
GROUP 17a

ENGINE CONTROL

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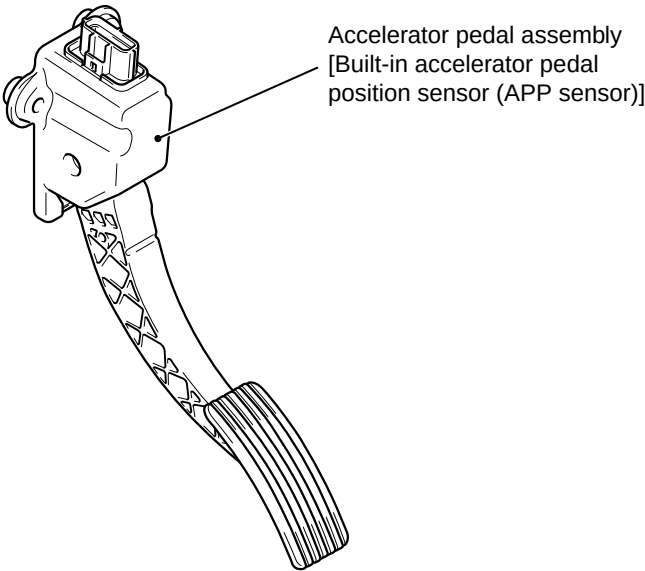
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GENERAL INFORMATION

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For the accelerator system, an electronic throttle actuator control system is utilized, eliminating the accelerator cable.

CONSTRUCTION DIAGRAM



ZC6014820002

ENGINE CONTROL SYSTEM DIAGNOSIS

INTRODUCTION

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If there is a malfunction in the engine control system, the accelerator pedal or throttle body may be faulty.

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 an engine control system 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.

4. Verify that the malfunction is eliminated.

SYMPTOM CHART

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Symptom	Inspection procedure	Reference page
Throttle valve will not fully open or close	1	P.17a-3
Accelerator pedal operation not smooth (over acceleration)	2	P.17a-4

SYMPTOM PROCEDURES

Inspection Procedure 1: Throttle Valve will not Fully Open or Close

M11701000024USA0000010000

COMMENT

The throttle body or accelerator pedal position sensor (APP sensor) is suspected.

- Malfunction of the APP sensor.
- Malfunction of the engine control module (ECM).

TROUBLESHOOTING HINTS (The most likely causes for this case:)

- Malfunction of the throttle body.

DIAGNOSIS

Required Special Tools:

- 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

STEP 1. Using scan tool MB991958, read the MFI system diagnostic trouble code.

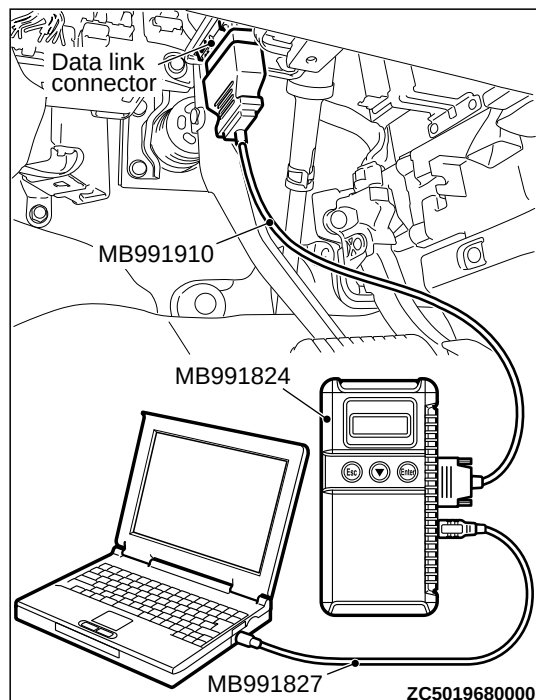
⚠ CAUTION

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

- (7) Start the M.U.T.-III system on the personal computer.
- (8) Turn the ignition switch to the "ON" position.
- (9) Check for MFI system diagnostic trouble code (Refer to GROUP 13Ab, Diagnostic Function - How to Read and Erase Diagnostic Trouble Codes P.13Ab-8).
- (10) Turn the ignition switch to the "LOCK" (OFF) position, and then remove scan tool MB991958 in the reverse order of installation.



Q:Is any DTC set?

YES: Repair MFI system (Refer to GROUP 13Ab, Diagnostic Trouble Code Chart P.13Ab-44). Then go to Step 2.

NO: Go to Step 2.

STEP 2. Retest the system.**Q:Does the throttle valve fully open and close?**

YES: The procedure is complete.

NO: Return to Step 1.

Inspection Procedure 2: Accelerator Pedal Operation not Smooth (Over Acceleration)

M11701000025USA0000010000

COMMENT

The accelerator pedal, its installation condition or the APP sensor is suspected.

- Incorrectly installed accelerator pedal.
- Malfunction of the APP sensor.

TROUBLESHOOTING HINTS (The most likely causes for this case:)

- Malfunction of the accelerator pedal.

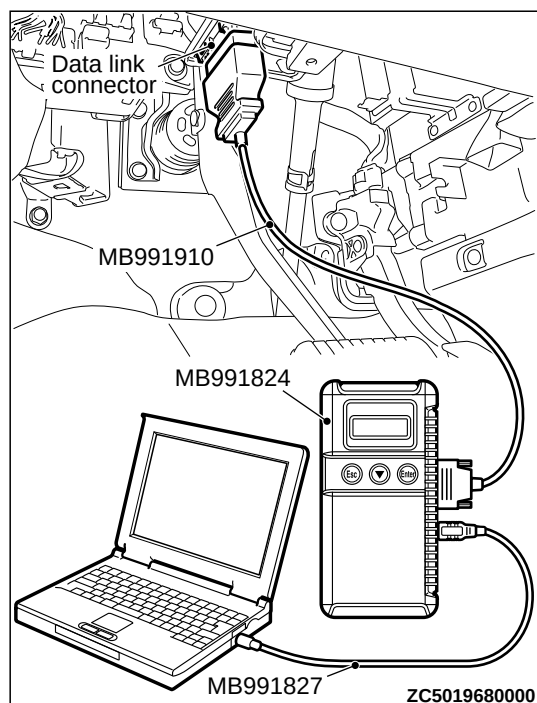
DIAGNOSIS**Required Special Tools:**

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
 - MB991824: V.C.I.
 - MB991827: M.U.T.-III USB Cable
 - MB991910: M.U.T.-III Main Harness A
-

STEP 1. Check if the accelerator pedal is installed correctly.**Q:Is the accelerator pedal installed correctly?**

YES: Go to Step 2.

NO: Remove and reinstall the accelerator pedal (Refer to P.17a-7). Then go to Step 3.



STEP 2. Using scan tool MB991958, read the MFI system diagnostic trouble code.

⚠ 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 special tool MB991824 is energized, special tool MB991824 indicator light will be illuminated in a green color.

- (7) Start the M.U.T.-III system on the personal computer.
- (8) Turn the ignition switch to the "ON" position.
- (9) Check for MFI system diagnostic trouble code (Refer to GROUP 13Ab, Diagnostic Function - How to Read and Erase Diagnostic Trouble Codes P.13Ab-8).
- (10) Turn the ignition switch to the "LOCK" (OFF) position, and then remove scan tool MB991958 in the reverse order of installation.

Q: Is any DTC set?

YES: Repair MFI system (Refer to GROUP 13Ab, Diagnostic Trouble Code Chart P.13Ab-44). Then go to Step 3.

NO: Go to Step 3.

STEP 3. Retest the system.

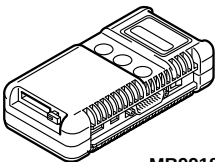
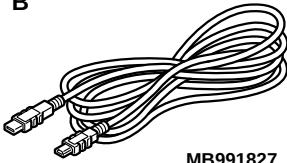
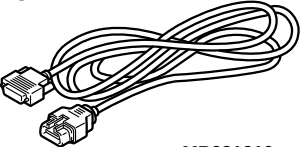
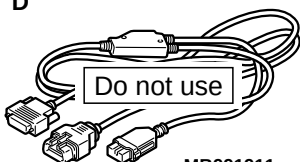
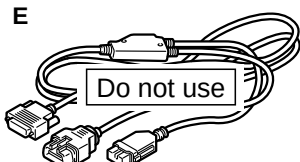
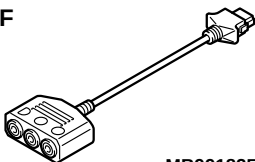
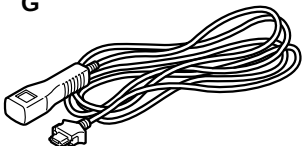
Q: Does the accelerator pedal work normally?

YES: The procedure is complete.

NO: Return to Step 1.

SPECIAL TOOL

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Tool	Tool number and name	Supersession	Application
A  MB991824 B  MB991827 C  MB991910 D  MB991911 E  MB991914 F  MB991825 G  MB991826 YB9919580001	MB991958 A: MB991824 B: MB991827 C: MB991910 D: MB991911 E: MB991914 F: MB991825 G: MB991826 M.U.T.-III sub assembly 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 (for Daimler Chrysler models only) F: M.U.T.-III adapter harness G: M.U.T.-III trigger harness	MB991824-KIT <i>NOTE: G: MB991826 M. U. T. -III trigger harness is not necessary when pushing V. C. I. ENTER key.</i>	⚠ CAUTION 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. Checking diagnostic trouble codes

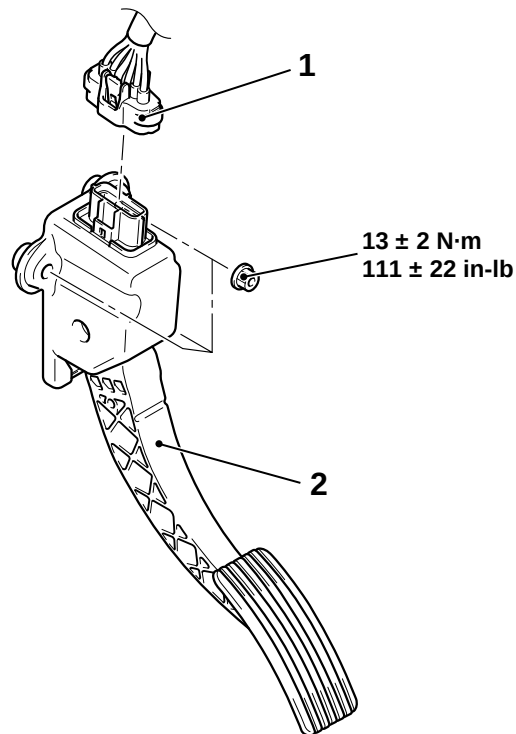
ACCELERATOR PEDAL

REMOVAL AND INSTALLATION

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Pre-removal and Post-installation Operation

Bottom Cover Assembly (driver's seat) Removal and Installation (Refer to GROUP 52A, Instrument Panel Assembly P. 52A-2).



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Removal steps

1. APP sensor connector

Removal steps

2. Accelerator pedal assembly

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