/INSTALLATION.)
8	Heater hose
9	Refrigerant lines (See 07-11-15 REFRIGERANT LINES REMOVAL/INSTALLATION.)

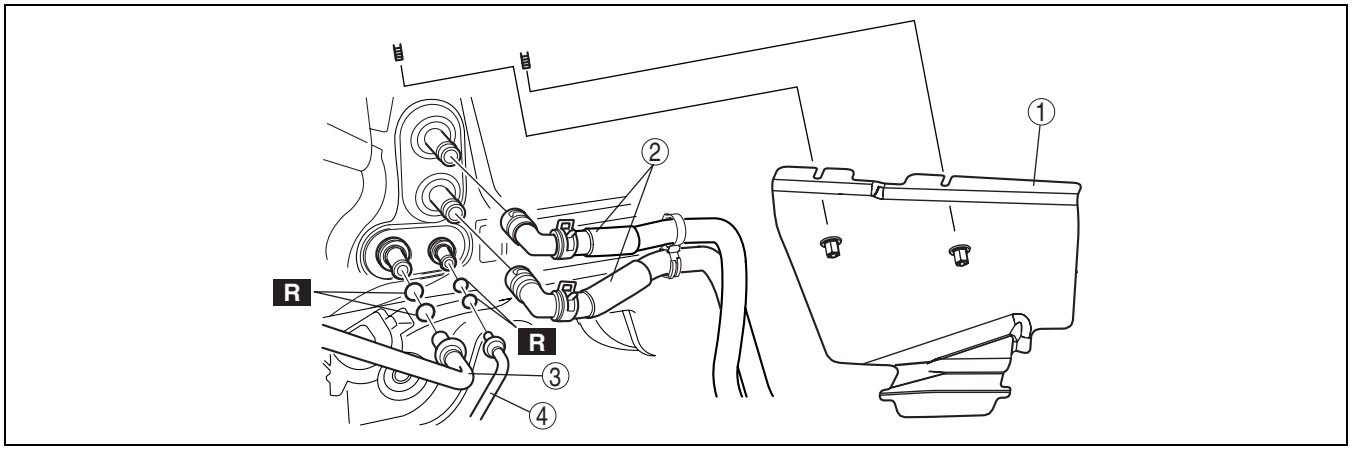
A/C UNIT REMOVAL/INSTALLATION

id071100800200

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-6 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Drain the engine coolant. (See 01-12-5 ENGINE COOLANT REPLACEMENT[L3 WITH TC].)
4. Remove the following parts:
   (1) Console panel (See 09-17-15 CONSOLE PANEL REMOVAL/INSTALLATION.)
   (2) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (3) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
   (4) Front side trim (See 09-17-18 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
   (5) Dashboard under cover
   (6) Glove compartment (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
   (7) Hood release lever (See 09-14-25 HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
   (8) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
   (9) Center panel (See 09-17-8 CENTER PANEL REMOVAL/INSTALLATION.)
   (10) Audio unit (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)

(11)Climate control unit (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].) (See 07-40-26 CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER].)
(12)Knee bolster (See 09-17-12 KNEE BOLSTER REMOVAL/INSTALLATION.)
(13)Meter hood (See 09-17-10 METER HOOD REMOVAL/INSTALLATION.)
(14)Column cover (See 09-17-8 COLUMN COVER REMOVAL/INSTALLATION.)
(15)Instrument cluster (See 09-22-2 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
(16)Driver-side air bag module (See 08-10-6 DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION.)
(17)Steering wheel (See 06-14-6 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)
(18)Combination switch (See 09-18-13 COMBINATION SWITCH REMOVAL/INSTALLATION.)
(19)Steering shaft (See 06-14-6 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)
(20)A-pillar lower trim (See 09-17-16 A-PILLAR LOWER TRIM REMOVAL/INSTALLATION.)
(21)A-pillar trim (See 09-17-15 A-PILLAR TRIM REMOVAL/INSTALLATION.)
(22)Dashboard (See 09-17-4 DASHBOARD REMOVAL/INSTALLATION.)

5. Remove in the order indicated in the table. Do not allow compressor oil to spill.



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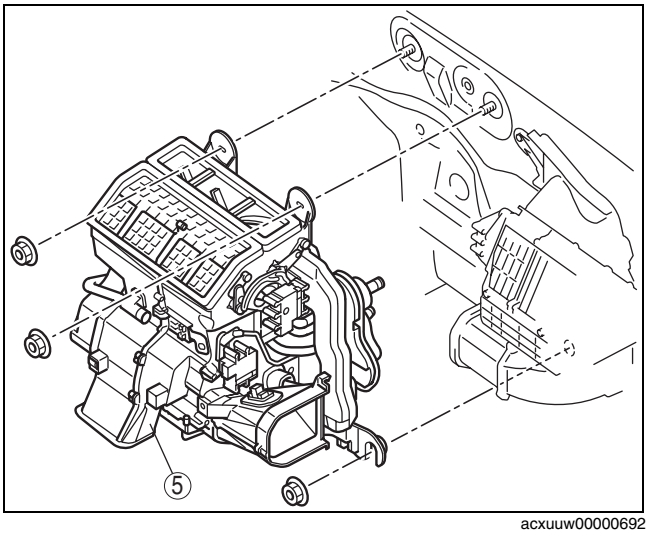
1	Insulator
2	Heater hose
3	Cooler hose (LO) (See 07-11-15 REFRIGERANT LINES REMOVAL/INSTALLATION.)
4	Cooler pipe (See 07-11-15 REFRIGERANT LINES REMOVAL/INSTALLATION.)
5	A/C unit (See 07-11-4 A/C Unit Installation Note.)



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

A/C Unit Installation Note

1. When installing a new A/C unit or evaporator, add a supplemental amount of ATMOS GU10 compressor oil into the refrigerant cycle.

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

A/C UNIT DISASSEMBLY/ASSEMBLY

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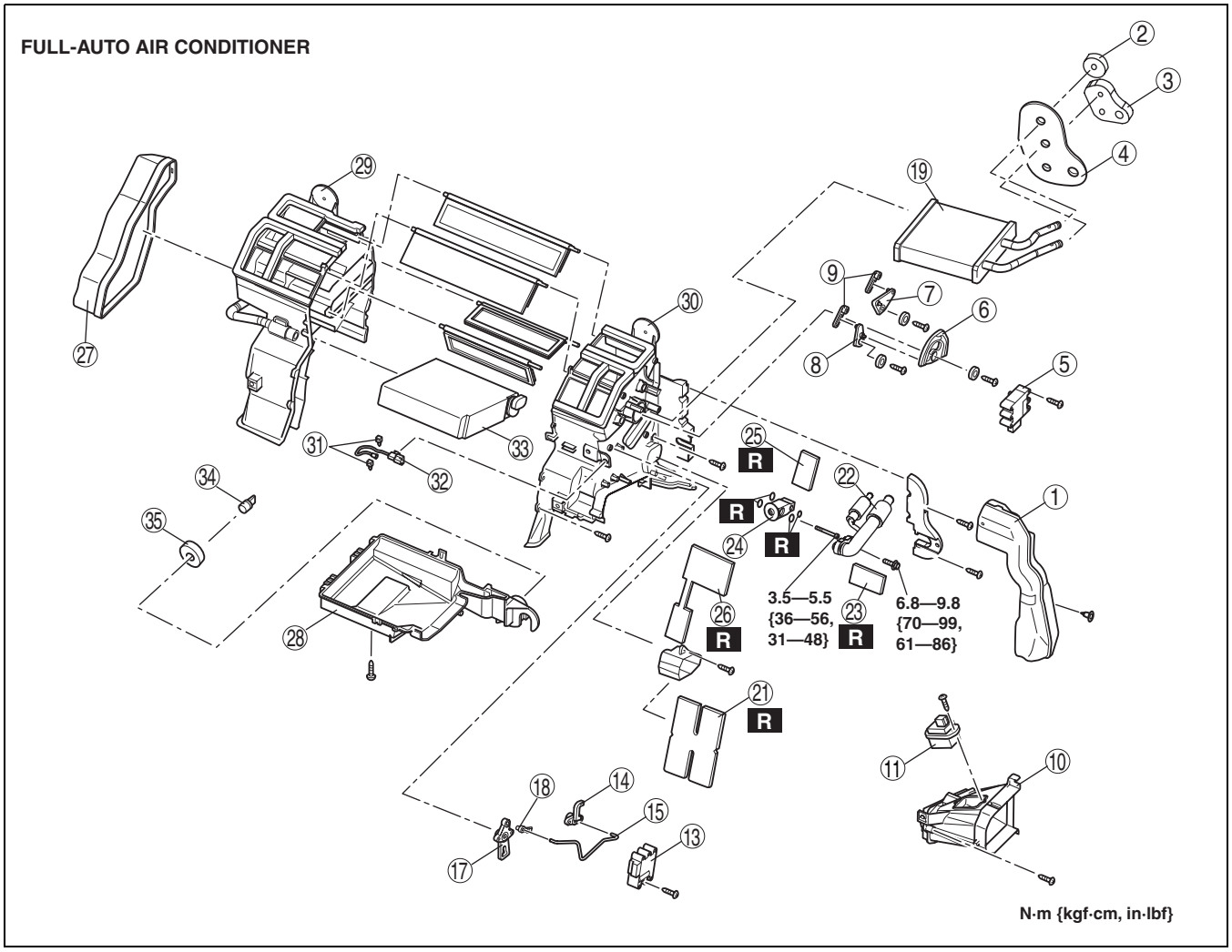
1. Disassemble in the order indicated in the table.
2. Assemble in the reverse order of disassembly.



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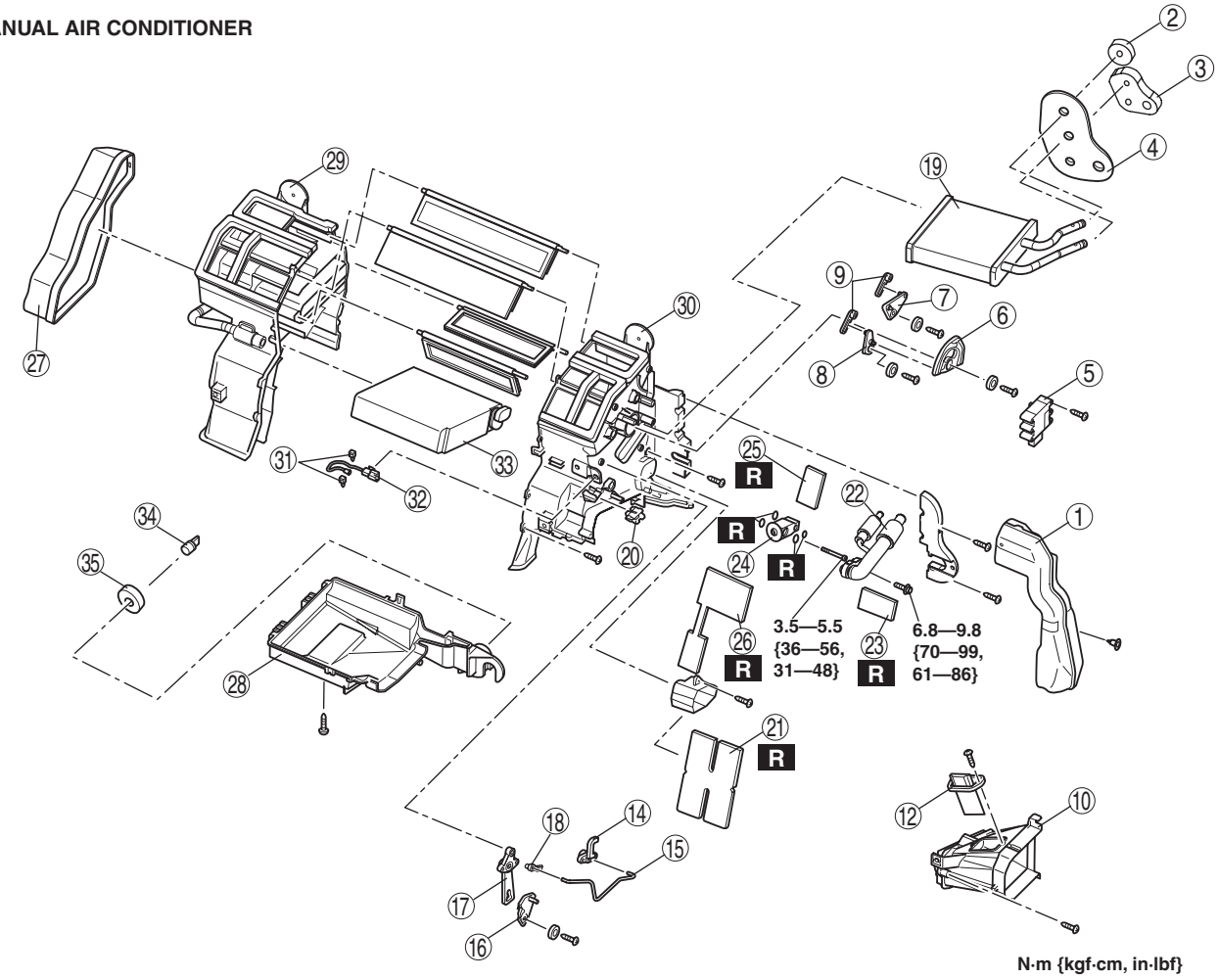
MANUAL AIR CONDITIONER



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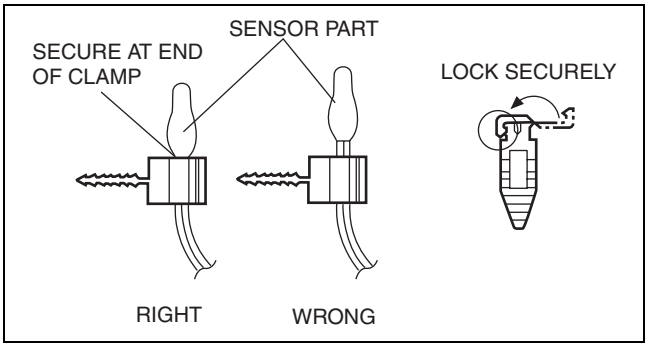
1	Duct (1)
2	Polyurethane protector (1)
3	Polyurethane protector (2)
4	Polyurethane protector (3)
5	Airflow mode actuator
6	Airflow mode main link
7	Airflow mode sub link (1)
8	Airflow mode sub link (2)
9	Airflow mode crank
10	Duct (2)
11	Power MOS FET (full-auto air conditioner)
12	Resistor (manual air conditioner)
13	Air mix actuator (full-auto air conditioner)
14	Air mix crank (1)
15	Air mix rod
16	Air mix link (manual air conditioner)
17	Air mix crank (2)
18	Air mix rod holder
19	Heater core
20	Wire clamp (manual air conditioner)
21	Adhesive polyurethane (1) (See 07-11-7 Adhesive polyurethane (1) Assembly Note.)

22	Evaporator pipe
23	Adhesive polyurethane (3) (See 07-11-7 Adhesive polyurethane (3) Assembly Note.)
24	Expansion valve
25	Adhesive polyurethane (4) (See 07-11-7 Adhesive polyurethane (4) Assembly Note.)
26	Adhesive polyurethane (2) (See 07-11-6 Adhesive polyurethane (2) Assembly Note.)
27	Duct (3)
28	A/C case (3)
29	A/C case (1)
30	A/C case (2)
31	Sensor clamp (See 07-11-6 Sensor Clamp Assembly Note.)
32	Evaporator temperature sensor (See 07-11-6 Evaporator Temperature Sensor Assembly Note.)
33	Evaporator
34	Drain hose
35	Polyurethane protector (4)

Sensor Clamp Assembly Note

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



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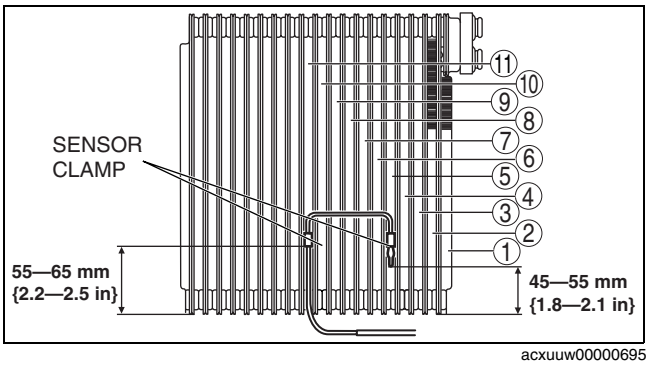
Evaporator Temperature Sensor Assembly Note

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



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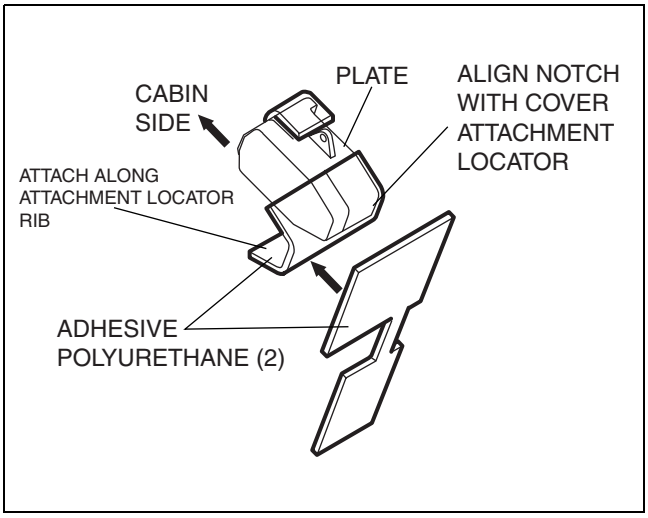
Adhesive polyurethane (2) Assembly Note

1. Attach the adhesive polyurethane (2) as shown in the figure.



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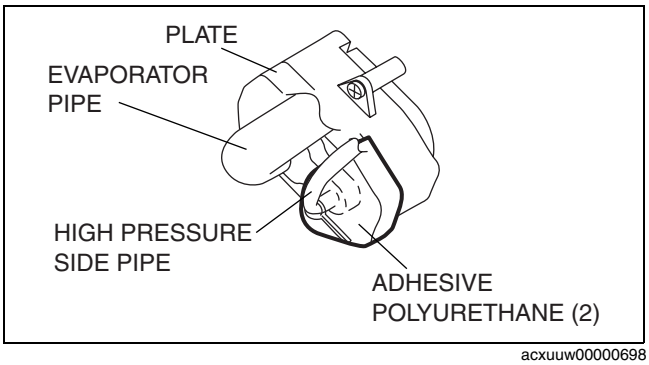
2. After assembling the evaporator pipe as shown in the figure, attach the adhesive polyurethane (2) so that it adheres around the high-pressure side of the evaporator pipe.



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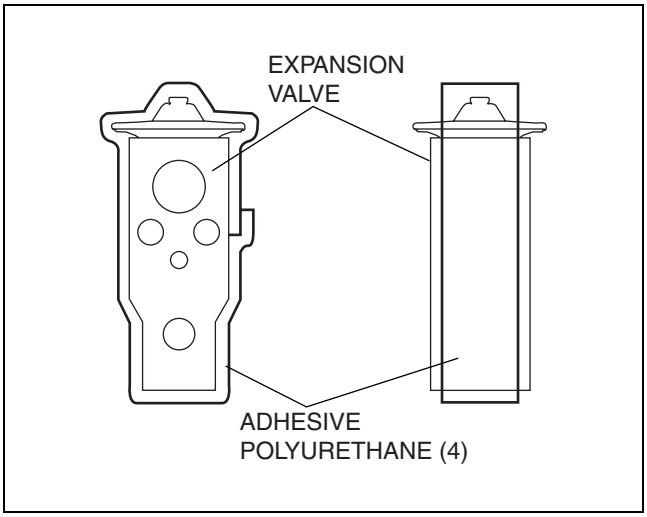
Adhesive polyurethane (4) Assembly Note

1. Attach the adhesive polyurethane (4) so that it adheres around the expansion valve.



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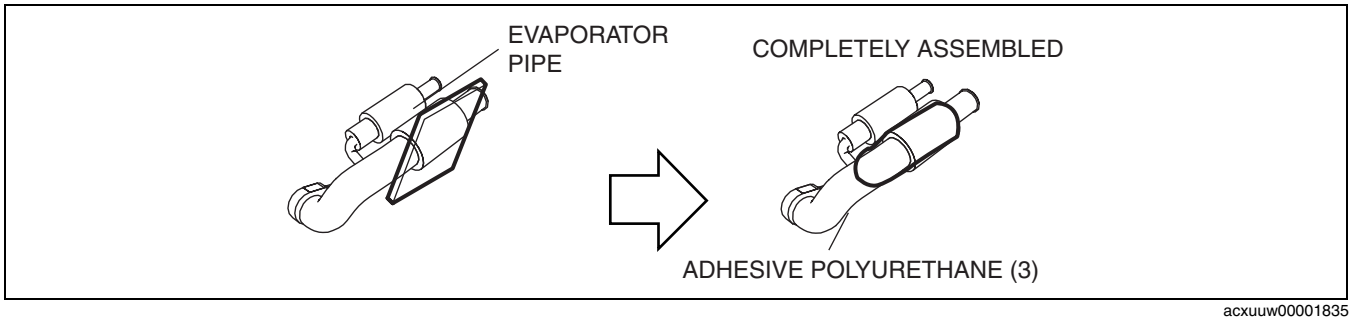
Adhesive polyurethane (3) Assembly Note

1. Attach the adhesive polyurethane (3) so that it adheres around the low-pressure side of the evaporator pipe.



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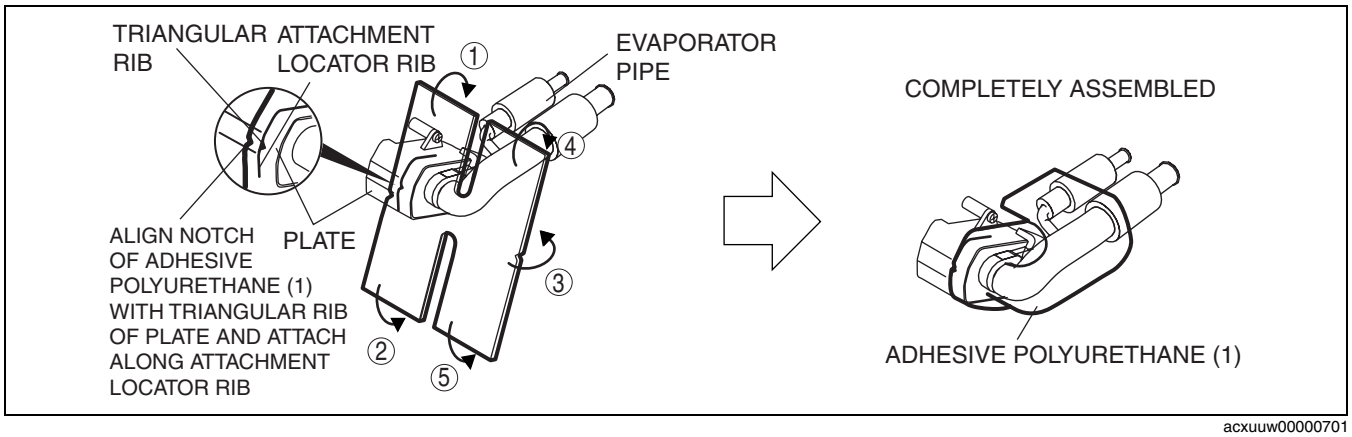
Adhesive polyurethane (1) Assembly Note

1. Attach the adhesive polyurethane (1) as shown in the figure.



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EXPANSION VALVE REMOVAL/INSTALLATION

id071100800400

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-6 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 open fittings after removing any refrigeration cycle parts to keep moisture or foreign material out of the cycle.**

3. Remove the insulator. (See 07-11-2 A/C UNIT REMOVAL/INSTALLATION.)
4. Disconnect the cooler hose (LO) and cooler pipe. (See 07-11-2 A/C UNIT REMOVAL/INSTALLATION.)
5. Remove the following parts:
   (1) Dashboard under cover
   (2) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
   (3) Front side trim (See 09-17-18 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
   (4) Console panel (See 09-17-15 CONSOLE PANEL REMOVAL/INSTALLATION.)
   (5) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (6) Glove compartment (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
   (7) Hood release (See 09-14-25 HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
   (8) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
   (9) Center panel (See 09-17-8 CENTER PANEL REMOVAL/INSTALLATION.)
   (10)Passenger-side air bag module (See 08-10-8 SIDE AIR BAG MODULE REMOVAL/INSTALLATION.)
6. Remove the airflow mode actuator. (See 07-40-10 AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.)
7. Disconnect the air intake actuator connector.
8. Remove the duct (1).
9. Remove the adhesive polyurethane (1). (See 07-11-4 A/C UNIT DISASSEMBLY/ASSEMBLY.)

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

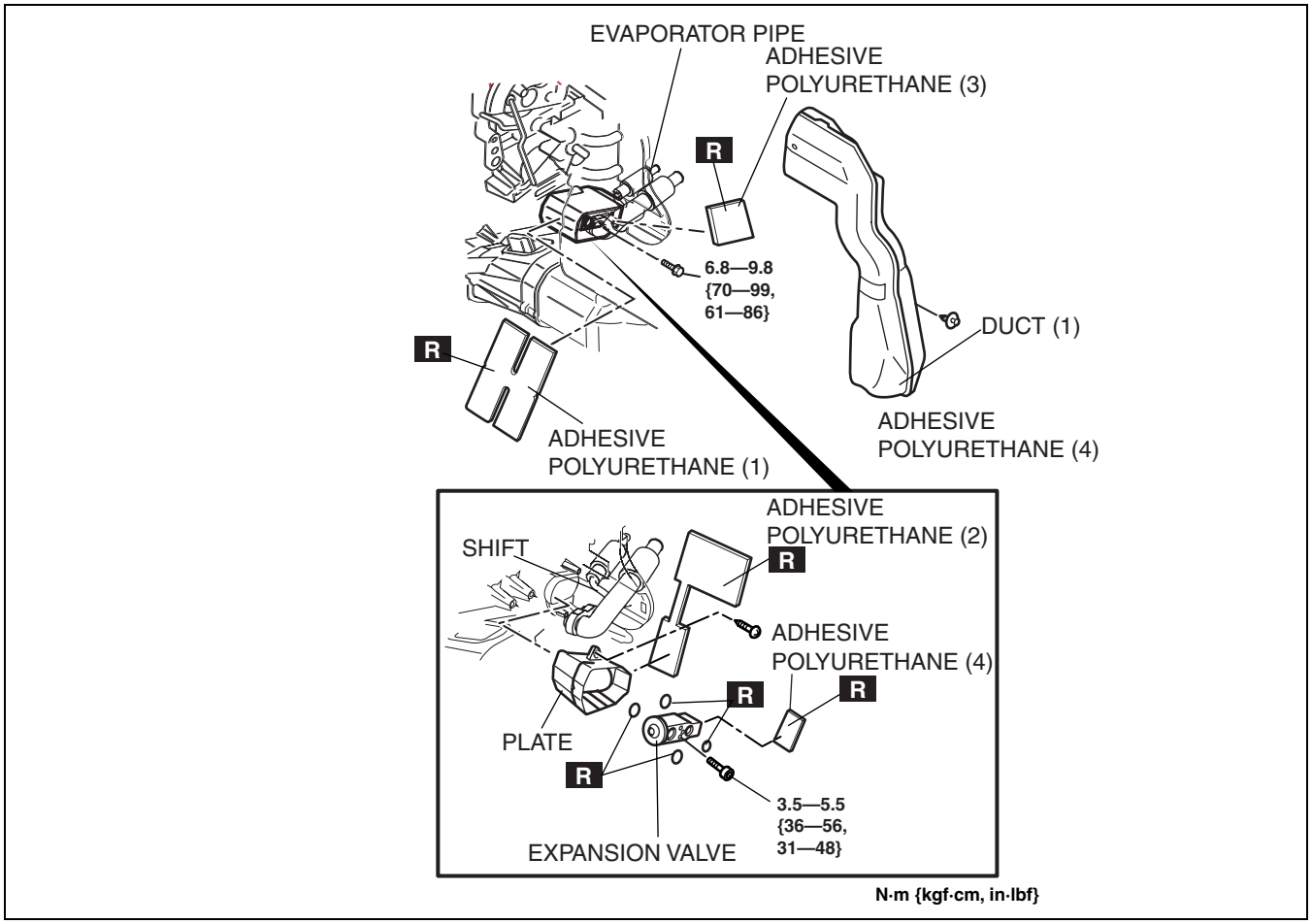
10. Remove the one bolt and shift the evaporator pipe. Do not allow compressor oil to spill.
11. Remove the two bolts.
12. Remove the expansion valve. Do not allow compressor oil to spill.
13. Remove the screws and plate.
14. Remove the adhesive polyurethane (2). (See 07-11-4 A/C UNIT DISASSEMBLY/ASSEMBLY.)

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

15. Remove the adhesive polyurethane (3). (See 07-11-4 A/C UNIT DISASSEMBLY/ASSEMBLY.)

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

16. Remove the adhesive polyurethane (4). (See 07-11-4 A/C UNIT DISASSEMBLY/ASSEMBLY.)



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

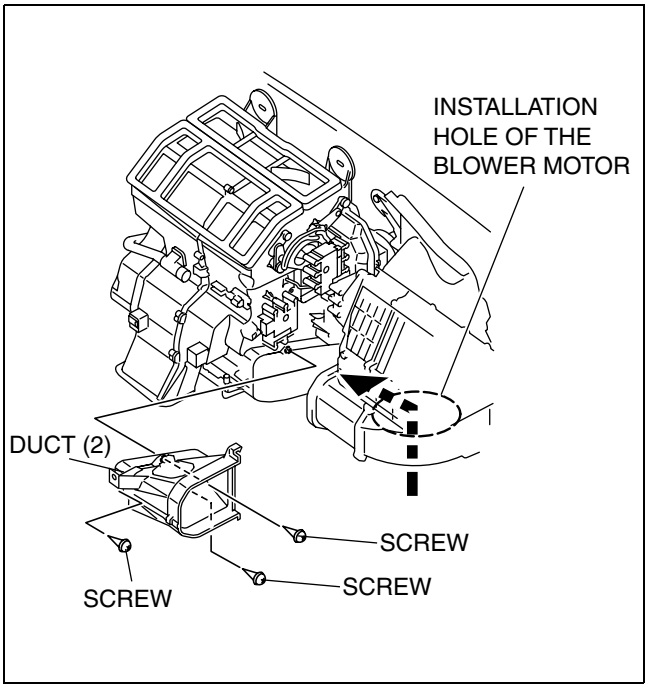
BLOWER UNIT REMOVAL/INSTALLATION

id071100800500

1. Disconnect the negative battery cable.
2. Remove the following parts:
   (1) Console panel (See 09-17-15 CONSOLE PANEL REMOVAL/INSTALLATION.)
   (2) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (3) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
   (4) Front side trim (See 09-17-18 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
   (5) Dashboard under cover
   (6) Glove compartment (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
   (7) Hood release lever (See 09-14-25 HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
   (8) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
   (9) Center panel (See 09-17-8 CENTER PANEL REMOVAL/INSTALLATION.)
   (10) Audio unit (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)
   (11) Climate control unit (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].) (See 07-40-26 CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER].)
   (12) Knee bolster (See 09-17-12 KNEE BOLSTER REMOVAL/INSTALLATION.)
   (13) Meter hood (See 09-17-10 METER HOOD REMOVAL/INSTALLATION.)
   (14) Column cover (See 09-17-8 COLUMN COVER REMOVAL/INSTALLATION.)
   (15) Instrument cluster (See 09-22-2 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
   (16) Driver-side air bag module (See 08-10-6 DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION.)
   (17) Steering wheel (See 06-14-6 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)
   (18) Combination switch (See 09-18-13 COMBINATION SWITCH REMOVAL/INSTALLATION.)
   (19) Steering shaft (See 06-14-6 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)

(20)A-pillar lower trim (See 09-17-16 A-PILLAR LOWER TRIM REMOVAL/INSTALLATION.)
(21)A-pillar trim (See 09-17-15 A-PILLAR TRIM REMOVAL/INSTALLATION.)
(22)Dashboard (See 09-17-4 DASHBOARD REMOVAL/INSTALLATION.)

3. Remove the blower motor. (See 07-40-8 BLOWER MOTOR REMOVAL/INSTALLATION.)
4. Remove the power MOS FET (Full-auto air conditioner) or resistor. (Manual air conditioner) (See 07-40-4 POWER METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR (POWER MOS FET) REMOVAL/INSTALLATION.) (See 07-40-7 RESISTOR REMOVAL/INSTALLATION.)
5. Remove the blower unit installation nuts.
6. Remove the screw securing the duct (2) to the A/C unit, by inserting a phillips screwdriver into the hole made after removing the blower motor.
7. Remove the screw securing the duct (2) to the A/C unit.
8. Remove the duct (2).



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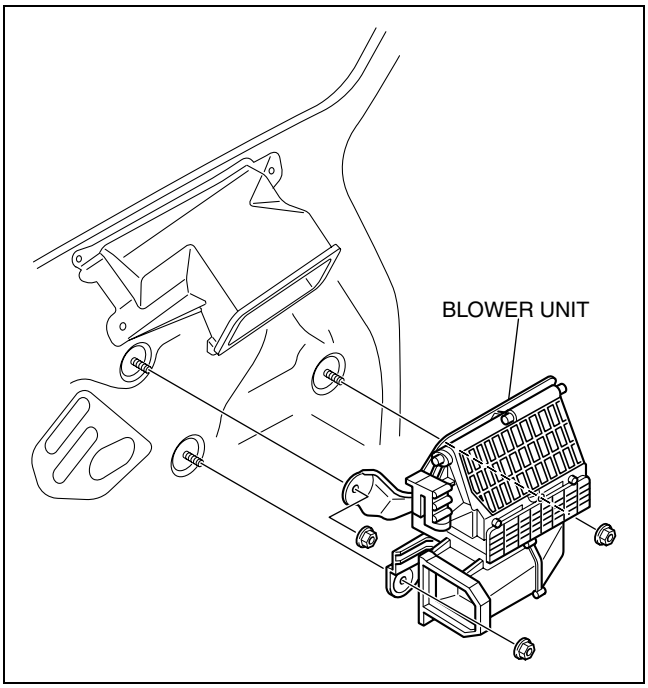
9. Remove the blower unit.
10. Temporary install the blower unit.
11. Install in the duct (2).
12. Install the two outer screws, securing the duct (2) to the A/C unit.



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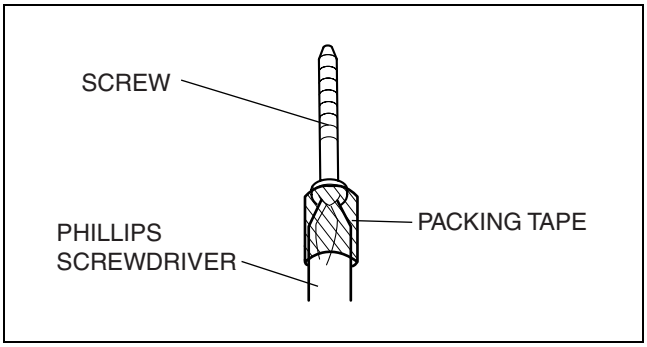
13. Install the screw on the end of the phillips screwdriver with the packing tape.

Caution
- **If the packing tape remains in the duct (2), it may become a source of noise. Wind up the packing tape to prevent pinching when tightening the screw.**

14. Install the duct (2) to the A/C unit by inserting a phillips screwdriver, with the screw, into the hole made after removing the blower motor.
15. Pull out the phillips screwdriver together with the packing tape.
16. Install in the reverse order of removal.



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BLOWER UNIT DISASSEMBLY/ASSEMBLY

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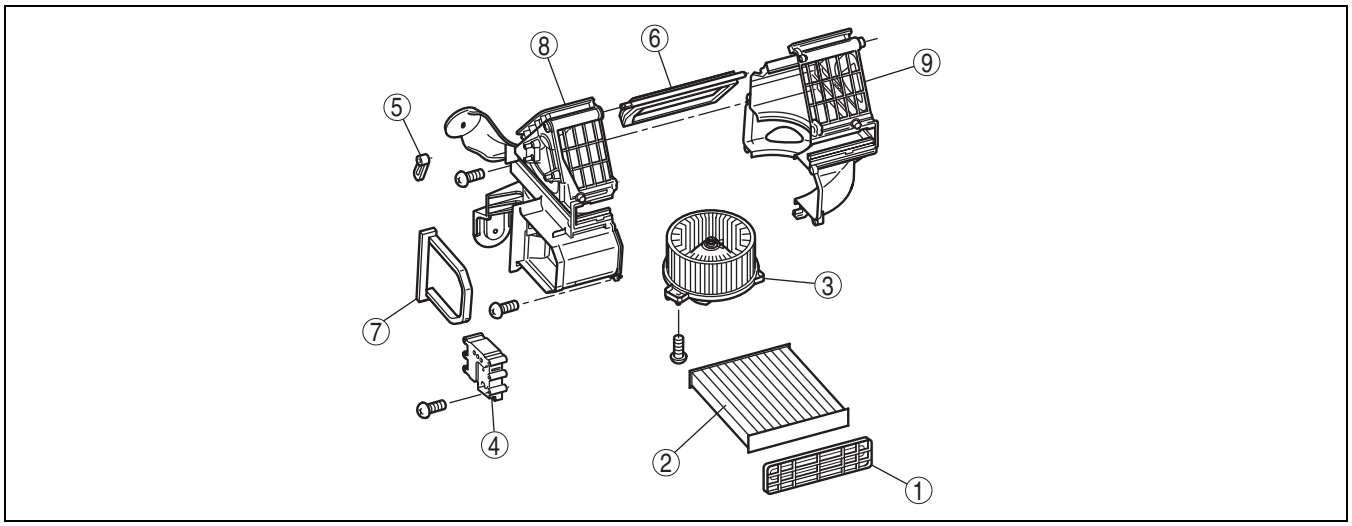
1. Disassemble in the order indicated in the table.

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



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1	Air filter cover
2	Air filter
3	Blower motor
4	Air intake actuator
5	Air intake crank

6	Air intake door
7	Polyurethane protector
8	Blower case (1)
9	Blower case (2)

2. Assemble in the reverse order of disassembly.

AIR FILTER REMOVAL/INSTALLATION

id071100800700

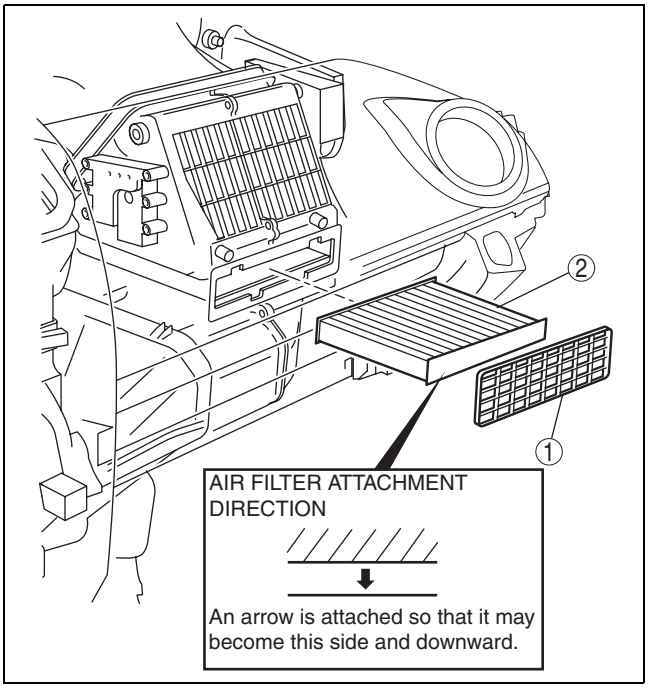
Caution

- **If the air conditioner is used or the vehicle is driven with the air filter removed, snow or foreign material can penetrate the blower motor, causing motor lock or damage. As a result, low visibility due to window fogging or air conditioner malfunction could occur. Do not use the air conditioner or drive the vehicle with the air filter removed.**

1. Remove the glove compartment. (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
2. Remove in the order indicated in the table.

1	Air filter cover
2	Air filter

3. Install in the reverse order of removal.



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AIR FILTER INSPECTION

id071100800800

1. Inspect for damage, excessive dirt, or foul smell.
   - If the air filter is damaged, excessively dirty, or foul smelling, replace it.

Note

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

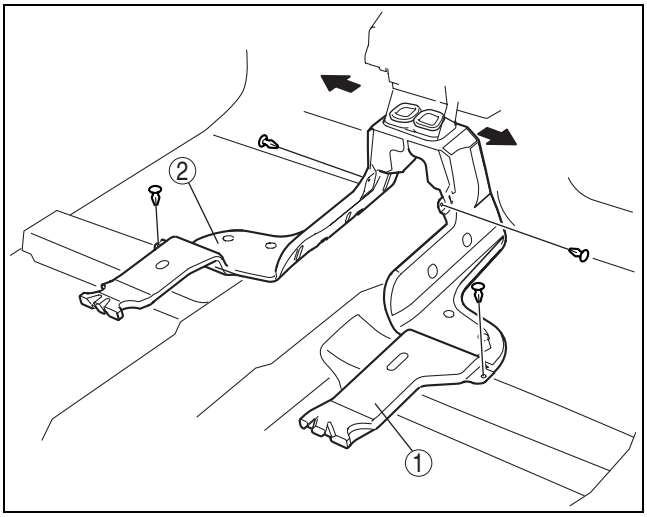
REAR HEAT DUCT REMOVAL/INSTALLATION

id071100800900

1. Disconnect the negative battery cable.
2. Remove the following parts:
   (1) Front seat (See 09-13-2 FRONT SEAT REMOVAL/INSTALLATION.)
   (2) Car-navigation unit (With car-navigation system) (See 09-20-5 CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.)
   (3) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
   (4) Front side trim (See 09-17-18 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
   (5) Console panel (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (6) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
3. Turn over the floor covering. (See 09-17-28 FLOOR COVERING REMOVAL/INSTALLATION.)
4. Remove in the order indicated in the table.

1	Rear heat duct (RH)
2	Rear heat duct (LH)

5. Install in the reverse order of removal.



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A/C COMPRESSOR REMOVAL/INSTALLATION

id071100801000

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-6 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the splash shield.
4. Loosen the drive belt and remove it.

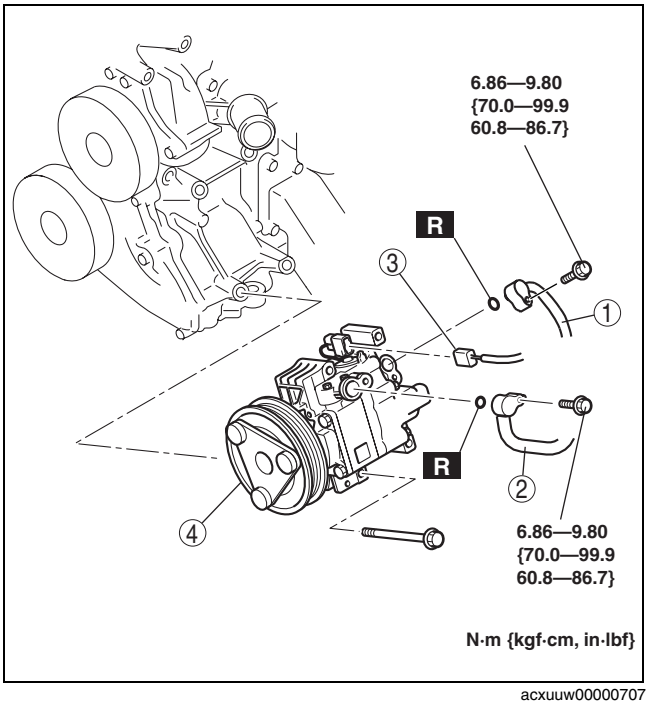
   Caution

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

5. Remove in the order indicated in the table. Do not allow compressor oil to spill.

1	Cooler hose (HI) (See 07-11-15 REFRIGERANT LINES REMOVAL/INSTALLATION.)
2	Cooler hose (LO) (See 07-11-15 REFRIGERANT LINES REMOVAL/INSTALLATION.)
3	Magnetic clutch connector
4	A/C compressor (See 07-11-14 A/C Compressor Installation Note.)

6. Install in the reverse order of removal.
7. Install the drive belt. (See 01-10-3 DRIVE BELT REMOVAL/INSTALLATION[L3 WITH TC].)
8. Perform the refrigerant system performance test. (See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



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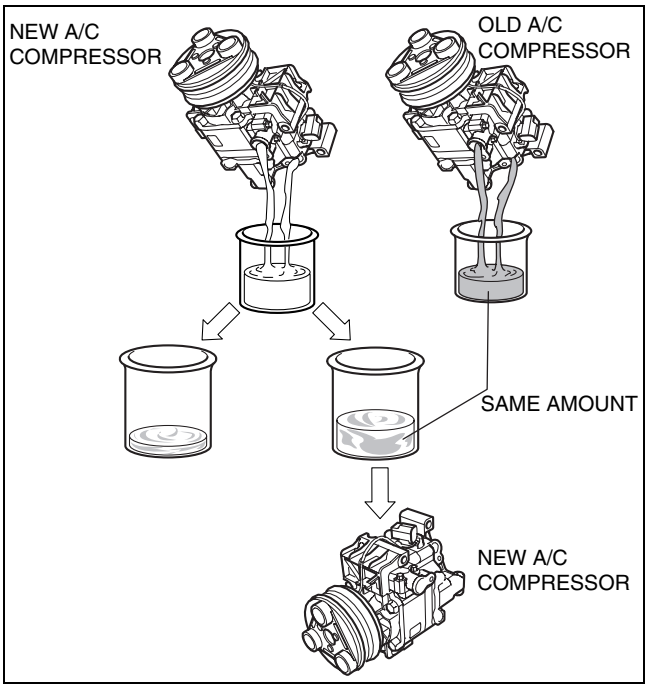
A/C Compressor Installation Note

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 A/C 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)
- **120 ml {120 cc, 4.06 fl oz}**



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REFRIGERANT LINES REMOVAL/INSTALLATION

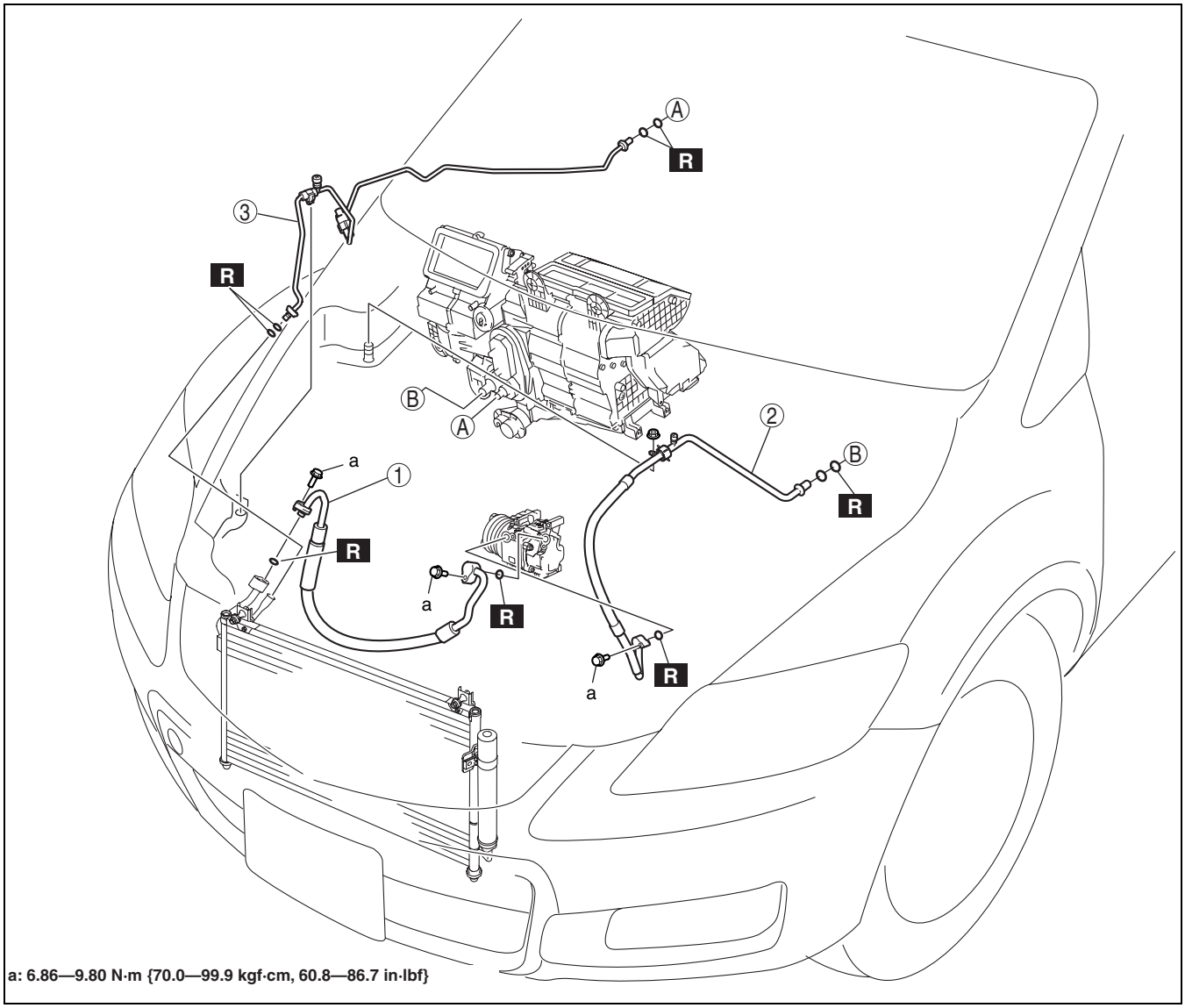
id071100801100

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-6 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Disconnect the body earth cable installed to No.3 engine mount rubber.
4. Disconnect the insulator. (See 07-11-2 A/C UNIT REMOVAL/INSTALLATION.)
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.
7. Perform the refrigerant system performance test. (See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)



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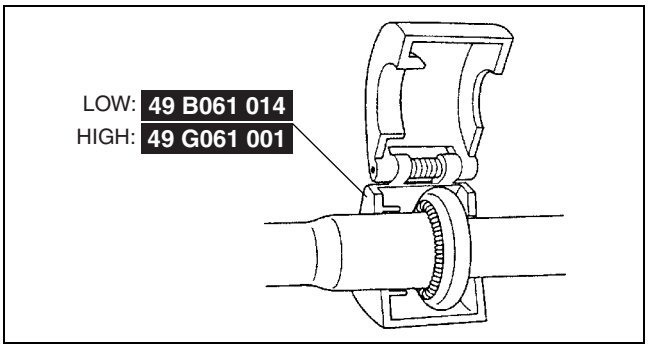
1	Cooler hose (HI) (See07-11-16 Refrigerant Line Removal Note.) (See07-11-16 Refrigerant Line Installation Note.)
2	Cooler hose (LO) (See07-11-16 Refrigerant Line Removal Note.) (See07-11-16 Refrigerant Line Installation Note.)

3	Cooler pipe (See07-11-16 Refrigerant Line Removal Note.) (See07-11-16 Refrigerant Line Installation Note.)

Refrigerant Line Removal Note
Spring-lock coupling type

1. Set the **SST.**



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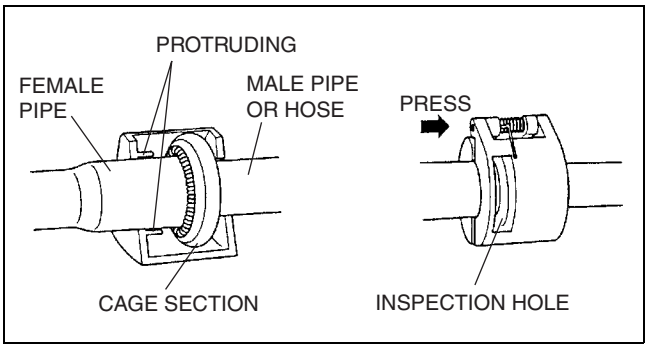
2. While looking through the inspection hole of the **SST**, insert the protruding part of the **SST** until it makes contact with the cage section.
3. Use the **SST** to disconnect the male pipe or hose from the female by pulling the male pipe or hose.



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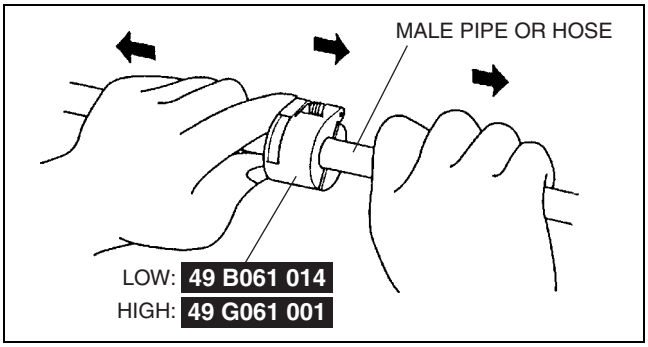
Note

- 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.



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Refrigerant Line Installation Note

1. When installing a new cooler pipe or cooler hose, add a supplemental amount of ATMOS GU10 compressor oil into the refrigeration cycle.

   Supplemental amount (approx. quantity)
   5 ml {5 cc, 0.2 fl oz}: Cooler pipe
   10 ml {10 cc, 0.3 fl oz}: Cooler hose

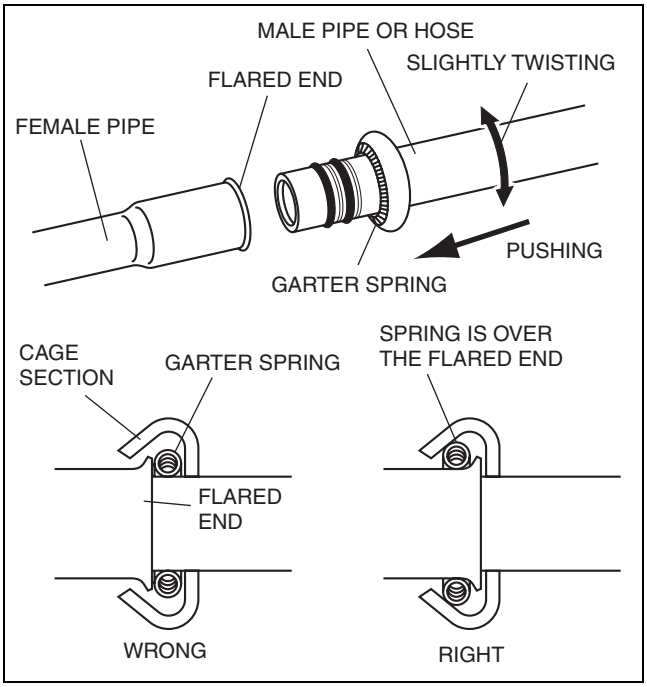
2. Apply compressor oil to the O-rings and connect the joints.
3. Tighten the joints.

Spring-lock coupling type

1. Connect the male pipe or hose by pushing it while slightly 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.



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CONDENSER REMOVAL/INSTALLATION

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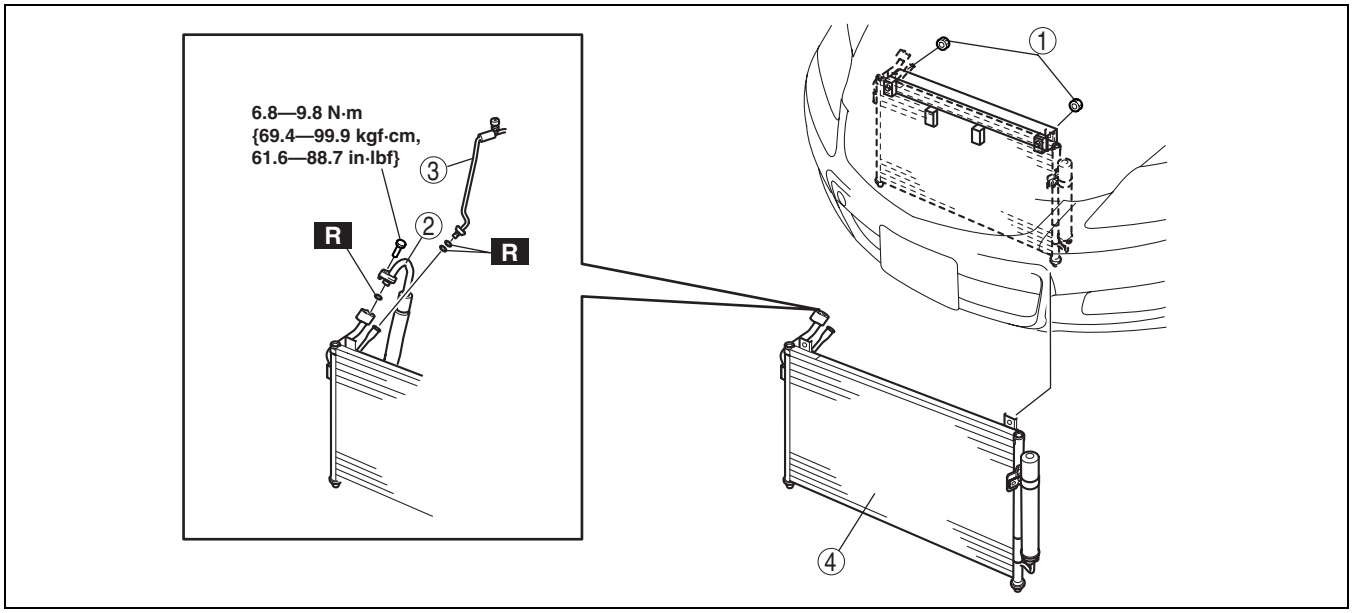
1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-6 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the air cleaner. (See 01-13-5 INTAKE AIR SYSTEM REMOVAL/INSTALLATION[L3 WITH TC].)
4. Remove the splash shield.
5. Drain the engine coolant. (See 01-12-5 ENGINE COOLANT REPLACEMENT[L3 WITH TC].)
6. Remove the following parts:
   (1) Charge air cooler duct, air cleaner and fresh air duct component (See 01-13-5 INTAKE AIR SYSTEM REMOVAL/INSTALLATION[L3 WITH TC].)
   (2) Coolant reserve tank (See 01-12-7 COOLANT RESERVE TANK REMOVAL/INSTALLATION[L3 WITH TC].)
   (3) Dipstick pipe (See 01-11-6 OIL PAN REMOVAL/INSTALLATION[L3 WITH TC].)
   (4) Cooling fan component (See 01-12-12 FAN MOTOR REMOVAL/INSTALLATION[L3 WITH TC].)
7. Remove the radiator. (See 01-12-8 RADIATOR REMOVAL/INSTALLATION[L3 WITH TC].)

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.**

8. Remove in the order indicated in the table. Do not allow compressor oil to spill.

9. Install in the reverse order of removal.



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1	Nut
2	Cooler hose (HI) (See 07-11-15 REFRIGERANT LINES REMOVAL/ INSTALLATION.)
3	Cooler pipe (See 07-11-15 REFRIGERANT LINES REMOVAL/ INSTALLATION.)
4	Condenser (See 07-11-17 CONDENSER REMOVAL/ INSTALLATION.)

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

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

id071100801300

1. Inspect for cracks, damage, and oil leakage.
   - If any are found, replace the condenser.
2. Inspect for fins clogged by dust.
   - If any are clogged, remove the dust from the fins.
3. Inspect for bent fins.
   - If any are bent, use a flathead screwdriver to straighten them.

RECEIVER/DRIER REMOVAL/INSTALLATION

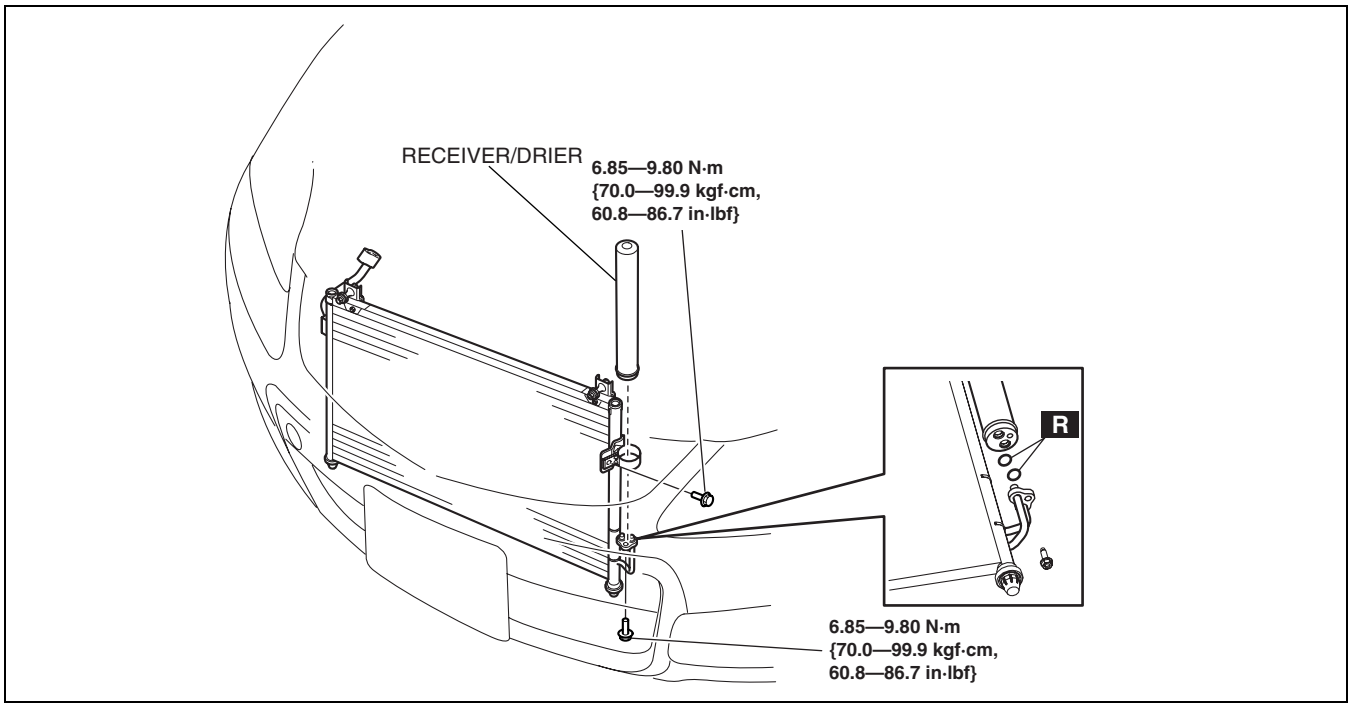
id071100801400

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-6 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Remove the front bumper. (See 09-10-2 FRONT BUMPER REMOVAL/INSTALLATION.)
4. Remove the oil cooler. (See 01-11-6 OIL COOLER REMOVAL/INSTALLATION[L3 WITH TC].)

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.**

5. Remove the receiver/drier. Do not allow compressor oil to spill. (See 07-11-19 Receiver/Drier Removal Note.)



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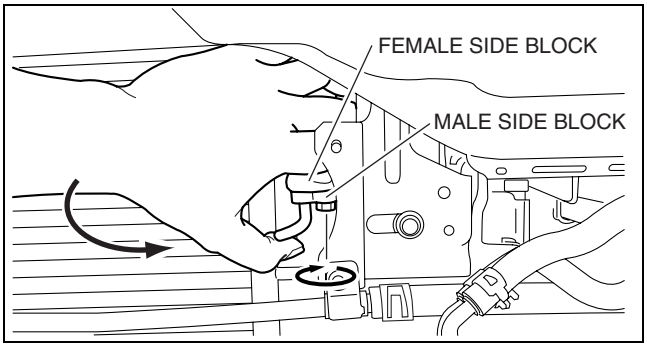
6. Install in the reverse order of removal. (See 07-11-20 Receiver/Drier Installation Note.)
7. Perform the refrigerant system performance test. (See 07-10-6 REFRIGERANT SYSTEM PERFORMANCE TEST.)

Receiver/Drier Removal Note

1. Disconnect the block joint type pipes by grasping female side of the block with hand and holding firmly, then tighten the connection bolt.



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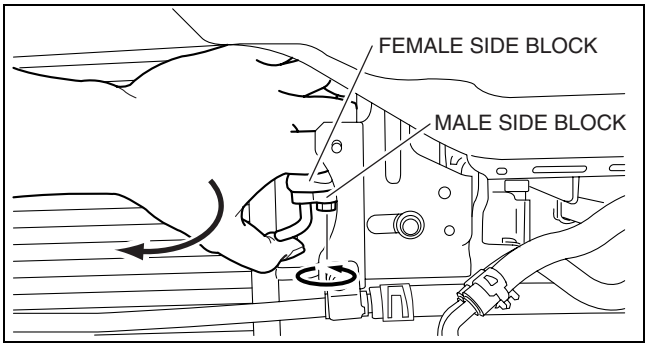
Receiver/Drier Installation Note

1. Tighten the bolt of joint by hand.
2. Tighten the joint to the specified torque.
3. Connect the block joint type pipe by grasping the female side of the block with hand holding firmly, then tighten the connection bolt.



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EVAPORATOR INSPECTION

id071100801500

1. Remove the A/C unit. (See 07-11-2 A/C UNIT REMOVAL/INSTALLATION.)
2. Remove the evaporator from the A/C unit.
3. Inspect for cracks, damage, and oil leakage.
   - If any problems are found, replace the evaporator.
4. Inspect for bent fins.
   - If any are bent, use a flathead screwdriver to straighten them.

HEATER CORE INSPECTION

id071100801600

1. Remove the A/C unit. (See 07-11-2 A/C UNIT REMOVAL/INSTALLATION.)
2. Remove the heater core from the A/C unit.
3. Inspect for cracks, damage, and coolant leakage.
   - If any problems are found, replace the heater core.
4. Inspect for bent fins.
   - If any are bent, use a flathead screwdriver to straighten them.
5. Verify that the heater core inlet and outlet pipe are not distorted or damaged.
   - Repair with pliers if necessary.

07-40 CONTROL SYSTEM

CONTROL SYSTEM LOCATION INDEX

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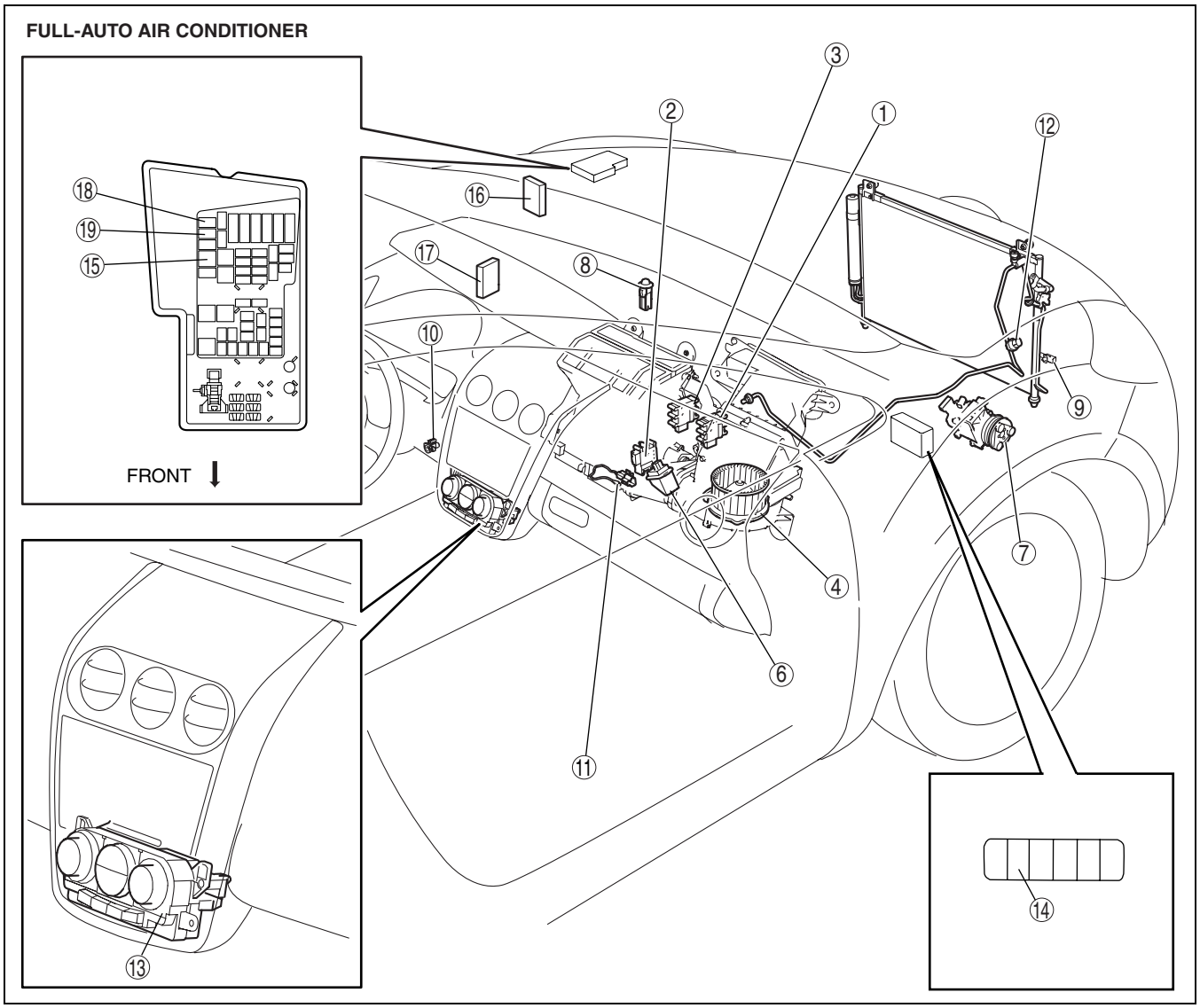

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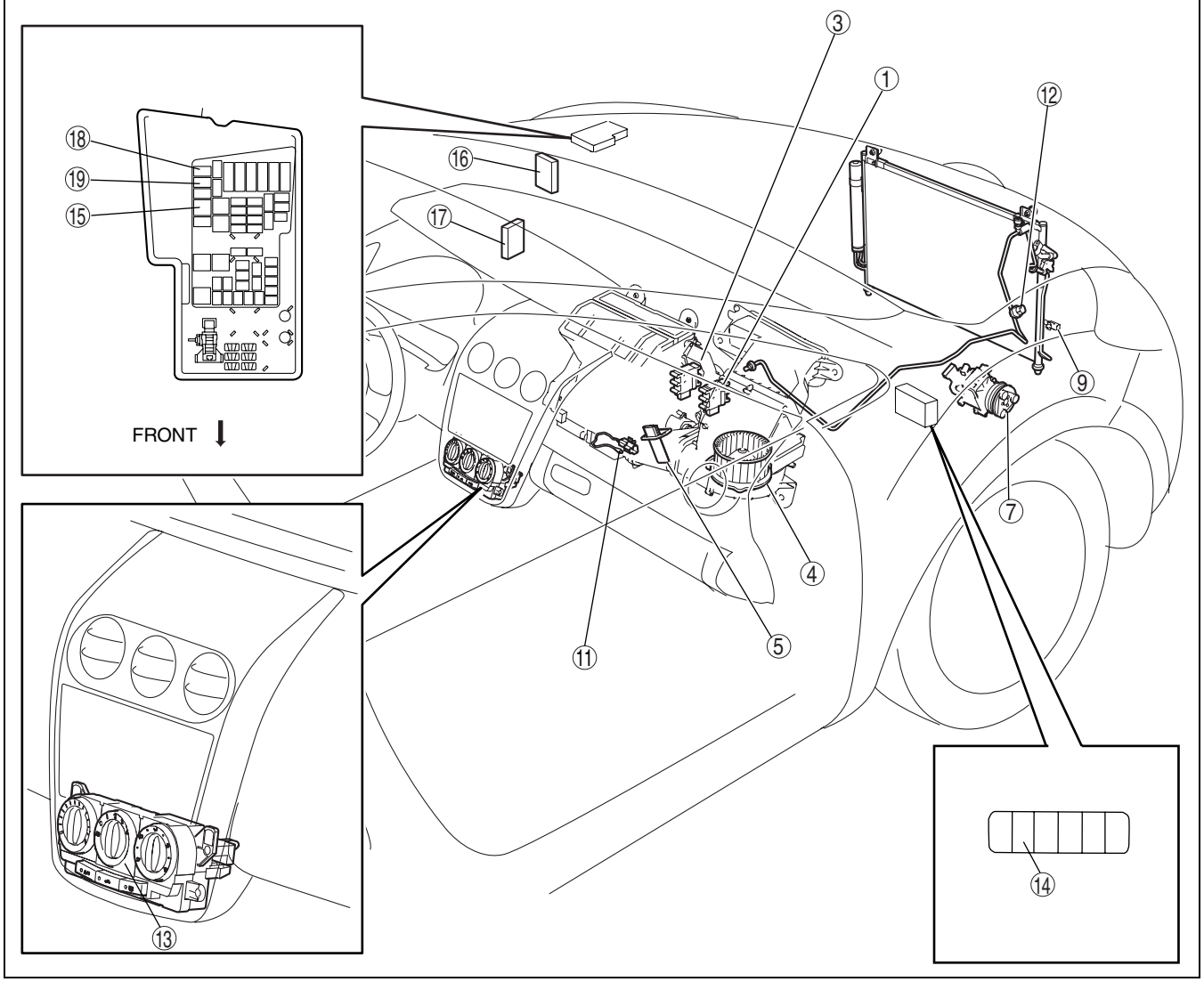
MANUAL AIR CONDITIONER



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1	Air intake actuator (See 07-40-9 AIR INTAKE ACTUATOR REMOVAL/INSTALLATION.) (See 07-40-10 AIR INTAKE ACTUATOR INSPECTION.)
2	Air mix actuator (full-auto air conditioner) (See 07-40-19 AIR MIX ACTUATOR REMOVAL/INSTALLATION.) (See 07-40-21 AIR MIX ACTUATOR INSPECTION.)
3	Airflow mode actuator (See 07-40-10 AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.) (See 07-40-11 AIRFLOW MODE ACTUATOR INSPECTION.)
4	Blower motor (See 07-40-8 BLOWER MOTOR REMOVAL/INSTALLATION.) (See 07-40-8 BLOWER MOTOR INSPECTION.)
5	Resistor (manual air conditioner) (See 07-40-7 RESISTOR REMOVAL/INSTALLATION.) (See 07-40-7 RESISTOR INSPECTION.)

6	Power MOS FET (full-auto air conditioner) (See 07-40-4 POWER METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR (POWER MOS FET) REMOVAL/INSTALLATION.) (See 07-40-5 POWER METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR (POWER MOS FET) INSPECTION.)
7	Magnetic clutch (See 07-40-5 MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY.) (See 07-40-6 MAGNETIC CLUTCH ADJUSTMENT.) (See 07-40-7 MAGNETIC CLUTCH INSPECTION.)
8	Solar radiation sensor (full-auto air conditioner) (See 07-40-22 SOLAR RADIATION SENSOR REMOVAL/INSTALLATION.) (See 07-40-23 SOLAR RADIATION SENSOR INSPECTION.)
9	Ambient temperature sensor (See 07-40-24 AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See 07-40-24 AMBIENT TEMPERATURE SENSOR INSPECTION.)

10	Passenger compartment temperature sensor (full-auto air conditioner) (See 07-40-23 PASSENGER COMPARTMENT TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See 07-40-23 PASSENGER COMPARTMENT TEMPERATURE SENSOR INSPECTION.)
11	Evaporator temperature sensor (See 07-40-8 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See 07-40-9 EVAPORATOR TEMPERATURE SENSOR INSPECTION.)
12	Refrigerant pressure switch (See 07-40-21 REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION.) (See 07-40-22 REFRIGERANT PRESSURE SWITCH INSPECTION.)
13	Climate control unit (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].) (See 07-40-26 CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER].) (See 07-40-11 CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY.) (See 07-40-12 CLIMATE CONTROL UNIT WIRE ADJUSTMENT.) (See 07-40-13 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].) (See 07-40-16 CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER].) (See 07-40-26 AIRFLOW VOLUME CONTROL DIAL INSPECTION.)
14	A/C relay (See 09-21-4 RELAY INSPECTION.)
15	Blower relay (See 09-21-4 RELAY INSPECTION.)
16	PCM (See 01-40-6 PCM REMOVAL/INSTALLATION[L3 WITH TC].) (See 01-40-6 PCM INSPECTION[L3 WITH TC].)
17	BCM (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.) (See 09-40-2 BODY CONTROL MODULE (BCM) INSPECTION.)
18	Rear window defroster relay (See 09-21-4 RELAY INSPECTION.)
19	TNS relay (See 09-21-4 RELAY INSPECTION.)

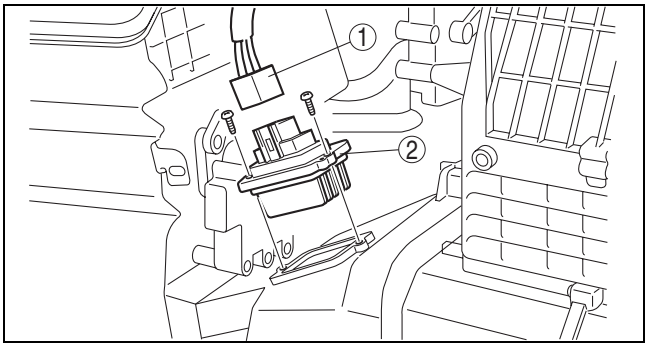
POWER METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR (POWER MOS FET) REMOVAL/INSTALLATION

id074000800200

1. Disconnect the negative battery cable.
2. Remove the glove compartment. (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
3. Remove in the order indicated in the table.

1	Power MOS FET connector
2	Power MOS FET

4. Install in the reverse order of removal.



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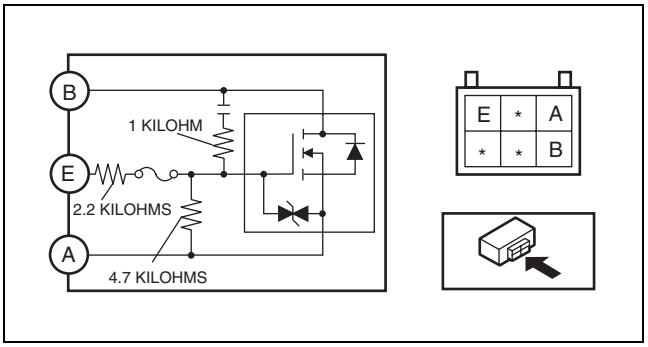
POWER METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR (POWER MOS FET) INSPECTION

id074000800300

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

Tester lead		Resistance (kilohm)
+	−	
A	B	∞
A	E	6.9
B	A	Continuity
B	E	Continuity
E	A	6.9
E	B	∞



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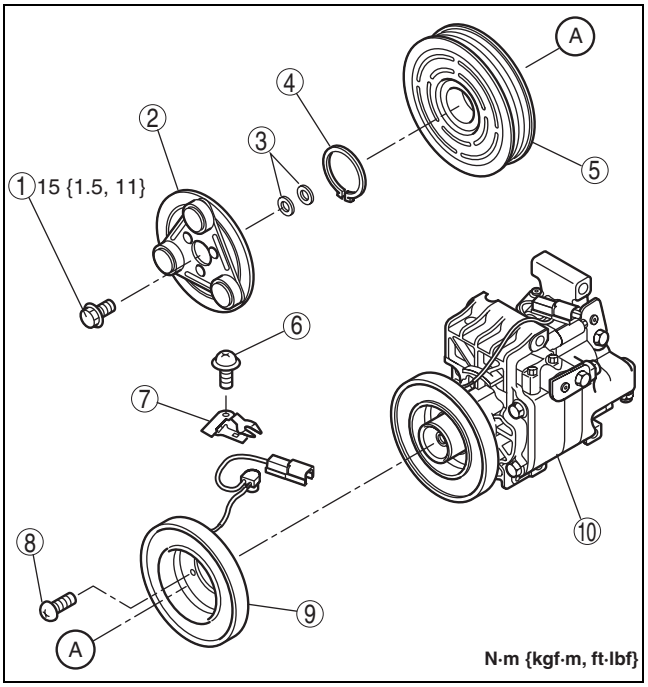
MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY

id074000800400

1. Disassemble in the order indicated in the table.

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



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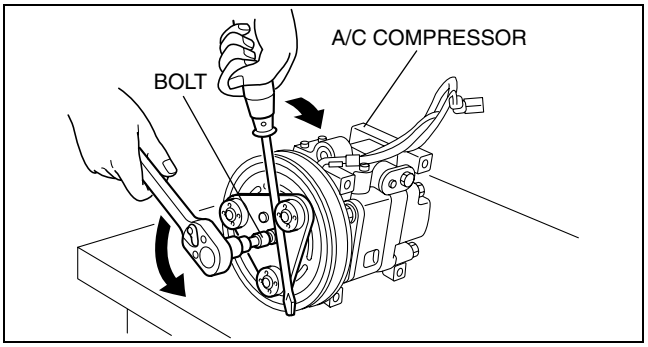
2. Assemble in the reverse order of disassembly.
3. Adjust the magnetic clutch clearance. (See 07-40-6 MAGNETIC CLUTCH ADJUSTMENT.)

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 bolt.



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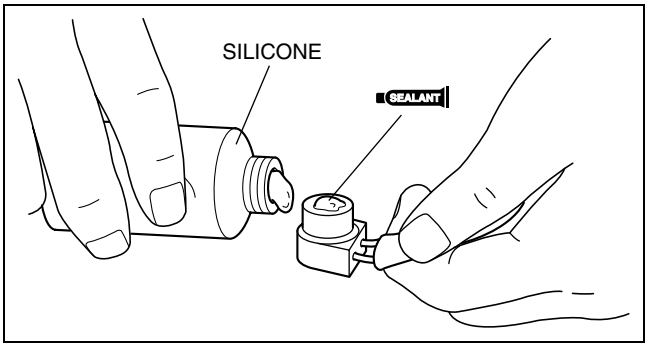
Stator and Thermal Protector Removal Note

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.



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Screw Installation Note

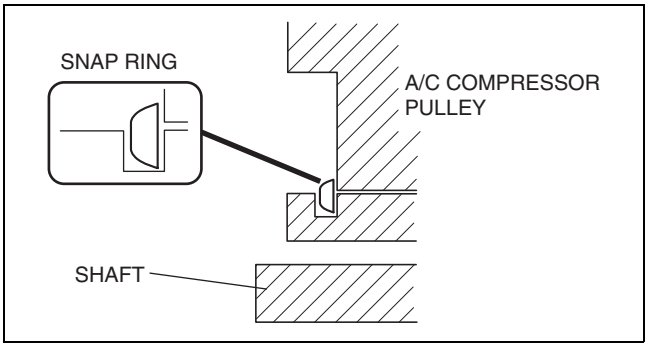
1. When installing a new stator and thermal protector, replace the screw.

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.



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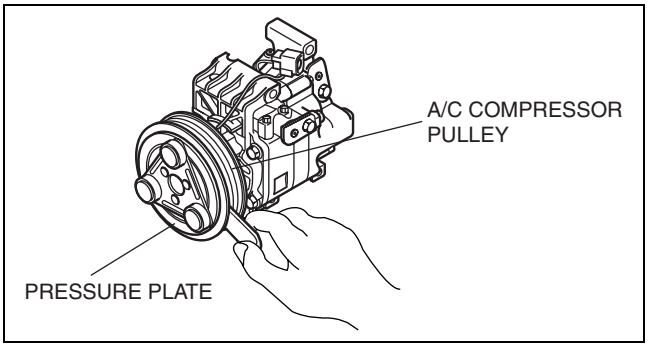
MAGNETIC CLUTCH ADJUSTMENT

id074000800500

1. Measure the clearance around the entire circumference between the pressure plate and A/C compressor pulley using a thickness gauge.



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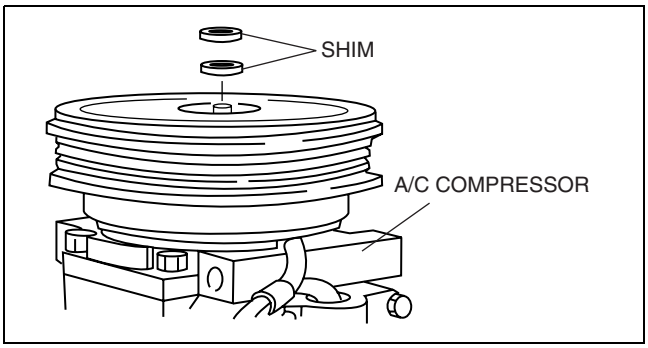
2. Verify that the clearance is within the specification.
   - If not within the specification, remove the pressure plate and adjust the clearance by changing the shim (**0.2 mm {0.008 in}, 0.5 mm {0.02 in}**) or the number of shims.

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



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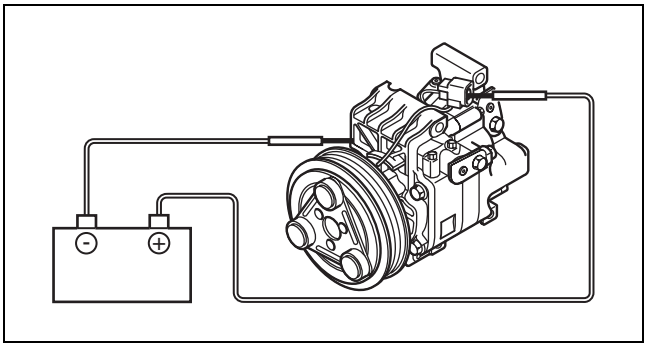
MAGNETIC CLUTCH INSPECTION

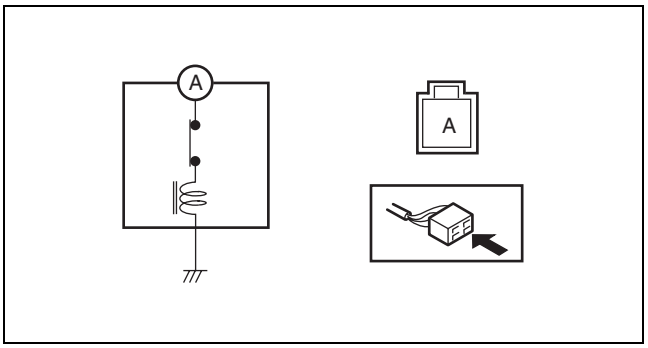
id074000800600

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



A6E8540W015

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



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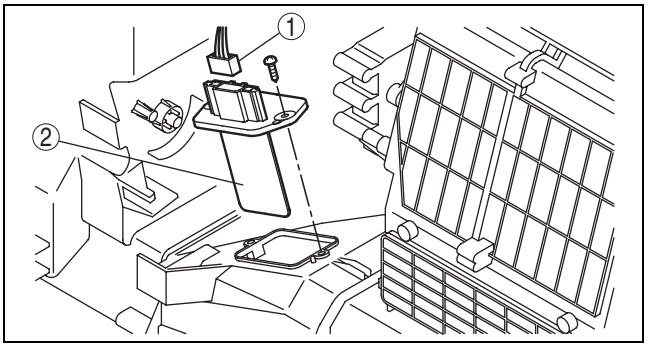
RESISTOR REMOVAL/INSTALLATION

id074000800700

1. Disconnect the negative battery cable.
2. Remove the glove compartment. (See 07-40-7 RESISTOR REMOVAL/INSTALLATION.)
3. Remove in the order indicated in the table.

1	Resistor connector
2	Resistor

4. Install in the reverse order of removal.



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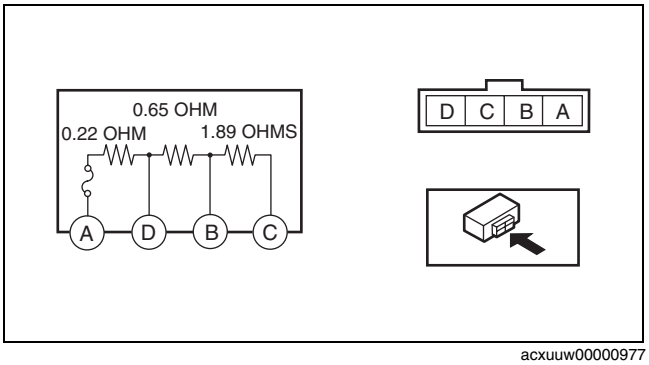
RESISTOR INSPECTION

id074000800800

1. Verify that the resistance between the terminals of the resistor is as shown in the table.
   - If not as specified, replace the resistor.

Terminal	Resistance (ohm)
A— D	0.22
A— B	0.87
A— C	2.76



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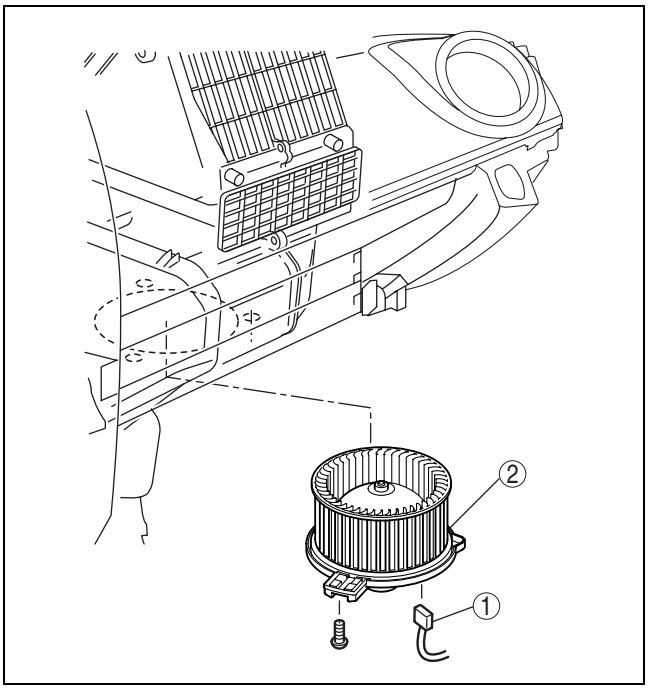
BLOWER MOTOR REMOVAL/INSTALLATION

id074000800900

1. Disconnect the negative battery cable.
2. Remove the dashboard under cover (passenger's side).
3. Remove in the order indicated in the table.

1	Blower motor connector
2	Blower motor

4. Install in the reverse order of removal.



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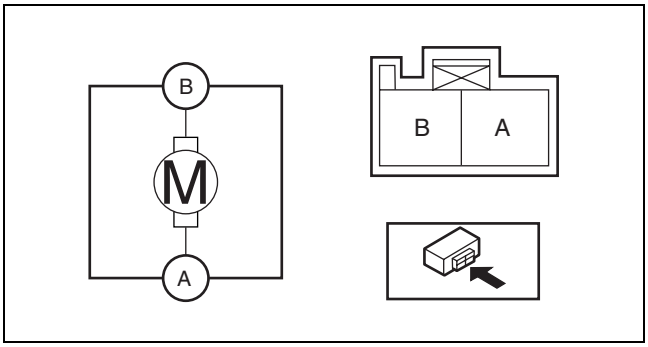
BLOWER MOTOR INSPECTION

id074000801000

1. Connect battery positive voltage to terminal B and ground to terminal A of the blower motor and verify its operation.
   - If not as specified, replace the blower motor.



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EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION

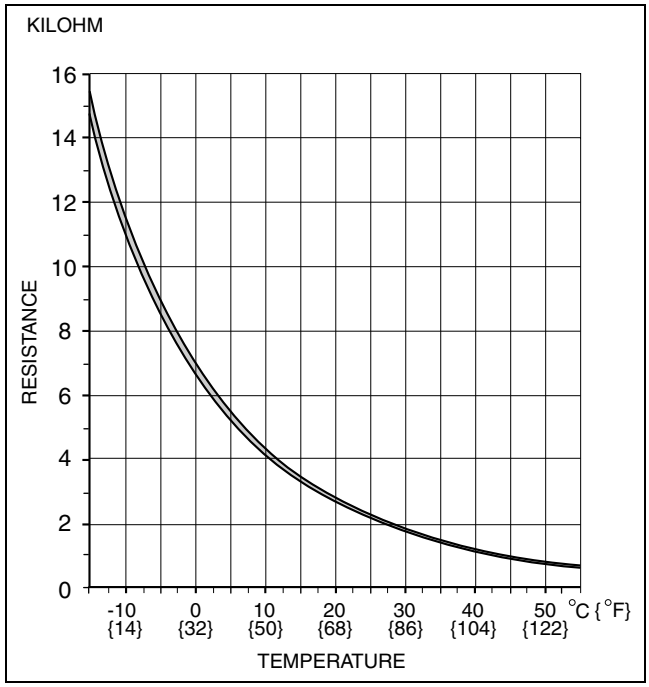
id074000801100

1. Remove the evaporator temperature sensor from the A/C unit. (See 07-11-4 A/C UNIT DISASSEMBLY/ ASSEMBLY.)

EVAPORATOR TEMPERATURE SENSOR INSPECTION

id074000801200

1. Set the fan speed MAX HI.
2. Set the temperature control at MAX COLD (Turn the left).
3. Turn the A/C switch off.
4. Set the RECIRCULATE mode.
5. Close all doors and windows.
6. Wait for **5 min.**
7. Remove the glove compartment. (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
8. Disconnect the evaporator temperature sensor connector.
9. Measure the temperature at the blower inlet.
10. Measure the resistance between terminals of the evaporator temperature sensor.
    - If the resistance is not as shown in the graph, replace the evaporator temperature sensor.



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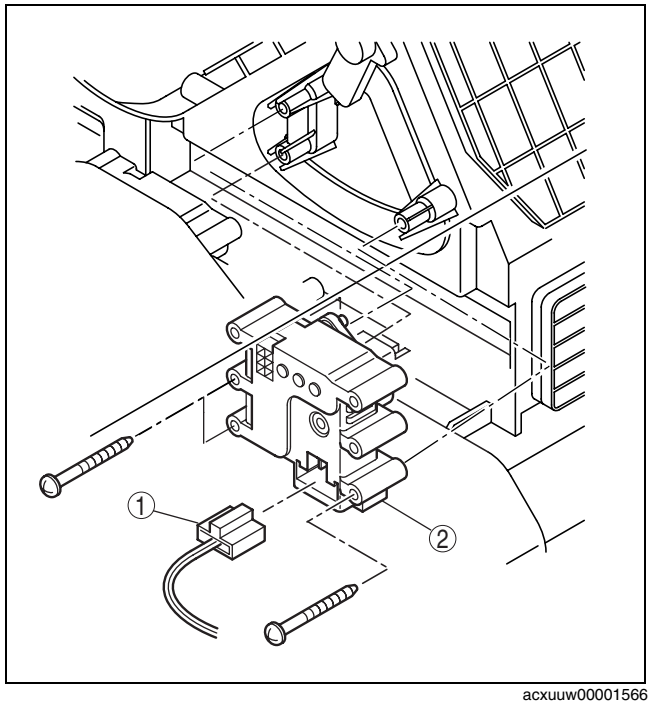
AIR INTAKE ACTUATOR REMOVAL/INSTALLATION

id074000801400

1. Disconnect the negative battery cable.
2. Remove the glove compartment. (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
3. Remove in the order indicated in the table.

1	Air intake actuator connector
2	Air intake actuator

4. Install in the reverse order of removal.



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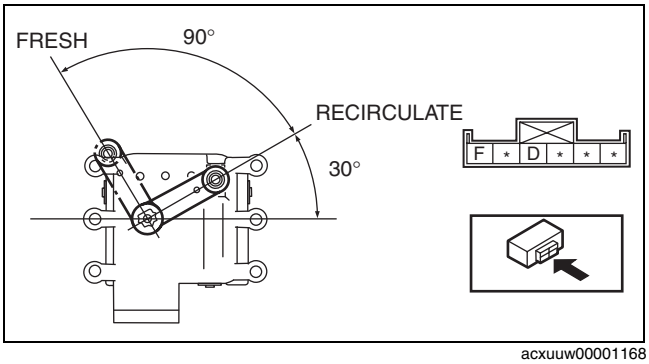
AIR INTAKE ACTUATOR INSPECTION

id074000801500

1. Connect battery positive voltage to terminal D or F and ground to terminal F or D of the air intake actuator.
2. Verify that the air intake actuator operates as shown below.
   - If there is any malfunction, replace the air intake actuator.

Connection		Movement
B+	GND	
D	F	RECIRCULATE → FRESH
F	D	FRESH → RECIRCULATE



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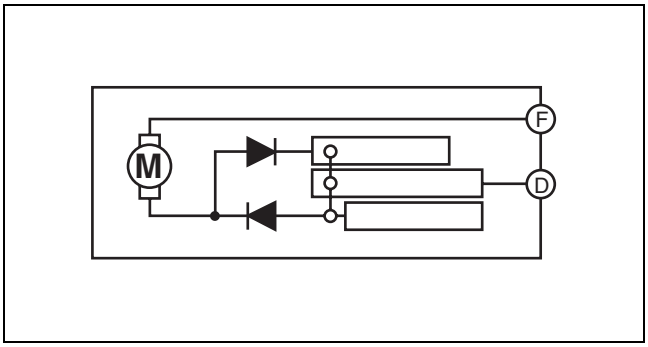

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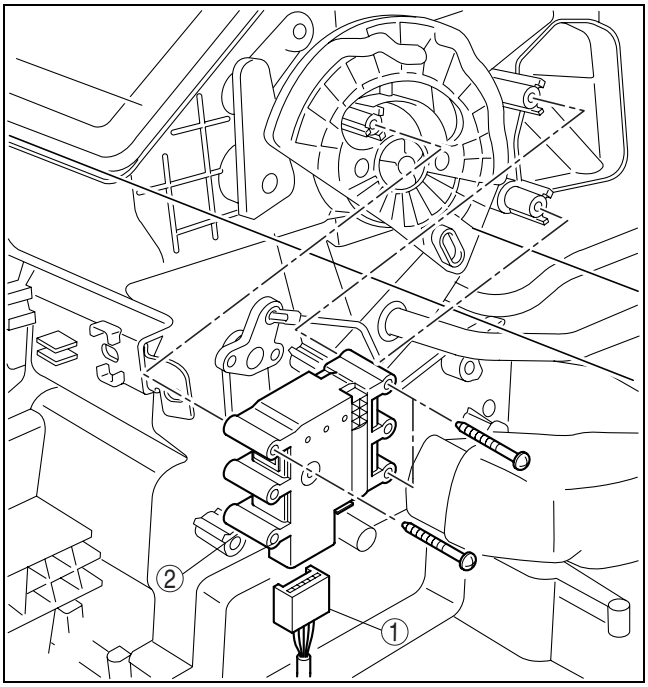
AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION

id074000801600

1. Disconnect the negative battery cable.
2. Remove the glove compartment. (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
3. Remove in the order indicated in the table.

1	Airflow mode actuator connector
2	Airflow mode actuator

4. Install in the reverse order of removal.



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AIRFLOW MODE ACTUATOR INSPECTION

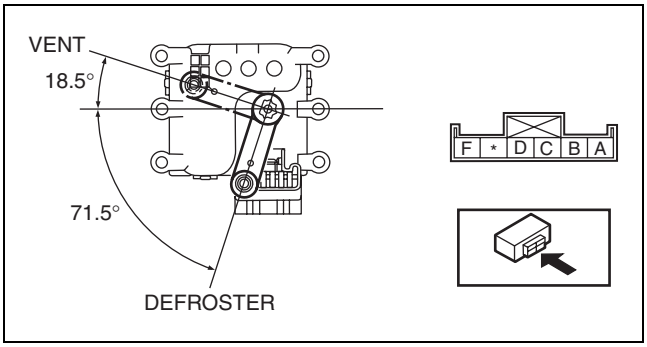
id074000801700

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 terminal D or F and ground to terminal F or D of the airflow mode actuator.
2. Verify that the airflow mode actuator operates as shown below.
   - If there is any malfunction, replace the airflow mode actuator.

Connection		Movement
B+	GND	
D	F	DEFROSTER → VENT
F	D	VENT → DEFROSTER



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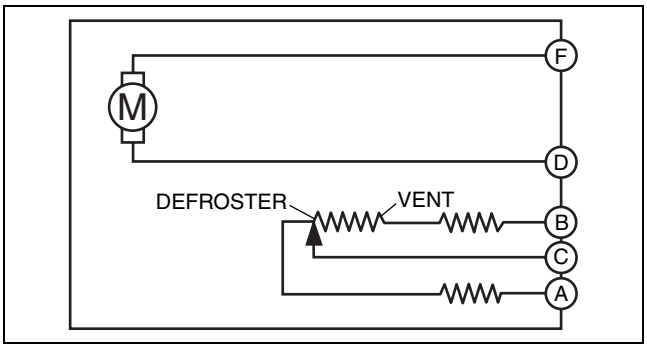
3. Verify that the resistance between the terminals of the airflow mode actuator is as shown in the graph.
   - If there is any malfunction, replace the airflow mode actuator.



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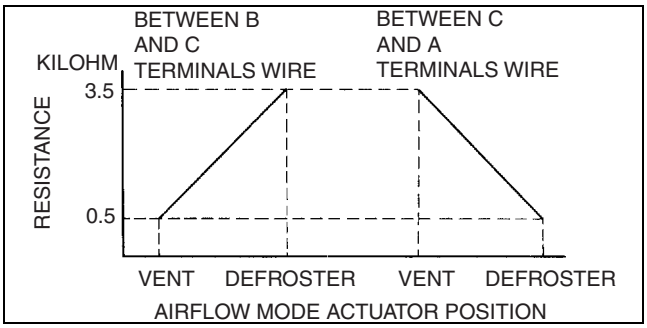

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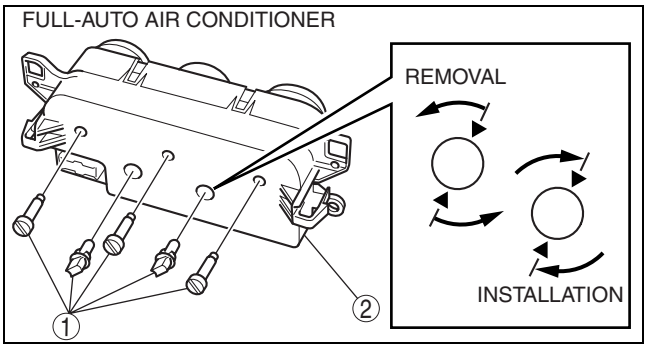
CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY

id074000802000

Full-auto Air Conditioner

Disassemble in the order indicated in the table.

1	Illumination bulb
2	Body



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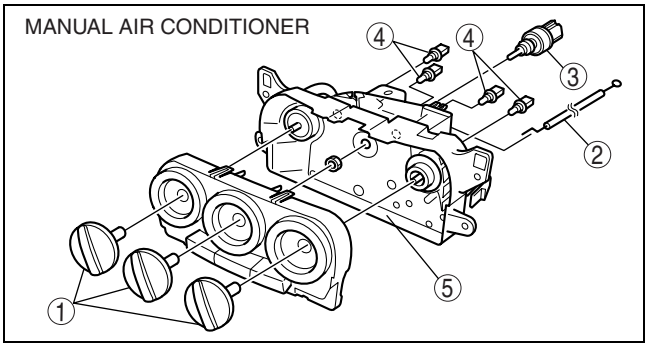
Manual Air Conditioner

Disassemble in the order indicated in the table.

1	Knob
2	Air mix wire (See 07-40-12 Wire Disassembly Note.) (See 07-40-12 Wire Assembly Note.)
3	Airflow volume control dial
4	Illumination bulb
5	Body



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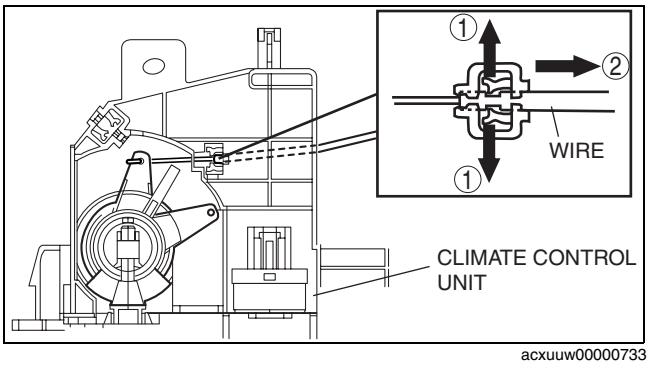
Wire Disassembly Note

1. Disassemble the wire in the shown in the figure.



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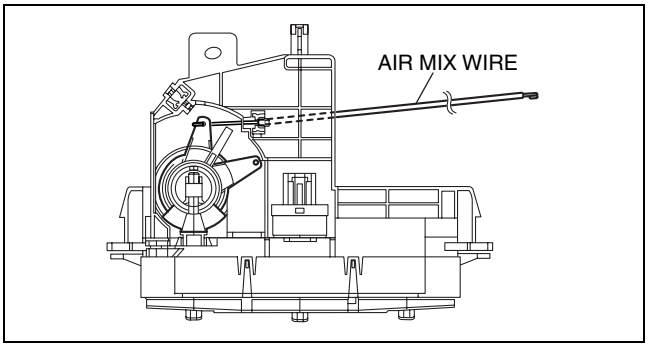
Wire Assembly Note

1. Assemble the wire to the position as shown in the figure.



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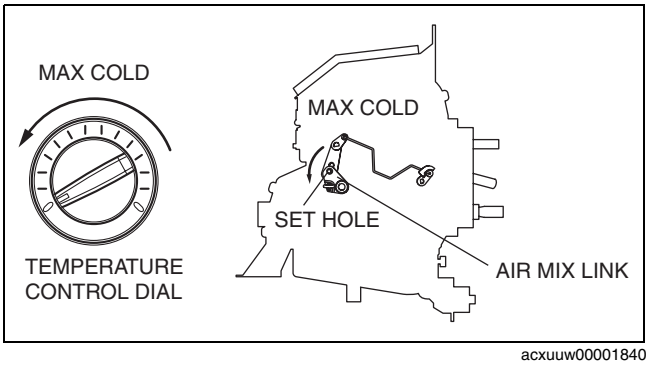
CLIMATE CONTROL UNIT WIRE ADJUSTMENT

id074000802100

Air Mix Wire

1. Set the temperature control dial to max cold.
2. Set the air mix link to max cold in the direction shown by the arrow and insert a screwdriver at the set hole.
3. Connect the air mix wire to the air mix link.
4. Clamp the air mix wire to the wire clamp.
5. Verify that the temperature control dial rotates at full stroke.



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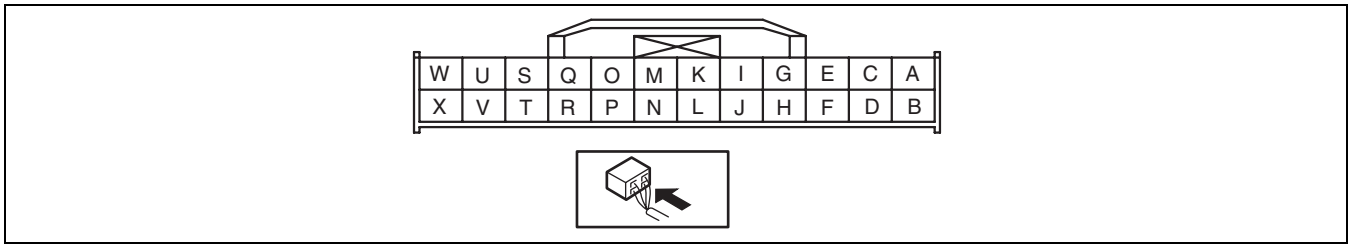
CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER]

id074000803400

1. Remove the climate control unit. (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].)
2. Install the audio unit. (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)
3. Connect the climate control unit connector.
4. Connect the negative (-) lead of the tester to body ground.
5. Turn the ignition switch to the ON position.
6. 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 T), replace the climate control unit.
     — For terminal T, first try replacing the power MOS FET. If there is still any malfunction, replace the climate control unit.

Terminal Voltage Table (Reference)



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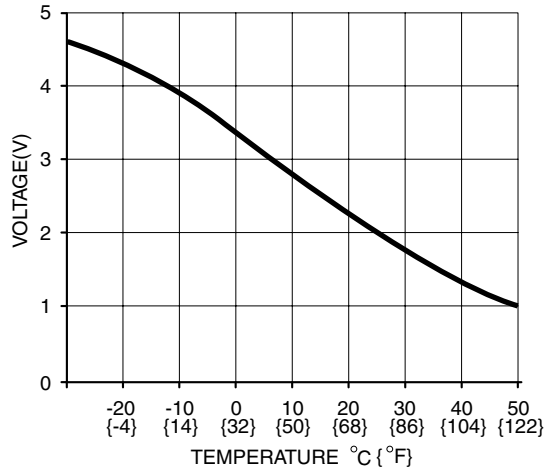
Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
A	Communication	—	—	—	—
B	Communication	—	—	—	—
C	Sensor GND	• Ambient temperature sensor • Passenger compartment temperature sensor • Evaporator temperature sensor • Air mix actuator • Airflow mode actuator	Under any condition	1.0 or less	• Climate control unit: terminal voltage (D)
D	GND	Body ground	Under any condition	1.0 or less	• Wiring harness: continuity (Climate control unit— GND: D— GND)
E	Solar radiation sensor input	Solar radiation sensor	fluorescent light shined directly on the solar radiation sensor	0.1—0.45	• Wiring harness: continuity (Climate control unit—solar radiation sensor: E—B, J—A) • Climate control unit: terminal voltage (J) • Solar radiation sensor
			Blocking light to solar radiation sensor	0.1 or less	
F	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: F—B, C—A) • Wiring harness: short circuit (Climate control unit—evaporator temperature sensor: F—B) • Evaporator temperature sensor • Climate control unit: terminal voltage (D, M)

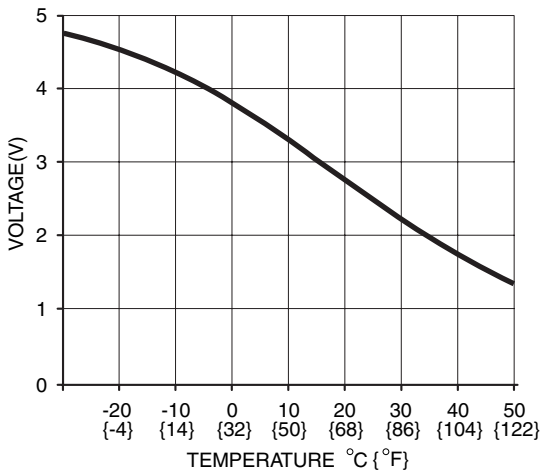
Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
G	Rear window defroster switch	Rear window defroster relay	Rear window defroster switch OFF	B+	• Wiring harness: continuity, short circuit (Climate control unit— rear window defroster relay: G— E) • Rear window defroster relay
			Rear window defroster switch ON	0.06	• Climate control unit: terminal voltage (D, M) • Climate control unit
H	Passenger compartment temperature sensor input	Passenger compartment temperature sensor	Compared with temperature detected by passenger compartment temperature sensor	Refer to graph 2	• Wiring harness: continuity (Climate control unit—passenger compartment temperature sensor: H—B, C—A) • Wiring harness: short circuit (Climate control unit—passenger compartment temperature sensor: H—B) • Passenger compartment temperature sensor • Climate control unit: terminal voltage (D, M)
I	Motor operation	Air intake actuator	Moving towards RECIRCULATE	10.75	• Wiring harness: continuity, short circuit (Climate control unit— air intake actuator: I— F, K— D) • Air intake actuator
			Moving towards FRESH	0.72	
J	+5V	• Air mix actuator • Airflow mode actuator • Solar radiation sensor	IG SW ON	5.11	• Wiring harness: short circuit (Climate control unit—air mix actuator, airflow mode actuator, Solar radiation sensor: J—A, B, A) • Air mix actuator • Airflow mode actuator • Solar radiation sensor • Climate control unit: terminal voltage (D, M)
			IG SW OFF	0.01	• Climate control unit replacement
K	Motor operation	Air intake actuator	Moving towards FRESH	10.89	• Wiring harness: continuity, short circuit (Climate control unit— air intake actuator: K— D, I— F) • Air intake actuator
			Moving towards RECIRCULATE	0.72	
L	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: C—A, L—B) • Wiring harness: short circuit (Climate control unit—ambient temperature sensor: L—B) • Ambient temperature sensor • Climate control unit: terminal voltage (D, M)
M	IG2	A/C 10 A fuse	IG SW ON	B+	• Wiring harness: continuity, short circuit (Climate control unit— fuse: M— A/C 10 A) • A/C 10 A fuse
			IG SW OFF	1.0 or less	• Wiring harness: continuity, short circuit (Climate control unit— fuse: M— A/C 10 A)
N	Potentiometer input	Air mix actuator	Set temperature at MAX COLD	0.72	• Wiring harness: continuity, short circuit (Climate control unit— air mix actuator: N— C) • Air mix actuator • Climate control unit: terminal voltage (J)
			Set temperature at MAX HOT	4.42	
O	Motor operation	Airflow mode actuator	Moving towards VENT	10.39	• Wiring harness: continuity, short circuit (Climate control unit— airflow mode actuator: O— D, Q— F) • Airflow mode actuator
			Moving towards DEFROSTER	0.74	

Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
P	Potentiometer input	Airflow mode actuator	VENT	4.41	• Wiring harness: continuity, short circuit (Climate control unit— airflow mode actuator: P— C) • Airflow mode actuator • Climate control unit: terminal voltage (J)
			BILEVEL	3.54	
			HEAT	2.60	
			HEAT/DEF	1.69	
			DEFROSTER	0.74	
Q	Motor operation	Airflow mode actuator	Moving towards DEFROSTER	9.98	• Wiring harness: continuity, short circuit (Climate control unit— airflow mode actuator: Q— F, O— D) • Airflow mode actuator
			Moving towards VENT	0.70	
R	B+	ROOM 15 A fuse	Under any condition	B+	• Wiring harness: continuity, short circuit (Climate control unit— fuse: R— ROOM 15 A) • ROOM 15 A fuse
S	Motor operation	Air mix actuator	Moving towards HOT	10.91	• Wiring harness: continuity, short circuit (Climate control unit— air mix actuator: S— F, U— D) • Air mix actuator
			Moving towards COLD	0.70	
T	Blower motor feed back	• Blower motor • Power MOS FET	Fan stopped	11.84	1. Wiring harness: continuity, short circuit (Climate control unit— blower motor: T— A) (Climate control unit— power MOS FET: T— B, V— E) (Blower motor— blower relay: B— A) (Blower relay— fuse: D— BLOWER 40 A) 2. Wiring harness: continuity (Power MOS FET— body ground: A— GND) (Blower relay— ground: A— GND) 3. Power MOS FET 4. Blower motor 5. Blower relay 6. BLOWER 40 A fuse 7. A/C 10 A fuse 8. Power MOS FET replacement
			Fan: manual LO	7.29	
			Fan: manual HI	0.20	
U	Motor operation	Air mix actuator	Moving towards COLD	10.96	• Wiring harness: continuity, short circuit (Climate control unit— air mix actuator: U— D, S— F) • Air mix actuator
			Moving towards HOT	0.70	
V	Blower fan speed control	Power MOS FET	Fan stopped	0.07	1. Climate control unit: terminal voltage (T)
			Fan: manual LO	3.10	
			Fan: manual HI	7.23	
W	TNS signal	TNS relay	Headlight switch OFF	1.0 or less	• Wiring harness: short circuit (Climate control unit— TNS relay: W— C) • TNS relay • Headlight switch
			Headlight switch ON	B+	• Wiring harness: continuity, short circuit (Climate control unit— TNS relay: W— C) • TNS relay • Headlight switch
X	Illumination control	Instrument cluster	Headlight switch ON and panel light control switch at max	0.31	• Wiring harness: continuity (Climate control unit— instrument cluster: X— 2H) (Instrument cluster— body ground: 2A— GND) • Instrument cluster
			Headlight switch ON and panel light control switch at min	9.56	• Wiring harness: short circuit (Climate control unit— instrument cluster: X— 2H)

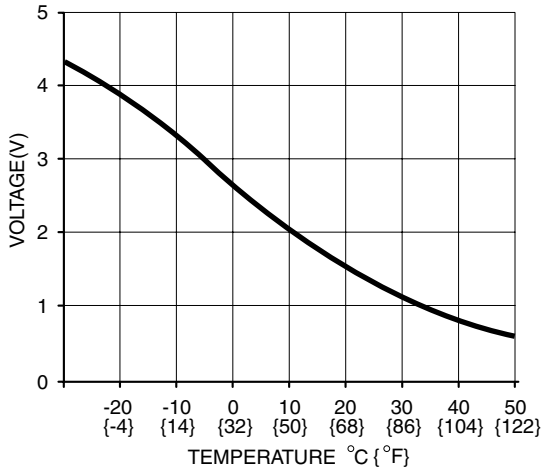
Graph 1 (Ambient temperature sensor)



Graph 2 (Passenger compartment temperature sensor)



Graph 3 (Evaporetor temperature sensor)

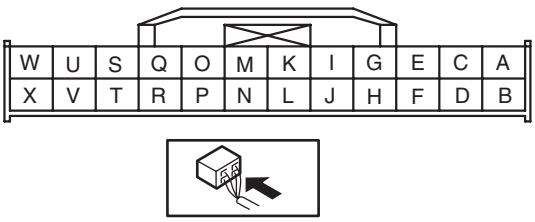


CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER]

id074000803500

1. Remove the climate control unit. (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].)
2. Disconnect the air mix wire from the climate control unit
3. Install the audio unit. (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)
4. Connect the climate control unit connector.
5. Connect the negative (-) lead of the tester to body ground.
6. Turn the ignition switch to the ON position.
7. 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)



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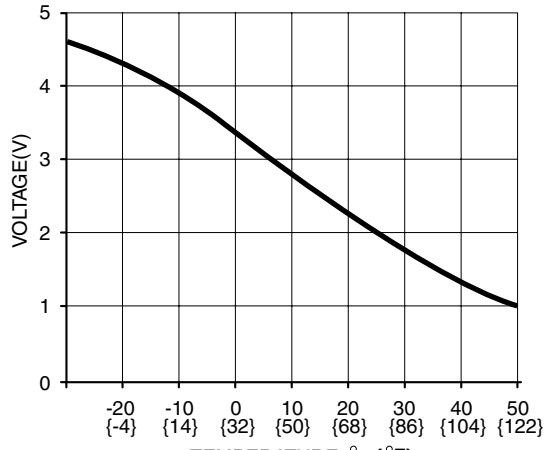
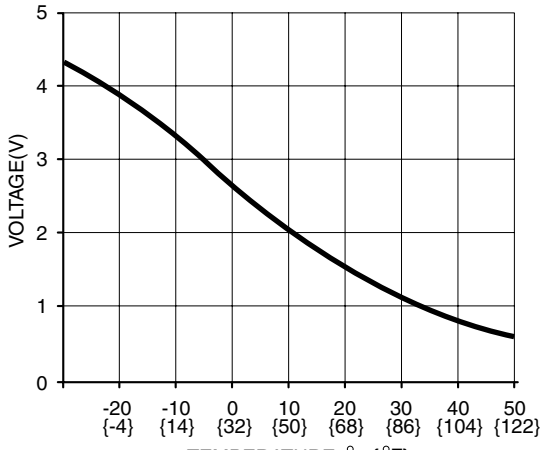
Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
A	Illumination control	Instrument cluster	Headlight switch ON and panel light control switch at max	0.45	• Wiring harness: continuity (Climate control unit— instrument cluster: A—2H) (Instrument cluster— body ground: 2A— GND) • Instrument cluster
			Headlight switch ON and panel light control switch at min	9.96	• Wiring harness: short circuit (Climate control unit— instrument cluster: A—2H)
B	TNS signal	TNS relay	Headlight switch OFF	1.0 or less	• Wiring harness: short circuit (Climate control unit— TNS relay: B— C) • TNS relay • Headlight switch
			Headlight switch ON	B+	• Wiring harness: continuity, short circuit (Climate control unit— TNS relay: B—C) • TNS relay • Headlight switch
C	—	—	—	—	—
D	—	—	—	—	—
E	+5V	Airflow mode actuator	IG SW ON	4.91	• Wiring harness: short circuit (Climate control unit—airflow mode actuator: E—B) • Airflow mode actuator • Climate control unit: terminal voltage (R, L)
			IG SW OFF	1.0 or less	• Climate control unit replacement
F	FAN ON/OFF	Airflow volume control dial	Airflow volume control dial ON	0.06	• Wiring harness: (Climate control unit—airflow volume control dial: F— C) • Airflow volume control dial
			Airflow volume control dial OFF	12.18	• Wiring harness: continuity (Climate control unit— airflow volume control dial: F— C) • Climate control unit: terminal voltage (R) • Airflow volume control dial
G	Potentiometer input	Airflow mode actuator	VENT	4.20	• Wiring harness: continuity, short circuit (Climate control unit— airflow mode actuator: G— C) • Airflow mode actuator • Climate control unit: terminal voltage (E)
			BILEVEL	3.34	
			HEAT	2.44	
			HEAT/DEF	1.56	
			DEFROSTER	0.68	
H	Rear window defroster switch	Rear window defroster relay	Rear window defroster switch OFF	B+	• Wiring harness: continuity, short circuit (Climate control unit— rear window defroster relay: H— E) • Rear window defroster relay
			Rear window defroster switch ON	0.06	• Climate control unit: terminal voltage (L, R) • Climate control unit:
I	Evaporator temperature sensor input	Evaporator temperature sensor	Compared with temperature detected by evaporator temperature sensor	Refer to graph 2	• Wiring harness: continuity (Climate control unit—evaporator temperature sensor: I—B, K—A) • Wiring harness: short circuit (Climate control unit—evaporator temperature sensor: I—B) • Evaporator temperature sensor • Climate control unit: terminal voltage (L, R)
J	A/C	BCM	A/C switch ON, airflow volume control dial at 1st	0.03	• Wiring harness: continuity (Climate control unit— BCM: J— 3V) • BCM
			A/C switch OFF	5.02	• Wiring harness: continuity, short circuit (Climate control unit— BCM: J— 3V)

Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
K	Sensor GND	• Evaporator temperature sensor • Ambient temperature sensor • Airflow mode actuator	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	—	—	—	—	—
N	—	—	—	—	—
O	—	—	—	—	—
P	B+	ROOM 15 A fuse	Under any condition	B+	• Wiring harness: continuity, short circuit (Climate control unit— fuse: P— ROOM 15 A) • ROOM 15 A fuse
Q	Motor operation	Airflow mode actuator	Moving towards DEFROSTER	10.60	• Wiring harness: continuity, short circuit (Climate control unit— airflow mode actuator: Q— F, S— D) • Airflow mode actuator
			Moving towards VENT	0.69	
R	IG2	A/C 10 A fuse	IG SW ON	B+	• Wiring harness: continuity, short circuit (Climate control unit— fuse: R— A/C 10 A) • A/C 10 A fuse
			IG SW OFF	1.0 or less	• Wiring harness: continuity, short circuit (Climate control unit— fuse: R— A/C 10 A)
S	Motor operation	Airflow mode actuator	Moving towards VENT	10.64	• Wiring harness: continuity, short circuit (Climate control unit— airflow mode actuator: S— D, Q— F) • Airflow mode actuator
			Moving towards DEFROSTER	0.68	
T	—	—	—	—	—
U	—	—	—	—	—
V	Motor operation	Air intake actuator	Moving towards RECIRCULATE	10.62	• Wiring harness: continuity, short circuit (Climate control unit— air intake actuator: V— F, X— D) • Air intake actuator
			Moving towards FRESH	0.66	
W	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: W—B, K—A) • Wiring harness: short circuit (Climate control unit—ambient temperature sensor: W—B) • Ambient temperature sensor • Climate control unit: terminal voltage (L, R)
X	Motor operation	Air intake actuator	Moving towards FRESH	10.64	• Wiring harness: continuity, short circuit (Climate control unit— air intake actuator: X— D, V— F) • Air intake actuator
			Moving towards RECIRCULATE	0.67	

Graph 1 (Ambient temperature sensor)



Graph 2 (Evaporetor temperature sensor)



AIR MIX ACTUATOR REMOVAL/INSTALLATION

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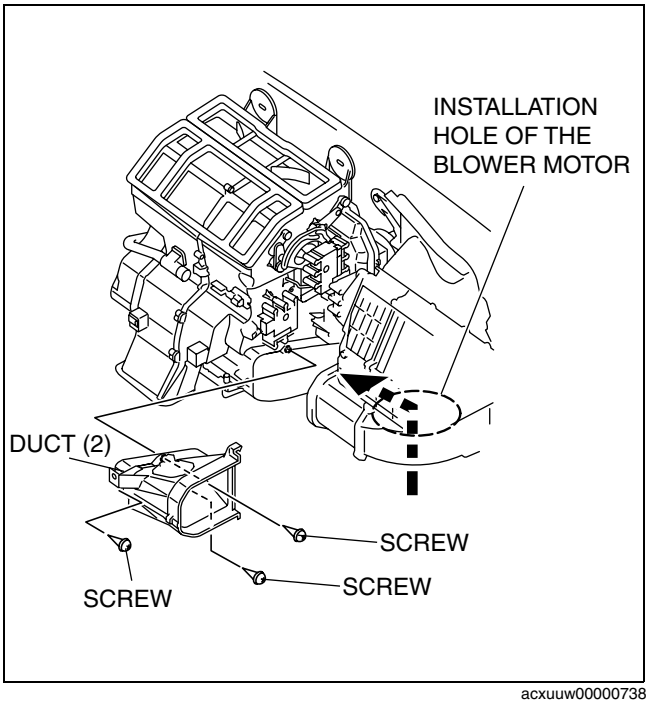
1. Disconnect the negative battery cable.
2. Remove the following parts:
   (1) Console panel (See 09-17-15 CONSOLE PANEL REMOVAL/INSTALLATION.)
   (2) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (3) Front scuff plate inner (See 09-17-19 FRONT SCUFF PLATE REMOVAL/INSTALLATION.)
   (4) Front side trim (See 09-17-18 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
   (5) Dashboard under cover
   (6) Glove compartment (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
   (7) Hood release lever (See 09-14-25 HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
   (8) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
   (9) Center panel (See 09-17-8 CENTER PANEL REMOVAL/INSTALLATION.)
   (10)Audio unit (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)
   (11)Climate control unit (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40-25 CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].) (See 07-40-26 CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER].)
   (12)Knee bolster (See 09-17-12 KNEE BOLSTER REMOVAL/INSTALLATION.)
   (13)Meter hood (See 09-17-10 METER HOOD REMOVAL/INSTALLATION.)
   (14)Column cover (See 09-17-8 COLUMN COVER REMOVAL/INSTALLATION.)
   (15)Instrument cluster (See 09-22-2 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
   (16)Driver-side air bag module (See 08-10-6 DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION.)
   (17)Steering wheel (See 06-14-6 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)
   (18)Combination switch (See 09-18-13 COMBINATION SWITCH REMOVAL/INSTALLATION.)
   (19)Steering shaft (See 06-14-6 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.)
   (20)A-pillar lower trim (See 09-17-16 A-PILLAR LOWER TRIM REMOVAL/INSTALLATION.)
   (21)A-pillar trim (See 09-17-15 A-PILLAR TRIM REMOVAL/INSTALLATION.)
   (22)Dashboard (See 09-17-4 DASHBOARD REMOVAL/INSTALLATION.)
3. Remove the blower motor. (See 07-40-8 BLOWER MOTOR REMOVAL/INSTALLATION.)
4. Remove the power MOS FET (Full-auto air conditioner) or resistor. (Manual air conditioner) (See 07-40-4 POWER METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR (POWER MOS FET) REMOVAL/INSTALLATION.) (See 07-40-7 RESISTOR REMOVAL/INSTALLATION.)
5. Remove the blower unit installation nuts.
6. Remove the screw securing the duct (2) to the A/C unit, by inserting a phillips screwdriver into the hole made after removing the blower motor.
7. Remove the screw securing the duct (2) to the A/C unit.

8. Remove the duct (2).



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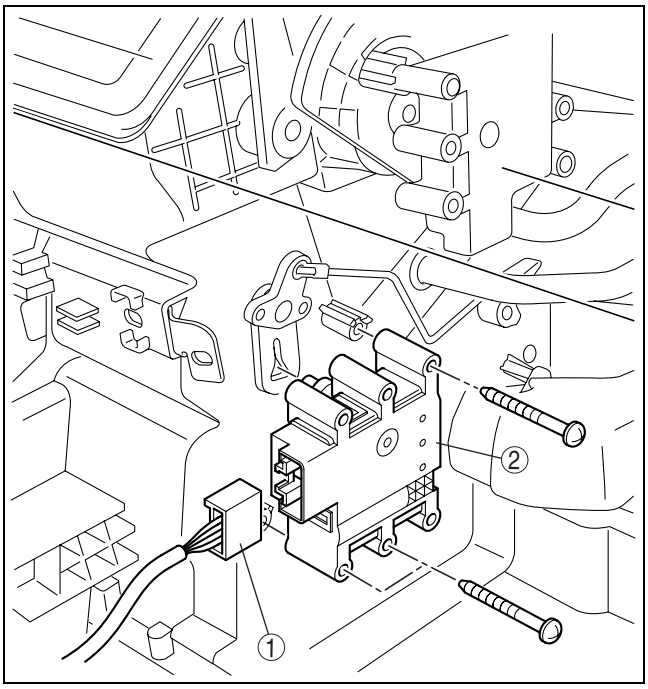
9. Remove in the order indicated in the table.

1	Air mix actuator connector
2	Air mix actuator

10. Install in the duct (2).
11. Install the two outer screws, securing the duct (2) to the A/C unit.



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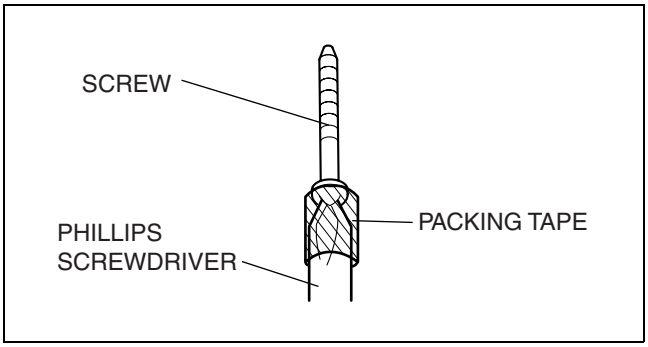
12. Install the screw on the end of the phillips screwdriver with the packing tape.

Caution
- **If the packing tape remains in the duct (2), it may become a source of noise. Wind up the packing tape to prevent pinching when tightening the screw.**

13. Install the duct (2) to the A/C unit by inserting a phillips screwdriver, with the screw, into the hole made after removing the blower motor.
14. Pull out the Phillips screwdriver together with the packing tape.
15. Install in the reverse order of removal.



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AIR MIX ACTUATOR INSPECTION

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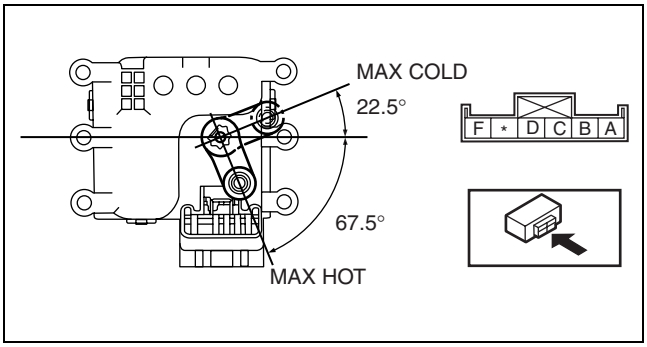
Caution

- **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 with the lever movement within the range shown in the figure.**

1. Connect battery positive voltage to terminal D or F and ground to terminal F or D of the air mix actuator.
2. Verify that the air mix actuator operates as shown below.
   - If there is any malfunction, replace the air mix actuator.

Connection		Movement
B+	GND	
D	F	HOT → COLD
F	D	COLD → HOT



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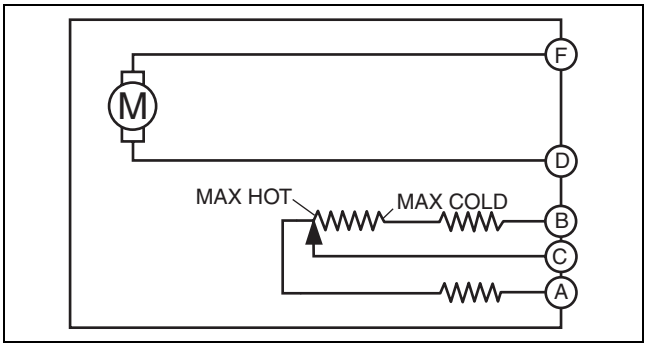
3. Verify that the resistance between the terminals of the air mix actuator are as shown in the graph.
   - If there is any malfunction, replace the air mix actuator.



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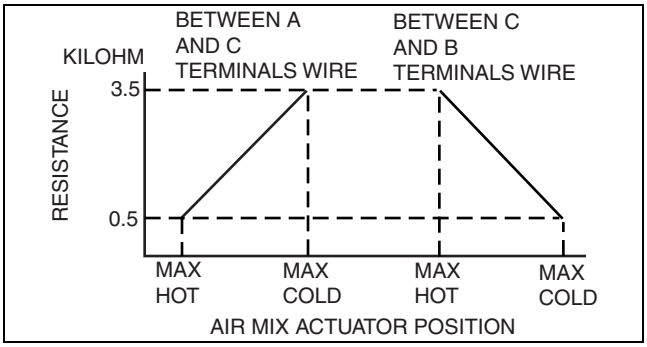

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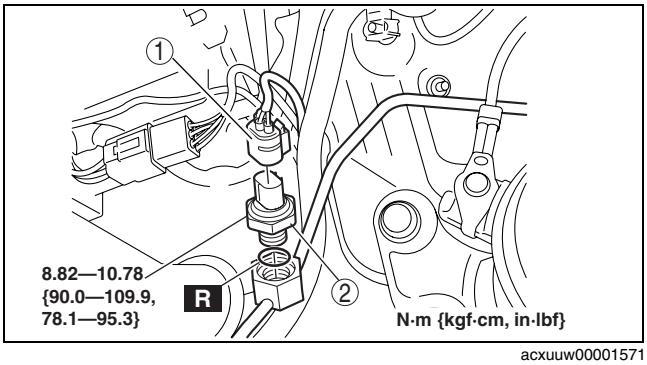
REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION

id074000802600

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See 07-10-6 REFRIGERANT RECOVERY.) (See 07-10-2 REFRIGERANT CHARGING.)
3. Loosen the refrigerant pressure switch using two spanners.
4. Remove in the order indicated in the table.

1	Refrigerant pressure switch connector
2	Refrigerant pressure switch (See 07-40-21 Refrigerant Pressure Switch Installation Note.)

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



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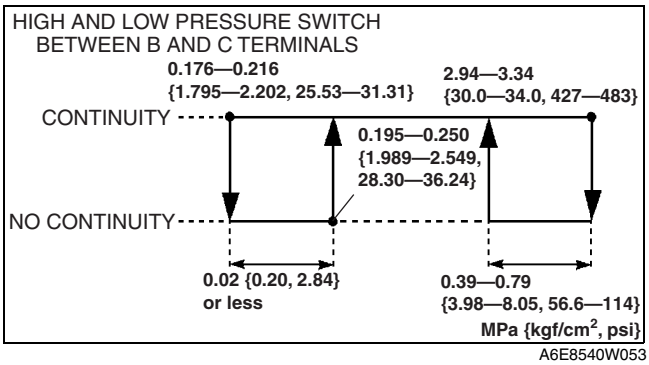
Refrigerant Pressure Switch Installation Note

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

REFRIGERANT PRESSURE SWITCH INSPECTION

id074000802700

1. Install the manifold gauge.
2. Disconnect the refrigerant pressure switch connector.
3. Verify the high-pressure side reading of the manifold gauge and continuity between the terminals of the refrigerant pressure switch.
   - If the continuity is not normal, replace the refrigerant pressure switch.



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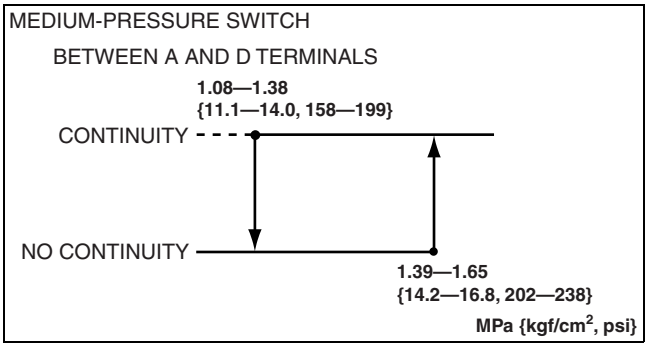

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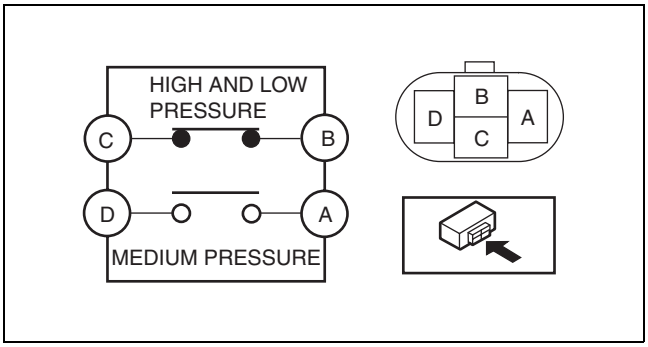

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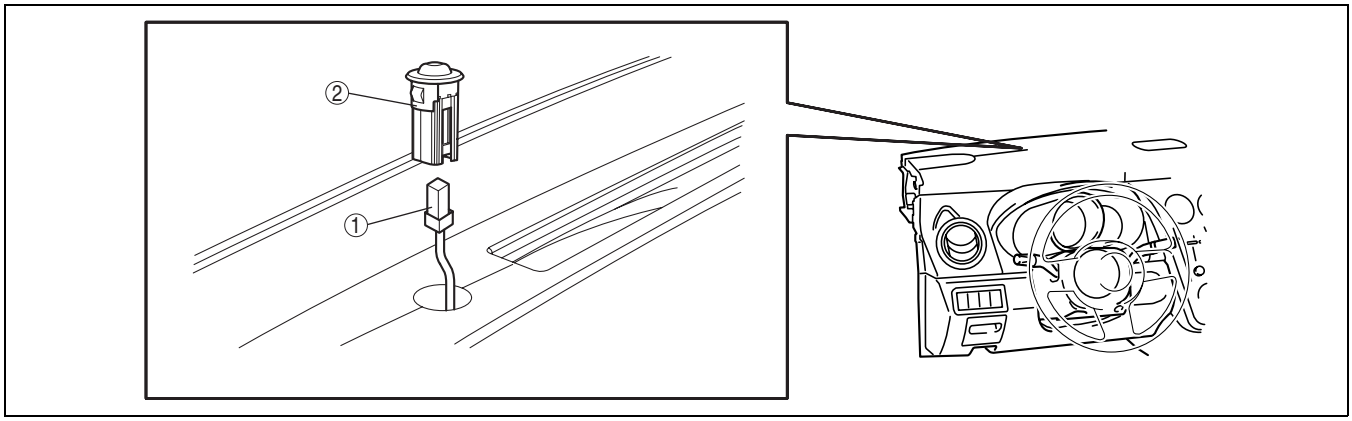
SOLAR RADIATION SENSOR REMOVAL/INSTALLATION

id074000802800

1. Disconnect the negative battery cable.
2. Remove the dashboard under cover (driver's side).
3. Press out the solar radiation sensor with its connector from under the instrument panel.
4. Remove in the order indicated in the table.



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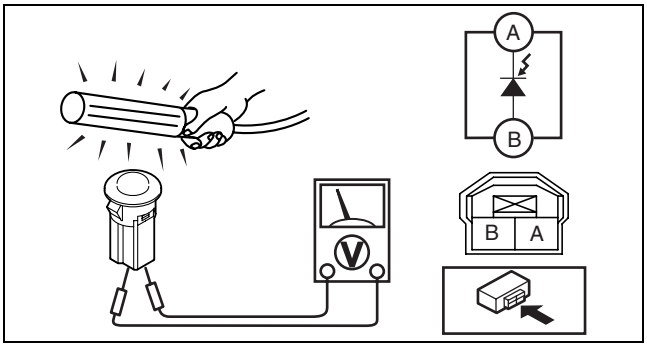
1	Solar radiation sensor connector
2	Solar radiation sensor

5. Install in the reverse order of removal.

SOLAR RADIATION SENSOR INSPECTION

id074000802900

1. Shine a fluorescent light or expose the solar radiation sensor to natural sunlight.
2. Connect the positive (+) lead to terminal A and the negative (–) lead to terminal B of the solar radiation sensor, and verify that the voltages are as shown in the table.
   - If the voltage is not as specified, replace the solar radiation sensor.



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○—○: Continuity

Test condition	Voltage (V)
Sensor subject to fluorescent light or natural sunlight	0.1—0.45
Sensor covered by a cloth	0.1 or less

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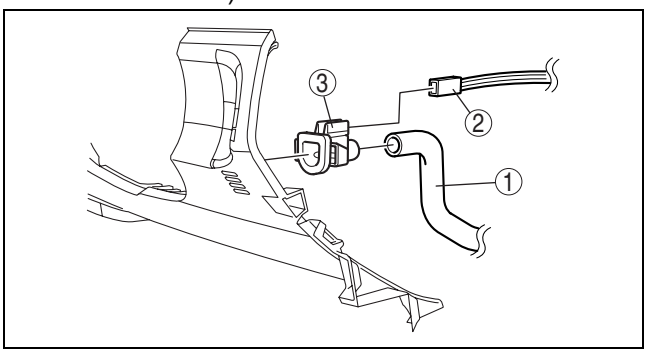
PASSENGER COMPARTMENT TEMPERATURE SENSOR REMOVAL/INSTALLATION

id074000803000

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 09-17-18 FRONT SIDE TRIM REMOVAL/INSTALLATION.)
   (3) Console panel. (See 09-17-15 CONSOLE PANEL REMOVAL/INSTALLATION.)
   (4) Console. (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (5) Hood release lever. (See 09-14-25 HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
   (6) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
3. Remove in the order indicated in the table.

1	Air hose
2	Passenger compartment temperature sensor connector
3	Passenger compartment temperature sensor

4. Install in the reverse order of removal.



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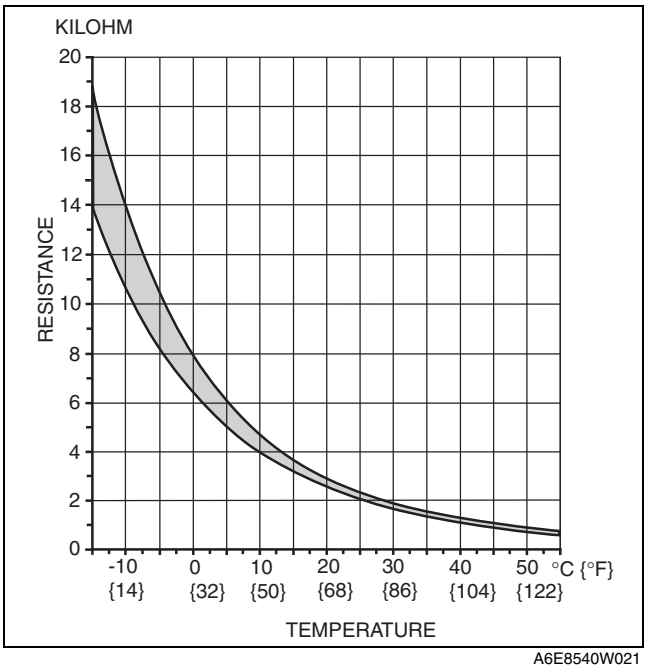
PASSENGER COMPARTMENT TEMPERATURE SENSOR INSPECTION

id074000803100

1. Measure the temperature around the passenger compartment temperature sensor.
2. Measure the resistance between terminals of the passenger compartment temperature sensor.
   - If the resistance is not as shown in the graph, replace the passenger compartment temperature sensor.



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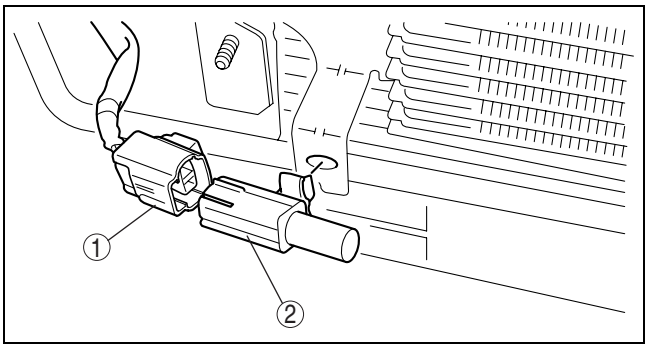
AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION

id074000803200

1. Disconnect the negative battery cable.
2. Remove the under cover.
3. Remove in the order indicated in the table.

1	Ambient temperature sensor connector
2	Ambient temperature sensor

4. Install in the reverse order of removal.



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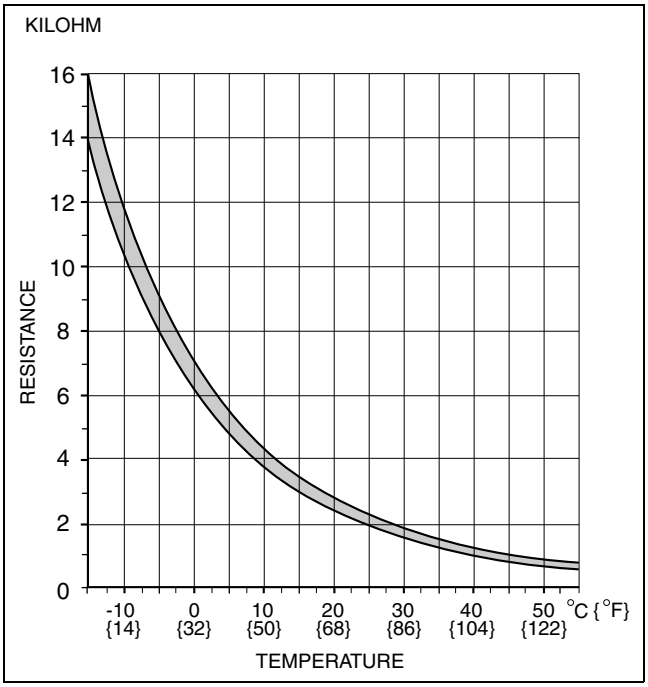
AMBIENT TEMPERATURE SENSOR INSPECTION

id074000803300

Note
- Ambient temperature sensor does not detect a sudden change in temperature sensitively caused by driving or stopping the vehicle to stabilize the control of the full-auto air conditioner. Therefore, the measured value may differ from the original value when the resistance of the ambient temperature sensor is measured immediately after the removal.

1. After removing the ambient temperature sensor, leave it to the inspection place for **30 min or more**.
2. Measure the temperature around the ambient temperature sensor.
3. Measure the resistance between terminals of the ambient temperature sensor.
   - If the resistance is not as shown in the graph, replace the ambient temperature sensor.



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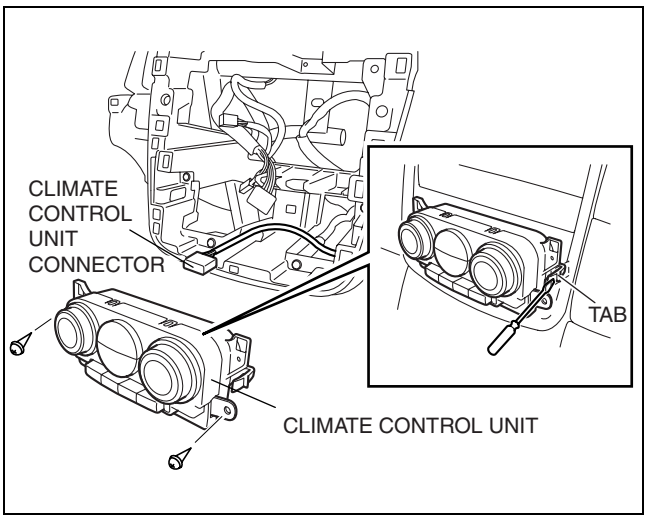
CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER]

id074000809000

1. Disconnect the negative battery cable.
2. Remove the following parts:
   (1) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (2) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
   (3) Center panel (See 09-17-8 CENTER PANEL REMOVAL/INSTALLATION.)
   (4) Audio unit (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)
3. Remove the screws and climate control unit.
4. Release the tab and pull the climate control unit toward you.
5. Disconnect the climate control unit connectors and remove the climate control unit.
6. Install in the reverse order of removal.



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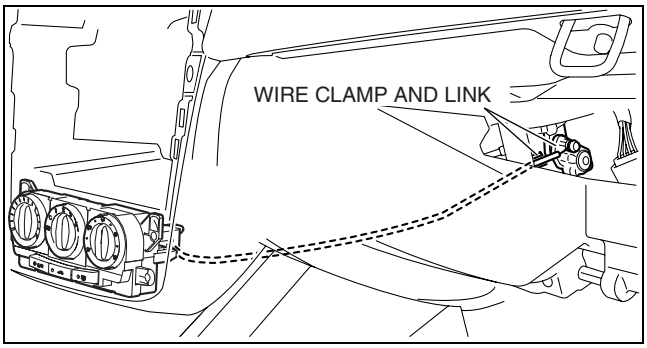
CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER]

id074000809100

1. Disconnect the negative battery cable.
2. Remove the following parts:
   (1) Glove compartment. (See 09-17-8 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
   (2) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
   (3) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
   (4) Center panel (See 09-17-8 CENTER PANEL REMOVAL/INSTALLATION.)
   (5) Audio unit (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)
3. Disconnect the air mix wire from wire clamp and link.
4. Remove the screws and climate control unit.
5. Release the tab and pull the climate control unit toward you.



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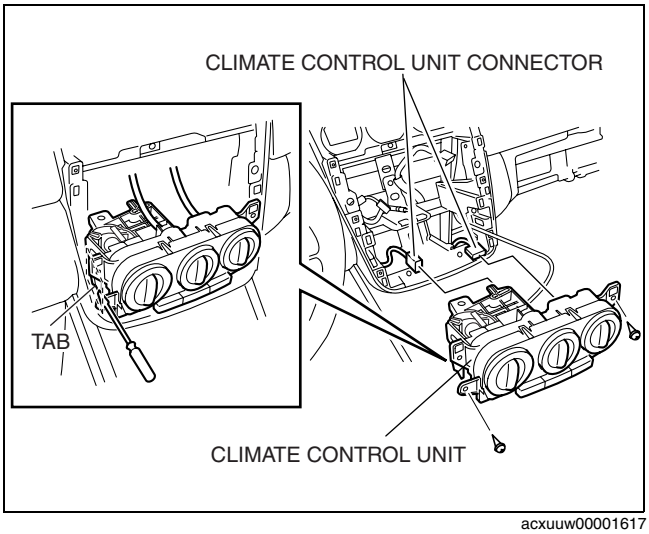
6. Disconnect the climate control unit connectors and remove the climate control unit.



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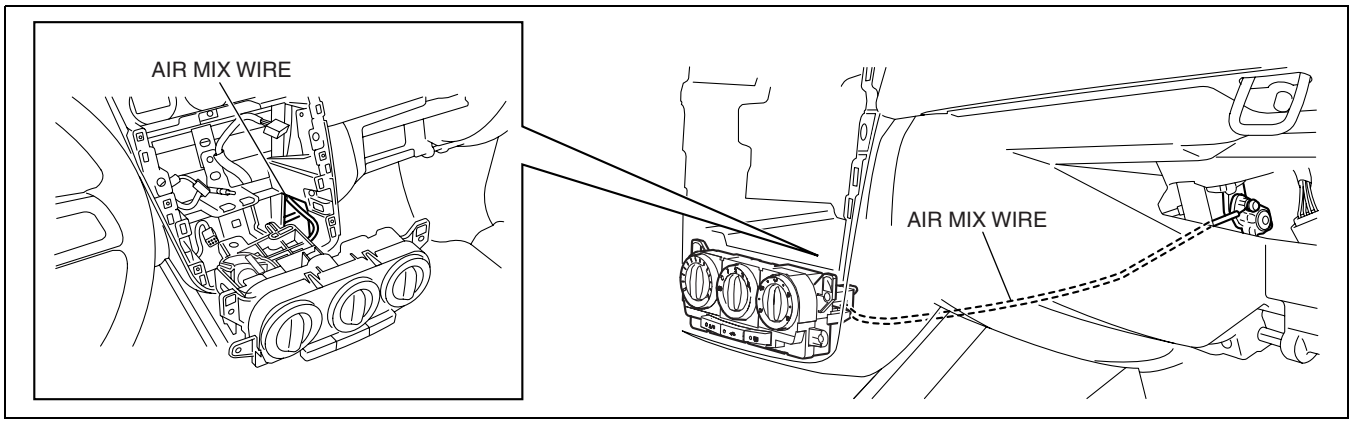
CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER]

id074000809200

1. Pass air mix wire through the following routes then connect to A/C unit. (Manual air conditioner)



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2. Install the following parts:
   (1) Climate control unit to the dashboard.
   (2) Audio unit (See 09-20-4 AUDIO UNIT REMOVAL/INSTALLATION.)
   (3) Center panel (See 09-17-8 CENTER PANEL REMOVAL/INSTALLATION.)
   (4) Lower panel (See 09-17-9 LOWER PANEL REMOVAL/INSTALLATION.)
   (5) Console (See 09-17-13 CONSOLE REMOVAL/INSTALLATION.)
3. Adjust the air mix wire. (See 07-40-12 CLIMATE CONTROL UNIT WIRE ADJUSTMENT.)
4. Install the globe compartment.

AIRFLOW VOLUME CONTROL DIAL INSPECTION

id074000809300

1. Remove the climate control unit.
2. Inspect for continuity between the airflow volume control dial terminals using an ohmmeter.
   - If not as specified, replace the airflow volume control dial.

○—○ : Continuity

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

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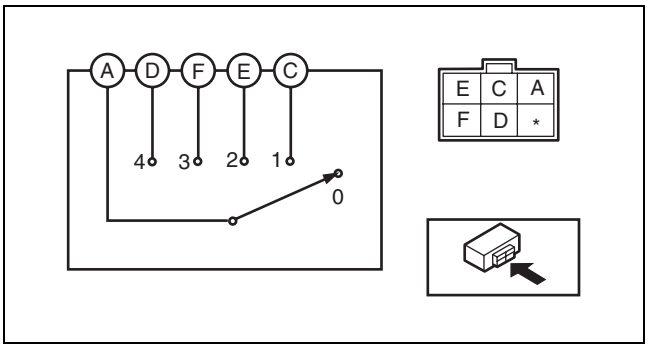

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07-50 TECHNICAL DATA

HVAC TECHNICAL DATA

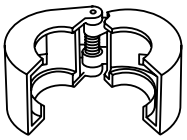
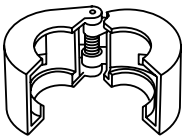
id075000800100

Item			Specification
REFRIGERANT SYSTEM			
Refrigerant	Type		R-134a
	Regular amount (approx. quantity) (g {oz})		500 {17.7}
BASIC SYSTEM			
A/C compressor	Lubrication oil	Type	ATMOS GU10
		Sealed volume (approx. quantity) (ml {cc, fl oz})	120 {120, 4.06}
CONTROL SYSTEM			
A/C compressor	Magnetic clutch clearance (mm {in})		0.3— 0.5 {0.012— 0.019}

07-60 SERVICE TOOLS

HVAC SST

id076000800100

49 B061 014 Spring Lock Coupling Disconnect Tool 	49 G061 001 Spring Lock Coupling Disconnect Tool 	—