



Mazda 3 Workshop Manual - HEATER, VENTILATION & AIR CONDITIONING + DTC

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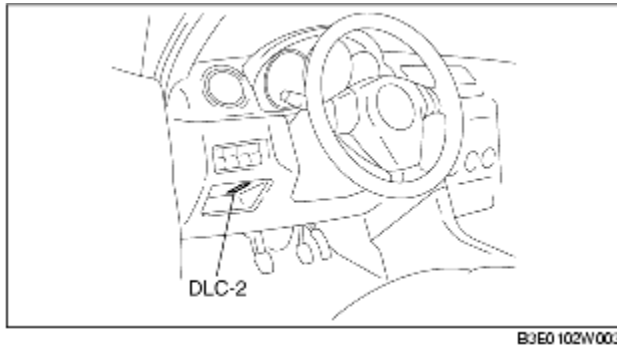
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ON-BOARD DIAGNOSTIC

DTC INSPECTION

B3E070201038W01

1. Connect the WDS or equivalent to the DLC-2.



2. Shine a **60 W** incandescent light from a distance of **approx. 100 mm {3.9 in}** directly onto the solar radiation sensor.

Note

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

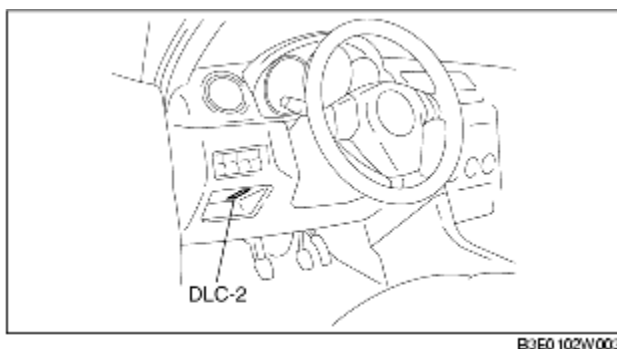
3. Verify if any DTCs are displayed.

- If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.

4. After completion of repairs, clear all DTCs from memory. (See [After Repair Procedure](#).)

After Repair Procedure

1. Connect the WDS or equivalent to the DLC-2.



2. Using the WDS or equivalent, clear DTCs from the PCM memory.

3. Turn the ignition switch off.

4. Perform the DTC inspection again and verify that no DTCs are displayed.

DTC Table

DTC	System malfunction location
B1251	Cabin temperature sensor
B1253	Cabin temperature sensor
B1260	Solar radiation sensor
B1261	Solar radiation sensor
B1274	Airflow mode actuator (potentiometer)
B1275	Airflow mode actuator (potentiometer)
B1282	Air mix actuator (potentiometer)
B1283	Air mix actuator (potentiometer)
B1947	Evaporator temperature sensor
B2014	Evaporator temperature sensor
B2832	Airflow mode actuator (motor lock)
B2834	Air mix actuator (motor lock)
U0140	CAN communication system
U0155	CAN communication system
U0184	CAN communication system
U0516	CAN communication system

DTC B1251, B1253

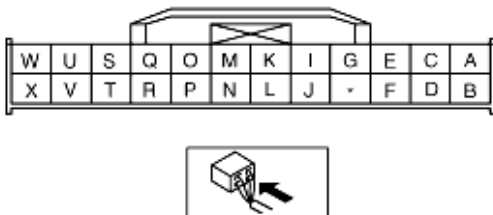
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DTC B1251, B1253	Cabin temperature sensor system
POSSIBLE CAUSE	• Cabin temperature sensor malfunction • Open or short circuit in wiring harness between climate control unit and cabin temperature sensor

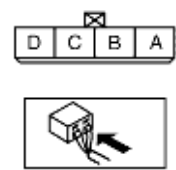
Diagnostic Procedure

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

CLIMATE CONTROL UNIT CONNECTOR



CABIN TEMPERATURE SENSOR CONNECTOR



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

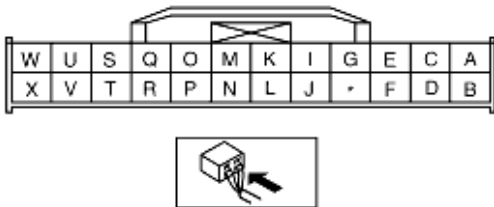
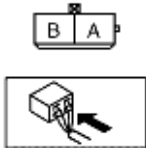
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DTC B1251, B1253, B1947, B2014, B1282, B1283, B1274, B1275

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
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Diagnostic Procedure

STEP	INSPECTION	ACTION
1	• Disconnect the climate control unit connector and the evaporator temperature sensor connector.	Yes Repair the wiring harness.
	• Is there an open circuit in the wiring harness between climate control unit terminal U and evaporator temperature sensor terminal A?	No The system is normal at present. (Clear the past malfunction from the memory.)
CLIMATE CONTROL UNIT CONNECTOR  EVAPORATOR TEMPERATURE SENSOR CONNECTOR 		

DTC B1260, B1261

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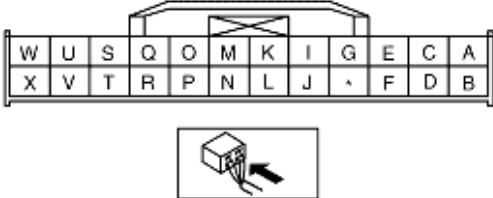
DTC B1260, B1261	Solar radiation sensor system
POSSIBLE CAUSE	• Solar radiation sensor malfunction • Open or short circuit in wiring harness between climate control unit and solar radiation sensor

Diagnostic Procedure

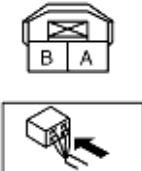
STEP	INSPECTION	ACTION
1	• Inspect the solar radiation sensor. (See SOLAR RADIATION SENSOR INSPECTION.)	Yes Go to the next step.
	• Is it normal?	No Replace the solar radiation sensor. (See SOLAR RADIATION SENSOR REMOVAL/INSTALLATION .)
2		Yes Go to the next step.

	• Disconnect the climate control unit connector and the solar radiation sensor connector. • Is there continuity between the following terminals of the climate control unit and the solar radiation sensor? - S-B - P-A	No	Repair the wiring harness.
3	• Is there a short circuit to ground in the wiring harness between climate control unit terminal S and solar radiation sensor terminal B?	Yes	Repair the wiring harness.
		No	Inspect the connection of the climate control unit connector. (See CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER] .)

CLIMATE CONTROL UNIT CONNECTOR



SOLAR RADIATION SENSOR CONNECTOR



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

B3E070201038W05

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 P and airflow mode actuator terminal B?	Yes Repair the wiring harness.
		No Go to the next step.
2		Yes Repair the wiring harness.

	• Is there a short circuit to ground in the wiring harness between climate control unit terminal P and airflow mode actuator terminal B?	No	Go to the next step.
3	• Is there a short circuit to ground in the wiring harness between climate control unit terminal P and air mix actuator terminal A?	Yes	Repair the wiring harness.
		No	Go to the next step.
4	• Is there a short circuit to ground in the wiring harness between climate control unit terminal P and solar radiation sensor terminal A?	Yes	Repair the wiring harness.
		No	The system is normal at present. (Clear the past malfunction from the memory.)

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

DTC B1274, B1275

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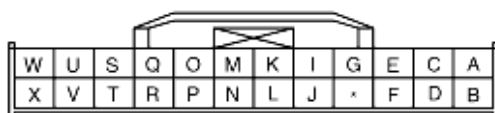
DTC B1274, B1275	Airflow mode actuator (potentiometer) system
POSSIBLE CAUSE	• Airflow mode actuator malfunction • Open circuit in wiring harness between climate control unit and airflow mode actuator • Short circuit in wiring harness between climate control unit (terminal L) and air mix actuator (terminal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

Diagnostic Procedure

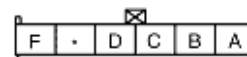
STEP	INSPECTION	ACTION
1	• Inspect the airflow mode actuator. (See AIRFLOW MODE ACTUATOR INSPECTION .)	Yes Go to the next step.
	• Is it normal?	No Replace the airflow mode actuator. (See AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION .)

2	- Disconnect the climate control unit connector and the airflow mode actuator connector. - Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the airflow mode actuator? - P-B - L-C - U-A	Yes	Repair the wiring harness.
		No	Go to the next step.
3	Is there a short circuit to ground in the wiring harness between climate control unit terminal L and airflow mode actuator terminal C?	Yes	Repair the wiring harness.
		No	The system is normal at present. (Clear the past malfunction from the memory.)

CLIMATE CONTROL UNIT CONNECTOR



AIRFLOW MODE ACTUATOR CONNECTOR



DTC B1282, B1283

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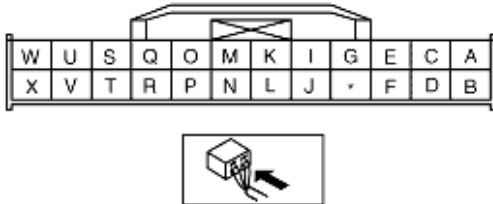
DTC B1282, B1283	Air mix actuator (potentiometer) system
POSSIBLE CAUSE	- Air mix actuator malfunction - Open circuit in wiring harness between climate control unit and air mix actuator - Short circuit in wiring harness between climate control unit (terminal N) and air mix actuator (terminal C)

Diagnostic Procedure

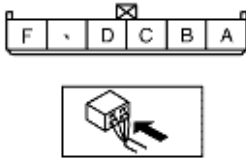
STEP	INSPECTION		ACTION
1	- Inspect the air mix actuator. (See AIR MIX ACTUATOR INSPECTION.) - Is it normal?	Yes	Go to the next step.
		No	Replace the air mix actuator. (See AIR MIX ACTUATOR REMOVAL/INSTALLATION .)
2	Disconnect the climate control unit connector and the air mix actuator connector.	Yes	Repair the wiring harness.

	• Is there an open circuit in the wiring harness between the following terminals of the climate control unit and the air mix actuator? - P-A - N-C - U-B	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 past malfunction from the memory.)

CLIMATE CONTROL UNIT CONNECTOR



AIR MIX ACTUATOR CONNECTOR



DTC B1947, B2014

B3E070201038W08

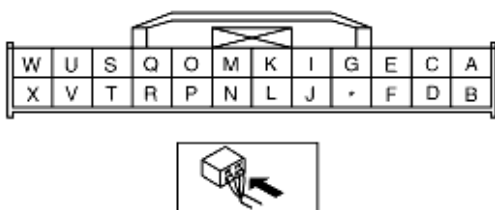
DTC B1947, B2014	Evaporator temperature sensor system
POSSIBLE CAUSE	- Evaporator temperature sensor malfunction - Open or short circuit in wiring harness between climate control unit and evaporator temperature sensor

Diagnostic Procedure

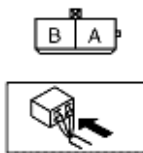
STEP	INSPECTION	ACTION
1	- Inspect the evaporator temperature sensor. (See EVAPORATOR TEMPERATURE SENSOR INSPECTION.) - Is it normal?	Yes Go to the next step.
		No Replace the evaporator temperature sensor. (See EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION .)
2	- Disconnect the climate control unit connector and the evaporator temperature sensor connector. - Is there an open circuit in the wiring harness between the following terminals of the climate	Yes Repair the wiring harness.
		No Go to the next step.

	control unit and the evaporator temperature sensor? - T-B - U-A		
3	• Is there a short circuit to ground in the wiring harness between climate control unit terminal T and evaporator temperature sensor terminal B?	Yes	Repair the wiring harness.
		No	Connect the climate control unit connector, then go to the next step.
4	• Turn the ignition switch to the ON position. • Inspect the voltage at the following climate control unit terminal (wiring harness-side). - Terminal T (evaporator temperature sensor input signal) • Is the voltage normal? (Approx. 5 V)	Yes	The system is normal at present. (Clear the past malfunction from the memory.)
		No	Inspect the connection of the climate control unit connector. (See CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER] .)

CLIMATE CONTROL UNIT CONNECTOR



EVAPORATOR TEMPERATURE SENSOR CONNECTOR



DTC B2832

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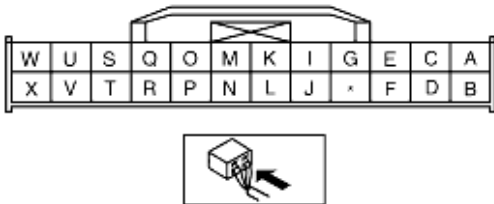
DTC B2832	Airflow mode actuator (motor lock) system
POSSIBLE CAUSE	- Airflow mode actuator malfunction - A/C unit (airflow mode link and airflow mode crank) malfunction - Open or short circuit in wiring harness between climate control unit and airflow mode actuator

Diagnostic Procedure

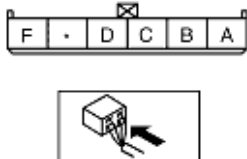
STEP	INSPECTION	ACTION
1	• Disconnect the airflow mode actuator connector.	Yes Connect the connector, then go to Step 3.
	• Connect battery positive voltage to airflow mode actuator terminal D (or	No Go to the next step.

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

CLIMATE CONTROL UNIT CONNECTOR



AIRFLOW MODE ACTUATOR CONNECTOR



DTC B2834

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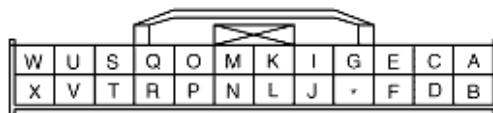
DTC B2834	Air mix actuator (motor lock) system
POSSIBLE CAUSE	- Air mix actuator malfunction - A/C unit (air mix link and air mix crank) malfunction - Open or short circuit in wiring harness between climate control unit and air mix actuator

Diagnostic Procedure

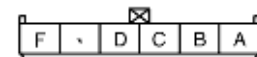
STEP	INSPECTION		ACTION
1	• Disconnect the air mix actuator connector.	Yes	Connect the connector, then go to Step 3.
		No	Go to the next step.

	- 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?		
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 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 D (or terminal C) and terminal C (or terminal D) to ground. - Does the air mix actuator operate?	Yes	Inspect the connection of the climate control unit connector. (See CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER] .)
		No	Repair the wiring harness.

CLIMATE CONTROL UNIT CONNECTOR



AIR MIX ACTUATOR CONNECTOR



SYMPTOM TROUBLESHOOTING

FOREWORD

B3E070301038W01

• 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

B3E070301038W02

No.	TROUBLESHOOTING ITEM	DESCRIPTION
1	Insufficient air (or no air) blown from vents	• Problem with each vent and/or duct
2	Amount of air blown from vents does not change. (Full-auto air conditioner)	• Malfunction in blower system

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

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

B3E070301038W03

1	Insufficient air (or no air) blown from vents
DESCRIPTION	• Problem with each vent and/or duct.
POSSIBLE CAUSE	• Malfunction in VENT mode system (Steps 1-4) • Malfunction in HEAT mode system (Step 5) • Malfunction in DEFROSTER mode system (Steps 6-8)

Diagnostic procedure

STEP	INSPECTION		ACTION
1	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 4.
		No	Go to the next step.
2	INSPECT VENT • Is the vent clogged?	Yes	Remove obstruction, then go to Step 8.
		No	Go to the next step.

3	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 8.
		No	Install the duct securely in the proper position, then go to Step 8.
4	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 8.
5	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.
6	INSPECT VENT • Is the vent clogged?	Yes	Remove obstruction, then go to Step 8.
		No	Go to the next step.
7	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.
8	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

B3E070301038W04

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 (Steps 3, 4, 12) • Blower motor malfunction (Steps 5-9) • Malfunction in power MOS FET system (Steps 10, 11, 13, 14) • Climate control unit malfunction (Step 15)

• 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 40 A FUSE - Inspect the HEATER 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. - 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. - Measure the voltage at the following blower motor terminal. - Terminal B (blower motor operation signal) - Is voltage approx. 12 V?	Yes	Go to Step 8.
		No	Go to the next step.
5*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN FUSE BLOCK AND BLOWER RELAY) OR ELSEWHERE - Measure the voltage at the following blower relay terminals. - Terminal B (IG2 signal) - Terminal A (B+ signal) - Is the voltage approx. 12 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the blower relay and HEATER 40 A fuse, then go to Step 15.
6*		Yes	Go to the next step.

	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?	No	Repair the wiring harness between the blower relay and ground, then go to Step 15.
7*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN BLOWER RELAY AND BLOWER MOTOR) OR BLOWER RELAY - Measure the voltage at the following blower relay terminal. - Terminal E (blower motor operation signal) - Is the voltage approx. 12 V?	Yes	Repair the wiring harness between the blower relay and blower motor, then go to Step 15.
		No	Replace the blower relay, then go to Step 15.
8*	INSPECT TO SEE WHETHER MALFUNCTION IS IN BLOWER MOTOR OR ELSEWHERE - Measure the voltage at the following blower motor terminal. - Terminal B (blower motor operation signal) - Is the voltage approx. 12 V?	Yes	Go to the next step.
		No	Inspect the blower motor, then go to Step 15.
9*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN BLOWER MOTOR AND POWER MOS FET) OR ELSEWHERE - Measure the voltage at the following terminal of power MOS FET. - Terminal B (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.	Yes	Go to the next step.
		No	Remove obstruction, repair or replace the fan and A/C unit case, then go to Step 15.

	- 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?		
12*	INSPECT TO SEE WHETHER MALFUNCTION IS IN POWER MOS FET OR ELSEWHERE • Disconnect power MOS FET connector. • Measure the voltage at the following power MOS FET terminal. - Terminal B (blower motor control signal) • Is voltage approx. 10 V?	Yes	Replace the power MOS FET, then go to Step 15.
		No	Go to the next step.
13*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (LACK OF CONTINUITY BETWEEN POWER MOS FET AND CLIMATE CONTROL UNIT) OR ELSEWHERE • Turn the ignition switch to the LOCK position. • Disconnect climate control unit connector. • Inspect for continuity at the following terminals between the power MOS FET and climate control unit. - Terminal B-F (blower motor control signal) - Terminal C-D (blower motor feedback signal) • Is there continuity?	Yes	Go to the next step.
		No	Repair the wiring harness between the power MOS FET and climate control unit, then go to Step 15.
14*	INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR WIRING HARNESS (SHORT TO GROUND IN WIRING HARNESS BETWEEN POWER MOS FET AND CLIMATE CONTROL UNIT) • Inspect for continuity at the following terminal between the power MOS FET and ground. - Terminal B (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

B3E070301038W05

Manual Air Conditioner

3	Amount of air blown from vents does not change.
DESCRIPTION	• Malfunction in blower system
POSSIBLE CAUSE	• Blower relay, blower motor, resistor, fan switch malfunction (Step 1) • A/C unit malfunction (Steps 2-4)

Diagnostic procedure

STEP	INSPECTION	ACTION	
1	INSPECT BLOWER SYSTEM • Inspect the following systems and electrical parts. - Blower relay - Blower motor - Resistor - Fan switch - Related wiring harnesses • Are they normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part, then go to Step 5.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C UNIT OR ELSEWHERE • Turn the ignition switch to the ON position. • Turn the fan switch on. • Recirculate air inside the vehicle. • Does the blower motor rotate smoothly?	Yes	Go to Step 4.
		No	Go to the next step.
3	INSPECT A/C UNIT • Inspect blower motor. - Is the fan free of interference from the A/C unit case? - Is the fan free of foreign material and obstructions? • Is the fan normal?	Yes	Go to the next step.
		No	Remove obstruction, repair or replace the fan and A/C unit case, then go to Step 5.

4	INSPECT A/C UNIT INTAKE VENT • Is the A/C unit intake vent clogged?	Yes	Remove obstruction, then go to the next step.
		No	Inspect if there are any obstructions in the A/C unit passage, then go to the next step.
5	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR • Does air blow out?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.4 AIR INTAKE MODE DOES NOT CHANGE

B3E070301038W06

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 (Steps 1-6) • Air intake door malfunction (Step 7)

• 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 TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR, WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Turn the ignition switch to the ON position. • Measure the voltages at the following climate control unit terminals. - Terminal O (24-pin, FRESH motor drive signal) - Terminal Q (24-pin, RECIRCULATE motor drive signal) (See CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER] .) • Are voltages normal?	Yes Go to the next step.
		No Go to Step 3.

2*	INSPECT TO SEE WHETHER MALFUNCTION (LACK OF CONTINUITY) IS IN AIR INTAKE ACTUATOR OR WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) • Measure the voltages at the following air intake actuator terminals. - Terminal E (FRESH motor drive signal) - Terminal C (RECIRCULATE motor drive signal) • Are voltages as shown below? - Terminal E: approx. 0.5 V during RECIRCULATE and approx. 10 V during FRESH - Terminal C: approx. 10 V during RECIRCULATE and approx. 0.5 V during FRESH	Yes	Replace the air intake actuator, then go to Step 8.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 8.
3	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR INTAKE ACTUATOR OR ELSEWHERE • Disconnect the air intake actuator connector. • Measure the voltages at the following climate control unit terminals. - Terminal O (FRESH motor drive signal) - Terminal Q (RECIRCULATE motor drive signal) (See CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].) • Are voltages normal?	Yes	Inspect the air intake actuator, then go to Step 8.
		No	Go to the next step.
4	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO B+ BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Disconnect the climate control unit connector. • Measure the voltages at the following climate control unit terminals. - Terminal O (FRESH motor drive signal) - Terminal Q (RECIRCULATE motor drive signal) • Are voltages approx. 0 V?	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 8.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO GROUND BETWEEN	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 8.

	CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE • Turn the ignition switch to the LOCK position. • Inspect for continuity at the following terminals between the climate control unit and ground. - Terminal O (FRESH motor drive signal) - Terminal Q (RECIRCULATE motor drive signal) • Is there continuity?	No	Go to the next step.
6	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 8.
7	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.
8	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 TEMPERATURE CONTROL WITH CLIMATE CONTROL UNIT

B3E070301038W07

5	No temperature control with climate control unit
DESCRIPTION	• Malfunction in A/C unit and/or climate control unit air mix system
POSSIBLE CAUSE	• A/C unit air mix link, air mix crank, air mix rod, air mix wire, wire clamp malfunction (Steps 2, 3)

	• Climate control unit rack-and-pinion, air mix wire malfunction (Step 4) • A/C unit air mix door malfunction (Steps 5, 6) • Heater piping malfunction (Step 7)
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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 MIX SYSTEM • Inspect the A/C unit air mix links, air mix cranks, air mix rods, air mix 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 mix actuator or wire clamp, then go to Step 8.
3	VERIFY THAT AIR MIX WIRE FROM A/C UNIT IS POSITIONED SECURELY AND CORRECTLY (IF AVAILABLE) • Is the air mix 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 mix 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 mix doors?	Yes	Remove obstruction, then go to Step 8.
		No	Go to the next step.
6	INSPECT A/C UNIT AIR MIX DOOR • Is the A/C unit air mix door securely and properly installed?	Yes	Inspect the air mix door for cracks or damage, then go to the next step.
		No	Install the air mix 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

B3E070301038W08

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

6	Windshield fogged.
DESCRIPTION	- A/C compressor does not operate while airflow mode is in DEFROSTER or HEAT/DEF modes. - Air intake mode does not change to FRESH while airflow mode is in DEFROSTER or HEAT/DEF modes.
POSSIBLE CAUSE	- Climate control unit (B+ signal) system malfunction (Steps 2, 4, 5) - Air intake actuator malfunction (Steps 3, 7) - Climate control unit (RECIRCULATE, FRESH signal) system malfunction (Steps 9-11) - A/C unit air intake door malfunction (Steps 12, 13)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	Yes	Go to the next step.

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

	Does the air intake mode (RECIRCULATE, FRESH) change smoothly when the air intake link is operated by hand?		
7	INSPECT AIR INTAKE ACTUATOR - Inspect the air intake actuator. (See AIR INTAKE ACTUATOR INSPECTION.) - Is it normal?	Yes	Go to the next step.
		No	Replace the air intake actuator, go to Step 14.
8	INSPECT AIR INTAKE SELECTOR SWITCH AND DEFROSTER SWITCH IN CLIMATE CONTROL UNIT - Measure the voltage at climate control unit connector (24-pin) terminals O and Q. - Is it normal?	Yes	Go to the next step.
		No	Replace the climate control unit, then go to Step 14.
*9	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR CONTINUITY - Turn the ignition switch to the LOCK position. - Is there continuity between the following climate control unit terminals and air intake actuator terminals? - Terminal E -Terminal O (FRESH signal) - Terminal C -Terminal Q (RECIRCULATE signal)	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
*10	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO GROUND - Is there continuity between the following climate control unit terminals and ground? - Terminal O (FRESH signal) - Terminal Q (RECIRCULATE signal)	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
		No	Go to the next step.
*11	INSPECT WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO B+ - Turn the ignition switch to the ON position - Measure the voltage at the following climate control unit terminals. - Terminal O (FRESH signal) - Terminal Q (RECIRCULATE signal) - Is the voltage approx. 12 V?	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 14.
		No	Replace the climate control unit, then go to Step 14.

12	INSPECT A/C UNIT AIR INTAKE DOOR Is there any foreign material or obstruction in the A/C unit air intake door?	Yes	Remove obstruction, then go to Step 14.
		No	Go to the next step.
13	VERIFY THAT A/C UNIT AIR INTAKE DOOR IS POSITIONED SECURELY AND PROPERLY Is the A/C unit air intake door securely and properly positioned?	Yes	Inspect the air intake door for cracks or damage, then go to the next step.
		No	Install the air intake door securely in the proper position, then go to the next step.
14	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Does the malfunction disappear?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.7 AIR FROM VENTS NOT COLD ENOUGH

B3E070301038W09

7	Air from vents not cold enough.
DESCRIPTION	Magnetic clutch operates but A/C system malfunctions.
POSSIBLE CAUSE	- Drive belt malfunction (Step 2) - A/C unit or condenser malfunction (Steps 4, 5) - Receiver/drier or expansion valve malfunction (valve closes too much) (Steps 8, 9) - Malfunction in refrigerant lines (Steps 10, 11) - A/C compressor system malfunction, insufficient compressor oil (Steps 15, 16) - Over filling of compressor oil, malfunction in expansion valve or A/C unit air mix link system (Steps 17-19)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	INSPECT DRIVE BELT - Inspect the drive belt. (See DRIVE BELT INSPECTION [Z6].) (See DRIVE BELT INSPECTION [LF].) - Is it normal?	Yes Go to the next step.
		No Adjust or replace the drive belt, then go to Step 20. (See DRIVE BELT REPLACEMENT [Z6].) (See DRIVE BELT REPLACEMENT [LF].)
2		Yes Operation is normal. (Recheck malfunction symptoms.)

	INSPECT REFRIGERANT SYSTEM PERFORMANCE - Perform refrigerant system performance test. (See REFRIGERANT SYSTEM PERFORMANCE TEST.) - Is the operation normal?	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 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	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

	• Turn the A/C switch off and let the air conditioner stop for 10 min. • Start the engine. • Turn the both A/C switch and fan switch on. • Does the malfunction occur after the A/C compressor turns on?		level, then go to Step 20. (Since water has intermixed in the receiver/drier and it is saturated, replacement is necessary.)
9	VERIFY THAT EXPANSION VALVE HEAT-SENSING TUBE WITHIN A/C UNIT IS POSITIONED SECURELY AND CORRECTLY • Is the expansion valve heat-sensing tube in the A/C unit securely installed in the proper position?	Yes	Replace the expansion valve, then go to Step 20. (Since the valve closes too much, replacement is necessary.)
		No	Install the heat-sensing tube securely in the proper position, then go to Step 20.
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	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.

	Are piping the connections for the evaporator in the A/C unit free of gas leakage?	No	If the piping is damaged or cracked, replace it. Then go to Step 20. If there is no damage, go to the next step.
12	INSPECT EVAPORATOR PIPING CONNECTION IN A/C UNIT FOR LOOSE Are the piping connections for the evaporator in the A/C unit loose?	Yes	Tighten the connections to the specified torque, adjust both compressor oil and refrigerant to the specified amount, then go to Step 20.
		No	If the vane makes a noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil to the A/C compressor. Verify that the noise is no longer heard. Replace the O-ring on piping, adjust refrigerant to the specified amount, then go to Step 20.
13	INSPECT PIPING CONNECTION FOR LOOSE Are the piping connections loose?	Yes	Tighten the connections to the specified torque, adjust both compressor oil and refrigerant to the specified amount, then go to Step 20.
		No	If the vane makes a noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil to the A/C compressor. Verify that the noise is no longer heard. Replace O-ring on piping, adjust refrigerant to specified amount, then go to Step 20.
14	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE, AIR MIX ACTUATOR AND COMPRESSOR OIL OR ELSEWHERE Does the refrigerant high-pressure value hardly increase?	Yes	Go to the next step. (Pressure hardly increases.)
		No	Go to Step 17.
15	INSPECT TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL AMOUNT AND A/C COMPRESSOR OR ELSEWHERE When the engine is racing, does the high-pressure value increase?	Yes	Return to Step 3.
		No	Go to the next step.
16	INSPECT TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL AMOUNT OR A/C COMPRESSOR After compressor oil is replenished each 10 ml {10 cc, 0.34 fl oz}, does high-pressure value increase?	Yes	Troubleshooting completed. (Explain to customer that cause was insufficient compressor oil.)
		No	Replace the A/C compressor, then go to Step 20. (Cause is defective A/C compressor.)
17	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE OR ELSEWHERE	Yes	Go to Step 19.
		No	Go to the next step.

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

NO.8 NO COOL AIR

B3E070301038W10

8	No cool air
DESCRIPTION	• Magnetic clutch does not operate.
POSSIBLE CAUSE	• A/C relay malfunction (Step 2) • A/C compressor malfunction (Step 3) • Evaporator temperature sensor malfunction (Step 4)

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 FUSE • Are the A/C relay power supply fuses normal?	Yes	Go to the next step.
		No	Replace the fuse, then go to Step 5. If fuse burns out immediately, go to the next step.
3	INSPECT A/C COMPRESSOR OPERATION • Start the engine. • Turn the A/C switch and fan switch on. • Does the A/C compressor operate?	Yes	Go to Step 1 of troubleshooting index No.7.
		No	Go to the next step.
4	INSPECT EVAPORATOR TEMPERATURE SENSOR • Inspect the evaporator temperature sensor. • Is it normal?	Yes	Go to the next step.
		No	Replace the evaporator temperature sensor, then go to the next step.
5	CONFIRM THAT MALFUNCTION SYMPTOMS DO NOT RECUR AFTER REPAIR • Does cool air blow out? (Are the 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.9 NOISE WHILE OPERATING A/C SYSTEM

B3E070301038W11

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 (Step 4)

	• A/C compressor slippage noise (Steps 14-17) • Hose or refrigerant line interference noise (Step 18)
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Diagnostic procedure

STEP	INSPECTION		ACTION
1	INSPECT A/C COMPRESSOR SLIPPAGE NOISE • Is there a squeaking or whirling sound (A/C compressor slippage noise)?	Yes	Go to Step 12.
		No	Go to the next step.
2	INSPECT A/C COMPRESSOR INTERFERENCE NOISE • Is there a rattling or vibrating sound (interference noise)?	Yes	Go to Step 16.
		No	Go to the next step.
3	INSPECT MAGNETIC CLUTCH OPERATION NOISE • Is there a clicking sound (magnetic clutch operation noise)?	Yes	Adjust the clearance between the pressure plate of magnetic clutch and A/C compressor pulley, then go to Step 17. (See MAGNETIC CLUTCH ADJUSTMENT .)
		No	Condition is normal. (Recheck malfunction symptoms.) Go to the next step.
4	INSPECT IDLE SPEED • Inspect idle speed. (See ENGINE TUNE-UP [Z6] .) (See ENGINE TUNE-UP [LF] .) • Is it normal?	Yes	Go to the next step.
		No	Follow the repair instruction described in section 01-40, then go to Step 17.
5	INSPECT REFRIGERANT AMOUNT • Inspect refrigerant amount. • Is it normal?	Yes	Go to Step 8.
		No	Go to the next step.
6	INSPECT REFRIGERANT LINES • Inspect the refrigerant lines. - Is the piping free of damage and cracks? - Are the piping connections free of oil grime? (Visual inspection) - Are piping connections free of gas leakage?	Yes	Go to the next step.
		No	If the piping or A/C component (s) is damaged or cracked, replace them, then go to Step 17. If there is gas leakage, repair or replace connection and replace the condenser*, then go to Step 17.

	- 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?		
7	INSPECT EVAPORATOR PIPING CONNECTIONS IN A/C UNIT FOR GAS LEAKAGE • Are the piping connections for the evaporator in the A/C unit free of gas leakage?	Yes	Adjust refrigerant amount to the specified level, then go to Step 17.
		No	If the piping is damaged or cracked, replace it them, then go to Step 17. If there is gas leakage, repair or replace the connecting parts and replace the condenser*, then go to Step 17.
8	INSPECT 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 the engine?	Yes	Go to the next step.
		No	Troubleshooting completed. Explain repair to customer.
9	INSPECT 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 the A/C compressor, then go to Step 17.
10	INSPECT 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 17.
		No	Go to the next step.
11		Yes	Replace the A/C compressor and condenser, then go to Step 17. (Since the A/C compressor may be

	INSPECT A/C COMPRESSOR OIL Is compressor oil darker than normal and contaminated with aluminum chips?		worn and receiver/drier may be clogged, replacement of the receiver/drier is necessary.)
		No	Condition is normal. Recheck malfunction symptoms.
12	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR ELSEWHERE Is noise heard immediately after the A/C compressor is stopped?	Yes	Replace the A/C compressor, then go to Step 17. (A/C compressor discharge valve left open)
		No	Go to the next step.
13	INSPECT DRIVE BELT - Inspect drive belt. (See DRIVE BELT INSPECTION [Z6]) (See DRIVE BELT INSPECTION [LF]) - Is it normal?	Yes	Go to the next step.
		No	Adjust or replace drive belt, then go to Step 17.
14	INSPECT DRIVE BELT CONDITION - Is the drive belt worn? - Does it have foreign material imbedded in it, or have oil on it?	Yes	Remove obstruction, remove oil, or replace the drive belt, then go to Step 17.
		No	Go to the next step.
15	INSPECT MAGNETIC CLUTCH - Inspect the magnetic clutch. (See MAGNETIC CLUTCH INSPECTION [Z6] .) (See MAGNETIC CLUTCH INSPECTION [LF] .) - Is it normal?	Yes	Replace the A/C compressor (excluding the pressure plate, A/C compressor pulley, and stator), then go to Step 17.
		No	Replace the magnetic clutch, then go to Step 17.
16	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR REFRIGERANT LINE Is noise emitted from the A/C compressor?	Yes	Visually inspect the 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.
17	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR Has A/C compressor noise stopped?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

* :

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

REFRIGERANT SYSTEM

REFRIGERANT SYSTEM SERVICE WARNINGS

B3E071001038W01

Handling Refrigerant

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

Storing Refrigerant

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

REFRIGERANT SYSTEM SERVICE CAUTIONS

B3E071001038W02

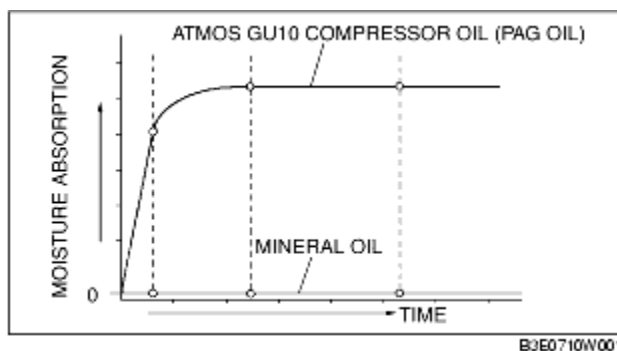
Handling Insufficient Refrigerant Level

- If an insufficient refrigerant level is detected at troubleshooting, do not charge (add) the refrigerant. Because an accurate amount of refrigerant cannot be determined from the pressure indicated on the manifold gauge, never charge the refrigerant. If there is too much or too little

refrigerant from the refilling, there may be secondary problems such as damage to the refrigerant cycle parts, or a decrease of cooling performance. Therefore, if it is determined that the refrigerant level is insufficient, completely remove refrigerant from the refrigerant cycle and refill with refrigerant to the specified amount.

Handling Compressor Oil

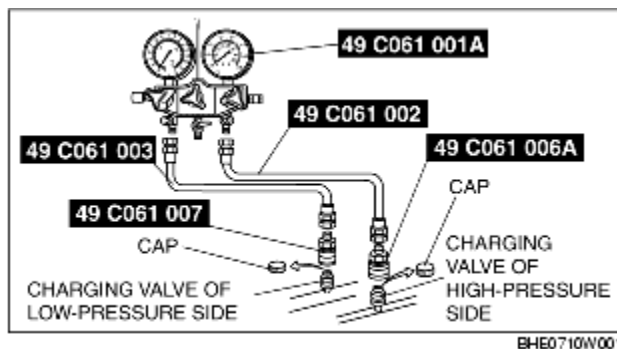
- Use only ATMOS GU10 compressor oil for this vehicle. Using a PAG oil other than ATMOS GU10 compressor oil can damage the A/C compressor.
- Do not spill ATMOS GU10 compressor oil on the vehicle. A drop of compressor oil on the vehicle surface can eat away at the paint. If oil gets on the vehicle, wipe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



REFRIGERANT SYSTEM GENERAL PROCEDURES

B3E071001038W03

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

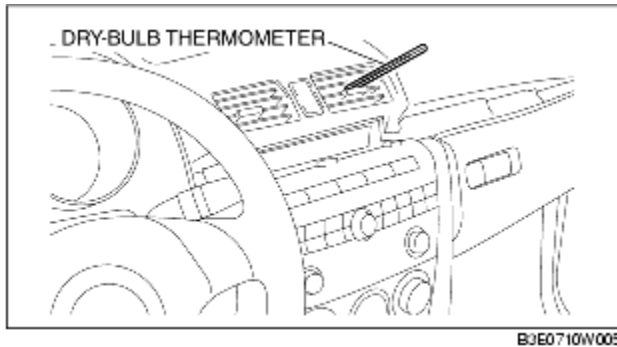


3. Connect the **SSTs** (49 C061 006A, 49 C061 007) to the ends of the **SSTs** (49 C061 002, 49 C061 003).
4. Connect the **SSTs** (49 C061 006A, 49 C061 007) to the charging valves.

REFRIGERANT SYSTEM PERFORMANCE TEST

B3E071001038W04

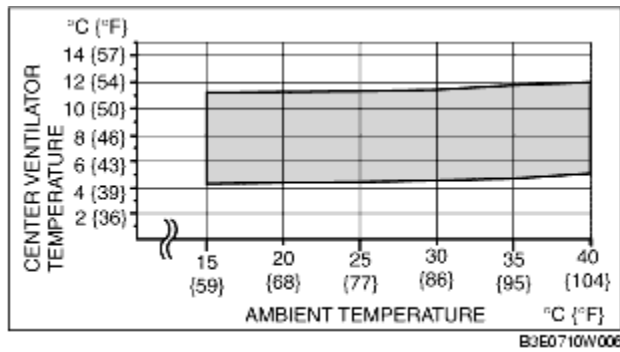
1. Inspect the refrigerant pressure. (See [REFRIGERANT PRESSURE CHECK.](#))
2. Place a dry-bulb thermometer in the driver-side center ventilator outlet.



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 there is any malfunction, inspect the refrigerant system according to the troubleshooting chart.



REFRIGERANT CHARGING

B3E071078834W01

Caution

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

Charging Recycled R-134a Refrigerant

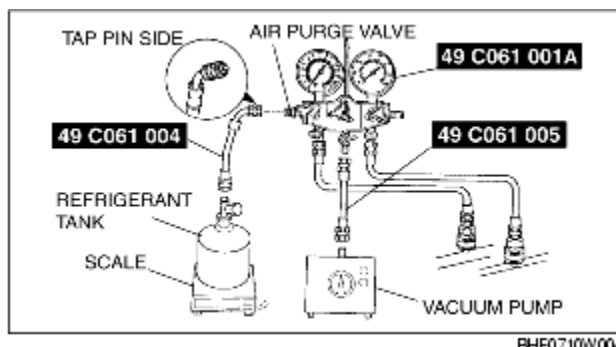
1. Connect an R-134a recovery/recycling/recharging device to the vehicle and follow the device manufacturer's instructions.

Charging Preparation

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

Regular amount of refrigerant (approx. quantity)

525 g {18.5 oz}



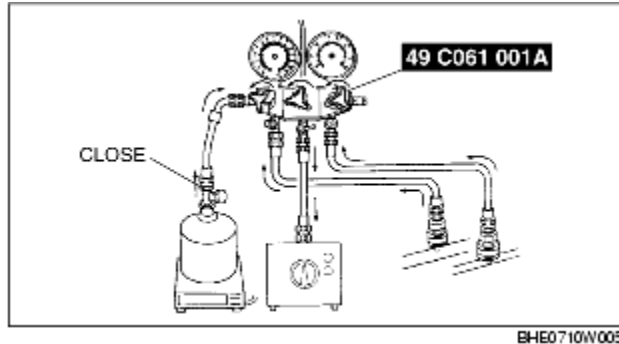
Evacuation

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

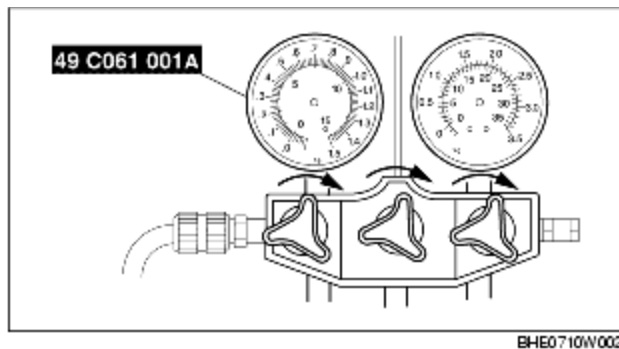
Caution

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

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



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



Airtightness Check

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

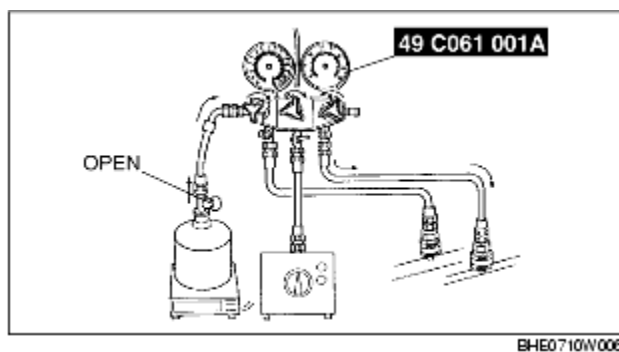
Warning

- 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.

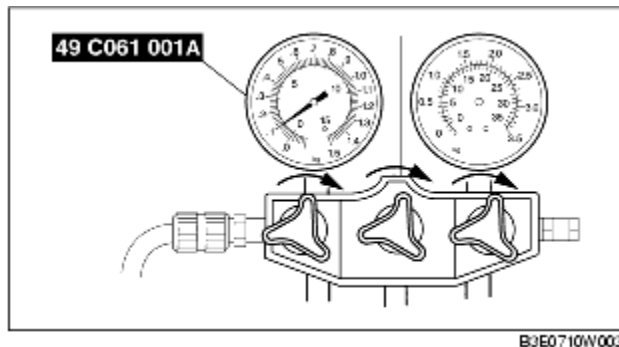
Caution

- 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 **SST** (49 C061 001A).



4. When the low-pressure side reading increases to **0.098 MPa {1.0 kgf/cm², 14 psi}**, close the high-pressure side valve of the **SST** (49 C061 001A).



5. Inspect for leakage from the cooler pipe/hose connections using the **SST** (49 C061 013).

- If there is no leakage, go to Step 7.
- If leakage is found at a loose joint, tighten the joint, then go to the next step.

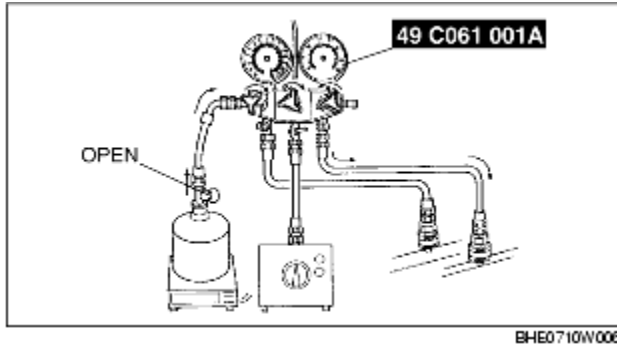
6. Inspect for leakage again.

- 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.

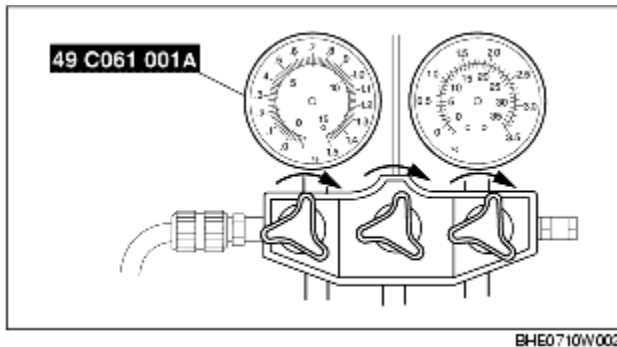
Warning

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



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

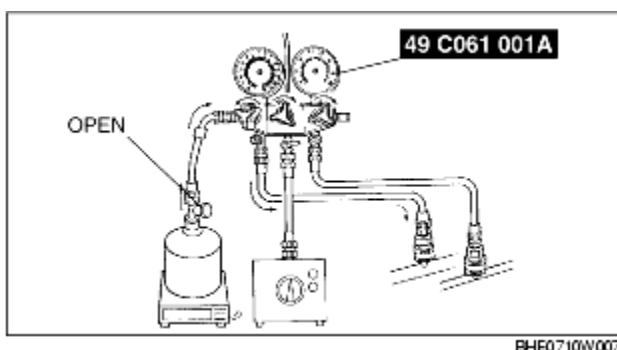


Warning

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

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

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



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

12. Stop the engine and A/C compressor.

Leak Test

1. Inspect for leakage using the **SST** (49 C061 013).

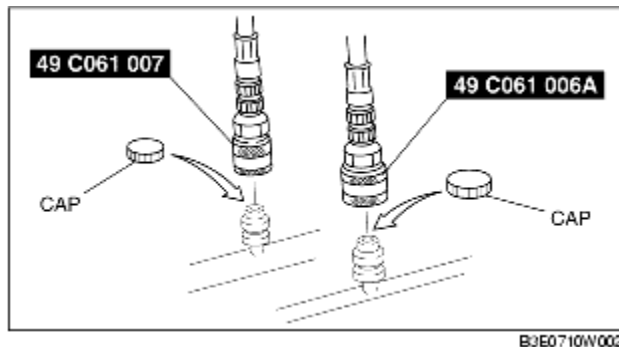
- If there is no leakage, go to Step 3.
- If leakage is found at a loose joint, tighten the joint, then go to the next step.

2. Inspect for leakage again.

- If there is no leakage after tightening the joint, go to the next step.
- If there is still leakage at the same joint, discharge the refrigerant and then repair the joint. Repeat the charging procedure from evacuation.

3. Disconnect the **SSTs** (49 C061 006A, 49 C061 007) from the charging valves.

4. Install the caps to the charging valves.



REFRIGERANT PRESSURE CHECK

B3E071078834W02

1. Install the **SSTs** (49 C061 0A0B). (See [REFRIGERANT SYSTEM GENERAL PROCEDURES](#).)

2. Start the engine and after it is warmed up, run it at a constant **1,500 rpm**.

3. Set the fan speed MAX HI.

4. Turn the A/C switch on.

5. Set to RECIRCULATE mode.

6. Set the temperature control to MAX COLD.

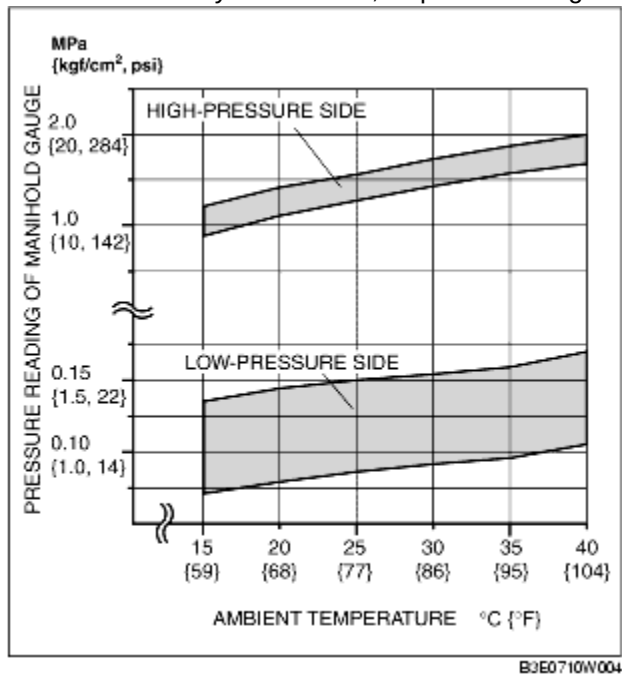
7. Set to VENT mode.

8. Close all the doors and all the windows.

9. Measure the ambient temperature and high- and low- pressure side reading of the **SST** (49 C061 001A).

10. Verify that the intersection of the pressure reading of the **SST** (49 C061 001A) and ambient temperature is in the shaded zone.

- If there is any malfunction, inspect the refrigerant system according to the troubleshooting chart.



REFRIGERANT RECOVERY

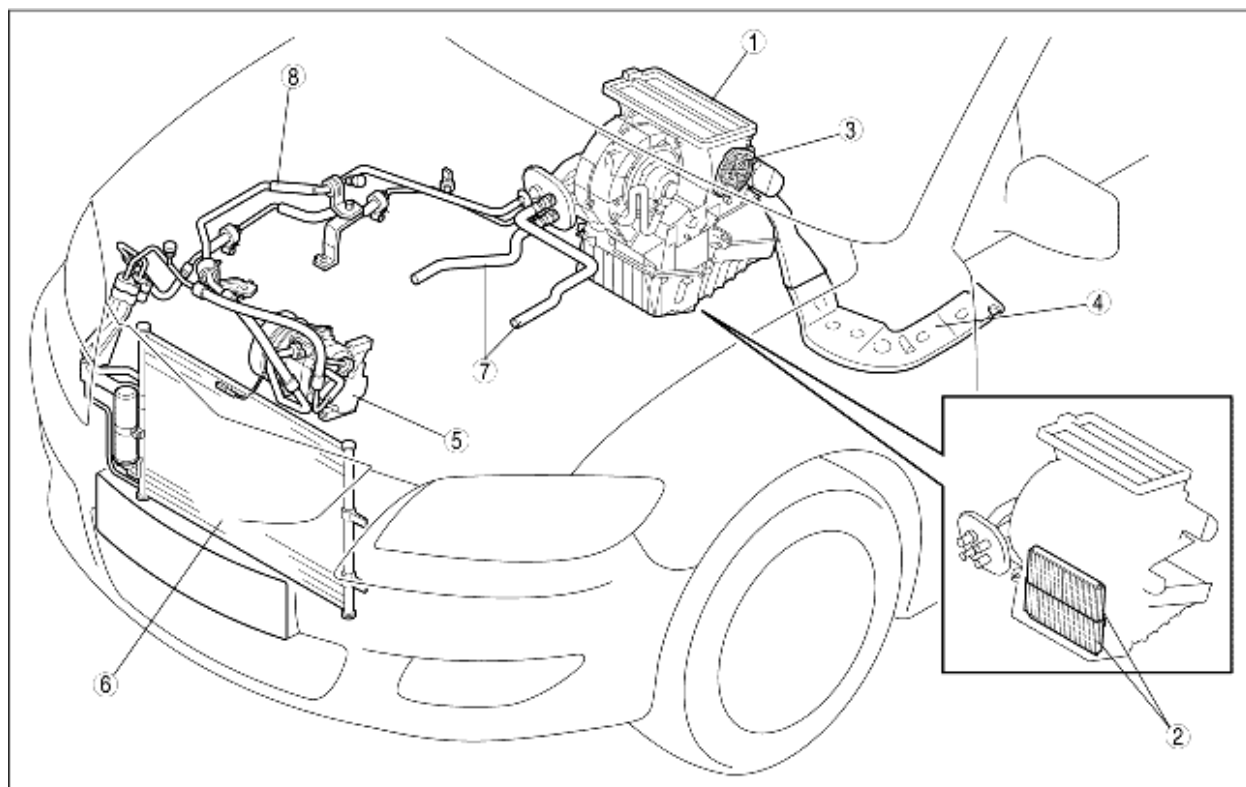
B3E071078834W03

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

BASIC SYSTEM

HVAC BASIC SYSTEM LOCATION INDEX

B3E071101040W01



B3E0700W001

	A/C unit (See A/C UNIT REMOVAL/INSTALLATION.) (See A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER].) 1 (See A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER].) (See EXPANSION VALVE REMOVAL/INSTALLATION.) (See EVAPORATOR INSPECTION.) (See HEATER CORE INSPECTION.)
2	Air filter (See AIR FILTER REMOVAL/INSTALLATION.) (See AIR FILTER INSPECTION.)
3	Airflow mode main link (See AIRFLOW MODE MAIN LINK REMOVAL/INSTALLATION.)
4	Rear heat duct (See REAR HEAT DUCT REMOVAL/INSTALLATION.)
5	A/C compressor (See A/C COMPRESSOR REMOVAL/INSTALLATION [Z6].) (See A/C COMPRESSOR REMOVAL/INSTALLATION [LF].)
6	Condenser

	(See CONDENSER REMOVAL/INSTALLATION.)
	(See CONDENSER INSPECTION.)
7	Heater hose
	Refrigerant line
8	(See REFRIGERANT LINES REMOVAL/INSTALLATION [Z6].)
	(See REFRIGERANT LINES REMOVAL/INSTALLATION [LF].)

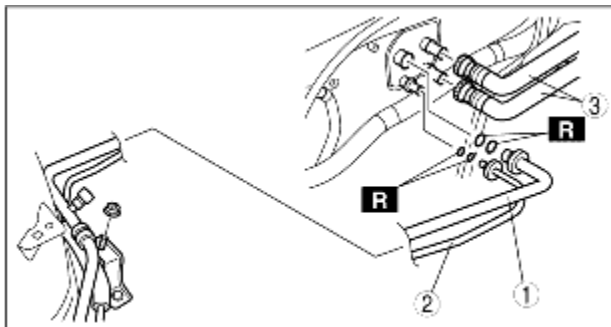
A/C UNIT REMOVAL/INSTALLATION

B3E071161130W01

1. Disconnect the negative battery cable.
2. Discharge the refrigerant. (See [REFRIGERANT CHARGING.](#))
3. Drain the engine coolant. (See [ENGINE COOLANT REPLACEMENT.](#))
4. Disconnect from the A/C unit in the order indicated in the table.

Caution

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

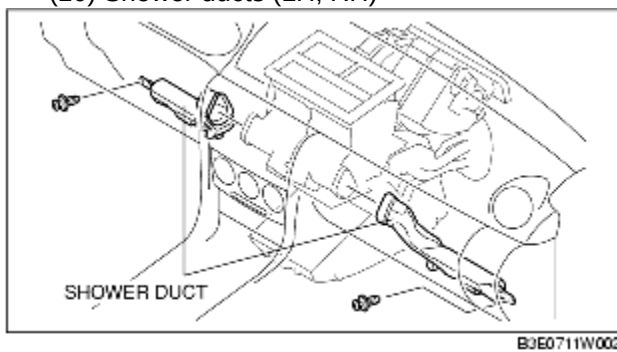


B3E0711W001

	Cooler hose (LO)
1	(See Refrigerant Line Removal Note.)
	(See Refrigerant Line Installation Note.)
	Cooler pipe
2	(See Refrigerant Line Removal Note.)
	(See Refrigerant Line Installation Note.)
3	Heater hose

5. Remove the following parts:

- (1) Front doors (See [FRONT DOOR REMOVAL/INSTALLATION.](#))
- (2) Ashtray panel (See [CONSOLE REMOVAL/INSTALLATION.](#))
- (3) Console (See [CONSOLE REMOVAL/INSTALLATION.](#))
- (4) Shift lever component (MTX) (See [SHIFT MECHANISM REMOVAL/INSTALLATION.](#))
- (5) Selector lever component (ATX) (See [SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.](#))
- (6) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION.](#))
- (7) Front scuff plate (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
- (8) Front side trim (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
- (9) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION.](#))
- (10) Shower ducts (LH, RH)

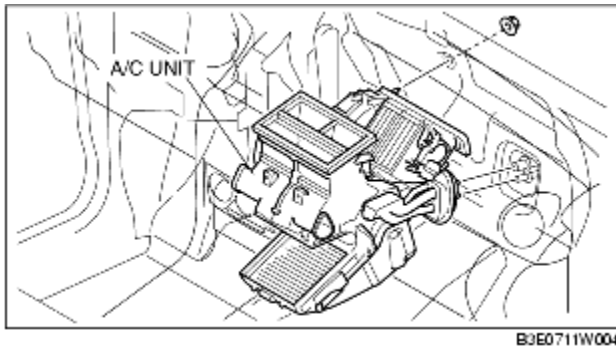


- (11) PJB (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION.](#))
- (12) Lower panel (See [LOWER PANEL REMOVAL/INSTALLATION.](#))
- (13) Column cover (See [COLUMN COVER REMOVAL/INSTALLATION.](#))
- (14) Steering shaft (See [STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.](#))
- (15) A-pillar trim (See [A-PILLAR TRIM REMOVAL/INSTALLATION.](#))
- (16) Center panel module (See [CENTER PANEL MODULE REMOVAL/INSTALLATION.](#))
- (17) Windshield wiper arm and blade (See [WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION.](#))
- (18) Cowl grille (See [COWL GRILLE REMOVAL/INSTALLATION.](#))
- (19) Cowl panel (See [COWL PANEL REMOVAL/INSTALLATION.](#))
- (20) Windshield wiper motor (See [WINDSHIELD WIPER MOTOR REMOVAL/INSTALLATION.](#))

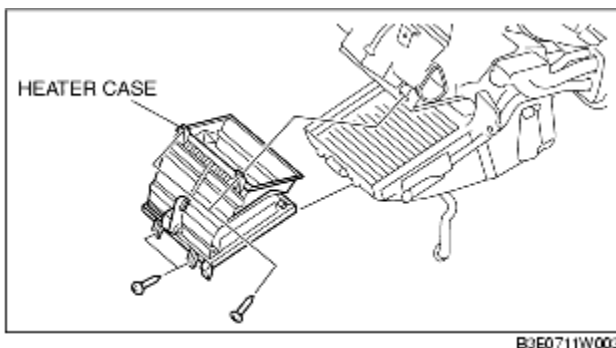
6. Remove the A/C unit installation nut from the engine compartment, then remove the A/C unit. (See [A/C Unit Installation Nut Installation Note.](#))

Caution

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



7. Remove the rear heat duct.
8. Disconnect the drain hose connected to the A/C unit.
9. Remove the nuts and bolts for installing the dashboard to the body.
10. Remove the dashboard with A/C unit. (See [DASHBOARD REMOVAL/INSTALLATION](#).)
11. Disconnect the air mix wire from the air mix link and wire clamp. (Manual air conditioner)
12. Disconnect the airflow mode wire from the airflow mode main link and wire clamp. (Manual air conditioner)
13. Disconnect the following connectors:
 - Blower motor connector
 - Power MOS FET connector (Full-auto air conditioner)
 - Evaporator temperature sensor connector
 - Air intake actuator connector
 - Air mix actuator connector (Full-auto air conditioner)
 - Airflow mode actuator connector (Full-auto air conditioner)
 - Resistor connector. (Manual air conditioner)
14. Remove the heater case.



15. Remove the nuts and bolts for installing the A/C unit to the dashboard.

A/C Unit Installation Note

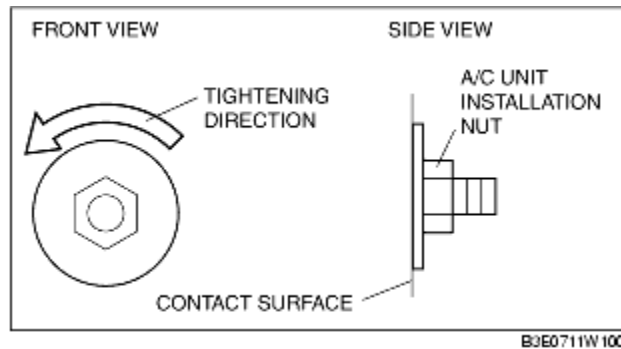
1. When replacing the A/C unit or evaporator, add compressor oil to the refrigerant cycle.

Supplemental oil amount (approx. quantity)

20 ml {20 cc, 0.7 fl oz}

A/C Unit Installation Nut Installation Note

1. Tighten it to the left so that it is flush to the contact surface.



A/C UNIT DISASSEMBLY/ASSEMBLY [FULL-AUTO AIR CONDITIONER]

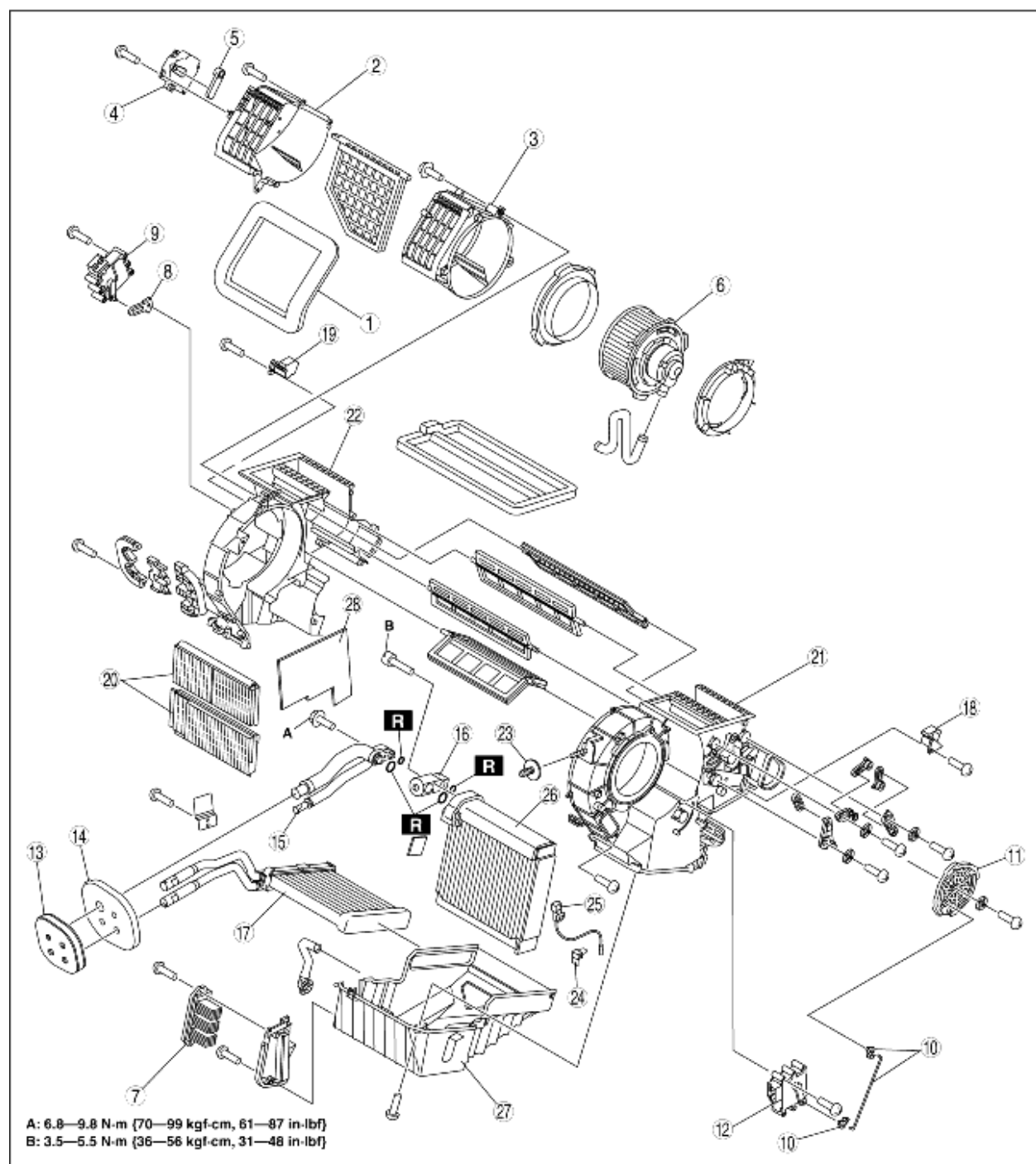
B3E071161130W02

1. Disassemble in the order indicated in the table.

Caution

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

2. Assemble in the reverse order of disassembly.



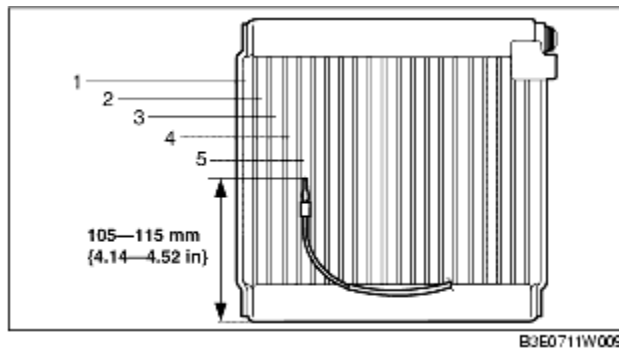
B3E0711W008

1	Adhesive polyurethane (1)
2	Blower case (1)
3	Blower case (2)
4	Air intake actuator
5	Air intake link set
6	Blower motor (See BLOWER MOTOR REMOVAL .)

	(See BLOWER MOTOR INSTALLATION .)
7	Power MOS FET
8	Air mix link set
9	Air mix actuator
10	Airflow mode link set
11	Airflow mode main link
12	Airflow mode actuator
13	Polyurethane foam
14	Adhesive polyurethane (2)
15	Evaporator pipe
16	Expansion valve
17	Heater core
18	Bracket (1)
19	Bracket (2)
20	Air filter
21	A/C case (1)
22	A/C case (2)
23	Bolt
24	Sensor clamp (See Sensor Clamp Assembly Note .)
25	Evaporator temperature sensor (See Evaporator Temperature Sensor Assembly Note .)
26	Evaporator
27	A/C case (3)
28	Adhesive polyurethane (3)

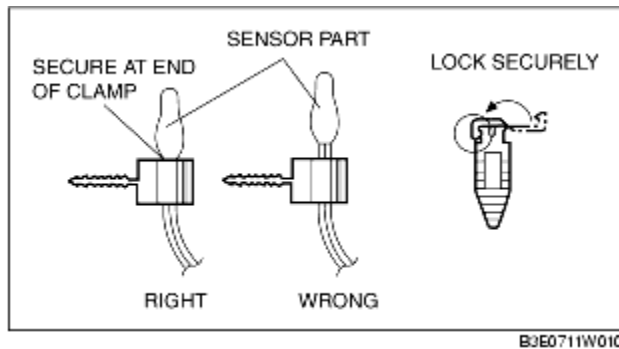
Evaporator Temperature Sensor Assembly Note

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



Sensor Clamp Assembly Note

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



A/C UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER]

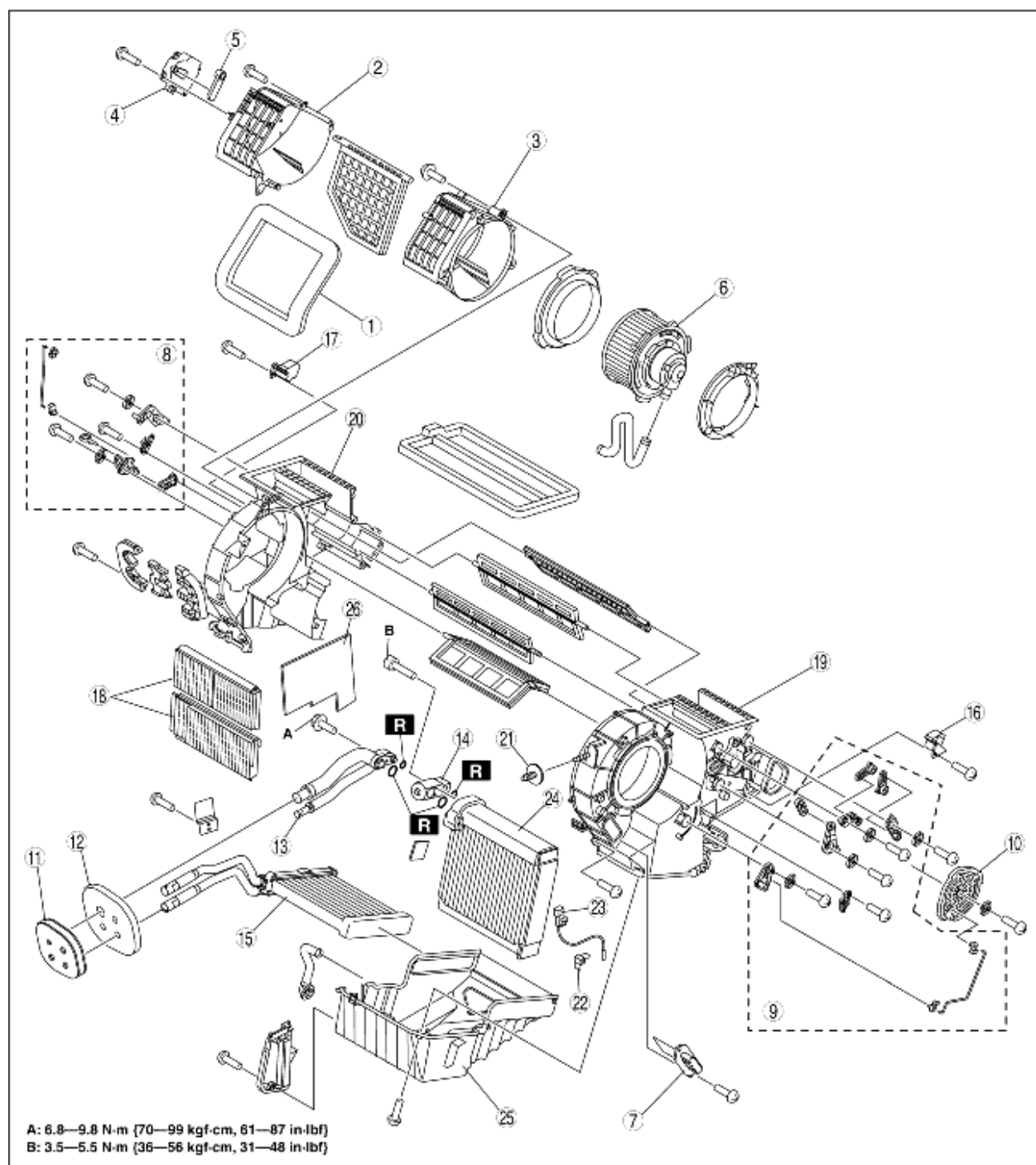
B3E071161130W03

1. Disassemble in the order indicated in the table.

Caution

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

2. Assemble in the reverse order of disassembly.



B3E0711W011

1	Adhesive polyurethane (1)
2	Blower case (1)
3	Blower case (2)
4	Air intake actuator
5	Air intake link set
6	Blower motor (See BLOWER MOTOR REMOVAL.)

	(See BLOWER MOTOR INSTALLATION .)
7	Resistor
8	Air mix link set
9	Airflow mode link set
10	Airflow mode main link
11	Polyurethane foam
12	Adhesive polyurethane (2)
13	Evaporator pipe
14	Expansion valve
15	Heater core
16	Bracket (1)
17	Bracket (2)
18	Air filter
19	A/C case (1)
20	A/C case (2)
21	Bolt
22	Sensor clamp (See Sensor Clamp Assembly Note .)
23	Evaporator temperature sensor (See Evaporator Temperature Sensor Assembly Note .)
24	Evaporator
25	A/C case (3)
26	Adhesive polyurethane (3)

EXPANSION VALVE REMOVAL/INSTALLATION

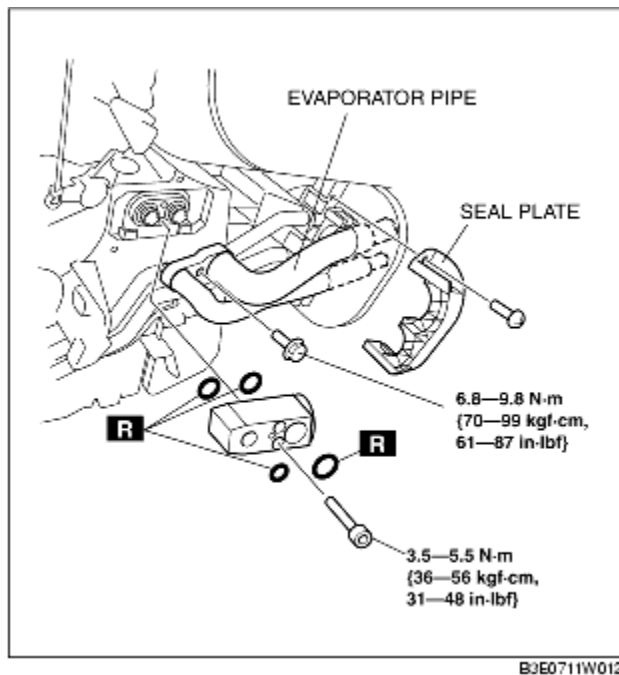
B3E071161130W04

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See [REFRIGERANT RECOVERY](#).) (See [REFRIGERANT CHARGING](#).)

Caution

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

3. Disconnect the cooler hose (LO) and cooler pipe. Do not allow compressor oil to spill. (See [REFRIGERANT LINES REMOVAL/INSTALLATION \[Z6\]](#).) (See [REFRIGERANT LINES REMOVAL/INSTALLATION \[LF\]](#).)
4. Remove the PJB. (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION](#).)
5. Remove the bolt and shift the evaporator pipe. Do not allow compressor oil to spill.
6. Remove the expansion valve. Do not allow compressor oil to spill.



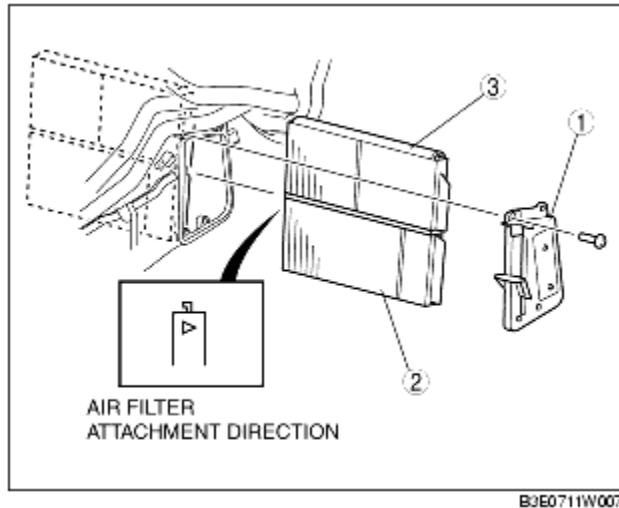
7. Install in the reverse order of removal.
8. Perform the refrigerant system performance test. (See [REFRIGERANT SYSTEM PERFORMANCE TEST](#).)

AIR FILTER REMOVAL/INSTALLATION

B3E071113988W01

1. Disconnect the negative battery cable.
2. Remove the PJB and PJB bracket. (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION](#).)
3. Remove the side wall.
4. Disconnect the evaporator temperature sensor connector.
5. Disconnect the power MOS FET connector. (Full-auto air conditioner)

6. Remove in the order indicated in the table.



1	Air filter cover
2	Air filter (1)
3	Air filter (2)

7. Install in the reverse order of removal.

AIR FILTER INSPECTION

B3E071113988W02

1. Verify that there is no damage, excessive dirt, or abnormal odor on the air filter.

- If there is any malfunction, replace the air filter.

Note

- The air filter is replaced **once two years** or every **40,000 km {25,000 miles}**.
- The air filter cannot be reused by cleaning it with water or compressed air.

EVAPORATOR INSPECTION

B3E071161810W01

1. Inspect the evaporator for damage, cracks, and oil leakage.

- If there is any malfunction, replace the evaporator.

2. Visually inspect the fins for bending.

- If there is any bending, use the end of a flathead screwdriver to straighten the fins.

HEATER CORE INSPECTION

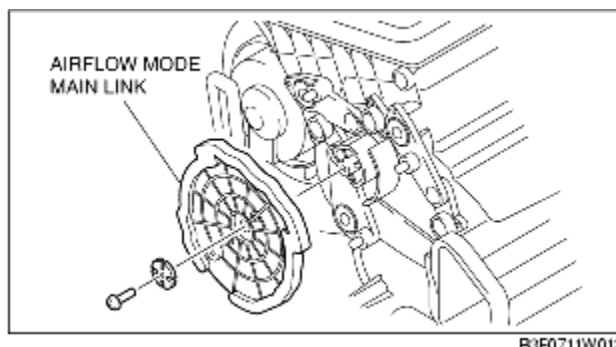
B3E071161910W01

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

AIRFLOW MODE MAIN LINK REMOVAL/INSTALLATION

B3E071161130W05

1. Disconnect the negative battery cable.
2. Detach the bonnet release lever from the lower panel. (See [BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION](#).)
3. Remove the front scuff plate. (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION](#).)
4. Remove the front side trim. (See [FRONT SIDE TRIM REMOVAL/INSTALLATION](#).)
5. Remove the lower panel. (See [LOWER PANEL REMOVAL/INSTALLATION](#).)
6. Remove the shower duct (LH).
7. Remove the airflow mode actuator. (full-auto air conditioner) (See [AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION](#).)
8. Disconnect the airflow mode wire. (See [CLIMATE CONTROL UNIT REMOVAL \[MANUAL AIR CONDITIONER\]](#).)
9. Remove the airflow mode rod (1).
10. Remove the airflow mode main link.



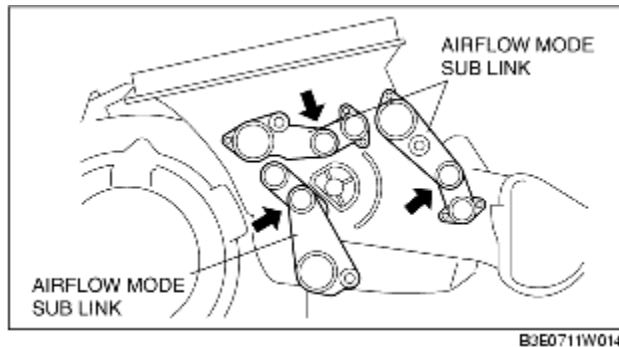
11. Install in the reverse order of removal.
12. Adjust the airflow mode wire. (See [CLIMATE CONTROL UNIT WIRE ADJUSTMENT](#).)

Airflow Mode Main Link Installation Note

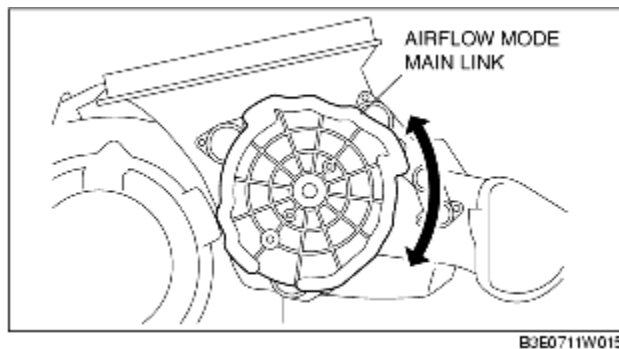
Caution

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

1. Push and hold each airflow mode sub link in the direction of the arrow.



2. Set the airflow mode main link to the A/C unit as shown in the figure.
3. Press the airflow mode main link lightly to the A/C unit in the direction shown by the arrow, then set the projections of each airflow mode sub link into the grooves of the airflow mode main link.
4. Rotate airflow mode main link and verify that each mode is accessed properly.



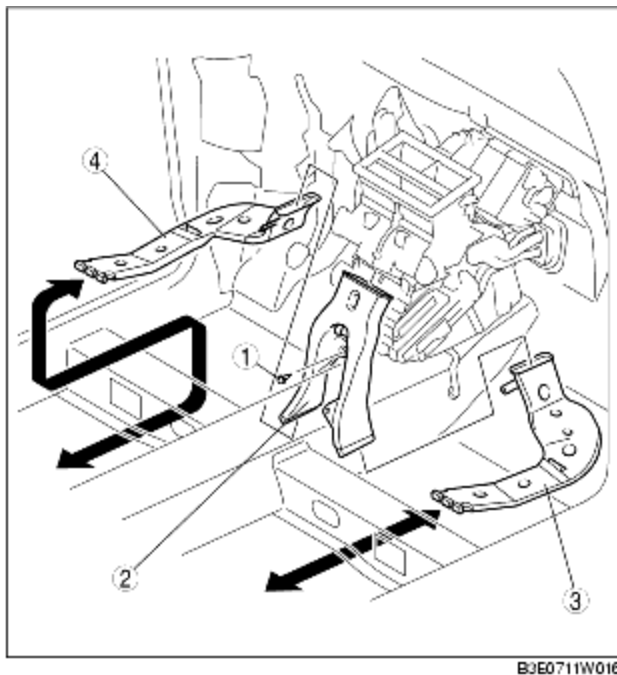
REAR HEAT DUCT REMOVAL/INSTALLATION

B3E071161273W01

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Front seat (See [FRONT SEAT REMOVAL/INSTALLATION](#).)
 - (2) Rear seat (See [REAR SEAT REMOVAL/INSTALLATION](#).)
 - (3) Front scuff plate (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION](#).)

- (4) Console (See [CONSOLE REMOVAL/INSTALLATION.](#))
- (5) Front side trim (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
- (6) Rear scuff plate (See [REAR SCUFF PLATE REMOVAL/INSTALLATION.](#))
- (7) B-pillar lower trim (See [B-PILLAR LOWER TRIM REMOVAL/INSTALLATION.](#))
- (8) Lower anchor of the front seat belt (See [FRONT SEAT BELT REMOVAL/INSTALLATION.](#))
- (9) Tire house trim (See [TIRE HOUSE TRIM REMOVAL/INSTALLATION.](#))
- (10) Fuel-filler lid opener lever cover (See [FUEL-FILLER LID OPENER REMOVAL/INSTALLATION.](#))
- (11) Floor covering (See [FLOOR COVERING REMOVAL/INSTALLATION.](#))

3. Remove in the order indicated in the table.



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

4. Install in the reverse order of removal.

A/C COMPRESSOR REMOVAL/INSTALLATION [Z6]

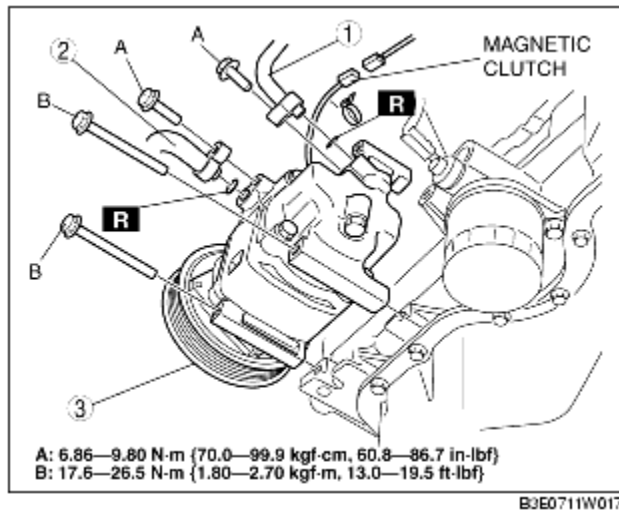
B3E071161450W01

1. Disconnect the negative battery cable.
2. Discharge the refrigerant. (See [REFRIGERANT CHARGING.](#))

3. Remove the splash shield.
4. Remove the drive belt. (See [DRIVE BELT REPLACEMENT \[Z6\]](#).)
5. Detach the wiring harness clamp and disconnect the magnetic clutch connector.
6. Remove in the order indicated in the table. Do not allow remaining compressor oil in the refrigerant line and A/C compressor to spill.

Caution

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



	Cooler hose (HI)
1	(See Refrigerant Line Removal Note .) (See Refrigerant Line Installation Note .)
	Cooler hose (LO)
2	(See Refrigerant Line Removal Note .) (See Refrigerant Line Installation Note .)
	A/C compressor
3	(See A/C Compressor Installation Note .)

7. Install in the reverse order of removal.
8. Perform the refrigerant system performance test. (See [REFRIGERANT SYSTEM PERFORMANCE TEST](#).)

A/C Compressor Installation Note

- When replacing the A/C compressor, remove the following amount of compressor oil from the new A/C compressor.

Amount drained (approx. quantity)

- 120 ml {120 cc, 4.06 fl oz} - [compressor oil from old A/C compressor + 15 ml {15 cc, 0.5 fl oz}]

A/C COMPRESSOR REMOVAL/INSTALLATION [LF]

B3E071161450W02

1. Disconnect the negative battery cable.
2. Discharge the refrigerant. (See [REFRIGERANT CHARGING.](#))
3. Remove the splash shield.
4. Remove the A/C drive belt. (See [DRIVE BELT REPLACEMENT \[LF\].](#))
5. Detach the two wiring harness clamps.
6. Disconnect the cooler hose (LO) and cooler hose (HI). Do not allow remaining compressor oil in the refrigerant line to spill. (See [Refrigerant Line Removal Note.](#)) (See [Refrigerant Line Installation Note.](#))

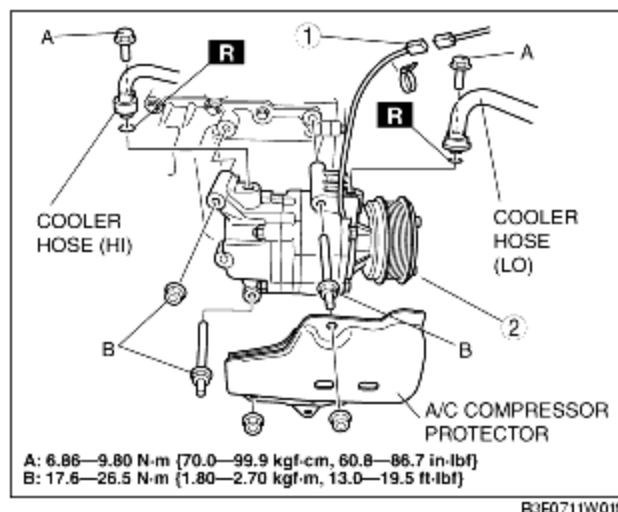
Caution

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

7. Remove the compressor protector.
8. Remove in the order indicated in the table. Do not allow remaining compressor oil in the A/C compressor to spill.

Caution

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



1	Magnetic clutch connector
2	A/C compressor

(See [A/C Compressor Installation Note](#).)

9. Install in the reverse order of removal.

10. Perform the refrigerant system performance test. (See [REFRIGERANT SYSTEM PERFORMANCE TEST](#).)

A/C Compressor Installation Note

1. When replacing the A/C compressor, remove the following amount of compressor oil from the new A/C compressor.

Amount drained (approx. quantity)

- 150 ml {150 cc, 5.07 fl oz} - [compressor oil from old A/C compressor + 15 ml {15 cc, 0.5 fl oz}]

CONDENSER REMOVAL/INSTALLATION

B3E071161480W01

1. Disconnect the negative battery cable.
2. Discharge the refrigerant. (See [REFRIGERANT CHARGING](#).)
3. Drain the engine coolant. (See [ENGINE COOLANT REPLACEMENT](#).)
4. Remove the fresh air duct cover. (See [INTAKE-AIR SYSTEM REMOVAL/INSTALLATION \[Z6\]](#).) (See [INTAKE-AIR SYSTEM REMOVAL/INSTALLATION \[LF\]](#).)
5. Remove the fresh air duct. (Z6) (See [INTAKE-AIR SYSTEM REMOVAL/INSTALLATION \[Z6\]](#).)
6. Remove the air cleaner. (LF) (See [INTAKE-AIR SYSTEM REMOVAL/INSTALLATION \[LF\]](#).)
7. Remove the splash shield.
8. Drain the ATF. (ATX) (See [AUTOMATIC TRANSAXLE FLUID \(ATF\) REPLACEMENT](#).)
9. Disconnect the cooler pipe (HI) and cooler hose. Do not allow remaining compressor oil in the refrigerant line to spill.

Caution

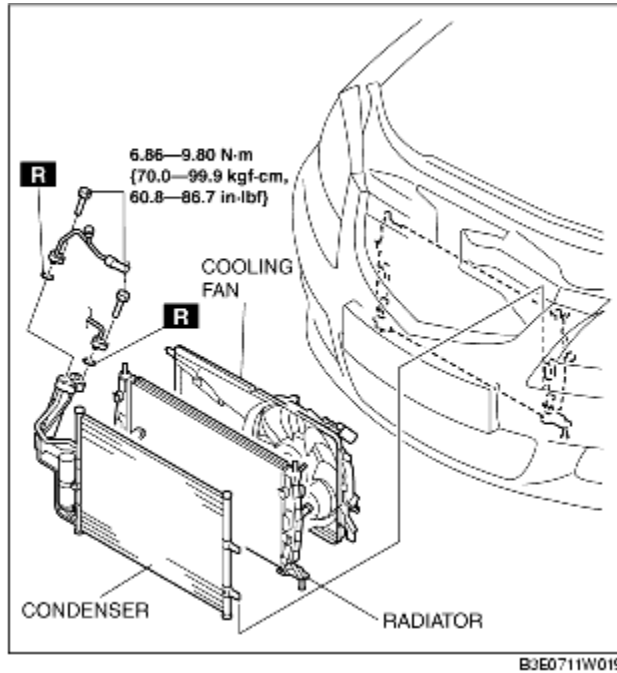
- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunction could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

10. Disconnect the radiator hose from the radiator.
11. Disconnect the oil hose from the oil cooler. (ATX)
12. Remove the cooling fan. (See [RADIATOR REMOVAL/INSTALLATION](#).)
13. Remove the oil cooler. (ATX) (See [OIL COOLER REMOVAL/INSTALLATION \[AUTOMATIC TRANSAXLE\]](#).)

14. Remove the radiator with the condenser installed. (See [RADIATOR REMOVAL/INSTALLATION](#).)
15. Release the radiator hook and pull the condenser up, being careful not to allow remaining compressor oil in the condenser to spill. (See [Condenser Installation Note](#).)

Caution

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



16. Install in the reverse order of removal.
17. Perform the refrigerant system performance test. (See [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

B3E071161480W02

1. Inspect the condenser for cracks, damage, and oil leakage.
 - If there is any malfunction, replace the condenser.
2. Visually inspect the fins for clogging of foreign material.
 - If any fins are clogged, remove the foreign material.

3. Visually inspect the fins for bending.

- If there is any bending, use the end of a flathead screwdriver to straighten fins.

RECEIVER/DRIER REMOVAL/INSTALLATION

B3E071161070W01

1. Disconnect the negative battery cable.

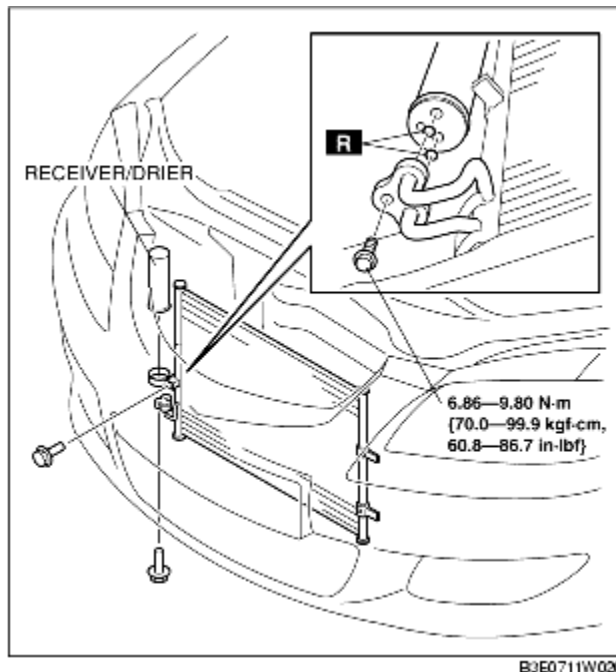
2. Discharge the refrigerant from the system. (See [REFRIGERANT RECOVERY](#).) (See [REFRIGERANT CHARGING](#).)

3. Remove the under cover.

Caution

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

4. Remove the receiver/drier. Do not allow compressor oil to spill.



5. Install in the reverse order of removal.

6. Perform the refrigerant system performance test. (See [REFRIGERANT SYSTEM PERFORMANCE TEST](#).)

REFRIGERANT LINES REMOVAL/INSTALLATION [Z6]

B3E071161460W01

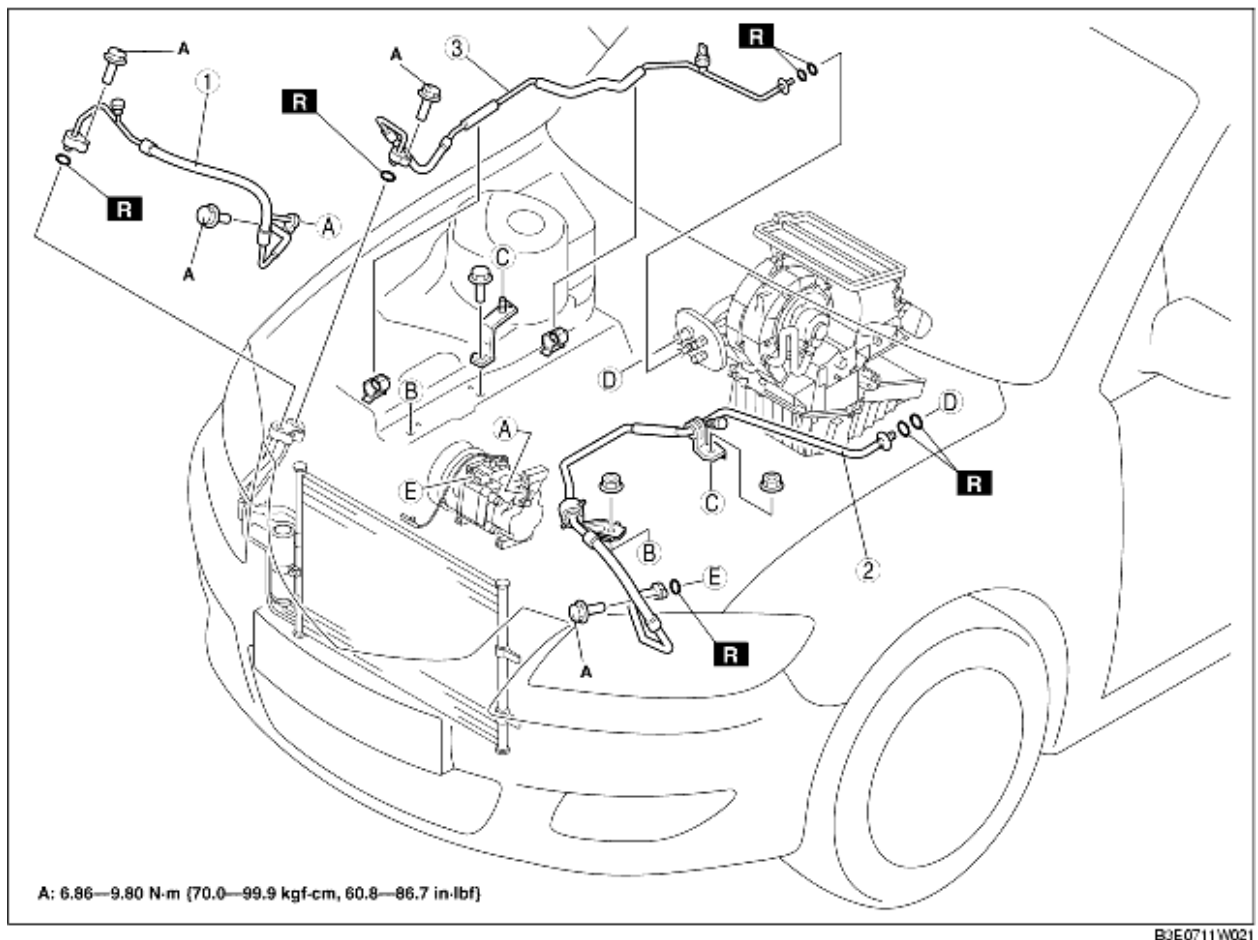
1. Disconnect the negative battery cable.

2. Discharge the refrigerant from the system. (See [REFRIGERANT RECOVERY](#).) (See [REFRIGERANT CHARGING](#).)
3. Remove the P/S fluid reserve tank.
4. Remove the coolant reserve tank. (See [COOLANT RESERVE TANK REMOVAL/INSTALLATION](#).)
5. Remove the accelerator cable.
6. Remove the P/S fluid hose bracket.
7. 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.

8. Install in the reverse order of removal.
9. Perform the refrigerant system performance test. (See [REFRIGERANT SYSTEM PERFORMANCE TEST](#).)



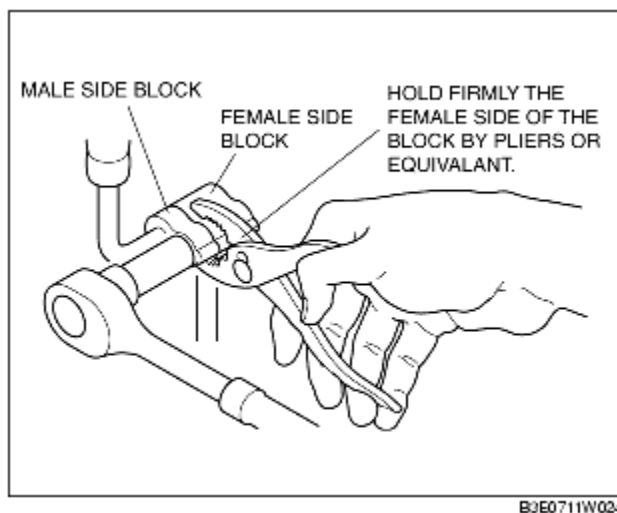
1	Cooler hose (HI)
	(See Refrigerant Line Removal Note)

	(See Refrigerant Line Installation Note)
	Cooler hose (LO)
2	(See Refrigerant Line Removal Note)
	(See Refrigerant Line Installation Note)
	Cooler pipe
3	(See Refrigerant Line Removal Note)
	(See Refrigerant Line Installation Note)

Refrigerant Line Removal Note

Block joint type

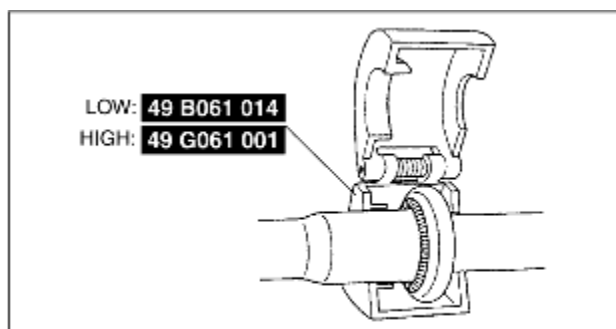
1. Disconnect the block joint type pipes by grasping female side of the block with pliers or similar tool and holding firmly, then remove the connection bolt or nut.



B3E0711W024

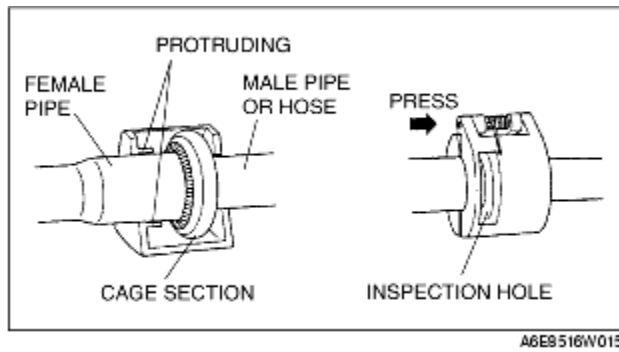
Spring-lock coupling type

1. Set the **SST**.



ADA8516W022

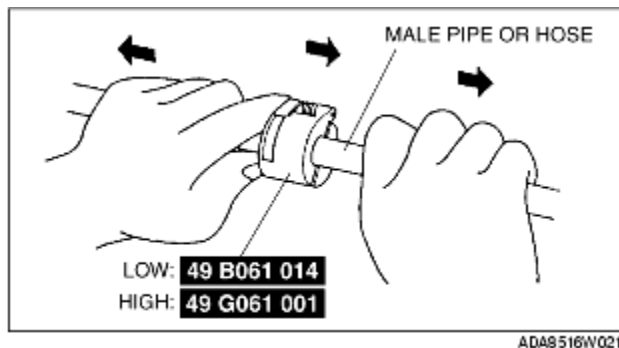
2. While looking through the inspection hole of the **SST**, insert the protruding part of the **SST** until it makes contact with the cage section.



3. Use the **SST** to disconnect the male pipe or hose from the female by pulling the male pipe or hose.

Note

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

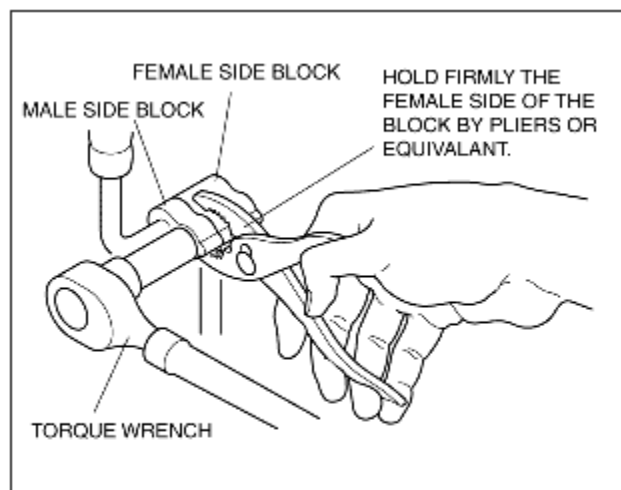


Refrigerant Line Installation Note

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

Block joint type

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



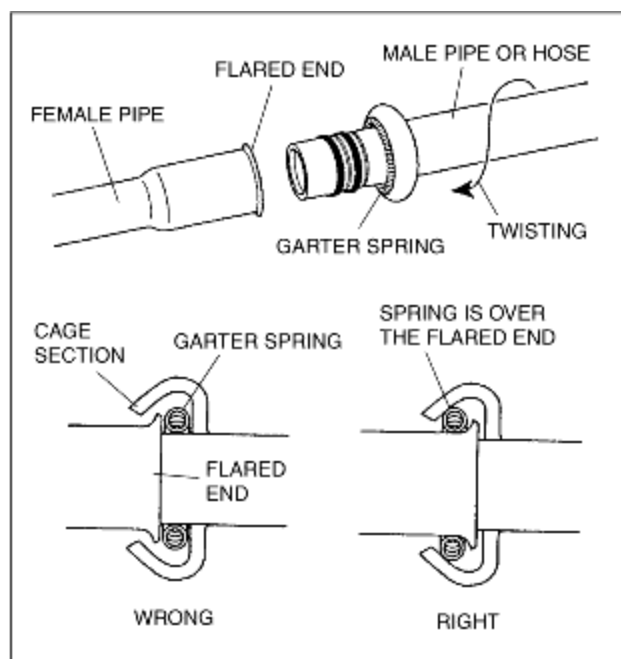
B3E0711W023

Spring-lock coupling type

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

Note

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



A6E9516W017

REFRIGERANT LINES REMOVAL/INSTALLATION [LF]

B3E071161460W02

1. Disconnect the negative battery cable.

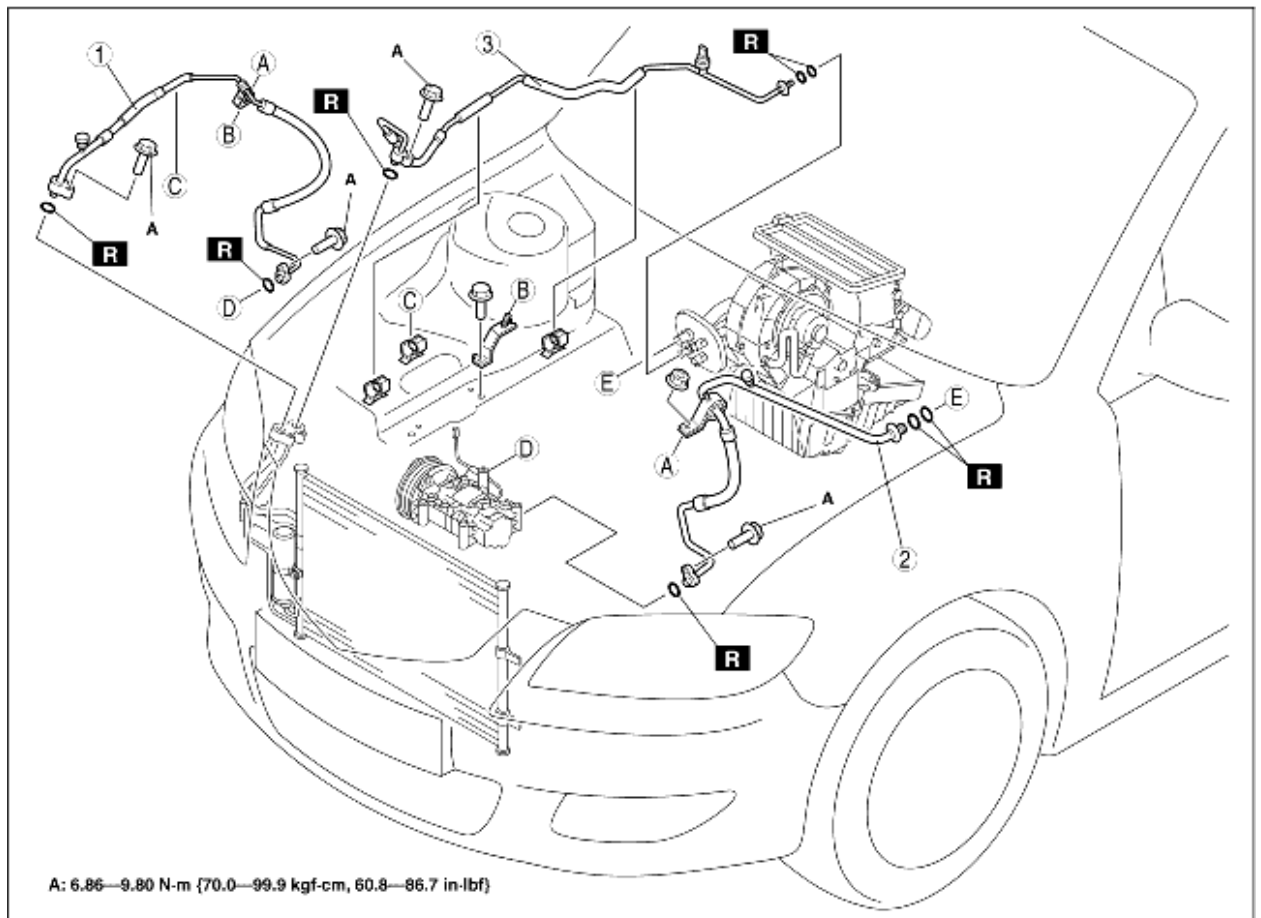
2. Discharge the refrigerant from the system. (See [REFRIGERANT RECOVERY](#).) (See [REFRIGERANT CHARGING](#).)
3. Remove the P/S fluid reserve tank.
4. Remove the coolant reserve tank. (See [COOLANT RESERVE TANK REMOVAL/INSTALLATION](#).)
5. Remove the accelerator cable.
6. Remove the P/S fluid hose bracket.
7. Remove the under cover.
8. 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.

9. Install in the reverse order of removal.

10. Perform the refrigerant system performance test. (See [REFRIGERANT SYSTEM PERFORMANCE TEST](#).)



B3E0711W022

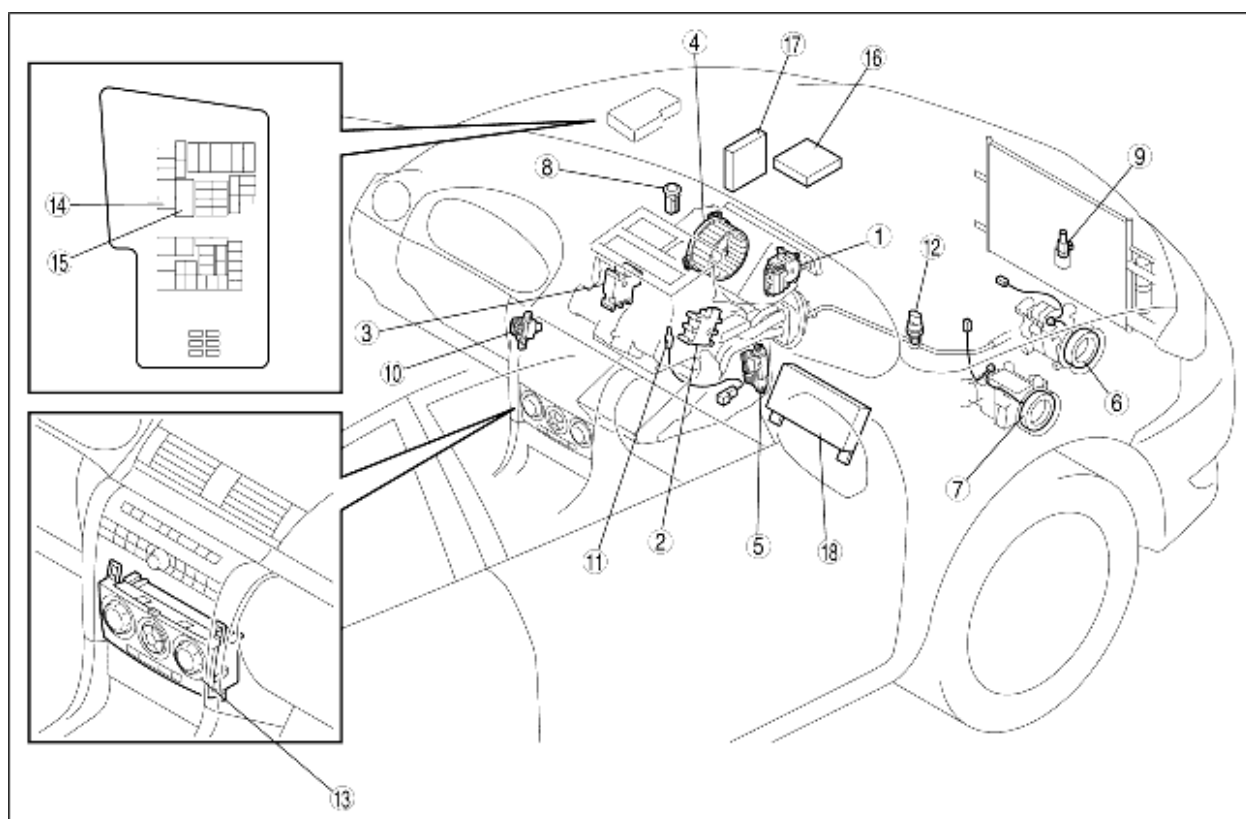
1	Cooler hose (HI)
---	------------------

	(See Refrigerant Line Removal Note.)
	(See Refrigerant Line Installation Note.)
	Cooler hose (LO)
2	(See Refrigerant Line Removal Note.)
	(See Refrigerant Line Installation Note.)
	Cooler pipe
3	(See Refrigerant Line Removal Note.)
	(See Refrigerant Line Installation Note.)

CONTROL SYSTEM

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

B3E074001042W01



B3E0740W001

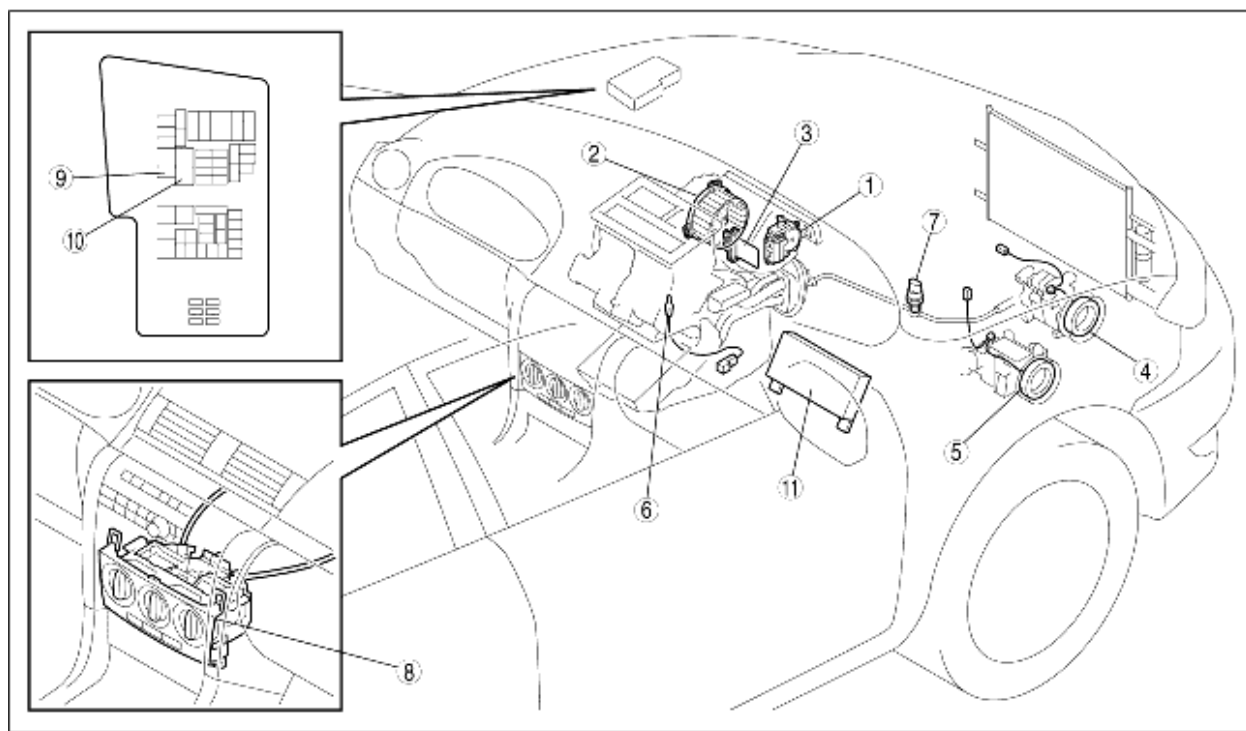
1 Air intake actuator

	(See AIR INTAKE ACTUATOR REMOVAL/INSTALLATION.) (See AIR INTAKE ACTUATOR INSPECTION.)
2	Air mix actuator (See AIR MIX ACTUATOR REMOVAL/INSTALLATION.) (See AIR MIX ACTUATOR INSPECTION.)
3	Airflow mode actuator (See AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.) (See AIRFLOW MODE ACTUATOR INSPECTION.)
4	Blower motor (See BLOWER MOTOR REMOVAL.) (See BLOWER MOTOR INSTALLATION.) (See BLOWER MOTOR INSPECTION.)
5	Power MOS FET (See POWER MOS FET REMOVAL/INSTALLATION.) (See POWER MOS FET INSPECTION.)
6	Magnetic clutch (Z6) (See MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [Z6].) (See MAGNETIC CLUTCH ADJUSTMENT.) (See MAGNETIC CLUTCH INSPECTION [Z6].)
7	Magnetic clutch (LF) (See MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [LF].) (See MAGNETIC CLUTCH ADJUSTMENT.) (See MAGNETIC CLUTCH INSPECTION [LF].)
8	Solar radiation sensor (See SOLAR RADIATION SENSOR REMOVAL/INSTALLATION.) (See SOLAR RADIATION SENSOR INSPECTION.)
9	Ambient temperature sensor (See AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See AMBIENT TEMPERATURE SENSOR INSPECTION.)
10	Cabin temperature sensor (See CABIN TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See CABIN TEMPERATURE SENSOR INSPECTION.)
11	Evaporator temperature sensor

	(See EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See EVAPORATOR TEMPERATURE SENSOR INSPECTION.)
12	Refrigerant pressure switch (See REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION.) (See REFRIGERANT PRESSURE SWITCH INSPECTION.)
13	Climate control unit (See CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].)
14	A/C relay (See RELAY INSPECTION.)
15	Blower relay (See RELAY INSPECTION.)
16	PCM (Z6) (See PCM INSPECTION [Z6].)
17	PCM (LF) (See PCM INSPECTION [LF].)
18	PJB (See PASSENGER JUNCTION BOX (PJB) REMOVAL/INSTALLATION.) (See PASSENGER JUNCTION BOX (PJB) INSPECTION.)

HVAC CONTROL SYSTEM LOCATION INDEX [MANUAL AIR CONDITIONER]

B3E074001042W02



B3E0740/W002

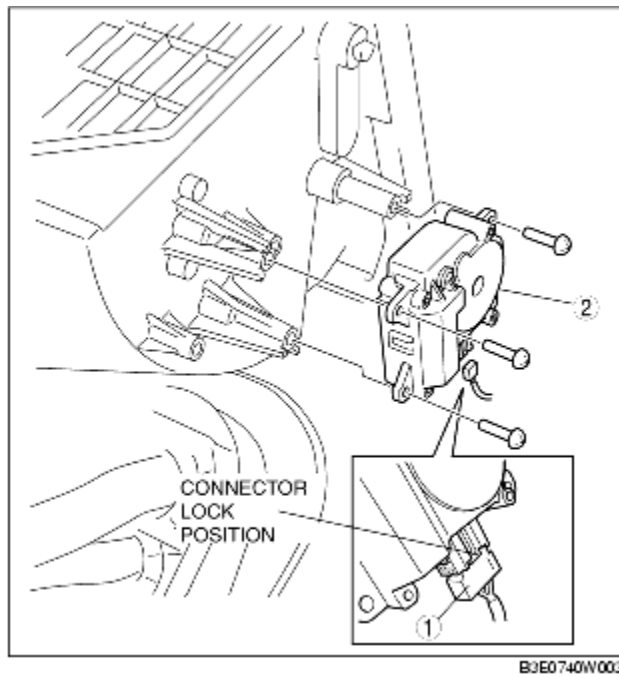
1	Air intake actuator (See AIR INTAKE ACTUATOR REMOVAL/INSTALLATION.) (See AIR INTAKE ACTUATOR INSPECTION.)
2	Blower motor (See BLOWER MOTOR REMOVAL.) (See BLOWER MOTOR INSTALLATION.) (See BLOWER MOTOR INSPECTION.)
3	Resistor (See RESISTOR REMOVAL/INSTALLATION.) (See RESISTOR INSPECTION.)
4	Magnetic clutch (Z6) (See MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [Z6].) (See MAGNETIC CLUTCH ADJUSTMENT.) (See MAGNETIC CLUTCH INSPECTION [Z6].)
5	Magnetic clutch (LF) (See MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [LF].) (See MAGNETIC CLUTCH ADJUSTMENT.) (See MAGNETIC CLUTCH INSPECTION [LF].)
6	Evaporator temperature sensor

	(See EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION.) (See EVAPORATOR TEMPERATURE SENSOR INSPECTION.)
7	Refrigerant pressure switch (See REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION.) (See REFRIGERANT PRESSURE SWITCH INSPECTION.)
8	Climate control unit (See CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER].) (See CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER].) (See CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER].) (See CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER].)
9	A/C relay (See RELAY INSPECTION.)
10	Blower relay (See RELAY INSPECTION.)
11	PJB (See PASSENGER JUNCTION BOX (PJB) REMOVAL/INSTALLATION.) (See PASSENGER JUNCTION BOX (PJB) INSPECTION.)

AIR INTAKE ACTUATOR REMOVAL/INSTALLATION

B3E074061060W01

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Front scuff plate (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
 - (2) Front side trim (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
 - (3) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION.](#))
 - (4) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION.](#))
 - (5) Car-navigation unit (See [CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.](#))
3. Remove in the order indicated in the table.



1	Air intake actuator connector
2	Air intake actuator

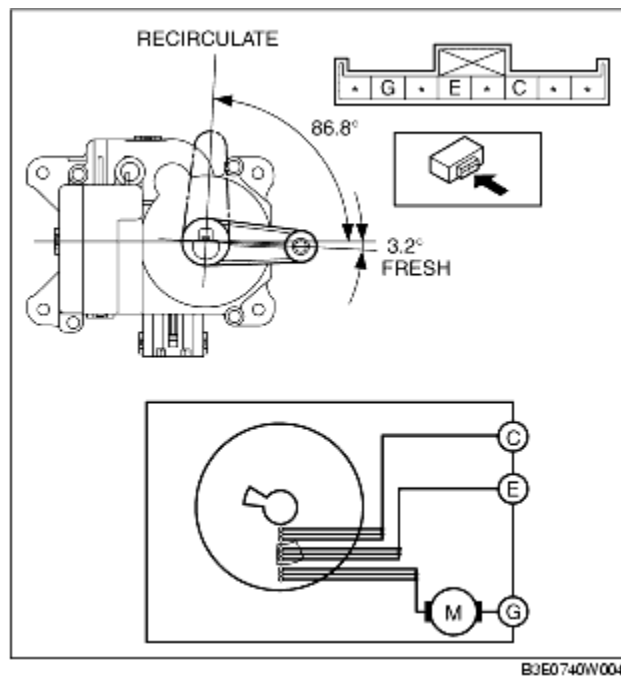
4. Install in the reverse order of removal.

AIR INTAKE ACTUATOR INSPECTION

B3E074061060W02

1. Connect battery positive voltage to air intake actuator terminal C (or G), connect terminal G (or E) to ground, and then verify that the air intake actuator operates as shown in the table.

- If the operation condition is not normal, replace the air intake actuator.



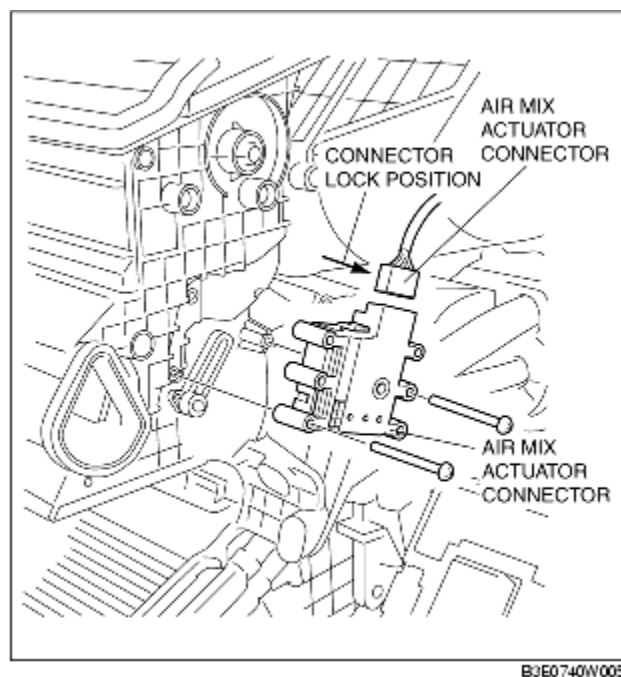
Terminal			Air intake actuator operation
C	E	G	
B+	-	Ground	FRESH→RECIRCULATE
-	Ground	B+	RECIRCULATE→FRESH

AIR MIX ACTUATOR REMOVAL/INSTALLATION

B3E074061415W01

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Front doors (See [FRONT DOOR REMOVAL/INSTALLATION.](#))
 - (2) Console (See [CONSOLE REMOVAL/INSTALLATION.](#))
 - (3) Shift lever component (MTX) (See [SHIFT MECHANISM REMOVAL/INSTALLATION.](#))
 - (4) Selector lever component (ATX) (See [SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.](#))
 - (5) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION.](#))
 - (6) Front scuff plate (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
 - (7) Front side trim (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
 - (8) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION.](#))
 - (9) Shower ducts (LH, RH) (See [A/C UNIT REMOVAL/INSTALLATION.](#))
 - (10) PJB (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION.](#))
 - (11) Car-navigation unit (See [CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.](#))

- (12) Lower panel (See [LOWER PANEL REMOVAL/INSTALLATION.](#))
 - (13) Column cover (See [COLUMN COVER REMOVAL/INSTALLATION.](#))
 - (14) Meter hood (See [METER HOOD REMOVAL/INSTALLATION.](#))
 - (15) Instrument cluster (See [INSTRUMENT CLUSTER REMOVAL/INSTALLATION.](#))
 - (16) Steering shaft (See [STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.](#))
 - (17) A-pillar trim (See [A-PILLAR TRIM REMOVAL/INSTALLATION.](#))
 - (18) Center panel module (See [CENTER PANEL MODULE REMOVAL/INSTALLATION.](#))
 - (19) LCD unit (See [LCD UNIT REMOVAL/INSTALLATION.](#))
 - (20) Cowl grille (See [COWL GRILLE REMOVAL/INSTALLATION.](#))
 - (21) Cowl panel (See [COWL PANEL REMOVAL/INSTALLATION.](#))
 - (22) Windshield wiper arm and blade (See [WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION.](#))
 - (23) Windshield wiper motor (See [WINDSHIELD WIPER MOTOR REMOVAL/INSTALLATION.](#))
3. Disconnect the air mix wire from the air mix link and wire clamp. (Manual air conditioner)
 4. Disconnect the airflow mode wire from the airflow mode main link and wire clamp. (Manual air conditioner)
 5. Disconnect the following connectors:
 - Blower motor connector
 - Power MOS FET connector (Full-auto air conditioner)
 - Evaporator temperature sensor connector
 - Air intake actuator connector
 - Air mix actuator connector (Full-auto air conditioner)
 - Airflow mode actuator connector (Full-auto air conditioner)
 6. Remove the rear heat duct (1).
 7. Remove the heater case. (See [A/C UNIT REMOVAL/INSTALLATION.](#))
 8. Remove the nuts and bolts for installing the dashboard to the body.
 9. Remove in the air mix actuator.



B3E0740W005

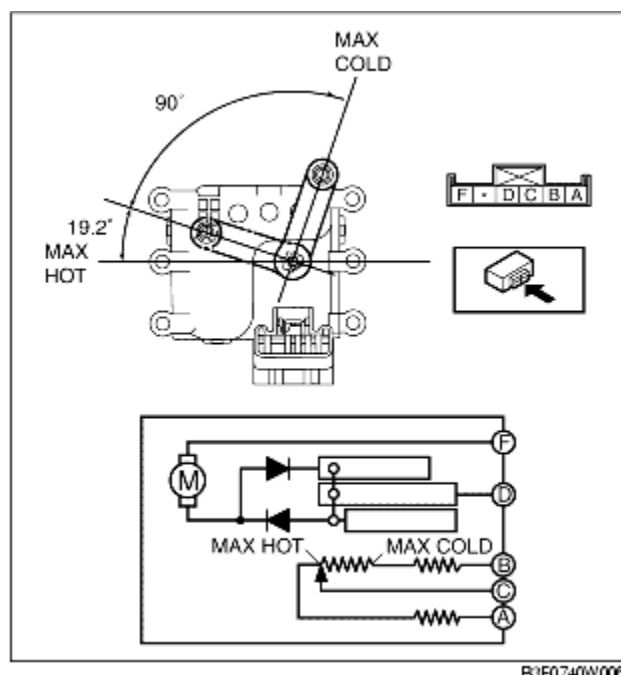
10. Install in the reverse order of removal.

AIR MIX ACTUATOR INSPECTION

B3E074061415W02

1. Connect battery positive voltage to air mix actuator terminal D (or F), connect terminal F (or D) to ground, and then verify that the air mix actuator operates as shown in the table.

- If the operation condition is not normal, replace the air mix actuator.



B3E0740W006

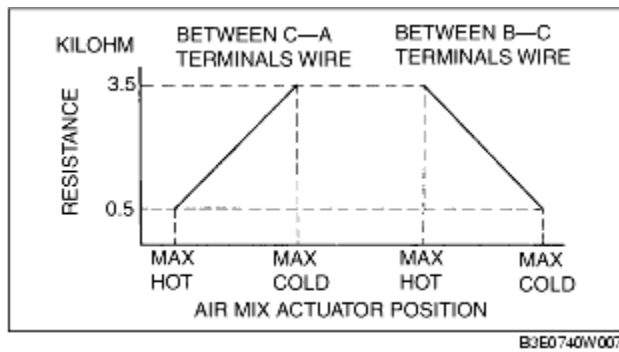
Terminal

Air mix actuator operation

D	F	
B+	Ground	HOT→COLD
Ground	B+	COLD→HOT

2. Verify that the resistance between terminals B and C, and C and A matches the air mix actuator operation as shown in the graph.

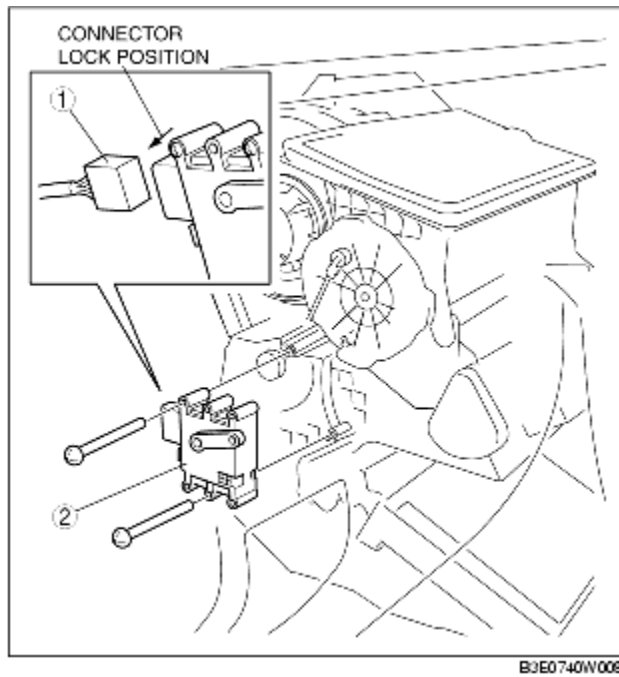
- If the operation condition and resistance are not normal, replace the air mix actuator.



AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION

B3E074061070W01

1. Disconnect the negative battery cable.
2. Remove the airflow mode rod from the airflow mode actuator.
3. Remove in the order indicated in the table.



1	Airflow mode actuator connector
2	Airflow mode actuator

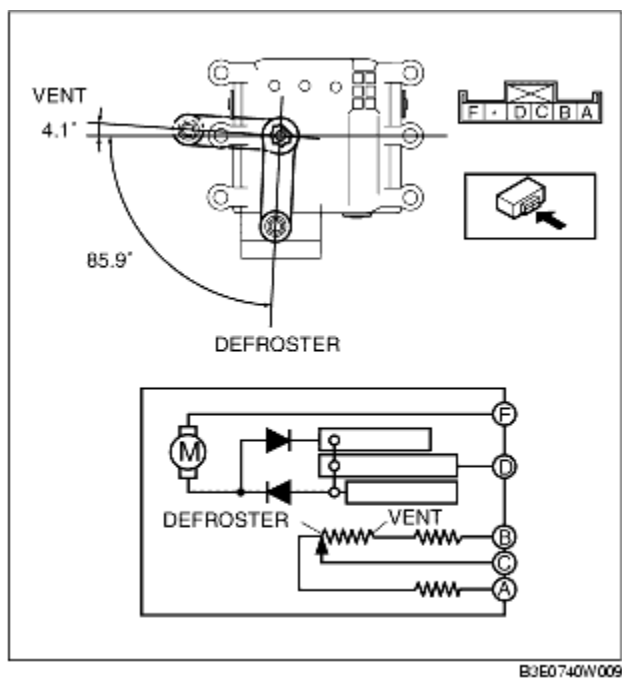
4. Install in the reverse order of removal.

AIRFLOW MODE ACTUATOR INSPECTION

B3E074061070W02

1. Connect battery positive voltage to airflow mode actuator terminal D (or F), connect terminal F (or D) to ground, and then verify that the airflow mode actuator operates as shown in the table.

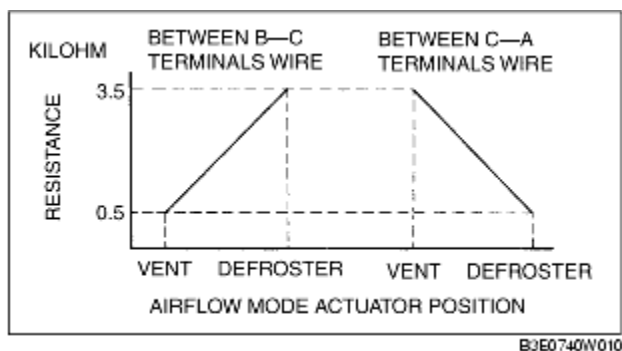
- If the operation condition is not normal, replace the airflow mode actuator.



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

2. Verify that the resistance between terminals B and C, and C and A matches the airflow mode actuator operation as shown in the graph.

- If the operation condition and resistance are not normal, replace the airflow mode actuator.

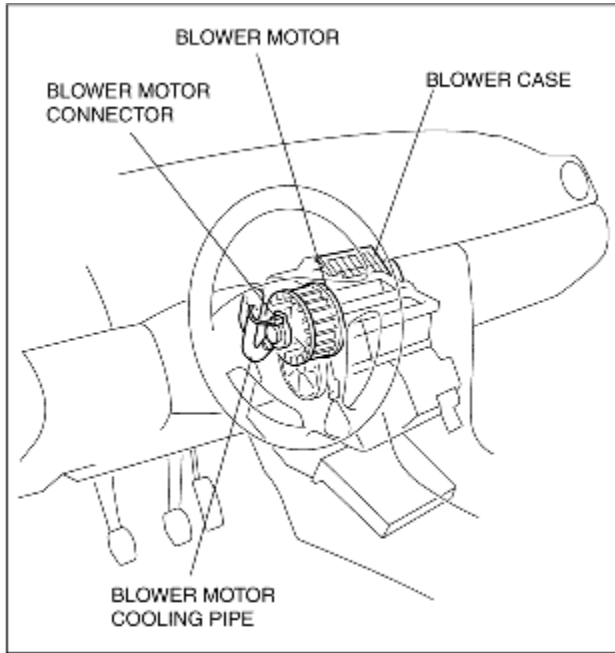


BLOWER MOTOR REMOVAL

B3E074061020W01

Note

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



B3E0740W011

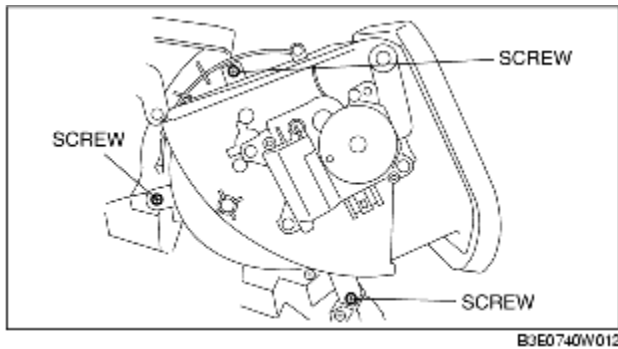
- Perform the work from the front passenger's side in the posture shown in the figure.



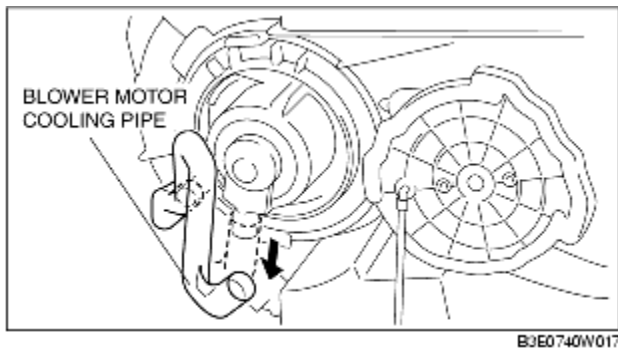
B3E0740W021

1. Set the air intake mode to FRESH.
2. Disconnect the negative battery cable.
3. Remove the following parts:
 - (1) Front side trim (RH) (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
 - (2) Front scuff plate (RH) (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
 - (3) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION.](#))
 - (4) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION.](#))
 - (5) PJB and PJB bracket (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION.](#))
 - (6) Car-navigation unit (See [CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.](#))
 - (7) Auto leveling control module (See [AUTO LEVELING CONTROL MODULE REMOVAL/INSTALLATION.](#))

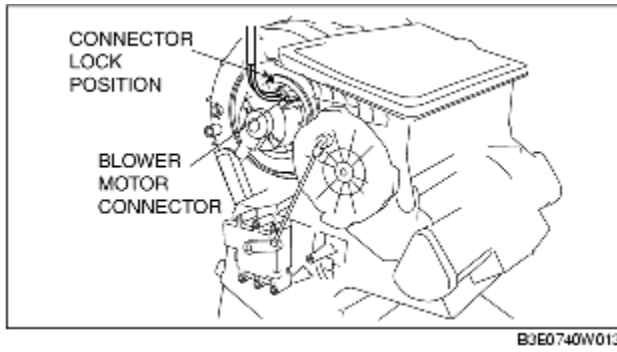
4. Disconnect the air intake actuator connector.
5. Remove the screws shown in the figure, then remove the blower case.



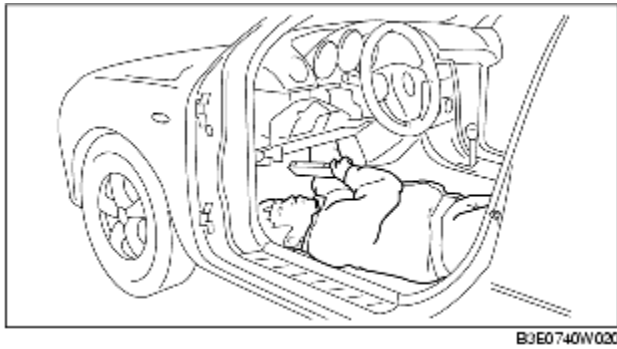
6. Remove the air guide.
7. Install the **SST (49 B061 015)** to the blower motor. (See [SST Installation Note](#).)
8. Detach the bonnet release lever from the lower panel. (See [BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION](#).)
9. Remove the front scuff plate. (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION](#).)
10. Remove the front side trim. (See [FRONT SIDE TRIM REMOVAL/INSTALLATION](#).)
11. Remove the lower panel. (See [LOWER PANEL REMOVAL/INSTALLATION](#).)
12. Disconnect the resistor connector. (Manual air conditioner)
13. Disconnect the blower motor cooling pipe connected to the blower motor.



14. Remove the airflow mode actuator. (See [AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION](#).)
15. Disconnect the blower motor connector as shown in the figure.



16. Remove the blower motor cover. (See [Blower Motor Cover Removal Note](#).)



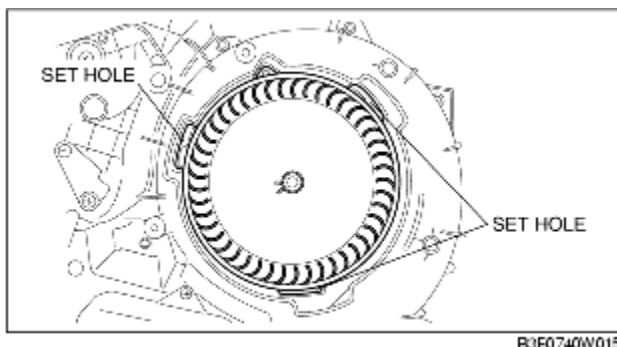
Caution

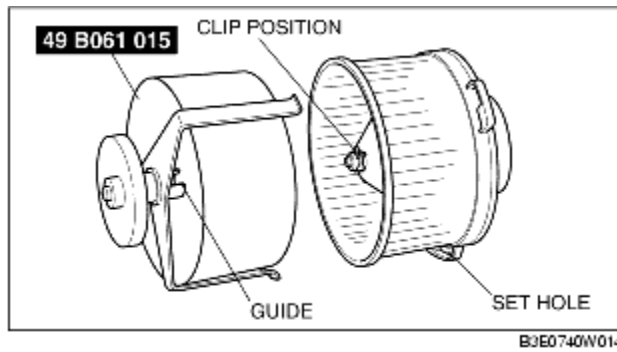
- When the blower motor cover is removed, the blower motor could fall in the A/C unit case causing the sirocco fan to be damaged. Therefore another person must hold the blower motor at the installation position.

17. Remove the blower motor by pulling it out. (See [Blower Motor Removal Note](#).)

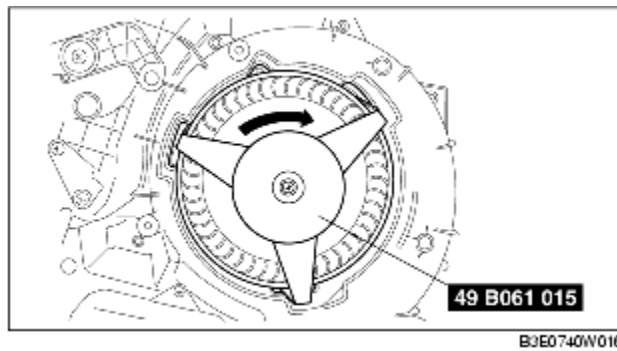
SST Installation Note

1. Align the **SST (49 B061 015)** guide with the sirocco fan clip and insert the **SST (49 B061 015)** tabs (3) into the **three** set holes on the blower motor.



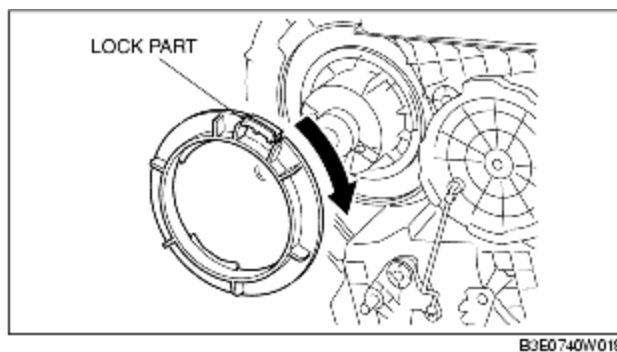


2. Rotate the **SST (49 B061 015)** clockwise to lock the **SST** and blower motor.



Blower Motor Cover Removal Note

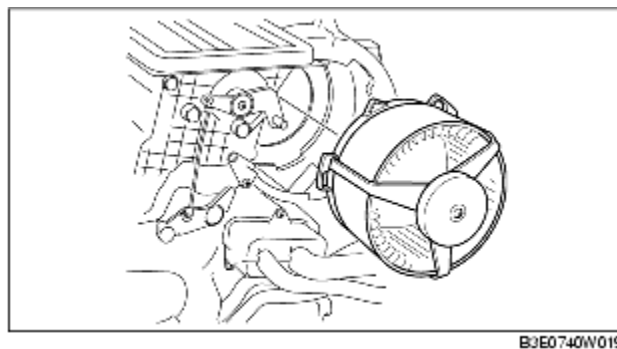
1. Pull the lock on the top of the blower motor cover and rotate the blower motor cover clockwise.



Blower Motor Removal Note

Caution

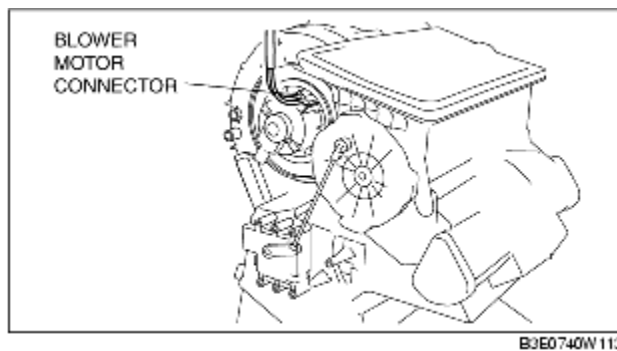
- To prevent damage to the sirocco fan, pull the blower motor out being careful that the blower motor does not interfere with the A/C unit.



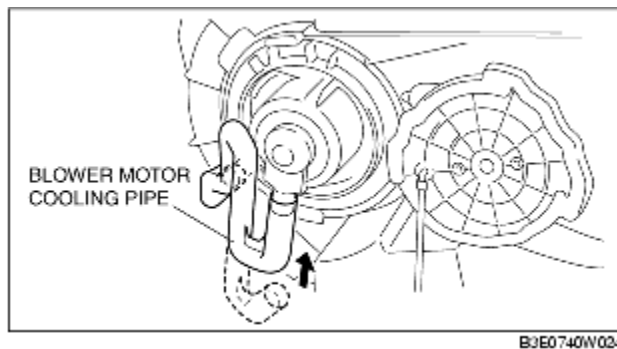
BLOWER MOTOR INSTALLATION

B3E074061020W02

1. Install the **SST** to the blower motor. (See [SST Installation Note.](#))
2. Install the blower motor with the **SST (49 B061 015)** installed, to the A/C unit. (See [Blower Motor Installation Note.](#))
3. Install the blower motor cover from the driver's side. (See [Blower Motor Cover Installation Note.](#))
4. Remove the **SST (49 B061 015)** from the blower motor.
5. Connect the blower motor connector as shown in the figure.



6. Install the blower motor cooling pipe.



7. Install the airflow mode actuator. (See [AIRFLOW MODE ACTUATOR REMOVAL/INSTALLATION.](#))
8. Install the air guide.
9. Connect the resistor connector. (Manual air conditioner)
10. Install the lower panel. (See [LOWER PANEL REMOVAL/INSTALLATION.](#))
11. Install the front side trim. (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
12. Install the front scuff plate. (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
13. Install the bonnet release lever from the lower panel. (See [BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.](#))

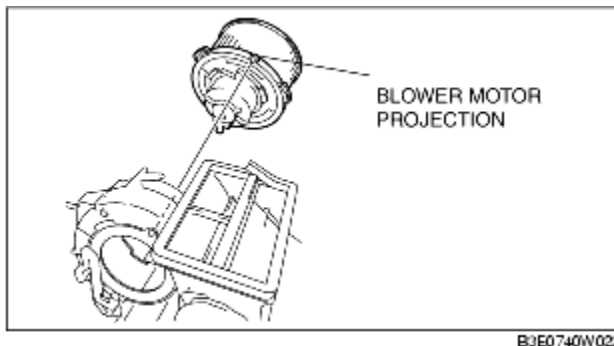
14. Install the blower case with the intake door at FRESH. (See [Blower Case Installation Note.](#))
15. Connect the air intake actuator connector.
16. Install the following parts:
 - (1) Auto leveling control module (See [AUTO LEVELING CONTROL MODULE REMOVAL/INSTALLATION.](#))
 - (2) Car-navigation unit (See [CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.](#))
 - (3) PJB and PJB bracket (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION.](#))
 - (4) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION.](#))
 - (5) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION.](#))
 - (6) Front side trim (RH) (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
 - (7) Front scuff plate (RH) (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))

Blower Motor Installation Note

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

Caution

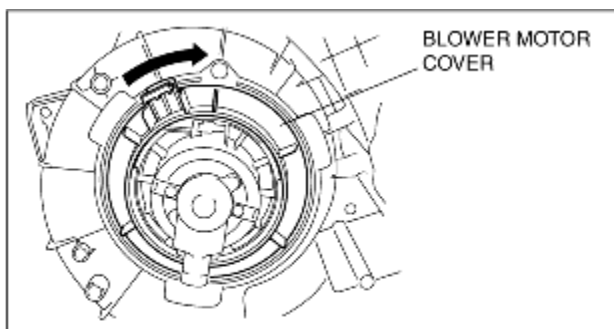
- To prevent damage to the sirocco fan, install the blower motor being careful that the blower motor does not interfere with the A/C unit. Also, another person must hold the blower motor at the installation position.



B3E0740W022

Blower Motor Cover Installation Note

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



B3E0740W023

Blower Case Installation Note

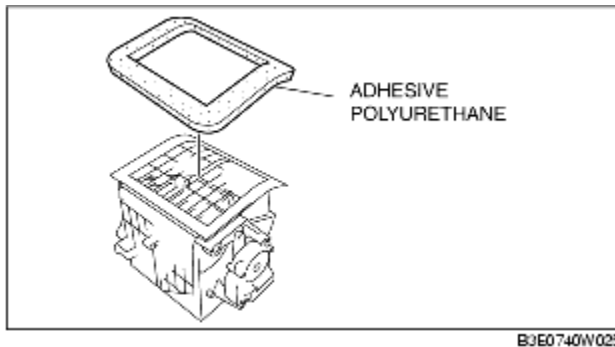
1. If not replacing the blower case, replace the adhesive polyurethane on the fresh-air inlet of the blower case.

Caution

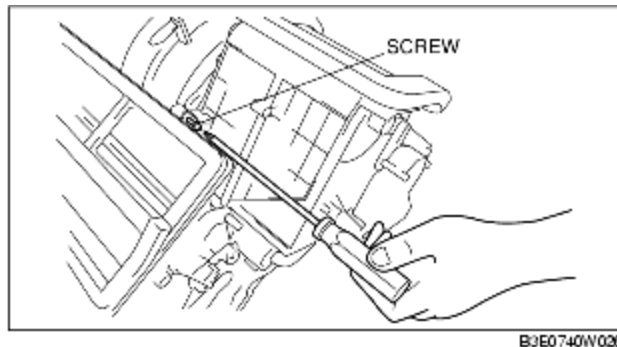
- To adhere new polyurethane properly, be sure to remove the adhesive agent and adhesive polyurethane completely.

Note

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



2. Insert the screw into the blower case and install the case to the A/C unit.

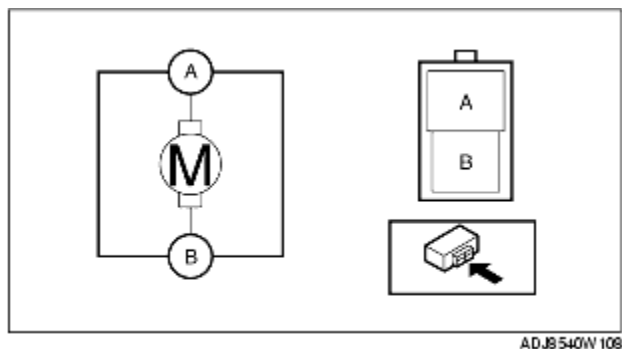


BLOWER MOTOR INSPECTION

B3E074061020W03

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

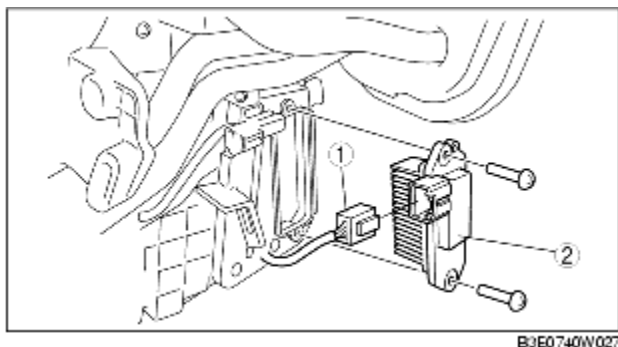
- If there is any malfunction, replace the blower motor.



POWER MOS FET REMOVAL/INSTALLATION

B3E074000116W01

1. Disconnect the negative battery cable.
2. Remove the PJB and PJB bracket. (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION](#).)
3. Remove in the order indicated in the table.



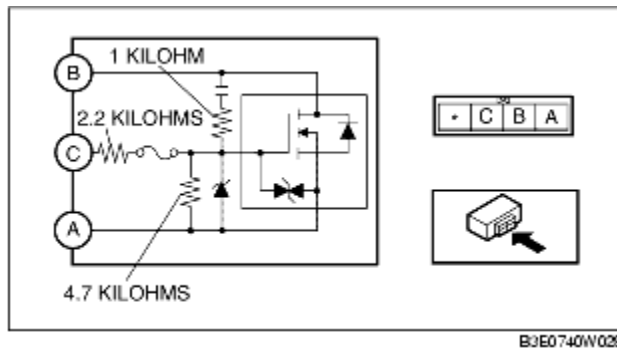
1	Power MOS FET connector
2	Power MOS FET

4. Install in the reverse order of removal.

POWER MOS FET INSPECTION

B3E074000116W02

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



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

RESISTOR REMOVAL/INSTALLATION

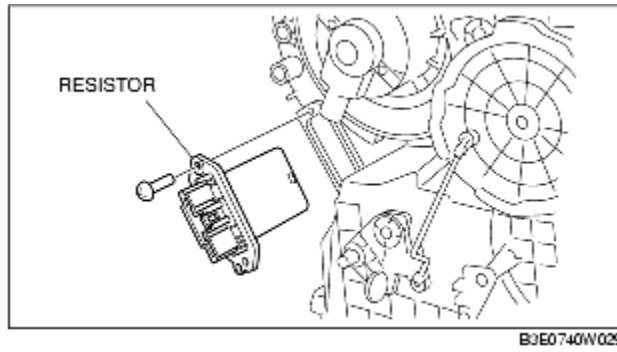
B3E074061015W01

1. Disconnect the negative battery cable.
2. Remove the two nuts securing the cooler hose (LO).
3. Remove the following parts:
 - (1) Front doors (See [FRONT DOOR REMOVAL/INSTALLATION.](#))
 - (2) Console (See [CONSOLE REMOVAL/INSTALLATION.](#))
 - (3) Shift lever component (MTX) (See [SHIFT MECHANISM REMOVAL/INSTALLATION.](#))
 - (4) Selector lever component (ATX) (See [SELECTOR LEVER COMPONENT REMOVAL/INSTALLATION.](#))
 - (5) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION.](#))
 - (6) Front scuff plate (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
 - (7) Front side trim (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
 - (8) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION.](#))
 - (9) Shower ducts (LH, RH) (See [A/C UNIT REMOVAL/INSTALLATION.](#))
 - (10) PJB (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION.](#))
 - (11) Car-navigation unit (See [CAR-NAVIGATION UNIT REMOVAL/INSTALLATION.](#))

- (12) Lower panel (See [LOWER PANEL REMOVAL/INSTALLATION.](#))
 - (13) Column cover (See [COLUMN COVER REMOVAL/INSTALLATION.](#))
 - (14) Meter hood (See [METER HOOD REMOVAL/INSTALLATION.](#))
 - (15) Instrument cluster (See [INSTRUMENT CLUSTER REMOVAL/INSTALLATION.](#))
 - (16) Steering shaft (See [STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.](#))
 - (17) A-pillar trim (See [A-PILLAR TRIM REMOVAL/INSTALLATION.](#))
 - (18) Center panel module (See [CENTER PANEL MODULE REMOVAL/INSTALLATION.](#))
 - (19) LCD unit (See [LCD UNIT REMOVAL/INSTALLATION.](#))
 - (20) Cowl grille (See [COWL GRILLE REMOVAL/INSTALLATION.](#))
 - (21) Cowl panel (See [COWL PANEL REMOVAL/INSTALLATION.](#))
 - (22) Windshield wiper arm and blade (See [WINDSHIELD WIPER ARM AND BLADE REMOVAL/INSTALLATION.](#))
 - (23) Windshield wiper motor (See [WINDSHIELD WIPER MOTOR REMOVAL/INSTALLATION.](#))
4. Disconnect the air mix wire from the air mix link and wire clamp. (Manual air conditioner)
 5. Disconnect the airflow mode wire from the airflow mode main link and wire clamp. (Manual air conditioner)
 6. Disconnect the following connectors:
 - Blower motor connector
 - Power MOS FET connector (Full-auto air conditioner)
 - Evaporator temperature sensor connector
 - Air intake actuator connector
 - Air mix actuator connector (Full-auto air conditioner)
 - Airflow mode actuator connector (Full-auto air conditioner)
 7. Remove the rear heat duct (1).
 8. Remove the heater case. (See [A/C UNIT REMOVAL/INSTALLATION.](#))
 9. Remove the dashboard. (See [DASHBOARD REMOVAL/INSTALLATION.](#))
 10. Move the A/C unit to the right and remove the resistor.

Caution

- While moving the A/C unit, do not apply excessive force. Otherwise it will result in deformation of the refrigerant piping or refrigerant gas leakage.



11. Install in the reverse order of removal.

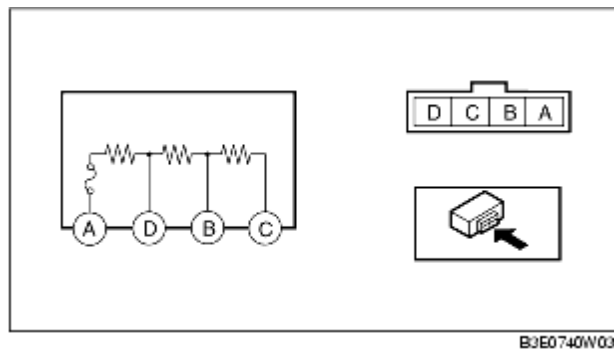
RESISTOR INSPECTION

B3E074061015W02

1. Verify that the resistance between the resistor terminals is as shown in the table.

- If there is any malfunction, replace the resistor.

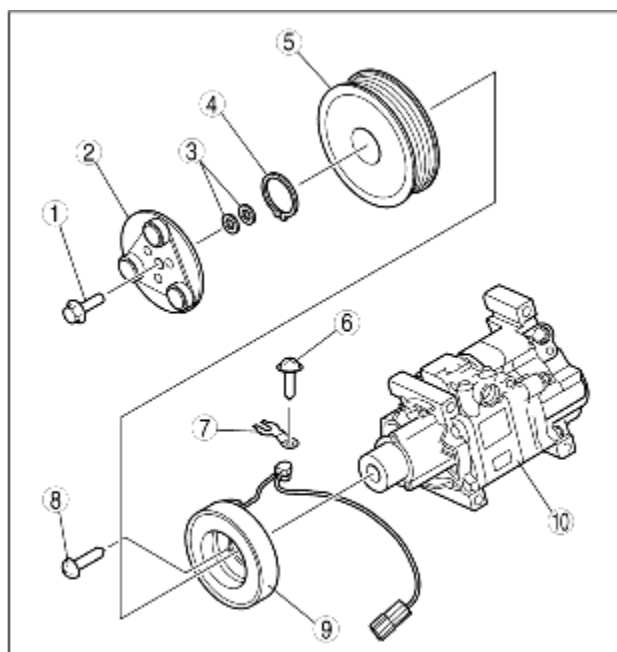
Terminal	Resistance (ohm)
A-D	0.27-0.30
A-B	0.77-0.87
A-C	3.05-3.49



MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [Z6]

B3E074061010W01

1. Disassemble in the order indicated in the table.



B3E0740W031

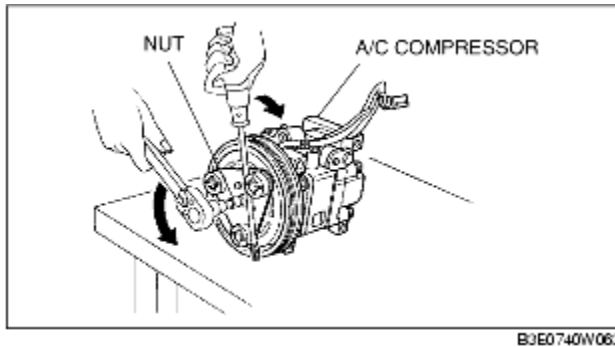
1	Bolt (See Bolt Removal/Installation Note.)
2	Pressure plate
3	Shim
4	Snap ring (See Snap Ring Installation Note.)
5	A/C compressor pulley
6	Screw (See Screw Installation Note.)
7	Clamp (See Clamp Installation Note.)
8	Screw (See Screw Installation Note.)
9	Stator and thermal protector (See Stator and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

2. Assemble in the reverse order of disassembly.

3. Adjust the magnetic clutch clearance. (See [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.



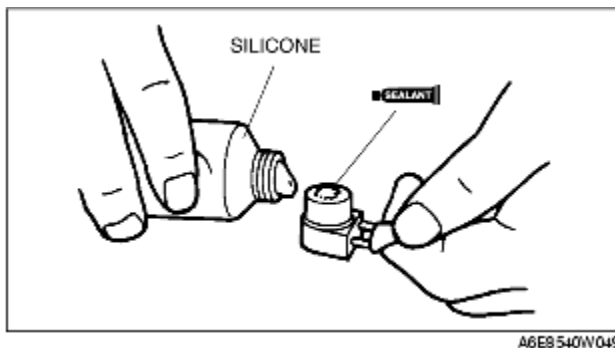
2. When installing a new A/C compressor body, replace the recommended bolt.

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.



Screw Installation Note

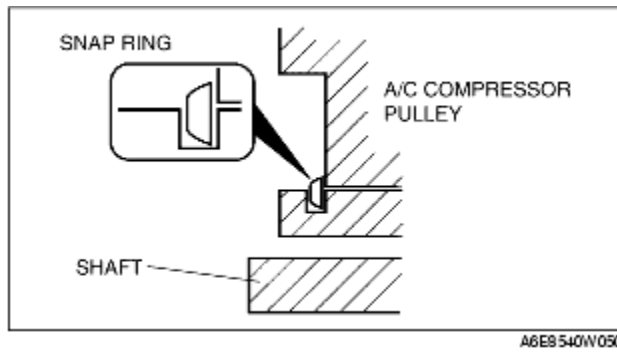
1. When installing a new stator and thermal protector, replace the screw.

Clamp Installation Note

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

Snap Ring Installation Note

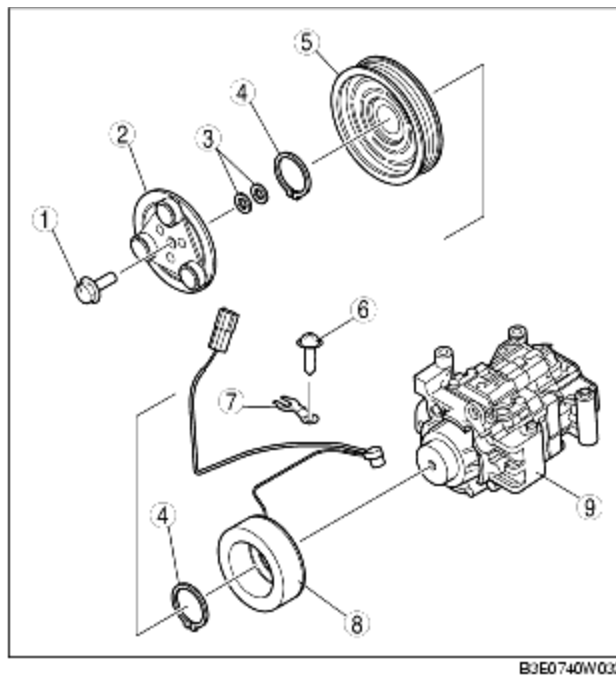
1. When installing a new pressure plate, A/C compressor pulley, stator, or A/C compressor body, replace the snap ring.



MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY [LF]

B3E074061010W02

1. Disassemble in the order indicated in the table.



1	Bolt (See Bolt Removal/Installation Note.)
2	Pressure plate
3	Shim
4	Snap ring (See Snap Ring Installation Note.)
5	A/C compressor pulley
6	Screw

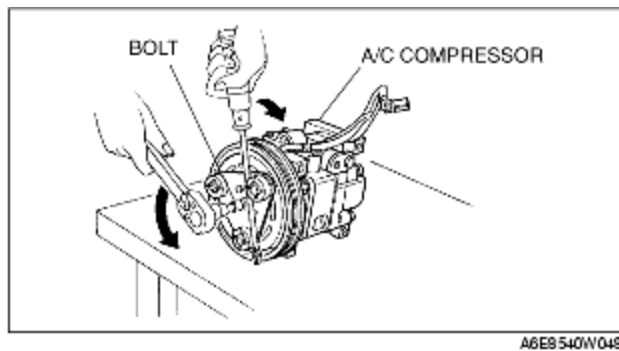
	(See Screw Installation Note .)
7	Clamp (See Clamp Installation Note .)
8	Stator and thermal protector (See Stator and Thermal Protector Removal Note .) (See Stator and Thermal Protector Installation Note .)
9	A/C compressor body

2. Assemble in the reverse order of disassembly.

3. Adjust the magnetic clutch clearance. (See [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.

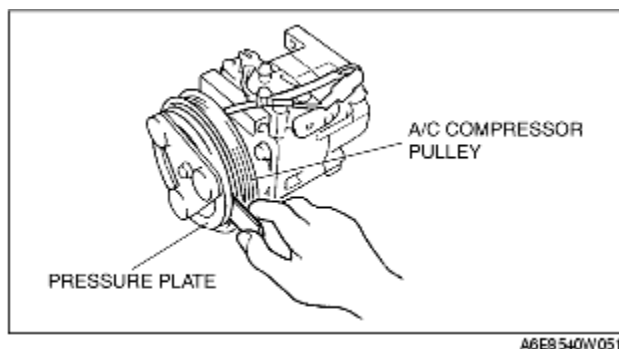


2. When installing a new A/C compressor body, replace the recommended bolt.

MAGNETIC CLUTCH ADJUSTMENT

B3E074061010W03

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

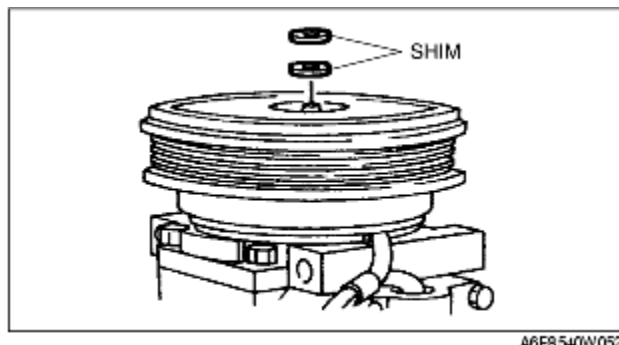


2. Verify that the clearance.

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

Clearance

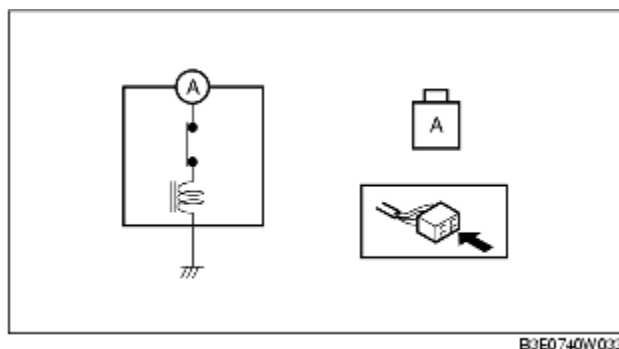
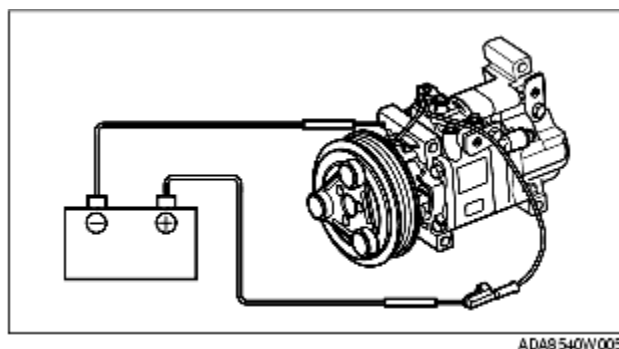
0.3-0.5 mm {0.012-0.019 in}



MAGNETIC CLUTCH INSPECTION [Z6]

B3E074061010W04

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



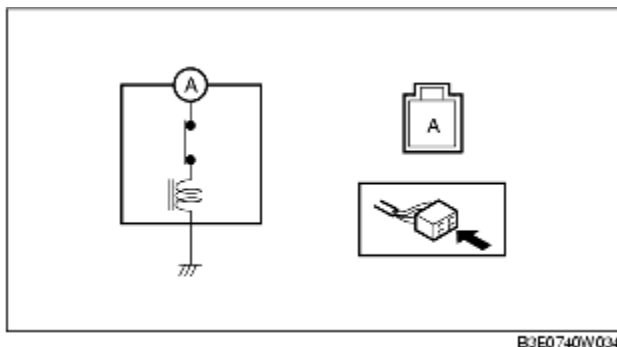
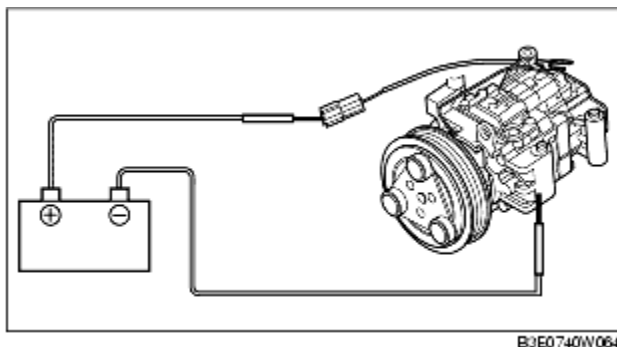
2. Verify that the magnetic clutch operates.

- If there is any malfunction, replace the stator and thermal protector.

MAGNETIC CLUTCH INSPECTION [LF]

B3E074061010W05

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



2. Verify that the magnetic clutch operates.

- If there is any malfunction, replace the stator and thermal protector.

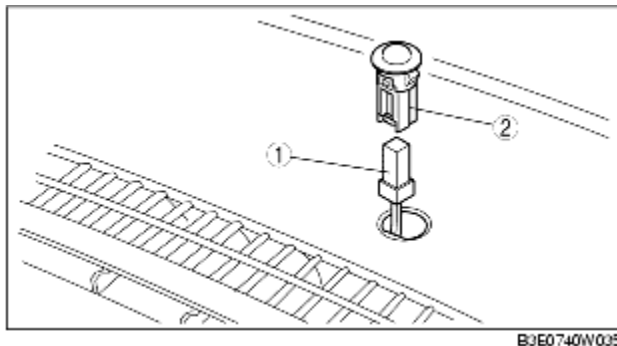
SOLAR RADIATION SENSOR REMOVAL/INSTALLATION

B3E074061751W01

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

Caution

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



1	Solar radiation sensor connector
2	Solar radiation sensor

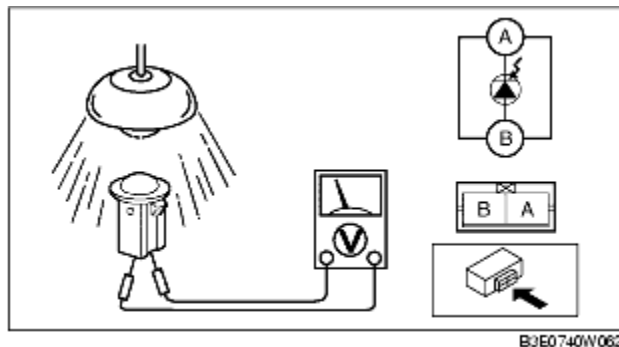
4. Install in the reverse order of removal.

SOLAR RADIATION SENSOR INSPECTION

B3E074061751W02

1. Shine an incandescent light (**approx. 60 W**) directly on the solar radiation sensor from **approx. 100 mm {3.9 in}**.
2. Using a tester, connect the positive (+) lead to solar radiation sensor terminal A, the negative (-) lead to terminal B and verify that the output voltage is **approx. 0.45 V**.

- If the voltage is not normal, replace the solar radiation sensor.

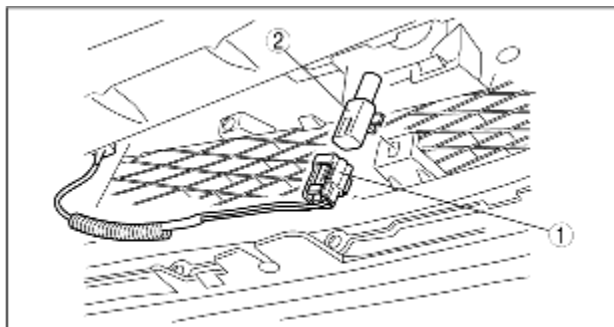


B3E0740W062

AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION

B3E074061764W01

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



B3E0740W036

1	Ambient temperature sensor connector
2	Ambient temperature sensor

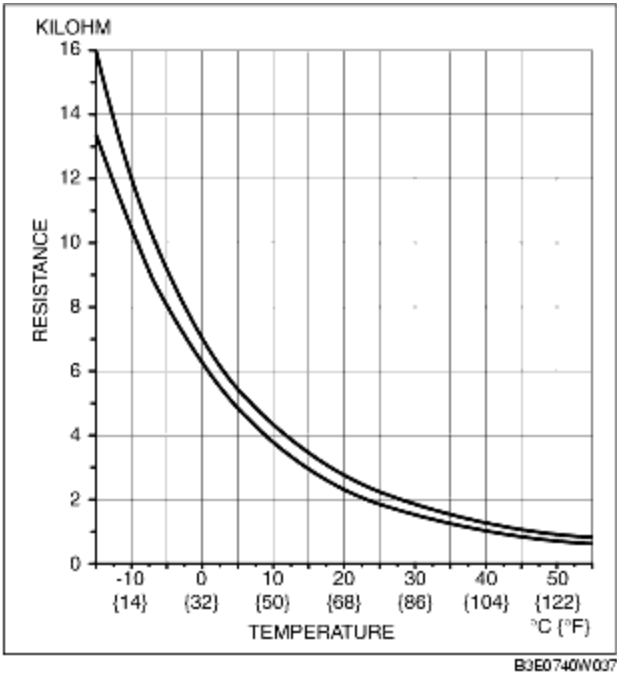
4. Install in the reverse order of removal.

AMBIENT TEMPERATURE SENSOR INSPECTION

B3E074061764W02

1. Measure the temperature around the ambient temperature sensor and measure the resistance between the ambient temperature sensor terminal.

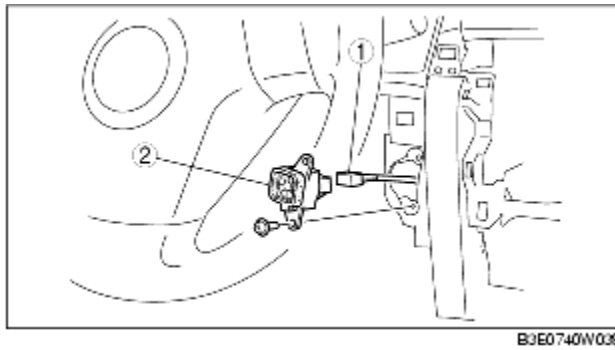
- If the characteristics of the ambient temperature sensor are not as shown in the graph, replace the ambient temperature sensor.



CABIN TEMPERATURE SENSOR REMOVAL/INSTALLATION

B3E074061758W01

1. Disconnect the negative battery cable.
2. Remove the lower panel. (See [LOWER PANEL REMOVAL/INSTALLATION.](#))
3. Remove in the order indicated in the table.



- | | |
|---|------------------------------------|
| 1 | Cabin temperature sensor connector |
| 2 | Cabin temperature sensor |

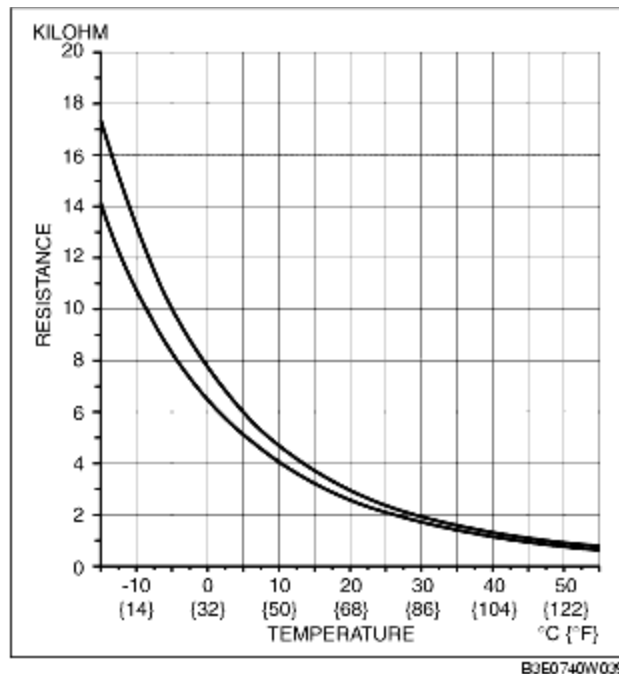
4. Install in the reverse order of removal.

CABIN TEMPERATURE SENSOR INSPECTION

B3E074061758W02

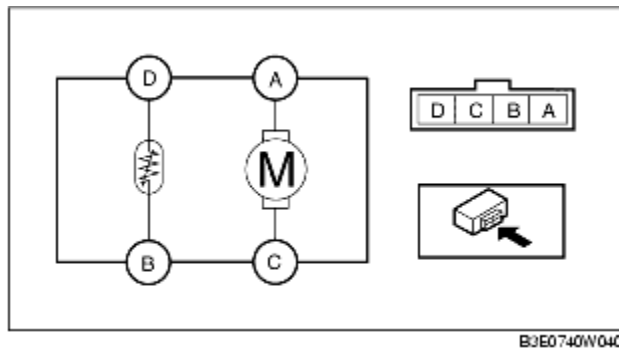
1. Measure the temperature around the cabin temperature sensor and measure the resistance between cabin temperature sensor terminals B and D.

- If the characteristics of the cabin temperature sensor are not as shown in the graph, replace the cabin temperature sensor.



2. Connect battery positive voltage to cabin temperature sensor terminal A and connect terminal C to ground to verify fan operation.

- If there is any malfunction, replace the cabin temperature sensor.



EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION

B3E074061022W01

1. Remove the evaporator temperature sensor from the A/C unit. (See [A/C UNIT DISASSEMBLY/ASSEMBLY \[FULL-AUTO AIR CONDITIONER\]](#).) (See [A/C UNIT DISASSEMBLY/ASSEMBLY \[MANUAL AIR CONDITIONER\]](#).)

EVAPORATOR TEMPERATURE SENSOR INSPECTION

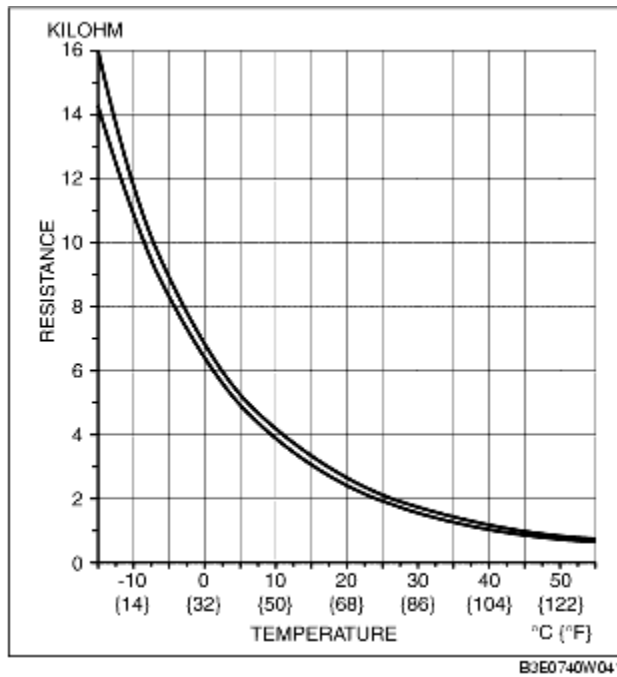
B3E074061022W02

Note

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

1. Set the fan speed MAX HI.
2. Set the temperature control at MAX COLD.
3. Set the RECIRCULATE mode.
4. Turn the A/C switch off.
5. Close all doors and windows.
6. Wait for **5 min.**
7. Disconnect the evaporator temperature sensor connector.
8. Measure the temperature at the blower inlet.
9. Measure the resistance between the evaporator temperature sensor terminals.

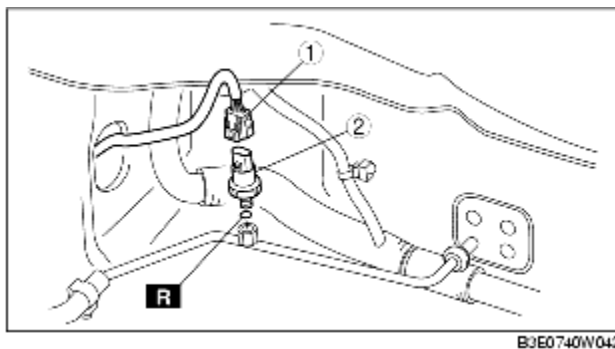
- If the resistance is not as shown in the graph, replace the evaporator temperature sensor.



REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION

B3E074061503W01

1. Disconnect the negative battery cable.
2. Discharge the refrigerant from the system. (See [REFRIGERANT RECOVERY](#).) (See [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 Refrigerant Pressure Switch Installation Note .)

5. Install in the reverse order of removal.

Refrigerant Pressure Switch Installation Note

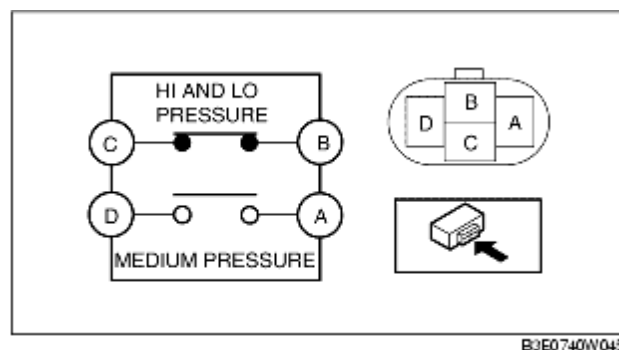
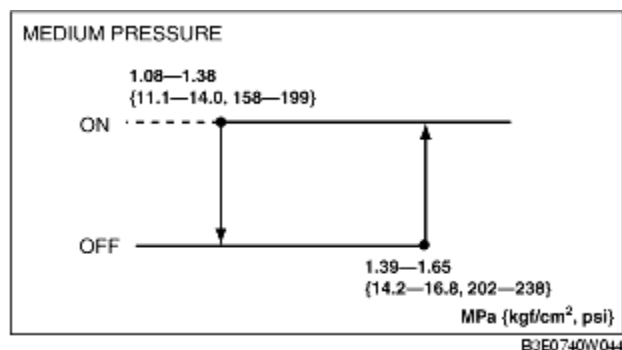
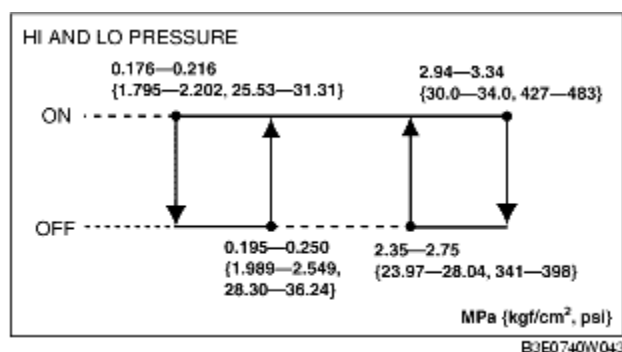
1. Apply compressor oil to O-ring and connect the joint.

REFRIGERANT PRESSURE SWITCH INSPECTION

B3E074061503W02

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

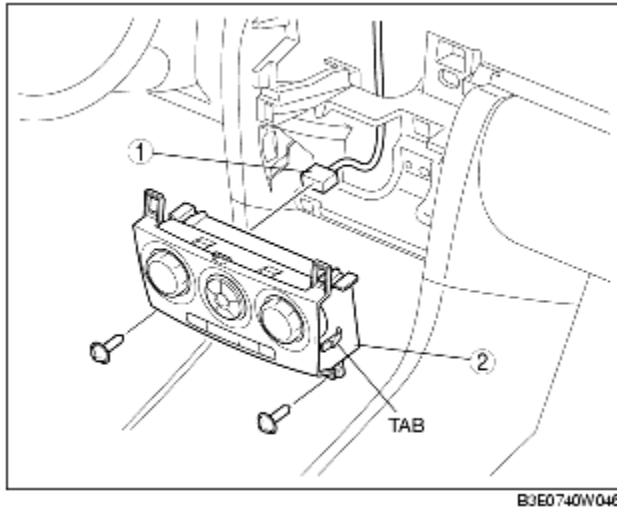
- If there is any malfunction, replace the refrigerant pressure switch.



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

B3E074061190W01

1. Disconnect the negative battery cable.
2. Remove the ashtray panel. (See [CONSOLE REMOVAL/INSTALLATION](#).)
3. Remove the decoration panel. (See [DECORATION PANEL REMOVAL/INSTALLATION](#).)
4. Remove the center panel module. (See [CENTER PANEL MODULE REMOVAL/INSTALLATION](#).)
5. Release the left and right tabs and remove as shown in the figure.



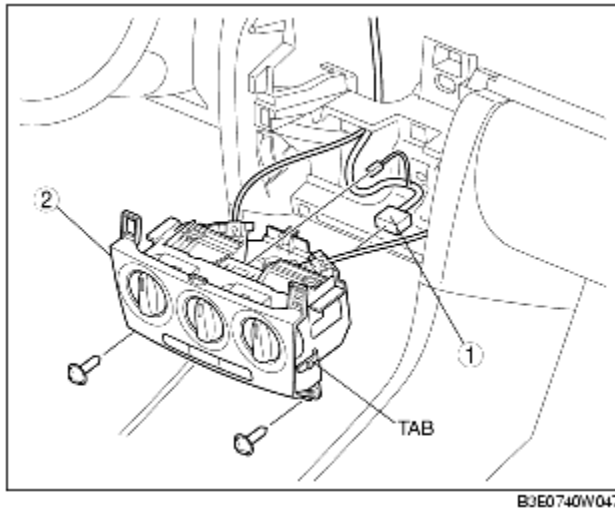
1	Climate control unit connector
2	Climate control unit

CLIMATE CONTROL UNIT REMOVAL [MANUAL AIR CONDITIONER]

B3E074061190W02

1. Disconnect the negative battery cable.
2. Remove the following parts:
 - (1) Ashtray panel (See [CONSOLE REMOVAL/INSTALLATION](#).)
 - (2) Detach the bonnet release lever from the lower panel. (See [BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION](#).)
 - (3) Front scuff plate (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION](#).)
 - (4) Front side trim (See [FRONT SIDE TRIM REMOVAL/INSTALLATION](#).)
 - (5) Lower panel (See [LOWER PANEL REMOVAL/INSTALLATION](#).)
 - (6) Front scuff plate (RH) (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION](#).)
 - (7) Front side trim (RH) (See [FRONT SIDE TRIM REMOVAL/INSTALLATION](#).)
 - (8) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION](#).)
 - (9) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION](#).)
 - (10) PJB and PJB bracket. (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION](#).)
3. Detach the PJB wiring harness clamp from the dashboard.
4. Remove the center panel module. (See [CENTER PANEL MODULE REMOVAL/INSTALLATION](#).)
5. Remove the air mix wire and airflow mode wire from the A/C unit.

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

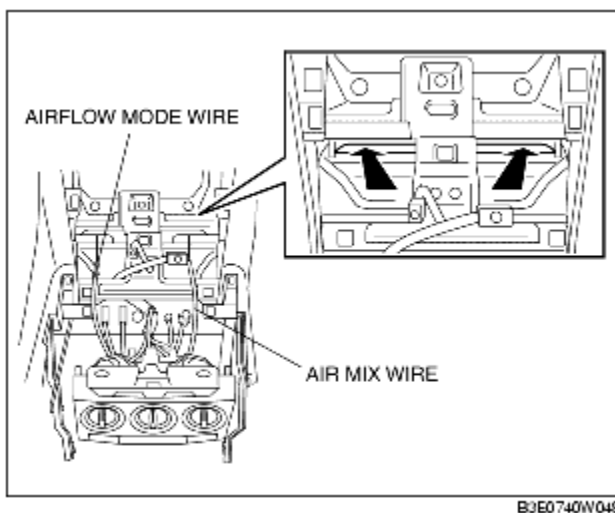


1	Climate control unit connector
2	Climate control unit

CLIMATE CONTROL UNIT INSTALLATION [MANUAL AIR CONDITIONER]

B3E074061190W03

1. Pass each wire through the following routes and connect to A/C unit.



2. Connect the climate control unit connectors.
3. Adjust the climate control unit wires. (See [CLIMATE CONTROL UNIT WIRE ADJUSTMENT.](#))
4. Install the following parts:

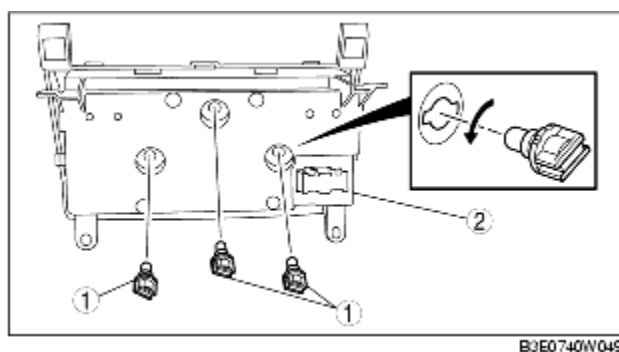
- (1) PJB and PJB bracket. (See [PASSENGER JUNCTION BOX \(PJB\) REMOVAL/INSTALLATION.](#))
- (2) Glove compartment (See [GLOVE COMPARTMENT REMOVAL/INSTALLATION.](#))
- (3) Decoration panel (See [DECORATION PANEL REMOVAL/INSTALLATION.](#))
- (4) Front side trim (RH) (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
- (5) Front scuff plate (RH) (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
- (6) Lower panel (See [LOWER PANEL REMOVAL/INSTALLATION.](#))
- (7) Front side trim (See [FRONT SIDE TRIM REMOVAL/INSTALLATION.](#))
- (8) Front scuff plate (See [FRONT SCUFF PLATE REMOVAL/INSTALLATION.](#))
- (9) Detach the bonnet release lever from the lower panel. (See [BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.](#))
- (10) Ashtray panel (See [CONSOLE REMOVAL/INSTALLATION.](#))
- (11) Climate control unit
- (12) Center panel module (See [CENTER PANEL MODULE REMOVAL/INSTALLATION.](#))

5. Connect the negative battery cable.

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

B3E074061190W04

1. Disassemble in the order indicated in the table.



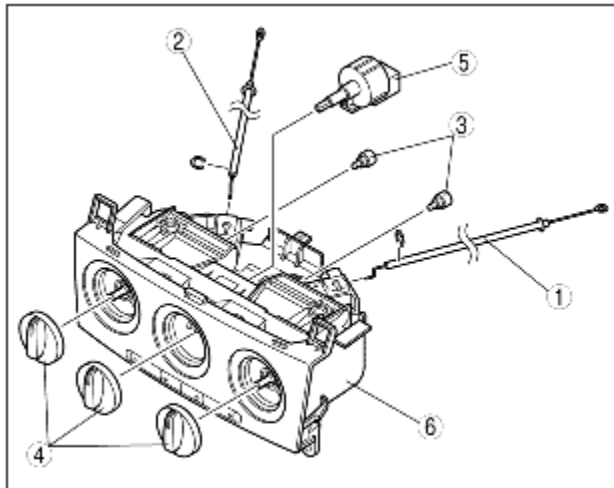
1	Bulb
2	Body

2. Assemble in the reverse order of disassembly.

CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY [MANUAL AIR CONDITIONER]

B3E074061190W05

1. Disassemble in the order indicated in the table.

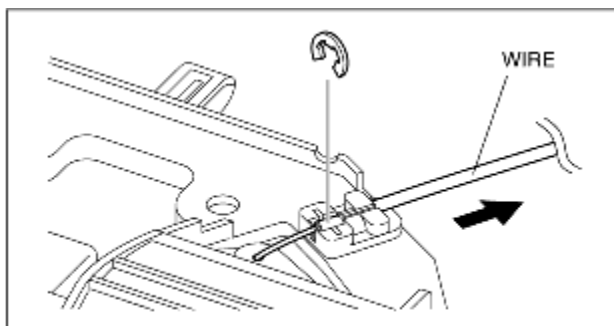


	Air mix wire
1	(See Wire Disassembly Note .) (See Wire Assembly Note .)
	Airflow mode wire
2	(See Wire Disassembly Note .) (See Wire Assembly Note .)
3	Illumination bulb
4	Knob
5	Fan switch
6	Body

2. Assemble in the reverse order of disassembly.

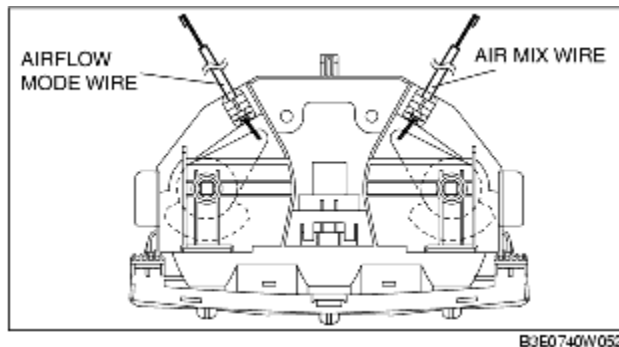
Wire Disassembly Note

1. Disassemble the wires as shown in the figure.



Wire Assembly Note

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



CLIMATE CONTROL UNIT WIRE ADJUSTMENT

B3E074061190W06

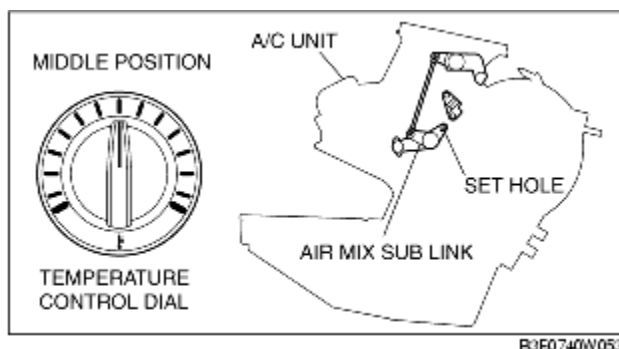
Air Mix Wire

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

Caution

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

2. Set the air mix sub link insert an **approx. f5** Phillips screwdriver into the set hole to fix the position of the link.



3. Connect the air mix wire to air mix link.
4. Clamp the air mix wire to wire clamp.
5. Remove the screwdriver and verify that the temperature control dial can move its full stroke.

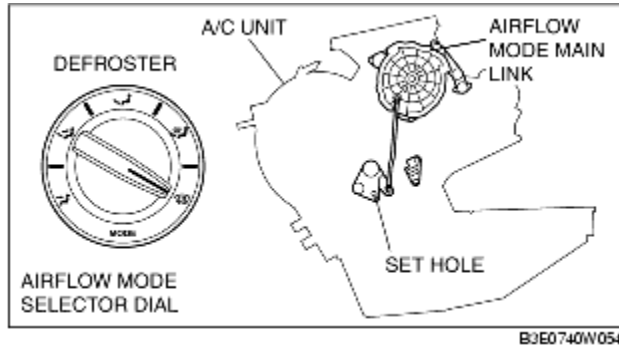
Airflow Mode Wire

1. Set the airflow mode selector dial at defroster.

Caution

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

2. Set the airflow mode main link to the vent position and insert an **approx. f5** Phillips screwdriver into the set hole to fix the position of the link.



3. Connect the airflow mode wire to airflow mode main link.
4. Clamp the airflow mode wire to wire clamp.
5. Remove the screwdriver and verify that the airflow mode selector dial can move its full stroke.

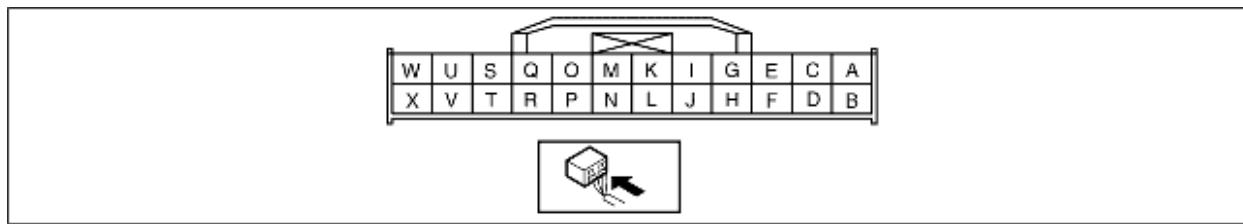
CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER]

B3E074061190W07

1. Install the center panel module. (See [CENTER PANEL MODULE REMOVAL/INSTALLATION](#).)
2. Turn the ignition switch to the ON position.
3. Connect the negative (-) lead of the tester to body ground.
4. By inserting the positive (+) lead of the tester into each climate control unit terminal, measure the voltage according to the terminal voltage table.

- If there is any malfunction, inspect the parts under "Inspection item (s)".
- If the parts under "Inspection item (s)" are found to be normal (except for terminal F), replace the climate control unit.
- For terminal F, first try replacing the power MOS FET. If there is still any malfunction, replace the climate control unit.

Terminal Voltage Table (Reference)



B3E0740W055

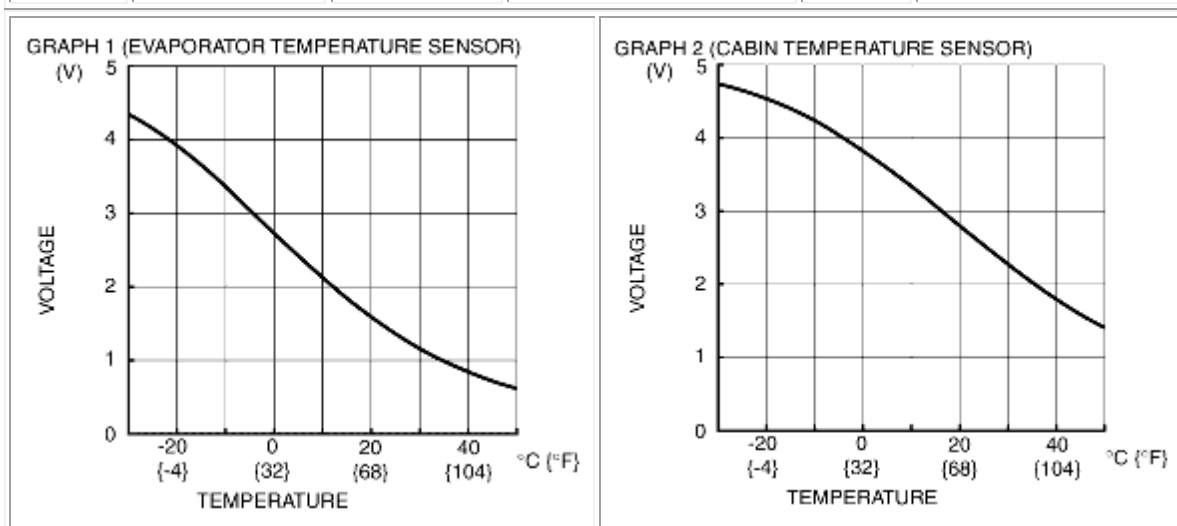
Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
A	TNS signal	PJB	Headlight switch OFF	1.0 or less	- Wiring harness: short circuit (Climate control unit-PJB: A-J-03 H) - Panel light control switch - Headlight switch
			Headlight switch ON	B+	- Wiring harness: continuity, short circuit (Climate control unit-PJB: A-J-03 H) - Panel light control switch - Headlight switch
B	TNS signal	Panel light control switch	Headlight switch ON and panel light control switch at max. illumination	1.0 or less	- Wiring harness: continuity (Climate control unit-panel light control switch: B-F) - Panel light control switch - Climate control unit: terminal voltage (A)
			Headlight switch ON and panel light control switch at min. illumination	12	Wiring harness: short circuit (Climate control unit-panel light control switch: B-F)
C	Motor operation	Air mix actuator	Moving towards COLD	12	- Wiring harness: continuity, short circuit (Climate control unit-air mix actuator: C-D, E-F) - Air mix actuator
			Moving towards HOT	1.0 or less	
D	Blower fan speed control	Power MOS FET	Fan stopped	1.0 or less	Climate control unit: terminal voltage (F)
			Fan: manual LO	2.9	
			Fan: manual HI	9.7	

E	Motor operation	Air mix actuator	Moving towards COLD	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit-air mix actuator: E-F, C-D) - Air mix actuator
			Moving towards HOT	12	
F	Blower motor feedback	- Blower motor - Power MOS FET	Fan stopped	B+	- Wiring harness: continuity, short circuit (Climate control unit-blower motor: F-B) (Climate control unit-power MOS FET: F-B, D-C) (Blower motor-blower relay: A-E) (Blower relay-fuse: A-HEATER 40 A, B-A/C 10 A) - Wiring harness: continuity (Power MOS FET-body ground: A-GND) (Blower relay-body ground: D-GND) - Power MOS FET - Blower motor - Blower relay - A/C 10 A fuse - HEATER 40 A fuse - Power MOS FET replacement
			Fan: manual LO	9.8	
			Fan: manual HI	0.5	
G	Motor operation	Airflow mode actuator	Switched to DEFROSTER	12	- Wiring harness: continuity, short circuit (Climate control unit-airflow mode actuator: G-F, I-D) - Airflow mode actuator
			Switched to VENT	1.0 or less	
H	-	-	-	-	-
I	Motor operation	Airflow mode actuator	Switched to DEFROSTER	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit-airflow mode actuator: I-D, G-F) - Airflow mode actuator
			Switched to VENT	12	
J	B+	ROOM 15 A fuse	Under any condition	B+	- Wiring harness: continuity, short circuit (Climate control unit- fuse: J-ROOM 15 A) - ROOM 15 A fuse

K	IG2	A/C 10 A fuse	IG SW ON	B+	- Wiring harness: continuity, short circuit (Climate control unit- fuse: K-A/C 10 A) - A/C 10 A fuse
			IG SW LOCK	1.0 or less	Wiring harness: continuity, short circuit (Climate control unit- fuse: K-A/C 10 A)
L	Potentiometer input	Airflow mode actuator	VENT	4.5	- Wiring harness: continuity, short circuit (Climate control unit- airflow mode actuator: L-C) - Airflow mode actuator - Climate control unit: terminal voltage (P)
			BILEVEL	3.7	
			HEAT	2.9	
			HEAT/DEF	1.9	
			DEFROSTER	0.8	
M	Motor operation	Air intake actuator	Switched to RECIRCULATE	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit-air intake actuator: M-G, O-E, Q-C) - Air intake actuator
			Switched to FRESH	12	
N	Potentiometer input	Air mix actuator	Set temperature at MAX COLD	0.8	- Wiring harness: continuity, short circuit (Climate control unit-air mix actuator: N-C) - Air mix actuator - Climate control unit: terminal voltage (P)
			Set temperature at MAX HOT	4.5	
O	Motor operation	Air intake actuator	Switched to RECIRCULATE	12	- Wiring harness: continuity, short circuit (Climate control unit-air intake actuator: M-G, O-E) - Air intake actuator
			Switched to FRESH	1.0 or less	
P	+5 V	- Air mix actuator - Airflow mode actuator - Solar radiation sensor	IG SW ON	5.2	- Wiring harness: short circuit (Climate control unit-air mix actuator, airflow mode actuator, solar radiation sensor: P-A, B, A) - Air mix actuator - Airflow mode actuator - Solar radiation sensor

					Climate control unit: terminal voltage (K, V)
			IG SW LOCK	0	Climate control unit replacement
Q	Motor operation	Air intake actuator	Switched to RECIRCULATE	1.0 or less	- Wiring harness: continuity, short circuit (Climate control unit-air intake actuator: Q-C, M-G) - Air intake actuator
			Switched to FRESH	12	
R	Cabin temperature sensor input	Cabin temperature sensor	Compared with temperature detected by cabin temperature sensor	Refer to graph 2	- Wiring harness: continuity (Climate control unit-cabin temperature sensor: R-D, U-B) - Wiring harness: short circuit (Climate control unit-cabin temperature sensor: R-B) - Cabin temperature sensor - Climate control unit: terminal voltage (K, V)
S	Solar radiation sensor input	Solar radiation sensor	Incandescent light (approx. 60 W) shined directly on the solar radiation sensor from a distance of approx. 100 mm {3.9 in}	4.0	- Wiring harness: continuity (Climate control unit-solar radiation sensor: S-B, P-A) - Climate control unit: terminal voltage (P) - Solar radiation sensor
			Blocking light to solar radiation sensor	1.0 or less	
T	Evaporator temperature sensor input	Evaporator temperature sensor	Compared with temperature detected by evaporator temperature sensor	Refer to graph 1	- Wiring harness: continuity (Climate control unit-evaporator temperature sensor: T-B, U-A) - Wiring harness: short circuit (Climate control unit-evaporator temperature sensor: T-B) - Evaporator temperature sensor - Climate control unit: terminal voltage (K, V)
U	Sensor GND	Cabin temperature sensor	Under any condition	1.0 or less	Climate control unit: terminal voltage (V)

		• Evaporator temperature sensor • Air mix actuator • Airflow mode actuator			
V	GND	Body ground	Under any condition	1.0 or less	• Wiring harness: continuity (Climate control unit-GND: V-GND)
W	Signal	-	-	-	-
X	Signal	-	-	-	-

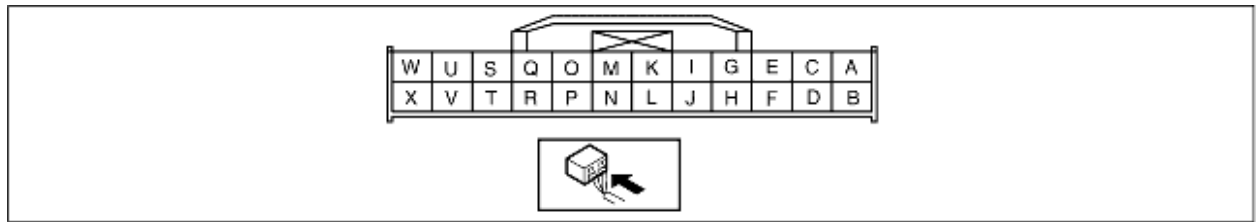


CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER]

B3E074061190W08

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

Terminal Voltage Table (Reference)



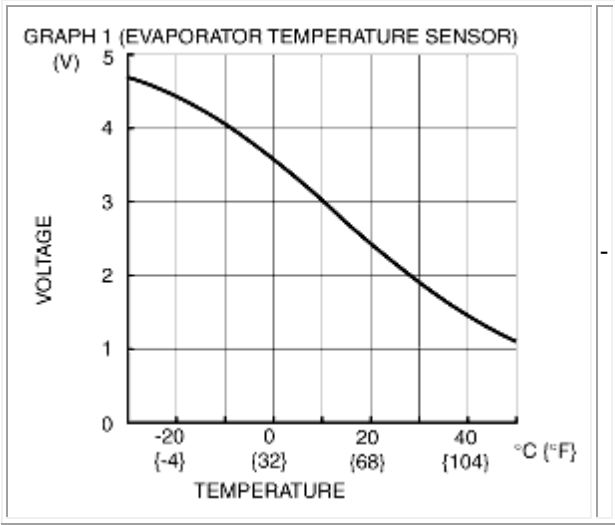
B3E0740W058

Terminal	Signal name	Connected to	Measurement condition	Voltage (V)	Inspection item (s)
A	-	-	-	-	-
B	-	-	-	-	-
C	-	-	-	-	-
D	B+	ROOM 15 A fuse	Under any condition	B+	- Wiring harness: continuity, short circuit (Climate control unit-fuse: D-ROOM 15 A) - ROOM 15 A fuse
E	-	-	-	-	-
F	IG2	A/C 10 A fuse	IG SW ON	B+	- Wiring harness: continuity, short circuit (Climate control unit-fuse: F-A/C 10 A) - A/C 10 A fuse
			IG SW LOCK	1.0 or less	Wiring harness: continuity, short circuit (Climate control unit-fuse: F-A/C 10 A)
G	-	-	-	-	-
H	-	-	-	-	-
I	-	-	-	-	-
J	GND	Body ground	Under any condition	1.0 or less	Wiring harness: continuity (Climate control unit-GND: J-GND)
K	-	-	-	-	-
L	Sensor GND	Evaporator temperature sensor	Under any condition	1.0 or less	Climate control unit: terminal voltage (J)

M	A/C	PJB	A/C switch ON, fan switch at 1st	1.0 or less	Wiring harness: continuity (Climate control unit-PJB: M-J-04 AF)
			A/C switch OFF	B+	Wiring harness: continuity, short circuit (Climate control unit-PJB: M-J-04 AF)
N	Evaporator temperature sensor input	Evaporator temperature sensor	Compared with temperature detected by evaporator temperature sensor	Refer to graph 1	- Wiring harness: continuity (Climate control unit-evaporator temperature sensor: N-B, L-A) - Wiring harness: short circuit (Climate control unit-evaporator temperature sensor: N-B) - Evaporator temperature sensor - Climate control unit: terminal voltage (F, J)
O	Motor operation	Air intake actuator	Switched to RECIRCULATE	1.0 or less	Wiring harness: continuity, short circuit (Climate control unit-air intake actuator: S-G, O-E)
			Switched to FRESH	12	Air intake actuator
P	Rear window defroster switch indicator light	PJB	Rear window defroster switch ON	1.0 or less	- Wiring harness: continuity (Climate control unit-PJB: P-J-04 I) - PJB
			Rear window defroster switch OFF	4.0	- Wiring harness: short circuit (Climate control unit-PJB: P-J-04 I) - PJB
Q	Motor operation	Air intake actuator	Switched to RECIRCULATE	12	Wiring harness: continuity, short circuit (Climate control unit-air intake actuator: Q-C, S-G)
			Switched to FRESH	1.0 or less	Air intake actuator
R	Rear window defroster switch	PJB	Rear window defroster switch ON	10 or less	Wiring harness: continuity, short circuit

					(Climate control unit-PJB: R-J-04 AD) • Climate control unit: terminal voltage (J) • PJB
			Rear window defroster switch OFF	10 or less	• Wiring harness: continuity, short circuit (Climate control unit-PJB: R-J-04 AD) • PJB
S	Motor operation	Air intake actuator	Switched to RECIRCULATE	12	• Wiring harness: continuity, short circuit (Climate control unit-air intake actuator: S-G, O-E, Q-C) • Air intake actuator
			Switched to FRESH	1.0 or less	
T	FAN signal	Fan switch	FAN switch ON	1.0 or less	• Wiring harness: continuity (Climate control unit-fan switch: T-A) • Fan switch
			FAN switch OFF	4.4	• Wiring harness: continuity (Climate control unit-fan switch: T-A) • Climate control unit: terminal voltage (F) • Fan switch
U	TNS signal	Panel light control switch	Headlight switch OFF	1.0 or less	• Wiring harness: continuity (Climate control unit-panel light control switch: U-F) • Panel light control switch • Climate control unit: terminal voltage (V)
			Headlight switch ON	12	• Wiring harness: short circuit (Climate control unit-panel light control switch: U-F)
V	TNS signal	PJB	Headlight switch OFF	1.0 or less	• Wiring harness: short circuit (Climate control unit-PJB: V-J-03 H) • PJB

					• Headlight switch
			Headlight switch ON	B+	• Wiring harness: continuity, short circuit (Climate control unit-PJB: V-J-03 H) • PJB • Headlight switch
W	-	-	-	-	-
X	-	-	-	-	-

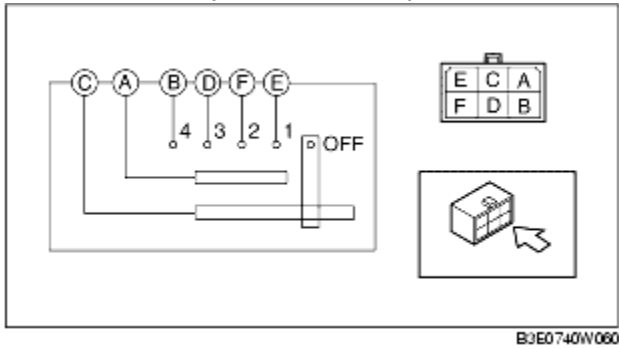


FAN SWITCH INSPECTION

B3E074061060W03

1. Remove the climate control unit.
2. Verify that the continuity between the fan switch terminals is as indicated in the table.

• If there is any malfunction, replace the fan switch.



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

○—○ : Continuity

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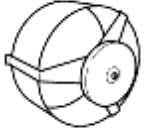
HVAC TECHNICAL DATA

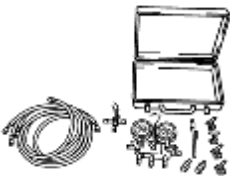
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Item			Specification
REFRIGERANT SYSTEM			
Refrigerant	Type		R-134a
	Regular amount (approx. quantity)	(g {oz})	525 {18.5}
BASIC SYSTEM			
A/C compressor	Lubrication oil	Type	ATMOS GU10
		Sealed volume (approx. quantity)	(ml {cc, fl oz}) 120 {120, 4.06}: Z6 150 {150, 5.07}: LF
CONTROL SYSTEM			
A/C compressor	Magnetic clutch clearance	(mm {in})	0.30-0.50 {0.012-0.019}

HEATER, VENTILATION & AIR CONDITIONING (HVAC) SST

B3E076001038W01

49 B061 014		49 G061 001		49 B061 015	
Spring Lock Coupling Disconnect Tool		Spring Lock Coupling Disconnect Tool		Holder	

49 C061 0A0B		49 C061 013		WDS	
Gas Charge Set		Gas Leak Tester			