

GROUP 54Ab

COMBINATION METER

CONTENTS

SERVICE SPECIFICATIONS.....	54Ab-3	DTC U0100: Engine control module CAN timeout.....	54Ab-25
SPECIAL TOOL.....	54Ab-4	DTC U0141: ETACS CAN timeout.....	54Ab-27
DIAGNOSIS.....	54Ab-5	DTC U0151: SRS-ECU CAN timeout.....	54Ab-28
STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING.....	54Ab-5	DTC U0154: Occupant classification-ECU CAN timeout.....	54Ab-29
DIAGNOSTIC FUNCTION.....	54Ab-5	DTC U0164: A/C-ECU CAN timeout.....	54Ab-31
DIAGNOSTIC TROUBLE CODE CHART.....	54Ab-7	DTC U0168: KOS-ECU or WCM CAN timeout.....	54Ab-33
DIAGNOSTIC TROUBLE CODE PROCEDURES.....	54Ab-9	DTC U0184: Audio CAN timeout.....	54Ab-34
DTC B1200: Malfunction of odometer.....	54Ab-9	DTC U0197: Hands free module CAN timeout.....	54Ab-35
DTC B1201: Abnormal fuel information.....	54Ab-10	DTC U0245: Audio visual navigation unit CAN timeout.....	54Ab-37
DTC B1208: Malfunction of LCD heater.....	54Ab-15	DTC U1415: Coding not completed/Data fail.....	54Ab-38
DTC B1209: Test mode.....	54Ab-16	TROUBLE SYMPTOM CHART.....	54Ab-40
DTC B2203: Chassis No. not programmed.....	54Ab-16	TROUBLE SYMPTOM PROCEDURES.....	54Ab-41
DTC B2463: Sticking of rheostat switch.....	54Ab-18	Inspection Procedure 1: Power supply circuit check.....	54Ab-41
DTC B2464: The sticking of meter information switch.....	54Ab-19	Inspection Procedure 2: The speedometer does not work (the other meters work).....	54Ab-46
DTC B2465: Ignition switch signal error.....	54Ab-21	Inspection Procedure 3: The tachometer does not work (the other meters work).....	54Ab-47
DTC B2467: Malfunction of stepper motor.....	54Ab-23	Inspection Procedure 4: Tone alarm does not sound normally.....	54Ab-49
DTC U0019: Bus off(CAN-B).....	54Ab-24		

Continued on next page

Inspection Procedure 5: The combination meter light does not illuminate normally or the multi information display is not displayed normally.....	54Ab-51
Inspection Procedure 6: The multi information display screen cannot be changed with the operation of the meter information switch.....	54Ab-54
SERVICE DATA.....	54Ab-56
ACTUATOR TEST TABLE.....	54Ab-61
CHECK PROCEDURE FOR EACH MULTI INFORMATION DISPLAY SCREEN	54Ab-61
ON-VEHICLE SERVICE.....	54Ab-65
SPEEDOMETER CHECK.....	54Ab-65
TACHOMETER CHECK.....	54Ab-67
FUEL LEVEL SENSOR CHECK.....	54Ab-67
METER INFORMATION SWITCH CHECK	54Ab-69
SERVICE REMINDER FUNCTION SET	54Ab-70
COMBINATION METER ASSEMBLY	54Ab-77
REMOVAL AND INSTALLATION.....	54Ab-77
DISASSEMBLY AND ASSEMBLY.....	54Ab-79
CHECK AT ECU TERMINALS.....	54Ab-79

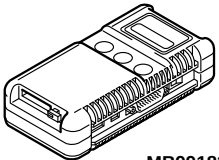
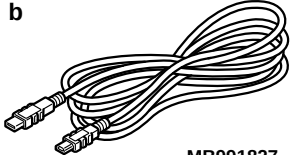
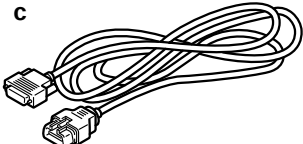
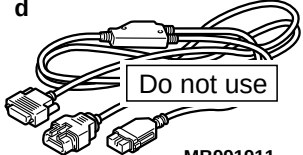
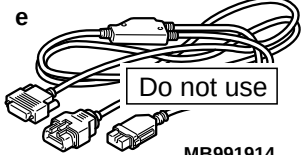
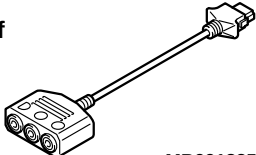
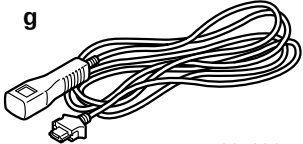
SERVICE SPECIFICATIONS

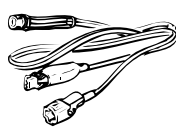
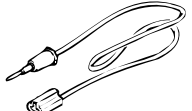
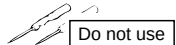
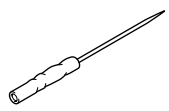
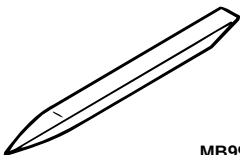
M15410100002USA0000010000

Item			Standard Value	
Speedometer indication tolerance mph (km/h) <Except vehicles for CANADA>			10 (16)	8.5 - 11.5 (13.6 - 18.4)
			25 (40)	23.5 - 26.5 (37.6 - 42.4)
			50 (80)	48.5 - 51.5 (77.6 - 82.4)
			75 (120)	73.5 - 76.5 (117.6 - 122.4)
			100 (161)	98.5 - 102.5 (158.6 - 165.0)
			125 (201)	123.5 - 127.5 (198.6 - 205.0)
Speedometer indication tolerance km/h (mph) <Vehicles for CANADA>			20 (12.4)	19 - 24 (11.8 - 14.9)
			40 (24.8)	40 - 44 (24.8 - 27.3)
			80 (49.7)	80 - 85 (49.7 - 52.8)
			120 (74.6)	120.5 - 125.5 (74.9 - 78.0)
			160 (99.4)	160.5 - 165.5 (99.7 - 102.8)
			200 (124.3)	200.5 - 207.0 (124.6 - 128.6)
Tachometer indication tolerance r/min The value in parentheses is a reference value.)			600	550 - 650
			(2,000)	(1,950 - 2,050)
			3,000	2,950 - 3,050
			(4,000)	(3,950 - 4,050)
			5,000	4,950 - 5,050
			6,000	5,950 - 6,050
			(7,000)	(6,950 - 7,050)
			(8,000)	(7,950 - 8,050)
FWD	Fuel level sensor resistance ohms		Stopper position "F"	13.0 ± 1.0
			Stopper position "E"	120.0 ± 1.0
	Fuel level sensor float height mm (in)		Stopper position "F" (height A)	201.9 (7.9)
			Stopper position "E" (height B)	18.3 (0.7)
AWD	Fuel level sensor resistance ohms	Fuel level sensor (main)	Stopper position "F"	6.5 ± 1.0
			Stopper position "E"	44.7 ± 1.0
		Fuel level sensor (sub)	Stopper position "F"	6.5 ± 1.0
			Stopper position "E"	75.3 ± 1.0
	Fuel level sensor float height mm (in)	Fuel level sensor (main)	Stopper position "F" (height A)	166.2 (6.5)
			Stopper position "E" (height B)	38.8 (1.5)
		Fuel level sensor (sub)	Stopper position "F" (height A)	48.8 ± 3.0 (1.9 ± 0.1)
			Stopper position "E" (height B)	238.0 ± 3.0 (9.3 ± 0.1)

SPECIAL TOOL

M15410100004USA0000010000

Tool	Tool number and name	Supersession	Application
a  MB991824 b  MB991827 c  MB991910 d  MB991911 e  MB991914 f  MB991825 g  MB991826 YB9919580000	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 measurement adapter 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 M.U.T.-III main harness A (MB991910) should be used. M.U.T.-III main harness B and C should not be used for this vehicle. Combination meter check (Diagnosis code, service data)

Tool	Tool number and name	Supersession	Application
a  b  c  d  YB9912230000	MB991223 a. MB991219 b. MB991220 c. MB991221 d. MB991222 Harness set a. Test harness b. LED harness c. LED harness adaptor d. Probe	General service tools	Continuity check and voltage measurement at harness wire or connector for loose, corroded or damaged terminals, or terminals pushed back in the connector. a. Connector pin contact pressure inspection b. Power circuit inspection c. Power circuit inspection d. Commercial tester connection
 MB992006	MB992006 Extra fine probe	-	Making voltage and resistance measurement during troubleshooting
 MB990784	MB990784 Ornament remover	General service tool	Removal of switch, trim, etc.

DIAGNOSIS

STANDARD FLOW OF DIAGNOSTIC TROUBLESHOOTING

M15410100086USA0000010000

Refer to GROUP 00, Contents of troubleshooting P.00-6.

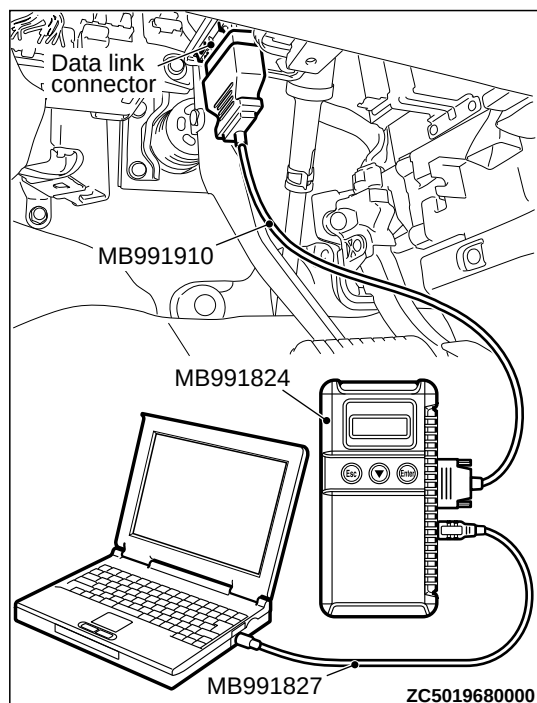
DIAGNOSTIC FUNCTION

M15410100006USA0000010000

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 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.

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)

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 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 "Meter" 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."
7. If a DTC is set, it is shown.
8. Choose "Erase DTCs" to erase the DTC.

HOW TO DIAGNOSE THE CAN BUS LINES

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)

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 being diagnosed.
 - If they match, go to step 8.
 - If not, go to step 5.
5. Select the "view vehicle information" button.
6. Enter the vehicle information and select the "OK" button.
7. When the vehicle information is displayed, confirm again that it matches the vehicle being diagnosed.
 - If they match, go to step 8.
 - If not, go to step 5.
8. Select the "OK" button.
9. When the optional equipment screen is displayed, choose the one which the vehicle is fitted with, and then select the "OK" button.

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 each data from scan tool, the troubleshooting can be performed more efficiently. The displayed items are as the table below.

Display item list

Item No.	Item name	Data item	Unit
01	Odometer	Total driving distance after the diagnosis code is generated	km *
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 diagnosis code	min

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

DIAGNOSTIC TROUBLE CODE CHART

CAUTION

- During troubleshooting, a DTC code associated with other system may be set when the ignition switch is turned on with connector(s) disconnected. On completion, check all

M15410100007USA0000010000

systems for DTC code(s). If DTC code(s) are set, erase them all.

When the combination meter is required to be replaced as a result of the troubleshooting, the current driving distance and number of elapsed days to be used for service reminder function must be entered into the meter after the replacement. Therefore, read "Integrated mileage for reminder," "Integrated days for reminder," "Mileage until Extra reminder," "Months until Extra reminder," and "Current Schedule" from the meter before the replacement using the special function of scan tool MB991958, and note them. For the operation method of scan tool MB991958, refer

to P.54Ab-70. If "Integrated mileage for reminder" or "Integrated days for reminder" cannot be read by the scan tool MB991958, follow the method described below.

- a. For the driving distance for check warning, use the driving distance displayed on the multi information display.
- b. For the elapsed days for check warning, calculate the number of elapsed days from the delivery date to the customer (service remainder function start date) and current date.

Diagnostic trouble code number	Diagnostic item	Reference page
B1200	Malfunction of odometer	P.54Ab-9
B1201	Abnormal fuel information	P.54Ab-10
B1202	Abnormal fuel2 information	
B1208	Malfunction of LCD heater	P.54Ab-15
B1209	Test mode	P.54Ab-16
B2203	Chassis No. not programmed	P.54Ab-16
B2463	The sticking of rheostat switch	P.54Ab-18
B2464	The sticking of meter information switch	P.54Ab-19
B2465	Ignition switch signal error	P.54Ab-16
B2467	Malfunction of stepper motor	P.54Ab-23
U0019	Bus off(CAN-B)	P.54Ab-24
U0100	Engine control module CAN timeout	P.54Ab-25
U0141	ETACS CAN timeout	P.54Ab-27
U0151	SRS-ECU CAN timeout	P.54Ab-28
U0154	Occupant classification-ECU CAN timeout	P.54Ab-29
U0164	A/C-ECU CAN timeout	P.54Ab-31
U0168	KOS-ECU or WCM CAN timeout	P.54Ab-33
U0184	Audio CAN timeout	P.54Ab-34
U0197	Hands free module CAN timeout	P.54Ab-35
U0245	Audio visual navigation unit CAN timeout	P.54Ab-37
U1415	Coding not completed/Data fail	P.54Ab-38

DIAGNOSTIC TROUBLE CODE PROCEDURES

DTC B1200: Malfunction of odometer

M15410100009USA0000010000

TROUBLE JUDGMENT

If the odometer information, which is stored in the combination meter, is abnormal when the ignition switch at the ON position and the system voltage is 10-16 volts (data from ETACS-ECU), DTC B1200 is stored.

TROUBLESHOOTING HINTS

The combination meter may be defective.

DIAGNOSIS

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)

STEP 1. Using scan tool MB991958, read the combination meter diagnostic trouble code.

Check if DTC is set to the combination meter.

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. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Erase the DTC.
- (4) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (5) Check if diagnosis code is set.

Q:Is the DTC set?

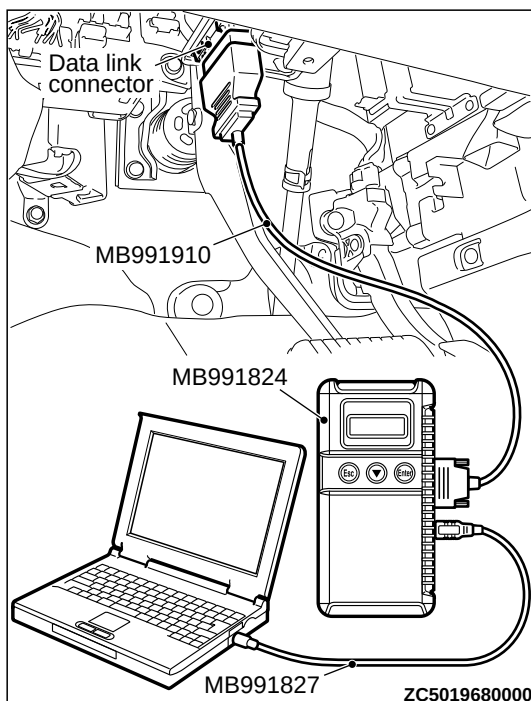
YES: Replace the combination meter, and then go to Step 2.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00, How to Cope with Intermittent Malfunction P. 00-15).

STEP 2. Recheck for diagnostic trouble code.

Check if DTC is set to the combination meter.

- (1) Erase the DTC.



- (2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if diagnosis code is set.

Q: Is the DTC set?

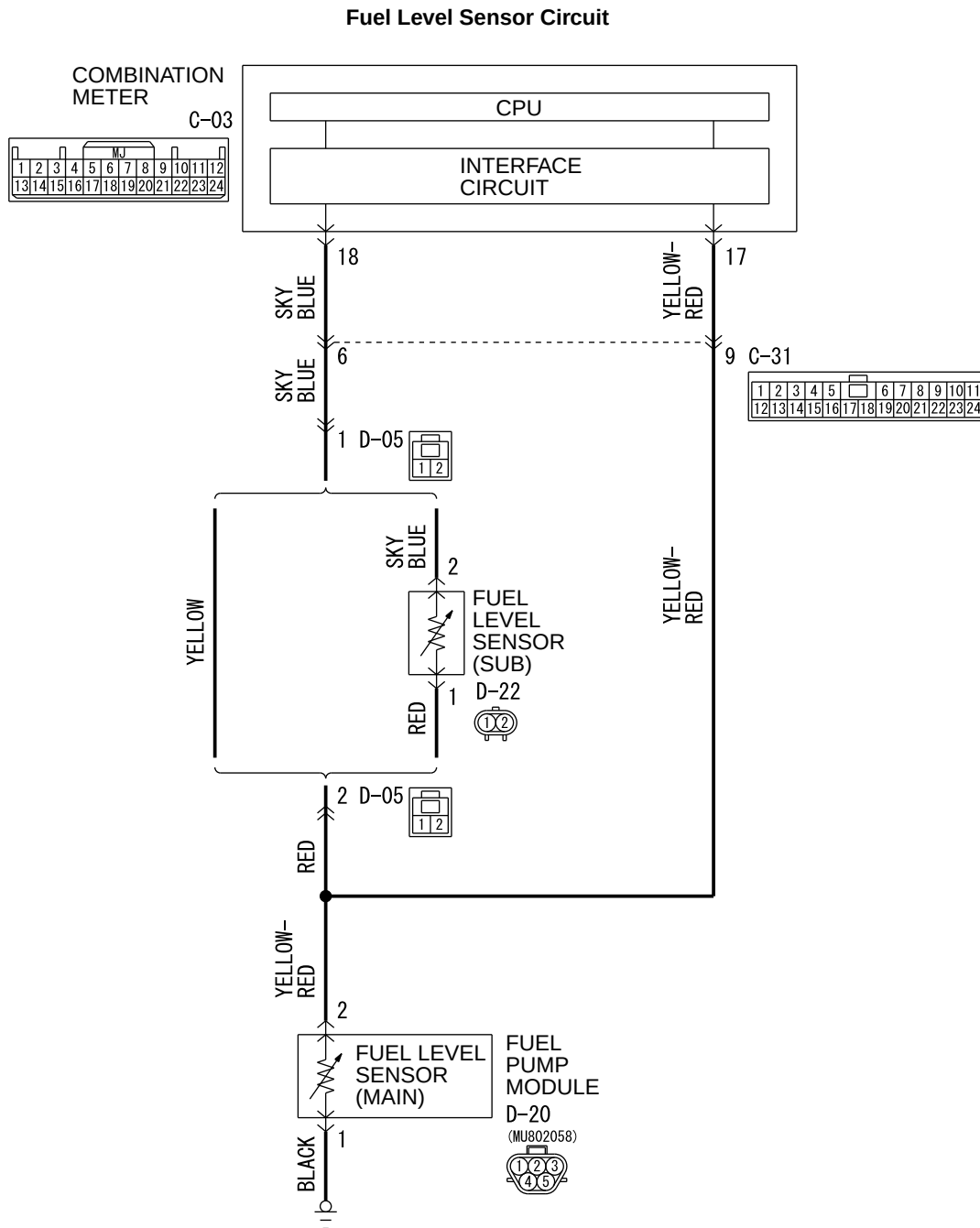
YES: Go to Step 1.

NO: The procedure is complete.

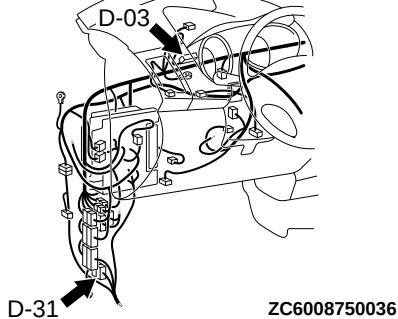
DTC B1201: Abnormal fuel information

DTC B1202: Abnormal fuel2 information

M15410100010USA0000010000



Connectors: C-03, C-31

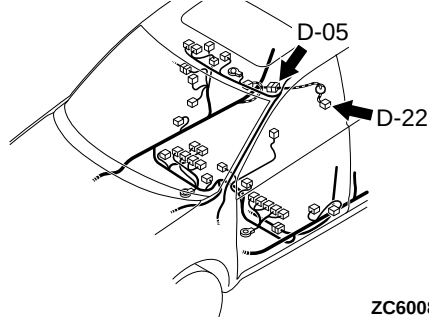
**TROUBLE JUDGMENT**

With the ignition switch at the ON position and the system voltage at 10 -16 volts (data from ETACS-ECU), if the combination meter detects the abnormal resistance of fuel level sensor circuit for 64 seconds continuously, DTC B1201 or DTC B1202 is stored.

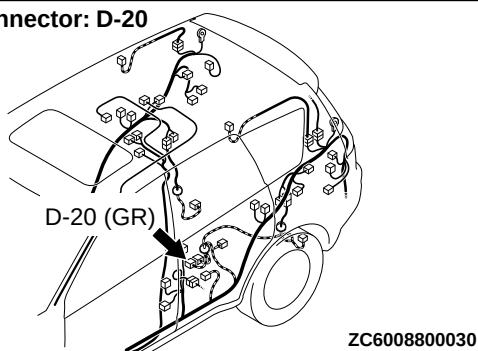
TROUBLESHOOTING HINTS

- The fuel pump module [fuel level sensor (main)] may be defective. <FWD, AWD>
- The fuel level sensor (sub) may be defective. <AWD>
- The combination meter may be defective.
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

Connectors: D-05, D-22



Connector: D-20

**CAUTION**

Whenever the ECU is replaced, ensure that the communication circuit is normal.

DIAGNOSIS**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- 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)

STEP 1. Check the malfunctioning vehicle.

Q:Is the malfunctioning vehicle a FWD?

YES<FWD>: Go to Step 2.

NO<AWD>: Go to Step 8.

STEP 2. Check fuel pump module connector D-20 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is fuel pump module connector D-20 in good condition?

YES: Go to Step 3.

NO: Repair the connector.

STEP 3. Check the fuel level sensor (main).

Check to see if the fuel level sensor (main) is normal. Refer to P.54Ab-67.

Q: Is the check result normal?

YES: Go to Step 4.

NO: Replace the fuel level sensor (main).

STEP 4. Measure the resistance at fuel pump module connector D-20.

(1) Disconnect pump module connector D-20, and measure at the wiring harness side.

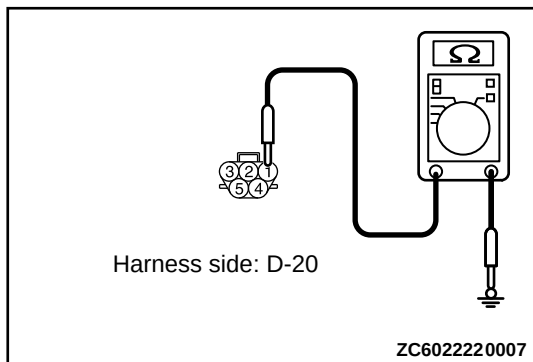
(2) Measure the resistance value between terminal 1 and ground.

*The measured value should be 2 ohm or less.

Q: Does the measured resistance value correspond with this range?

YES: Go to Step 6.

NO: Go to Step 5.



STEP 5. Check the wiring harness between fuel pump module connector D-20 (terminal 1) and ground.

Q: Is the wiring harness between fuel pump module connector D-20 (terminal 1) and ground in good condition?

YES: There is no action to be taken.

NO: Repair the wiring harness.

STEP 6. Check combination meter connector C-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is combination meter connector C-03 in good condition?

YES: Go to Step 7.

NO: Repair the connector.

STEP 7. Check the wiring harness between fuel pump module connector D-20 (terminal 2) and combination meter connector C-03 (terminal 17 or 18).

NOTE: Also check intermediate connectors C-31 and D-05. If intermediate connectors C-31 and D-05 are damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection P. 00E-2.

Q:Are the wiring harness between fuel pump module connector D-20 (terminal 2) and combination meter connector C-03 (terminal 17 or 18) in good condition?

YES: Go to Step 14.

NO: Repair the wiring harness. The fuel gauge should work normally.

STEP 8. Check fuel pump module connector D-20 and fuel level sensor (sub) connector D-22 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q:Is fuel pump module connector D-20 and fuel level sensor (sub) connector D-22 in good condition?

YES: Go to Step 9.

NO: Repair the connector.

STEP 9. Check the fuel level sensor (main) and (sub)

Check to see if the fuel level sensor (main) and (sub) is normal. Refer to P.54Ab-67.

Q:Is the check result normal?

YES: Go to Step 10.

NO: Replace the fuel level sensor (main) or (sub).

STEP 10. Measure the resistance at fuel pump module connector D-20.

(1) Disconnect fuel pump module connector D-20, and measure at the wiring harness side.

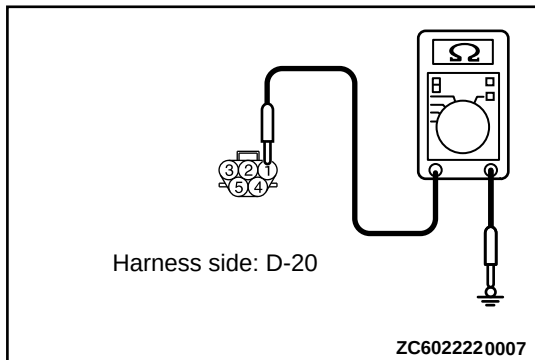
(2) Measure the resistance value between terminal 1 and ground.

*The measured value should be 2 ohm or less.

Q:Does the measured resistance value correspond with this range?

YES: Go to Step 12.

NO: Go to Step 11.



STEP 11. Check the wiring harness between fuel pump module connector D-20 (terminal 1) and ground.

Q:Is the wiring harness between fuel pump module connector D-20 (terminal 1) and ground in good condition?

YES: There is no action to be taken.

NO: Repair the wiring harness.

STEP 12. Check combination meter connector C-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q:Is combination meter connector C-03 in good condition?

YES: Go to Step 13.

NO: Repair the connector.

STEP 13. Check the wiring harness between fuel pump module connector D-20 (terminal 2) and combination meter connector C-03 (terminal 17 or 18).

NOTE: Also check intermediate connectors C-31 and D-05. If intermediate connectors C-31 and D-05 are damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection P. 00E-2.

Q:Are the wiring harness between fuel pump module connector D-20 (terminal 2) and combination meter connector C-03 (terminal 17 or 18) in good condition?

YES: Go to Step 14.

NO: Repair the wiring harness. The fuel gauge should work normally.

STEP 14. Using scan tool MB991958, perform actuator test.

•Item 03: Fuel gauge (target value): 0 →100%

•Fuel gauge shows 100 %

Q:Is the check result normal?

YES: Go to Step 15.

NO: Replace the combination meter.

STEP 15. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

(1) Erase the DTC.

(2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.

(3) Check if DTC is set.

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The procedure is complete.

DTC B1208: Malfunction of LCD heater

M15410100052USA0000010000

TROUBLE JUDGMENT

With the ignition switch at the ON position and the system voltage at 10 -16 volts (data from ETACS-ECU), if the combination meter detects the LCD heater malfunction, the DTC B1208 is stored.

TROUBLESHOOTING HINTS

The combination meter may be defective

DIAGNOSIS

Required Special Tools:

•MB991958: Scan Tool (M.U.T.-III Sub Assembly)

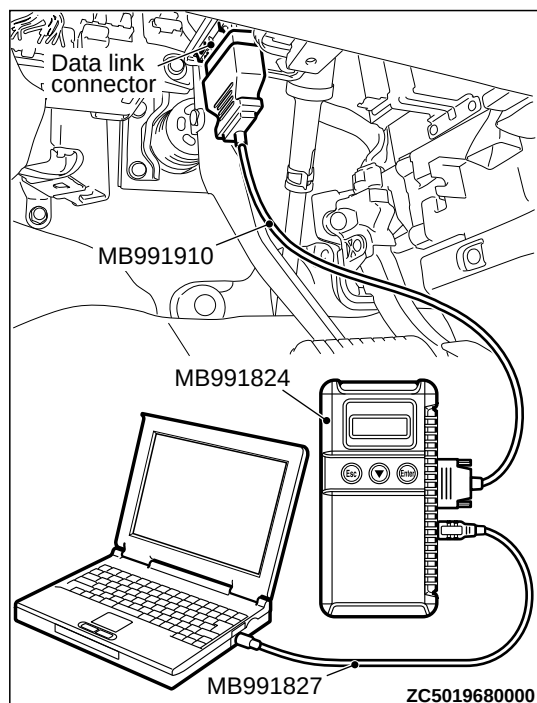
•MB991824: Vehicles Communication Interface (V.C.I.)

•MB991827: M.U.T.-III USB Cable

•MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)

Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

**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. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ad-5."
- (2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The procedure is complete.

DTC B1209: Test mode

M15410100053USA0000010000

TROUBLE JUDGMENT

When the mode is changed to the meter test mode (supplier mode), the combination meter stores the DTC B1209.

TROUBLESHOOTING HINTS

The combination meter may be defective

DIAGNOSIS

Replace the combination meter.

DTC B2203: Chassis No. not programmed

M15410100054USA0000010000

TROUBLE JUDGMENT

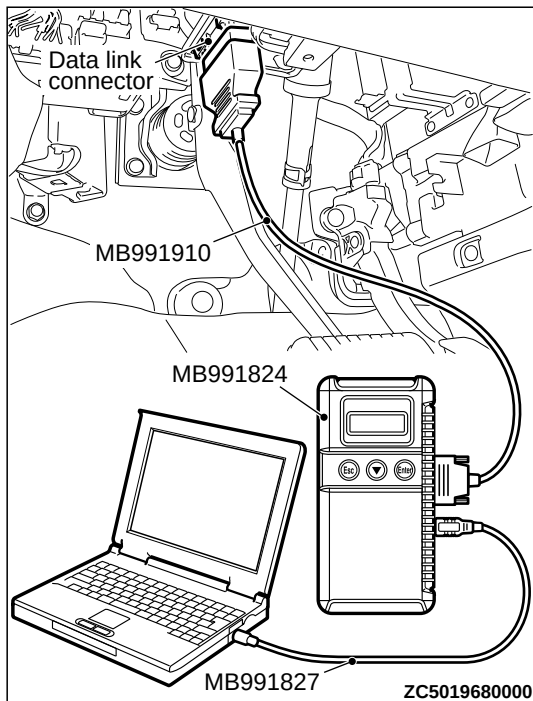
With the ignition switch at the ON position, if the chassis number code is not written to the combination meter, DTC B2203 is stored.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective.
- The ETACS-ECU may be defective.
- The combination meter may be defective.

DIAGNOSIS**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)



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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the ETACS-ECU diagnostic trouble code

Check again if the DTC is set to the ETACS-ECU.

Q: Is the DTC set?

YES: Troubleshoot the ETACS-ECU. Refer to GROUP 54Ad, Diagnosis P.54Ad-8.

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q: Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC B2463: Sticking of rheostat switch

M15410100046USA0000010000

TROUBLE JUDGMENT

If the combination meter detects the rheostat switch pressed state for 60 seconds or more continuously, DTC B2463 is stored.

TROUBLESHOOTING HINTS

- The combination meter may be defective.
- The meter hood assembly (rheostat switch knob) may be defective.

DIAGNOSIS PROCEDURE**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)

STEP 1. Check the rheostat switch.

Check whether an abnormality is present to the combination meter and the rheostat switch knob attached to the meter hood assembly.

Q:Is the check result normal?

YES: Go to Step 2.

NO: Replace the combination meter or meter hood assembly.

STEP 2. Using scan tool MB991958, read the combination meter diagnostic trouble code.

Check if DTC is set to the combination meter.

CAUTION

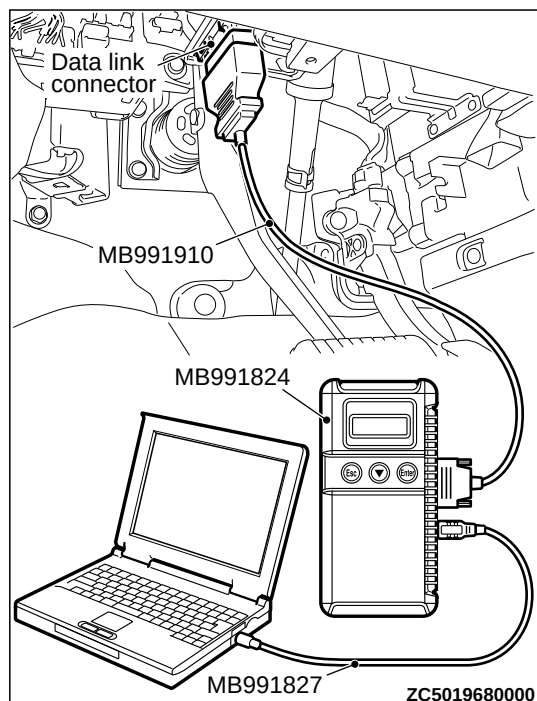
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Erase the DTC.
- (4) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (5) Check if diagnosis code is set.

Q:Is the DTC set?

YES: Replace the combination meter, and then go to Step 3.

NO: The procedure is complete.

**STEP 3. Recheck for diagnostic trouble code.**

Check if DTC is set to the combination meter.

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

Q: Is the DTC set?

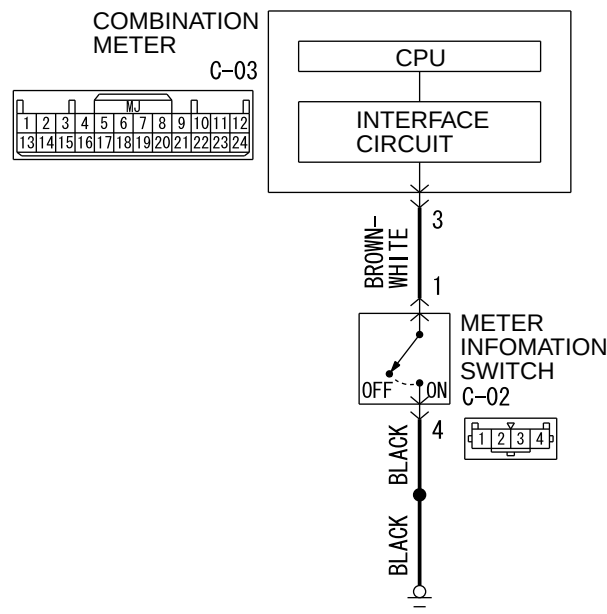
YES: Go to Step 1.

NO: The procedure is complete.

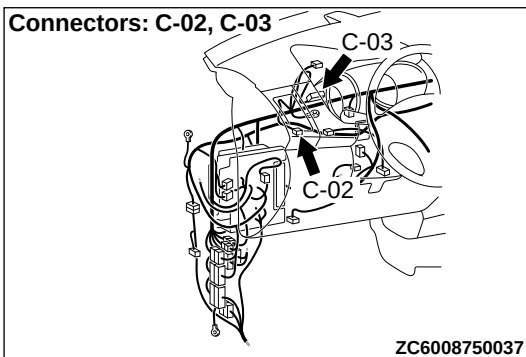
DTC B2464: The sticking of meter information switch

M15410100047USA0000010000

Meter Information Switch Circuit



D7G54M068A00



CAUTION

Whenever the ECU is replaced, ensure that the communication circuit is normal.

TROUBLE JUDGMENT

If the combination meter detects the meter information switch pressed state for 60 seconds or more continuously, DTC B2464 is stored.

TROUBLESHOOTING HINTS

- The meter information switch may be defective
- The combination meter may be defective
- 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
- 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)

STEP 1. Check meter information switch connector C-02 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is meter information switch connector C-02 in good condition?

YES: Go to Step 2.

NO: Repair the connector.

STEP 2. Check the meter information switch.

Check the meter information switch. Refer to P.54Ab-79.

Q: Is the check result normal?

YES: Go to Step 3.

NO: Replace the meter information switch.

STEP 3. Measure at meter information switch connector C-02 in order to the ground circuit to the meter information switch.

(1) Disconnect meter information switch connector C-02, and measure at the wiring harness side.

(2) Measure the resistance value between terminal 4 and ground.

▪The measured value should be 2 ohm or less.

Q: Does the measured resistance value correspond with this range?

YES: Go to Step 5.

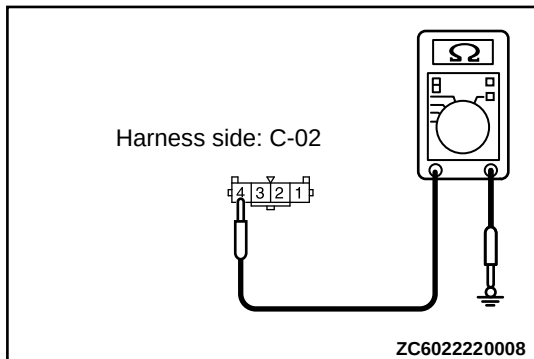
NO: Go to Step 4.

STEP 4. Check the wiring harness between meter information switch connector C-02 (terminal 4) and ground.

Q: Is the wiring harness between fuel meter information switch connector C-02 (terminal 4) and ground in good condition?

YES: Go to Step 7.

NO: Repair the wiring harness, and then go to Step 7.



STEP 5. Check combination meter connector C-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is combination meter connector C-03 in good condition?

YES: Go to Step 6.

NO: Repair the connector, and then go to Step 7.

STEP 6. Check the wiring harness between meter information switch connector C-02 (terminal 1) and combination meter connector C-03 (terminal 3).

Q: Are the wiring harness between meter information switch connector C-02 (terminal 1) and combination meter connector C-03 (terminal 3) in good condition?

YES: Go to Step 7.

NO: Repair the wiring harness, and then go to Step 7.

STEP 7. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

⚠ CAUTION

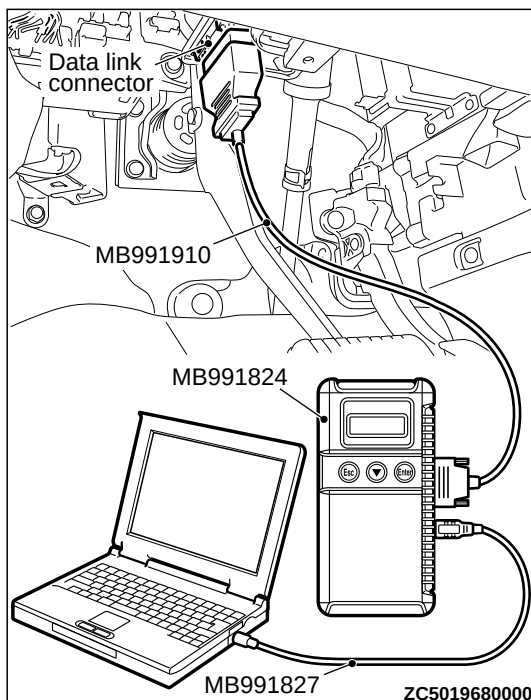
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Erase the DTC.
- (4) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (5) Check if DTC is set.

Q: Is the DTC set?

YES: Go to Step 1.

NO: The procedure is complete.



DTC B2465: Ignition switch signal error

TROUBLE JUDGMENT

If 5 seconds or more elapses with the ignition switch state and the data from the CAN communication contradicted, the combination meter stores the DTC B2465.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective
- The ETACS-ECU may be defective
- The combination meter may be defective

DIAGNOSIS**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)

STEP 1. Using scan tool MB991958, read the ETACS-ECU diagnostic trouble code

Check if DTC is set to the ETACS-ECU.

⚠ CAUTION

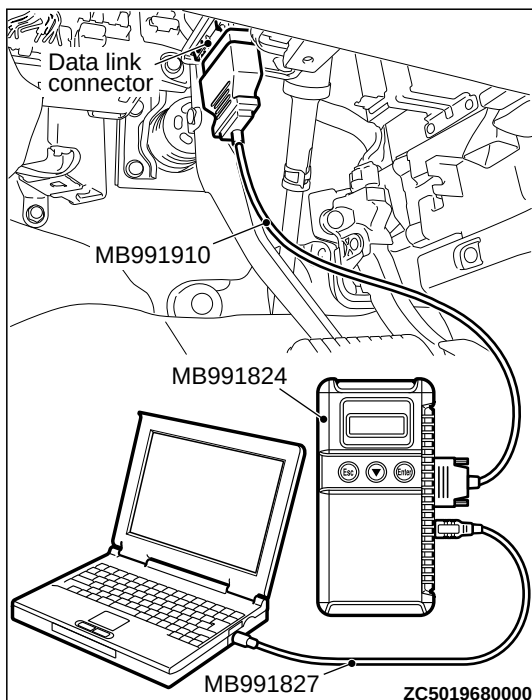
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the DTC set?

YES: Troubleshoot the ETACS-ECU. Refer to P. 54Ab-7.

NO: Go to Step 2.

**STEP 2. Using scan tool MB991958, diagnose the CAN bus line.**

- (1) Turn the ignition switch to the "ON" position.
- (2) Diagnose the CAN bus line.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 3.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P. 54D-17).

STEP 3. Combination meter operation check

Check that the combination meter works normally.

Q:Is the check result normal?

YES: Go to Step 4.

NO: Check the power supply circuit of combination meter. Refer to P. 54Ab-41.

STEP 4. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P. 00-15).

DTC B2467: Malfunction of stepper motor

M15410100049USA0000010000

TROUBLE JUDGMENT

With the ignition switch at the ON position and the system voltage at 10-16 volts (data from ETACS-ECU), if the combination meter detects the stepper motor malfunction, DTC B2467 is stored.

TROUBLESHOOTING HINTS

The combination meter may be defective

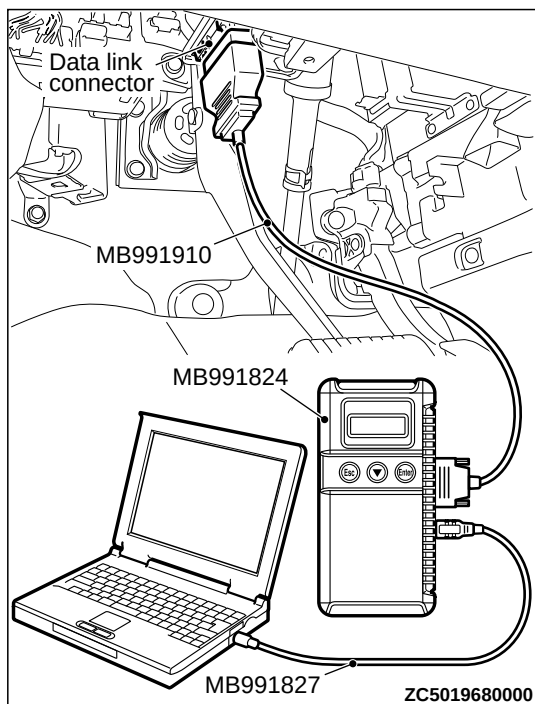
DIAGNOSIS

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)

Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.



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. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ad-5."
- (2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the DTC set?

YES: Replace the combination meter.

NO: The procedure is complete.

DTC U0019: Bus off(CAN-B)

CAUTION

- If DTC U0019 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

DIAGNOSTIC FUNCTION

If the CAN-B circuit malfunction occurs, the combination meter sets DTC U0019.

JUDGMENT CRITERIA

With the ignition switch at the ON position and the system voltage at 10 - 16 volts (data from ETACS-

M15410100055USA0000010000

ECU), if the combination meter becomes unable to transmit data normally due to the CAN-B bus circuit malfunction, the combination meter determines that a problem has occurred.

TROUBLESHOOTING HINTS

The CAN bus line may be defective

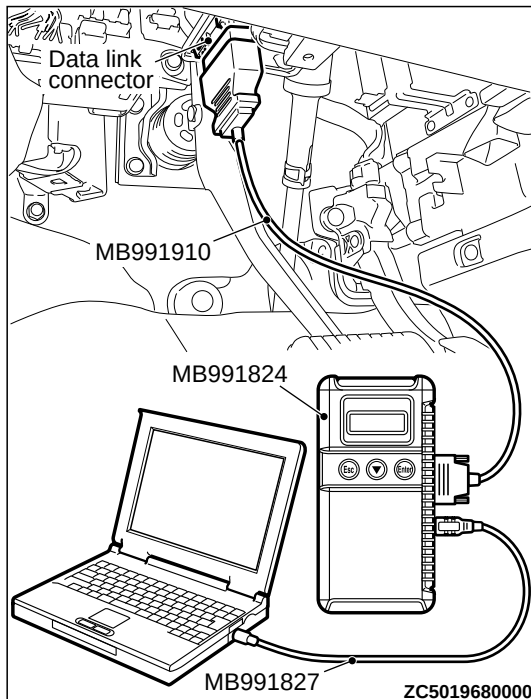
DIAGNOSIS

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)

STEP 1.Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.



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. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the DTC set?

YES: Go to Step 2.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

STEP 2. Using scan tool MB991958, diagnose the CAN bus line.

- (1) Turn the ignition switch to the "ON" position.
- (2) Diagnose the CAN bus line.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

DTC U0100: Engine control module CAN timeout

M15410100060USA0000010000

CAUTION

- If DTC U0100 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

DIAGNOSTIC FUNCTION

The combination meter sets DTC U0100 when it cannot receive "CHECK ENGINE" signals from the engine control module.

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10-16 volts (data from ETACS-ECU), power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communication with engine control module cannot be established for 600 ms or more, the combination meter determines that a problem has occurred.

PROBABLE CAUSES

- The CAN bus line may be defective.
- The combination meter may be defective.
- The engine control module may be defective.

DIAGNOSIS**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)

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

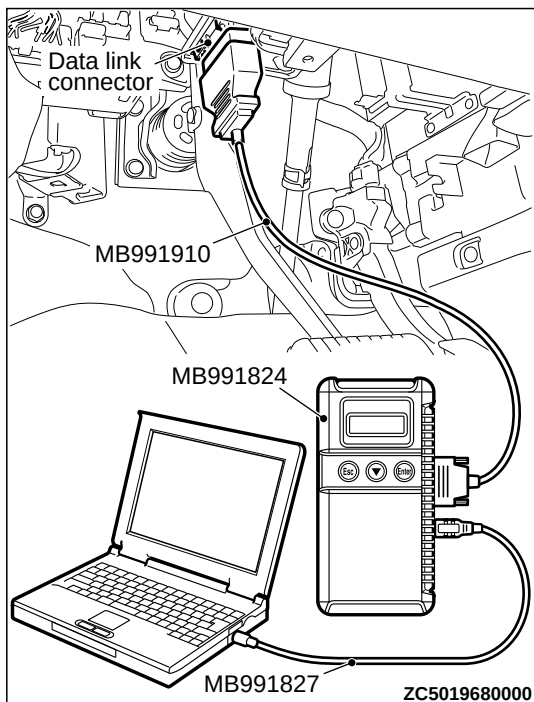
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

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

Check if DTC is set to the engine control module.

Q:Is the DTC set?

YES: Troubleshoot the MFI (Refer to GROUP 13Ab, Diagnosis Code Chart P.13Ab-44).

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection

Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC U0141: ETACS CAN timeout

M15410100056USA0000010000

⚠ CAUTION

- If DTC U0141 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

DIAGNOSTIC FUNCTION

If the signal from ETACS-ECU cannot be received, the combination meter sets the DTC U0141.

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10 - 16 volts (data from ETACS-

ECU), power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communication with ETACS-ECU cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective
- The combination meter may be defective
- The ETACS-ECU may be defective

DIAGNOSIS

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)

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

⚠ CAUTION

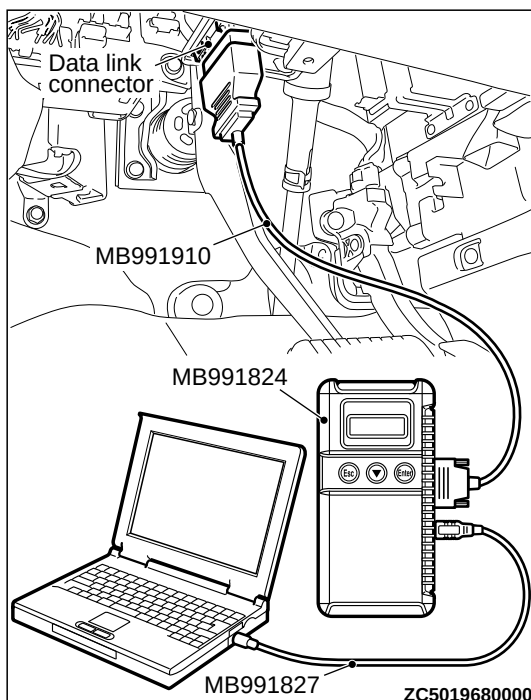
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).



STEP 2. Using scan tool MB991958, read the ETACS-ECU diagnostic trouble code.

Check again if the DTC is set to the ETACS-ECU.

Q:Is the DTC set?

YES: Diagnose the ETACS-ECU (Refer to GROUP 54Ad, Diagnosis P.54Ad-8).

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC U0151: SRS-ECU CAN timeout

M15410100057USA0000010000

CAUTION

- If DTC U0151 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

ECU), power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communication with SRS-ECU cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

DIAGNOSTIC FUNCTION

If the signal from SRS-ECU cannot be received, the combination meter sets DTC U0151.

TROUBLESHOOTING HINTS

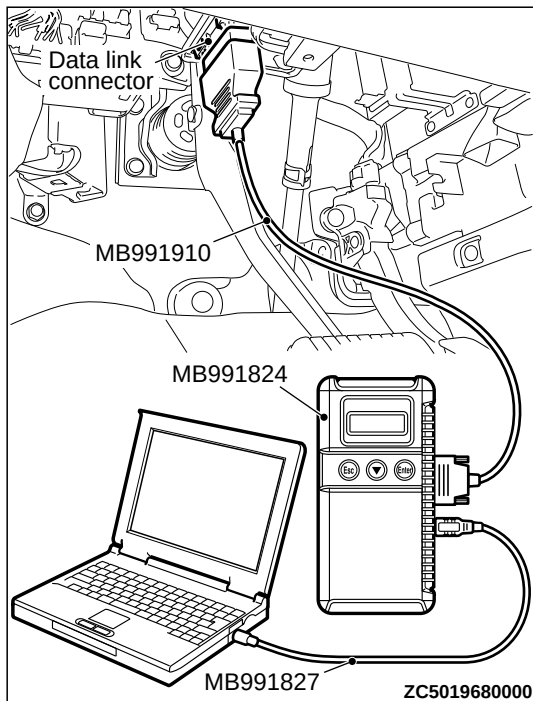
- The CAN bus line may be defective
- The SRS-ECU may be defective
- The combination meter may be defective

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10-16 volts (data from ETACS-

DIAGNOSIS**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)



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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the SRS-ECU diagnostic trouble code

Check again if the DTC is set to the SRS-ECU.

Q:Is the DTC set?

YES: Troubleshoot the SRS (Refer to GROUP 52B, Troubleshooting P.52B-33).

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC U0154: Occupant classification-ECU CAN timeout

⚠ CAUTION

*If DTC U0154 is set, be sure to diagnose the CAN bus line.

*When replacing the ECU, always check that the communication circuit is normal.

DIAGNOSTIC FUNCTION

When the signals from occupant classification-ECU cannot be received, the combination meter sets DTC U0154.

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10 - 16 volts (data from ETACS-ECU), power supply fuse is OK, or odometer value is

80.5 km (50 miles) or more, and the communications with occupant classification-ECU cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective.
- The combination meter may be defective.
- The occupant classification-ECU may be defective.

DIAGNOSIS**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)

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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the SRS-ECU diagnostic trouble code.

Check if DTC is set to the SRS-ECU.

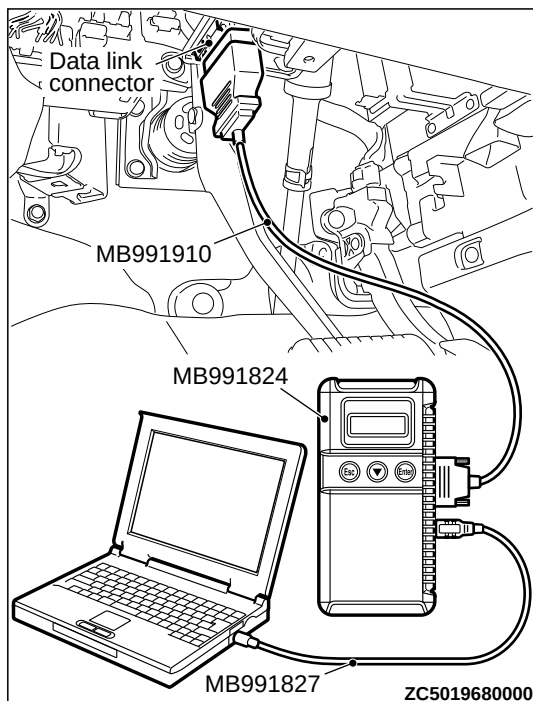
Q:Is the DTC set?

YES: Troubleshoot the SRS. (Refer to GROUP 52B, Diagnosis P.52B-33.)

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.



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

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P. 00-15).

DTC U0164: A/C-ECU CAN timeout

M15410100061USA0000010000

⚠ CAUTION

- If DTC U0164 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

ECU), power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communication with A/C-ECU cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

DIAGNOSTIC FUNCTION

If the signal from A/C-ECU cannot be received, the combination meter sets DTC U0164.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective.
- The A/C-ECU may be defective.
- The combination meter may be defective.

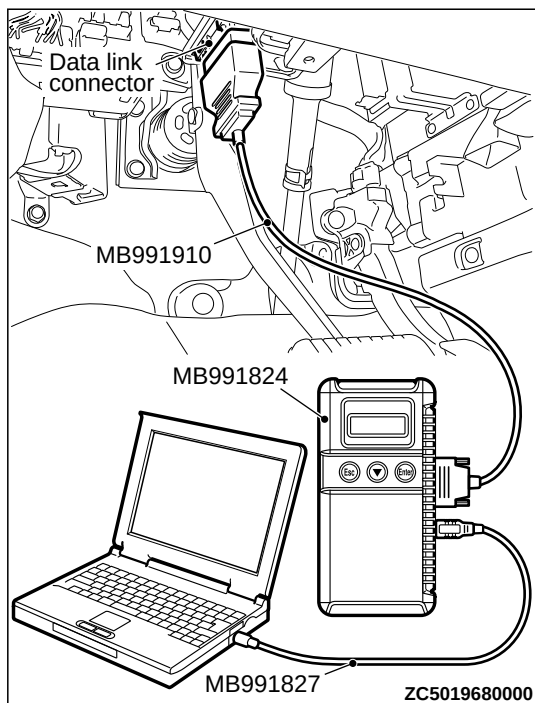
JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10-16 volts (data from ETACS-

DIAGNOSIS

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)



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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the A/C diagnostic trouble code.

Check if DTC is set to the A/C-ECU.

Q: Is the DTC set?

YES: Troubleshoot the A/C (Refer to GROUP 55A, Manual A/C Diagnosis P.55A-8 or GROUP 55B, Auto A/C Diagnosis P.55B-7).

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q: Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC U0168: KOS-ECU or WCM CAN timeout

M15410100058USA0000010000

CAUTION

- If DTC U0168 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

DIAGNOSTIC FUNCTION

If the signal from KOS-ECU or WCM cannot be received, the combination meter sets DTC U0168.

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10 - 16 V (data from ETACS-ECU),

power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communication with KOS-ECU or WCM cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

TROUBLESHOOTING HINTS

- Malfunction of CAN bus line may be defective.
- Malfunction of the KOS-ECU may be defective.
- Malfunction of the WCM may be defective.
- Malfunction of combination meter may be defective.

DIAGNOSIS

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)

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

CAUTION

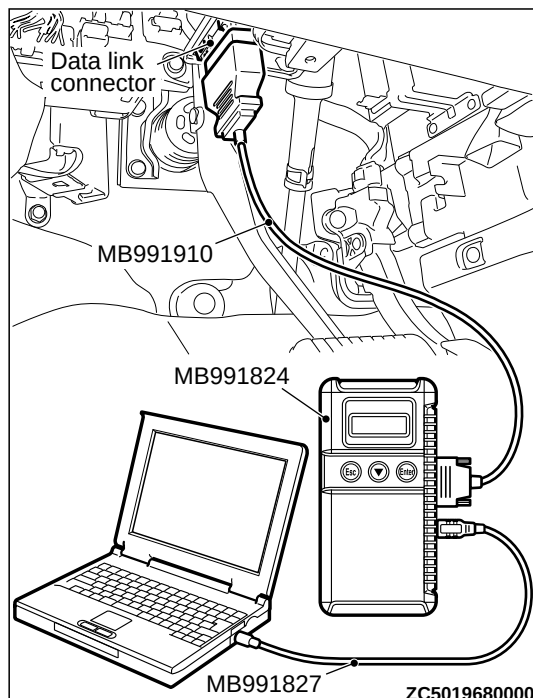
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).



STEP 2. Using scan tool MB991958, read the KOS-ECU or WCM diagnostic trouble code.

Check again if the DTC is set to the KOS-ECU or WCM.

Q:Is the DTC set?

YES: Troubleshoot the KOS or WCM (Refer to GROUP 42B, Troubleshooting P. 42B-18<KOS> or 42C, Troubleshooting P. 42C-11<WCM>).

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P. 00-15).

DTC U0184: Audio CAN timeout

M15410100059USA0000010000

CAUTION

- If DTC U0184 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

DIAGNOSTIC FUNCTION

When the signals from radio and CD player or CD changer cannot be received, the combination meter sets the DTC U0184.

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10 - 16 volts (data from ETACS-

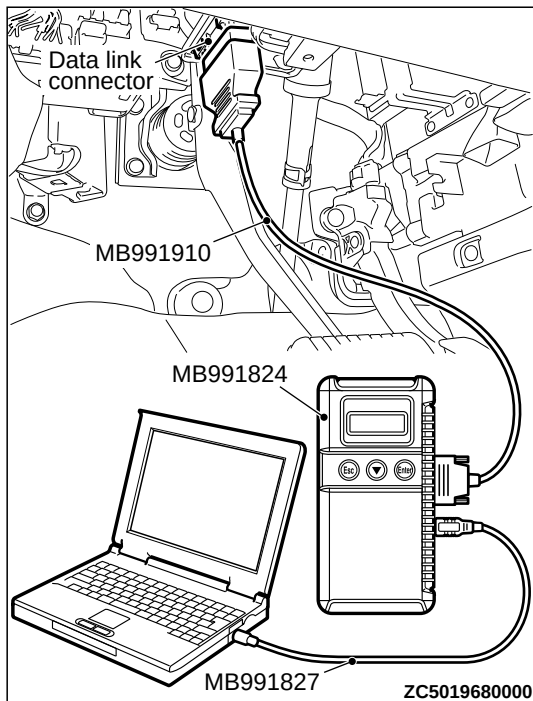
ECU), power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communications with radio and CD player or CD changer cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective.
- The combination meter may be defective.
- The radio and CD player or CD changer may be defective.

DIAGNOSIS**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)



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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

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

Check again if the DTC is set to the audio.

Q: Is the DTC set?

YES: Troubleshoot the radio and CD player. Refer to GROUP 54B, Diagnosis <radio and CD player> P.54B-7.

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q: Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC U0197: Hands free module CAN timeout

CAUTION

*If DTC U0197 is set, be sure to diagnose the CAN bus line.

*When replacing the ECU, always check that the communication circuit is normal.

DIAGNOSTIC FUNCTION

When the signals from hands free module cannot be received, the combination meter sets DTC U0197.

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10 - 16 volts (data from ETACS-ECU), power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communications

with hands free module cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective.
- The combination meter may be defective.
- The hands free module may be defective.

DIAGNOSIS**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)

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

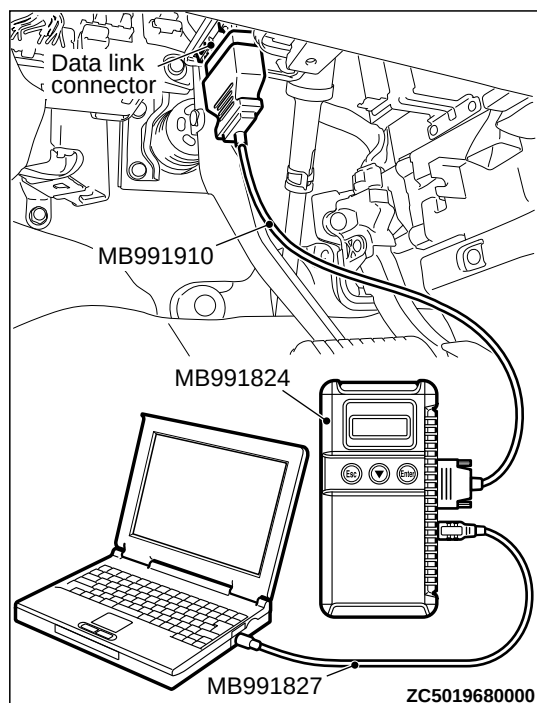
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

**STEP 2. Using scan tool MB991958, read the hands free module diagnostic trouble code.**

Check again if the DTC is set to the hands free module.

Q:Is the DTC set?

YES: Troubleshoot the hands-free cellular phone system. Refer to GROUP 54Ae, Diagnosis <hands-free cellular phone system>.

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q:Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC U0245: Audio visual navigation unit CAN timeout

M15410100106USA0000010000

 CAUTION

- If DTC U0245 is set, be sure to diagnose the CAN bus line.
- When replacing the ECU, always check that the communication circuit is normal.

ECU), power supply fuse is OK, or odometer value is 80.5 km (50 miles) or more, and the communications with audio visual navigation unit cannot be established for 2,500 ms or more, the combination meter determines that a problem has occurred.

DIAGNOSTIC FUNCTION

When the signals from audio visual navigation unit cannot be received, the combination meter sets DTC U0245.

TROUBLESHOOTING HINTS

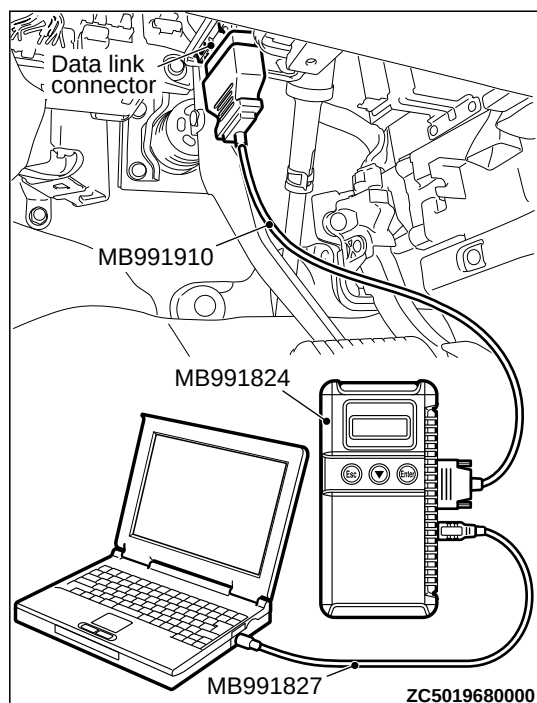
- The CAN bus line may be defective.
- The combination meter may be defective.
- The audio visual navigation unit may be defective.

JUDGMENT CRITERIA

With the ignition switch in the ON position, system voltage between 10 - 16 volts (data from ETACS-

DIAGNOSIS**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)



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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the audio visual navigation unit diagnostic trouble code.

Check if DTC is set to the audio visual navigation unit.

Q: Is the DTC set?

YES: Troubleshoot the MMCS. Refer to GROUP 54B, Diagnosis <MMCS>.

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

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

Q: Is the DTC set?

YES: Replace the combination meter.

NO: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

DTC U1415: Coding not completed/Data fail

⚠ CAUTION

• If DTC U1415 is set, diagnose the CAN bus lines.

• When replacing the ECU, always check that the communication circuit is normal.

M15410100062USA0000010000

DIAGNOSTIC FUNCTION

If the vehicle information data is not registered to the combination meter, the combination meter sets DTC U1415.

JUDGMENT CRITERIA

With the global coding counter value "0," if all the global coding data (vehicle information) are not

stored, the combination meter determines that a problem has occurred.

TROUBLESHOOTING HINTS

- The CAN bus line may be defective.
- The combination meter may be defective.
- The ETACS-ECU may be defective.

DIAGNOSIS

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)

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

⚠ CAUTION

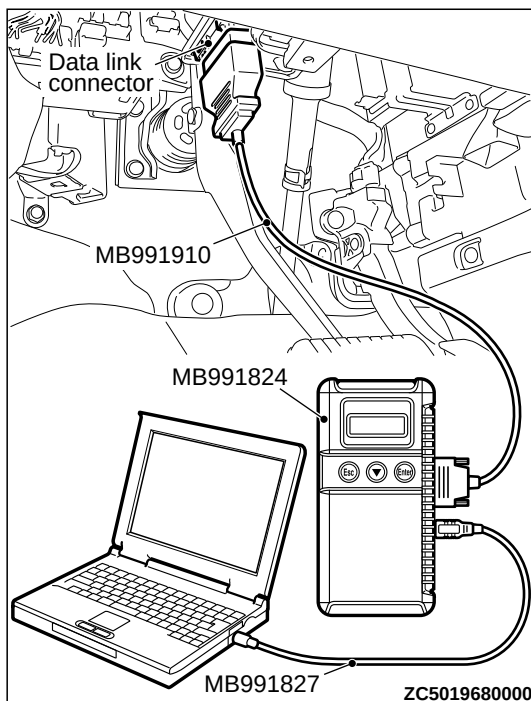
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).



STEP 2. Using scan tool MB991958, read the ETACS-ECU diagnostic trouble code.

Check if DTC is set to the ETACS-ECU.

Q:Is the DTC set?

YES: Troubleshoot the ETACS-ECU. Refer to GROUP 54Ad, Diagnosis P.54Ad-8.

NO: Go to Step 3.

STEP 3. Recheck for diagnostic trouble code.

Check again if the DTC is set to the combination meter.

- (1) Erase the DTC.

- (2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the DTC set?**YES:** Replace the combination meter.**NO:** The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).**TROUBLE SYMPTOM CHART**

M15410100026USA0000010000

⚠ CAUTION

- During troubleshooting, a DTC code associated with other 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.
- When the combination meter is required to be replaced as a result of the troubleshooting, the current driving distance and number of elapsed days to be used for service reminder function must be entered into the meter after the replacement. Therefore, read "Integrated mileage for reminder," "Integrated days for reminder," "Mileage until Extra reminder," "Months until Extra reminder," and "Current

Schedule" from the meter before the replacement using the special function of scan tool MB991958, and note them. For the operation method of scan tool MB991958, refer to P.54Ab-70. If "Integrated mileage for reminder" or "Integrated days for reminder" cannot be read by the scan tool MB991958, follow the method described below.

- a. For the driving distance for check warning, use the driving distance displayed on the multi information display.
- b. For the elapsed days for check warning, calculate the number of elapsed days from the delivery date to the customer (service remainder function start date) and current date.

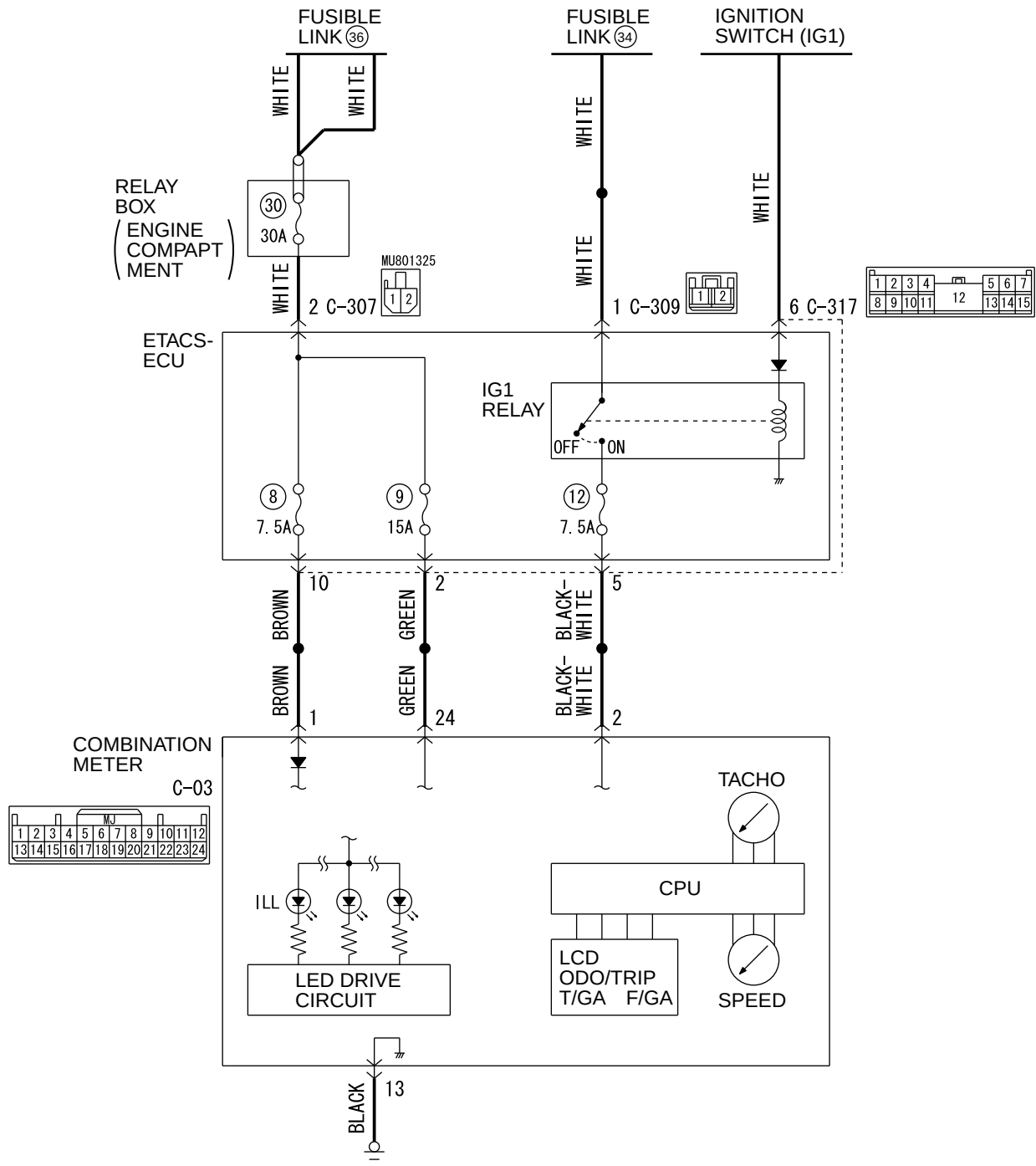
Trouble symptom	Inspection Procedure No.	Reference page
Power supply circuit check.	1	P. 54Ab-41
The speedometer does not work (the other meters work).	2	P. 54Ab-46
The tachometer does not work (the other meters work).	3	P. 54Ab-47
Tone alarm does not sound normally.	4	P. 54Ab-49
The combination meter light does not illuminate normally or the multi information display is not displayed normally.	5	P. 54Ab-51
The multi information display screen cannot be changed with the operation of the meter information switch.	6	P. 54Ab-54

TROUBLE SYMPTOM PROCEDURES

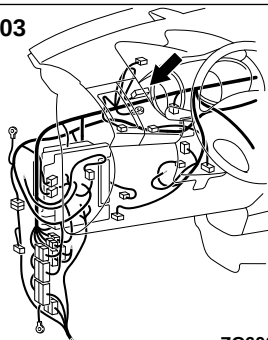
Inspection Procedure 1: Power supply circuit check.

M15410100029USA0000010000

Combination Meter Power Supply Circuit



Connector: C-03



ZC6008750015

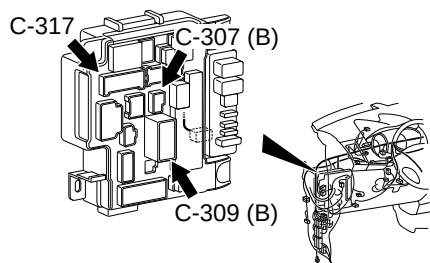
TECHNICAL DESCRIPTION (COMMENT)

If the odometer and tripmeter is not displayed or all the meter needles do not move, power supply to the combination meter, or the combination meter itself may have a problem.

TROUBLESHOOTING HINTS

- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The combination meter may be defective

Connectors: C-307, C-309, C-317



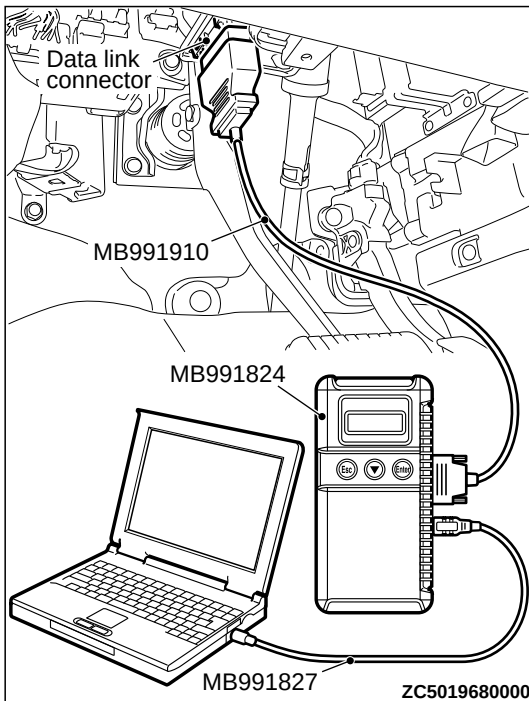
ZC6008780029

DIAGNOSIS**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- 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)

STEP 1. Using scan tool MB991958, read the combination meter diagnostic trouble code.

Check if DTC is set to the combination meter.



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. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (3) Check if DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the DTC set?

YES: Troubleshoot the combination meter. Refer to P. 54Ab-7.

NO: Go to Step 2.

STEP 2. Check combination meter connector C-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q:Is combination meter connector C-03 in good condition?

YES: Go to Step 3.

NO: Repair the defective connector.

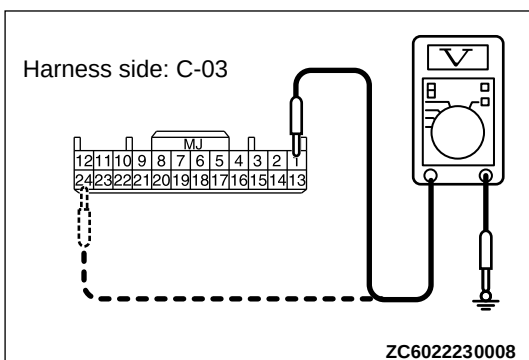
STEP 3. Check the battery power supply circuit to the combination meter. Measure the voltage at combination meter connector C-03.

- (1) Disconnect the connector, and measure at the wiring harness side.
- (2) Turn the ignition switch to the LOCK (OFF) position.
- (3) Measure the voltage between terminals 1, 24 and ground.
*The voltage should measure approximately 12 volts (battery positive voltage).

Q:Is the measured voltage approximately 12 volts (battery positive voltage)?

YES: Go to Step 5.

NO: Go to Step 4.



STEP 4. Check the wiring harness between combination meter connector C-03 (terminal 1, 24) and the fusible link (36).

NOTE: Also check ETACS-ECU connectors C-307 and C-317 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If ETACS-ECU connector C-307 or C-317 is damaged, repair or replace the damaged component(s) as

described in GROUP 00E, Harness Connector Inspection P. 00E-2.

Q:Is the wiring harness between combination meter connector C-03 (terminal 1, 24 and the fusible link (36) in good condition?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to Cope with Intermittent Malfunction P.00-15).

NO: Repair the wiring harness.

STEP 5. Check the battery power supply circuit to the combination meter. Measure the voltage at combination meter connector C-03.

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

(2) Turn the ignition switch to the ON position.

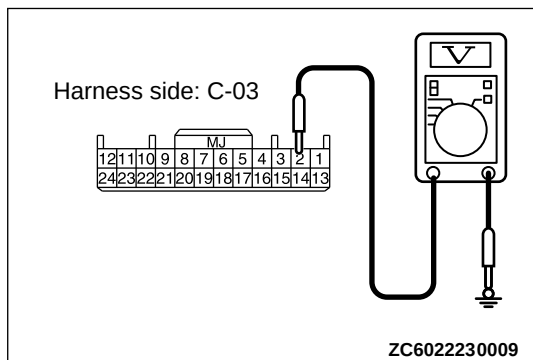
(3) Measure the voltage between terminals 2 and ground.

•The voltage should measure approximately 12 volts (battery positive voltage).

Q:Is the measured voltage approximately 12 volts (battery positive voltage)?

YES: Go to Step 8.

NO: Go to Step 6.



STEP 6. Using scan tool MB991958, check data list.

Check the input signal from the ignition switch (IG1) in the ETACS-ECU.

(1) Turn the ignition switch to the "ON" position.

(2) Check the ETACS data list.

•Turn the ignition switch to the "ON" position.

Item No.	Item name	Normal condition
Item 254	IG voltage	Approximately 12 volts (battery positive voltage)

(3) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Do the scan tool MB991958 display the item "IG voltage" is normal condition?

YES: Go to Step 7.

NO: Troubleshoot the ETACS-ECU. Refer to Inspection Procedure 2 "The ignition switch (IG1) signal is not received P. 54Ad-62."

STEP 7. Check the wiring harness between combination meter connector C-03 (terminal 2) and the fusible link (34).

NOTE: Also check ETACS-ECU connectors C-309 and C-317 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If ETACS-ECU connector C-309 or C-317 is damaged, repair or replace the damaged component(s) as

described in GROUP 00E, Harness Connector Inspection P. 00E-2.

Q: Is the wiring harness between combination meter connector C-03 (terminal 2) and the fusible link (34) in good condition?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

NO: Repair the wiring harness.

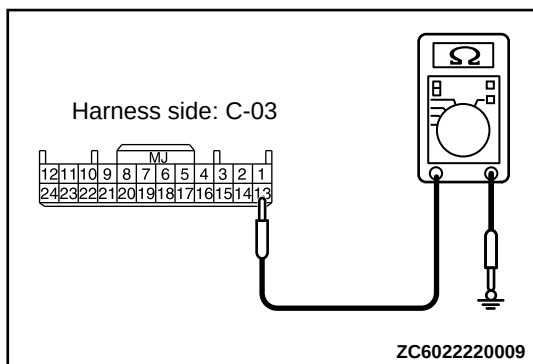
STEP 8. Check the ground circuit to the combination meter.
Test at combination meter connector C-03.

- (1) Disconnect combination meter connector C-03 and measure the resistance available at the wiring harness side of the connector.
- (2) Measure the resistance value between terminal 13 and ground.
 - *The resistance should be 2 ohms or less.

Q: Is the measured resistance 2 ohms or less?

YES: Go to Step 10.

NO: Go to Step 9.



STEP 9. Check the wiring harness between combination meter connector C-03 (terminal 13) and ground.

Q: Is the wiring harness between combination meter connector C-03 (terminal 13) and ground in good condition?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

NO: Repair the wiring harness.

STEP 10. Retest the system.

Check that the combination meter works normally.

Q: Is the check result satisfactory?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

NO: Replace the combination meter.

Inspection Procedure 2: The speedometer does not work (the other meters work).

M15410100030USA0000010000

TECHNICAL DESCRIPTION (COMMENT)

If only the speedometer does not operate, the transaxle control module and combination meter may have a problem.

TROUBLESHOOTING HINTS

- The transaxle control module may be defective
- The combination meter may be defective

DIAGNOSIS**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)

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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the combination meter diagnostic trouble code.

Check if DTC is set to the combination meter.

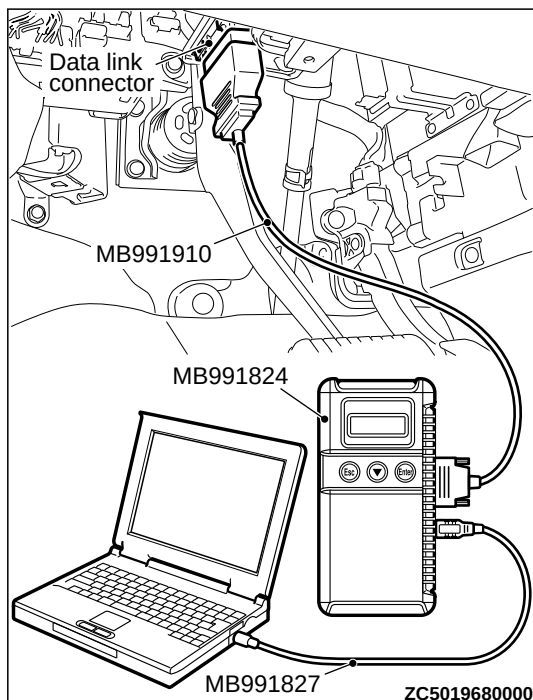
Q:Is the DTC set?

YES: Troubleshoot the combination meter. Refer to P. 54Ab-7.

NO: Go to Step 3.

STEP 3. Using scan tool MB991958, read the A/T diagnostic trouble code.

Check if diagnosis code is set to the A/T.



Q:Is the DTC set?

YES: Troubleshoot the A/T. Refer to GROUP 23A, Automatic Transaxle Diagnosis P.23A-22.

NO: Go to Step 4.

STEP 4. Using scan tool MB991958, check data list.

- (1) Turn the ignition switch to the "ON" position.
- (2) Check the data list on the combination meter.
 - Item 80: Speedometer
 - Should read vehicle speed.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Does it read vehicle speed?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

NO: Go to Step 5.

STEP 5. Check the speedometer

Use scan tool MB991958 to enter simulated vehicle speed.

- (1) Turn the ignition switch to the "ON" position.
- (2) Select "System select" from the start-up screen.
- (3) Select "From 2006 MY" under "Model Year". Check that "Vehicle Information" contents are correct.
- (4) Select "Meter" from "System List", and then press "OK" button.

NOTE: If "Loading Option Setup" list is shown, tick appropriate box.

- (5) Select "Simulated vehicle Speed Output."

OK: The speedometer shows that simulated vehicle speed.

Q:Is the check result satisfactory?

YES: Go to Step 6.

NO: Replace the combination meter.

STEP 6. Retest the system.

Check that the speedometer works normally.

Q:Is the check result normal?

YES: The procedure is complete.

NO: Go to Step 1.

Inspection Procedure 3: The tachometer does not work (the other meters work).

M15410100031USA0000010000

TECHNICAL DESCRIPTION (COMMENT)

If only the tachometer does not operate, the ignition signal from the engine ECU may not be received or the combination meter may have a problem.

TROUBLESHOOTING HINTS

- The combination meter may be defective
- The engine control module may be defective

DIAGNOSIS**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)

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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the combination meter diagnostic trouble code.

Check if DTC is set to the combination meter.

Q:Is the DTC set?

YES: Troubleshoot the combination meter. Refer to P. 54Ab-7.

NO: Go to Step 3.

STEP 3. Using scan tool MB991958, read the MFI diagnostic trouble code.

Check if DTC is set to the engine control module.

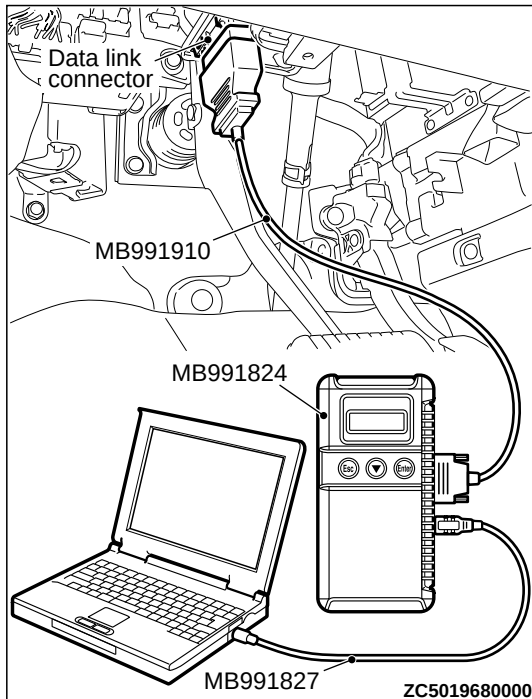
Q:Is the DTC set?

YES: Troubleshoot the MFI. Refer to GROUP 13Ab, Diagnosis P.13Ab-44.

NO: Go to Step 4.

STEP 4. Using scan tool MB991958, check data list.

- (1) Turn the ignition switch to the "ON" position.
- (2) Check the data list on the combination meter.
 - Item 87: Tachometer



▪Should read engine speed.

(3) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Does it read engine speed?

YES: Go to Step 5.

NO: Troubleshoot the MFI. Refer to GROUP 13Ab – Troubleshooting P.13Ab-49. Complete the engine troubleshooting, and then go to Step 6.

STEP 5. Using scan tool MB991958, check actuator test.

(1) Turn the ignition switch to the "ON" position.

(2) Conduct the actuator test of the combination meter.

▪Item 2: Tachometer

▪The tachometer operates up to the set position.

(3) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the check result normally?

YES: Go to Step 6.

NO: Replace the combination meter.

STEP 6. Retest the system

Check that the tachometer works normally.

Q:Is the check result normal?

YES: The procedure is complete.

NO: Go to Step 1.

Inspection Procedure 4: Tone alarm does not sound normally.

M15410100084USA0000010000

⚠ CAUTION

Before replacing the combination meter, be sure to check that the power supply circuit, earth circuit, and communication circuit are normal.

TECHNICAL DESCRIPTION (COMMENT)

When the following signals are received via the CAN communication, the combination meter sounds the incorporated tone alarm according to the each pattern.

Seat belt reminder function

- Ignition switch ON signal
- Vehicle speed signal
- Driver's seat belt switch signal
- Front passenger's seat belt switch signal

Keyless operation key reminder tone alarm function (vehicles with KOS)

- Ignition switch OFF signal
- IG knob push switch ON signal
- Driver's door switch ON signal

Ignition key reminder tone alarm function (vehicles without KOS)

- Ignition switch OFF signal
- Key reminder switch OFF signal
- Driver's door switch ON signal

Light reminder tone alarm function

- Ignition switch OFF signal
- Lighting switch ON signal
- Driver's door switch ON signal

Door-ajar warning tone alarm function

- Ignition switch ON signal
- Any door switch or liftgate switch ON signal
- Vehicle speed signal

Freeze warning tone alarm

- Ignition switch ON signal
- Ambient temperature signal

Parking brake reminder tone alarm function

- Ignition switch ON signal
- Parking brake switch ON signal
- Vehicle speed signal
- Engine speed

Multi information display interrupt display tone alarm

- Display condition signal of information display from each warning (When there is a fixed tone alarm sounding pattern for each warning, that pattern has the priority.)

Meter information switch operation tone alarm

- ON signal for combination meter information switch

Turn-signal light tone alarm function

- Turn-signal light switch ON signal

Paddle shift cancel tone alarm, Theft-alarm function, ETACS-ECU function customise tone**alarm, A/C operation tone alarm, audio operation tone alarm**

- Sounding request signal from the ETACS-ECU

If the tone alarm does not sound normally, the connector(s) and wiring harness in the CAN bus lines, or each ECU or the combination meter may have a problem.

TROUBLESHOOTING HINTS

- The combination meter may be defective
- The each ECU may be defective

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 (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.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

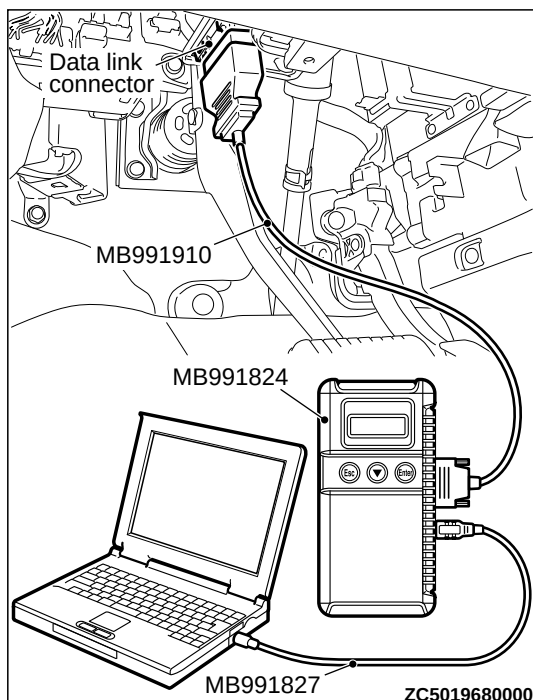
NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

STEP 2. Using scan tool MB991958, read the combination meter diagnostic trouble code.

Check if DTC is set to the combination meter.

Q:Is the DTC set?

YES: Refer to P. 54Ab-79.



NO: Go to Step 3.

STEP 3. Using scan tool MB991958, read for any diagnostic trouble code.

Check if diagnosis code is set to the A/T, ETACS-ECU, WCM, KOS-ECU, AUDIO and A/C-ECU.

Q: Is the DTC set to the any of the above?

YES<Set to the A/T.>: Troubleshoot the A/T. Refer to GROUP 23A, Diagnosis P. 23A-22.

YES<Set to the ETACS.>: Troubleshoot the ETACS. Refer to GROUP 54Ad, Diagnosis P. 54Ad-8.

YES<Set to the WCM.>: Troubleshoot the WCM. Refer to GROUP 42C, diagnosis P. 42C-11.

YES<Set to the KOS.>: Troubleshoot the KOS. Refer to GROUP 42B, Diagnosis P. 42B-18.

YES<Set to the AUDIO.>: Troubleshoot the AUDIO. Refer to GROUP 54B, Diagnosis P. 54B-7.

YES<Set to the A/C.>: Troubleshoot the A/C. Refer to GROUP 55A, Manual A/C Diagnosis P. 55A-8 or GROUP 55B, Automatic A/C Diagnosis P. 55B-7.

NO<The diagnosis code is not set.>: Go to Step 4.

STEP 4. Using scan tool MB991958, check actuator test.

(1) Turn the ignition switch to the "ON" position.

(2) Conduct the actuator test of the combination meter.

•Item 12: Buzzer

•The tone alarms sound normally.

(3) Turn the ignition switch to the "LOCK" (OFF) position.

Q: Is the check result normal?

YES: Go to Step 5.

NO: Replace the combination meter.

STEP 5. Retest the system

Check that the tone alarm normally.

Q: Is the check result normal?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P. 00-15).

NO: Replace the combination meter.

Inspection Procedure 5: The combination meter light does not illuminate normally or the multi information display is not displayed normally.

CAUTION

Before replacing the combination meter, be sure to check that the power supply circuit, earth circuit, and communication circuit are normal.

TECHNICAL DESCRIPTION (COMMENT)

When the signal from each ECU is received via the CAN communication, the combination meter illuminates the corresponding display light or warning light, or has the multi information display to display corresponding information.

If the lights do not illuminate or the multi information display does not display normally, the wiring harness and connector(s) in the CAN bus lines, or the each ECU or the combination meter may have a problem.

TROUBLESHOOTING HINTS

- The combination meter may be defective
- The each ECU may be defective

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 (Vehicles with CAN communication system)

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

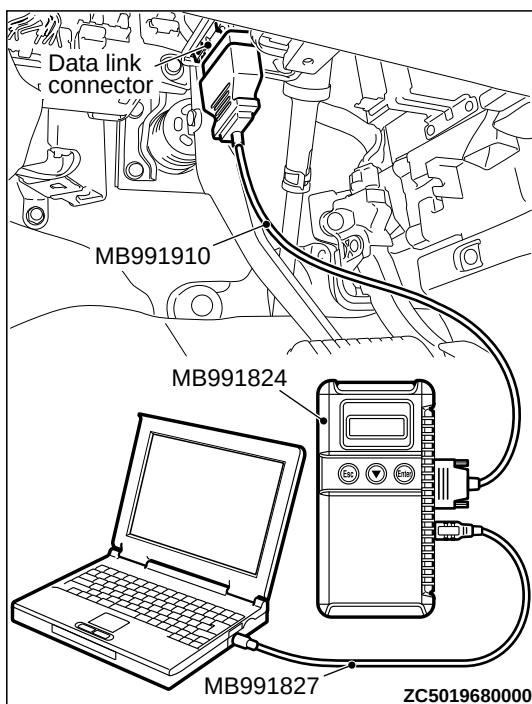
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the CAN bus line found to be normal?

YES: Go to Step 2.

NO: Repair the CAN bus line. (Refer to GROUP 54D, Diagnosis P.54D-17).

**STEP 2. Using scan tool MB991958, read the combination meter diagnostic trouble code.**

Check again if the DTC is set to the combination meter.

Q:Is the DTC set?

YES: Refer to P.54Ab-7.

NO: Go to Step 3.

STEP 3. Using scan tool MB991958, read for any diagnostic trouble code.

Check again if the DTC is set to the MFI, A/T, AWD, WCM, KOS, ABS, ASC, SRS, ETACS and A/C.

Q:Is the DTC set to the any of the above?

YES<Set to the MFI.>: Troubleshoot the MFI. Refer to GROUP 13Ab, Diagnosis P.13Ab-44.

YES<Set to the A/T.>: Troubleshoot the A/T. Refer to GROUP 23A, Diagnosis P.23A-22.

YES<Set to the AWD.>: Troubleshoot the AWD. Refer to GROUP 27C, Diagnosis P.27C-9.

YES<Set to the ABS.>: Troubleshoot the ABS. Refer to GROUP 35B, Diagnosis P.35B-9.

YES<Set to the ASC.>: Troubleshoot the ASC. Refer to GROUP 35C, Diagnosis P.35C-11.

YES<Set to the WCM.>: Troubleshoot the WCM. Refer to GROUP 42C, diagnosis P.42C-11.

YES<Set to the KOS.>: Troubleshoot the KOS. Refer to GROUP 42B, Diagnosis P.42B-18.

YES<Set to the SRS.>: Troubleshoot the SRS. Refer to GROUP 52B, Diagnosis P.52B-33.

YES<Set to the ETACS.>: Troubleshoot the ETACS. Refer to GROUP 54Ad, Diagnosis P.54Ad-8.

YES<Set to the A/C.>: Troubleshoot the A/C. Refer to GROUP 55A, Manual A/C Diagnosis P.55A-8or GROUP 55B, Automatic A/C Diagnosis P.55B-7.

NO<The diagnosis code is not set.>: Go to Step 4.

STEP 4. Using scan tool MB991958, check actuator test.

(1) Turn the ignition switch to the "ON" position.

(2) Conduct the actuator test of the combination meter.

- Item 7: Indicator1
- Item 8: Indicator2
- Item 9: Indicator3
- Item 10: Indicator4
- Item 11: Shift indicator

•Perform the actuator test, and check that display lights or warning lights are illuminated normally, or multi information display is displayed normally.

(3) Turn the ignition switch to the "LOCK" (OFF) position.

Q:Is the check result normal?

YES: Go to Step 5.

NO: Replace the combination meter.

STEP 5. Retest the system.

Check that display lights or warning lights are illuminated normally, or multi information display is displayed normally.

Q:Is the check result normal?

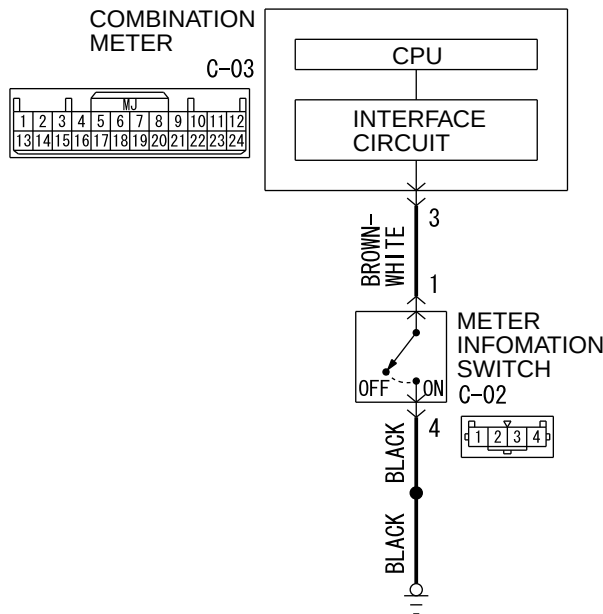
YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/ inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

NO: Replace the combination meter.

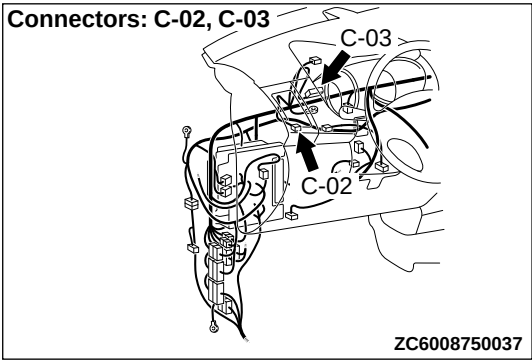
Inspection Procedure 6: The multi information display screen cannot be changed with the operation of the meter information switch.

M15410100080USA0000010000

Meter Information Switch Circuit



D7G54M068A00



CAUTION

Before replacing the combination meter, be sure to check that the power supply circuit, earth circuit, and communication circuit are normal.

TECHNICAL DESCRIPTION (COMMENT)

When the signal from the meter information switch is received, the combination meter switches the multi information display screen. If the multi information display screen does not switch normally, the meter information switch, wiring harness, connector(s), or combination meter may have a problem.

TROUBLESHOOTING HINTS

- The meter information switch may be defective
- The combination meter may be defective
- 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
- 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)

STEP 1. Using scan tool MB991958, read the combination meter diagnostic trouble code.

Check if DTC is set to the combination meter.

⚠ CAUTION

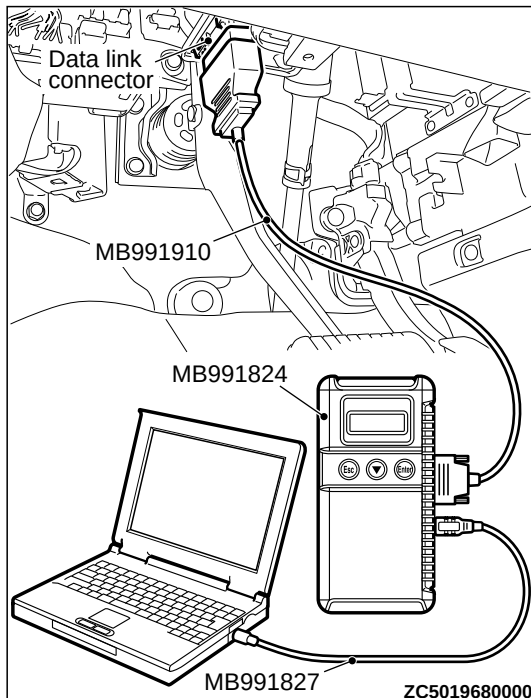
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ab-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Turn the ignition switch from "LOCK" (OFF) position to "ON" position.
- (4) Check if DTC is set.

Q:Is the DTC set?

YES: Refer to P.54Ab-7.

NO: Go to Step 2.



STEP 2. Check meter information switch connector C-02 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q:Is meter information switch connector C-02 in good condition?

YES: Go to Step 3.

NO: Repair the defective connector.

STEP 3. Check the meter information switch.

Check the meter information switch. Refer to P.54Ab-69.

Q:Is the check result normal?

YES: Go to Step 4.

NO: Replace the meter information switch.

STEP 4. Check the wiring harness between meter information switch connector C-02 (terminal 4) and ground.

Q:Is the wiring harness between fuel meter information switch connector C-02 (terminal 4) and ground in good condition?

YES: Go to Step 5.

NO: Repair the wiring harness.

STEP 5. Check combination meter connector C-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is combination meter connector C-03 in good condition?

YES: Go to Step 6.

NO: Repair the defective connector.

STEP 6. Check the wiring harness between meter information switch connector C-02 (terminal 1) and combination meter connector C-03 (terminal 3).

Q: Are the wiring harness between meter information switch connector C-02 (terminal 1) and combination meter connector C-03 (terminal 3) in good condition?

YES: Go to Step 7.

NO: Repair the wiring harness.

STEP 7. Retest the system.

Check that the multi information display screen switches normally when the meter information switch is operated.

Q: Is the check result normal?

YES: The trouble can be an intermittent malfunction (Refer to GROUP 00 – How to use Troubleshooting/inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

NO: Replace the combination meter.

SERVICE DATA

M15410100034USA0000010000

NOTE: Some items are not displayed on M. U. T. -III according to the information in the ECU.

Item No.	Scan tool MB991958 display	Condition
01	Illumination	ON or OFF
02	Outside temperature	°C or °F
03	Frost warning indicator	ON or OFF
04	Engine coolant temp. lamp(HOT)	ON or OFF
05	Immobilizer indicator	ON or OFF
06	Oil level indicator	ON or OFF
07	4WD failure indicator	ON or OFF
08	Hood indicator	ON or OFF
09	Washer fluid level warning	ON or OFF
23	A/T failure indicator(Symbol)	ON or OFF
24	Air purifier indicator	ON or OFF
25	ASC/TCL failure indicator	ON or OFF
26	Key reminder indicator	ON or OFF
27	Head lamp reminder indicator	ON or OFF
28	Brake reminder indicator	ON or OFF

**COMBINATION METER
DIAGNOSIS**

54Ab-57

Item No.	Scan tool MB991958 display	Condition
29	KOS indicator1(Low battery)	ON or OFF
30	KOS indicator2(No key)	ON or OFF
31	KOS indicator3(IG nob)	ON or OFF
32	KOS indicator4(Take out key)	ON or OFF
33	KOS indicator5(Take out key)	ON or OFF
34	KOS indicator6(Lock disable)	ON or OFF
35	KOS indicator7(Lock disable)	ON or OFF
36	KOS indicator8(Lock disable)	ON or OFF
37	KOS indicator9(System error)	ON or OFF
38	Tail lamp power supply warning	ON or OFF
39	back buzzer	ON or OFF
40	Buzzer(cutting into LCD display)	ON or OFF
41	ETACS setting buzzer	ON or OFF
42	ETACS answer back buzzer	ON or OFF
43	Sunroof buzzer	ON or OFF
44	BEEP(A/C)1	ON or OFF
45	BEEP(A/C)2	ON or OFF
46	BEEP(A/C)3	ON or OFF
47	BEEP(AUDIO)1	ON or OFF
48	BEEP(AUDIO)2	ON or OFF
49	BEEP(AUDIO)3	ON or OFF
50	Seatbelt reminder buzzer	ON or OFF
51	Audio buzzer1	ON or OFF
52	Audio buzzer2	ON or OFF
53	BEEP(NAVI)1	ON or OFF
54	BEEP(DISP)1	ON or OFF
55	BEEP(NAVI)2	ON or OFF
56	BEEP(DISP)2	ON or OFF
57	BEEP(NAVI)3	ON or OFF
58	BEEP(DISP)3	ON or OFF
59	BEEP(NAVI)4	ON or OFF
60	BEEP(DISP)4	ON or OFF
61	BEEP(NAVI)5	ON or OFF
62	BEEP(DISP)5	ON or OFF
63	BEEP(NAVI)6	ON or OFF
64	BEEP(DISP)6	ON or OFF
65	Meter SW push buzzer	ON or OFF
66	Turn signal buzzer	ON or OFF
67	Shift cancel buzzer	ON or OFF

**COMBINATION METER
DIAGNOSIS**

Item No.	Scan tool MB991958 display	Condition
68	Meter SW long push buzzer	ON or OFF
69	Security alarm buzzer	ON or OFF
70	Presecurity alarm buzzer	ON or OFF
71	Rest reminder buzzer1	ON or OFF
72	Rest reminder buzzer2	ON or OFF
73	Speed alarm buzzer	ON or OFF
74	Parking brake reminder buzzer	ON or OFF
75	IG knob reminder buzzer	ON or OFF
76	Key reminder buzzer	ON or OFF
77	Head lamp reminder buzzer	ON or OFF
78	Door ajar warning buzzer	ON or OFF
79	Frost warning buzzer	ON or OFF
80	Speed meter	Speedometer displayed value and scan tool MB991958 displayed value agree with each other.
87	Tachometer	Tachometer displayed value and scan tool MB991958 displayed value agree with each other.
89	Fuel gauge	Fuel gauge unit resistance value and scan tool MB991958 displayed value agree with each other.
8A	Fuel gauge(Target)	Fuel gauge and scan tool MB991958 displayed values agree with each other.
8C	Engine coolant temperature gauge	Coolant temperature and scan tool MB991958 displayed values agree with each other.
90	Odometer	Odometer displayed value and scan tool MB991958 displayed value agree with each other.
91	Rheostat	Lighting change by rheostat switch operation and scan tool MB991958 displayed change agree with each other.
92	Trip meter A	Tripmeter displayed value and scan tool MB991958 displayed value agree with each other.
93	Trip meter B	
94	Power source voltage	0 - 20 V
A1	SRS warning light	ON or OFF
A2	ABS warning light	ON or OFF
A3	Oil pressure indicator lamp	ON or OFF
A4	Charge indicator	ON or OFF
A5	Engine malfunction indicator	ON or OFF
A6	Fuel Warning (step1)	ON or OFF
A7	Brake warning light	ON or OFF
A8	Driver seatbelt indicator	ON or OFF
AA	ASC/TCL Operation indicator	ON or OFF
AB	ASC/TCL OFF indicator	ON or OFF
B1	Turn signal indicator(Right)	ON or OFF

**COMBINATION METER
DIAGNOSIS**

54Ab-59

Item No.	Scan tool MB991958 display	Condition
B2	Turn signal indicator(Left)	ON or OFF
B3	Front fog lamp indicator	ON or OFF
B4	High beam indicator	ON or OFF
B5	Door indicator(Front Left)	ON or OFF
B6	Door indicator(Front Right)	ON or OFF
B7	Door indicator(Rear Left)	ON or OFF
B8	Door indicator(Rear Right)	ON or OFF
B9	Door indicator(Tailgate)	ON or OFF
BA	Positionlamp indicator	ON or OFF
BB	4WD indicator	ON or OFF
BC	4WD-LOCK indicator	ON or OFF
BE	Shift indicator:OFF	ON or OFF
BF	Shift indicator:A	ON or OFF
C1	A/T position indicator:P	ON or OFF
C2	A/T position indicator:R	ON or OFF
C3	A/T position indicator:N	ON or OFF
C4	A/T position indicator:D	ON or OFF
C5	Shift indicator:Ds	ON or OFF
C6	Shift indicator:6	ON or OFF
C7	A/T position indicator:5	ON or OFF
C8	A/T position indicator:4	ON or OFF
C9	A/T position indicator:3	ON or OFF
CA	A/T position indicator:2	ON or OFF
CB	A/T position indicator:1	ON or OFF
CC	Shift indicator:Lower arrow	ON or OFF
CD	Shift indicator:Upper arrow	ON or OFF
CE	Shift indicator:D1	ON or OFF
CF	Shift indicator:D2	ON or OFF
D1	Shift indicator:D3	ON or OFF
D2	Shift indicator:D4	ON or OFF
D3	Shift indicator:D5	ON or OFF
D4	Shift indicator:D6	ON or OFF
D5	Shift indicator:SNOW	ON or OFF
D6	Head lamp auto levelling warning	ON or OFF
D8	Car symbol	ON or OFF
E1	Tire Pressure indicator	ON or OFF
E2	A/T Oil TEMP.indicator	ON or OFF
E5	Speed alarm indicator	ON or OFF
E6	Rest reminder indicator	ON or OFF

Item No.	Scan tool MB991958 display	Condition
E7	Service reminder indicator	ON or OFF
F2	FL corner sensor indicator	ON or OFF
F3	FR corner sensor indicator	ON or OFF
F4	RL corner sensor indicator	ON or OFF
F5	RR corner sensor indicator	ON or OFF
F6	Back corner sensor indicator	ON or OFF
F7	Cruise control indicator	ON or OFF
F8	Rear fog light indicator	ON or OFF
F9	Fuel filter indicator	ON or OFF
F10	Diesel GLOW indicator	ON or OFF
F11	ARS failure indicator	ON or OFF
F12	Safty alert	ON or OFF
F13	ACD mode indicator (TARMAC)	ON or OFF
F14	ACD mode indicator (GRAVAEL)	ON or OFF
F15	ACD mode indicator (SNOW)	ON or OFF
F16	AFS failure indicator	ON or OFF
F17	AFS OFF indicator	ON or OFF
F18	AWC control display	ON or OFF
F19	Cornering light fail indicator	ON or OFF
F20	DPF clogging indicator	ON or OFF
F21	Minimum alert	ON or OFF
F22	Speed alarm buzzer(for GCC)	ON or OFF
F23	Condition buzzer 1	ON or OFF
F24	Condition buzzer 2	ON or OFF
F25	Paddle SHFT.CAN.prohibit buzzer	ON or OFF
F26	Power gate buzzer	ON or OFF
100	Distance to empty	Displayed values and scan tool MB991958 displayed values agree with each other.
102	Average fuel consumption	
103	Instant fuel consumption	
104	Average speed	
108	Fuel Warning (step2)	ON or OFF
109	2WD indicator	ON or OFF
110	4WD Oil TEMP.indicator	ON or OFF
111	Digital speed SW buzzer	ON or OFF
112	Manner SW buzzer	ON or OFF
113	Rest reminder time(Hour)	Displayed values and scan tool MB991958 displayed values agree with each other.
114	Rest reminder time(Minute)	
115	Speed alarm set value	

ACTUATOR TEST TABLE

M15410100035USA0000010000

Item No.	Item name	Test item	Value
1	Speedometer	Pointer position setting(km/h)	km/h
2	Tachometer	Pointer position setting(r/min)	r/min
3	Fuel gauge(Target)	Status setting(%)	%
4	Water Temperature gauge	Status setting(°C)	°C
5	Meter illumination	Status setting(%)	%
6	Outside temperature	Status setting(°C)	°C
7	Indicator1	By turning ON/OFF the item values, indicators can be illuminated/extinguished and tone alarms can be sounded.	OFF/ON
8	Indicator2		OFF/ON
9	Indicator3		OFF/ON
10	Indicator4		OFF/ON
11	Shift indicator		OFF/ON
12	Buzzer		OFF/ON

CHECK PROCEDURE FOR EACH MULTI INFORMATION DISPLAY SCREEN

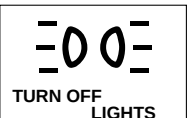
M15410100050USA0000010000

⚠ CAUTION

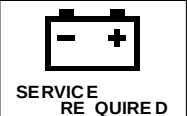
When there are TV towers, substations, or broadcasting stations which emit strong radio waves in proximity, on rare occasions, a warning is displayed on the multi information screen for a few seconds. This is caused by the reception of strong radio waves, and there is no functional problem.

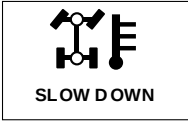
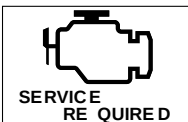
WARNING SCREEN

When malfunctions occur to the vehicle, the following warning screens are displayed. If these screens are not displayed normally or if they continue to be displayed even after the factor is eliminated, take measures according to the action procedure.

Display contents	Factor	Action procedure
 REMOVE KEY ZC6022600000	Displayed with the sounding of tone alarm when the driver's door is opened with the key inserted in the ignition switch key cylinder.	If the ignition key reminder warning tone alarm is not being sounded, perform the troubleshooting for the ignition key reminder warning tone alarm. Refer to P.54Ab-49.
 TURN OFF LIGHTS ZC6022610000	Displayed with the sounding of tone alarm when the driver's door is opened with the ignition switch at the LOCK (OFF) position and the lighting switch at the tail or head position.	If the lighting monitor warning tone alarm is not being sounded, perform the troubleshooting for the lighting monitor warning tone alarm. Refer to P.54Ab-49.
 ZC6022620000	Displayed while the security alarm is in operation.	If the warning screen is not displayed normally or if the screen continues to be displayed, carry out the troubleshooting for the security alarm. Refer to GROUP 54Af, Diagnosis P.54Af-6.

Display contents	Factor	Action procedure
a  STEERING WHEEL LOCK b  KEY BATTERY LOW c  KEY MISSING d  CONFIRM KEY LOCATION e  CHECK DOORS f  SERVICE RE QUIRE D ZC6036470000	Displayed when an abnormality occurs in KOS. Refer to GROUP 42B, Diagnosis P.42B-15. a. Displayed when an IG knob return failure occurs or the door lock does not operate. b. Displayed when the KOS key battery is dead. c. Displayed when a KOS key with different ID code is held or the relevant KOS key is not within the operation area. d. Displayed when the KOS key bringing-out monitoring function or KOS key reminder function works. e. Displayed when the door ajar preventive function works. f. Displayed when there is an abnormality with the KOS.	If the warning screen is not displayed normally or erased, carry out the troubleshooting for the KOS. Refer to GROUP 42B, Diagnosis P.42B-108.
a  LOW TIRE PRESSURE ZC6037100000 b  SERVICE RE QUIRE D ZC6037110000	a. Displayed when the tire air pressure is an abnormality. b. Displayed when the TPMS is an abnormality.	If the warning screen is not displayed normally or erased, carry out the troubleshooting for the TPMS. Refer to GROUP 42B, Diagnosis P.42B-108.
a  CHECK ZC6022700000 b  RELEASE PARKING BRAKE ZC6022710000	a. Displayed when the brake fluid amount is insufficient or a malfunction occurs to the brake device. b. Displayed if vehicle is driven with the parking brake engaged.	If the warning screen is not displayed normally or if the screen continues to be displayed, take the following measures for each displayed item. a. Check the brake fluid or brake device. b. Check the parking brake.
 SERVICE REQUIRED ZC6022720000	Displayed when a malfunction occurs to the anti-lock braking system (ABS).	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the ABS. Refer to GROUP 35B, Symptom Chart P.35B-9.

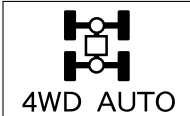
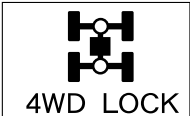
Display contents	Factor	Action procedure
 ZC6022730000	If any of the doors or liftgate is not closed completely, the location of the ajar door is displayed with the sounding of tone alarm.	If the door ajar warning tone alarm does not sound, perform the troubleshooting for the door ajar warning tone alarm. Refer to P. 54Ab-40.
 ZC6023170000	Displayed when the hood is open.	If the warning screen is not displayed normally or if the screen continues to be displayed, check the hood latch switch input signal. Refer to GROUP 42Aa, Hood P. 42Aa-7.
 ZC6023180000	Displayed when overheated.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the engine. Refer to GROUP 13Ab, Symptom Chart P.13Ab-49.
a.  ZC6023190000 b.  ZC6023200000	a. Displayed when the transmission oil temperature becomes high. b. Displayed when there is a malfunction to the A/T.	If the warning screen is not displayed normally or if the screen continues to be displayed, check the A/T diagnosis code. Refer to GROUP 23A, Automatic Transaxle Diagnosis P.23A-23.
 ZC6023210000	Displayed when the ignition switch is turned ON without the driver's seat belt fastened.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the seat belt reminder warning light. Refer to P. 54Ab-40.
 ZC6023220000	Displayed when the fuel level is low.	If the warning screen is not displayed normally or if the screen continues to be displayed, check the combination meter diagnosis code. Refer to P.54Ab-7.
 ZC6023230000	Displayed when there is a malfunction to the engine oil circulation system.	If the warning screen is not displayed normally or if the screen continues to be displayed, check the engine oil amount.
 ZC6023240000	Displayed when there is a malfunction to the charging system.	If the warning screen is not displayed normally or if the screen continues to be displayed, check the battery.

Display contents	Factor	Action procedure
 SERVICE RE QUIRE D ZC6023250000	Displayed when there is a malfunction to the SRS air bag or to the pre-tensioner mechanism.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the SRS air bag/pre-tensioner mechanism warning light. Refer to GROUP 52B, SRS Air Bag Diagnosis P.52B-306.
 SERVICE RE QUIRE D ZC6023260000	Displayed when there is a malfunction to the headlight automatic levelling function.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the headlight automatic levelling function. Refer to GROUP 54Ac, Trouble Symptom Chart <Headlight Automatic Leveling System> P. 54Ac-78.
 SERVICE RE QUIRE D ZC6023270000	Displayed when there is a malfunction to the ASC.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the ASC. Refer to GROUP 35C, Symptom Chart P.35C-160.
a  SERVICE RE QUIRE D ZC6023280000 b  SLOW D OWN ZC6023290000	a. Displayed when there is a malfunction to the electronically-controlled AWD system or multi-select AWD. b. Displayed when there is a malfunction to the electronically-controlled AWD differential or when the multi-select AWD system temperature is high.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the electronically-controlled AWD system. Refer to GROUP 27C, Diagnosis P.27C-74.
 SERVICE RE QUIRE D ZC6023300000	Displayed when there is a malfunction to the engine control device.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the engine. Refer to GROUP 13Ab, Symptom Chart P.13Ab-49.
 POSSIBLE ICY ROADS ZC6023310000	Displayed with the sounding of tone alarm when the ambient temperature is 0°C or less.	If the freeze warning tone alarm does not sound with the ambient temperature of 0°C or less, perform the troubleshooting for the freeze warning tone alarm. Refer to P. 54Ab-40.

OTHER SCREENS

The screen displays the operation state of each system, periodic checkup timing, or timing for taking a rest during driving. If the screen display differs from

the actual system operation state or if the screen is not displayed at the set timing, take measures according to the action procedure.

Display contents	System operation state	Action procedure
 ZC602332  ZC602333  ZC602334 ZC6023350000	Displays the screen in accordance with operation state of the AWD selector switch.	If the AWD selector switch position and screen do not agree with each other, perform the troubleshooting for the AWD. Refer to GROUP 27C, Diagnosis P.27C-74.
 ZC6023360000	Displayed when the ASC is in operation.	If the warning screen is not displayed normally or if the screen continues to be displayed, perform the troubleshooting for the ASC. Refer to GROUP 35C, Symptom Chart P.35C-160.
 ZC6023370000	Displayed when the corner sensor detects obstacles.	If the screen is not displayed even when the obstacle is in a distance that the detection should be made, or if there is an abnormal display, perform the troubleshooting for the corner sensor system. Refer to P.54Ab-40.
 ZC6023380000	Displayed when the set period elapses.	-
 ZC6023390000	Displayed when the set time elapses.	-

ON-VEHICLE SERVICE

SPEEDOMETER CHECK

M15410100038USA0000010000

1. Adjust the pressure of tires to the specified level (Refer to GROUP 31, On-vehicle Service P.31-7).
2. Where applicable, ensure that the TPMS warning light is not illuminating or flashing.

⚠ CAUTION

Do not accelerate or decelerate suddenly during servicing work.

⚠ CAUTION

Set a free-roller on the rear tire for AWD.

3. For FWD vehicles, set the vehicle onto a speedometer tester and use wheel chocks to hold the rear wheels.

4. For AWD vehicles, set the vehicle onto a speedometer tester and place the rear wheels on a free roller.

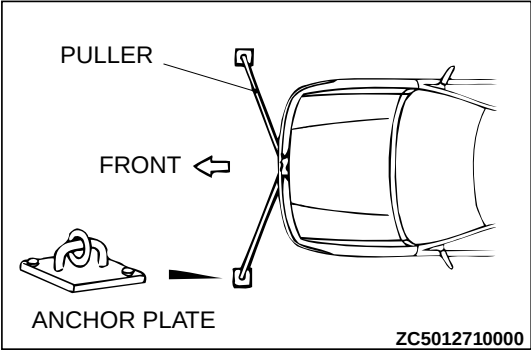
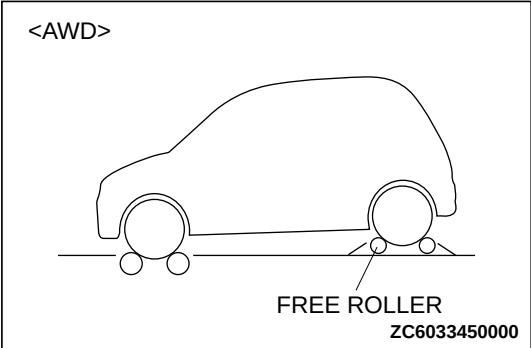
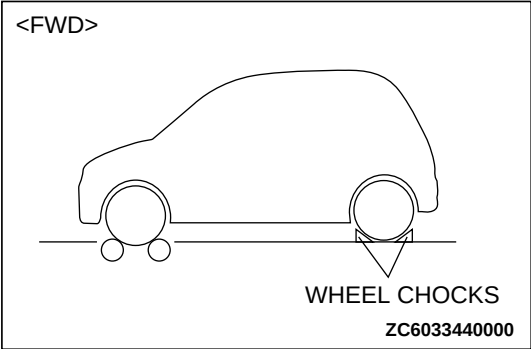
5. To prevent the front wheel from moving from side to side, attach tension bars to the tie-down hook, and secure both ends to anchor plates.
6. To prevent the vehicle from moving, attach a chain or wire to the rear retraction hook, and make sure the end of the chain or wire is secured.
7. Check if the speedometer indicator range is within the standard values.

Standard value <Except vehicles for CANADA>:

Standard indication mph (km/h)	Allowance range mph (km/h)
10 (16)	8.5 - 11.5 (13.6 - 18.4)
25 (40)	23.5 - 26.5 (37.6 - 42.4)
50 (80)	48.5 - 51.5 (77.6 - 82.4)
75 (120)	73.5 - 76.5 (117.6 - 122.4)
100 (161)	98.5 - 102.5 (158.6 - 165.0)
125 (201)	123.5 - 127.5 (198.6 - 205.0)

Standard value <Vehicles for CANADA>:

standard indication km/h (mph)	Allowance range km/h (mph)
20 (12.4)	19 - 24 (11.8 - 14.9)
40 (24.8)	40 - 44 (24.8 - 27.3)
80 (49.7)	80 - 85 (49.7 - 52.8)
120 (74.6)	120.5 - 125.5 (74.9 - 78.0)



standard indication km/h (mph)	Allowance range km/h (mph)
160 (99.4)	160.5 - 165.5 (99.7 - 102.8)
200 (124.3)	200.5 - 207.0 (124.6 - 128.6)

8. If not within the standard value, check the tire size. If an incorrect size of tire is used, replace it and check again. If the tire size is correct, a defect may be present in components and circuit between the output shaft speed sensor and the combination meter. Check the following items.

- *output shaft speed sensor (refer to GROUP23A, Automatic Transaxle Diagnosis P.23A-22).
- *Combination meter (refer to P.54Ab-7).

TACHOMETER CHECK

When the actuator tests (item No.2) are performed using scan tool MB991958, check that the tachometer indication error is within the standard value.

NOTE: Values in () indicates the reference value.

Standard value:

Engine speed r/min	Tachometer indicating error r/min
600	550 - 650
(2,000)	(1,950 - 2,050)

M15410100039USA0000010000

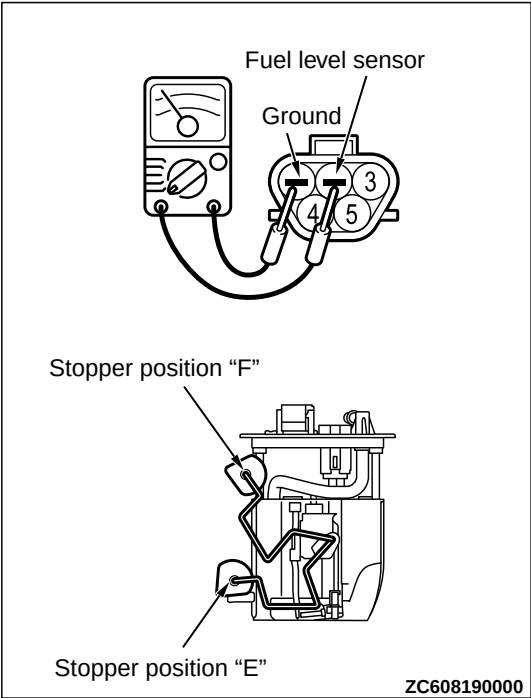
Engine speed r/min	Tachometer indicating error r/min
3,000	2,950 - 3,050
(4,000)	(3,950 - 4,050)
5,000	4,950 - 5,050
6,000	5,950 - 6,050
(7,000)	(6,950 - 7,050)
(8,000)	(7,950 - 8,050)

FUEL LEVEL SENSOR CHECK

M15410100040USA0000010000

VEHICLES FOR FWD

1. Remove the second seat (Refer to GROUP 52A - Seat Assembly P.52A-21).
2. Remove the floor inspection lid, and then remove the fuel pump module (Refer to GROUP 13B - Fuel Tank P.13B-13).



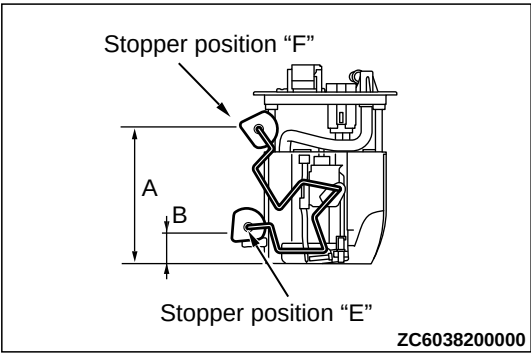
NOMINAL RESISTANCE OF THE FUEL LEVEL SENSOR

When float of the fuel level sensor is in stopper positions F and E, ensure that resistance between the fuel level sensor terminal and earth terminal is within the standard value.

Standard value:

Float position	Gauge resistance value (ohms)
Stopper position "F"	13.0 ± 1.0
Stopper position "E"	120.0 ± 1.0

When the float is moved slowly between stopper positions "F" and "E", ensure that the resistance is smoothly changing.



FUEL LEVEL SENSOR FLOAT HEIGHT

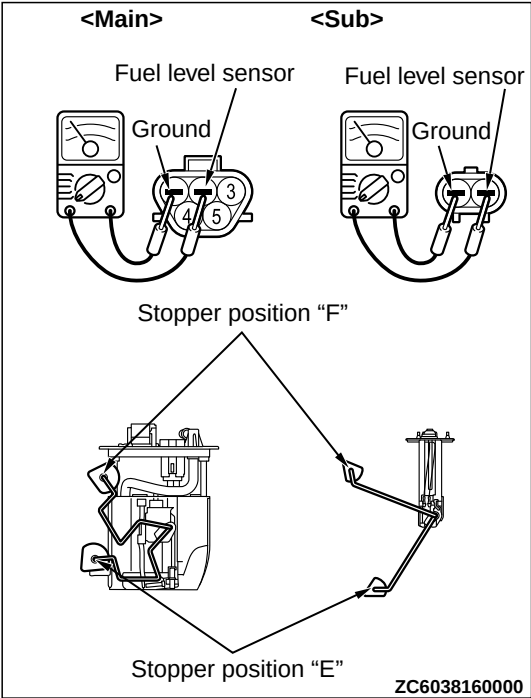
When float is moved to contact the float arm on the stopper, ensure that stopper positions "F" (height A) and "E" (height B) are within the standard value.

Standard value:

Float position	Float height mm (in)
Stopper position "F" (height A)	201.9 (7.9)
Stopper position "E" (height B)	18.3 (0.7)

VEHICLES FOR AWD

1. Remove the second seat (Refer to GROUP 52A - Seat Assembly P.52A-21).
2. Remove the floor inspection lid, and then remove the fuel pump module and fuel level sensor (sub) (Refer to GROUP 13B - Fuel Tank P.13B-18).



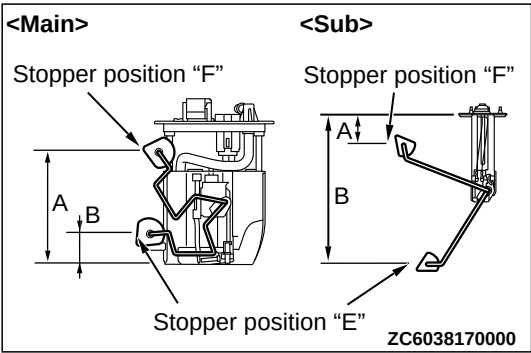
NOMINAL RESISTANCE OF THE FUEL LEVEL SENSOR

When float of the fuel level sensor is in stopper positions F and E, ensure that resistance between the fuel level sensor terminal and earth terminal is within the standard value.

Standard value:

Float position	Gauge resistance value (ohms)	
	Main	Sub
Stopper position "F"	6.5 ± 1.0	6.5 ± 1.0
Stopper position "E"	44.7 ± 1.0	75.3 ± 1.0

When the float is moved slowly between stopper positions "F" and "E", ensure that the resistance is smoothly changing.



FUEL LEVEL SENSOR FLOAT HEIGHT

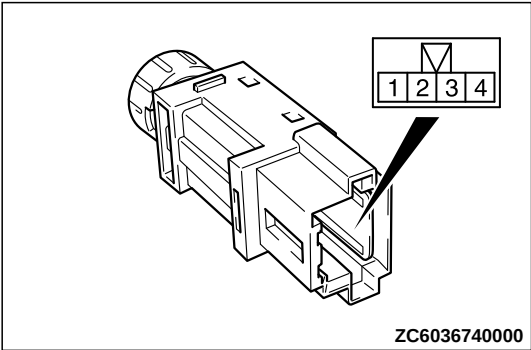
When float is moved to contact the float arm on the stopper, ensure that stopper positions "F" (height A) and "E" (height B) are within the standard value.

Standard value:

Float position	Float height mm (in)	
	Main	Sub
Stopper position "F" (height A)	166.2 (6.5)	48.8 ± 3.0 (1.9 ± 0.1)
Stopper position "E" (height B)	38.8 (1.5)	238.0 ± 3.0 (9.3 ± 0.1)

METER INFORMATION SWITCH CHECK

M15410100051USA0000010000



Switch position	Tester connection	Specified condition
Pressed	1-4	Less than 2 ohms
Released	1-4	Open circuit

SERVICE REMINDER FUNCTION SET

M15410100101USA0000010000

How to set by operating the scan tool
MB991958**CAUTION**

When the combination meter is replaced, the current driving distance and number of elapsed days must be entered into the meter after the replacement in order to be used for service reminder function. Therefore, read "Integrated mileage for reminder," "Integrated days for reminder," "Mileage until Extra reminder," "Months until Extra reminder," and "Current Schedule" from the meter before the replacement using the special function of scan tool MB991958, and note them. If "Integrated mileage for reminder" or "Integrated days for reminder" cannot be read by the scan tool MB991958, follow the method described below.

- As for the driving distance for check warning, use the driving distance displayed on the multi information display.
- For the elapsed days for check warning, calculate the number of elapsed days from

the delivery date to the customer (service reminder function start date) and current date.

- After the service reminder function has started, when the elapsed days for check warning is reset for the vehicle whose battery is removed for a long period (15 days), calculate the elapsed days from the delivery date to the customer (service reminder function start date) and the current date, and then input it.

Using the scan tool MB991958, the following service reminder functions can be set. Before setting, check the current status ("Integrated mileage for reminder," "integrated days for reminder," and "Current Schedule").

- Reminder reset (Indicator off)
- Next schedule reminder cancel
- Extra service reminder setting
- Extra reminder cancel
- Periodic reminder schedule set
- Integrated value adjustment
- Optional INT schedule setting

How to operate the scan tool MB991958

CAUTION

Before setting, if the combination meter does not start measuring the elapsed time, turn the ignition switch to the ON position while pressing the meter information switch to start a measurement.

- Connect the scan tool MB991958 to the data link connector.
- Start the "M.U.T.-III system" on the personal computer, and turn the ignition switch of the vehicle to the ON position.
- Select "Meter" on the "System Select" screen, and press the "OK" button.
- Select "Special Function" on the next screen.
- Select "Service Reminder" on the "Special Function" screen.
- Select the function to be executed from "Function List."
 - 1 Reminder reset (Indicator off) (Refer to P.54Ab-71.)
 - 2 Next schedule reminder cancel (Refer to P.54Ab-71.)
 - 3 Extra service reminder setting (Refer to P.54Ab-72.)
 - 4 Extra reminder cancel (Refer to P.54Ab-72.)
 - 5 Periodic reminder schedule set (Refer to P.54Ab-73.)
 - 6 Integrated value adjustment (Refer to P.54Ab-74.)
 - 7 Optional INT schedule setting (Refer to P.54Ab-75.)

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 401430898

Function List		Data List	
No.	Name	No.	Value
1	Reminder reset (indicator off)	1	Mileage until reminder 10000 mile
2	Next schedule reminder cancel	2	Months until reminder 16 month
3	Extra service reminder setting	4	Mileage until Extra reminder —
4	Extra reminder cancel	5	Months until Extra reminder —
5	Periodic reminder schedule set	7	Current Schedule NAS1-1
6	Integrated value adjustment	8	Integrated mileage for reminder 26 mile
7	Optional INT schedule set		

Click the name of item to execute, and press the OK button.

ZC6026030001

1. Reminder reset (Indicator off)

The service reminder warning indicator which is currently output can be cancelled.

NOTE: In addition to the operation of the scan tool MB991958, the service reminder warning indicator can be cancelled by operating the meter information switch on the combination meter. Refer to P. 54Ab-76.

1. On the "Service Reminder" screen, select "1 Reminder reset (Indicator off)."

NOTE: The screen indicates that the warning period (Nos. 1 and 2 in the data list) is "0 mile" and "0 month."

2. Press the "OK" button.

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A6

Meter / Special Function / Service Reminder

Selected Item: 1, Reminder reset (Indicator off)

No.	Name	Value
1	Mileage until reminder	0 mile
2	Months until reminder	0 month
4	Mileage until Extra reminder	—
5	Months until Extra reminder	—

Press the OK button to execute.

ZC6026060001

3. The current warning indicator is cancelled, and the next warning period is displayed.

NOTE: The screen indicates that the warning period (Nos. 1 and 2 in the data list) is set to "20000 mile" and "32 month."

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A6

Meter / Special Function / Service Reminder

Selected Item: 1, Reminder reset (Indicator off)

No.	Name	Value
1	Mileage until reminder	20000 mile
2	Months until reminder	32 month
4	Mileage until Extra reminder	—
5	Months until Extra reminder	—

Check the result.

ZC6026060002

2. Next schedule reminder cancel**⚠ CAUTION**

If "2 Next schedule reminder cancel" is executed twice consecutively by mistake, the cancelled warning period can be restored by executing "5 Periodic reminder schedule set" to set a schedule different from the current one once, and then returning it to the previous schedule.

The next warning period is cancelled, and its following warning period can be set.

1. Select "2 Next schedule reminder cancel" on the "Service Reminder" screen.

NOTE: The screen indicates that the warning period (Nos. 1 and 2 in the data list) is "1000 mile" and "1 month."

2. Press the "OK" button.

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A6

Meter / Special Function / Service Reminder

Selected Item: 2, Next schedule reminder cancel

No.	Name	Value
1	Mileage until reminder	1000 mile
2	Months until reminder	1 month
4	Mileage until Extra reminder	—
5	Months until Extra reminder	—

Press the OK button to execute.

ZC6026060003

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A6

Meter	Special Function	Service Reminder
Selected Item	2	Next schedule reminder cancel

No.	Name	Value
1	Mileage until reminder	20000 mile
2	Months until reminder	32 month
4	Mileage until Extra reminder	---
5	Months until Extra reminder	---

Check the result.

ZC6026060004

3. The next warning period is reset, and its following warning period is set.

NOTE: The screen indicates that the warning period (Nos. 1 and 2 in the data list) is changed to "20000 mile" and "32 month."

3. Extra service reminder setting

In addition to the current warning period, the temporary service reminder warning period can be set.

1. On the "Service Reminder" screen, select "3 Extra service reminder setting."

NOTE: The screen indicates that the temporary warning period (Nos. 4 and 5 in the data list) has not been set.

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A4

Meter	Special Function	Service Reminder
Selected Item	3	Extra service reminder setting

No.	Name	Value
1	Mileage until reminder	20000 mile
2	Months until reminder	16 month
4	Mileage until Extra reminder	---
5	Months until Extra reminder	---

Set value

Name	Value
Mileage until Extra reminder	Input the Value
Months until Extra reminder	Input the Value

Input the value for the item that you want to set up, and press the OK button.

ZC6026040001

2. Set the temporary warning period (distance or month) of the "Set value."

NOTE: Either input of distance or month can execute the setting.

3. Press the "OK" button.

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A5

Meter	Special Function	Service Reminder
Selected Item	3	Extra service reminder setting

No.	Name	Value
7	8	9
4	5	Tab
1	2	3
0	-	Clear

Set value

Name	Value
Mileage until Extra reminder	Input the Value
Months until Extra reminder	2

Input the value for the item that you want to set up, and press the OK button.

Range: 0-254 Unit: month

ZC6026050002

4. The temporary warning period is set.

NOTE: The screen indicates that "2 month" has been added to the temporary warning period (No. 5 in the data list). (The distance of No. 4 in the data list has not been set.)

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A6

Meter	Special Function	Service Reminder
Selected Item	3	Extra service reminder setting

No.	Name	Value
1	Mileage until reminder	20000 mile
2	Months until reminder	16 month
4	Mileage until Extra reminder	---
5	Months until Extra reminder	2 month

Check the result.

ZC6026060005

4. Extra reminder cancel

The temporary service reminder warning period which has been set can be cancelled.

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A6

Meter / Special Function / Service Reminder

Selected Item: 4 Extra reminder cancel

No.	Name	Value
1	Mileage until reminder	10000 mile
2	Months until reminder	16 month
4	Mileage until Extra reminder	3000 mile
5	Months until Extra reminder	2 month

Press the OK button to execute.

ZC6026060006

1. Select "4 Extra reminder cancel" on the "Service Reminder" screen.

NOTE: The screen indicates that "3000 mile" and "2 month" have been set to the temporary warning period (Nos. 4 and 5 in the data list).

2. Press the "OK" button.

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A6

Meter / Special Function / Service Reminder

Selected Item: 4 Extra reminder cancel

No.	Name	Value
1	Mileage until reminder	10000 mile
2	Months until reminder	16 month
4	Mileage until Extra reminder	—
5	Months until Extra reminder	—

Check the result.

ZC6026060007

3. The temporary warning period is cancelled.

NOTE: The screen indicates that the temporary warning period (Nos. 4 and 5 in the data list) has been cancelled.

5. Periodic reminder schedule set

The service reminder schedule can be changed.

NOTE: In addition to the operation of scan tool MB991958, the schedule can be changed by operating the meter information switch on the combination meter. Refer to P. 54Ab-76.

1. On the "Service Reminder" screen, select "5 Periodic reminder schedule set."

NOTE: The screen indicates that the current schedule (No. 7 in the data list) has been set to "NAS 1-1."

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A4

Meter / Special Function / Service Reminder

Selected Item: 5 Periodic reminder schedule set

Set value

Name	Value
Schedule Spec.	Select the Value

Select the value and press the OK button.

No.	Name	Value
1	Mileage until reminder	10000 mile
2	Months until reminder	16 month
4	Mileage until Extra reminder	—
5	Months until Extra reminder	—
7	Current Schedule	NAS 1-1

ZC6026040002

2. Set the schedule to be changed from "Set value."
3. Press the "OK" button.

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A4

Meter / Special Function / Service Reminder

Selected Item: 5 Periodic reminder schedule set

Set value

Name	Value
Schedule Spec.	NAS 1-2

Select the value and press the OK button.

No.	Name	Value
1	Mileage until reminder	10000 mile
2	Months until reminder	16 month
4	Mileage until Extra reminder	—
5	Months until Extra reminder	—
7	Current Schedule	NAS 1-1

ZC6026040003

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A6

Meter	Special Function	Service Reminder
Selected Item	5	Periodic reminder schedule set

No.	Name	Value
1	Mileage until reminder	3750 mile
2	Months until reminder	2 month
4	Mileage until Extra reminder	---
5	Months until Extra reminder	---
7	Current Schedule	NAS 1-2

Check the result.

ZC6026060008

4. The schedule is changed.

NOTE: The screen indicates that the current schedule (No. 7 in the data list) has been changed to "NAS 1-2."

6. Integrated value adjustment

At the combination meter replacement or for the vehicle with its battery being removed for a long period (15 days), this adjustment is used to reset the mileage and elapsed days for check warning.

1. Select "6 Integrated value adjustment" on the "Service Reminder" screen.

NOTE: The screen indicates that the current mileage and elapsed days (Nos. 8 and 9 in the data list) are "26 mile" and "0 day."

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A4

Meter	Special Function	Service Reminder
Selected Item	6	Integrated value adjustment

No.	Name	Value
1	Mileage until reminder	10000 mile
2	Months until reminder	16 month
4	Mileage until Extra reminder	---
5	Months until Extra reminder	---
8	Integrated mileage for reminder	26 mile
9	Integrated days for reminder	0 day

Set value

Name	Value
Mileage	Input the Value
Days	Input the Value

Input the value to both items, and press the OK button.

ZC6026040004

2. To "Set value," input the mileage and elapsed days to be reset.

NOTE: Always input both the mileage and elapsed days.

3. Press the "OK" button.

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A5

Meter	Special Function	Service Reminder
Selected Item	6	Integrated value adjustment

No.	Name	Value
7	8	9
4	5	6
1	2	3
0	-	Clear

Set value

Name	Value
Mileage	26
Days	0

Input the value to both items, and press the OK button.

Range 0-32767, Unit of day.

ZC6026050001

4. The mileage and elapsed days are changed. The combination meter automatically recalculates the distance and days to the nearest next check from the settings of mileage and elapsed days for check warning, and then displays them in "Data List."

NOTE:

**The screen indicates that the current mileage and elapsed days (Nos. 8 and 9 in the data list) have been changed to "100 mile" and "30 day."*

**Set the elapsed days for check warning to "0 day" by the above resetting method, thereby the timer is reset indirectly.*

DBA-CW5WXTTHZ1 2006MY - Service Reminder - 4014308A6

Meter	Special Function	Service Reminder
Selected Item	6	Integrated value adjustment

No.	Name	Value
1	Mileage until reminder	9900 mile
2	Months until reminder	15 month
4	Mileage until Extra reminder	---
5	Months until Extra reminder	---
8	Integrated mileage for reminder	100 mile
9	Integrated days for reminder	30 day

Check the result.

ZC6026060009

7. Optional INT schedule setting

In addition to the existing schedule, the optional service reminder schedule can be set.

1. Select "7 Optional INT schedule setting" on the "Service Reminder" screen.

NOTE: The screen indicates that the optional schedule (Nos. 12 and 13 in the data list) has not been set.

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A4

Meter / Special Function / Service Reminder

Selected Item: 7 Optional INT schedule setting

Set value

Name	Value
Optional interval for mileage	Input the Value
Optional interval for month	Input the Value

Input the value for the item that you want to set up, and press the OK button.

Data List

No.	Name	Value
1	Mileage until reminder	15000 km
2	Months until reminder	12 month
8	Integrated mileage for reminder	26 km
9	Integrated days for reminder	0 day
12	Optional interval for mileage	—
13	Optional interval for month	—

ZC6026040007

2. Set the optional schedule (distance or month) of the "Set value."

NOTE: When the current schedule is already set to "Optional INT" by executing "5. Periodic reminder schedule set", "Set value" cannot be input.

NOTE: Either input of distance or month can execute the setting.

3. Press the "OK" button.

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A5

Meter / Special Function / Service Reminder

Selected Item: 7 Optional INT schedule setting

Set value

Name	Value
Optional interval for mileage	Input the Value
Optional interval for month	2

Input the value for the item that you want to set up, and press the OK button.

Change: 0-254, Unit: month

ZC6026050005

4. The optional schedule is set. The set schedule becomes effective by executing "5 Periodic reminder schedule set" and setting the schedule to "Optional INT."

NOTE: The screen indicates that "2 month" has been added to the optional schedule (No. 13 in the data list). (The distance of No. 12 in the data list has not been set.)

DBA-CW5WXTHHZ1 2006MY - Service Reminder - 4014308A6

Meter / Special Function / Service Reminder

Selected Item: 7 Optional INT schedule setting

Check the result. Please set up "Optional INT" in "Periodic inspection schedule set" function, when you start the service reminder at this interval setting.

Data List

No.	Name	Value
1	Mileage until reminder	—
2	Months until reminder	2 month
8	Integrated mileage for reminder	26 km
9	Integrated days for reminder	0 day
12	Optional interval for mileage	—
13	Optional interval for month	2 month

ZC6026060012

Relationship between the elapsed months and the elapsed days which are used by the service reminder function.

Number of months	Number of days	Number of months	Number of days	Number of months	Number of days	Number of months	Number of days
1	30 - 60	13	396 - 425	25	761 - 790	37	1 126 - 1 156
2	61 - 90	14	426 - 456	26	791 - 821	38	1 157 - 1 186
3	91 - 121	15	457 - 486	27	822 - 851	39	1 187 - 1 217
4	122 - 151	16	487 - 516	28	852 - 882	40	1 218 - 1 247
5	152 - 182	17	517 - 547	29	883 - 912	41	1 248 - 1 277
6	183 - 212	18	548 - 577	30	913 - 943	42	1 278 - 1 308
7	213 - 243	19	578 - 608	31	944 - 973	43	1 309 - 1 338

Number of months	Number of days	Number of months	Number of days	Number of months	Number of days	Number of months	Number of days
8	244 - 273	20	609 - 638	32	974 - 1 003	44	1 339 - 1 369
9	274 - 303	21	639 - 669	33	1 004 - 1 034	45	1 370 - 1 399
10	304 - 334	22	670 - 699	34	1 035 - 1 064	46	1 400 - 1 430
11	335 - 364	23	700 - 730	35	1 065 - 1 095	47	1 431 - 1 460
12	365 - 395	24	731 - 760	36	1 096 - 1 125	48	1 461 - 1 491

NOTE:

*When the number of elapsed days is 0 to 29, the number of elapsed months is 0.

*The combination meter performs calculation using 365.25 days for one year and 30.4375 days for one month.

HOW TO SET BY SPECIAL OPERATION OF SWITCH

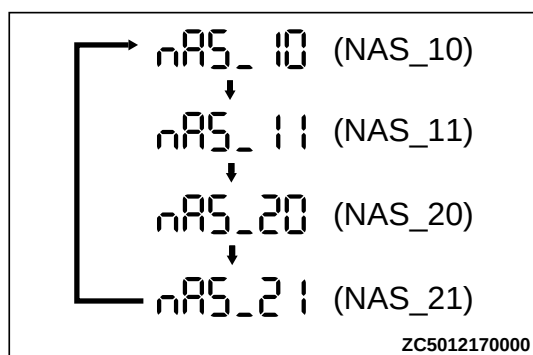
By operating the meter information switch of the combination meter, the service reminder warning cancellation and the schedule setting can be performed.

HOW TO CANCEL THE SERVICE REMINDER WARNING

1. Turn the ignition switch to the "OFF" position.
2. By operating the meter information switch, the warning period is displayed on the multi information display.
3. Press the meter information switch once for 1.2 seconds or longer.
4. The service reminder indicator flashes.
5. While the service reminder indicator flashes, press the meter information switch once for less than 1.2 seconds.
6. The service reminder indicator is turned ON, and "CLEAR" is displayed on the multi information display for 3 seconds.
7. After "CLEAR" is displayed for 3 seconds, the warning period to the next time is displayed.

HOW TO SET THE SCHEDULE

1. Turn the ignition switch to the "OFF" position.
2. By operating the meter information switch, the warning period is displayed on the multi information display.
3. Press the meter information switch once for 1.2 seconds or longer.
4. The service reminder indicator flashes.
5. While the service reminder indicator flashes, press the meter information switch 3 times consecutively for 1.2 seconds or longer.
6. The service reminder indicator is turned ON, and the current schedule is displayed on the multi information display.
7. While the current schedule is displayed, press the meter information switch 3 times consecutively for less than 1.2 seconds.
8. The multi information display is shifted to the schedule selection mode.



9. When the meter information switch is pressed for less than 1.2 seconds, the schedule is shifted, and when the switch is pressed for 1.2 seconds or longer, the displayed schedule is set.

10. The schedule set in Step 9 is displayed for 3 seconds, and the warning period to the next time is displayed.

Schedule table

Schedule	Warning types	Warning criteria
NAS 10 (initial setting)	Elapsed time (month)	Every 6 elapsed months
	Driving distance (miles)	Every 7,500 miles of driving distance
	Driving distance (km)	Every 12,000 km of driving distance
NAS 11	Elapsed time (month)	Every 3 elapsed months
	Driving distance (miles)	Every 3,750 miles of driving distance
	Driving distance (km)	Every 6,000 km of driving distance
NAS 20	Elapsed time (month)	Every 5 elapsed months
	Driving distance (miles)	Every 5,000 miles of driving distance
	Driving distance (km)	Every 8,000 km of driving distance
NAS 21	Elapsed time (month)	Every 4 elapsed months
	Driving distance (miles)	Every 3,750 miles of driving distance
	Driving distance (km)	Every 6,000 km of driving distance

HOW TO INACTIVATE THE SERVICE REMINDER FUNCTION

By setting to "OFF Display" or "Function OFF" when the schedule is set, the service reminder function can be inactivated.

When "OFF Display" is selected

- Even when the check warning period is reached, the service reminder display is not displayed.

- Even if the service reminder screen is displayed by the meter information switch operation, "OFF" is displayed.

When "Function OFF" is selected

- Even when the check warning period is reached, the service reminder display is not displayed.
- Even with the meter information switch operation, the service reminder screen is not displayed.

COMBINATION METER ASSEMBLY

REMOVAL AND INSTALLATION

CAUTION

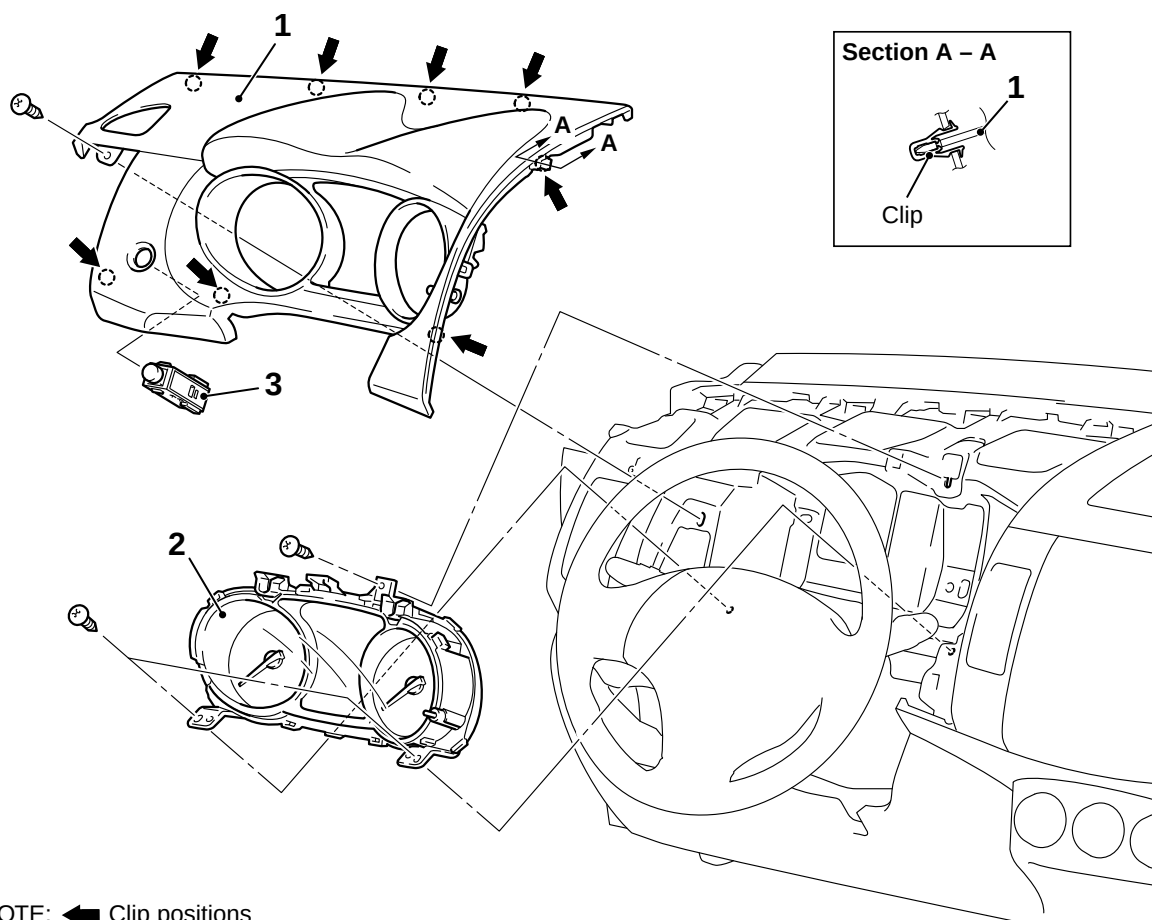
When the combination meter is required to be replaced, the current driving distance and number of elapsed days must be entered into the meter after the replacement in order to be used for service reminder function. Therefore, read

"Integrated mileage for reminder," "Integrated days for reminder," "Mileage until Extra reminder," "Months until Extra reminder," and "Current Schedule" from the meter before the replacement using the special function of scan tool MB991958, and note them. For the operation method of scan tool MB991958, refer to P. 54Ab-70. If "Integrated mileage for reminder" or "Integrated days for reminder" cannot be read by

the scan tool MB991958, follow the method described below.

*For the driving distance for check warning, use the driving distance displayed on the multi information display.

*For the elapsed days for check warning, calculate the number of elapsed days from the delivery date to the customer (service remainder function start date) and current date.



NOTE: ← Clip positions

ZC6011390000

Removal Steps

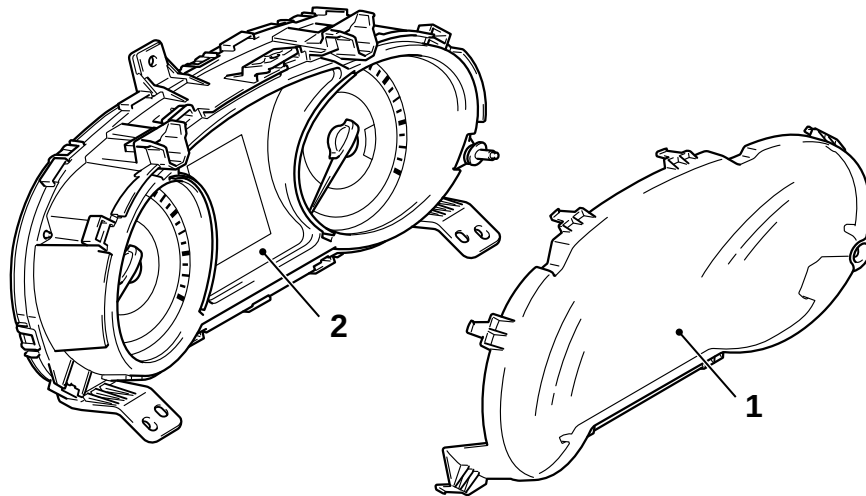
- Side air outlet (Refer to GROUP 52A, Instrument Panel Assembly P. 52A-2.)
- Connection of meter information switch connector

Removal Steps

1. Meter hood assembly
2. Combination meter
3. Meter information switch

DISASSEMBLY AND ASSEMBLY

M15410100044USA0000010000



ZC6032880000

Disassembly steps

1. Combination meter glass

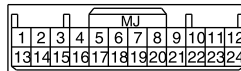
Disassembly steps

2. Combination meter

CHECK AT ECU TERMINALS

M15410100036USA0000010000

Connector: C-03



ZC6033190000

Terminal No.	Check item	Check conditions	Normal conditions
1	ECU power supply (battery)	Always	Battery voltage
2	ECU power supply (Ignition switch: IG1)	Ignition switch: ON	Battery voltage
		Ignition switch: OFF	0 V
3	Meter information switch input	Meter information switch: ON	0 V
		Meter information switch: OFF	Approximately 5 V
4	Parking brake switch input	Parking brake switch: ON	0 V
		Parking brake switch: OFF	Approximately 5 V
5	Seat belt switch (driver's side) input	Seat belt switch (driver's side): ON	0 V
		Seat belt switch (driver's side): OFF	Approximately 5 V
6	Headlamp levelling	During headlight levelling warning display	0 V
		Without headlight levelling warning display	Approximately 5 V
7	-	-	-
8	Corner sensor RL	When sensor detection is made	0 V
		When sensor detection is not made	Approximately 5 V
9	Corner sensor RR	When sensor detection is made	0 V

COMBINATION METER
CHECK AT ECU TERMINALS

Terminal No.	Check item	Check conditions	Normal conditions
		When sensor detection is not made	Approximately 5 V
10	Corner sensor FL	When sensor detection is made	0 V
		When sensor detection is not made	Approximately 5 V
11	Corner sensor FR	When sensor detection is made	0 V
		When sensor detection is not made	Approximately 5 V
12	Car symbol input	When sensor detection is made	0 V
		When sensor detection is not made	Approximately 5 V
13	Earth (sensor)	Always	0 V
14, 15	-	-	-
16	Front seat belt switch (LH) input	Front seat belt switch (LH): ON	0 V
		Front seat belt switch (LH): OFF	Approximately 5 V
17	Fuel level sensor input	Fuel: FULL	Approximately 1 V
		Fuel: EMPTY	Approximately 4 V
18	Fuel level sensor input	Fuel: FULL	Approximately 1 V
		Fuel: EMPTY	Approximately 4 V
19	-	-	-
20	Vehicle speed signal output	Vehicle speed: Approximately 40 km/h	Approximately 28Hz
		Vehicle speed change	In accordance with the vehicle speed, a pulse is generated.
21	Earth (ECU)	Always	0 V
22	Illumination (-) output	With daytime lighting control	0 V
		With nighttime lighting control	In accordance with the rheostat switch operation, a pulse is generated.
23	Illumination (+) output	With lighting control	Battery voltage
24	Illumination (power supply)	Always	Battery voltage