
GROUP 55B

AUTOMATIC AIR CONDITIONING

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GENERAL INFORMATION

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The blower, heater, and evaporator have been integrated with the heater and A/C system to achieve greater fan power and noise reduction.

Item	Specification
Heater control assembly	Dial type
Compressor	QS90
Compressor model	Scroll type
Refrigerant and quantity g (oz)	R-134a (HFC-134a), 480 –520 (16.9 –18.3)

SAFETY PRECAUTIONS

⚠ WARNING

Wear safety goggles and gloves when servicing the refrigeration system to prevent severe damage to eyes and hands.

Because R-134a refrigerant is a hydro fluorocarbon (HFC) which contains hydrogen atoms in place of chlorine atoms, it will not cause damage to the ozone layer.

Ozone filters out harmful radiation from the sun. To assist in protecting the ozone layer, Mitsubishi Motors Corporation recommends an R-134a refrigerant recycling device.

Refrigerant R-134a is transparent and colorless in both the liquid and vapor state. Since it has a boiling point of -29.8°C (-21.64°F) at atmospheric pressure, it will be a vapor at all normal temperatures and pressures. The vapor is heavier than air, non-flammable, and non-explosive. The following precautions must be observed when handling R-134a.

⚠ WARNING

Do not heat R-134a above 40°C (104.0°F) or it may catch fire and explode.

R-134a evaporates so rapidly at normal atmospheric pressures and temperatures that it tends to freeze anything it contacts. For this reason, extreme care must be taken to prevent any liquid refrigerant from contacting the skin and especially the eyes. Always wear safety goggles when servicing the refrigeration part of the A/C system. Keep a bottle of sterile mineral oil handy when working on the refrigeration system.

1. Should any liquid refrigerant get into your eyes, use a few drops of mineral oil to wash them out. R-134a is rapidly absorbed by the oil.
2. Next, splash your eyes with plenty of cold water.
3. Call your doctor immediately even if irritation has ceased.

⚠ CAUTION

Keep R-134a containers upright when charging the system.

In most instances, moderate heat is required to bring the pressure of the refrigerant in its container above the pressure of the system when charging or adding refrigerant.

A bucket or large pan of hot water not over 40°C (104.0°F) is all the heat required for this purpose. Do not heat the refrigerant container with a blow torch or any other means that would raise temperature and pressure above this temperature. Do not weld or steam-clean on or near the system components or refrigerant lines.

⚠ WARNING

The leak detector for R-134a should be used to check for refrigerant gas leaks.

⚠ CAUTION

Do not allow liquid refrigerant to touch bright metal or it will be stained.

When metering R-134a into the refrigeration system, keep the supply tank or cans in an upright position. If the refrigerant container is on its side or upside down, liquid refrigerant will enter the system and damage the compressor.

Refrigerant will tarnish bright metal and chrome surfaces, and in combination with moisture can severely corrode all metal surfaces.

OPERATION

CONDENSER FAN AND RADIATOR FAN CONTROL

The ECM judges the required revolution speed of radiator fan motor and condenser fan motor using the input signals transmitted from A/C switch, output shaft speed sensor and engine coolant temperature sensor.

COMPRESSOR CONTROL

When operating the A/C switch

- The air thermo sensor, which senses the temperature of the air flowing out of the evaporator, deactivates the compressor at 3° C (37.4° F) or below.
- The A/C pressure sensor turns OFF when the refrigerant pressure becomes excessively high or low, thus protecting the compressor circuit (See Table below).

- When the air thermo sensor is activated, and the ignition switch, blower switch, and A/C switch are ON, the A/C compressor clutch relay is energized.

When operating the mode selection dial

- The A/C will work when the mode selection dial is set to the "Defroster" or "Defroster/foot" position, or the temperature control dial is set to the "MAXIMUM A/C" position. In other dial positions, when the A/C switch is turned on, the A/C will work.

A/C Compressor Clutch Relay ON Conditions

Ignition switch (IG2)		ON	NOTE: A/C compressor clutch relay is de-energized when any one switch, sensor or control unit shown on the left turns off.
Blower speed selection dial		ON	
A/C switch		ON	
Mode selection dial		defroster	NOTE: The components marked by * communicate with the ECM. If the air thermo sensor detects a temperature of 3 °C (37.4 °F), the A/C-ECU will turn off the A/C compressor clutch relay.
Temperature control dial		MAXIMUM A/C	
Air thermo sensor		*	
Pressure detected by A/C pressure sensor	2.94 MPa (427 psi) or less [If the refrigerant pressure exceeds 2.94 MPa (427 psi), A/C compressor clutch relay is not ON condition until the refrigerant pressure has been measured up to 2.35 MPa (341 psi) or less.]	ON	
	0.19 MPa (27psi) or more [If the refrigerant pressure falls short of 0.19 MPa (27psi), A/C compressor clutch relay is not ON condition until the refrigerant pressure has been measured up to 0.22 MPa (32psi) or more.]		
A/C compressor clutch relay driving transistor (within ECM)		ON	

AUTOMATIC A/C DIAGNOSIS

INTRODUCTION

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After air is taken in through the damper, it is fed to the evaporator by the blower fan and motor and cooled. The air cooled by the air mix damper is mixed appropriately with the warmed air to achieve a comfortable temperature. If the A/C does not operate or the cooled air is not discharged, the system components or relay may be faulty.

AUTOMATIC A/C TROUBLESHOOTING STRATEGY

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Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a heater, air conditioning and ventilation fault.

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart. (Refer to [P.55B-12](#))
4. Verify malfunction is eliminated.

DIAGNOSTIC FUNCTION

M1552019800358

HOW TO CONNECT THE SCAN TOOL (M.U.T.-III)

Required Special Tools:

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
 - MB991824: Vehicles Communication Interface (V.C.I.)
 - MB991827: M.U.T.-III USB Cable
 - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)

CAUTION

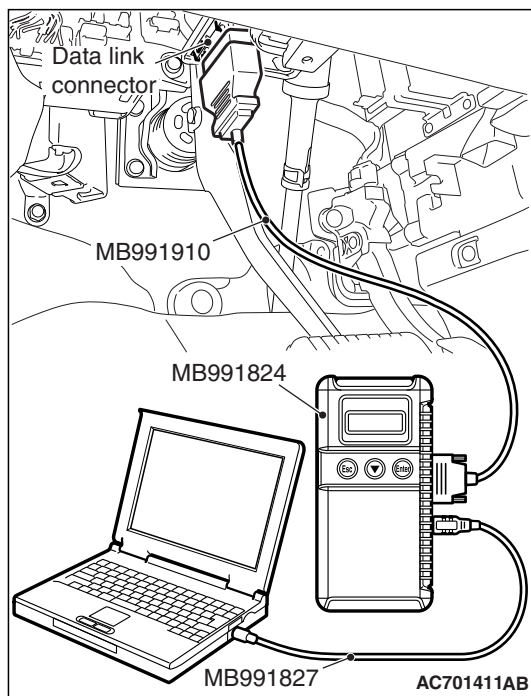
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

1. Ensure that the ignition switch is at the "LOCK" (OFF) position.
2. Start up the personal computer.
3. Connect special tool MB991827 to special tool MB991824 and the personal computer.
4. Connect special tool MB991910 to special tool MB991824
5. Connect special tool MB991910 to the data link connector.
6. Turn the power switch of special tool MB991824 to the "ON" position.

NOTE: When the special tool MB991824 is energized, the special tool MB991824 indicator light will be illuminated in a green color.

7. Start the M.U.T.-III system on the personal computer.

NOTE: Disconnecting scan tool MB991958 is the reverse of the connecting sequence, making sure that the ignition switch is at the "LOCK" (OFF) position.



HOW TO READ AND ERASE DIAGNOSTIC TROUBLE CODES

Required Special Tools:

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
 - MB991824: Vehicles Communication Interface (V.C.I.)
 - MB991827: M.U.T.-III USB Cable
 - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)

CAUTION

To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

NOTE: If the battery voltage is low, diagnostic trouble codes will not be set. Check the battery if scan tool MB991958 does not display.

1. Connect the scan tool MB991958 to the data link connector.
2. Turn the ignition switch to the "ON" position.
3. Select "System select" from the start-up screen.
4. Select "From 2006 MY" of "Model Year." When the "Vehicle Information" is displayed, check the contents.
5. Select "Air Conditioner" from "System List", and press the "OK" button.

NOTE: When the "Loading Option Setup" list is displayed, check the applicable item.

6. Select "Diagnostic Trouble Code" to read the DTC.
7. If a DTC is set, it is shown.
8. Choose "Erase DTCs" to erase the DTC.

HOW TO READ DATA LIST

Required Special Tools:

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
 - MB991824: Vehicles Communication Interface (V.C.I.)
 - MB991827: M.U.T.-III USB Cable
 - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)

CAUTION

To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

1. Connect the scan tool MB991958 to the data link connector.
2. Turn the ignition switch to the "ON" position.
3. Select "System select" from the start-up screen.
4. Select "From 2006 MY" of "Model Year." When the "Vehicle Information" is displayed, check the contents.
5. Select "Air Conditioner" from "System List", and press the "OK" button.

NOTE: When the "Loading Option Setup" list is displayed, check the applicable item.

6. Select "Data List."
7. Choose an appropriate item and select the "OK" button.

HOW TO PERFORM ACTUATOR TEST

Required Special Tools:

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
 - MB991824: Vehicles Communication Interface (V.C.I.)
 - MB991827: M.U.T.-III USB Cable
 - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)

CAUTION

To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

1. Connect the scan tool MB991958 to the data link connector.
2. Turn the ignition switch to the "ON" position.
3. Select "System select" from the start-up screen.
4. Select "From 2006 MY" of "Model Year." When the "Vehicle Information" is displayed, check the contents.
5. Select "Air Conditioner" from "System List", and press the "OK" button.

NOTE: When the "Loading Option Setup" list is displayed, check the applicable item.

6. Select "Actuator Test."
7. Choose an appropriate item and select the "OK" button.

HOW TO DIAGNOSE THE CAN BUS LINE

Required Special Tools:

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
 - MB991824: Vehicles Communication Interface (V.C.I.)
 - MB991827: M.U.T.-III USB Cable
 - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)

CAUTION

To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

1. Connect scan tool MB991958 to the data link connector.
2. Turn the ignition switch to the "ON" position.
3. Select "CAN bus diagnosis" from the start-up screen.
4. When the vehicle information is displayed, confirm that it matches the vehicle whose CAN bus lines will be diagnosed.
 - If they match, go to Step 8.
 - If not, go to Step 5.
5. Select "view vehicle information" button.
6. When the vehicle information is displayed, confirm again that it matches the vehicle which is being diagnosed.
 - If they match, go to Step 8.
 - If not, go to Step 5.
7. Press the "OK" button.
8. When the options are displayed, choose the options (mark the check) and then select "OK".

CHECK OF FREEZE FRAME DATA

The freeze frame data can be checked by using the scan tool (GROUP 00, How to Cope with Intermittent Malfunction [P.00-15](#)).

When detecting fault and storing the DTC, the ECU connected to CAN bus line obtains the data before the determination of the DTC and the data when the DTC is determined, and then stores the ECU status of that time. By analyzing the data from scan tool, the troubleshooting can be performed more efficiently. The displayed items are as shown in the table below.

DISPLAY ITEM LIST

Item No.	Item name	Content item	Unit
01	Odometer	Total driving distance after the diagnostic trouble code is generated	mile [*]
02	Ignition cycle	Number of times the ignition switch is turned "ON" or "LOCK (OFF)" after the past failure transition	Number of counts is displayed.
04	Current trouble accumulative time	Cumulative time for current malfunction of diagnostic trouble code	min

NOTE:

- ^{*}: If a failure occurs to both the ABS-ECU and ETACS-ECU, 0000 mile or FFFF km is displayed to the scan tool MB991958.

DIAGNOSTIC TROUBLE CODE CHART

⚠ CAUTION

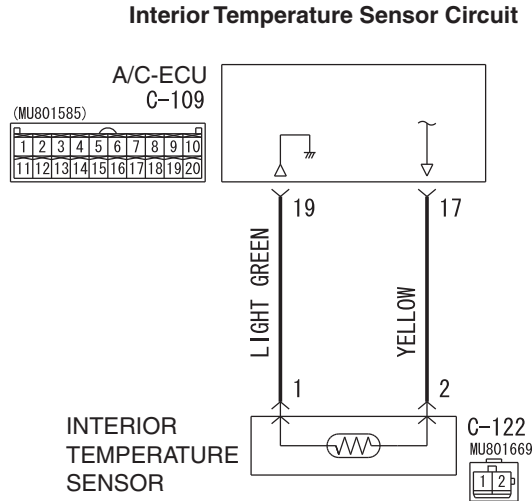
During diagnosis, a DTC code associated with another system may be set when the ignition switch is turned on with connector(s) disconnected. After completing the repair, confirm all systems for DTC code(s). If DTC code(s) are set, erase them all.

Diagnostic trouble code No.	Diagnostic item	Reference page
B10C0	Interior temperature sensor system (short circuit)	P.55B-9
B10C1	Interior temperature sensor system (open circuit)	P.55B-9
B1000	Control panel communication error	Refer to GRUOP 55A, diagnostic trouble code chart P.55A-11
B1003	Mode dial SW error	
B1018	Temperature control dial SW error	
B1021	Fan dial SW error	
B1031	Air thermo sensor system (short circuit)	
B1032	Air thermo sensor system (open circuit)	
B1034	Ambient air temperature sensor system (short circuit)	
B1035	Ambient air temperature sensor system (open circuit)	
B1079	Refrigerant leaks	
B2214	Control panel failure	
B223B	Control panel improperly assembled	
U1415	Coding not completed	
U0019	Bus off (CAN1)	
U0141	ETACS-ECU time-out	
U0151	SRS-ECU time-out	
U0154	Occupant classification-ECU time-out	
U0155	Combination meter time-out	
U0168	WCM time-out	
U0184	Audio time-out	
U0195	Satellite radio tuner time-out	
U0197	Hands free module time-out	

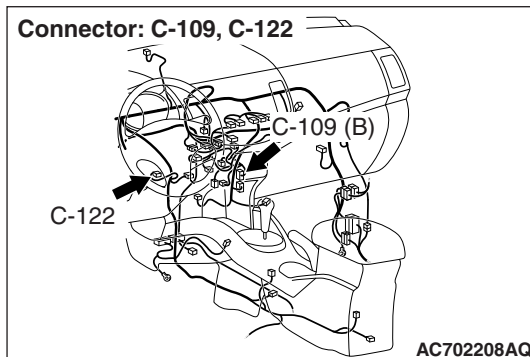
NOTE: *: This diagnostic trouble code will be set even if the system is normal.

DIAGNOSTIC TROUBLE CODE PROCEDURES

DTC B10C0, B10C1: Interior Temperature Sensor System



D7G55M002A00
AC702919AB



DTC SET CONDITION

- DTC B10C0 is set if there is a short circuit in the interior temperature sensor input circuit.
- DTC B10C1 is set if there is a defective connector connection, or if there is an open circuit in the harness.

TECHNICAL DESCRIPTION (COMMENT)

Current trouble

- The A/C-ECU, the interior temperature sensor, or connector(s) or wiring between the two may be defective.

Past trouble

- If DTC B10C0 or B10C1 is stored as a past trouble, carry out diagnosis with particular emphasis on wiring and connector(s) between the A/C-ECU and the interior temperature sensor. If the connectors and wiring are normal, and obviously the ECU is the cause of the trouble, replace the ECU. If in doubt, do not replace the ECU.

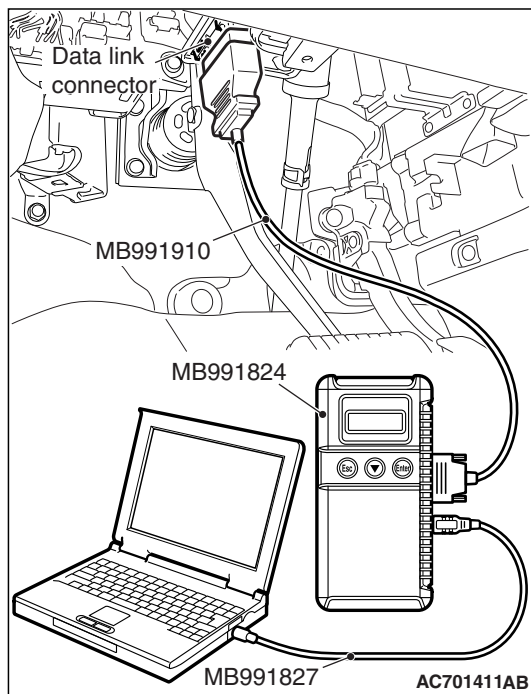
TROUBLESHOOTING HINT

- Malfunction of connector.
- Malfunction of the harness.
- Malfunction of the interior temperature sensor.
- Malfunction of the A/C-ECU.

DIAGNOSIS

Required Special Tool:

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
 - MB991824: Vehicle Communication Interface (V.C.I.)
 - MB991827: M.U.T.-III USB Cable
 - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)



STEP 1. Using scan tool MB991958, diagnose the CAN bus line.

⚠ CAUTION

To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

Use scan tool MB991958 to diagnose the CAN bus lines.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) [P.55B-4](#)."
- (2) Turn the ignition switch to "ON" position.
- (3) Diagnose the CAN bus line.

Q: Is the check result satisfactory?

YES : Go to Step 2.

NO : Repair the CAN bus lines. Repair the CAN bus lines (Refer to GROUP 54C, Diagnosis-Can Bus Diagnostic Chart [P.54C-17](#)).

STEP 2. Recheck for diagnostic trouble code.

Recheck if the DTC is set.

- (1) Erase the DTC.
- (2) Turn the ignition switch to "ON" position.
- (3) Check if the DTC is set.

Q: Is the check result satisfactory?

YES : It can be assumed that this malfunction is intermittent. Refer to GROUP 00, How to Use Troubleshooting/Inspection Service Points –How to Cope with Intermittent Malfunctions [P.00-15](#).

NO : Go to Step 3.

STEP 3. Check interior temperature sensor connector C-122 and A/C-ECU connector C-109 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Are interior temperature sensor connector C-122 and A/C-ECU connector C-109 in good condition?

YES : Go to Step 4.

NO : Repair or replace the connector. Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#).

STEP 4. Check the wiring harness between A/C-ECU connector C-109 (terminals 17 and 19) and interior temperature sensor connector C-122 (terminals 2 and 1).

- Check the sensor signal line and ground line for open and short circuit.

Q: Is the wiring harness between A/C-ECU connector C-109 (terminals 17 and 19) and interior temperature sensor connector C-122 (terminals 2 and 1) in good condition?

YES : Go to Step 5.

NO : Repair the wiring harness.

STEP 5. Check the interior temperature sensor.

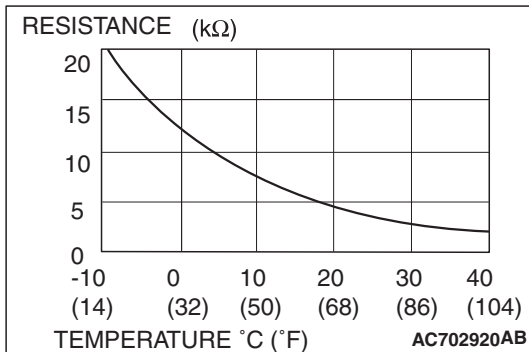
Measure the resistance between connector terminals 1 and 2 under at least two different temperatures. The resistance values should generally match those in the graph.

NOTE: The temperature at the check should not exceed the range in the graph.

Q: Is the interior temperature sensor in good condition?

YES : Replace the A/C-ECU. Then go to Step 6.

NO : Replace the interior temperature sensor. Then go to Step 6.



STEP 6. Recheck for diagnostic trouble code.

Check again if the DTC is set.

- (1) Connect scan tool MB991958 to the data link connector
- (2) Turn the ignition switch to the "ON" position.
- (3) Check if the DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the check result satisfactory?

YES : The procedure is complete.

NO : Return to Step 1.

SYMPTOM CHART

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⚠ CAUTION

During diagnosis, a DTC code associated with another system may be set when the ignition switch is turned on with connector(s) disconnected. On completion, confirm all systems for DTC code(s). If DTC code(s) are set, erase them all.

Symptom	Inspection procedure	Reference page
When the A/C is operation, temperature inside the passenger compartment does not decrease (Cool air is not emitted).	1	Refer to GRUOP 55A, symptom chart P.55A-65
Malfunction of the A/C power supply system.	2	
The compressor does not work.	3	
Blower fan and motor do not turn.	4	
Blower air amount cannot be changed.	5	
Outside/inside air changeover is not possible.	6	
A/C outlet air temperature does not increase.	7	
Air outlet vent cannot be changed.	8	
Rear window defogger does not operate.	9	
Blower motor power supply system.	10	

DATA LIST REFERENCE TABLE

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Item No.	Check items	Inspection status	The display contents under normal conditions
17	Engine speed	–	Displays correct engine speed.
19	Ambient temperature sensor	–	Ambient temperature is the same as scan tool displayed temperature
20	Air thermo sensor	–	Evaporator outlet temperature is the same as scan tool displayed temperature.
21	Interior temperature sensor	–	Interior temperature is the same as scan tool displayed temperature
23	Temperature setting		Displays air conditioning set temperature.

Item No.	Check items	Inspection status	The display contents under normal conditions
24	ETC sensor	–	Engine coolant temperature is the same as scan tool displayed temperature.
26	Vehicle speed	–	Displays vehicle speed.
27	A/C Compressor drive request	Compressor ON	ON
		Compressor OFF	OFF
28	Air conditioning switch	Air conditioning switch ON	ON
		Air conditioning switch OFF	OFF
29	Refrigerant leak	–	Normal
34	Idle-up request	–	Displays idle-up request signal.
35	Rear heater SW light	–	–
36	PTC heater 1	–	–
37	PTC heater 2	–	–
38	PTC heater 3	–	–
45	In/out select damp poten (target)	–	Displays outside/inside air selection damper target position.
46	In/out select damp potentiometer	–	Displays outside/inside air selection damper position.
55	Air outlet c/o potentiometer	–	Displays air outlet changeover damper position.
56	Air outlet c/o potentio. (Target)	–	Displays air outlet changeover damper target position.
57	Low pressure judgment	–	Normal
60	Rear defogger switch	Rear window defogger switch ON	ON
		Rear window defogger switch OFF	OFF
61	Pressure sensor	–	Displays refrigerant pressure.
63	Air mix potentiometer	–	Displays the air mix damper position.

Item No.	Check items	Inspection status	The display contents under normal conditions
67	Photo sensor	–	Displays sunload.
68	Front blower fan	–	Displays blower motor condition.
69	Front blower fan (Target)	–	Displays blower motor target value.
73	Refrigerant pressure	–	Displays refrigerant pressure status.
74	Condenser fan	–	Displays condenser fan running condition.
76	Temp. set dial position	–	Displays the set temperature output value on the control panel.
77	A/C Panel type	–	Dial/Auto/RHD
78	Fan set dial position	–	Displays the air volume output value on the control panel.
79	Air outlet c/o set dial position	–	Displays output value to the air outlet changeover dial on the control panel.
80	Fan set dial operation flag	–	ON when the air volume adjusting dial is operated
81	A/C SW operation flag	–	ON when the air conditioning switch is operated
82	Temp. set dial operation flag	–	ON when the air conditioning switch is operated
83	Defogger flag	–	ON when the air outlet changeover dial is set to the DEF position.
84	In/out air c/o SW operation flag	–	ON when the inside air/outside air changeover switch is operated
87	Rear defogger SW operation flag	–	ON when the rear window switch is operated

Item No.	Check items	Inspection status	The display contents under normal conditions
88	Rear defogger SW light	–	Displays rear window switch indicator status.
89	A/C SW light	–	Displays air conditioning switch indicator status.
90	In/out air c/o SW light	–	Displays the status of the inside air/outside air changeover switch indicator.
91	A/C Compressor drive flag	–	ON when the compressor is activated.
92	Wiper operation flag	–	ON when the wiper is operated.
93	Ignition position information	–	Ignition switch position status
94	Power source voltage	–	Displays power supply voltage.
95	IOD fuse equipment flag	–	IOD fuse status
96	A/T lock up open request	–	Displays A/T lock open request signal.
100	System operation time	–	–
101	Compressor use times	–	–
102	Rear defogger use times	–	–
103	In/out air c/o poten drive time	–	–
104	Air outlet c/o poten drive time	–	–
105	Air mix potentiometer drive time	–	–
106	Hot state time (Interior TEMP.)	–	–
107	Cold state time (Interior TEMP.)	–	–
108	Hot state time (Ambient TEMP.)	–	–
109	Cold state time (Ambient TEMP.)	–	–

Item No.	Check items	Inspection status	The display contents under normal conditions
110	Maximum ambient temperature	–	–
111	Minimum ambient temperature	–	–
112	Maximum Engine coolant TEMP.	–	–
113	Engine high speed time	–	–
114	Maximum Engine speed	–	–
115	High pressure drive time	–	–
116	High pressure cut times	–	–
117	Maximum pressure (kPa)	–	–
118	A/C use rate	–	–
119	Compressor operation rate	–	–
120	Eco operation rate	–	–
121	Recirc use rate	–	–
122	A/C operation times	–	–
123	In/out air c/o operation times	–	–
124	Mode dial operation times	–	–
125	Blower fan dial operation times	–	–
126	TEMP. set dial operation times	–	–
127	FACE mode use rate	–	–
128	B/L mode use rate	–	–
129	FOOT mode use rate	–	–
130	D/F mode use rate	–	–
131	DEF mode use rate	–	–
132	Fan OFF use rate	–	–
133	Fan 1-2step use rate	–	–
134	Fan 3-4step use rate	–	–
135	Fan 5-6step use rate	–	–
136	Fan 7-8step use rate	–	–
137	Temp 1-7 step use rate	–	–
138	Temp 8-10step use rate	–	–

Item No.	Check items	Inspection status	The display contents under normal conditions
139	Temp 11-13 step use rate	–	–
140	Temp 17-19step use rate	–	–
141	Temp 20-22step use rate	–	–
142	Temp 23-29step use rate	–	–
143	PTC heater1 use times	–	–
144	PTC heater2 use times	–	–
145	PTC heater3 use times	–	–
146	Fan LO driving time	–	–
147	Fan M1 driving time	–	–
148	Fan M2 driving time	–	–
149	Fan HI driving time	–	–
150	Rear PTC heater counter	–	–

ACTUATOR TEST REFERENCE

M1554005200456

Item No.	Check items	Driven content
2	Idle up request	Idle-up request signal
5	In/out select damper	The moving position of outside/inside air selection damper motor
6	Air mix damper motor	The moving position of air mix damper motor
7	Front blower fan	The amount of blower motor rotation
8	Air outlet c/o damper	Air outlet changeover damper motor moving position
10	Condenser fan*	The amount of condenser fan rotation
11	Air conditioning switch*	A/C switch selection position
12	Rear defogger switch	Rear window defogger switch selection position
13	A/T lock up open request	A/T lock open request signal
14	PTC heater	–

NOTE: *: When the engine is not running these function do not work.

CHECK AT A/C-ECU TERMINAL

M1552010302330

<C-109>



<C-108>



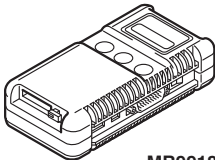

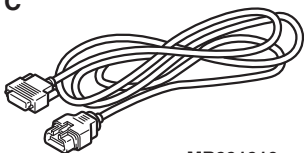
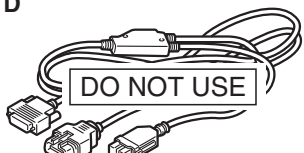
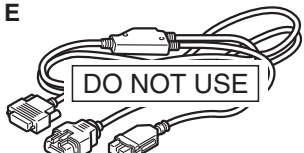
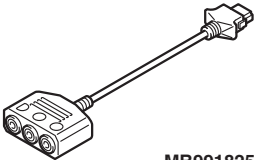
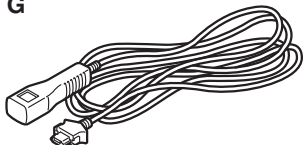
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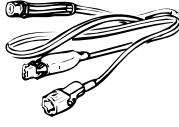
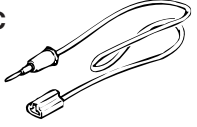
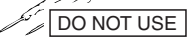
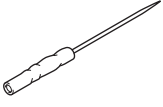
Terminal No.	Check items	Check conditions	Normal conditions
1	Power transistor (DRAIN)	Air volume control dial: Maximum air volume	0 to 2 V
2	Power transistor (GATE)	Air volume control dial: Maximum air volume	Battery positive voltage
3 –8	–	–	–
9	A/C control panel (input)	–	–
10 –12	–	–	–
13	Battery power supply	Always	Battery positive voltage
14	Ground	Always	1 V or less
15	IG1 power supply	Ignition switch: IG1	Battery positive voltage
16	A/C pressure sensor input	Refer to P.55A-109 .	Refer to P.55A-109 .
17	Interior temperature sensor	Sensor probe temperature: 25° C (77° F) (4.0 kΩ)	2.1 to 2.7 V
18	Photo sensor input	–	–
19	Sensor ground	Always	1 V or less
20	A/C pressure sensor power supply	Ignition switch: IG2	5 V
21	Air thermo sensor ground	Always	1 V or less
22	Air thermo sensor	Sensor probe temperature: 25° C (77° F) (4.0 kΩ)	2.1 to 2.7 V
23	–	–	–
24	Motor for air outside/inside air circulation switching damper	–	–
25	Motor for air outside/inside air circulation switching damper	–	–
26	Motor for air outside/inside air circulation switching damper	–	–
27	Motor for air outside/inside air circulation switching damper	–	–
28	Air mix damper motor	–	–
29	Motor power supply	–	–
30	Air outlet changeover damper motor	–	–

Terminal No.	Check items	Check conditions	Normal conditions
31	Air outlet changeover damper motor	–	–
32	Air outlet changeover damper motor	–	–
33	Air outlet changeover damper motor	–	–
34	Air mix damper motor	–	–
35	Air mix damper motor	–	–
36	Air mix damper motor	–	–

SPECIAL TOOLS

M1552000600754

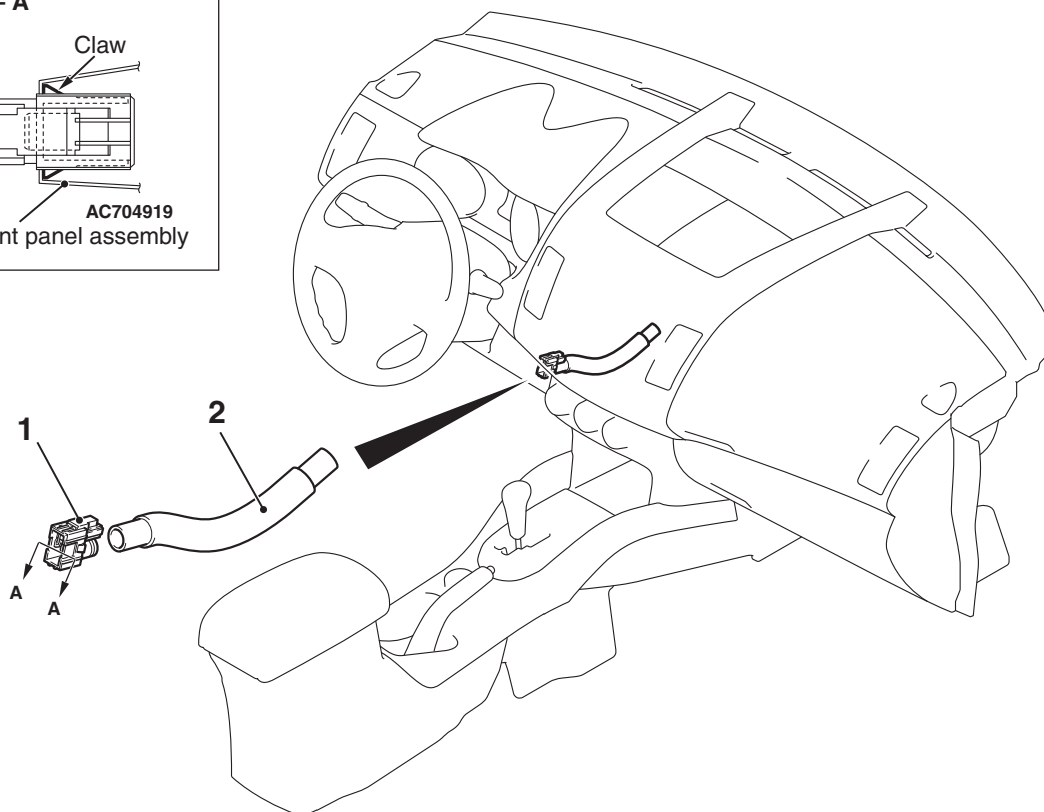
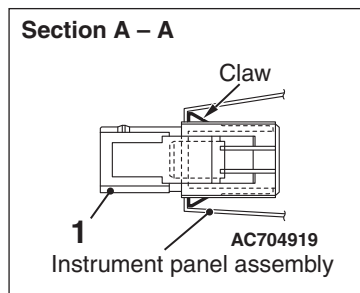
TOOL	TOOL NUMBER AND NAME	SUPER SESSION	APPLICATION
<p>A</p>  <p>MB991824</p> <p>B</p>  <p>MB991827</p> <p>C</p>  <p>MB991910</p> <p>D</p>  <p>MB991911</p> <p>E</p>  <p>MB991914</p> <p>F</p>  <p>MB991825</p> <p>G</p>  <p>MB991826 MB991958</p>	<p>MB991958</p> <p>A: MB991824 B: MB991827 C: MB991910 D: MB991911 E: MB991914 F: MB991825 G: MB991826</p> <p>M.U.T.-III Sub Assembly</p> <p>A: Vehicle communication interface (V.C.I.) B: M.U.T.-III USB cable C: M.U.T.-III main harness A (Vehicles with CAN communication system) D: M.U.T.-III main harness B (Vehicles without CAN communication system) E: M.U.T.-III main harness C (Chrysler models only) F: M.U.T.-III measurement adapter G: M.U.T.-III Trigger Harness</p>	<p>MB991824-KIT</p> <p><i>NOTE: G: MB991826 M.U.T.-III Trigger Harness is not necessary when pushing V.C.I. ENTER key.</i></p>	<p>⚠ CAUTION</p> <p>For vehicles with CAN communication, use M.U.T.-III main harness A to send simulated vehicle speed. If you connect M.U.T.-III main harness B instead, the CAN communication does not function correctly.</p> <p>Checking diagnostic trouble codes</p>

TOOL	TOOL NUMBER AND NAME	SUPER SESSION	APPLICATION
<p>A</p>  <p>B</p>  <p>C</p>  <p>D</p>  <p>MB991223AZ</p>	<p>MB991223 A: MB991219 B: MB991220 C: MB991221 D: MB991222</p> <p>Harness set A: Test harness B: LED harness C: LED harness adaptor D: Probe</p>	<p>General service tools</p>	<p>Continuity check and voltage measurement at harness wire or connector for loose, corroded or damaged terminals, or terminals pushed back in the connector.</p> <p>A: Connector pin contact pressure inspection B: Power circuit inspection C: Power circuit inspection D: Commercial tester connection</p>
 <p>MB992006</p>	<p>MB992006 Extra fine probe</p>	<p>General service tool</p>	<p>Continuity check and voltage measurement at harness wire or connector for loose, corroded or damaged terminals, or terminals pushed back in the connector.</p>

SENSORS

REMOVAL AND INSTALLATION

M1554001900293



AC709701AF

Interior temperature sensor removal steps

- Side lower panel assembly (Refer to GROUP 52A –Instrumental Panel [P.52A-2](#)).

Interior temperature sensor removal steps (Continued)

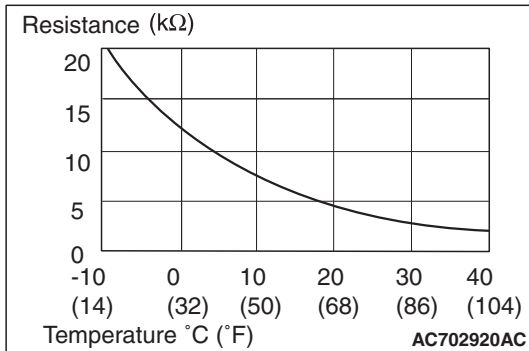
1. Interior temperature sensor
2. Aspirator hose

INSPECTION

M1554002000293

INTERIOR TEMPERATURE SENSOR CHECK

When the resistance between the sensor terminals is measured under two or more temperature conditions, the resistance should approximately satisfy the illustrated values.



NOTE: The temperature conditions when checking should not exceed the range shown in the diagram.

OTHER PARTS

OTHER PARTS MAINTENANCE SERVICE POINTS

M1554004000824

The following maintenance service points are the same as for the manual A/C.

ITEM		REFERENCE PAGE
ON-VEHICLE SERVICE	AIR CONDITIONING COMPRESSOR CLUTCH TEST	P.55A-109
	SIMPLE INSPECTION OF THE A/C PRESSURE SENSOR	P.55A-109
	COMPRESSOR DRIVE BELT ADJUSTMENT	P.55A-110
	REFRIGERANT LEVEL CHECK, DRAINING, AND CHARGING	P.55A-110
	PERFORMANCE TEST	P.55A-111
	REFRIGERANT LEAK REPAIR	P.55A-112
	COMPRESSOR NOISE CHECK	P.55A-113
	POWER RELAY CONTINUITY CHECK	P.55A-113
	IDLE-UP OPERATION CHECK	P.55A-117
HEATER CONTROL (A/C-ECU)		P.55A-125
HEATER UNIT AND FRONT DECK CROSSMEMBER ASSEMBLY		P.55A-119
MOTORS AND TRANSISTOR		P.55A-122
AMBIENT AIR TEMPERATURE SENSOR		P.55A-124
A/C-ECU		P.55A-125
A/C COMPRESSOR		P.55A-126
CONDENSER		P.55A-134
REFRIGERANT LINE		P.55A-135
DUCTS		P.55A-136
REAR VENTILATION DUCT		P.55A-138

NOTES