



# Technical Service Bulletin

SUBJECT: <b>CORRECTION/ADDITION OF INSPECTION PROCEDURE AND TROUBLE SYMPTOM CHART FOR AIR CONDITIONER – SERVICE MANUAL REVISION</b>		NO.: <b>TSB-23-55-003</b>	
		DATE: <b>March 2023</b>	
		MODEL: <b>2018-21 Outlander PHEV</b>	
<b>CIRCULATE TO:</b>	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input checked="" type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER

## PURPOSE

This TSB provides corrections and additional information for the Heater, Air Conditioning and Ventilation section of the Service Manual.

## AFFECTED VEHICLES

- 2018-2021 Outlander PHEV

## AFFECTED SERVICE MANUAL

- 2018-2021 Outlander PHEV Service Manual

## PROCEDURE

Please use the attached chart as a guide to replace or add the indicated pages of the affected Service Manual, Group 55 Heater, Air Conditioning and Ventilation.



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**OUTLANDER PHEV**

<b>Applicable manual</b>	<b>Pub. No.</b>	<b>Applicable title</b>	<b>Contents</b>
2018 OUTLANDER PHEV Service Manual	MSCD-027B-2018	HEATER, AIR CONDITIONING AND VENTILATION ↳ TROUBLESHOOTING ↳ TROUBLE SYMPTOM CHART	Attached sheet 28
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		HEATER, AIR CONDITIONING AND VENTILATION ↳ TROUBLESHOOTING ↳ SYMPTOM PROCEDURES ↳ Added below "INSPECTION PROCEDURE 14: The A/C compressor does not stop. (cut in unintentionally)"	Attached sheet 36, 37
2019 OUTLANDER PHEV Service Manual	MSCD-027B-2019	HEATER, AIR CONDITIONING AND VENTILATION ↳ TROUBLESHOOTING ↳ TROUBLE SYMPTOM CHART	Attached sheet 30
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2020 OUTLANDER PHEV Service Manual	MSCD-027B-2020	HEATER, AIR CONDITIONING AND VENTILATION ↳ TROUBLESHOOTING ↳ TROUBLE SYMPTOM CHART	Attached sheet 32
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2021 OUTLANDER PHEV Service Manual	MSCD-027B-2021	HEATER, AIR CONDITIONING AND VENTILATION ↳ TROUBLESHOOTING ↳ TROUBLE SYMPTOM CHART	Attached sheet 34
		HEATER, AIR CONDITIONING AND VENTILATION ↳ TROUBLESHOOTING ↳ SYMPTOM PROCEDURES ↳ INSPECTION PROCEDURE 11: Heater controller assembly (A/C-ECU) power supply system	Attached sheet 35
		HEATER, AIR CONDITIONING AND VENTILATION ↳ TROUBLESHOOTING ↳ SYMPTOM PROCEDURES ↳ Added below "INSPECTION PROCEDURE 14: The A/C compressor does not stop. (cut in unintentionally)"	Attached sheet 36, 37

## HEATER, AIR CONDITIONING AND VENTILATION TROUBLESHOOTING

# 55-93

Trouble symptom	Inspection procedure No.	Reference page
The blower air volume cannot be changed	4	P.55-97
The inside/outside air changeover is impossible	5	P.55-99
A/C outlet air temperature cannot be set	6	P.55-101
Air outlets changeover is impossible	7	P.55-102
Ambient temperature sensor system	8	P.55-104
A/C pressure sensor system	9	P.55-105
Blower motor power supply system	10	P.55-105
Heater controller assembly (A/C-ECU) power supply system	11	P.55-106
Heater does not work at all, heater does not work quickly.	12	P.55-108
Cannot communicate with the A/C compressor.	13	P.55-111
The A/C compressor does not stop (runs unintentionally)	14	P.55-113

### SYMPTOM PROCEDURES

#### INSPECTION PROCEDURE 1: Communication with the M.U.T.-IIISE is not possible.

##### TECHNICAL DESCRIPTION (COMMENT)

If communication with all other systems is not possible, there is a high possibility that there is a malfunction of the diagnosis line. If only the A/C system cannot communicate with the M.U.T.-IIISE, the heater controller assembly (A/C-ECU) may be defective.

##### TROUBLESHOOTING HINTS

- Malfunction of the heater controller assembly (A/C-ECU)
- Check and repair the power supply circuit system.

##### DIAGNOSIS

1. Using scan tool (M.U.T.-IIISE), diagnose CAN bus line.

#### Inspection Procedure 2: Cool air does not come.

##### TECHNICAL DESCRIPTION (COMMENT)

If the blower air temperature cannot be cool when turning A/C switch ON and lowering the preset temperature, inadequate refrigerant quantity, sensors, malfunction of A/C compressor, malfunction of A/C pipe solenoid valve, harness or connectors may be suspected.

##### TROUBLESHOOTING HINTS

- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- Malfunction of A/C compressor
- The refrigerant quantity is inadequate.
- Malfunction of the A/C pipe solenoid valve
- Insufficiently charged main drive lithium-ion battery

<Added>

Electric heater (electric heater-ECU) power supply system	15	Attached sheet 36
When the air conditioning is operating, the air volume becomes lower than the set air volume and the air volume cannot be changed.	16	Attached sheet 37

**DIAGNOSIS****Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe

**STEP 1. Using scan tool (M.U.T.-IIISE), check whether the other system DTC is set.**

Check that the ETACS-ECU has not set a DTC.

**⚠ CAUTION**

To prevent damage to scan tool (M.U.T.-IIISE), always turn the electric motor switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-IIISE).

- (1) Connect scan tool (M.U.T.-IIISE). Refer to "How to connect the Scan Tool (M.U.T.-IIISE) P.54A-6".
- (2) Turn the electric motor switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the electric motor switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES** : Carry out the diagnostic trouble code procedures (Refer to GROUP 54A – ETACS-ECU, diagnostic trouble code chart P.54A-433).

**NO** : Go to Step 2.

**STEP 2. Measure the voltage at the heater controller assembly (A/C-ECU) connector.**

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Power supply mode of the electric motor switch: OFF → ON
- (3) Voltage between IG1 terminal and body ground

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**Q: Is the check result normal?**

**YES** : Go to Step 4.

**NO** : Go to Step 3.

**STEP 3. Check of open circuit in IG1 line between ~~ETACS-ECU~~ connector and heater controller assembly (A/C-ECU) connector.****Q: Is the check result normal?**

**YES** : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-17).

**NO** : Repair the connector(s) or wiring harness.

<Correct>

**IGCT control relay**

<Incorrect>

## TROUBLE SYMPTOM CHART

M1554005003309

Trouble symptom	Inspection procedure No.	Reference page
Communication with the scan tool (M.U.T.-IIISE) is not possible	1	P.55-98
Cool air does not come	2	P.55-98
The blower does not work	3	P.55-100
The blower air volume cannot be changed	4	P.55-103
The inside/outside air changeover is impossible	5	P.55-104
A/C outlet air temperature cannot be set	6	P.55-106
Air outlets changeover is impossible	7	P.55-108
Ambient temperature sensor system	8	P.55-110
A/C pressure sensor system	9	P.55-111
Blower motor power supply system	10	P.55-111
Heater controller assembly (A/C-ECU) power supply system	11	P.55-112
Heater does not work at all, heater does not work quickly.	12	P.55-115
Cannot communicate with the A/C compressor.	13	P.55-118
The A/C compressor does not stop (runs unintentionally)	14	P.55-119

&lt;Added&gt;

Attached sheet 30 (2/2)

## SYMPTOM PROCEDURES

**INSPECTION PROCEDURE 1: Communication with the M.U.T.-IIISE is not possible.****TECHNICAL DESCRIPTION (COMMENT)**

If communication with all other systems is not possible, there is a high possibility that there is a malfunction of the diagnosis line. If only the A/C system cannot communicate with the M.U.T.-IIISE, the heater controller assembly (A/C-ECU) may be defective.

**TROUBLESHOOTING HINTS**

- Malfunction of the heater controller assembly (A/C-ECU)
- Check and repair the power supply circuit system.

**DIAGNOSIS**

1. Using scan tool (M.U.T.-IIISE), diagnose CAN bus line.

**Inspection Procedure 2: Cool air does not come.****TECHNICAL DESCRIPTION (COMMENT)**

If the blower air temperature cannot be cool when turning A/C switch ON and lowering the preset temperature, inadequate refrigerant quantity, sensors, malfunction of A/C compressor, malfunction of A/C pipe solenoid valve, harness or connectors may be suspected.

**TROUBLESHOOTING HINTS**

- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- Malfunction of A/C compressor
- The refrigerant quantity is inadequate.
- Malfunction of the A/C pipe solenoid valve
- Insufficiently charged main drive lithium-ion battery

Electric heater (electric heater-ECU) power supply system	15	Attached sheet 36
When the air conditioning is operating, the air volume becomes lower than the set air volume and the air volume cannot be changed.	16	Attached sheet 37

## HEATER, AIR CONDITIONING AND VENTILATION TROUBLESHOOTING

55-113

### DIAGNOSIS

#### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

#### STEP 1. Using scan tool (M.U.T.-IIISE), check whether the other system DTC is set.

Check that the ETACS-ECU has not set a DTC.

#### CAUTION

To prevent damage to scan tool (M.U.T.-IIISE), always turn the electric motor switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-IIISE).

- (1) Connect scan tool (M.U.T.-IIISE). Refer to "How to connect the Scan Tool (M.U.T.-IIISE) P.54A-6".
- (2) Turn the electric motor switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the electric motor switch to the "LOCK" (OFF) position.

#### Q: Is the DTC set?

**YES** : Carry out the diagnostic trouble code procedures (Refer to GROUP 54A – ETACS-ECU, diagnostic trouble code chart P.54A-446).

**NO** : Go to Step 2.

#### STEP 2. Measure the voltage at the heater controller assembly (A/C-ECU) connector.

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Power supply mode of the electric motor switch: OFF → ON
- (3) Voltage between IG1 terminal and body ground

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

#### Q: Is the check result normal?

**YES** : Go to Step 4.

**NO** : Go to Step 3.

#### STEP 3. Check of open circuit in IG1 line between ~~ETACS-ECU~~ connector and heater controller assembly (A/C-ECU) connector.

#### Q: Is the check result normal?

**YES** : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-17).

**NO** : Repair the connector(s) or wiring harness.

<Correct>

**IGCT control relay**

<Incorrect>

## 55-104

HEATER, AIR CONDITIONING AND VENTILATION  
TROUBLESHOOTING

## TROUBLE SYMPTOM CHART

M1554005004001

Trouble symptom	Inspection procedure No.	Reference page
Communication with the scan tool (M.U.T.-IIISE) is not possible	1	P.55-104
Cool air does not come	2	P.55-105
The blower does not work	3	P.55-107
The blower air volume cannot be changed	4	P.55-108
The inside/outside air changeover is impossible	5	P.55-110
A/C outlet air temperature cannot be set	6	P.55-112
Air outlets changeover is impossible	7	P.55-114
Ambient temperature sensor system	8	P.55-115
A/C pressure sensor system	9	P.55-116
Blower motor power supply system	10	P.55-117
Heater controller assembly (A/C-ECU) power supply system	11	P.55-118
Heater does not work at all, heater does not work quickly.	12	P.55-120
Cannot communicate with the A/C compressor.	13	P.55-123
The A/C compressor does not stop (runs unintentionally)	14	P.55-125

## SYMPTOM PROCEDURES

## INSPECTION PROCEDURE 1: Communication with the M.U.T.-IIISE is not possible.

## TECHNICAL DESCRIPTION (COMMENT)

If communication with all other systems is not possible, there is a high possibility that there is a malfunction of the diagnosis line. If only the A/C system cannot communicate with the M.U.T.-IIISE, the heater controller assembly (A/C-ECU) may be defective.

&lt;Added&gt;

## TROUBLESHOOTING HINTS

- Malfunction of the heater controller assembly (A/C-ECU)
- Check and repair the power supply circuit system.

## DIAGNOSIS

1. Using scan tool (M.U.T.-IIISE), diagnose CAN bus line.

Electric heater (electric heater-ECU) power supply system	15	Attached sheet 36
When the air conditioning is operating, the air volume becomes lower than the set air volume and the air volume cannot be changed.	16	Attached sheet 37



**HEATER, AIR CONDITIONING AND VENTILATION  
TROUBLESHOOTING**

**55-119**

&lt;Correct&gt;

**IGCT control relay**

&lt;Incorrect&gt;

**STEP 3. Check of open circuit in IG1 line between ~~ETACS-ECU~~ connector and heater controller assembly (A/C-ECU) connector.**

**Q: Is the check result normal?**

**YES** : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-17).

**NO** : Repair the connector(s) or wiring harness.

**STEP 4. Measure the voltage at the heater controller assembly (A/C-ECU) connector.**

(1) Disconnect the connector, and measure at the wiring harness side.

(2) Voltage between B/UP terminal and body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**Q: Is the check result normal?**

**YES** : Go to Step 6.

**NO** : Go to Step 5.

**STEP 5. Check of open circuit in B/UP line between ETACS-ECU connector and heater controller assembly (A/C-ECU) connector.**

**Q: Is the check result normal?**

**YES** : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-17).

**NO** : Repair the connector(s) or wiring harness.

**STEP 6. Measure the resistance at the heater controller assembly (A/C-ECU) connector.**

(1) Disconnect the connector, and measure at the wiring harness side.

(2) Resistance between E terminal and body ground

**OK: The resistance should be 2 ohms or less**

**Q: Is the check result normal?**

**YES** : Replace the heater controller assembly (A/C-ECU) (Refer to P.55-154).

**NO** : Go to Step 7.

**STEP 7. Check of open circuit in E line between heater controller assembly (A/C-ECU) connector and ground J/C (DASH) connector.**

**Q: Is the check result normal?**

**YES** : Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-17).

**NO** : Repair the connector(s) or wiring harness.

## HEATER, AIR CONDITIONING AND VENTILATION TROUBLESHOOTING

# 55-99

### TROUBLE SYMPTOM CHART

M1554005004001

Trouble symptom	Inspection procedure No.	Reference page
Communication with the scan tool (M.U.T.-III/SE) is not possible	1	P.55-100
Cool air does not come	2	P.55-100
The blower does not work	3	P.55-102
The blower air volume cannot be changed	4	P.55-104
The inside/outside air changeover is impossible	5	P.55-106
A/C outlet air temperature cannot be set	6	P.55-107
Air outlets changeover is impossible	7	P.55-109
Ambient temperature sensor system	8	P.55-110
A/C pressure sensor system	9	P.55-112
Blower motor power supply system	10	P.55-112
Heater controller assembly (A/C-ECU) power supply system	11	P.55-113
Heater does not work at all, heater does not work quickly.	12	P.55-115
Cannot communicate with the A/C compressor.	13	P.55-118
The A/C compressor does not stop (runs unintentionally)	14	P.55-120

<Added>

Electric heater (electric heater-ECU) power supply system	15	Attached sheet 36
When the air conditioning is operating, the air volume becomes lower than the set air volume and the air volume cannot be changed.	16	Attached sheet 37

**STEP 1. Using scan tool (M.U.T.-IIISE), check whether the other system DTC is set.**

Check that the ETACS-ECU has not set a DTC.

**⚠ CAUTION**

To prevent damage to scan tool (M.U.T.-IIISE), always turn the electric motor switch to the OFF position before connecting or disconnecting scan tool (M.U.T.-IIISE).

- (1) Connect scan tool (M.U.T.-IIISE). Refer to "How to connect the Scan Tool (M.U.T.-IIISE) P.54A-6".
- (2) Turn the electric motor switch from OFF position to ON position.
- (3) Check if DTC is set.
- (4) Turn the electric motor switch to the OFF position.

**Q: Is the DTC set?**

**YES** : Carry out the diagnostic trouble code procedures (Refer to GROUP 54A - ETACS-ECU, diagnostic trouble code chart P.54A-505).

**NO** : Go to Step 2.

**STEP 2. Measure the voltage at the heater controller assembly (A/C-ECU) connector.**

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Power supply mode of the electric motor switch: OFF → ON
- (3) Voltage between IG1 terminal and body ground

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**Q: Is the check result normal?**

**YES** : Go to Step 4.

**NO** : Go to Step 3.

<Correct>

**IGCT control relay**

<Incorrect>

**STEP 3. Check of open circuit in IG1 line between ~~ETACS-ECU~~ connector and heater controller assembly (A/C-ECU) connector.****Q: Is the check result normal?**

**YES** : Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction P.00-17).

**NO** : Repair the connector(s) or wiring harness.

**STEP 4. Measure the voltage at the heater controller assembly (A/C-ECU) connector.**

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Voltage between B/UP terminal and body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**Q: Is the check result normal?**

**YES** : Go to Step 6.

**NO** : Go to Step 5.

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**INSPECTION PROCEDURE 15: Electric heater (electric heater-ECU) power supply system**

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**TECHNICAL DESCRIPTION (COMMENT)**

If the electric heater (electric heater-ECU) is not energized, the power supply or ground system to the ECU may be defective.

**TROUBLESHOOTING HINTS**

- Malfunction of the electric heater (electric heater-ECU)
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

**DIAGNOSIS****Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe

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**STEP 1. Measure the voltage at the electric heater (electric heater-ECU) connector.**

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Power supply mode of the electric motor switch: OFF → ON
- (3) Voltage between +12V terminal and body ground

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**Q: Is the check result normal?**

**YES :** Go to Step 3.

**NO :** Go to Step 2.

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**STEP 2. Check of open circuit in +12V line between IGCT control relay connector and electric heater (electric heater-ECU) connector.****Q: Is the check result normal?**

**YES :** Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction).

**NO :** Repair the connector(s) or wiring harness.

---

**STEP 3. Measure the resistance at the electric heater (electric heater-ECU) connector.**

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Resistance between GND terminal and body ground

**OK: The resistance should be 2 ohms or less**

**Q: Is the check result normal?**

**YES :** Replace the electric heater (electric heater-ECU) .

**NO :** Go to Step 4.

---

**STEP 4. Check of open circuit in GND line between electric heater (electric heater-ECU) connector and body ground.****Q: Is the check result normal?**

**YES :** Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction).

**NO :** Repair the connector(s) or wiring harness.

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**INSPECTION PROCEDURE 16: When the air conditioning is operating, the air volume becomes lower than the set air volume and the air volume cannot be changed.**

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**TECHNICAL DESCRIPTION (COMMENT)**

If the air volume becomes lower than the set air volume when the air conditioning is operating and the air volume cannot be changed, a protection control may have been activated due to the high temperature inside the A/C compressor.

NOTE: Besides the probable causes, the protection control may also be activated if the air conditioning is used when all of the following conditions are met:

- Ambient temperature: high temperature
- Engine operation status: series hybrid mode, parallel hybrid mode
- Driving condition: low-speed driving, parked/stopped
- Air conditioning status: high load cooling

**TROUBLESHOOTING HINTS**

- Clogged condenser fin
- Damage or improper installation of rubber plate or airguide around the radiator and the condenser
- Damage or improper installation of splash shield and under cover
- Improper amount of refrigerant
- Malfunction of expansion valve
- Abnormal engine overheating
- Damage or abnormal speed of radiator fan

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe

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**STEP 1. Visually check the rubber plate or the airguide around the radiator and the condenser for damage and improper installation.**

**Q: Is the check result normal?**

**YES :** Go to Step 2

**NO :** Repair the rubber plate or the airguide around the radiator and the condenser.

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**STEP 2. Using scan tool (M.U.T.-IIISE), check whether the air conditioning or A/C compressor assembly DTC is set.**  
Check that the diagnostic trouble code related to the air conditioning or A/C compressor assembly is not set.

**⚠ CAUTION**

**To prevent damage to scan tool (M.U.T.-IIISE), always turn the electric motor switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool (M.U.T.-IIISE).**

- (1) Connect scan tool (M.U.T.-IIISE). Refer to "How to connect the Scan Tool (M.U.T.-IIISE) ."
- (2) Turn the electric motor switch from "LOCK" (OFF) position to "ON" position.
- (3) Check the DTC is set.
- (4) Turn the electric motor switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES :** Carry out the diagnosis code procedures.

**NO :** Go to Step 3

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**STEP 3. Using scan tool (M.U.T.-IIISE), check actuator test [The heater controller assembly (A/C-ECU)].**

Perform the following actuator test, and check that the A/C piping solenoid valve works normally.

- Item No. 21: Solenoid valve

**Q: Is the check result normal?**

**YES :** Go to Step 11

**NO :** Go to Step 4

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**STEP 4. Check the A/C piping solenoid valve assembly.**

Refer to Refrigerant Line - Inspection.

**Q: Is the check result normal?**

**YES :** Go to Step 5

**NO :** Replace the A/C piping solenoid valve assembly.

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**STEP 5. Check the A/C piping solenoid valve relay.**

Refer to On-Vehicle Service - Relay Check.

**Q: Is the check result normal?**

**YES :** Go to Step 6

**NO :** Replace the A/C piping solenoid valve relay.

---

**STEP 6. Measure the voltage at the A/C piping solenoid valve relay connector.**

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Voltage between power supply terminal and body ground.

**OK: The voltage should measure approximately 12 volts (battery positive voltage).**

**Q: Is the check result normal?**

**YES :** Go to Step 8

**NO :** Go to Step 7

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**STEP 7. Check of open and short circuit in power supply line between fusible link and A/C piping solenoid valve relay connector.**

**Q: Is the check result normal?**

**YES :** Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction).

**NO :** Repair the connector(s) or wiring harness.

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**STEP 8. Check of open and short circuit in power supply line between A/C piping solenoid valve relay connector and A/C piping solenoid valve connector.**

**Q: Is the check result normal?**

**YES :** Go to Step 9

**NO :** Repair the connector(s) or wiring harness.

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**STEP 9. Check of open circuit in SVLV line between A/C piping solenoid valve relay connector and heater controller assembly (A/C-ECU) connector.**

**Q: Is the check result normal?**

**YES :** Go to Step 10

**NO :** Repair the connector(s) or wiring harness.

---

**STEP 10. Check of open circuit in ground line between A/C piping solenoid valve connector and body ground.**

**Q: Is the check result normal?**

**YES :** Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction).

**NO :** Repair the connector(s) or wiring harness.

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**STEP 11. Diagnosis by refrigerant pressure**

Refer to On-Vehicle Service - Diagnosis by Refrigerant Pressure.

**Q: Is the check result normal?**

**YES :** Go to Step 12

**NO :** Take a necessary action for the A/C system symptom.

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**STEP 12. Using scan tool (M.U.T.-IIISE), check actuator test [The heater controller assembly (A/C-ECU)].**

Perform the following actuator test, and check that the blower works normally.

- Item No. 7: Blower motor

**Q: Is the check result normal?**

**YES :** Go to Step 13

**NO :** Perform Inspection Procedure 4 "The blower air volume cannot be changed".

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**STEP 13. Retest the system.**

**Q: Is the check result normal?**

**YES :** Intermittent malfunction (Refer to GROUP 00 - How to Use Troubleshooting/Inspection Service Points - How to Cope with Intermittent Malfunction).

**NO :** Replace the heater controller assembly (A/C-ECU). Then go to Step 14 .

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**STEP 14. Retest the system.**

**Q: Is the check result normal?**

**YES :** This diagnosis is complete.

**NO :** Replace the A/C compressor assembly.