

## HEADLIGHT AND TAILLIGHT

### GENERAL DESCRIPTION CONCERNING THE HEADLIGHTS AND TAILLIGHTS

M1549021300383

The following ECUs affect the functions and control of the headlights and the taillights.

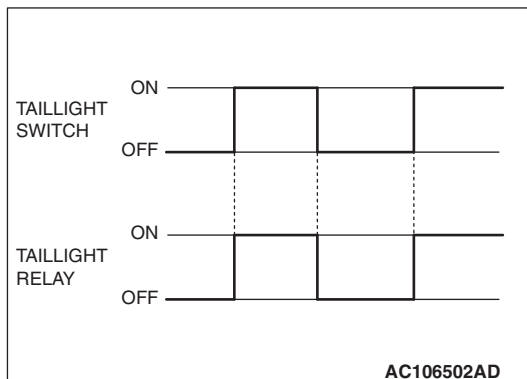
FUNCTION	CONTROL ECU
Taillights	Front-ECU, column switch
Headlights	ETACS-ECU, front-ECU, column switch
Headlight automatic-shutoff function	ETACS-ECU, front-ECU, column switch
High-beam indicator light	ETACS-ECU, column switch
Daytime running light function	ETACS-ECU, front-ECU, column switch

## HEADLIGHTS AND TAILLIGHTS

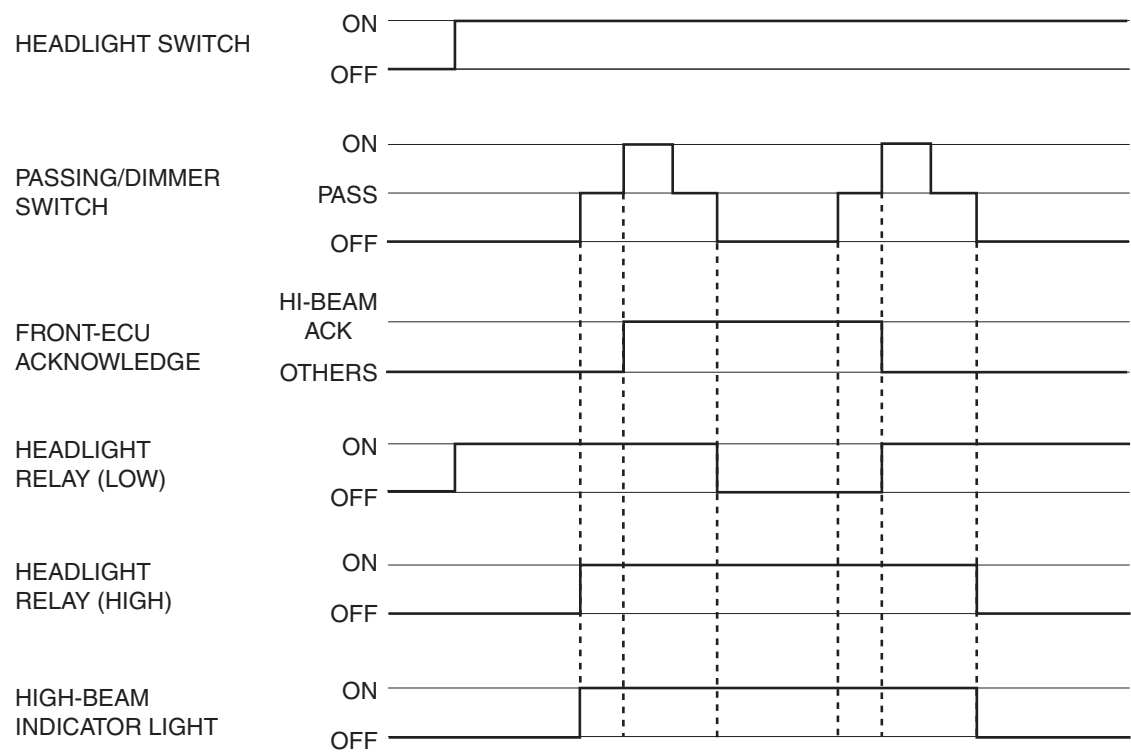
### TAILLIGHTS

If the column switch sends a taillight switch "ON" signal to the front-ECU, the front-ECU turns on its taillight relay, causing the taillights to illuminate.

*NOTE: This description covers the taillights only. In actual driving, the taillights may be turned off due to the headlight automatic shut-off function. For details on the headlight automatic shut-off function, refer to .*



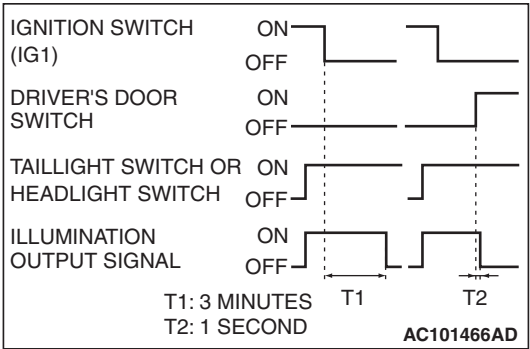
Headlights



AC306461AC

If the column switch sends a headlight switch "ON" signal to the front-ECU, the front-ECU turns on its headlight relay (LOW), causing the low-beam headlights to illuminate. If the dimmer switch is turned on while the headlight relay (LOW) is on, the front-ECU turns on the headlight relay (HIGH), causing the high-beam headlights to illuminate.

*NOTE: This description covers the headlights only. In actual driving, the headlights may be turned off due to the headlight automatic shut-off function. For details on the headlight automatic shut-off function, refer to .*



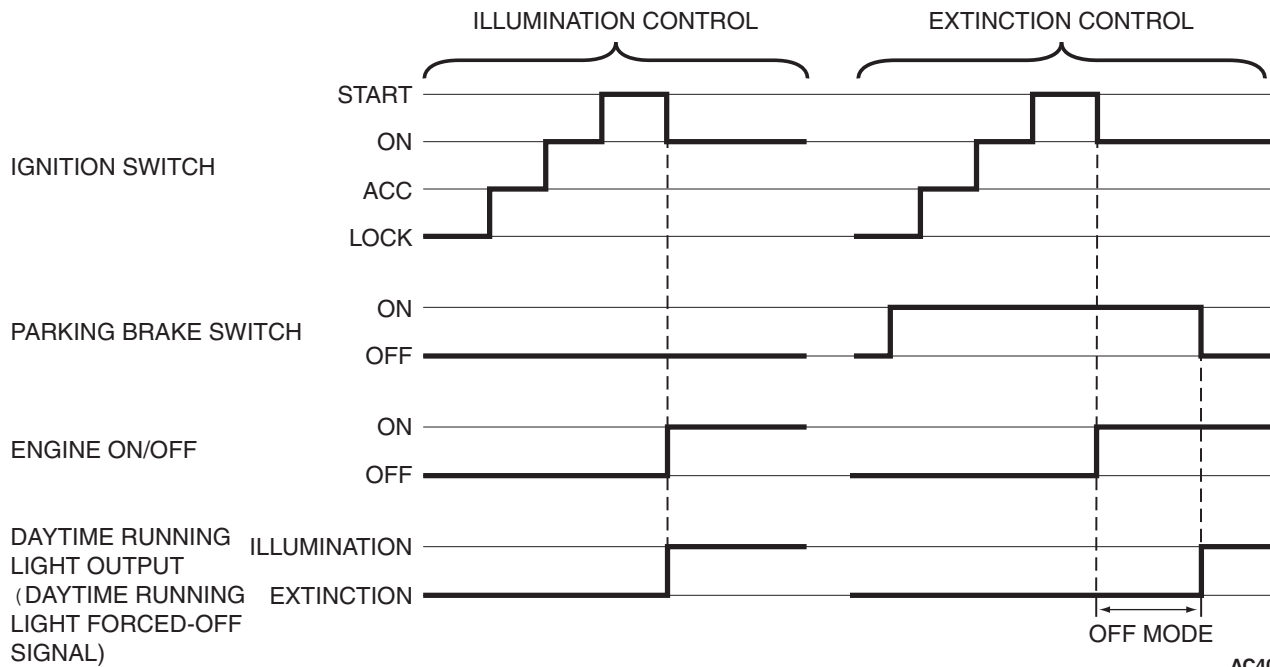
AC101466AD

HEADLIGHT AUTOMATIC-SHUTOFF FUNCTION

Even if the lighting switch (taillights switch or headlight switch) is ON, the headlight (including the taillights) will automatically go off in the following conditions to prevent the battery from discharging as a result of forgetting to turn off lights. When the ignition key is turned from "ON" to "LOCK" (OFF) or "ACC" position with the lighting switch turned ON, and this state continues for three minutes, the light will automatically be turned off. If the driver's door is opened during these three minutes, the light will go off one second later.

**HIGH-BEAM INDICATOR**

At the same time that the high-beams are illuminated, the ETACS-ECU sends a signal to illuminate the high-beam indicator via the CAN bus line. The combination meter receives the transmitted signal and turns the high-beam indicator on and off.

**Daytime running light function**

The ETACS-ECU outputs the daytime running light forced-OFF signal to the front-ECU based on the input signal sent via CAN communication. The front-ECU controls illumination and extinction of the daytime running light according to the daytime running light forced-OFF signal.

**Illumination control of daytime running lights**

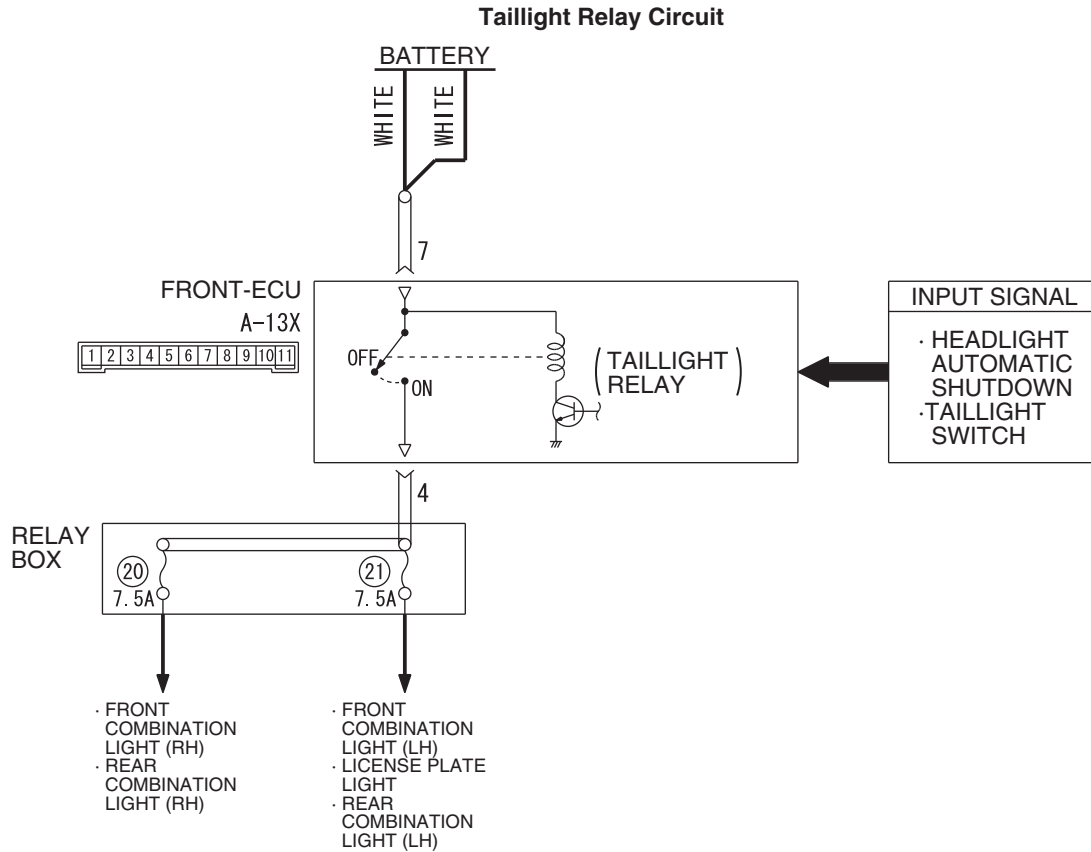
- If the engine is started when the parking brake is not pulled, the headlights illuminate with the brightness reduced\*.

- If the engine is started while the parking brake is pulled, the daytime running light function OFF mode is entered and the headlights do not illuminate. If the parking brake is released, the OFF mode is cancelled and the headlights illuminate reduced\*.

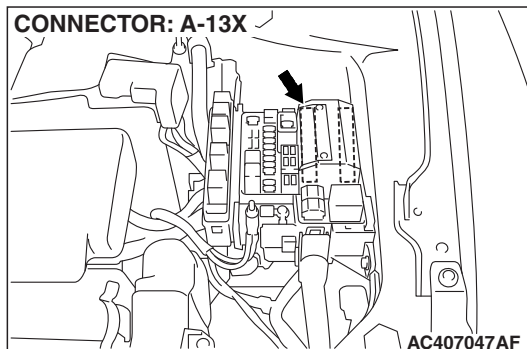
**NOTE:** \*: As for vehicles with discharge type headlight, the headlights illuminate normally and do not illuminate with the brightness reduced.

**INSPECTION PROCEDURE I-1: Headlight and Taillight: None of the taillight illuminate normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*



W6P54M007A

**CIRCUIT OPERATION**

When the lighting switch is set to "TAIL" position, the "TAIL" signal is sent through the column-ECU (incorporated in the column switch) to the front-ECU. If the front-ECU receives the "TAIL" signal through the column-ECU, the front-ECU turns on the taillight relay (incorporated in the front-ECU), thus causing the taillights to illuminate.

**TECHNICAL DESCRIPTION (COMMENT)**

If all the taillights do not illuminate normally, the column switch or the front-ECU may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system



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

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

### STEP 1. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.

Check the following ECUs:

- Column switch (column-ECU)
- Front-ECU

#### **⚠ CAUTION**

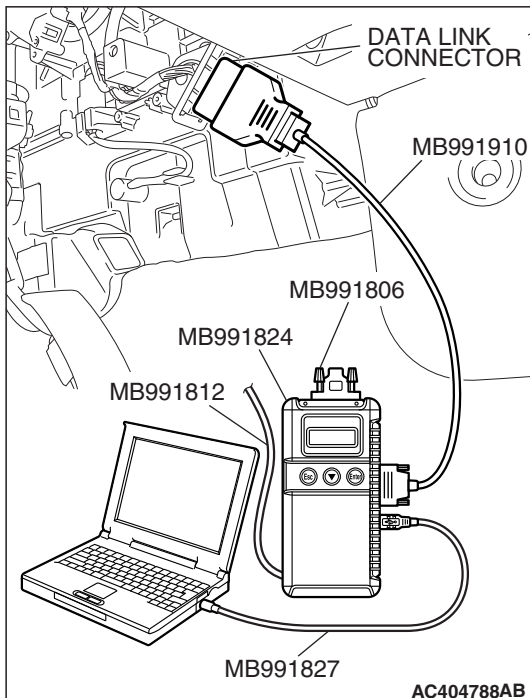
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

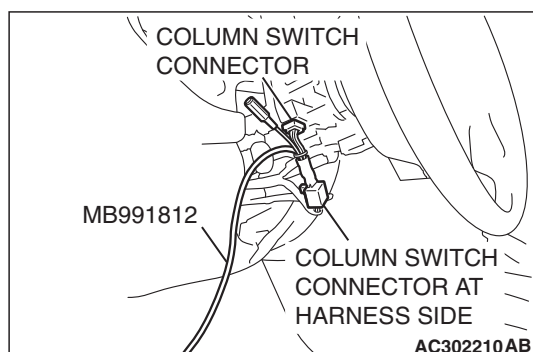
- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menus for both the "COLUMN ECU" and the "FRONT ECU" menus.

**Q: Are "OK" displayed for both the "COLUMN ECU" and "FRONT ECU" menu?**

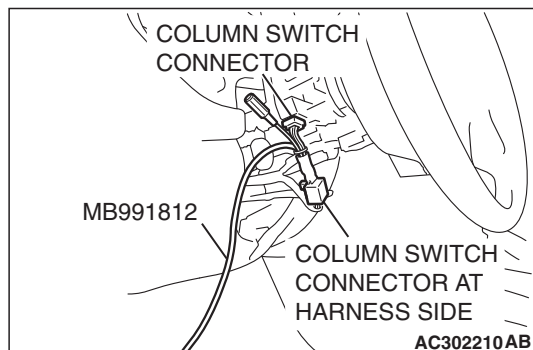
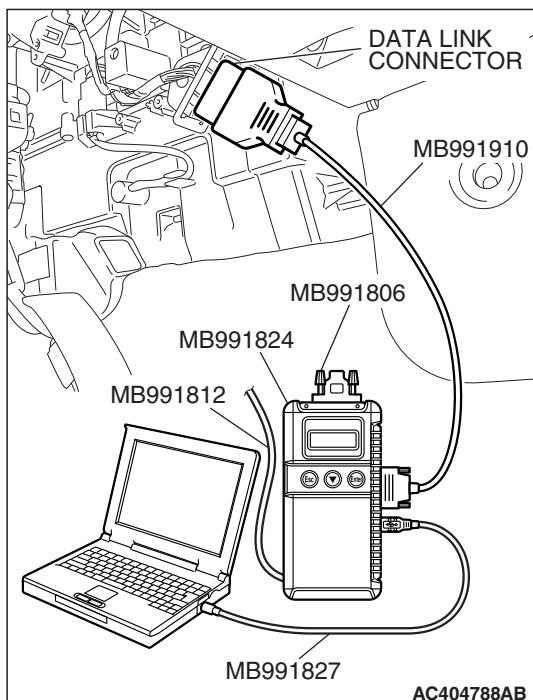
**"OK" are displayed for all the items :** Go to Step 2.

**"NG" is displayed for the "COLUMN ECU" menu :** Refer to Inspection Procedure A-2 "Communication with the column switch (column-ECU) is not possible [P.54B-66](#)."





**"NG" is displayed for the "FRONT ECU" menu :** Refer to Inspection Procedure A-4 "Communication with the front-ECU is not possible [P.54B-82.](#)"



## STEP 2. Check the input signal by using "FUNCTION DIAG." menu of the SWS monitor.

Check the input signals from the following switches:

- Ignition switch: ON
- Lighting switch: TAIL

**NOTE:** Turn the ignition switch to the "ON" position in order to disable the headlight automatic shutdown function.

- Operate scan tool MB991958 according to the procedure below to display "TAILLIGHT."
  - Select "Interactive Diagnosis."
  - Select "System select."
  - Select "SWS."
  - Select "SWS MONITOR."
  - Select "Function Diag."
  - Select "LIGHTING."
  - Select "TAILLIGHT."
- Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 01	TAILLIGHT SW	ON
ITEM 35	H/L AUTO-CUT	OFF
ITEM 70	FRONT ECU ACK	NORMAL ACK

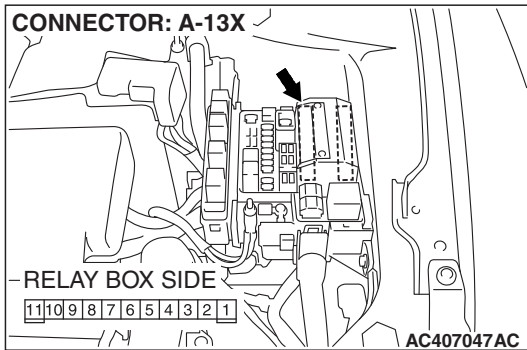
**Q: Does the scan tool MB991958 display the items "TAILLIGHT SW", "H/L AUTO-CUT" and "FRONT ECU ACK" as normal condition?**

**Normal conditions are displayed for all the items :** Go to Step 3.

**Normal condition is not displayed for "TAILLIGHT SW" :**  
Refer to Inspection Procedure M-6 "ETACS-ECU does not receive any signal from the taillight switch [P.54B-522.](#)"

**Normal condition is not displayed for "H/L AUTO-CUT" :**  
Refer to Inspection Procedure I-9 "Headlight automatic shutoff function does not work normally [P.54B-351.](#)"

**Normal condition is not displayed for "FRONT ECU ACK" :** Replace the front-ECU. Verify that the taillights illuminate normally.



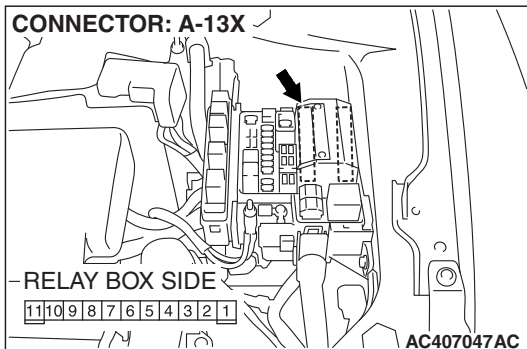
**STEP 3. Check front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front-ECU connector A-13X in good condition?**

**YES :** Go to Step 4.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

[P.00E-2](#). Verify that the taillights illuminate normally.



**STEP 4. Check the battery power supply circuit to the front-ECU. Measure the voltage at front-ECU connector A-13X.**

(1) Disconnect front-ECU connector A-13X and measure the voltage available at the relay box side of the connector.

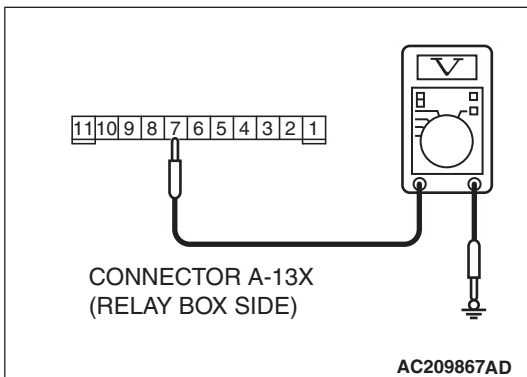
(2) Measure the voltage between terminal 7 and ground.

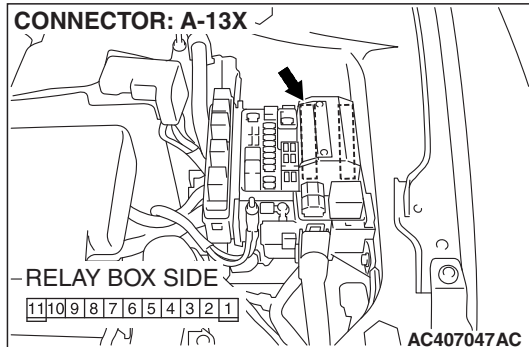
- The voltage should measure approximately 12 volts (battery positive voltage).

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

**YES :** Replace the front-ECU. Verify that the taillights illuminate normally.

**NO :** Go to Step 5.



**STEP 5. Check the wiring harness between front-ECU connector A-13X (terminal 7) and the battery.**

- Check the power supply line for open circuit and short circuit.

**Q: Is the wiring harness between front-ECU connector A-13X (terminal 7) and the battery in good condition?**

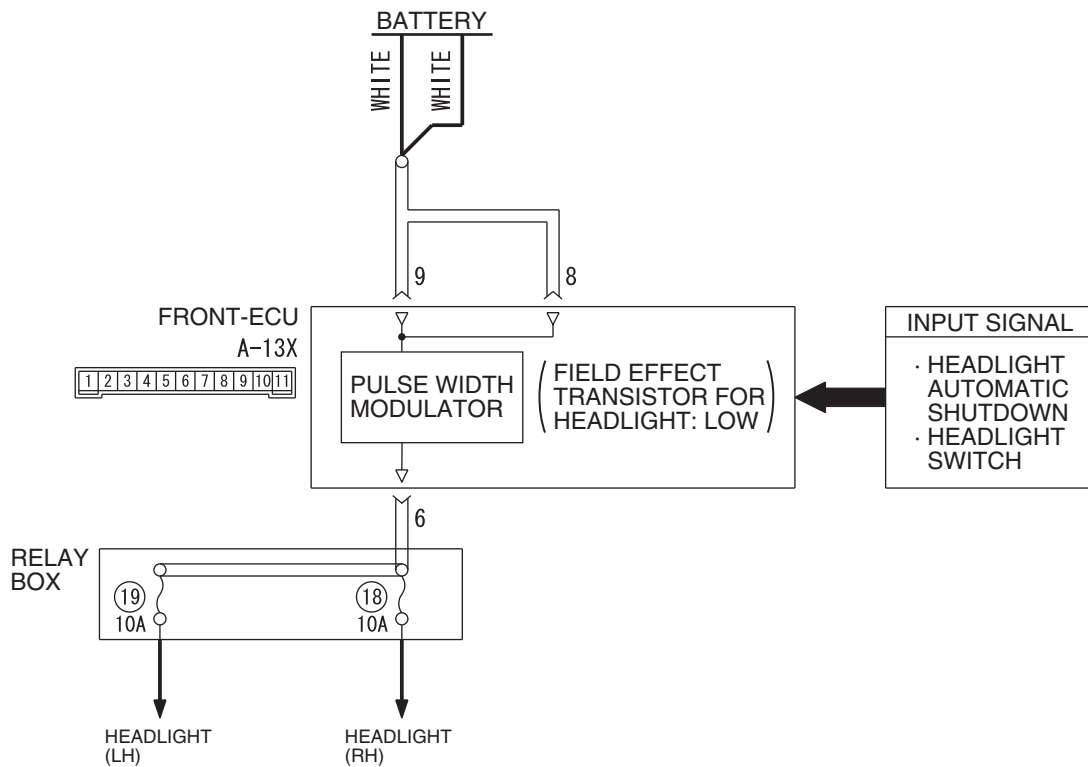
**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillights illuminate normally.

**INSPECTION PROCEDURE I-2: Headlight and Taillight: None of the headlight (low-beam) illuminate normally.**

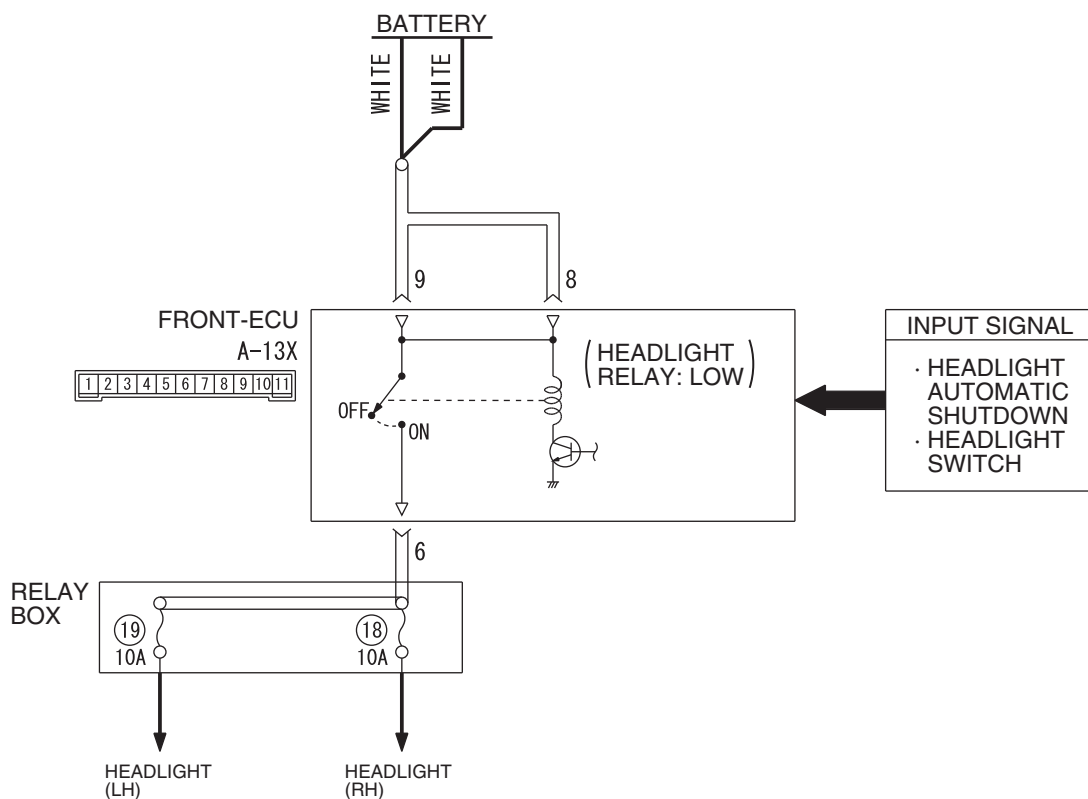
*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor [P.54B-15](#)."*

**Headlight Relay (Low-Beam) Circuit <Halogen Type>**

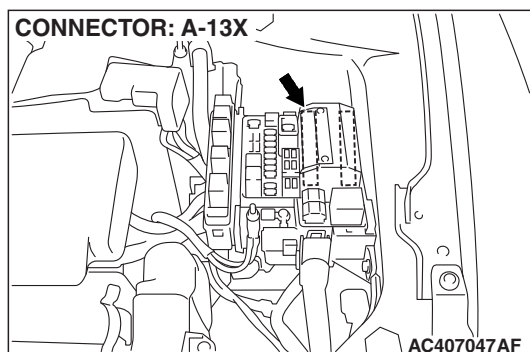


W9P54M022A

## Headlight Relay (Low-Beam) Circuit &lt;Discharge Type&gt;



W9P54M023A

**CIRCUIT OPERATION**

- When the lighting switch is set to "HEAD" position, the "HEAD" signal is sent through the column-ECU (incorporated in the column switch) to the front-ECU. If the front-ECU receives the "HEAD" signal through the column-ECU, the front-ECU turns on the headlight relay (incorporated in the front-ECU), thus causing the headlights to illuminate. The headlights always illuminate at low-beam by the headlight dimmer switch automatic resetting function.

- If the SWS communication line is defective, the front-ECU operates the headlights by using the other communication lines (headlight backup circuit) instead of that line.

**TECHNICAL DESCRIPTION (COMMENT)**

If all the headlights (low-beam) do not illuminate normally, the column switch or the front-ECU may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The front-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

Check the following ECUs:

- Column switch (column-ECU)
- Front-ECU

**⚠ CAUTION**

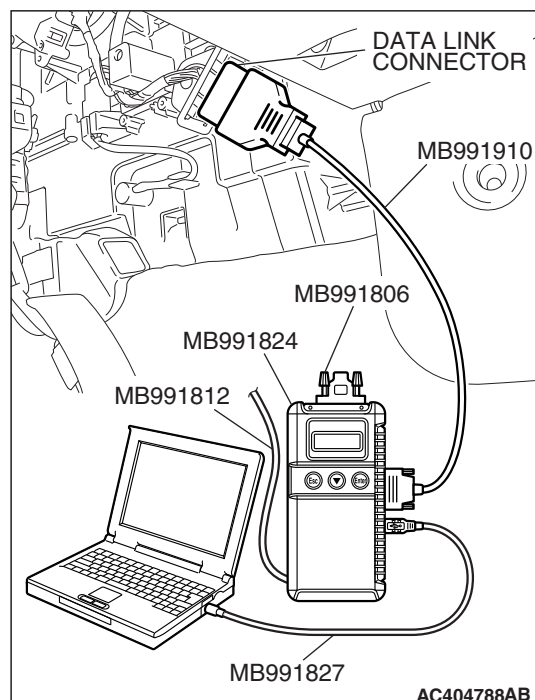
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

- (1) Connect the special tool. Refer to "How to connect SWS monitor P.54B-13."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menus for both the "COLUMN ECU" and the "FRONT ECU" menus.

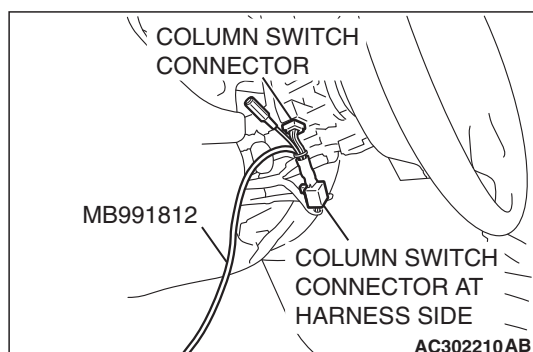
**Q: Are "OK" displayed for both the "COLUMN ECU" and "FRONT ECU" menus?**

**"OK" are displayed for all the items : Go to Step 2.**

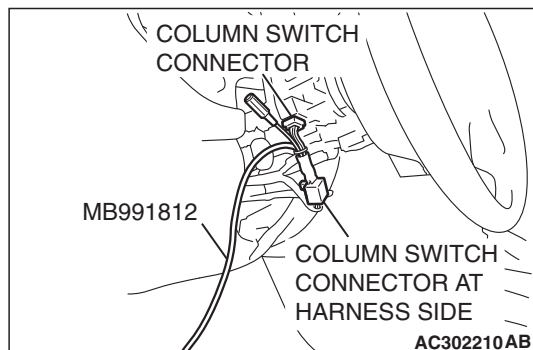
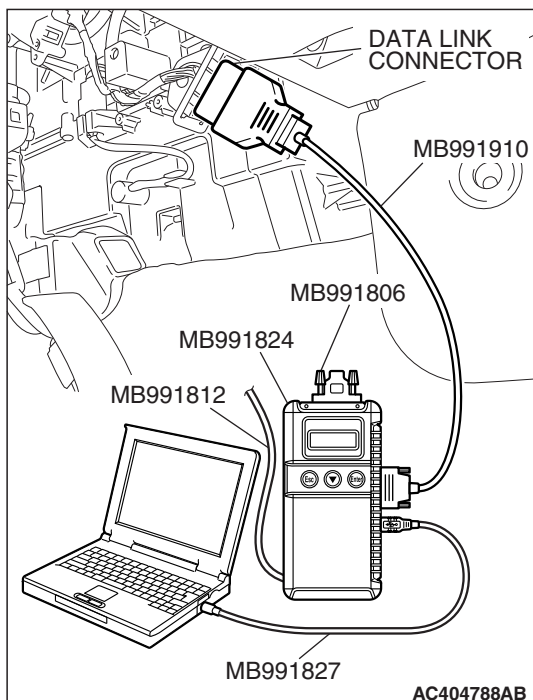
**"NG" is displayed for the "COLUMN ECU" menu : Refer to Inspection Procedure A-2 "Communication with the column switch (column-ECU) is not possible P.54B-66."**







**"NG" is displayed for the "FRONT ECU" menu :** Refer to Inspection Procedure A-4 "Communication with the front-ECU is not possible [P.54B-82.](#)"



## STEP 2. Check the input signal by using "FUNCTION DIAG." menu of the SWS monitor.

Check the input signals from the following switches:

- Ignition switch: ON
- Lighting switch: HEAD

- (1) Operate scan tool MB991958 according to the procedure below to display "HEADLIGHT LO."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Function Diag."
  - f. Select "LIGHTING."
  - g. Select "HEADLIGHT LO."
- (2) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 00	HEADLIGHT SW	ON
ITEM 35	H/L AUTO-CUT	OFF
ITEM 70	FRONT ECU ACK	NORMAL ACK

**Q: Does the scan tool MB991958 display the items "HEADLIGHT SW", "H/L AUTO-CUT" and "FRONT ECU ACK" as normal condition?**

**Normal conditions are displayed for all the items :** Go to Step 3.

**Normal condition is not displayed for "HEADLIGHT SW"**

: Refer to Inspection Procedure M-6 "ETACS-ECU does not receive any signal from the headlight switch [P.54B-522.](#)"

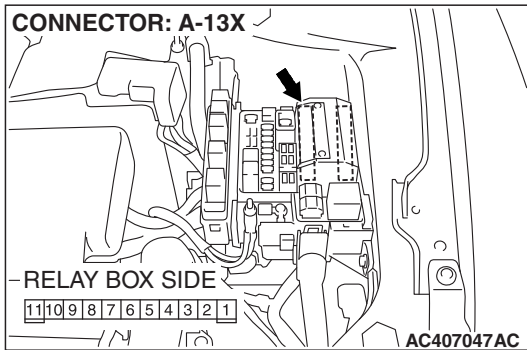
**Normal condition is not displayed for "H/L AUTO-CUT" :**

Refer to Inspection Procedure I-9 "Headlight automatic shutoff function does not work normally [P.54B-351.](#)"

**Normal condition is not displayed for "FRONT ECU ACK"**

: Replace the front-ECU. Verify that the headlights (low-beam) illuminate normally.



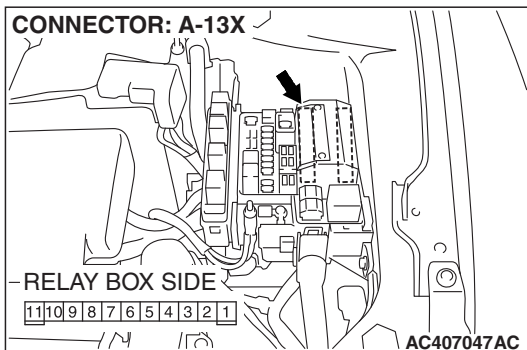


**STEP 3. Check front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front-ECU connector A-13X in good condition?**

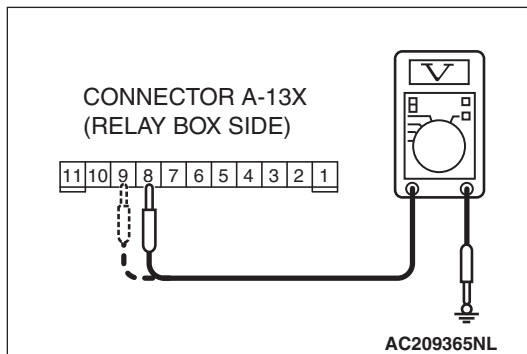
**YES :** Go to Step 4.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the headlights (low-beam) illuminate normally.



**STEP 4. Check the battery power supply circuit to the front-ECU. Measure the voltage at front-ECU connector A-13X.**

(1) Disconnect front-ECU connector A-13X and measure the voltage available at the relay box side of the connector.



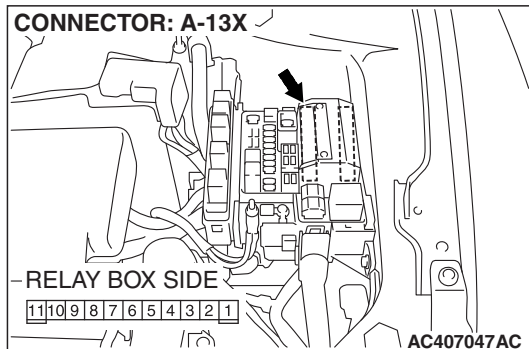
(2) Measure the voltage between terminal numbers 8 and ground, and also between terminal 9 and ground.

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

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

**YES :** Replace the front-ECU. Verify that the headlights (low-beam) illuminate normally.

**NO :** Go to Step 5.

**STEP 5. Check the wiring harness between front-ECU connector A-13X (terminals 8 and 9) and the battery.**

- Check the power supply line for open circuit and short circuit.

**Q: Is the wiring harness between front-ECU connector A-13X (terminals 8 and 9) and the battery in good condition?**

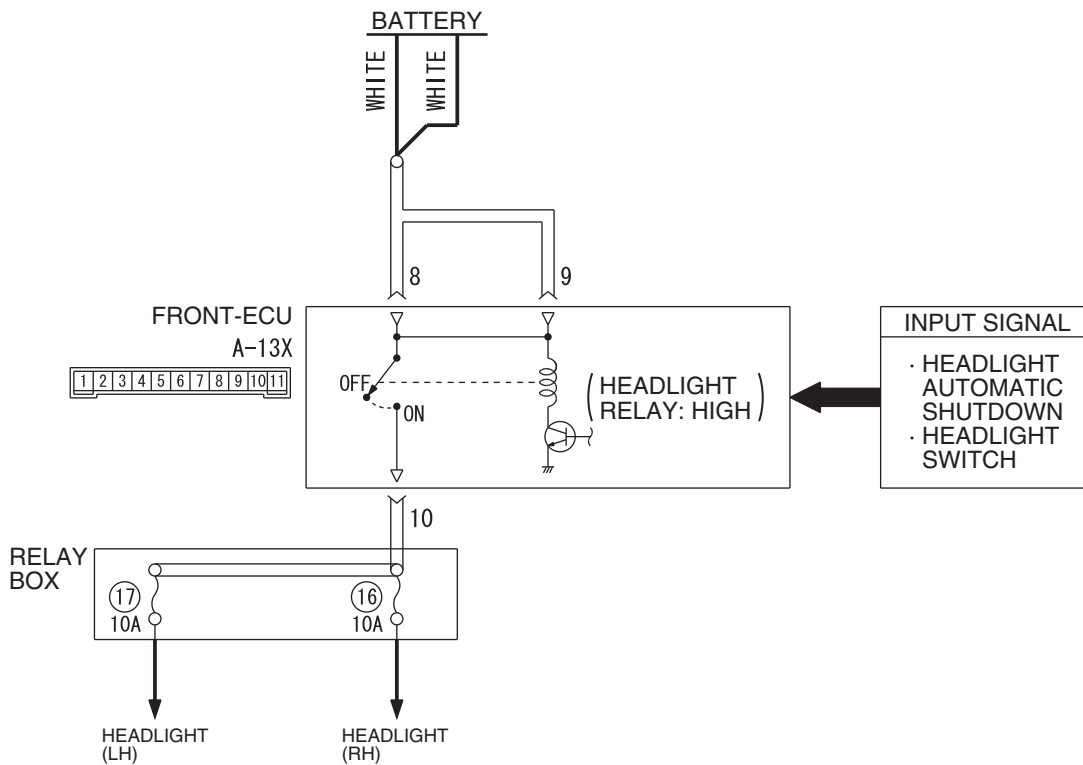
**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights (low-beam) illuminate normally.

**INSPECTION PROCEDURE I-3: Headlight and Taillight: The headlights (high-beam) do not illuminate normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

**Headlight Relay (High-Beam) Circuit**



W6P54M009A

**CIRCUIT OPERATION**

When the dimmer switch is turned on, the column switch sends a signal to the front-ECU. Then the front-ECU switches the headlights from low-beam to high beam or vice versa.

**TECHNICAL DESCRIPTION (COMMENT)**

If the headlights (high beam) do not illuminate normally, the column switch or the front-ECU may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The front-ECU may be defective

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.

- MB991827: M.U.T.-III USB Cable
- MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

Check the following ECUs:

- Column switch (column-ECU)
- Front-ECU

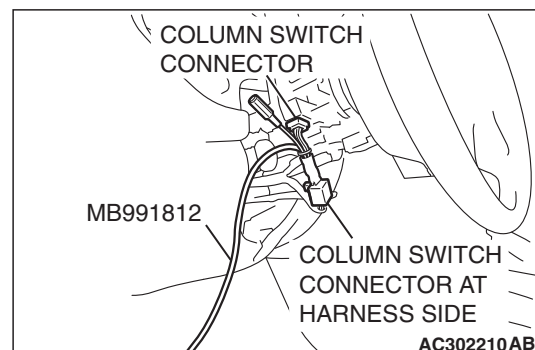
**To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.**

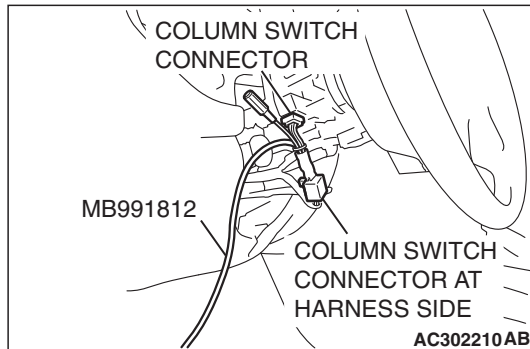
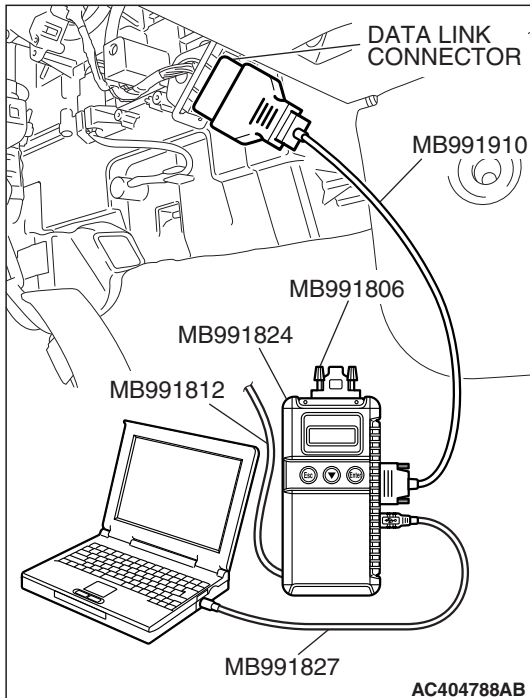
- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menus for both the "COLUMN ECU" and the "FRONT ECU" menus.

**"OK" are displayed for all the items : Go to Step 2.**

**"NG" is displayed for the "COLUMN ECU" menu :** Refer to Inspection Procedure A-2 "Communication with the column switch (column-ECU) is not possible  
P.54B-66 "

**"NG" is displayed for the "FRONT ECU" menu :** Refer to Inspection Procedure A-4 "Communication with the front-ECU is not possible P.54B-82."





**STEP 2. Check the input signal by using "FUNCTION DIAG." menu of the SWS monitor.**

Check the input signals from the following switches:

- Ignition switch: ON
- Lighting switch: HEAD
- Dimmer switch: ON

- (1) Operate scan tool MB991958 according to the procedure below to display "HEADLIGHT HI."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Function Diag."
  - f. Select "LIGHTING."
  - g. Select "HEADLIGHT HI."
- (2) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 00	HEADLIGHT SW	ON
ITEM 02	DIMMER SW	OFF (should turn "ON" momentarily when the dimmer switch is operated)
ITEM 35	H/L AUTO-CUT	OFF
ITEM 70	FRONT ECU ACK	HI-BEAM ACK

**Q: Does the scan tool MB991958 display the items "HEADLIGHT SW", "DIMMER SW", "H/L AUTO-CUT" and "FRONT ECU ACK" as normal condition?**

**Normal conditions are displayed for all the items :**

Replace the front-ECU. Verify that the headlights (high-beam) illuminate normally.

**Normal condition is not displayed for "HEADLIGHT SW" :**

Refer to Inspection Procedure M-6 "ETACS-ECU does not receive any signal from the headlight switch [P.54B-522.](#)"

**Normal condition is not displayed for "DIMMER SW" :**

Refer to Inspection Procedure M-6 "ETACS-ECU does not receive any signal from the dimmer switch [P.54B-522.](#)"

**Normal condition is not displayed for "H/L AUTO-CUT" :**

Refer to Inspection Procedure I-9 "Headlight automatic shutoff function does not work normally [P.54B-351.](#)"

**Normal condition is not displayed for "FRONT ECU ACK" :**

Replace the front-ECU. Verify that the headlights (high-beam) illuminate normally.

---

**INSPECTION PROCEDURE I-4: Headlight and Taillight: When the passing switch is turned "ON," the headlights (low-beam or high-beam) do not illuminate.**

---

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor [P.54B-15](#)."*

### TECHNICAL DESCRIPTION (COMMENT)

If both of the headlights (low-beam and high-beam) do not illuminate, the input circuit from the passing switch or the front-ECU may be defective.

### TROUBLESHOOTING HINTS

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The front-ECU may be defective

### DIAGNOSIS

#### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

---

#### STEP 1. Check the headlights.

**Q: Do the headlights (low-beam and high-beam) illuminate normally?**

**The headlights illuminate normally. :** Go to Step 2.

**Headlights (low-beam) do not illuminate normally :**

Refer to Inspection Procedure I-2 "The headlights (low-beam) do not illuminate normally [P.54B-273](#)."

**Headlights (high-beam) do not illuminate normally :**

Refer to Inspection Procedure I-3 "The headlights (high-beam) do not illuminate normally [P.54B-279](#)."

Turn the passing switch to the "ON" position before checking input signals from the passing switch.

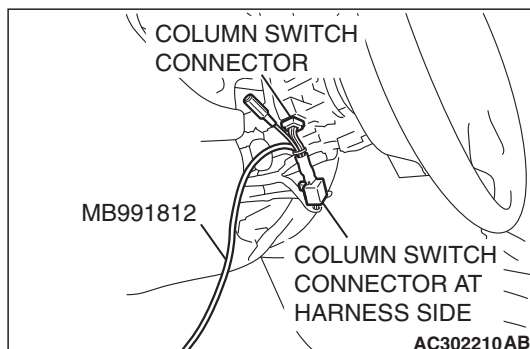
**To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.**

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Operate scan tool MB991958 according to the procedure below to display "COLUMN ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "COLUMN ECU."
- (3) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 03	PASSING SW	ON

**YES** : Replace the front-ECU. When the passing switch is turned "ON", the headlights (low-beam and high-beam) should illuminate normally.

**NO :** Refer to Inspection Procedure M-6 "ETACS-ECU does not receive any signal from the passing switch P.54B-522."





**INSPECTION PROCEDURE I-5: Headlight and Taillight:** Headlights do not illuminate when the lighting switch is at "TAIL," and "PASSING" position, but illuminate at low-beam when the switch is at "HEAD" position. At this position, the headlights cannot be changed to high beam by operating the dimmer switch.

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor [P.54B-15](#)."*

## TECHNICAL DESCRIPTION (COMMENT)

If the headlights illuminate at low-beam regardless of the lighting switch positions, the headlight operation is in fail-safe mode.

## TROUBLESHOOTING HINTS

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

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

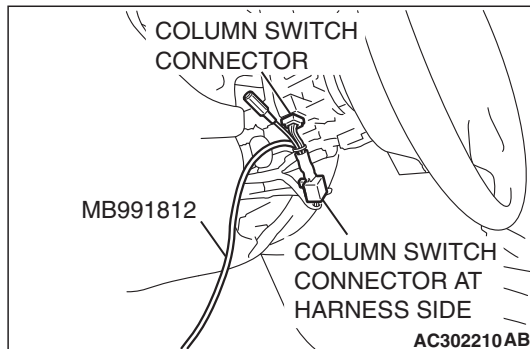
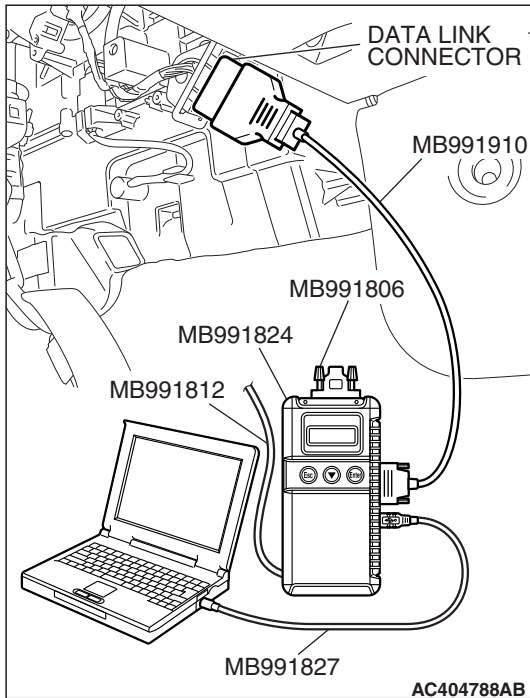
Check the following ECUs:

- ETACS-ECU
- Column-ECU
- Front-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. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.





- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "System select."
  - b. Select "SWS."
  - c. Select "SWS MONITOR."
  - d. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menus for the "ETACS ECU", "COLUMN ECU" and "FRONT ECU" menus.

**Q: Are "OK" displayed for both the "ETACS ECU", "COLUMN ECU" and "FRONT ECU" menus?**

**"OK" are displayed for all the items :** Replace the front-ECU. Verify that the headlights and the taillights illuminate normally.

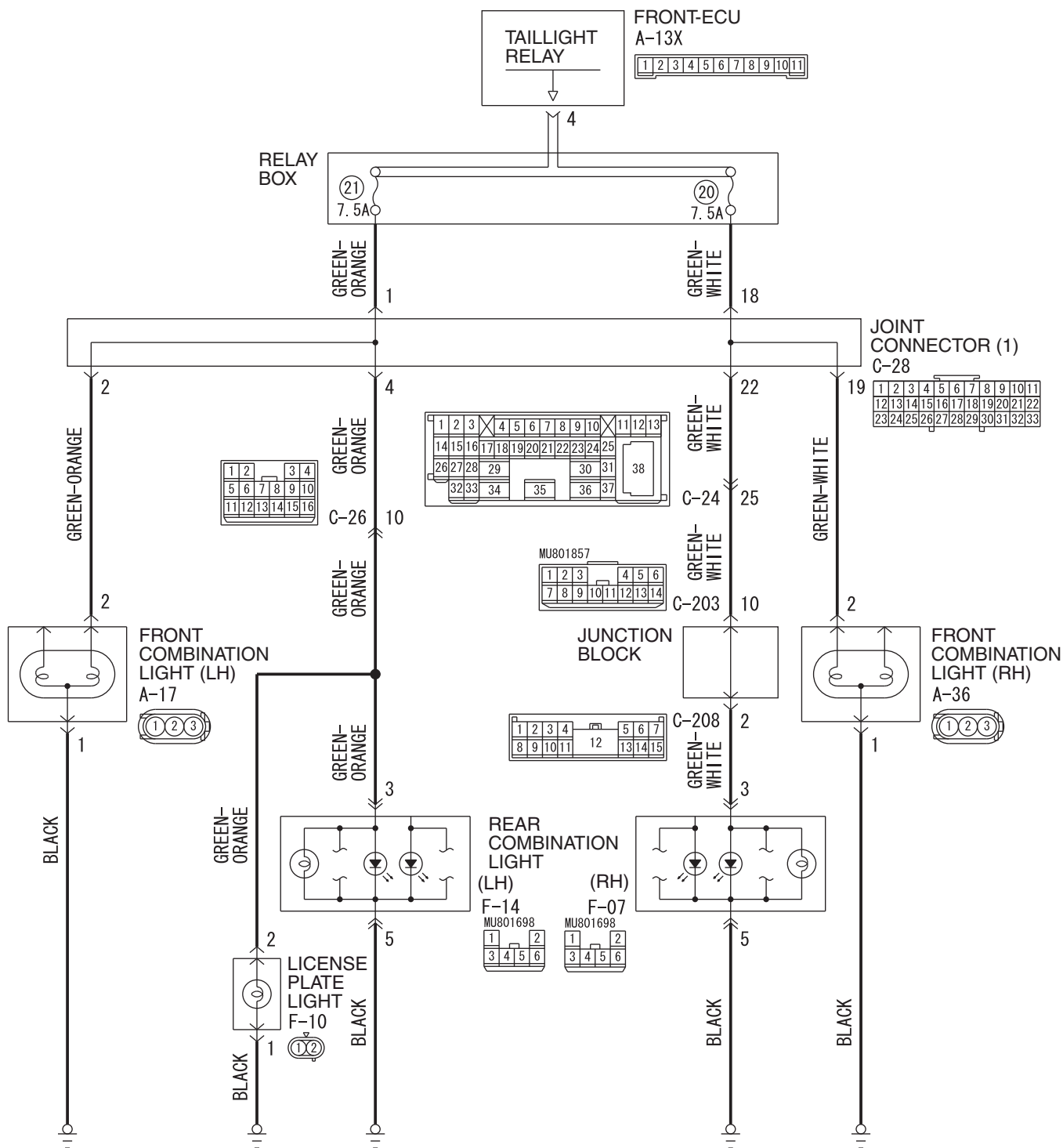
**"NG" is displayed for the "ETACS ECU" menu :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."

**"NG" is displayed for the "COLUMN ECU" menu :** Refer to Inspection Procedure A-2 "Communication with the column switch (column-ECU) is not possible [P.54B-66](#)."

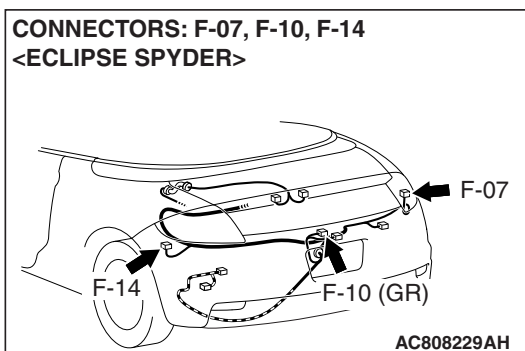
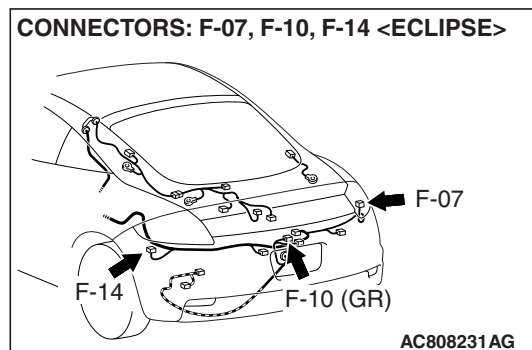
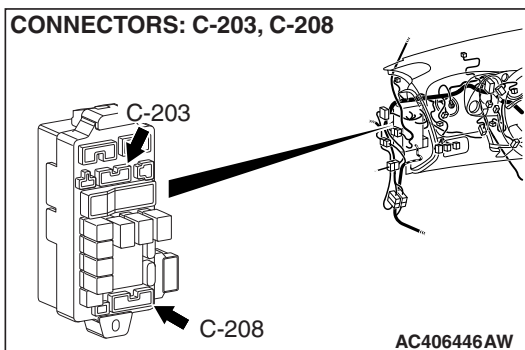
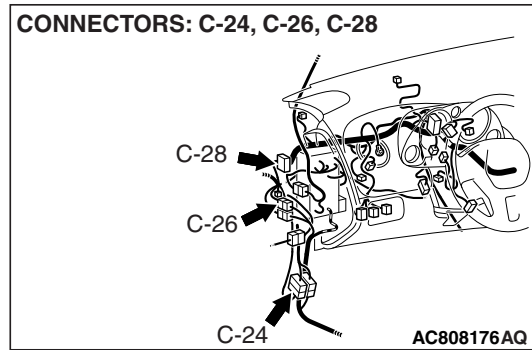
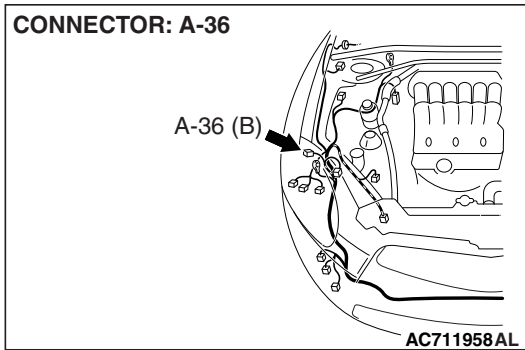
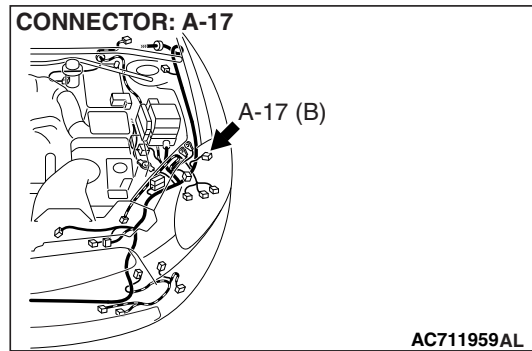
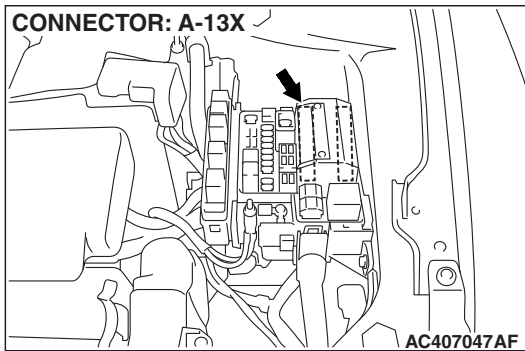
**"NG" is displayed for the "FRONT ECU" menu :** Refer to Inspection Procedure A-4 "Communication with the front-ECU is not possible [P.54B-82](#)."

**INSPECTION PROCEDURE I-6: Headlight and Taillight: The taillights, the front parking lights or the license plate light do not illuminate. <Halogen Type Headlight>**

### Taillights, Front Parking Lights and License Plate Light Circuit <Halogen Type Headlight>



WAP54M020A



## TECHNICAL DESCRIPTION (COMMENT)

If the front parking lights, the taillights or the license plate light do not illuminate, the wiring harness or connectors, their bulb may be defective.

## TROUBLESHOOTING HINTS

- The front parking light bulb may be defective
- The stop/taillight bulb may be defective
- The license plate light bulb 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

**STEP 1. Check the operation of each light.****Q: Which light does not illuminate?**

**Front parking light (LH), taillight (LH) and license plate light :** Go to Step 2.

**Front parking light (RH) and taillight (RH) :** Go to Step 4.

**Taillight (LH) and license plate light :** Go to Step 6.

**Taillight (LH) :** Go to Step 8.

**Taillight (RH) :** Go to Step 13.

**Front parking light (LH) :** Go to Step 19.

**Front parking light (RH) :** Go to Step 25.

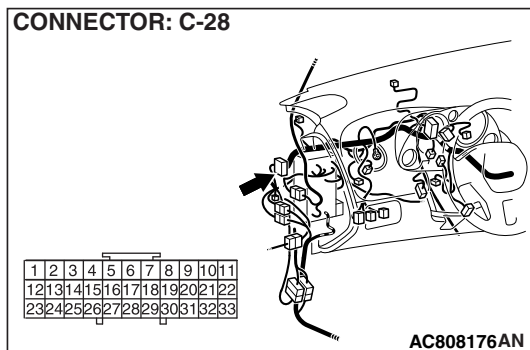
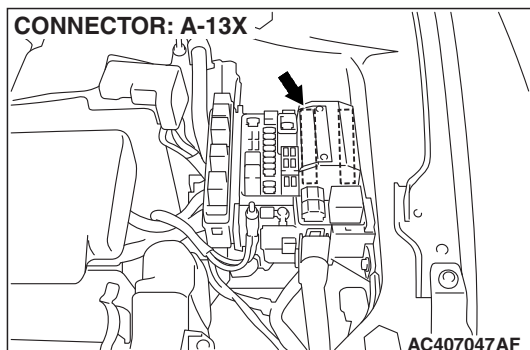
**License plate light :** Go to Step 31.

**All lights :** Refer to Inspection Procedure I-1 "The taillights do not illuminate normally [P.54B-268](#)."

**STEP 2. Check joint connector C-28 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.****Q: Are joint connector C-28 and front-ECU connector A-13X in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). The front parking light (LH), taillight (LH) and the license plate light should illuminate normally.



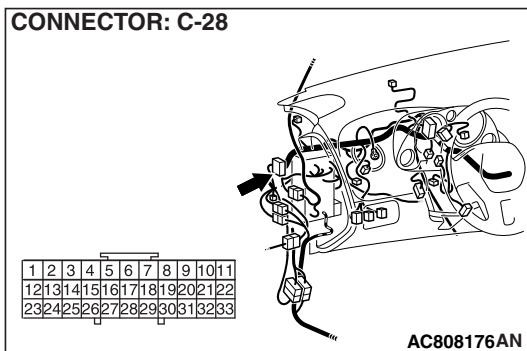
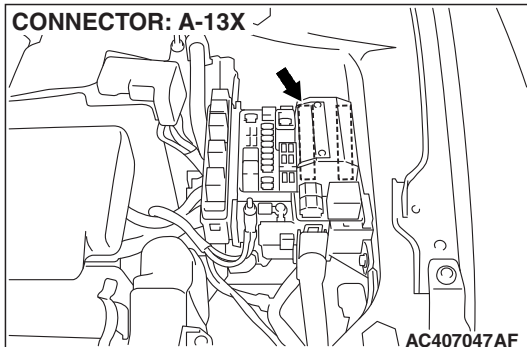
**STEP 3. Check the wiring harness between joint connector C-28 (terminal 1) and front-ECU connector A-13X (terminal 4).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between joint connector C-28 (terminal 1) and front-ECU connector A-13X (terminal 4) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The front parking light (LH), taillight (LH) and the license plate light should illuminate normally.



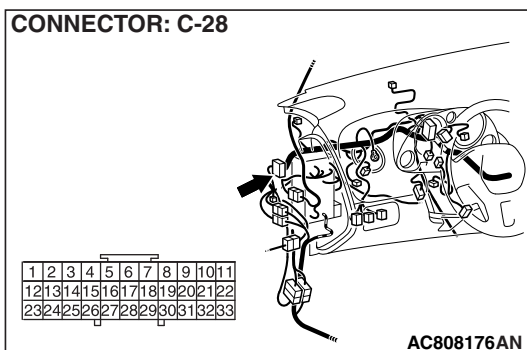
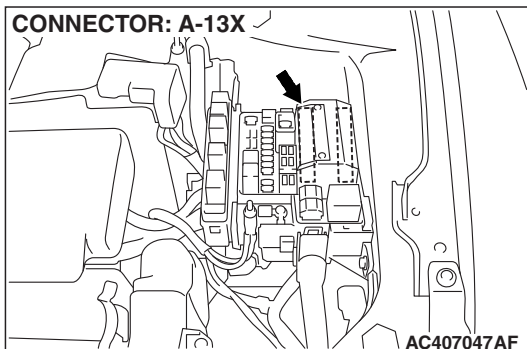
**STEP 4. Check joint connector C-28 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

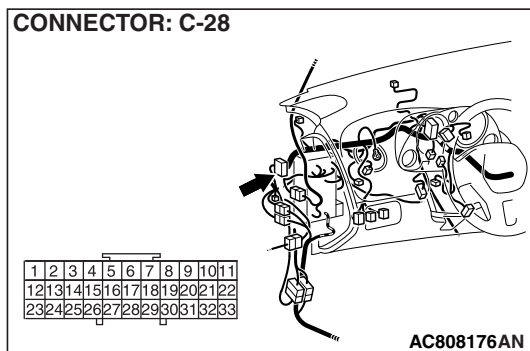
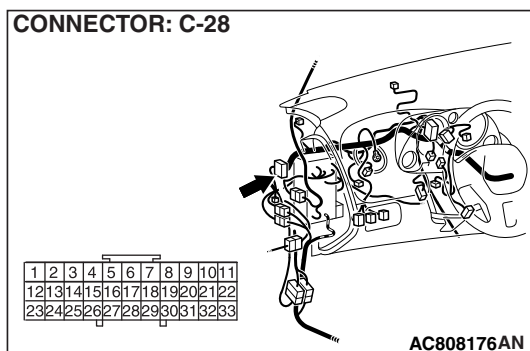
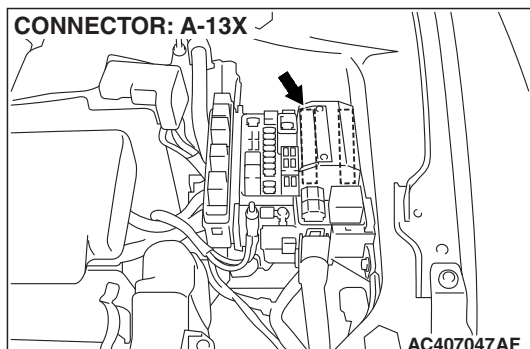
**Q: Are joint connector C-28 and front-ECU connector A-13X in good condition?**

**YES :** Go to Step 5.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** The front parking light (RH) and the taillight (RH) should illuminate normally.





**STEP 5. Check the wiring harness between joint connector C-28 (terminal 18) and front-ECU connector A-13X (terminal 4).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between joint connector C-28 (terminal 18) and front-ECU connector A-13X (terminal 4) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The front parking light (RH) and the taillight (RH) should illuminate normally.

**STEP 6. Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is joint connector C-28 in good condition?**

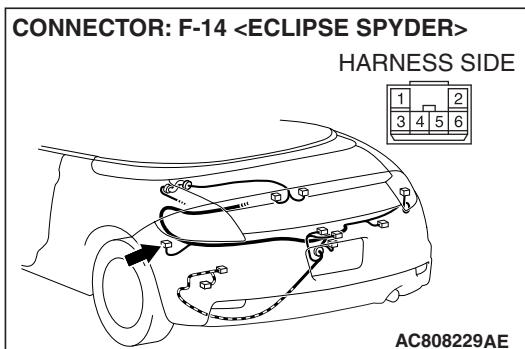
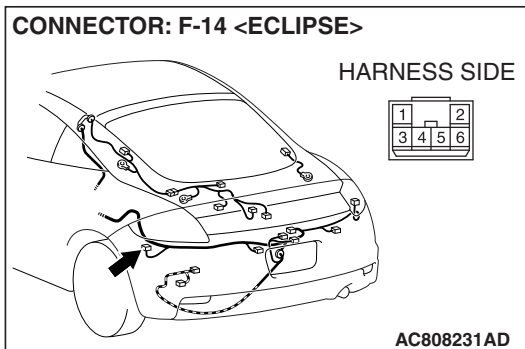
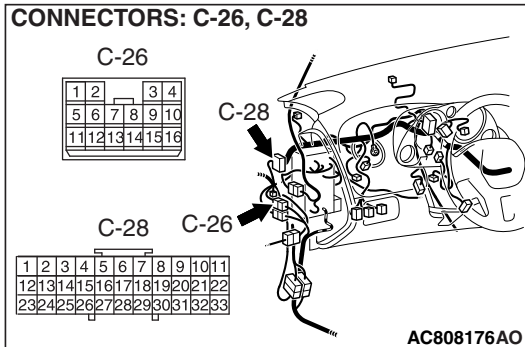
**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** The taillight (LH) and the license plate light should illuminate normally.

**STEP 7. Check the wiring harness between joint connector C-28 (terminal 4) and rear combination light (LH) connector F-14 (terminal 3).**

- Check the communication lines for open circuit and short circuit.

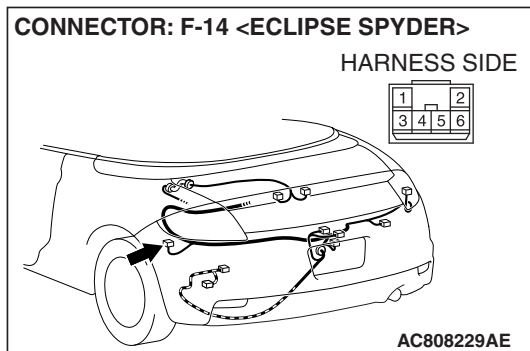
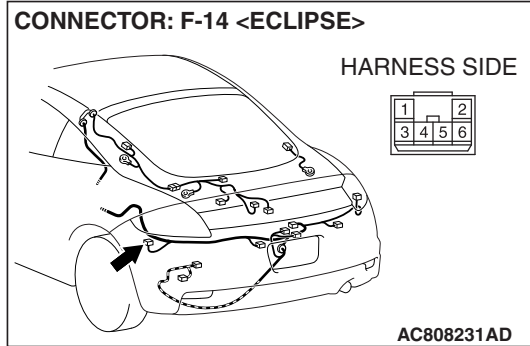


*NOTE: Also check intermediate connector C-26 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-26 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between joint connector C-28 (terminal 4) and rear combination light (LH) connector F-14 (terminal 3) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The taillight (LH) and the license plate light should illuminate normally.



**STEP 8. Check rear combination light (LH) connector F-14 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear combination light (LH) connector F-14 in good condition?**

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the taillight (LH) illuminates normally.

**STEP 9. Check the stop/taillight bulb (LH).**

(1) Remove the stop/taillight bulb (LH).

(2) Verify that the stop/taillight bulb (LH) is not damaged or burned out.

**Q: Is the stop/taillight bulb (LH) in good condition?**

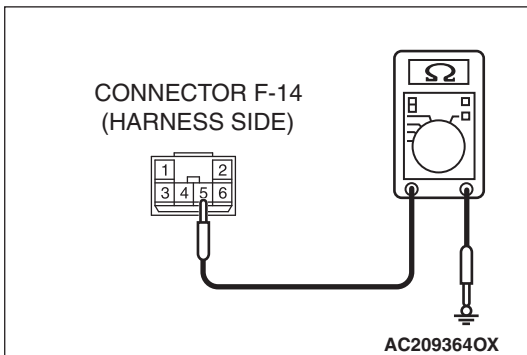
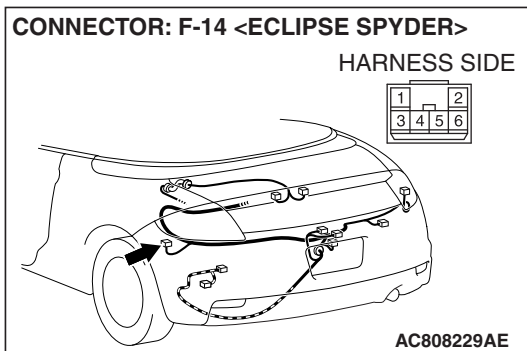
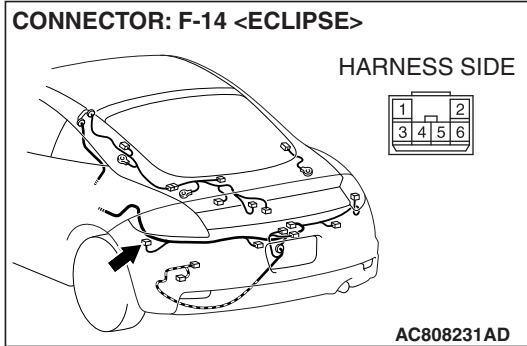
**YES :** Go to Step 10.

**NO :** Replace the stop/taillight bulb (LH). Verify that the taillight (LH) illuminates normally.



**STEP 10. Check the ground circuit to the rear combination light (LH). Measure the resistance at rear combination light (LH) connector F-14.**

- (1) Disconnect rear combination light (LH) connector F-14 and measure the resistance available at the wiring harness side of the connector.

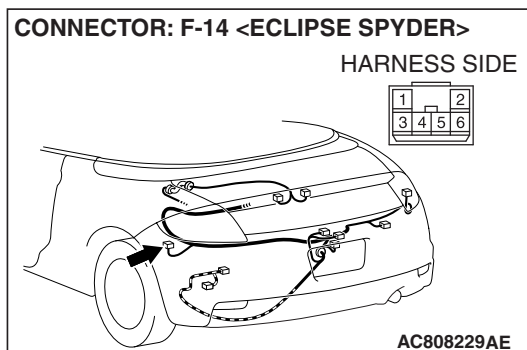
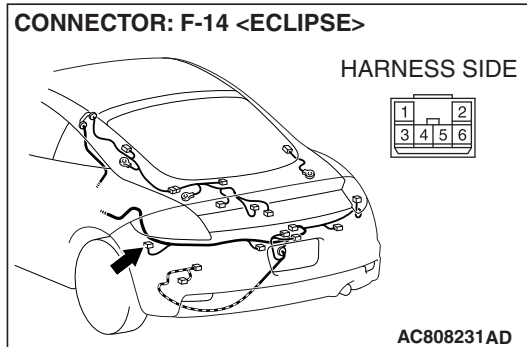


- (2) Measure the resistance value between terminal 5 and ground.
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 12.

**NO :** Go to Step 11.



**STEP 11. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground in good condition?**

**YES :** Replace the rear combination light socket (LH). Verify that the taillight (LH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (LH) illuminates normally.

**STEP 12. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 3) and intermediate connector C-26 (terminal 10).**

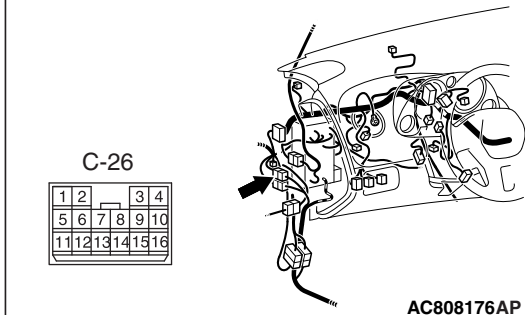
- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between rear combination light (LH) connector F-14 (terminal 3) and intermediate connector C-26 (terminal 10) in good condition?**

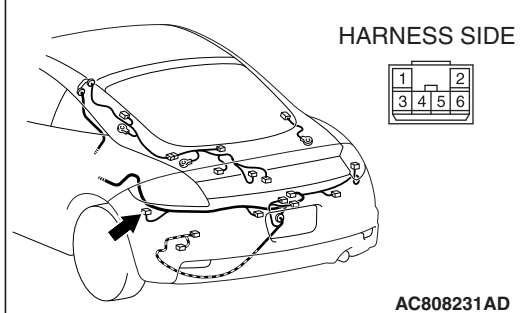
**YES :** Replace the rear combination light socket (LH). Verify that the taillight (LH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (LH) illuminates normally.

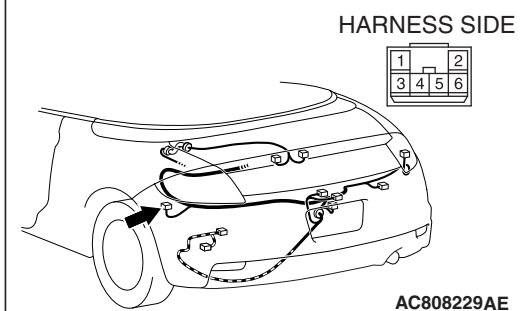
**CONNECTOR: C-26**

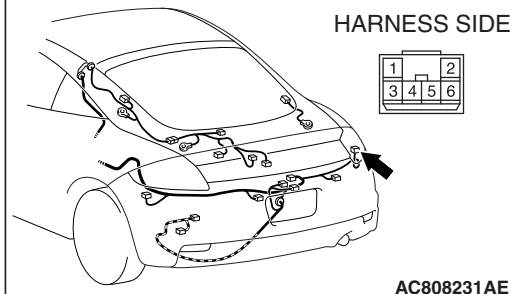
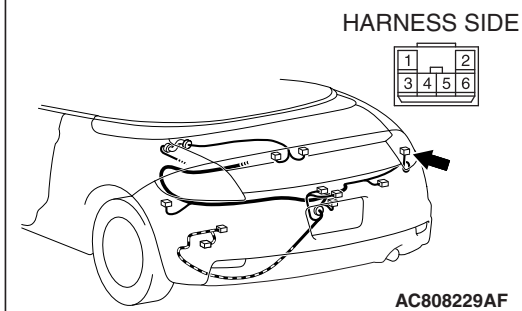


**CONNECTOR: F-14 <ECLIPSE>**



**CONNECTOR: F-14 <ECLIPSE SPYDER>**



**CONNECTOR: F-07 <ECLIPSE>****CONNECTOR: F-07 <ECLIPSE SPYDER>**

**STEP 13. Check rear combination light (RH) connector F-07 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear combination light (RH) connector F-07 in good condition?**

**YES :** Go to Step 14.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the taillight (RH) illuminates normally.

**STEP 14. Check the stop/taillight bulb (RH).**

- (1) Remove the stop/taillight bulb (RH).
- (2) Verify that the stop/taillight bulb (RH) is not damaged or burned out.

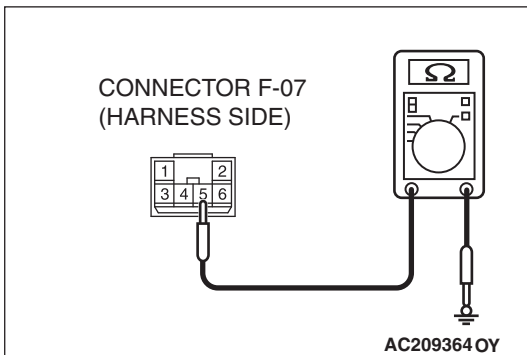
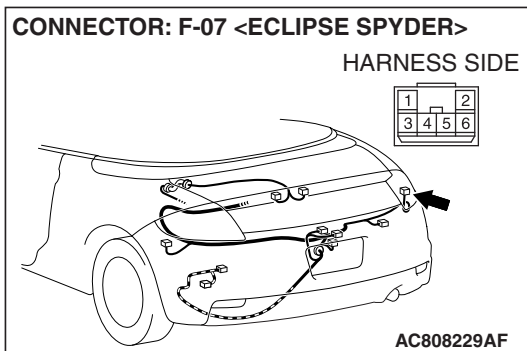
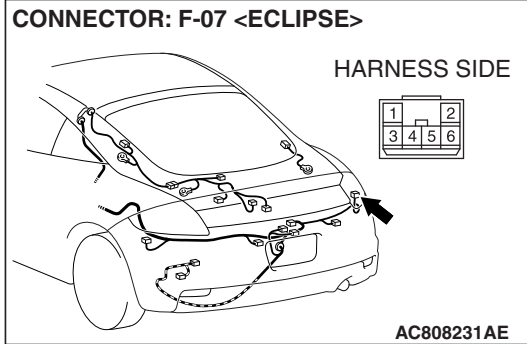
**Q: Is the stop/taillight bulb (RH) in good condition?**

**YES :** Go to Step 15.

**NO :** Replace the stop/taillight bulb (RH). Verify that the taillight (RH) illuminates normally.

**STEP 15. Check the ground circuit to the rear combination light (RH). Measure the resistance at rear combination light (RH) connector F-07.**

- (1) Disconnect rear light (RH) connector F-07 and measure the resistance available at the wiring harness side of the connector.



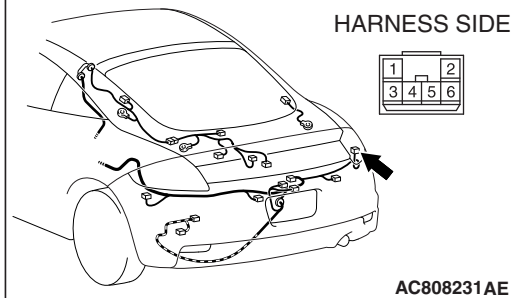
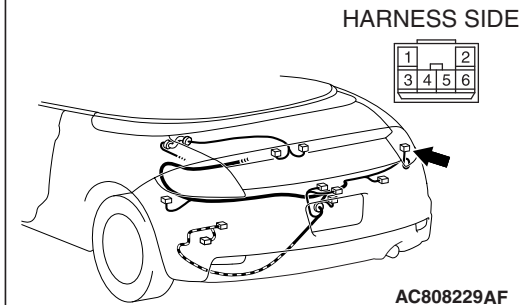
- (2) Measure the resistance value between terminal 5 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 17.

**NO :** Go to Step 16.

**CONNECTOR: F-07 <ECLIPSE>****CONNECTOR: F-07 <ECLIPSE SPYDER>**

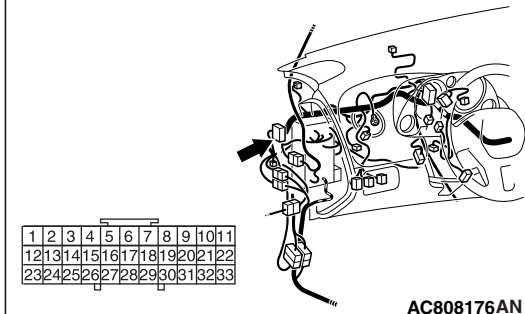
**STEP 16. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground in good condition?**

**YES :** Replace the rear combination light socket (RH). Verify that the taillight (RH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (RH) illuminates normally.

**CONNECTOR: C-28**

**STEP 17. Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

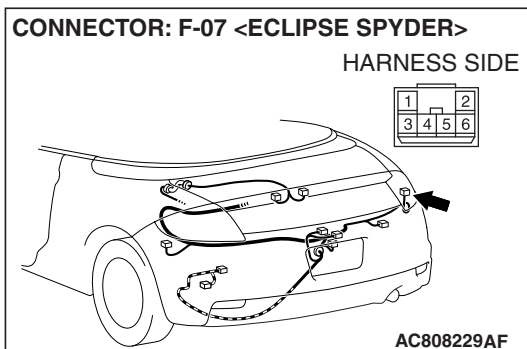
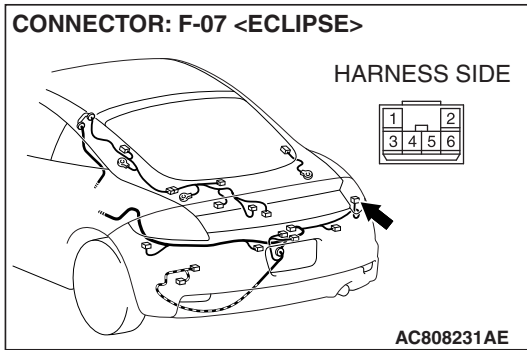
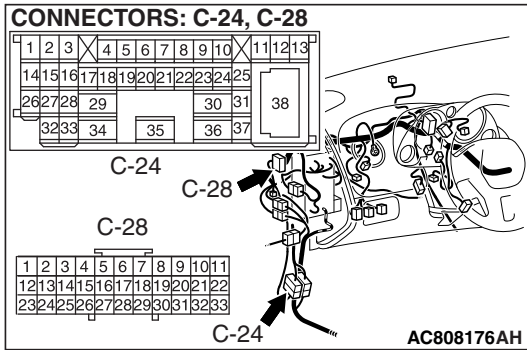
**Q: Is joint connector C-28 in good condition?**

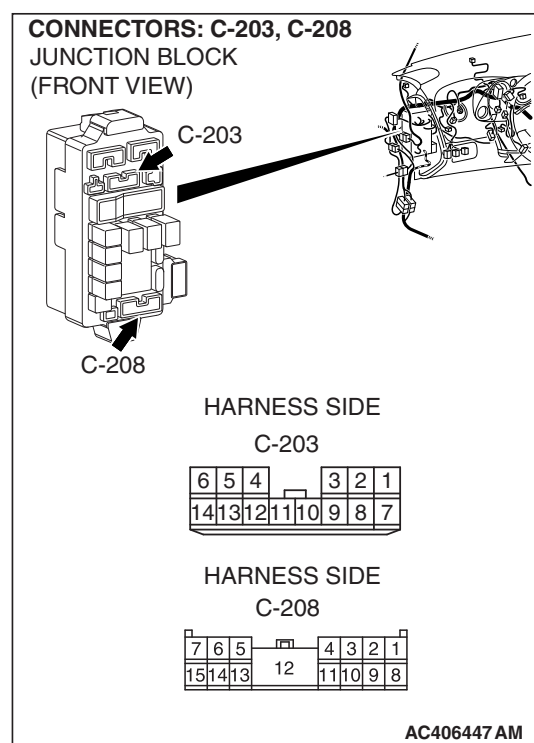
**YES :** Go to Step 18.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the taillight (RH) illuminates normally.

**STEP 18. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 3) and joint connector C-28 (terminal 22).**

- Check the communication lines for open circuit and short circuit.



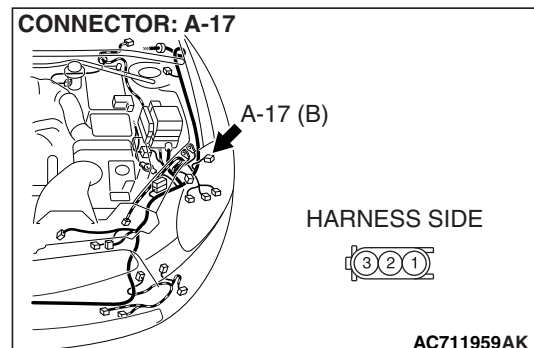


**NOTE:** Also check intermediate connector C-24, junction block connectors C-203 and C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-24, junction block connector C-203 or C-208 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

**Q: Is the wiring harness between rear combination light (RH) connector F-07 (terminal 3) and joint connector C-28 (terminal 22) in good condition?**

**YES :** Replace the rear combination light socket (RH). Verify that the taillight (RH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (RH) illuminates normally.



**STEP 19. Check front combination light (LH) connector A-17 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front combination light (LH) connector A-17 in good condition?**

**YES :** Go to Step 20.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (LH) illuminates normally.

**STEP 20. Check the front parking light bulb (LH).**

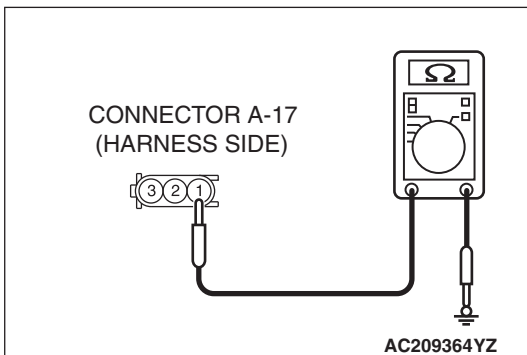
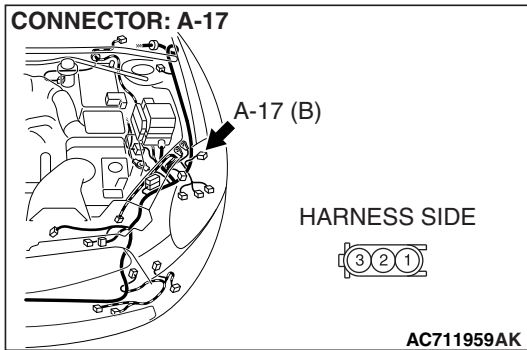
- (1) Remove the front parking light bulb (LH).
- (2) Verify that the front parking light bulb (LH) is not damaged or burned out.

**Q: Is the front parking light bulb (LH) in good condition?**

**YES :** Go to Step 21.

**NO :** Replace the front parking light bulb (LH). Verify that the front parking light (LH) illuminates normally.





**STEP 21. Check the ground circuit to the front parking light (LH). Measure the resistance at front combination light (LH) connector A-17.**

(1) Disconnect front combination light (LH) connector A-17 and measure the resistance available at the wiring harness side of the connector.

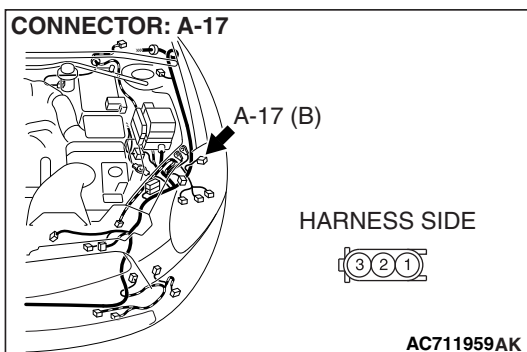
(2) Measure the resistance value between terminal 1 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 23.

**NO :** Go to Step 22.



**STEP 22. Check the wiring harness between front combination light (LH) connector A-17 (terminal 1) and ground.**

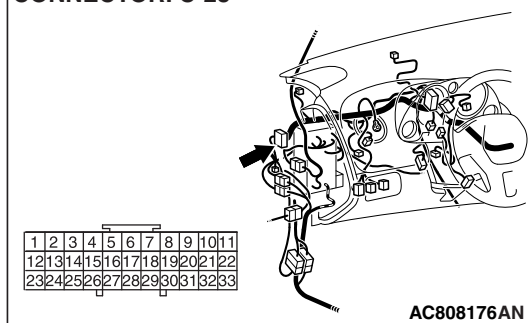
- Check the ground wire for open circuit.

**Q: Is the wiring harness between front combination light (LH) connector A-17 (terminal 1) and ground in good condition?**

**YES :** Replace the front combination light socket (LH). Verify that the front parking light (LH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (LH) illuminates normally.

CONNECTOR: C-28



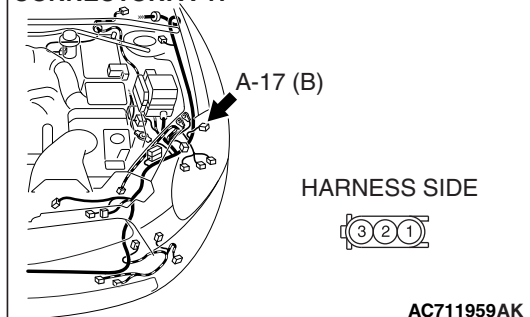
**STEP 23. Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is joint connector C-28 in good condition?**

**YES :** Go to Step 24.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (LH) illuminates normally.

CONNECTOR: A-17



**STEP 24. Check the wiring harness between front combination light (LH) connector A-17 (terminal 2) and joint connector C-28 (terminal 2).**

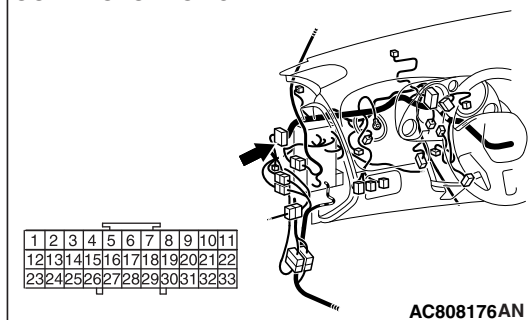
- Check the communication lines for open circuit and short circuit.

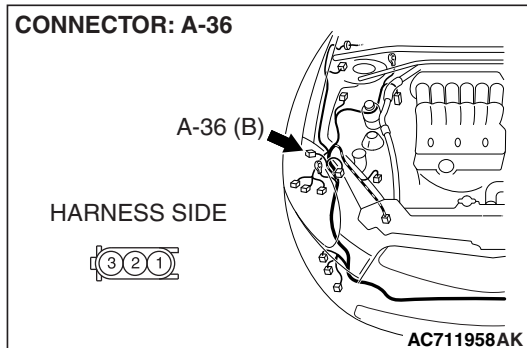
**Q: Is the wiring harness between front combination light (LH) connector A-17 (terminal 2) and joint connector C-28 (terminal 2) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (LH) illuminates normally.

CONNECTOR: C-28





**STEP 25. Check front combination light (RH) connector A-36 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front combination light (RH) connector A-36 in good condition?**

**YES :** Go to Step 26.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (RH) illuminates normally.

**STEP 26. Check the front parking light bulb (RH).**

- (1) Remove the front parking light bulb (RH).
- (2) Verify that the front parking light bulb (RH) is not damaged or burned out.

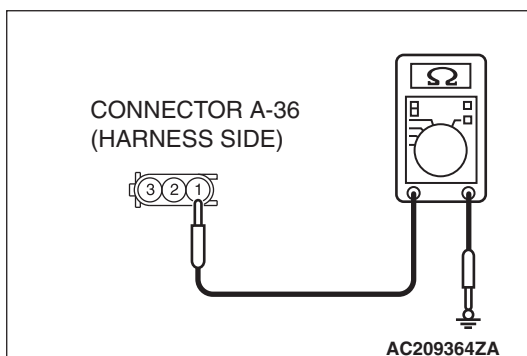
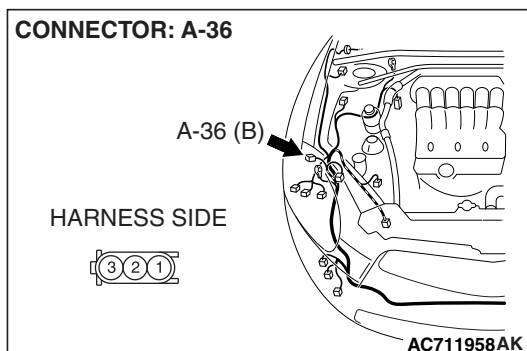
**Q: Is the front parking light bulb (RH) in good condition?**

**YES :** Go to Step 27.

**NO :** Replace the front side marker light bulb (RH). Verify that the front parking light (RH) illuminates normally.

**STEP 27. Check the ground circuit to the front parking light (RH). Measure the resistance at front combination light (RH) connector A-36.**

- (1) Disconnect front combination light (RH) connector A-36, and measure the resistance available at the harness side of the connector.



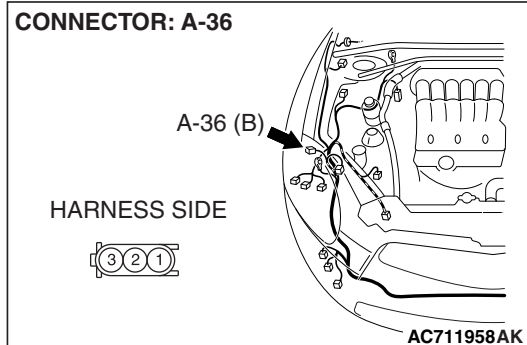
- (2) Measure the resistance value between terminal 1 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 29.

**NO :** Go to Step 28.



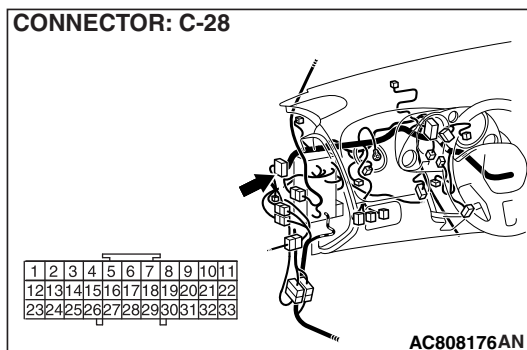
**STEP 28. Check the wiring harness between front combination light (RH) connector A-36 (terminal 1) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between front combination light (RH) connector A-36 (terminal 1) and ground in good condition?**

**YES :** Replace the front combination light socket (RH). Verify that the front parking light (RH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (RH) illuminates normally.

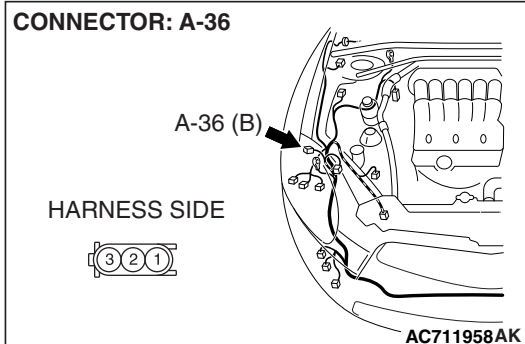


**STEP 29. Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is joint connector C-28 in good condition?**

**YES :** Go to Step 30.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (RH) illuminates normally.



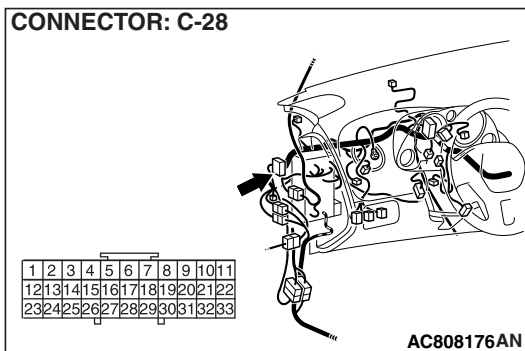
**STEP 30. Check the wiring harness between front combination light (RH) connector A-36 (terminal 2) and joint connector C-28 (terminal 19).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between front combination light (RH) connector A-36 (terminal 2) and joint connector C-28 (terminal 19) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (RH) illuminates normally.



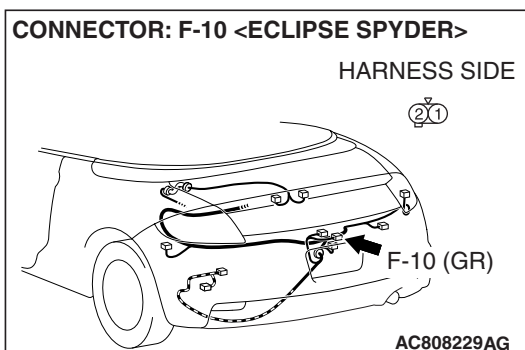
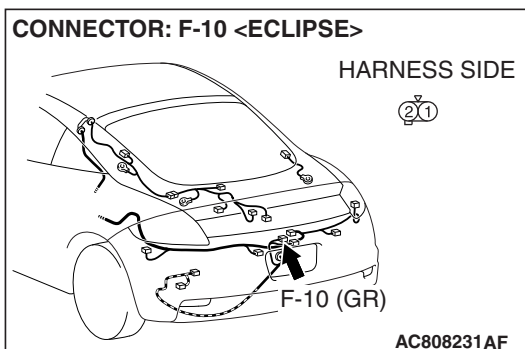
**STEP 31. Check license plate light connector F-10 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is license plate light connector F-10 in good condition?**

**YES :** Go to Step 32.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the license plate light illuminate normally.

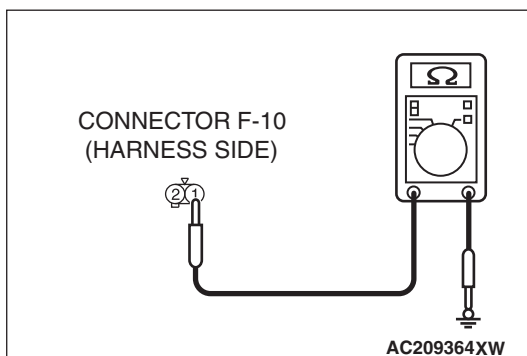
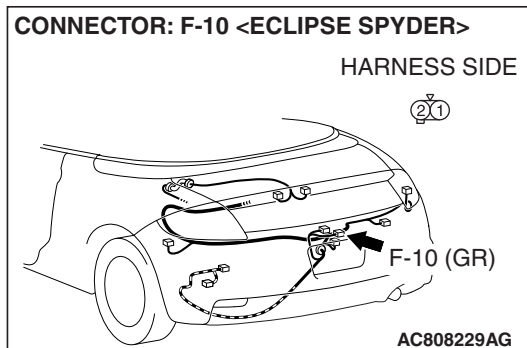
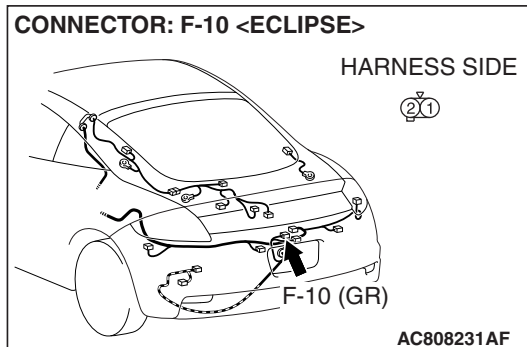


**STEP 32. Check the license plate light bulb.**

- (1) Remove the license plate light bulb.
- (2) Verify that the license plate light bulb is not damaged or burned out.

**Q: Is the license plate light bulb in good condition?****YES** : Go to Step 33.**NO** : Replace the license plate light bulb. Verify that the license plate light illuminate normally.**STEP 33. Check the ground circuit to the license plate light. Measure the resistance at license plate light connector F-10.**

- (1) Disconnect license plate light connector F-10 and measure the resistance available at the wiring harness side of the connector.

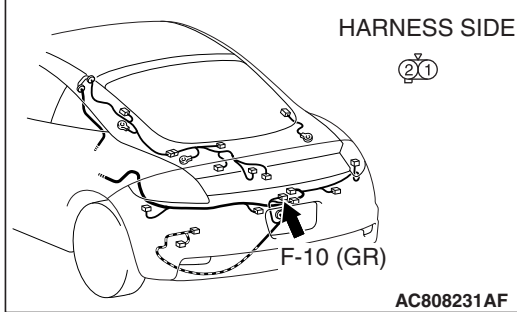


- (2) Measure the resistance value between terminal 1 and ground.

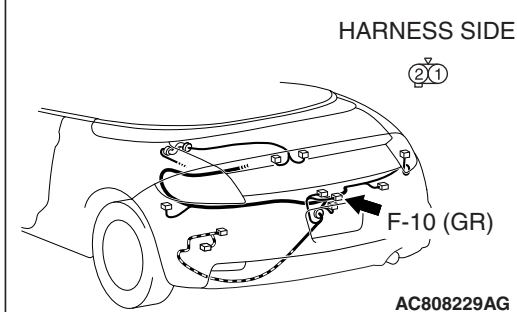
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?****YES** : Go to Step 35.**NO** : Go to Step 34.

CONNECTOR: F-10 <ECLIPSE>



CONNECTOR: F-10 <ECLIPSE SPYDER>



**STEP 34. Check the wiring harness between license plate light connector F-10 (terminal 1) and ground.**

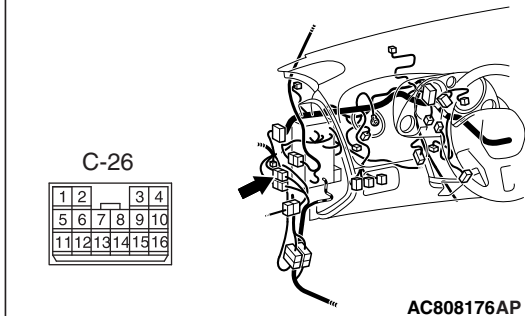
- Check the ground wire for open circuit.

**Q: Is the wiring harness between license plate light connector F-10 (terminal 1) and ground in good condition?**

**YES :** Replace the license plate light socket. Verify that the license plate light illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the license plate light illuminate normally.

CONNECTOR: C-26

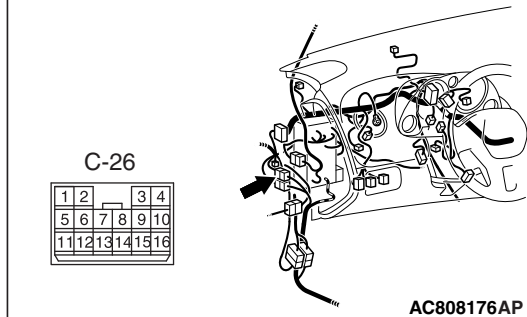


**STEP 35. Check intermediate connector C-26 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is intermediate connector C-26 in good condition?**

**YES :** Go to Step 36.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the license plate light illuminate normally.

**CONNECTOR: C-26**

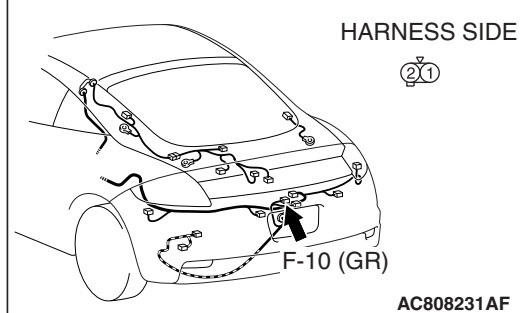
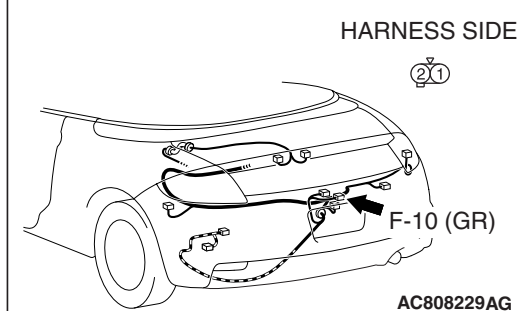
**STEP 36. Check the wiring harness between license plate light connector F-10 (terminal 2) and intermediate connector C-26 (terminal 10).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between license plate light connector F-10 (terminal 2) and intermediate connector C-26 (terminal 10) in good condition?**

**YES :** Replace the license plate light socket. Verify that the license plate light illuminate normally.

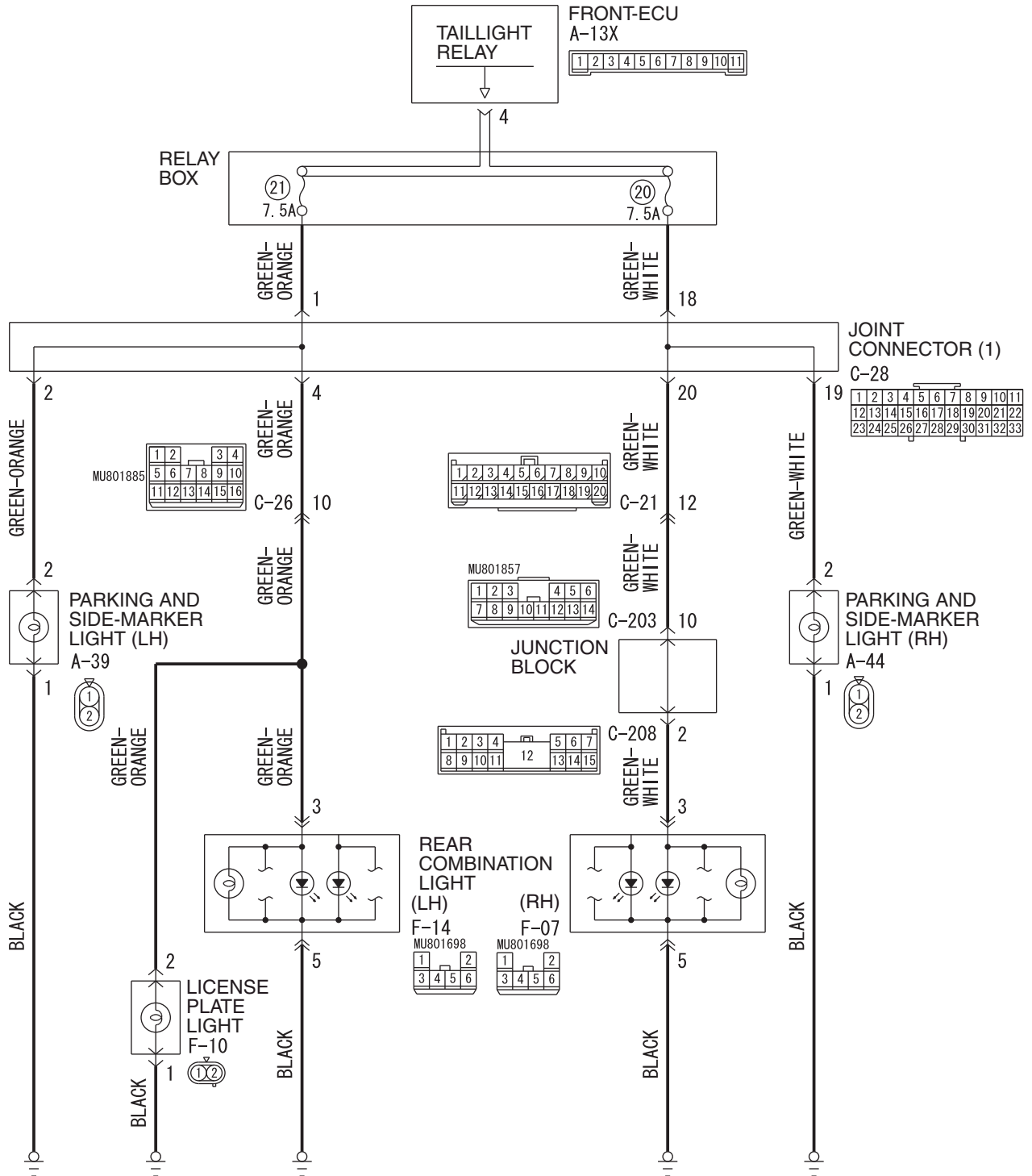
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the license plate light illuminate normally.

**CONNECTOR: F-10 <ECLIPSE>****CONNECTOR: F-10 <ECLIPSE SPYDER>**

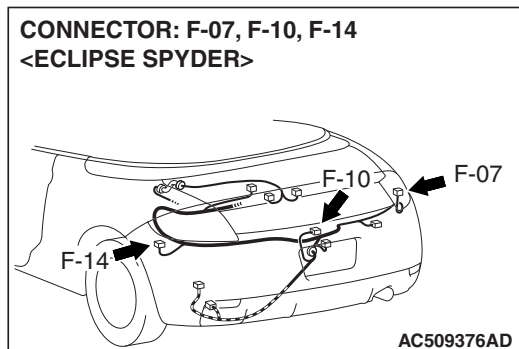
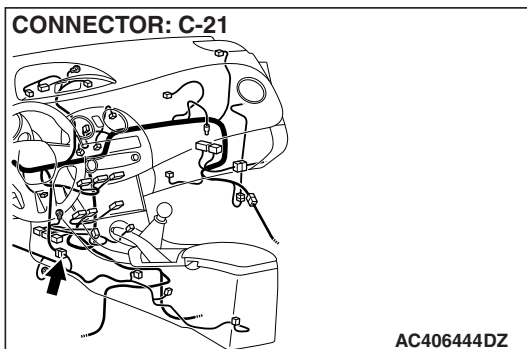
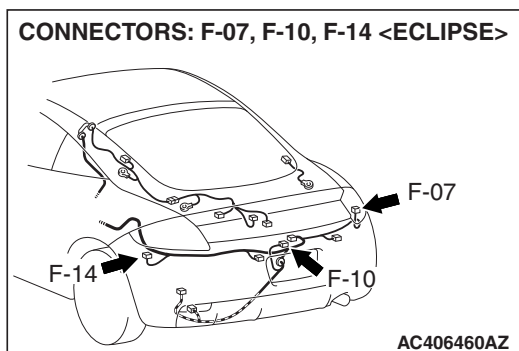
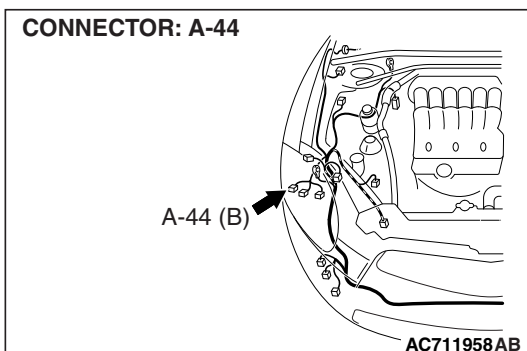
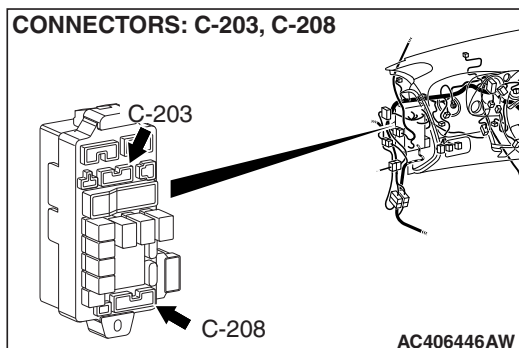
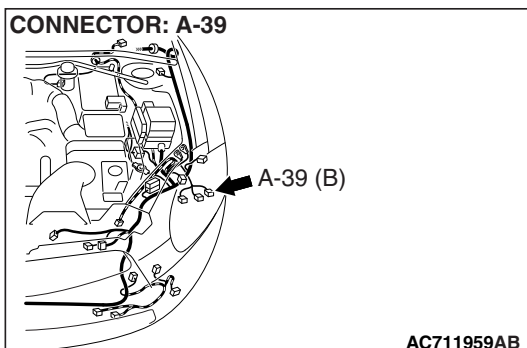
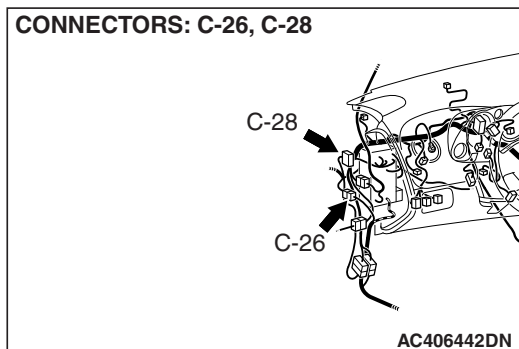
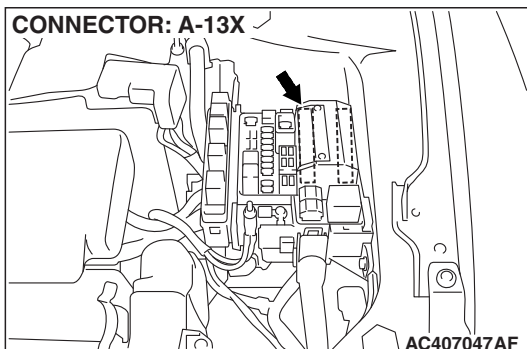


**INSPECTION PROCEDURE I-6: Headlight and Taillight: The taillights, the front parking lights or the license plate light do not illuminate. <Discharge Type Headlight>**

**Taillights, Front Parking Lights and License Plate Light Circuit <Discharge Type Headlight>**



WAP54M021A



### TECHNICAL DESCRIPTION (COMMENT)

If the front parking lights, the taillights or the license plate light do not illuminate, the wiring harness or connectors, their bulb may be defective.

### TROUBLESHOOTING HINTS

- The front parking light bulb may be defective
- The stop/taillight bulb may be defective
- The license plate light bulb 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

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### STEP 1. Check the operation of each light.

#### Q: Which light does not illuminate?

Front parking light (LH), taillight (LH) and license plate light : Go to Step 2.

Front parking light (RH) and taillight (RH) : Go to Step 4.

Taillight (LH) and license plate light : Go to Step 6.

Taillight (LH) : Go to Step 8.

Taillight (RH) : Go to Step 13.

Front parking light (LH) : Go to Step 19.

Front parking light (RH) : Go to Step 25.

License plate light : Go to Step 31.

All lights : Refer to Inspection Procedure I-1 "The taillights do not illuminate normally [P.54B-268](#)."

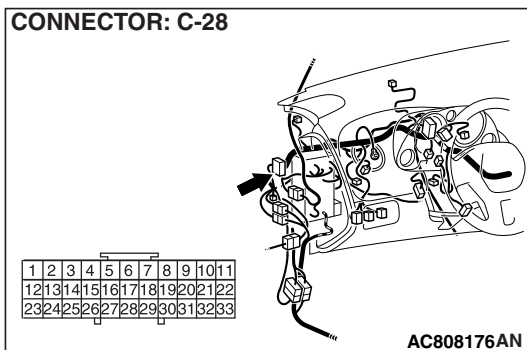
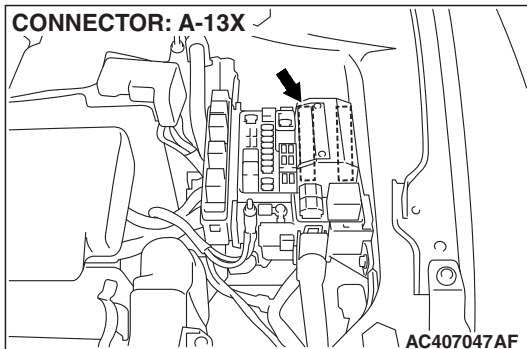
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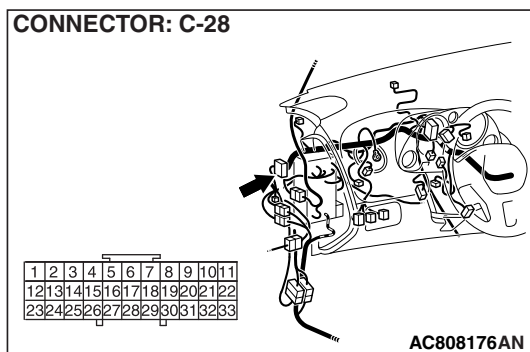
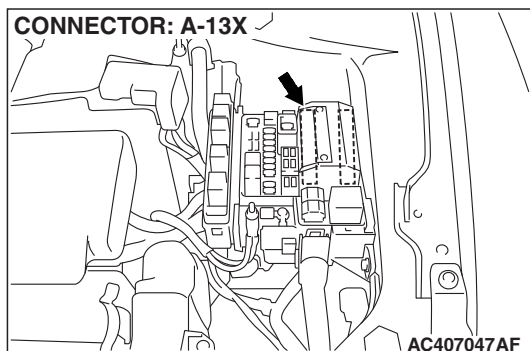
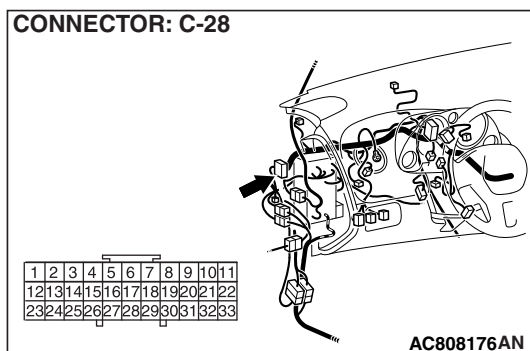
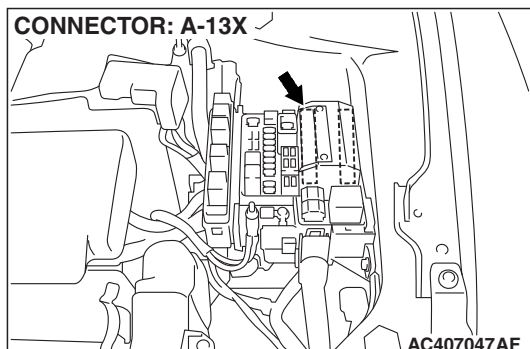
### STEP 2. Check joint connector C-28 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.

#### Q: Are joint connector C-28 and front-ECU connector A-13X in good condition?

YES : Go to Step 3.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). The front parking light (LH), taillight (LH) and the license plate light should illuminate normally.





**STEP 3. Check the wiring harness between joint connector C-28 (terminal 1) and front-ECU connector A-13X (terminal 4).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between joint connector C-28 (terminal 1) and front-ECU connector A-13X (terminal 4) in good condition?**

**YES :** No action is necessary and testing is complete.

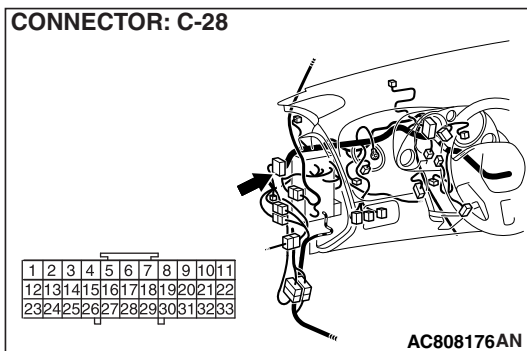
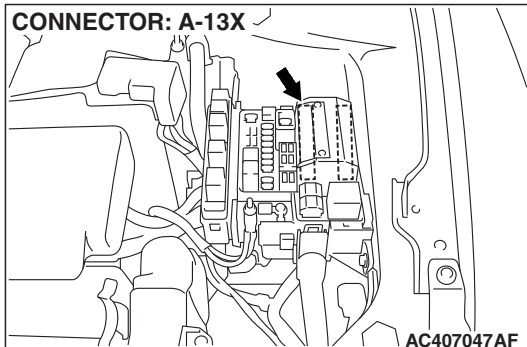
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The front parking light (LH), taillight (LH) and the license plate light should illuminate normally.

**STEP 4. Check joint connector C-28 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are joint connector C-28 and front-ECU connector A-13X in good condition?**

**YES :** Go to Step 5.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). The front parking light (RH) and the taillight (RH) should illuminate normally.



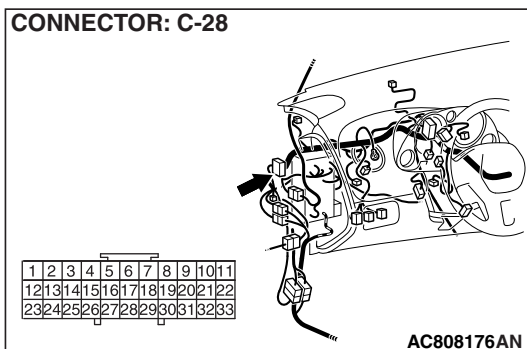
**STEP 5. Check the wiring harness between joint connector C-28 (terminal 18) and front-ECU connector A-13X (terminal 4).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between joint connector C-28 (terminal 18) and front-ECU connector A-13X (terminal 4) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The front parking light (RH) and the taillight (RH) should illuminate normally.



**STEP 6. Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is joint connector C-28 in good condition?**

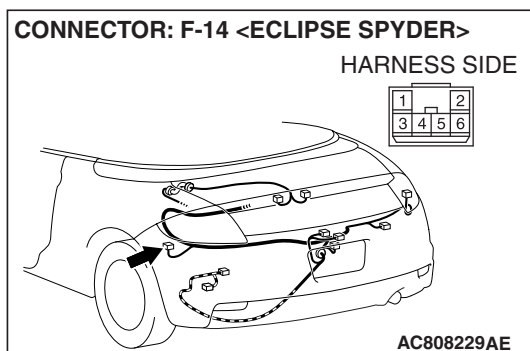
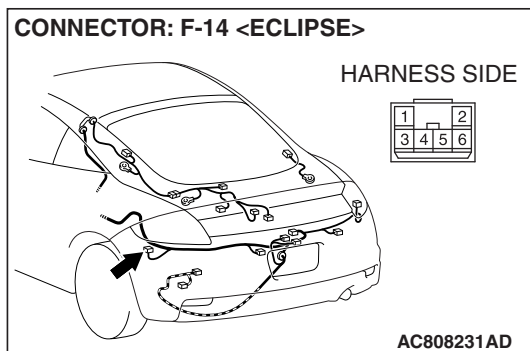
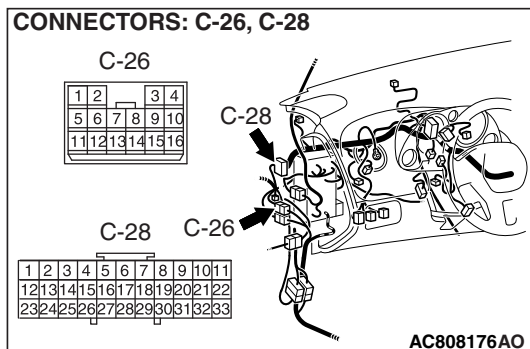
**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** The taillight (LH) and the license plate light should illuminate normally.

**STEP 7. Check the wiring harness between joint connector C-28 (terminal 4) and rear combination light (LH) connector F-14 (terminal 3).**

- Check the communication lines for open circuit and short circuit.



**NOTE:** Also check intermediate connector C-26 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-26 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

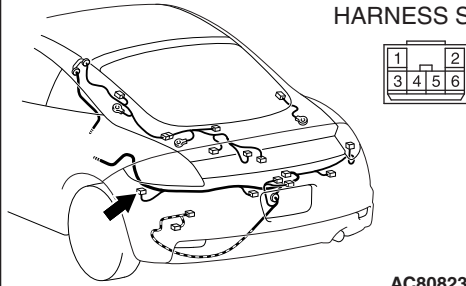
**Q: Is the wiring harness between joint connector C-28 (terminal 4) and rear combination light (LH) connector F-14 (terminal 3) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The taillight (LH) and the license plate light should illuminate normally.

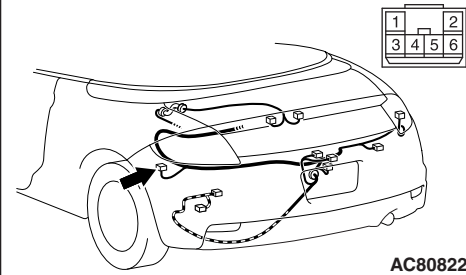
**CONNECTOR: F-14 <ECLIPSE>**

HARNESS SIDE



**CONNECTOR: F-14 <ECLIPSE SPYDER>**

HARNESS SIDE



**STEP 8. Check rear combination light (LH) connector F-14 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear combination light (LH) connector F-14 in good condition?**

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the taillight (LH) illuminates normally.

**STEP 9. Check the stop/taillight bulb (LH).**

(1) Remove the stop/taillight bulb (LH).

(2) Verify that the stop/taillight bulb (LH) is not damaged or burned out.

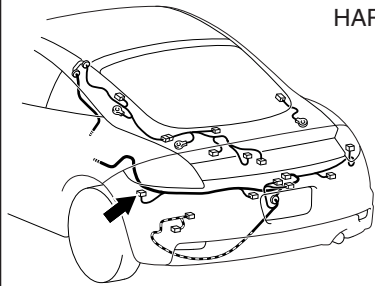
**Q: Is the stop/taillight bulb (LH) in good condition?**

**YES :** Go to Step 10.

**NO :** Replace the stop/taillight bulb (LH). Verify that the taillight (LH) illuminates normally.

**CONNECTOR: F-14 <ECLIPSE>**

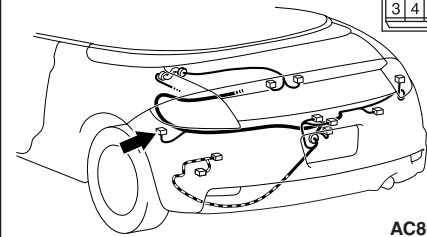
HARNESS SIDE



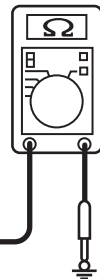
AC808231AD

**CONNECTOR: F-14 <ECLIPSE SPYDER>**

HARNESS SIDE



AC808229AE

CONNECTOR F-14  
(HARNESS SIDE)

AC2093640X

**STEP 10. Check the ground circuit to the rear combination light (LH). Measure the resistance at rear combination light (LH) connector F-14.**

- (1) Disconnect rear combination light (LH) connector F-14 and measure the resistance available at the wiring harness side of the connector.

- (2) Measure the resistance value between terminal 5 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

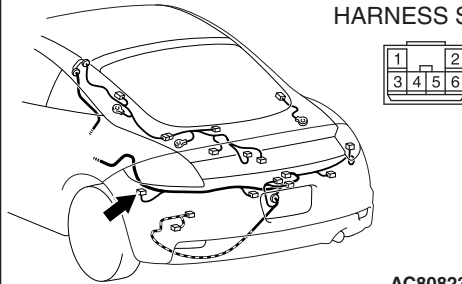
**YES :** Go to Step 12.

**NO :** Go to Step 11.



**CONNECTOR: F-14 <ECLIPSE>**

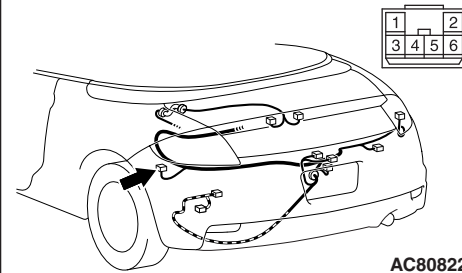
HARNESS SIDE



AC808231AD

**CONNECTOR: F-14 <ECLIPSE SPYDER>**

HARNESS SIDE



AC808229AE

**STEP 11. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground in good condition?**

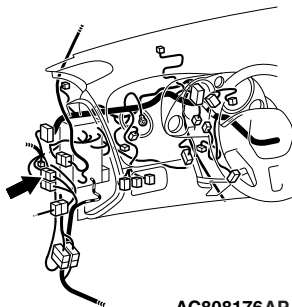
**YES :** Replace the rear combination light socket (LH). Verify that the taillight (LH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (LH) illuminates normally.

**CONNECTOR: C-26**

C-26

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16



AC808176AP

**STEP 12. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 3) and intermediate connector C-26 (terminal 10).**

- Check the communication lines for open circuit and short circuit.

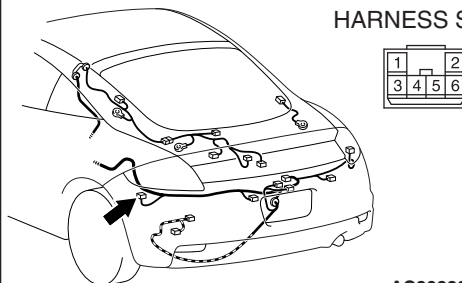
**Q: Is the wiring harness between rear combination light (LH) connector F-14 (terminal 3) and intermediate connector C-26 (terminal 10) in good condition?**

**YES :** Replace the rear combination light socket (LH). Verify that the taillight (LH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (LH) illuminates normally.

**CONNECTOR: F-14 <ECLIPSE>**

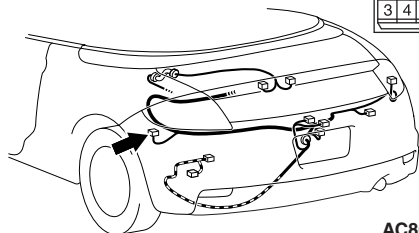
HARNESS SIDE



AC808231AD

**CONNECTOR: F-14 <ECLIPSE SPYDER>**

HARNESS SIDE



AC808229AE

**STEP 13. Check rear combination light (RH) connector F-07 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

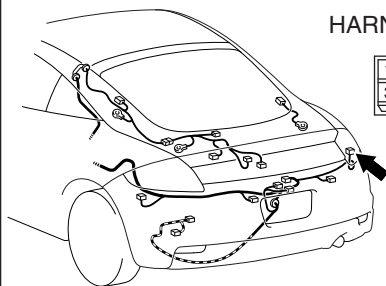
**Q: Is rear combination light (RH) connector F-07 in good condition?**

**YES :** Go to Step 14.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the taillight (RH) illuminates normally.

**CONNECTOR: F-07 <ECLIPSE>**

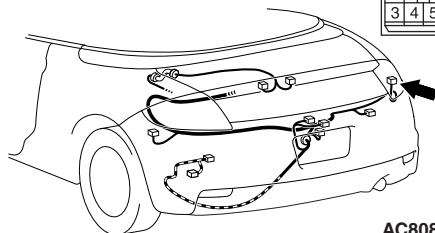
HARNESS SIDE



AC808231AE

**CONNECTOR: F-07 <ECLIPSE SPYDER>**

HARNESS SIDE



AC808229AF

**STEP 14. Check the stop/taillight bulb (RH).**

- (1) Remove the stop/taillight bulb (RH).
- (2) Verify that the stop/taillight bulb (RH) is not damaged or burned out.

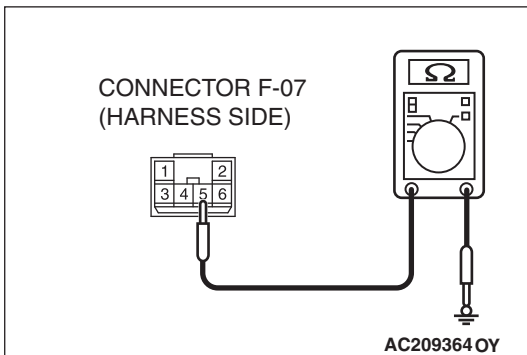
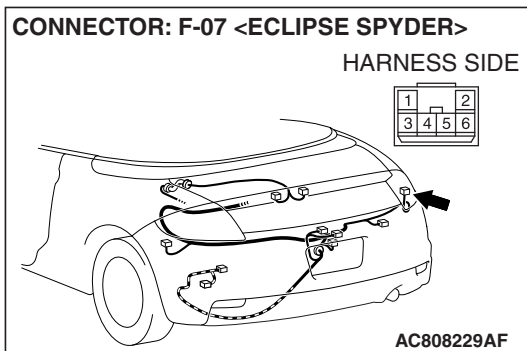
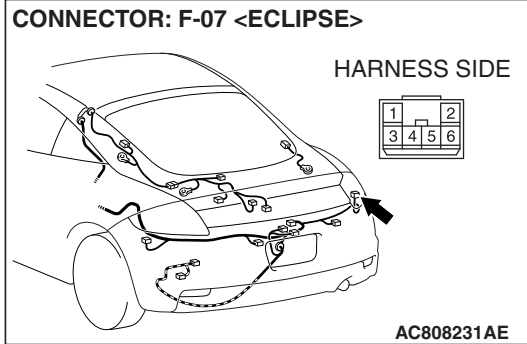
**Q: Is the stop/taillight bulb (RH) in good condition?**

**YES :** Go to Step 15.

**NO :** Replace the stop/taillight bulb (RH). Verify that the taillight (RH) illuminates normally.

**STEP 15. Check the ground circuit to the rear combination light (RH). Measure the resistance at rear combination light (RH) connector F-07.**

- (1) Disconnect rear light (RH) connector F-07 and measure the resistance available at the wiring harness side of the connector.



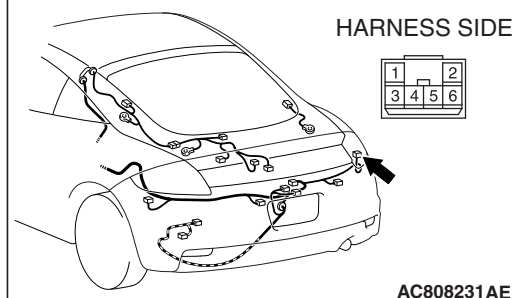
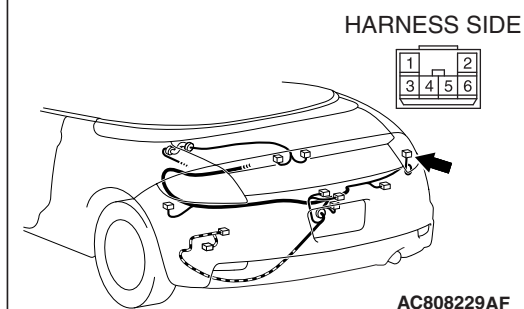
- (2) Measure the resistance value between terminal 5 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 17.

**NO :** Go to Step 16.

**CONNECTOR: F-07 <ECLIPSE>****CONNECTOR: F-07 <ECLIPSE SPYDER>**

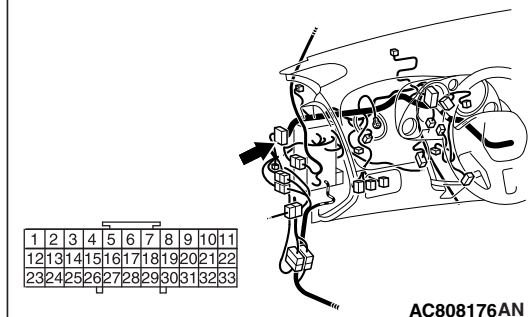
**STEP 16. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground in good condition?**

**YES :** Replace the rear combination light socket (RH). Verify that the taillight (RH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (RH) illuminates normally.

**CONNECTOR: C-28**

**STEP 17. Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

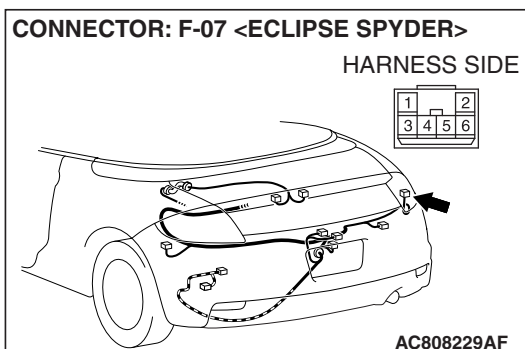
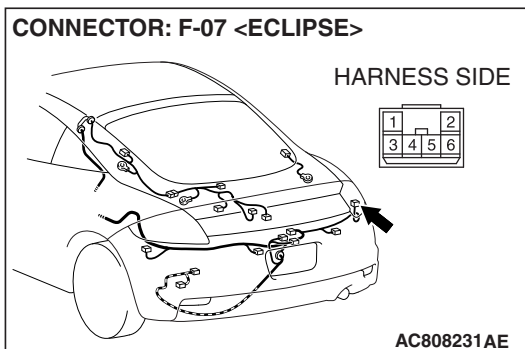
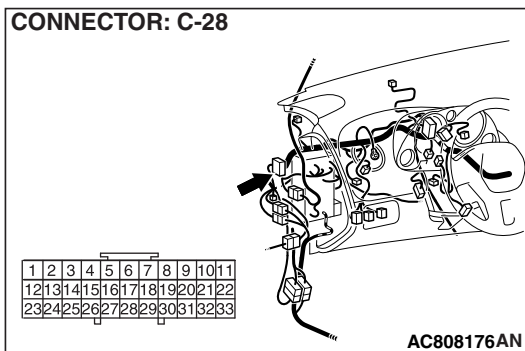
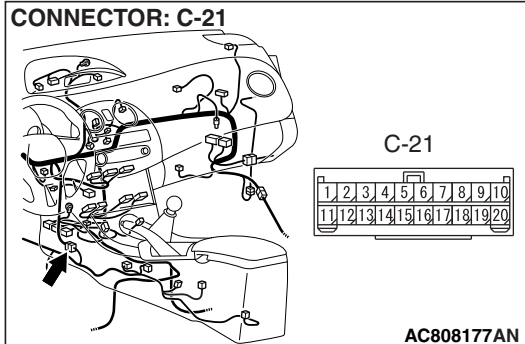
**Q: Is joint connector C-28 in good condition?**

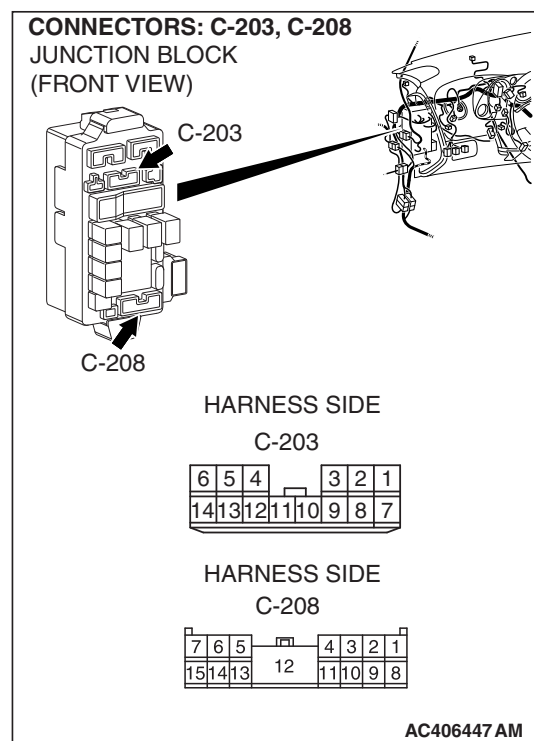
**YES :** Go to Step 18.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the taillight (RH) illuminates normally.

**STEP 18. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 3) and joint connector C-28 (terminal 20).**

- Check the communication lines for open circuit and short circuit.



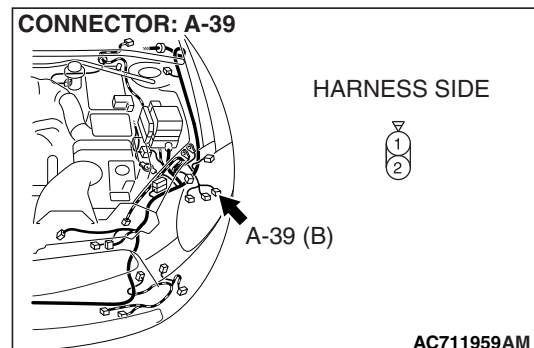


**NOTE:** Also check intermediate connector C-21, junction block connectors C-203 and C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-21, junction block connector C-203 or C-208 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

**Q: Is the wiring harness between rear combination light (RH) connector F-07 (terminal 3) and joint connector C-28 (terminal 20) in good condition?**

**YES :** Replace the rear combination light socket (RH). Verify that the taillight (RH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the taillight (RH) illuminates normally.



**STEP 19. Check parking and side-marker light (LH) connector A-39 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is parking and side-marker light (LH) connector A-39 in good condition?**

**YES :** Go to Step 20.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (LH) illuminates normally.

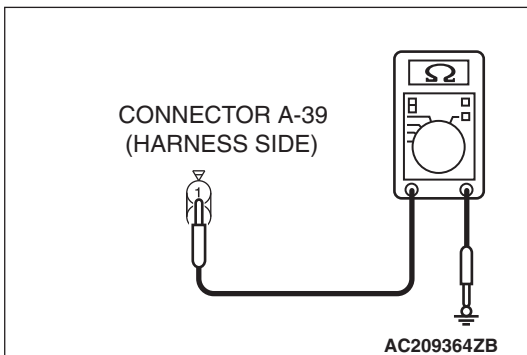
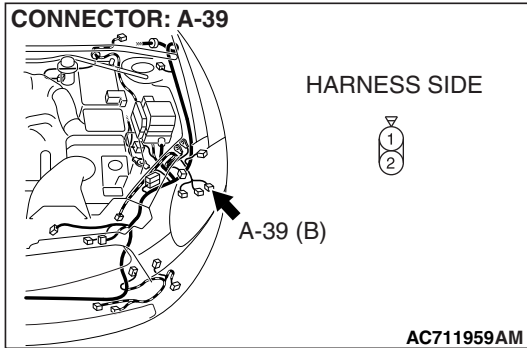
**STEP 20. Check the front parking light bulb (LH).**

- (1) Remove the front parking light bulb (LH).
- (2) Verify that the front parking light bulb (LH) is not damaged or burned out.

**Q: Is the front parking light bulb (LH) in good condition?**

**YES :** Go to Step 21.

**NO :** Replace the front parking light bulb (LH). Verify that the front parking light (LH) illuminates normally.



**STEP 21. Check the ground circuit to the front parking light (LH). Measure the resistance at parking and side-marker light (LH) connector A-39.**

(1) Disconnect parking and side-marker light (LH) connector A-39 and measure the resistance available at the wiring harness side of the connector.

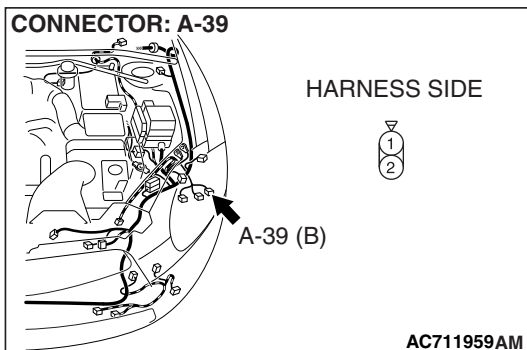
(2) Measure the resistance value between terminal 1 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 23.

**NO :** Go to Step 22.



**STEP 22. Check the wiring harness between parking and side-marker light (LH) connector A-39 (terminal 1) and ground.**

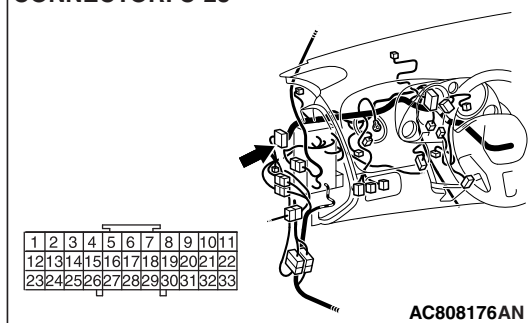
- Check the ground wire for open circuit.

**Q: Is the wiring harness between parking and side-marker light (LH) connector A-39 (terminal 1) and ground in good condition?**

**YES :** Replace the front combination light socket (LH). Verify that the front parking light (LH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (LH) illuminates normally.

CONNECTOR: C-28



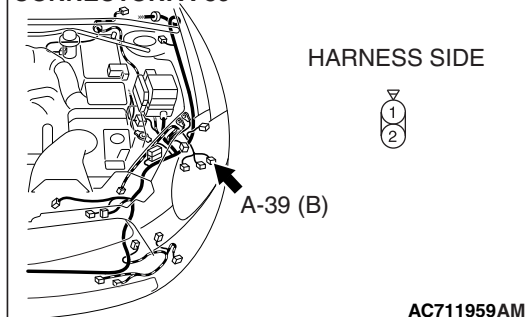
**STEP 23.** Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Is joint connector C-28 in good condition?

**YES :** Go to Step 24.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (LH) illuminates normally.

CONNECTOR: A-39



**STEP 24.** Check the wiring harness between parking and side-marker light (LH) connector A-39 (terminal 2) and joint connector C-28 (terminal 2).

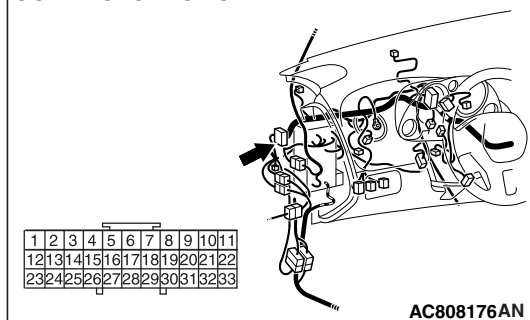
- Check the communication lines for open circuit and short circuit.

**Q:** Is the wiring harness between parking and side-marker light (LH) connector A-39 (terminal 2) and joint connector C-28 (terminal 2) in good condition?

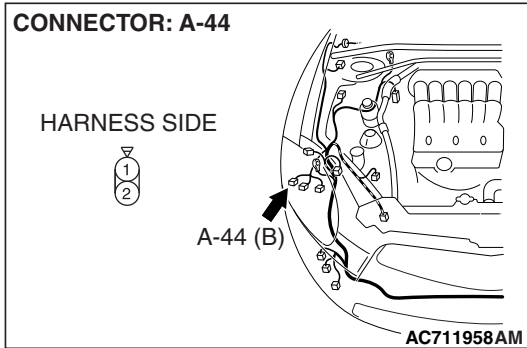
**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (LH) illuminates normally.

CONNECTOR: C-28







**STEP 25. Check parking and side-marker light (RH) connector A-44 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is parking and side-marker light (RH) connector A-44 in good condition?**

**YES :** Go to Step 26.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (RH) illuminates normally.

**STEP 26. Check the front parking light bulb (RH).**

- (1) Remove the front parking light bulb (RH).
- (2) Verify that the front parking light bulb (RH) is not damaged or burned out.

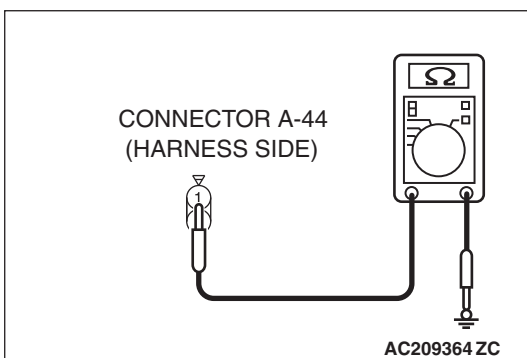
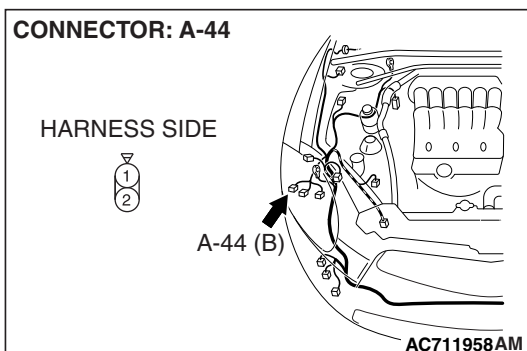
**Q: Is the front parking light bulb (RH) in good condition?**

**YES :** Go to Step 27.

**NO :** Replace the front side marker light bulb (RH). Verify that the front parking light (RH) illuminates normally.

**STEP 27. Check the ground circuit to the front parking light (RH). Measure the resistance at parking and side-marker light (RH) connector A-44.**

- (1) Disconnect parking and side-marker light (RH) connector A-44, and measure the resistance available at the harness side of the connector.



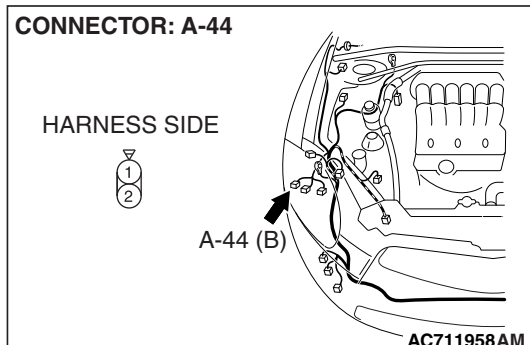
- (2) Measure the resistance value between terminal 1 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 29.

**NO :** Go to Step 28.



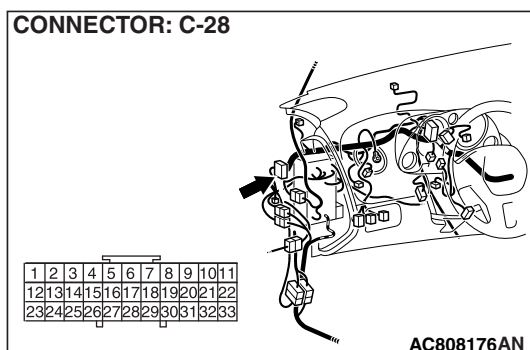
**STEP 28. Check the wiring harness between parking and side-marker light (RH) connector A-44 (terminal 1) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between parking and side-marker light (RH) connector A-44 (terminal 1) and ground in good condition?**

**YES :** Replace the front combination light socket (RH). Verify that the front parking light (RH) illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (RH) illuminates normally.



**STEP 29. Check joint connector C-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is joint connector C-28 in good condition?**

**YES :** Go to Step 30.

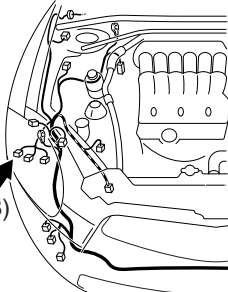
**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front parking light (RH) illuminates normally.

**CONNECTOR: A-44**

HARNESS SIDE



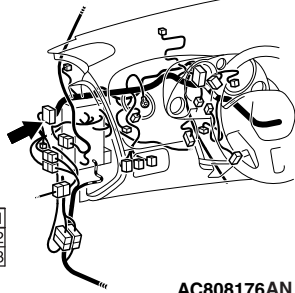
A-44 (B)



AC711958AM

**CONNECTOR: C-28**

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33



AC808176AN

**STEP 30. Check the wiring harness between parking and side-marker light (RH) connector A-44 (terminal 2) and joint connector C-28 (terminal 19).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between parking and side-marker light (RH) connector A-44 (terminal 2) and joint connector C-28 (terminal 19) in good condition?**

**YES :** No action is necessary and testing is complete.

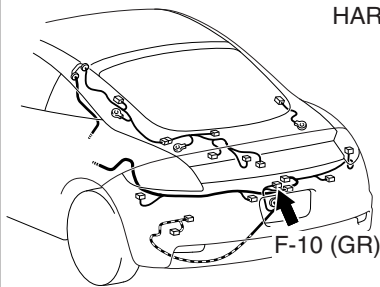
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front parking light (RH) illuminates normally.

**CONNECTOR: F-10 <ECLIPSE>**

HARNESS SIDE



F-10 (GR)



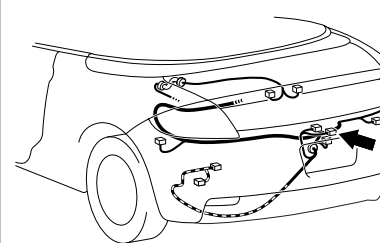
AC808231AF

**CONNECTOR: F-10 <ECLIPSE SPYDER>**

HARNESS SIDE



F-10 (GR)



AC808229AG

**STEP 31. Check license plate light connector F-10 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is license plate light connector F-10 in good condition?**

**YES :** Go to Step 32.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

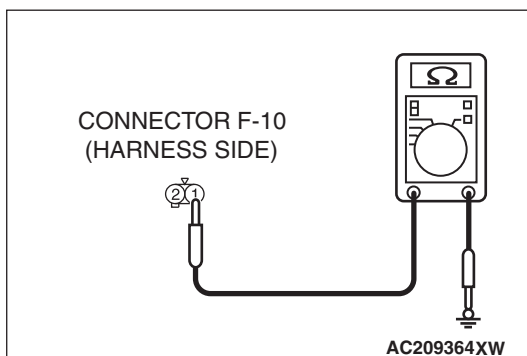
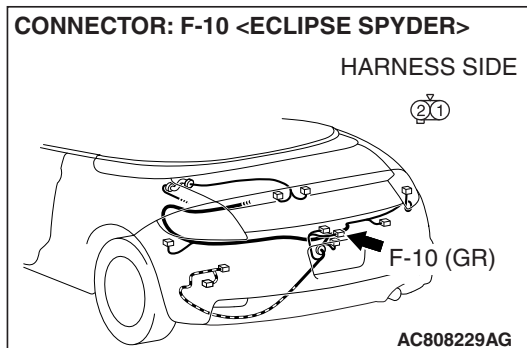
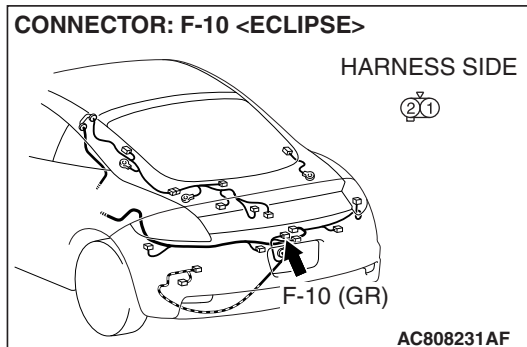
**P.00E-2.** Check that the license plate light illuminate normally.

**STEP 32. Check the license plate light bulb.**

- (1) Remove the license plate light bulb.
- (2) Verify that the license plate light bulb is not damaged or burned out.

**Q: Is the license plate light bulb in good condition?****YES** : Go to Step 33.**NO** : Replace the license plate light bulb. Verify that the license plate light illuminate normally.**STEP 33. Check the ground circuit to the license plate light. Measure the resistance at license plate light connector F-10.**

- (1) Disconnect license plate light connector F-10 and measure the resistance available at the wiring harness side of the connector.

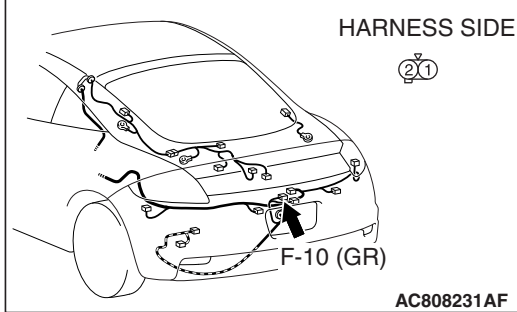


- (2) Measure the resistance value between terminal 1 and ground.

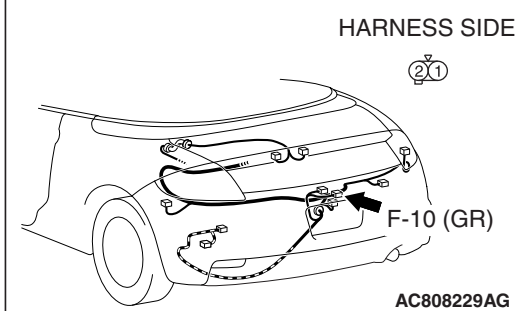
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?****YES** : Go to Step 35.**NO** : Go to Step 34.

CONNECTOR: F-10 <ECLIPSE>



CONNECTOR: F-10 <ECLIPSE SPYDER>



**STEP 34. Check the wiring harness between license plate light connector F-10 (terminal 1) and ground.**

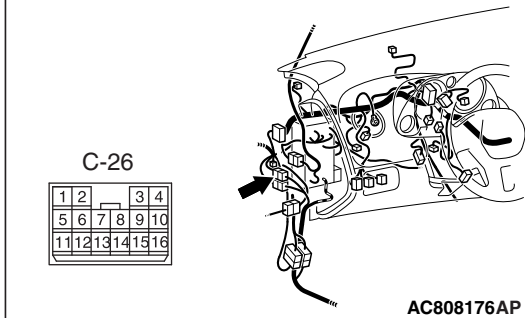
- Check the ground wire for open circuit.

**Q: Is the wiring harness between license plate light connector F-10 (terminal 1) and ground in good condition?**

**YES :** Replace the license plate light socket. Verify that the license plate light illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the license plate light illuminate normally.

CONNECTOR: C-26

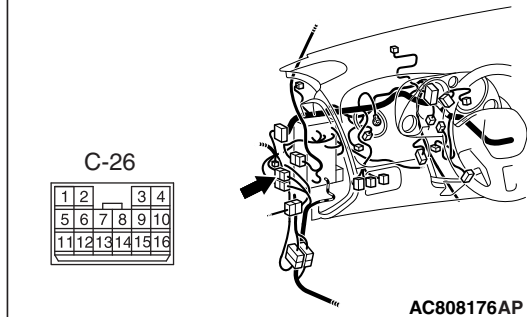


**STEP 35. Check intermediate connector C-26 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is intermediate connector C-26 in good condition?**

**YES :** Go to Step 36.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the license plate light illuminate normally.

**CONNECTOR: C-26**

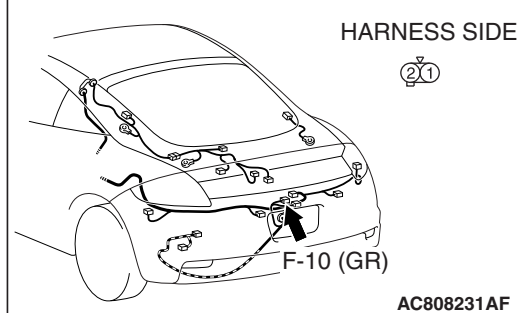
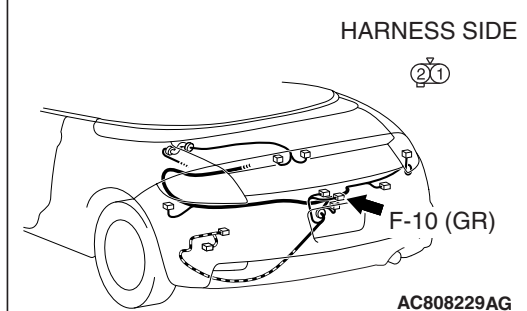
**STEP 36. Check the wiring harness between license plate light connector F-10 (terminal 2) and intermediate connector C-26 (terminal 10).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between license plate light connector F-10 (terminal 2) and intermediate connector C-26 (terminal 10) in good condition?**

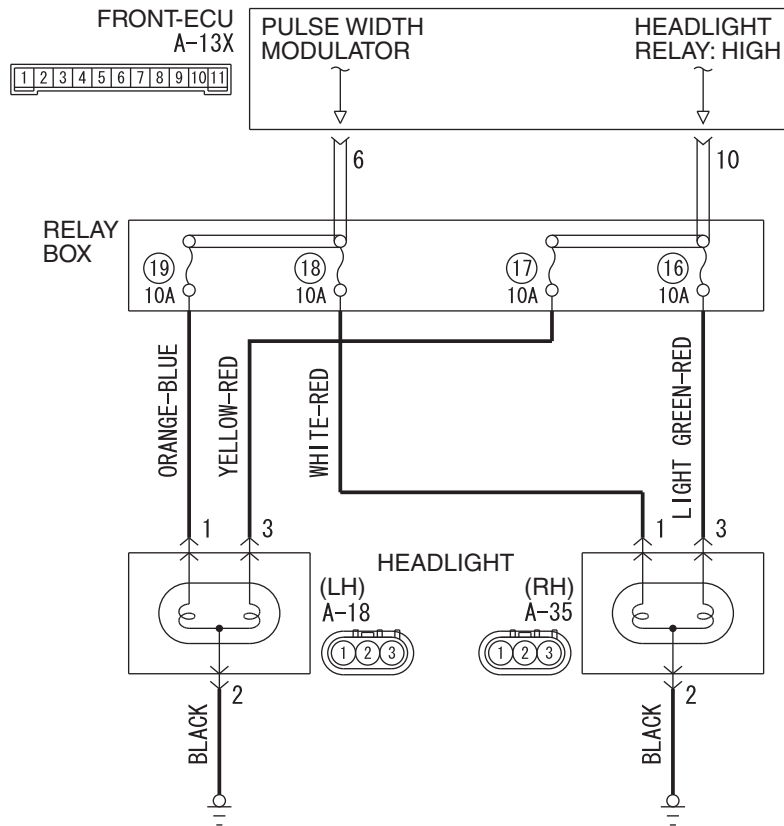
**YES :** Replace the license plate light socket. Verify that the license plate light illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the license plate light illuminate normally.

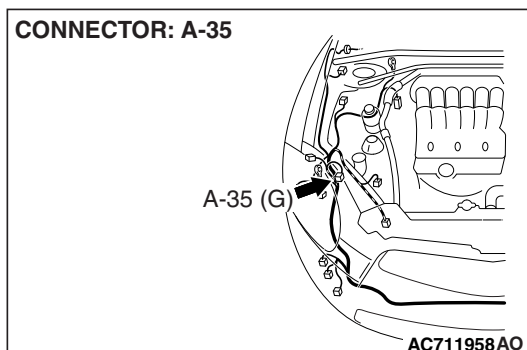
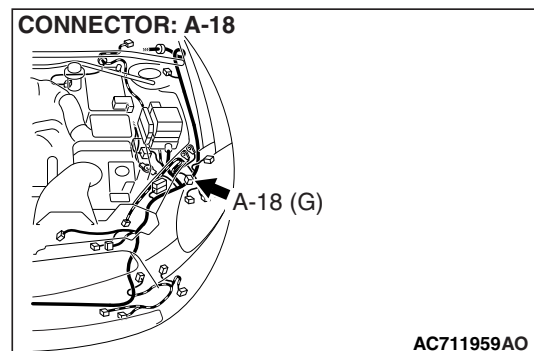
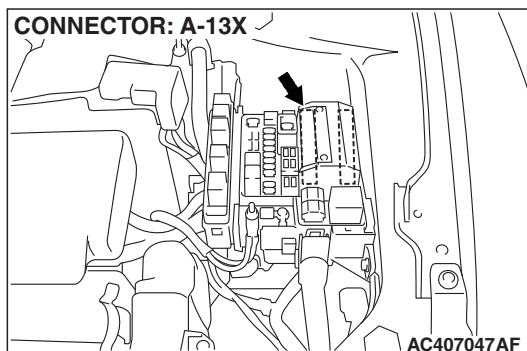
**CONNECTOR: F-10 <ECLIPSE>****CONNECTOR: F-10 <ECLIPSE SPYDER>**

**INSPECTION PROCEDURE I-7: Headlight and Taillight: One of the headlights does not illuminate.**  
**<Halogen Type Headlight>**

Headlights Circuit <Halogen Type>



WAP54M022A



**TECHNICAL DESCRIPTION (COMMENT)**

If one of the headlights does not illuminate, a headlight bulb may be defective.

**TROUBLESHOOTING HINTS**

- The headlight bulb 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

**STEP 1. Check the headlight operation.****Q: Which of the headlights does not illuminate?**

**LH (low-beam and high-beam) :** Go to Step 2.

**RH (low-beam and high-beam) :** Go to Step 5.

**LH (only low-beam) :** Go to Step 8.

**RH (only low-beam) :** Go to Step 11.

**LH (only high-beam) :** Go to Step 14.

**RH (only high-beam) :** Go to Step 17.

**Low-beam only (both RH and LH) :** Refer to Inspection Procedure I-2 "The headlights (low-beam) do not illuminate normally [P.54B-273](#)."

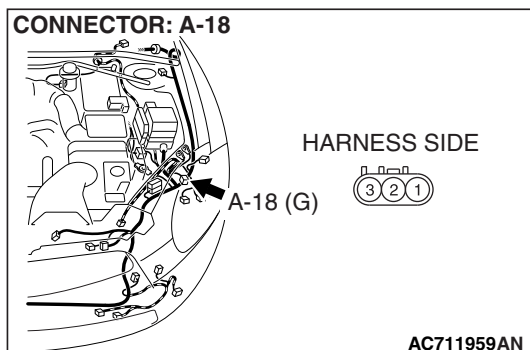
**High-beam only (both RH and LH) :** Refer to Inspection Procedure I-3 "The headlights (high-beam) do not illuminate normally [P.54B-279](#)."

**High-beam indicator light :** Refer to Inspection Procedure I-8 "The high-beam indicator light does not illuminate [P.54B-347](#)."

**STEP 2. Check headlight (LH) connector A-18 for loose, corroded or damaged terminals, or terminals pushed back in the connector.****Q: Is headlight (LH) connector A-18 in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the headlights illuminate normally.

**STEP 3. Check headlight (LH) bulb.**

(1) Remove the headlight (LH) bulb.

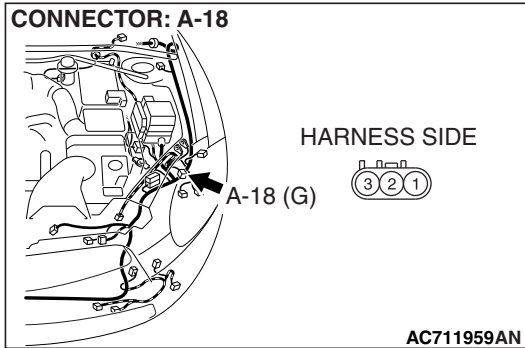
(2) Verify that the headlight (LH) bulb is not damaged or burned out.

**Q: Is headlight (LH) bulb normal?**

**YES :** Go to Step 4.

**NO :** Replace the headlight (LH) bulb. Verify that the headlights illuminate normally.





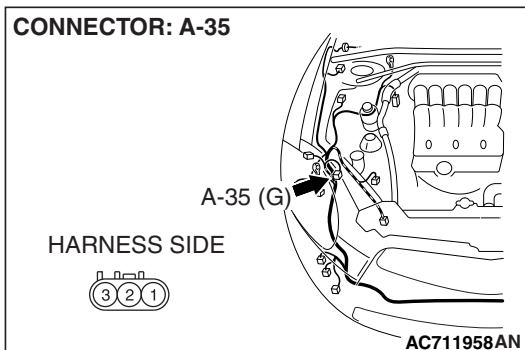
**STEP 4. Check the wiring harness between headlight (LH) connector A-18 (terminal 2) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between headlight (LH) connector A-18 (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.



**STEP 5. Check headlight (RH) connector A-35 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is headlight (RH) connector A-35 in good condition?**

**YES :** Go to Step 6.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

[P.00E-2](#). Check that the headlights illuminate normally.

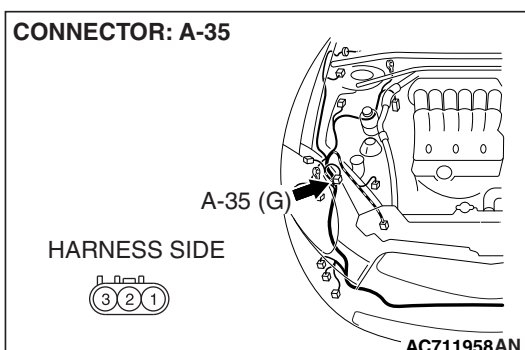
**STEP 6. Check the headlight (RH) bulb.**

- (1) Remove the headlight (RH) bulb.
- (2) Verify that the headlight (RH) bulb is not damaged or burned out.

**Q: Is headlight (RH) bulb normal?**

**YES :** Go to Step 7.

**NO :** Replace the headlight (RH) bulb. Verify that the headlights illuminate normally.



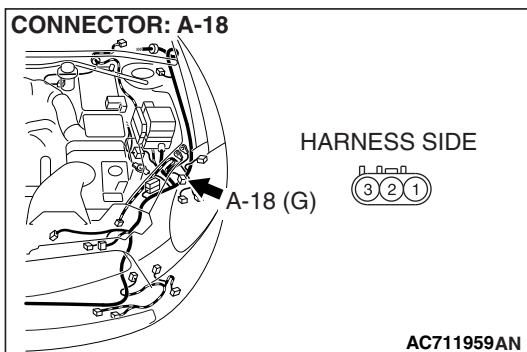
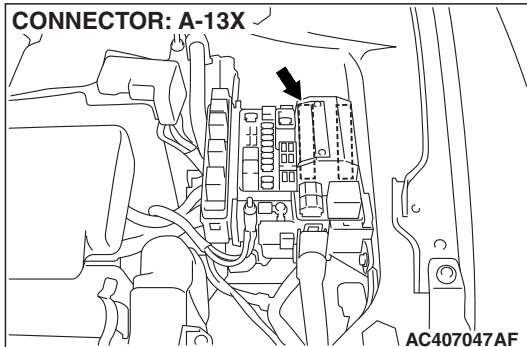
**STEP 7. Check the wiring harness between headlight (RH) connector A-35 (terminal 2) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between headlight (RH) connector A-35 (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.



**STEP 8. Check headlight (LH) connector A-18 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are headlight (LH) connector A-18 and front-ECU connector A-13X in good condition?**

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the headlights illuminate normally.

**STEP 9. Check headlight (LH) bulb.**

(1) Remove the headlight (LH) bulb.

(2) Verify that the headlight (LH) bulb is not damaged or burned out.

**Q: Is headlight (LH) bulb normal?**

**YES :** Go to Step 10.

**NO :** Replace the headlight (LH) bulb. Verify that the headlights illuminate normally.

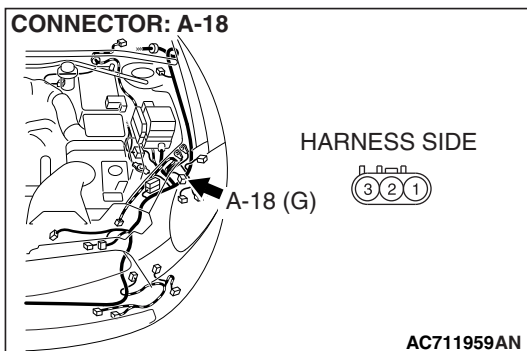
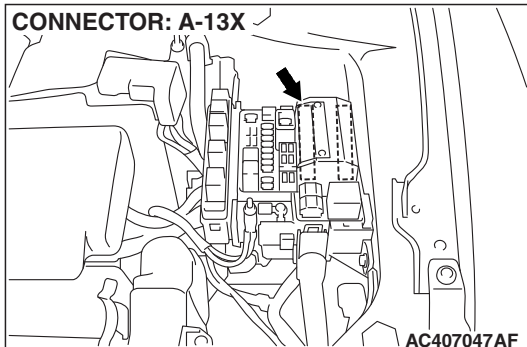
**STEP 10. Check the wiring harness between headlight (LH) connector A-18 (terminal 1) and front-ECU connector A-13X (terminal 6).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between headlight (LH) connector A-18 (terminal 1) and front-ECU connector A-13X (terminal 6) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.

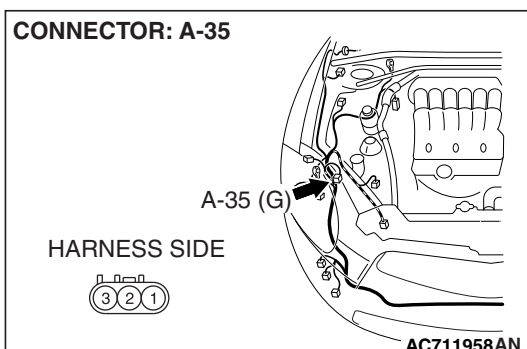
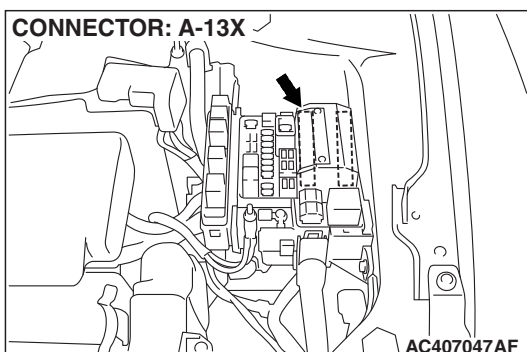


**STEP 11. Check headlight (RH) connector A-35 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are headlight (RH) connector A-35 and front-ECU connector A-13X in good condition?**

**YES :** Go to Step 12.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the headlights illuminate normally.



**STEP 12. Check the headlight (RH) bulb.**

- (1) Remove the headlight (RH) bulb.
- (2) Verify that the headlight (RH) bulb is not damaged or burned out.

**Q: Is headlight (RH) bulb normal?**

**YES :** Go to Step 13.

**NO :** Replace the headlight (RH) bulb. Verify that the headlights illuminate normally.

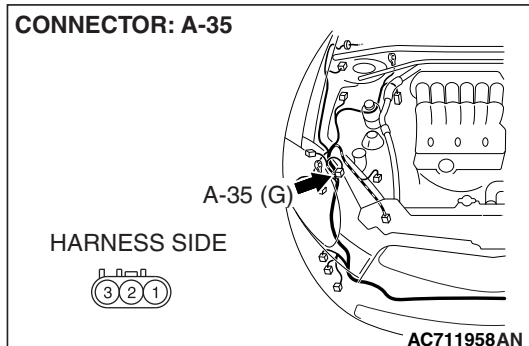
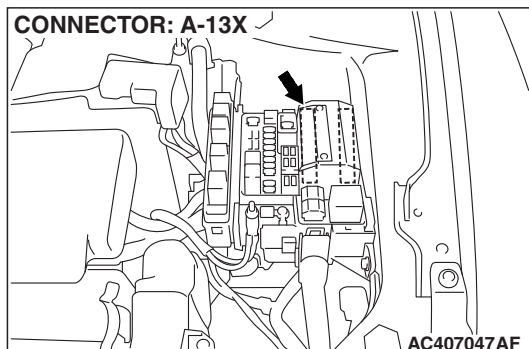
**STEP 13. Check the wiring harness between headlight (RH) connector A-35 (terminal 1) and front-ECU connector A-13X (terminal 6).**

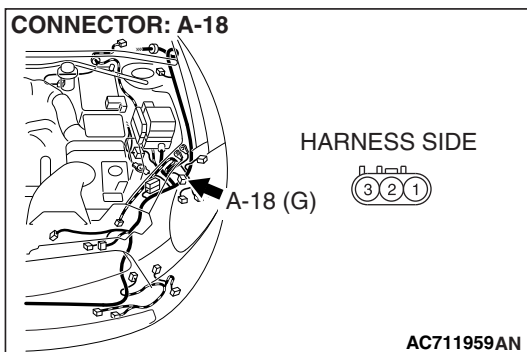
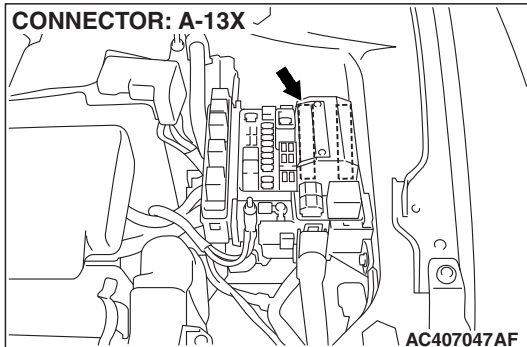
- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between headlight (RH) connector A-35 (terminal 1) and front-ECU connector A-13X (terminal 6) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.





**STEP 14. Check headlight (LH) connector A-18 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are headlight (LH) connector A-18 and front-ECU connector A-13X in good condition?**

**YES :** Go to Step 15.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Verify that the headlights illuminate normally.

**STEP 15. Check headlight (LH) bulb.**

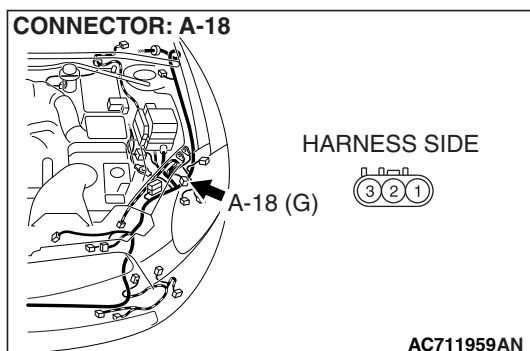
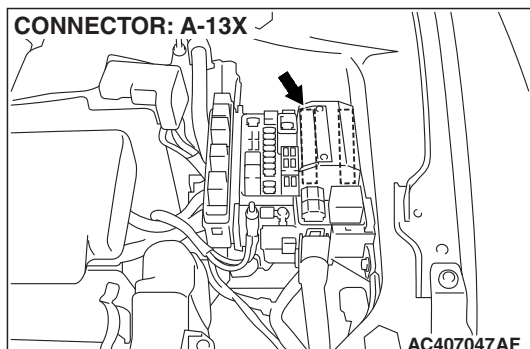
(1) Remove the headlight (LH) bulb.

(2) Verify that the headlight (LH) bulb is not damaged or burned out.

**Q: Is headlight (LH) bulb normal?**

**YES :** Go to Step 16.

**NO :** Replace the headlight (LH) bulb. Verify that the headlights illuminate normally.



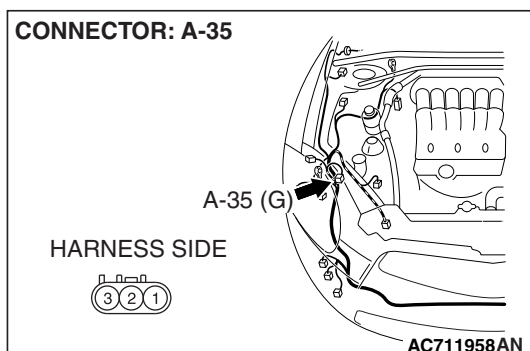
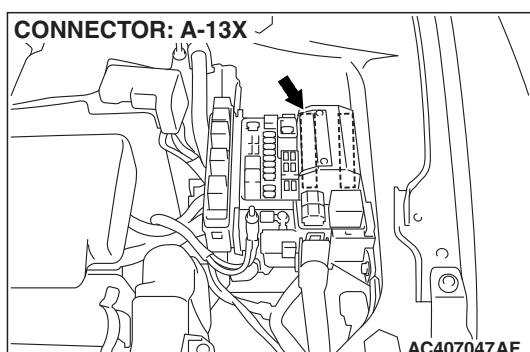
**STEP 16.** Check the wiring harness between headlight (LH) connector A-18 (terminal 3) and front-ECU connector A-13X (terminal 10).

- Check the communication lines for open circuit and short circuit.

**Q:** Is the wiring harness between headlight (LH) connector A-18 (terminal 3) and front-ECU connector A-13X (terminal 10) in good condition?

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.



**STEP 17.** Check headlight (RH) connector A-35 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Are headlight (RH) connector A-35 and front-ECU connector A-13X in good condition?

**YES :** Go to Step 18.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the headlights illuminate normally.

---

**STEP 18. Check the headlight (RH) bulb.**

- (1) Remove the headlight (RH) bulb.
- (2) Verify that the headlight (RH) bulb is not damaged or burned out.

**Q: Is headlight (RH) bulb normal?**

**YES :** Go to Step 19.

**NO :** Replace the headlight (RH) bulb. Verify that the headlights illuminate normally.

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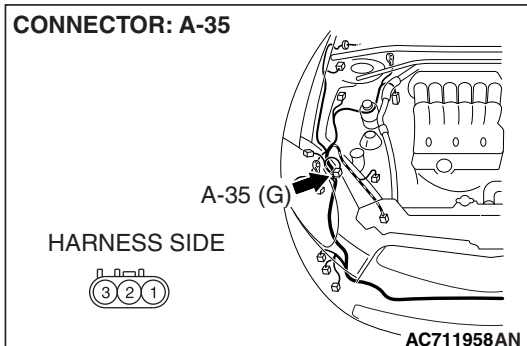
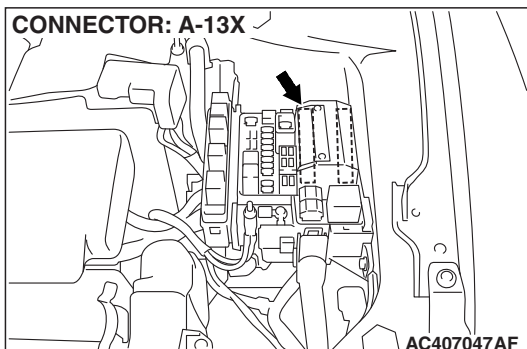
**STEP 19. Check the wiring harness between headlight (RH) connector A-35 (terminal 3) and front-ECU connector A-13X (terminal 10).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between headlight (RH) connector A-35 (terminal 3) and front-ECU connector A-13X (terminal 10) in good condition?**

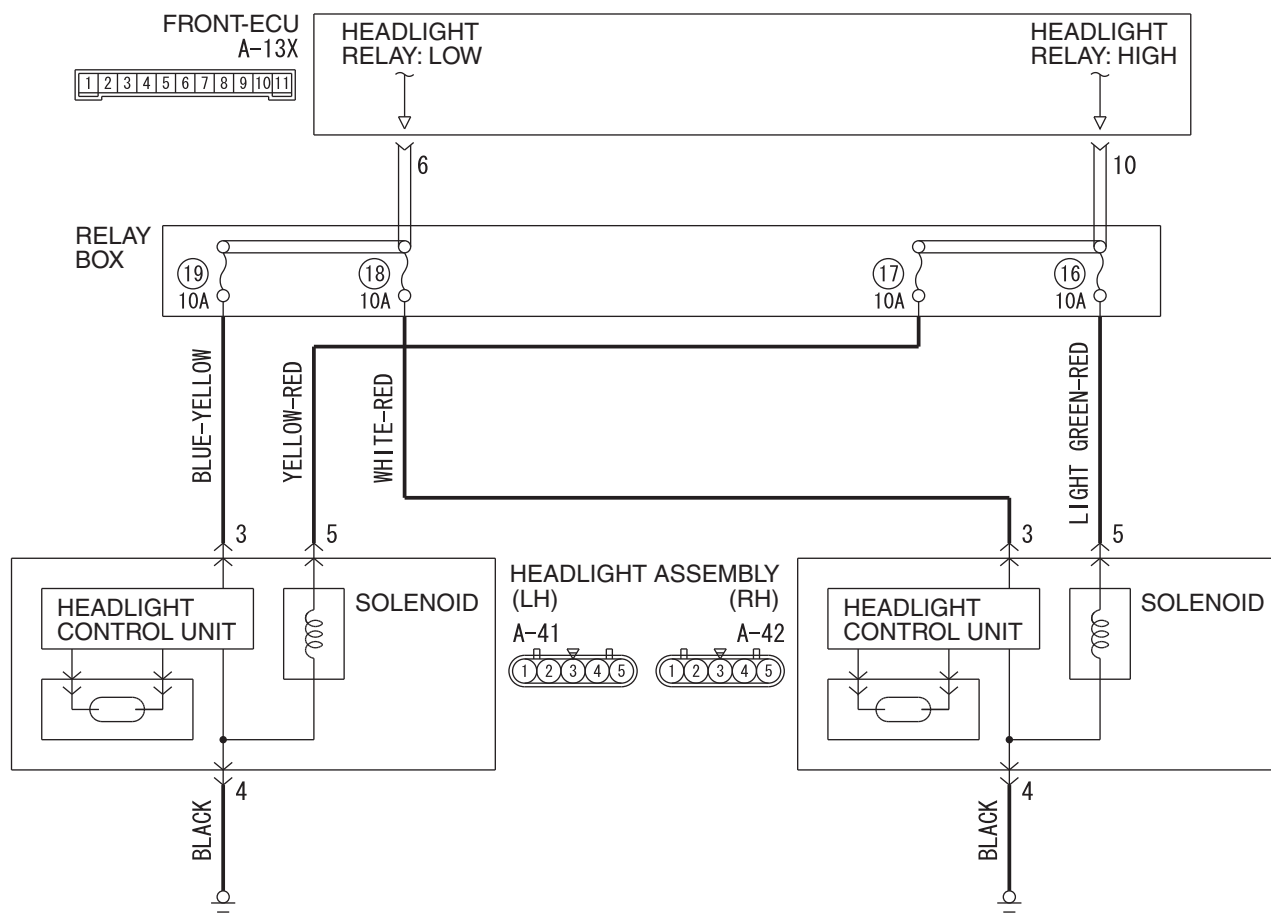
**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.

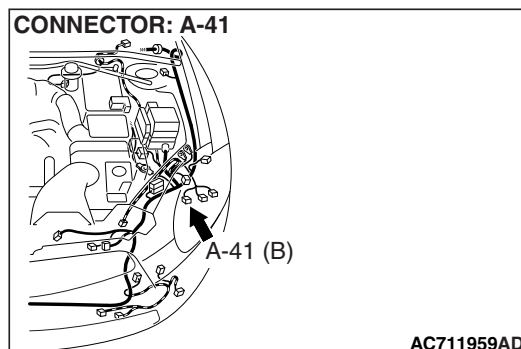
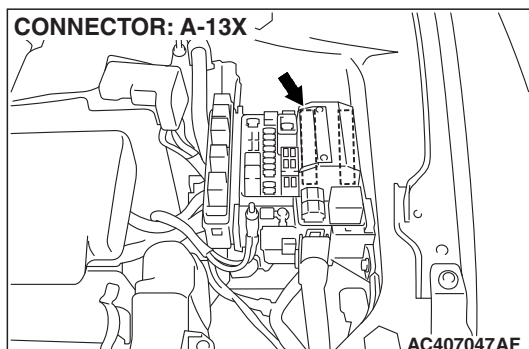


**INSPECTION PROCEDURE I-7: Headlight and Taillight: One of the headlights does not illuminate.  
<Discharge Type Headlight>****⚠ CAUTION**

If discharge type headlights do not illuminate, carry out troubleshooting by reading through the precautions in GROUP 54A – Service Precautions Discharge Headlight. Refer to [P.54A-137](#).

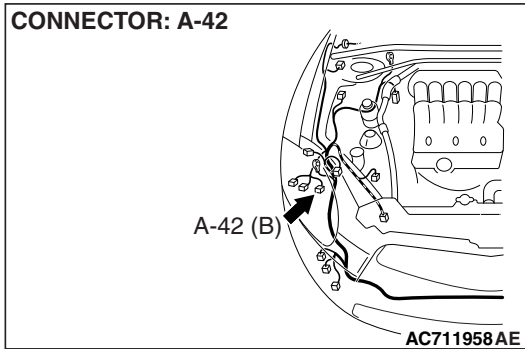
**Headlights Circuit <Discharge Type>**

WAP54M023A





CONNECTOR: A-42



## TROUBLESHOOTING HINTS

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

## TECHNICAL DESCRIPTION (COMMENT)

If one of the headlights does not illuminate, wiring harness or connectors may be defective.

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

### STEP 1. Check the headlight operation.

#### Q: Which of the headlights does not illuminate?

LH (low-beam and high-beam) : Go to Step 2.

RH (low-beam and high-beam) : Go to Step 4.

LH (only low-beam) : Go to Step 6.

RH (only low-beam) : Go to Step 8.

LH (only high-beam) : Go to Step 10.

RH (only high-beam) : Go to Step 12.

Low-beam only (both RH and LH) : Refer to Inspection Procedure I-2 "The headlights (low-beam) do not illuminate normally [P.54B-273](#)."

High-beam only (both RH and LH) : Refer to Inspection Procedure I-3 "The headlights (high-beam) do not illuminate normally [P.54B-279](#)."

High-beam indicator light : Refer to Inspection Procedure I-8 "The high-beam indicator light does not illuminate [P.54B-347](#)."

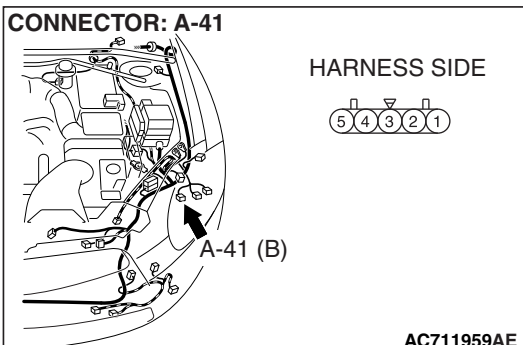
### STEP 2. Check headlight assembly (LH) connector A-41 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

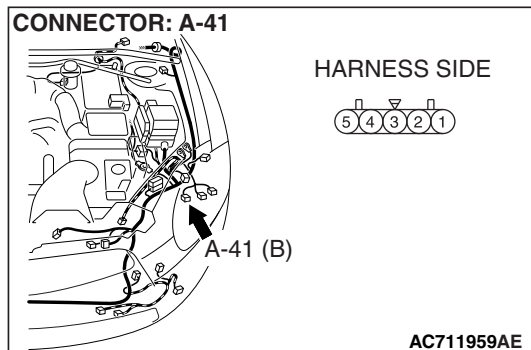
#### Q: Is headlight assembly (LH) connector A-41 in good condition?

YES : Go to Step 3.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the headlights illuminate normally.

CONNECTOR: A-41





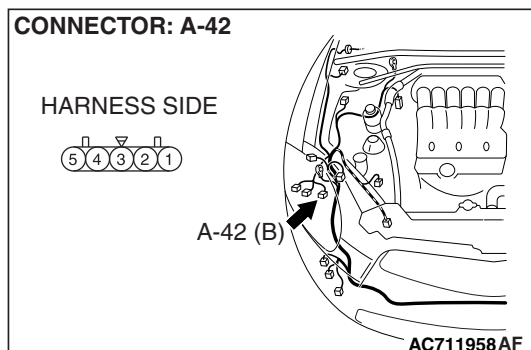
**STEP 3. Check the wiring harness between headlight assembly (LH) connector A-41 (terminal 4) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between headlight assembly (LH) connector A-41 (terminal 4) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.

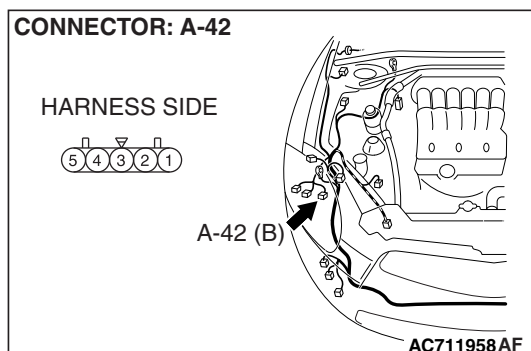


**STEP 4. Check headlight assembly (RH) connector A-42 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is headlight assembly (RH) connector A-42 in good condition?**

**YES :** Go to Step 5.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the headlights illuminate normally.



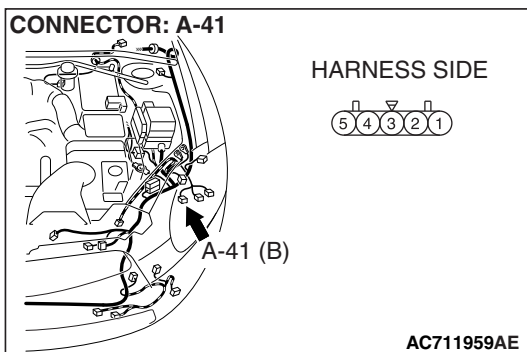
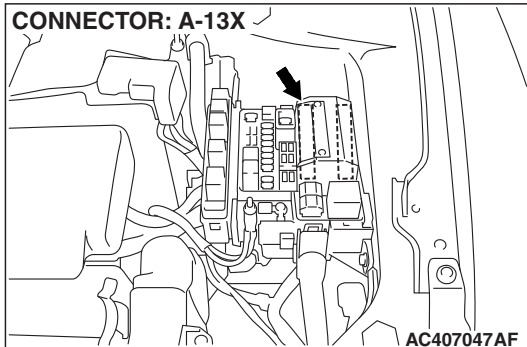
**STEP 5. Check the wiring harness between headlight assembly (RH) connector A-42 (terminal 4) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between headlight assembly (RH) connector A-42 (terminal 4) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.



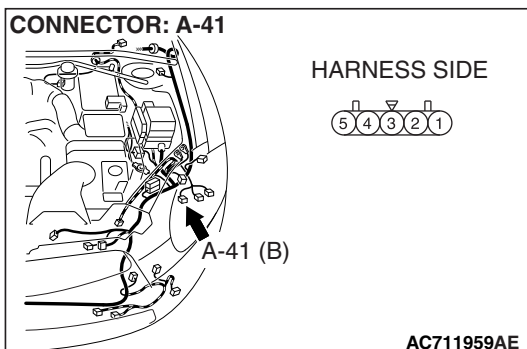
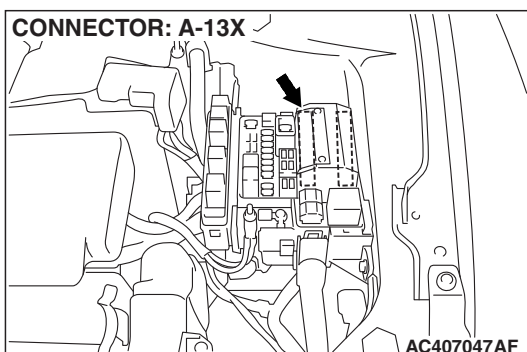
**STEP 6.** Check headlight assembly (LH) connector A-41 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Are headlight assembly (LH) connector A-41 and front-ECU connector A-13X in good condition?

**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the headlights illuminate normally.



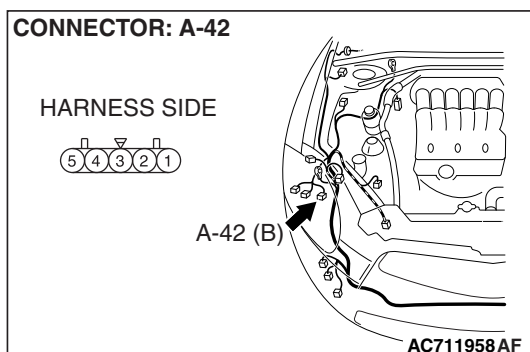
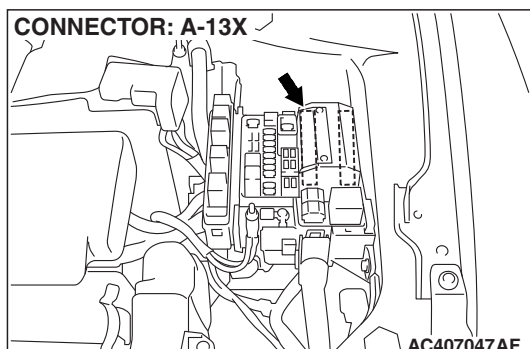
**STEP 7.** Check the wiring harness between headlight assembly (LH) connector A-41 (terminal 3) and front-ECU connector A-13X (terminal 6).

- Check the communication lines for open circuit and short circuit.

**Q:** Is the wiring harness between headlight assembly (LH) connector A-41 (terminal 3) and front-ECU connector A-13X (terminal 6) in good condition?

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.



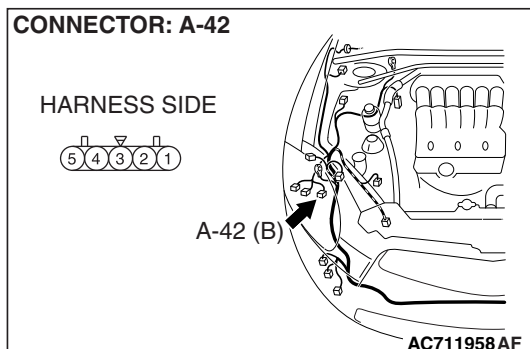
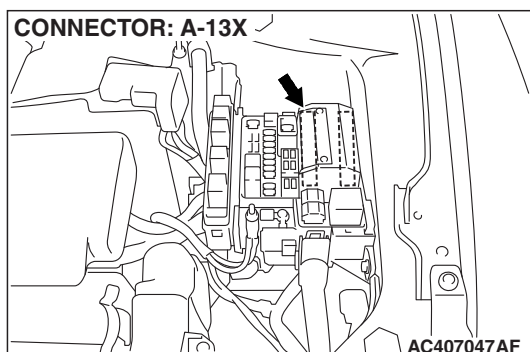
**STEP 8. Check headlight assembly (RH) connector A-42 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are headlight assembly (RH) connector A-42 and front-ECU connector A-13X in good condition?**

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the headlights illuminate normally.



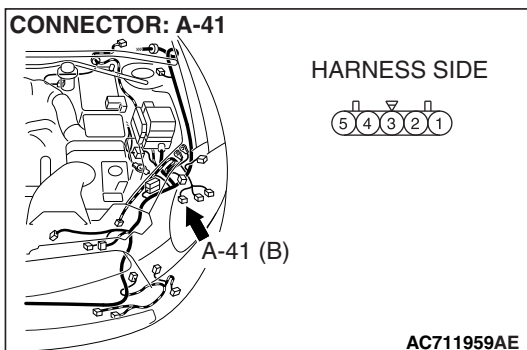
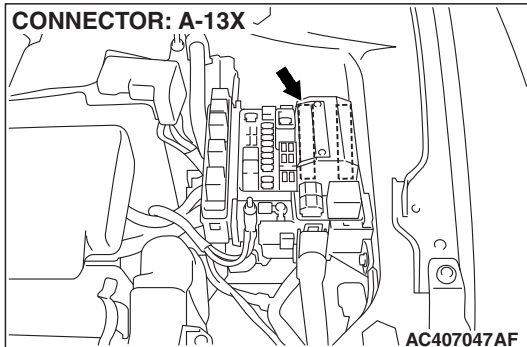
**STEP 9. Check the wiring harness between headlight assembly (RH) connector A-42 (terminal 3) and front-ECU connector A-13X (terminal 6).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between headlight assembly (RH) connector A-42 (terminal 3) and front-ECU connector A-13X (terminal 6) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.



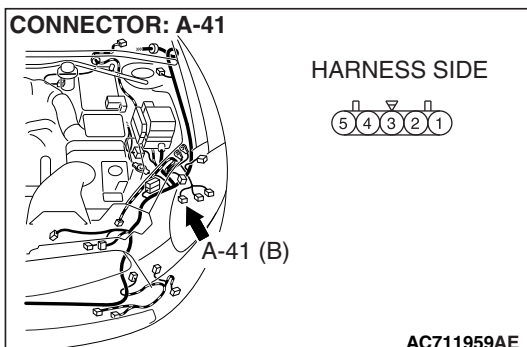
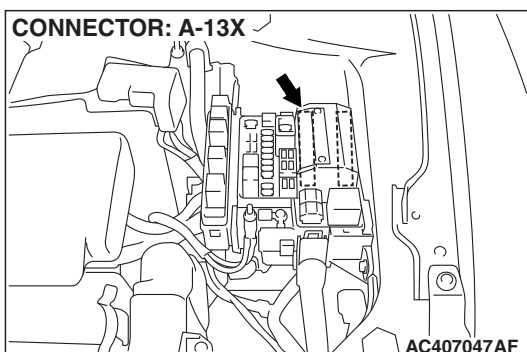
**STEP 10.** Check headlight assembly (LH) connector A-41 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Are headlight assembly (LH) connector A-41 and front-ECU connector A-13X in good condition?

**YES :** Go to Step 11.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Verify that the headlights illuminate normally.



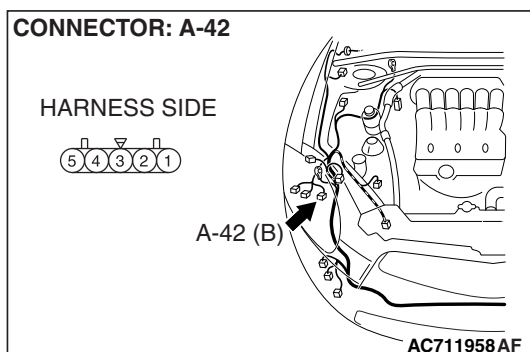
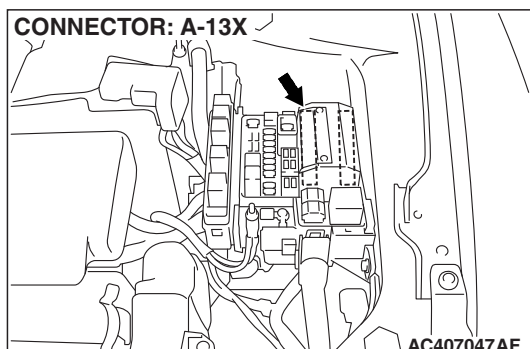
**STEP 11.** Check the wiring harness between headlight assembly (LH) connector A-41 (terminal 5) and front-ECU connector A-13X (terminal 10).

- Check the communication lines for open circuit and short circuit.

**Q:** Is the wiring harness between headlight assembly (LH) connector A-41 (terminal 5) and front-ECU connector A-13X (terminal 10) in good condition?

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.



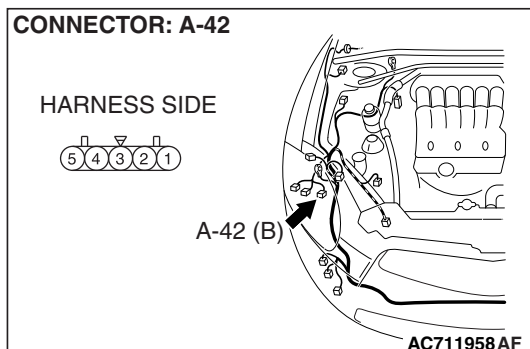
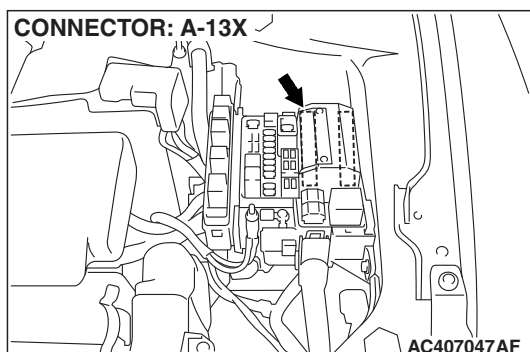
**STEP 12.** Check headlight assembly (RH) connector A-42 and front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Are headlight assembly (RH) connector A-42 and front-ECU connector A-13X in good condition?

**YES :** Go to Step 13.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Verify that the headlights illuminate normally.



**STEP 13.** Check the wiring harness between headlight assembly (RH) connector A-42 (terminal 5) and front-ECU connector A-13X (terminal 10).

- Check the communication lines for open circuit and short circuit.

**Q:** Is the wiring harness between headlight assembly (RH) connector A-42 (terminal 5) and front-ECU connector A-13X (terminal 10) in good condition?

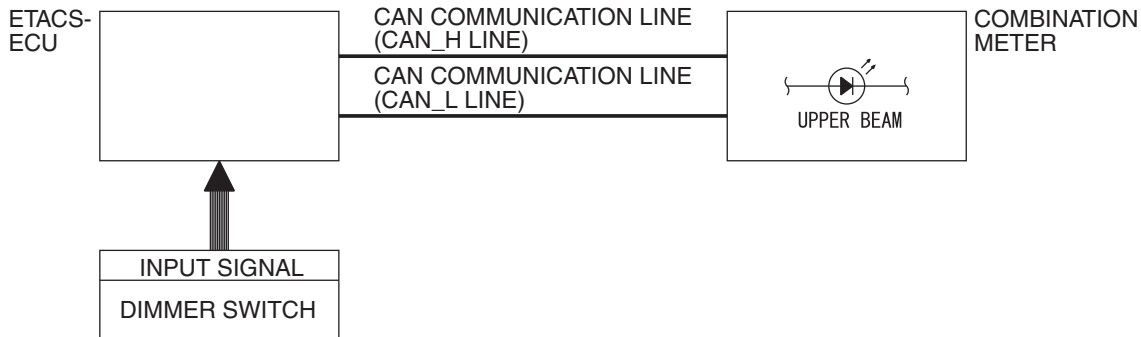
**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the headlights illuminate normally.

**INSPECTION PROCEDURE I-8: Headlight and Taillight: The high-beam indicator light does not illuminate.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

**High-Beam Indicator Light Circuit**



**CIRCUIT OPERATION**

At the same time that the high beams are illuminated, the ETACS-ECU sends a signal to illuminate the high beam indicator via the CAN bus line.

**TECHNICAL DESCRIPTION (COMMENT)**

If the high beam indicator does not illuminate normally, connector(s), wiring harness in the CAN bus lines, the ETACS-ECU or the combination meter may be defective.

**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
- The ETACS-ECU may be defective

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness



**STEP 1. Check the headlights.**

When the lighting switch is operated, check that the headlights illuminate/go off normally.

**Q: Are the headlights in good condition?**

**YES** : Go to Step 2.

**NO** : First, repair the headlights. Refer to Inspection Procedure I-7 "One of the headlights does not illuminate [P.54B-331](#)."

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

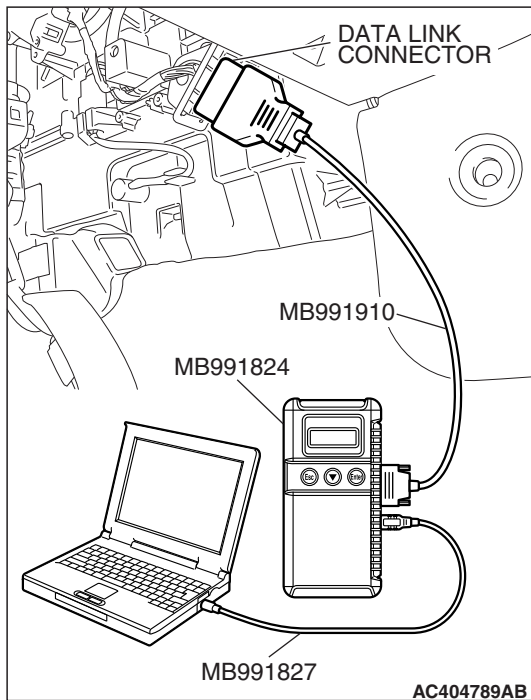
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (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.

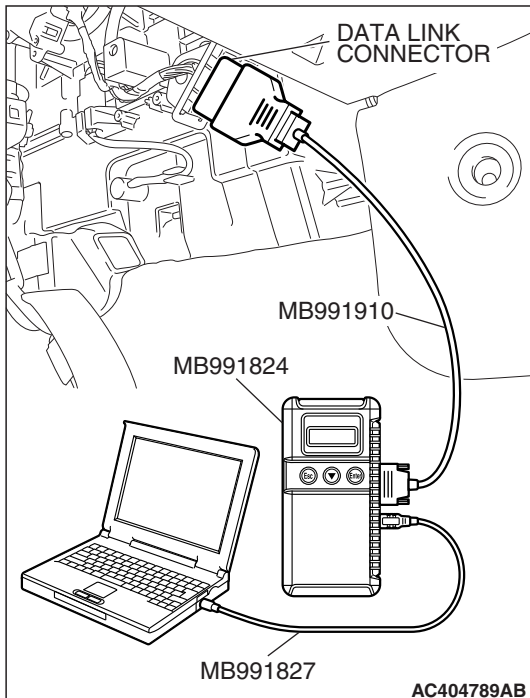
**Q: Is the CAN bus line found to be normal?**

**YES** : Go to Step 3.

**NO** : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis [P.54C-17](#)).







**STEP 3. Using scan tool MB991958, read the combination meter diagnostic trouble code.**

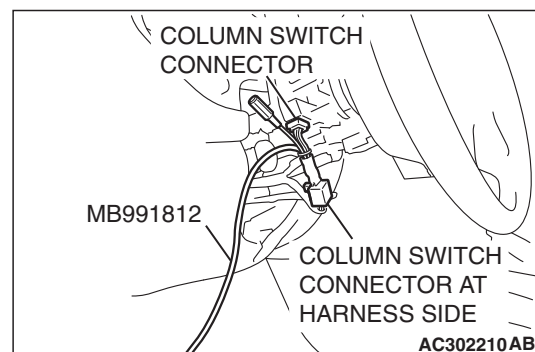
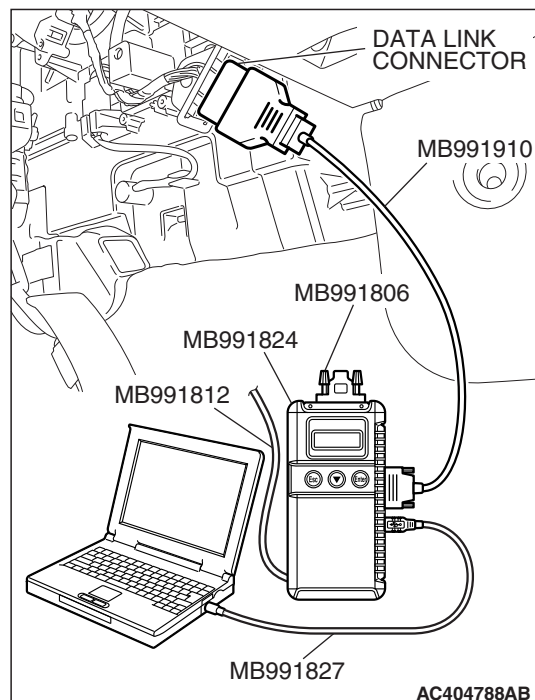
Check whether a combination meter-related DTC is set.

- (1) Turn the ignition switch to the "ON" position.
- (2) Check whether the combination meter-related DTC is set.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES** : Diagnose the combination meter. Refer to [P.54A-60](#).

**NO** : Go to Step 4.



#### STEP 4. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.

Check the ETACS-ECU.

#### **CAUTION**

Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

- (1) Connect the SWS monitor. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

#### Q: Is "OK" displayed for the "ETACS ECU" menu?

**YES** : Go to Step 5.

**NO** : Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."

#### STEP 5. Replace the combination meter.

- (1) Replace the combination meter.
- (2) Check that the high beam indicator light illuminates normally.

#### Q: Does the high beam indicator light illuminate normally?

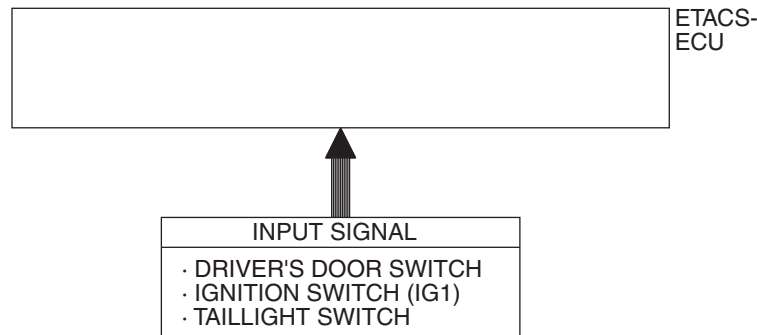
**YES** : No action is necessary and testing is complete.

**NO** : Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Check that the high beam indicator light illuminates normally.

**INSPECTION PROCEDURE I-9: Headlight and Taillight: Headlight automatic shutoff function does not work normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor [P.54B-15](#)."*

**Headlight Automatic Shutt-Down Function**



W4P54M71AA

**CIRCUIT OPERATION**

The ETACS-ECU operates the headlight automatic shutdown function under the following conditions:

- Ignition key: Other than "ON" position
- Driver's door: open
- Taillights or headlights: ON

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The front-ECU may be defective
- The ETACS-ECU may be defective

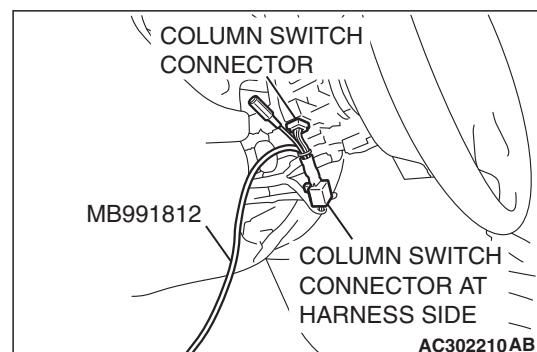
**TECHNICAL DESCRIPTION (COMMENT)**

If the function does not work normally, the input circuit system from the switches, the ETACS-ECU or the front-ECU may be defective (refer to "CIRCUIT OPERATION").

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness



- Ignition switch: "ON" to "OFF"
- Lighting switch: "TAIL" or "HEAD"

**To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.**

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "H/L AUTO-CUT."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Function Diag."
  - f. Select "LIGHTING."
  - g. Select "H/L AUTO-CUT."
- (4) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 00	HEADLIGHT SW	ON (Lighting switch: "HEAD")
ITEM 01	TAILLIGHT SW	ON (Lighting switch: "TAIL" )
ITEM 30	IG SW (IG1)	OFF

- (5) When the driver's door is opened, check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 32	FRONT DOOR SW	ON
ITEM 35	H/L AUTO-CUT	ON

Refer to Inspection Procedure M-6 "ETACS-ECU

does not receive any signal from the taillight switch  
[P.54B-522.](#)"

**Normal condition is not displayed for "HEADLIGHT SW"**

: Refer to Inspection Procedure M-6 "ETACS-ECU does not receive any signal from the headlight switch  
[P.54B-522.](#)"

**Normal condition is not displayed for "IG SW (IG1)" :**

Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) [P.54B-499.](#)"

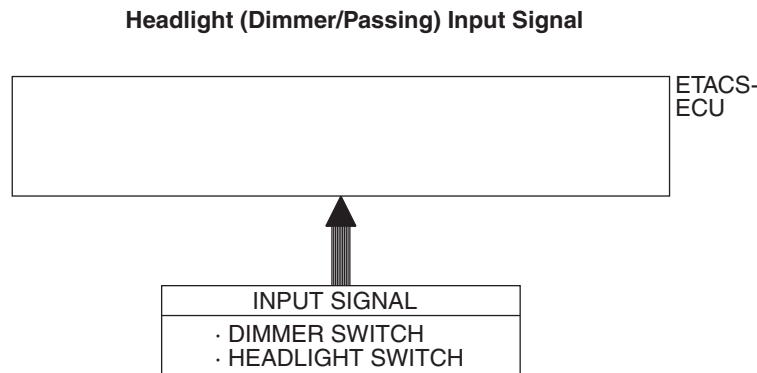
**Normal condition is not displayed for "FRONT DOOR SW" :**

Refer to Inspection Procedure M-5 "ETACS-ECU does not receive any signal from the door switches  
[P.54B-512.](#)"

**Normal condition is not displayed for "H/L AUTO-CUT" :**

Replace the ETACS-ECU. Check that the headlight automatic shutdown function works normally.

**INSPECTION PROCEDURE I-10: Headlight and Taillight: Headlight dimmer switch automatic resetting function does not work normally.**



W4P54M72AA

**CIRCUIT OPERATION**

The headlight dimmer switch automatic resetting function is controlled by the front-ECU.

**TECHNICAL DESCRIPTION (COMMENT)**

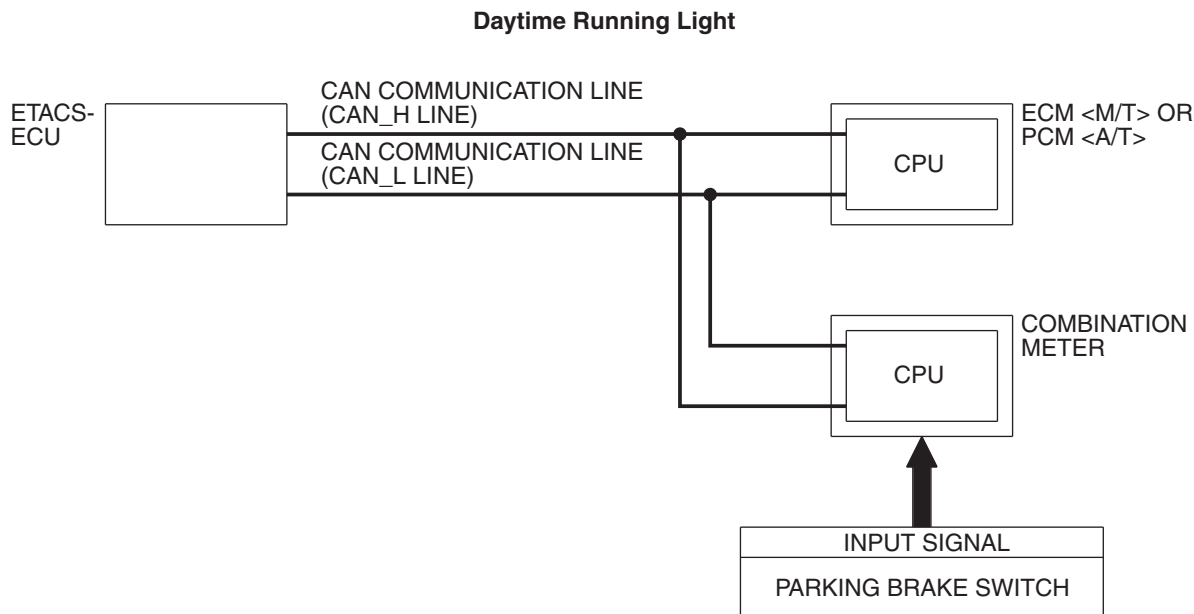
If the headlight dimmer switch automatic resetting function does not work normally, the front-ECU may be defective.

**TROUBLESHOOTING HINT**

The front-ECU may be defective

**DIAGNOSIS**

Replace the front-ECU.  
Check that the headlight dimmer switch automatic resetting function works normally.

**INSPECTION PROCEDURE I-11: Headlight and Taillight: Daytime running light function does not work normally.**

W6P54M071A

**TECHNICAL DESCRIPTION (COMMENT)**

If the daytime running light function does not work, connector(s), wiring harness in the CAN bus lines, the ECM <M/T>, the PCM <A/T>, the combination meter, the ETACS-ECU or the input signal circuit may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ECM <M/T>, the PCM <A/T> may be defective
- The combination meter may be defective
- The ETACS-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A

**STEP 1. Verify the headlight (low-beam) operation.**

Check to see that the headlight (low-beam) lights up properly when operating the dimmer switch while the headlight switch is ON.

**Q: Do the headlights (low-beam) illuminate normally?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure I-2 "Headlights (low-beam) do not illuminate normally [P.54B-273](#)."

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

**⚠ CAUTION**

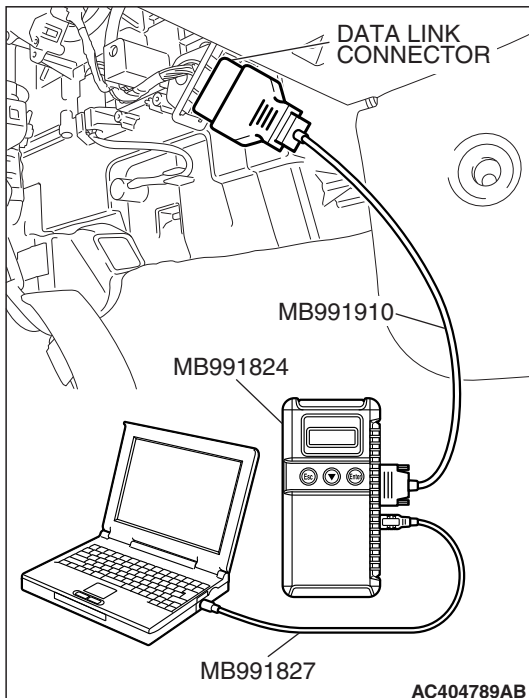
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect SWS monitor P.54B-13."
- (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 3.

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



**STEP 3. Using scan tool MB991958, read the ECM <M/T> or PCM <A/T> diagnostic trouble code.**

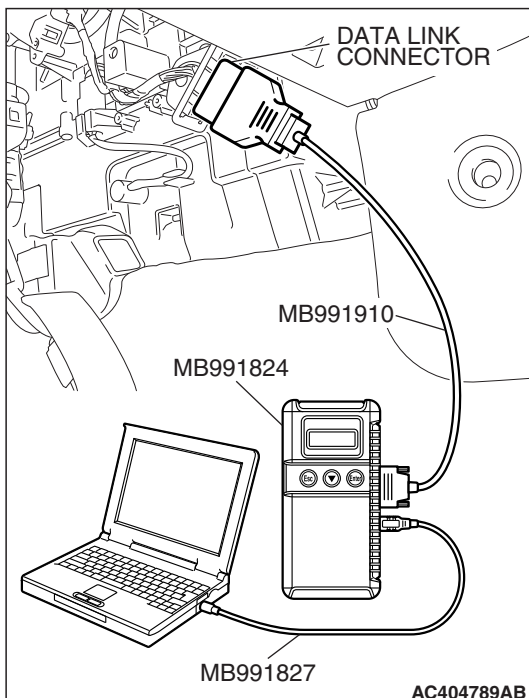
Check whether engine and transaxle DTCs are set or not.

- (1) Turn the ignition switch to the "ON" position.
- (2) Check for engine and transaxle DTCs.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

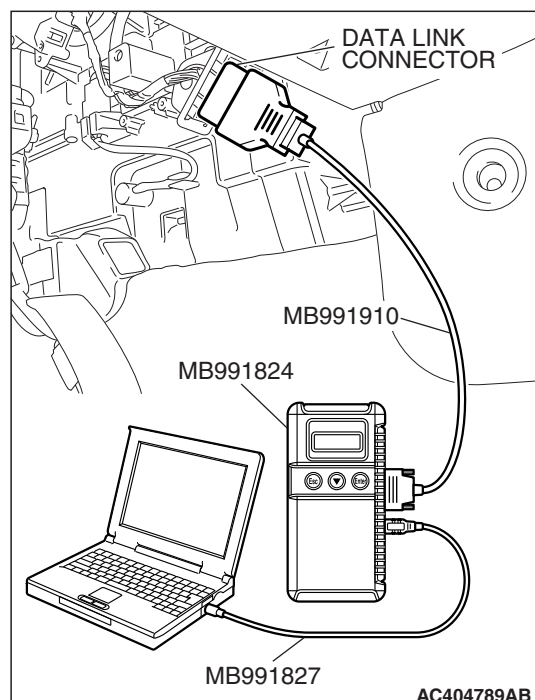
**Q: Is the DTC set?**

**YES :** Diagnose the ECM <M/T> or PCM <A/T> (Refer to GROUP 13A, Diagnosis P.13A-41 <2.4 L engine> or GROUP 13B, P.13B-43 <3.8 L engine>).

**NO :** Go to Step 4.





**STEP 4. Using scan tool MB991958, read the combination meter diagnostic trouble code.**

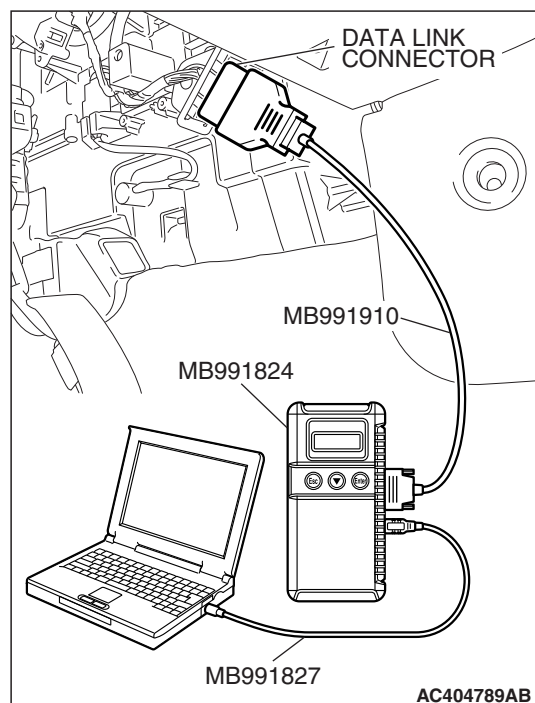
Check whether the combination meter-related DTC is set.

- (1) Turn the ignition switch to the "ON" position.
- (2) Check whether the combination meter-related DTC is set.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES :** Diagnose the combination meter (Refer to GROUP 54A, Diagnostic trouble code chart [P.54A-60](#)).

**NO :** Go to Step 5.

**STEP 5. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the parking brake switch.

- Check that scan tool MB991958 sounds when the parking brake lever is pulled.
- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
    - a. Select "Interactive Diagnosis."
    - b. Select "System Select."
    - c. Select "SWS."
    - d. Select "Pulse Checking."

**Q: Does scan tool MB991958 sound when the parking brake lever is pulled?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). The ignition key reminder tone alarm function should now work normally.

**NO :** Refer to GROUP 36, troubleshooting [P.36-3](#).



## FLASHER TIMER

### GENERAL DESCRIPTION CONCERNING THE FLASHER TIMER

M1549023600302

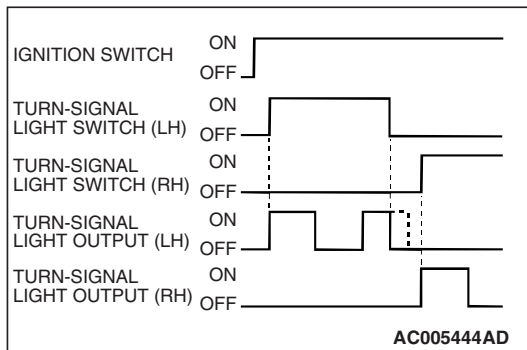
The following ECUs affect the functions and control of the flasher timer.

FUNCTION	CONTROL ECU
Turn-signal lights	ETACS-ECU, column switch
Hazard warning light	ETACS-ECU
Turn-signal indicators	ETACS-ECU, column switch

## FLASHER TIMER

### TURN-SIGNAL LIGHT

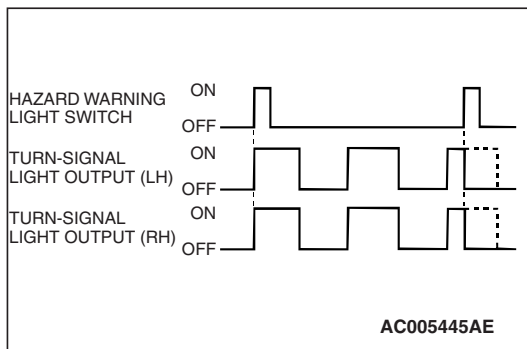
The turn-signal light output (flashing signal) is turned ON when the ignition switch is ON and the turn-signal light switch is ON (LH or RH). If the front or rear turn-signal light bulb has burned out, the flashing speed increases to indicate that the bulb has burned out.



### HAZARD WARNING LIGHT

Detects the signal where the hazard warning light switch input changes from OFF to ON, and reverses the flashing state according to this signal. The hazard warning lights toggle on and off whenever the hazard warning light switch is operated.

*NOTE: The hazard warning light switch is a push-return type toggle switch.*

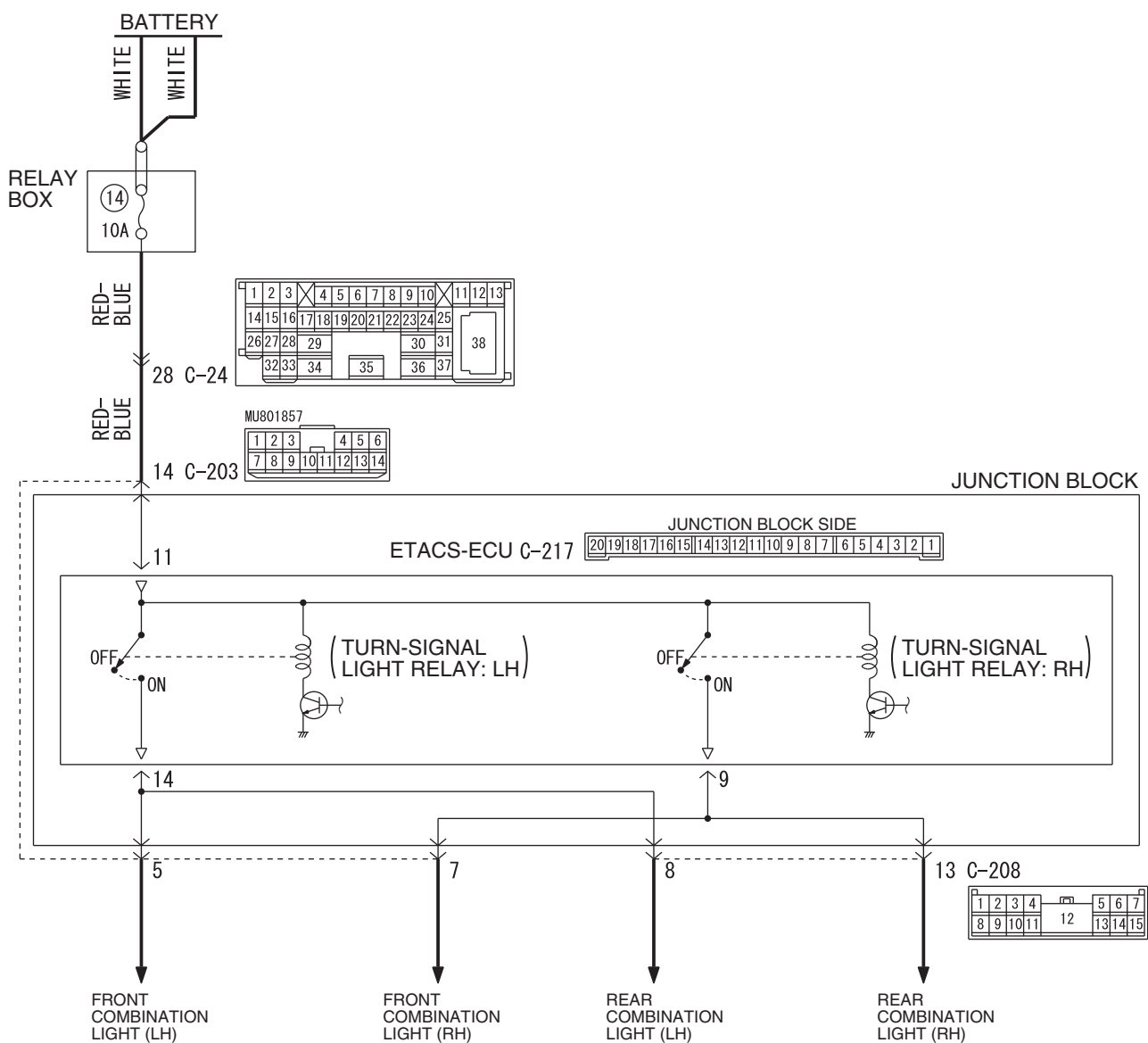


### TURN-SIGNAL INDICATORS

At the same time that the turn-signal lights are illuminated, the ETACS-ECU sends a signal to illuminate the turn-signal light indicator via the CAN bus line. The combination meter receives the transmitted signal and turns the turn-signal light indicator on and off.

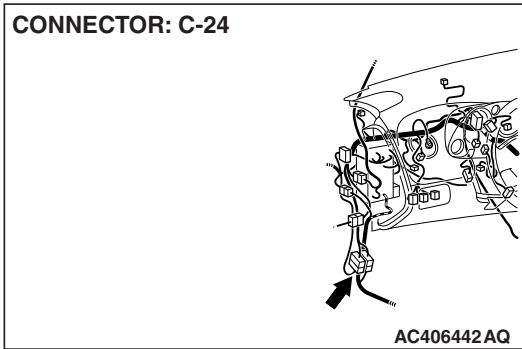
**INSPECTION PROCEDURE J-1: Flasher Timer: Turn-signal lights do not flash when the turn-signal light switch is turned on.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

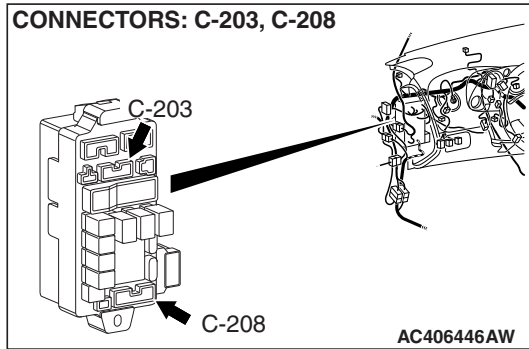
**Turn-Signal Light Power Supply Circuit**

W6P54M015A

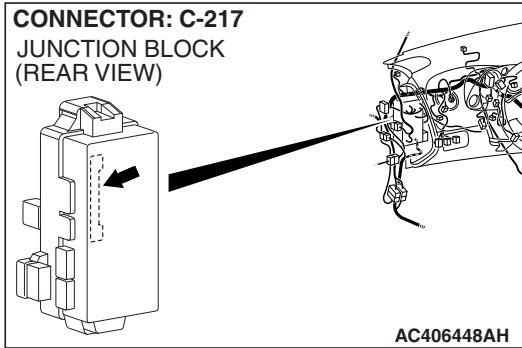
**CONNECTOR: C-24**



**CONNECTORS: C-203, C-208**



**CONNECTOR: C-217**  
JUNCTION BLOCK  
(REAR VIEW)



## CIRCUIT OPERATION

- The turn-signal light switch sends a signal through the column-ECU (incorporated in the column switch) to the ETACS-ECU. If the column-ECU sends a turn-signal light switch "ON" signal to the ETACS-ECU, the ETACS-ECU turns on the flasher timer (incorporated in the ETACS-ECU), thus causing the turn-signal lights to flash.
- The ETACS-ECU flashes the turn-signal lights under the following conditions:
  - Ignition key: "ON" position
  - Turn-signal light switch: Left or right turn-signal position

## TECHNICAL DESCRIPTION (COMMENT)

If the turn-signal lights do not flash normally, the input circuits from the switches described in "CIRCUIT OPERATION" or the ETACS-ECU may be defective. If the hazard warning lights do not flash, the power supply line to the ETACS-ECU (dedicated to the turn-signal lights) may be defective.

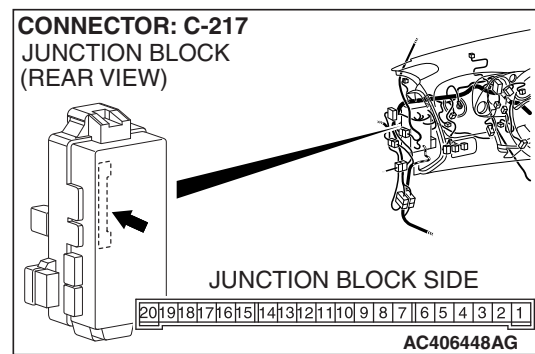
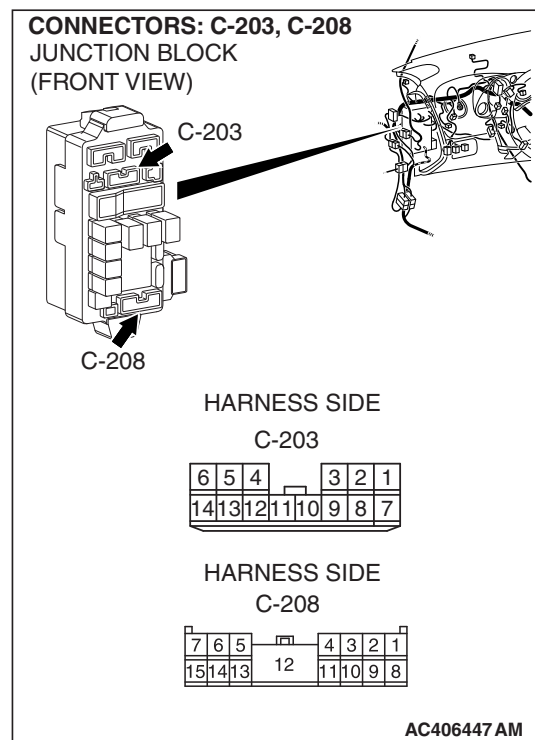
## TROUBLESHOOTING HINTS

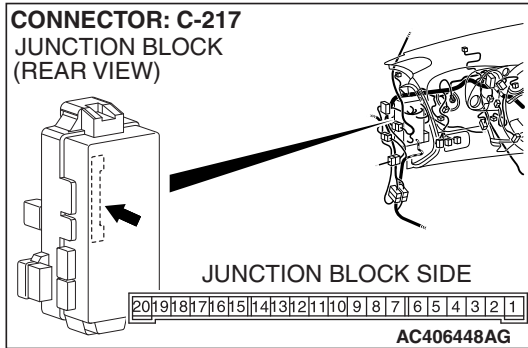
- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1. Check the hazard warning light.****Q: Do the hazard warning lights work normally?****YES :** Go to Step 7.**NO :** Go to Step 2.**STEP 2. Check the turn-signal lights.****Q: Does either of the turn-signal lights illuminate?****Only right or left side light does not illuminate. :** Go to Step 3.**Turn-signal lights do not illuminate at all :** Go to Step 4.**STEP 3. Check ETACS-ECU connector C-217, junction block connectors C-203 and C-208 for loose, corroded or damaged terminals, or terminals pushed back in the connector.****Q: Are ETACS-ECU connector C-217, junction block connectors C-203 and C-208 in good condition?****YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the turn-signal lights illuminate normally.**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

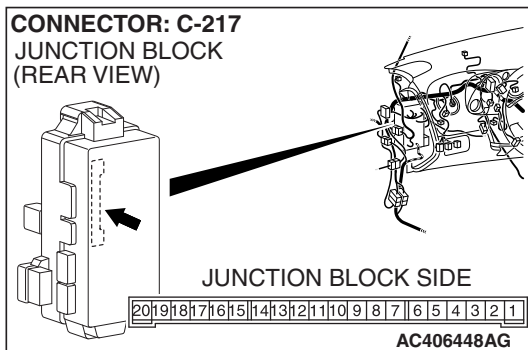


**STEP 4. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

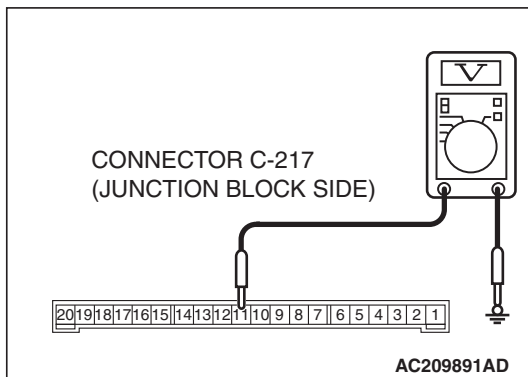
**YES :** Go to Step 5.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.



**STEP 5. Check the battery power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-217.**

(1) Disconnect ETACS-ECU connector C-217, and measure the voltage available at the junction block side of the connector.



(2) Measure the voltage between terminal 11 and ground.

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

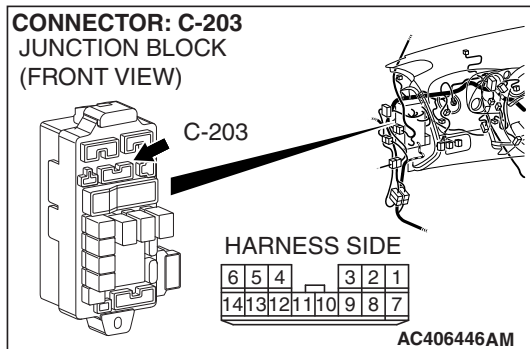
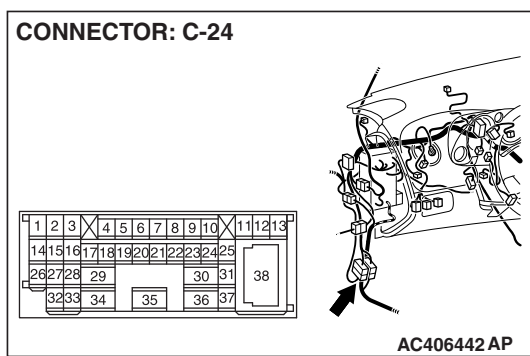
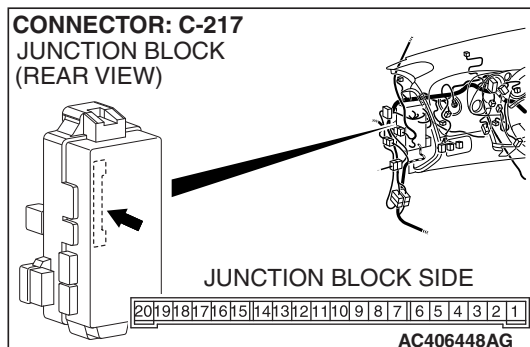
**Q: Is the measured voltage approximately 12 volts (battery positive voltage)?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the turn-signal lights illuminate normally.

**NO :** Go to Step 6.

**STEP 6. Check the wiring harness between ETACS-ECU connector C-217 (terminal 11) and the battery.**

- Check the power supply line for open circuit and short circuit.



*NOTE: Also check junction block connector C-203 and intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-203 or intermediate connector C-24 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 ETACS-ECU connector C-217 (terminal 11) and the battery in good condition?**

**YES :** No action is necessary and testing is complete.

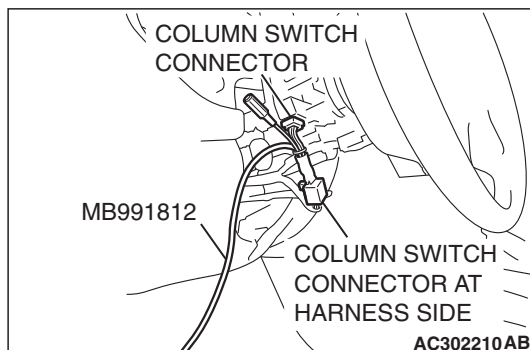
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

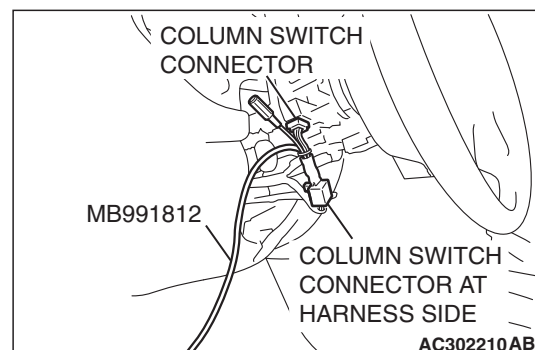
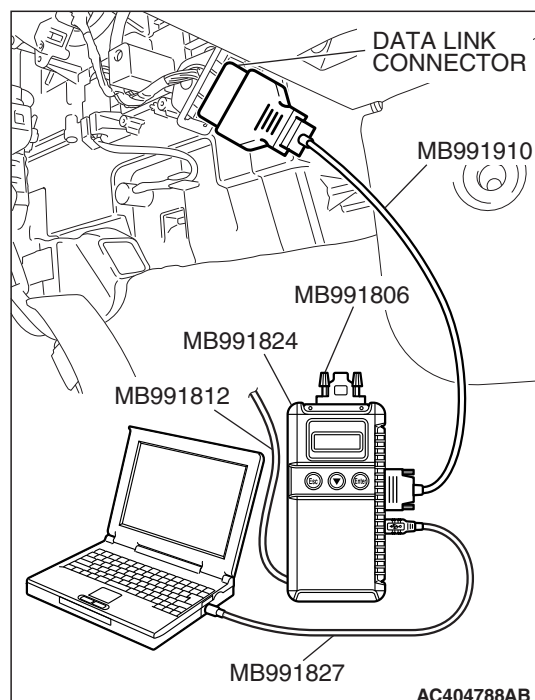
- Ignition switch: ON
- Turn-signal light switch: RH

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "TURN SIG.RH."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Function Diag."
  - f. Select "TURN SIGNAL."
  - g. Select "TURN SIG.RH."
- (4) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 10	T/S RH SW	ON
ITEM 30	IG SW (IG1)	ON

Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) P.54B-499."





### STEP 8. Check the input signal by using "FUNCTION DIAG." menu of the SWS monitor.

If the Ignition switch is turned to the "ON" position and the turn-signal light switch (LH) is turned on, normal conditions should be displayed for the items described in the table below.

- (1) Operate scan tool MB991958 according to the procedure below to display "TURN SIG.LH."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Function Diag."
  - f. Select "TURN SIGNAL."
  - g. Select "TURN SIG.LH."
- (2) Check that normal conditions are displayed for the item described in the table below.

ITEM No.	ITEM NAME	NORMAL CONDITION
ITEM 11	T/S LH SW	ON

### Q: Do the scan tool display the item "T/S LH SW" as normal condition?

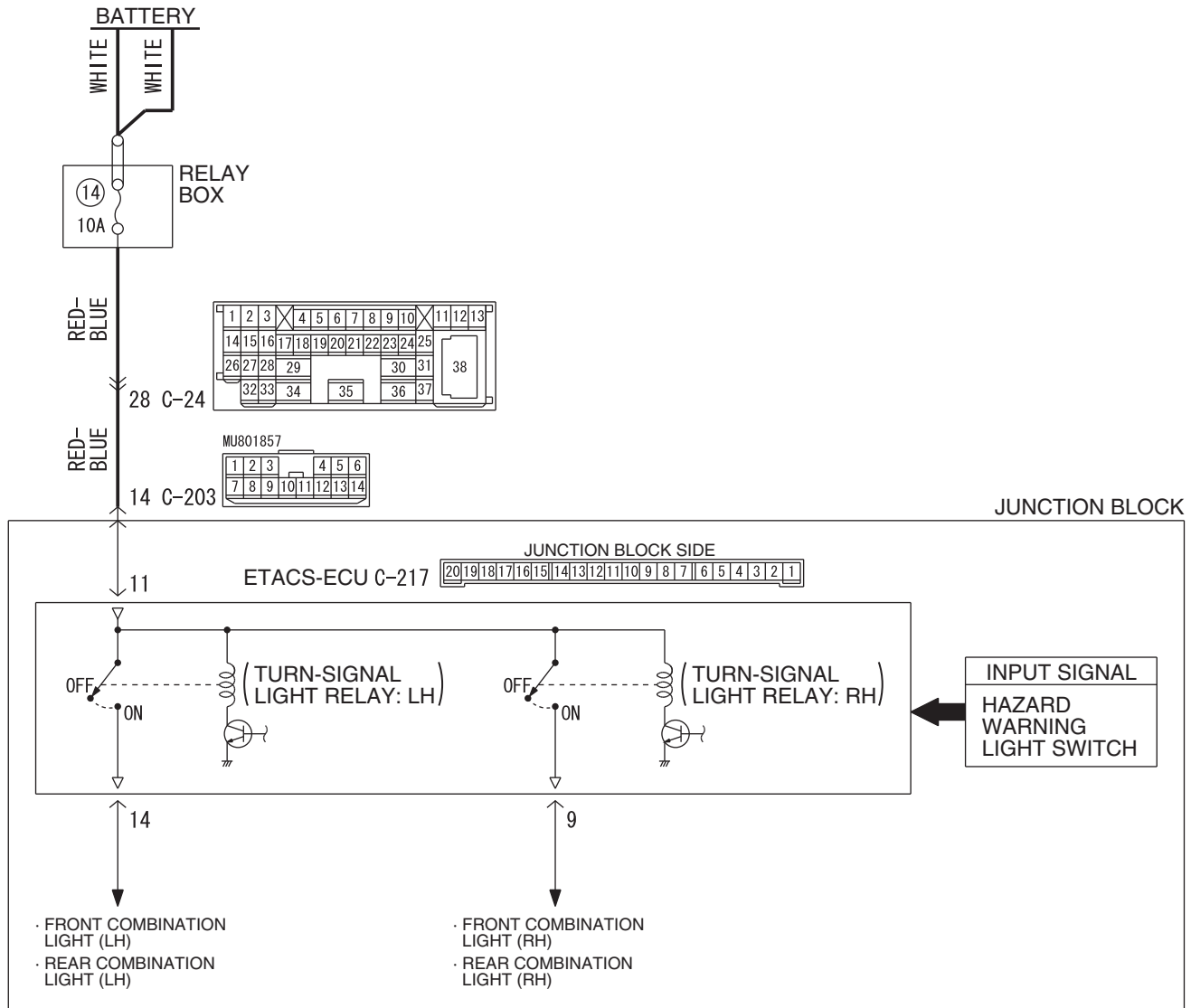
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the turn-signal lights illuminate normally.

**NO :** Refer to Inspection Procedure M-6 "ETACS-ECU does not receive any signal from the turn-signal light switch [P.54B-522](#)."



**INSPECTION PROCEDURE J-2: Flasher Timer: Hazard warning lights do not flash when the hazard warning light switch is turned on.**

**Hazard Warning Light Circuit**



W6P54M016A

**CIRCUIT OPERATION**

If the ETACS-ECU receives "ON" signal from the hazard warning light switch, the ETACS-ECU turns on the flasher timer (incorporated in the ETACS-ECU), thus causing the turn-signal lights to flash.

**TECHNICAL DESCRIPTION (COMMENT)**

If the hazard warning lights do not flash, the power supply line to the ETACS-ECU (dedicated to the turn-signal lights) or the ETACS-ECU may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

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

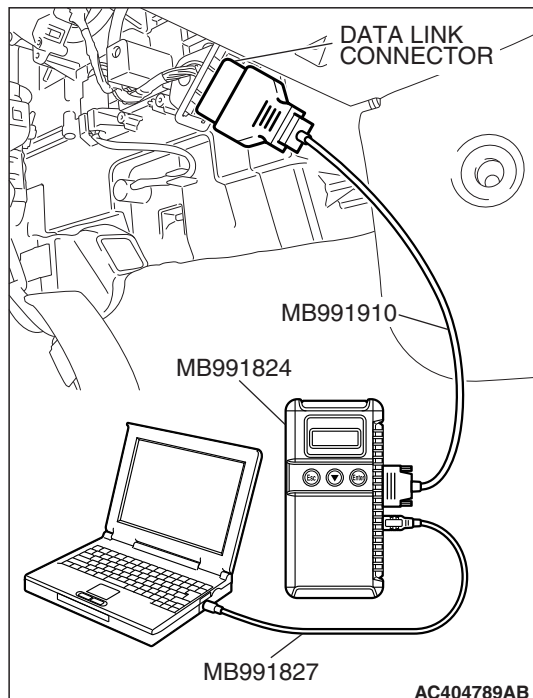
- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A

**STEP 1. Check the turn-signal lights.****Q: Do the turn-signal lights illuminate normally?****YES :** Go to Step 2.**NO :** Refer to Inspection Procedure J-1 "Turn-signal lights do not flash when the turn-signal light switch is turned on [P.54B-358](#)."**STEP 2. Check the input signal (by using the pulse check mode of the monitor).**

Check input signal from the hazard warning light switch.

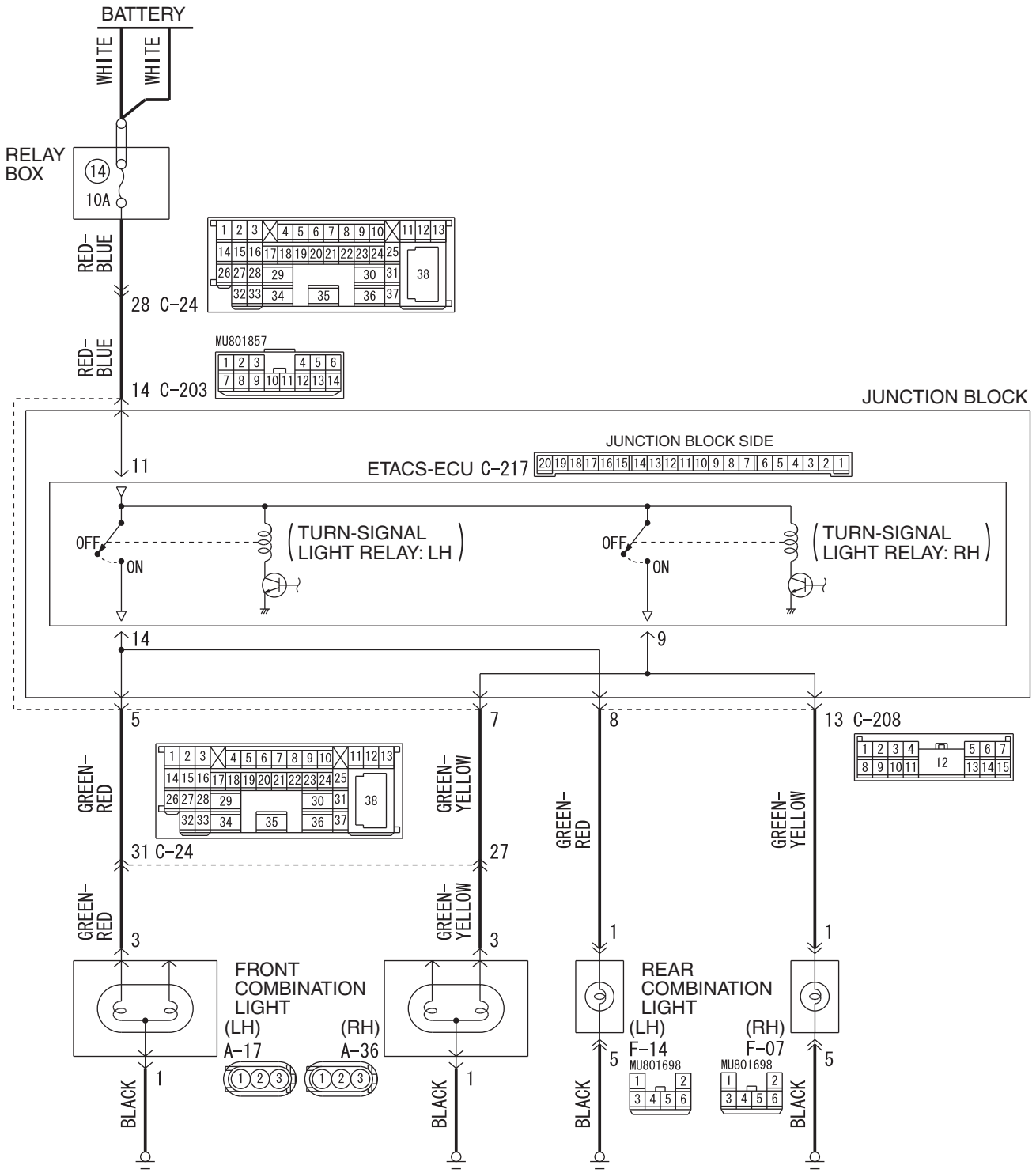
**⚠ CAUTION****To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.**

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (3) Check that scan tool MB991958 sounds when the hazard warning light switch is turned from "OFF" to "ON."

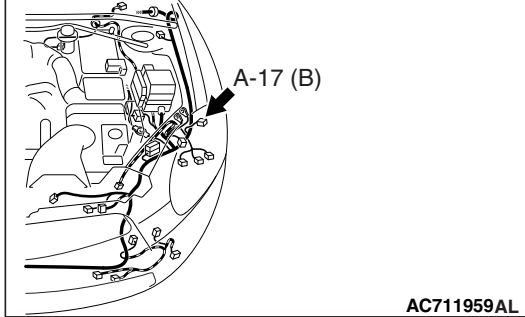
**Q: Does scan tool MB991958 sound when the hazard warning light switch is turned from "OFF" to "ON"?****YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the hazard warning lights illuminate normally.**NO :** Refer to Inspection Procedure N-2 "ETACS-ECU does not receive any signal from the hazard warning light switch [P.54B-541](#)."

**INSPECTION PROCEDURE J-3: Flasher Timer: One of the turn-signal lights does not illuminate.  
<Halogen Type Headlight>**

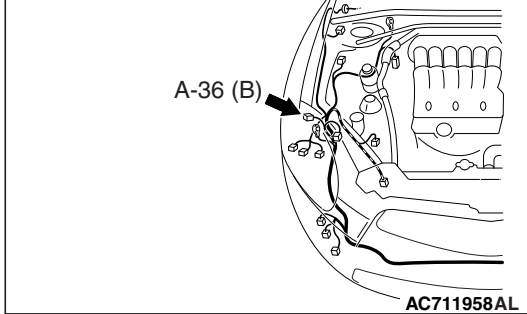
**Turn-Signal Lights Circuit <Halogen Type Headlight>**



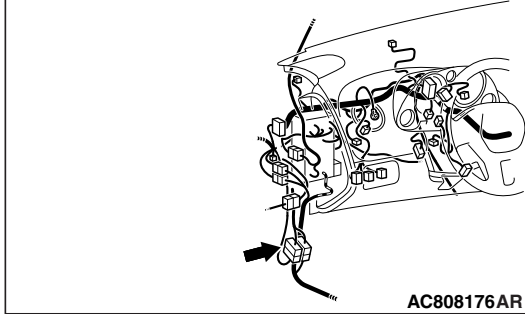
CONNECTOR: A-17



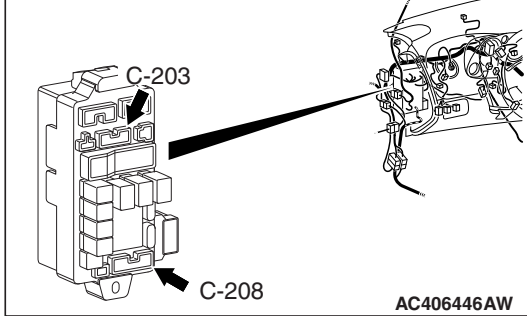
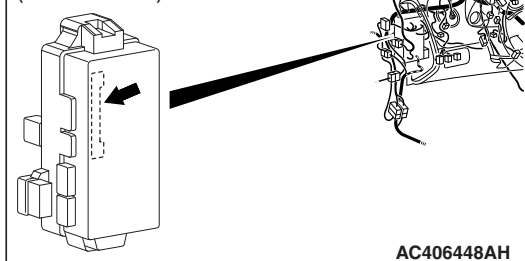
CONNECTOR: A-36



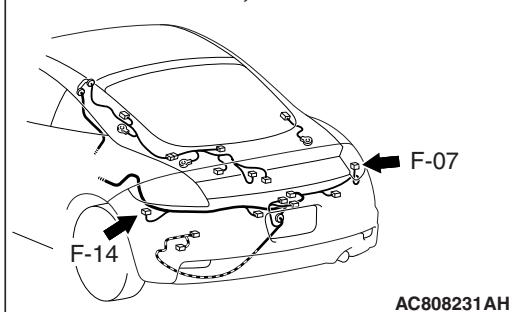
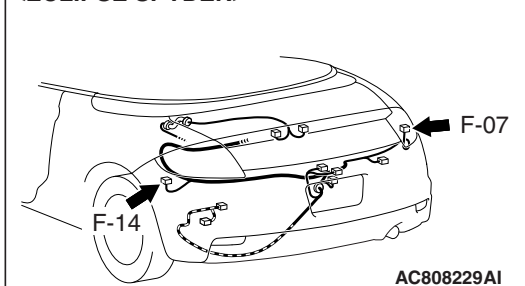
CONNECTOR: C-24



CONNECTORS: C-203, C-208

CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)

CONNECTORS: F-07, F-14 &lt;ECLIPSE&gt;

CONNECTORS: F-07, F-14  
<ECLIPSE SPYDER>**TECHNICAL DESCRIPTION (COMMENT)**

If the right or left turn-signal light does not illuminate, their bulb may be defective.

**TROUBLESHOOTING HINTS**

- The turn-signal light bulb 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

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### STEP 1. Check the hazard warning light.

#### Q: Which turn-signal light does not illuminate?

**Front turn-signal light (LH)** : Go to Step 2.

**Front turn-signal light (RH)** : Go to Step 8.

**Rear combination light (LH)** : Go to Step 14.

**Rear combination light (RH)** : Go to Step 20.

**Turn-signal indicators** : Refer to Inspection Procedure J-4

"The turn-signal light indicator does not illuminate normally [P.54B-399](#)."

**LH side only** : Refer to Inspection Procedure J-1

"Turn-signal lights do not flash when the turn-signal light switch is turned on [P.54B-358](#)."

**RH side only** : Refer to Inspection Procedure J-1

"Turn-signal lights do not flash when the turn-signal light switch is turned on [P.54B-358](#)."

**Both LH and RH sides** : Refer to Inspection Procedure J-2

"Hazard warning lights do not flash when the hazard warning light switch is turned on [P.54B-365](#)."

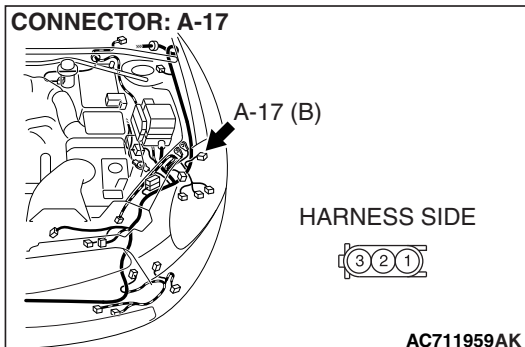
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### STEP 2. Check front combination light (LH) connector A-17 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

#### Q: Is front combination light (LH) connector A-17 in good condition?

**YES** : Go to Step 3.

**NO** : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.



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### STEP 3. Check the front turn-signal light bulb (LH).

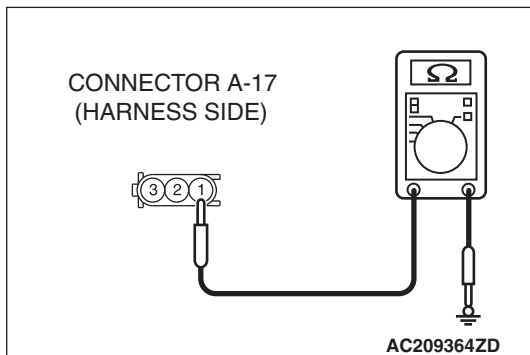
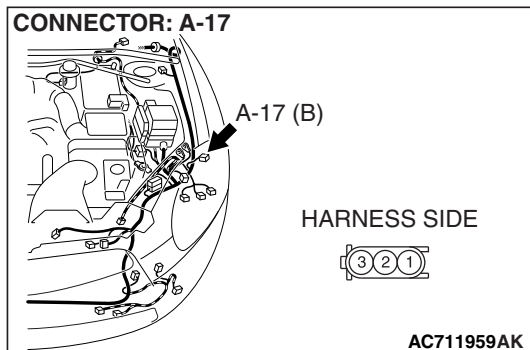
(1) Remove the front turn-signal (LH) light bulb.

(2) Verify that the front turn-signal light bulb (LH) is not damaged or burned out.

#### Q: Is the front turn-signal (LH) light bulb in good condition?

**YES** : Go to Step 4.

**NO** : Replace the front turn-signal (LH) light bulb. Verify that the turn-signal lights illuminate normally.



**STEP 4. Check the ground circuit to the ETACS-ECU.  
Measure the resistance at front combination light (LH)  
connector A-17.**

(1) Disconnect front combination light (LH) connector A-17 and measure the resistance available at the wiring harness side of the connector.

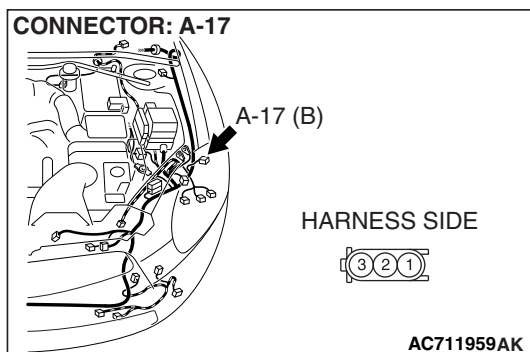
(2) Measure the resistance value between terminal 1 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 6.

**NO :** Go to Step 5.



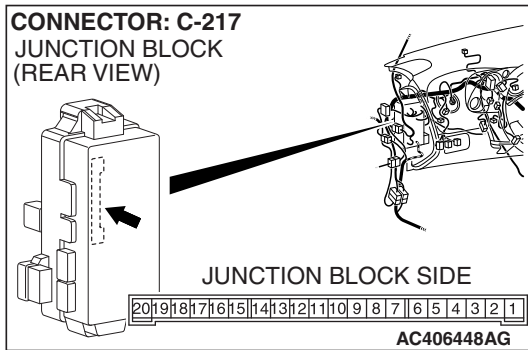
**STEP 5. Check the wiring harness between front  
combination light (LH) connector A-17 (terminal 1) and  
ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between front combination light (LH) connector A-17 (terminal 1) and ground in good condition?**

**YES :** Replace the front combination light socket (LH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.



**STEP 6. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

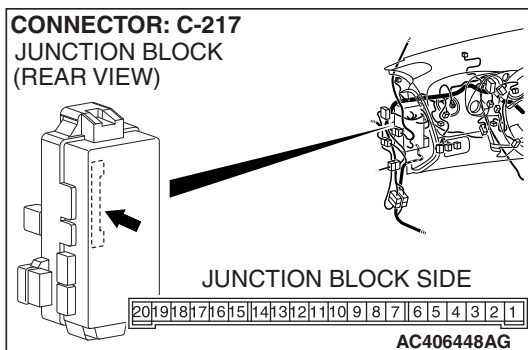
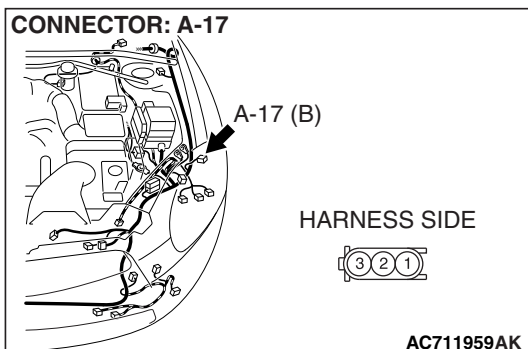
**Q: Is ETACS-ECU connector C-217 in good condition?**

**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

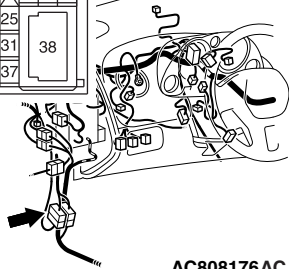
**STEP 7. Check the wiring harness between front combination light (LH) connector A-17 (terminal 3) and ETACS-ECU connector C-217 (terminal 14).**

- Check the communication lines for open circuit and short circuit.



**CONNECTOR: C-24**

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	
26	27	28	29					30	31		38	
32	33	34		35				36	37			



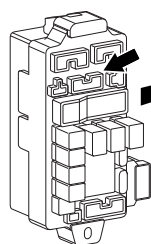
AC808176AC

**NOTE:** Also check junction block connector C-203 and intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-203 or intermediate connector C-24 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 front combination light (LH) connector A-17 (terminal 3) and ETACS-ECU connector C-217 (terminal 14) in good condition?

**YES :** Replace the front combination light socket (LH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: C-203**  
JUNCTION BLOCK  
(FRONT VIEW)

C-203

6	5	4		3	2	1
14	13	12	11	10	9	8
7						

AC406446AM

**CONNECTOR: A-36**

HARNESS SIDE



A-36 (B)

AC711958AK

**STEP 8. Check front combination light (RH) connector A-36 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q:** Is front combination light (RH) connector A-36 in good condition?

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that the turn-signal lights illuminate normally.

**STEP 9. Check the front turn-signal light bulb (RH).**

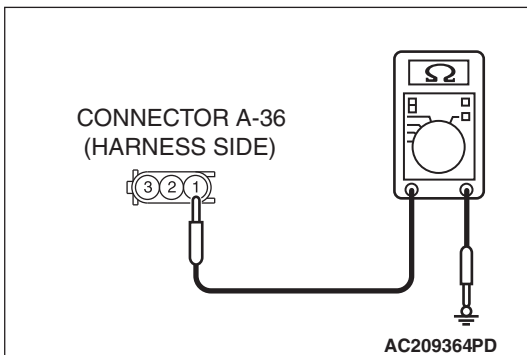
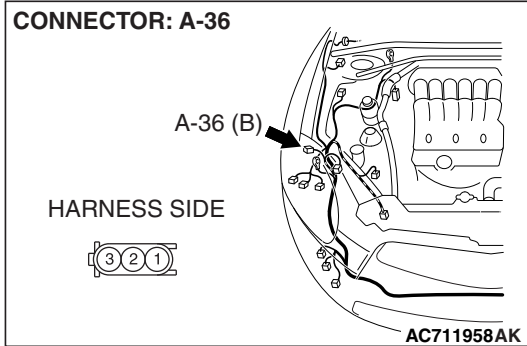
- (1) Remove the front turn-signal (RH) light bulb.
- (2) Verify that the front turn-signal light bulb (RH) is not damaged or burned out.

**Q:** Is the front turn-signal (RH) light bulb in good condition?

**YES :** Go to Step 10.

**NO :** Replace the front turn-signal (RH) light bulb. Verify that the turn-signal lights illuminate normally.





**STEP 10. Check the ground circuit to the front combination light (RH). Measure the resistance at front combination light (RH) connector A-36.**

(1) Disconnect front combination light (RH) connector A-36 and measure the resistance available at the wiring harness side of the connector.

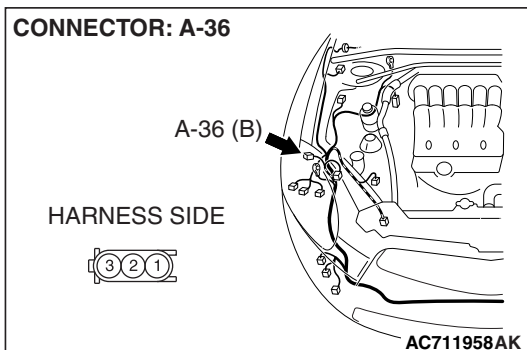
(2) Measure the resistance value between terminal 1 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 12.

**NO :** Go to Step 11.



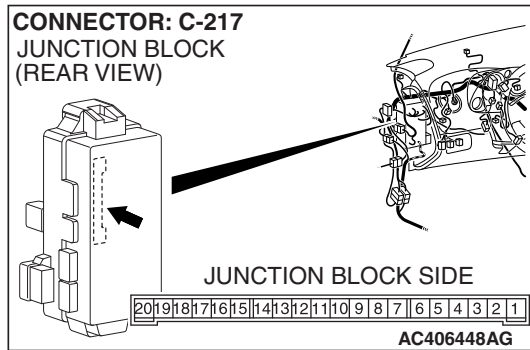
**STEP 11. Check the wiring harness between front combination light (RH) connector A-36 (terminal 1) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between front combination light (RH) connector A-36 (terminal 1) and ground in good condition?**

**YES :** Replace the front combination light socket (RH).  
Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

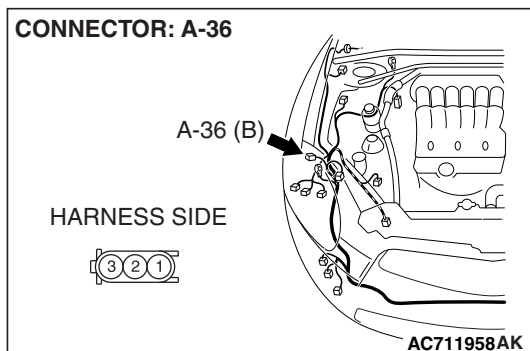


**STEP 12. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

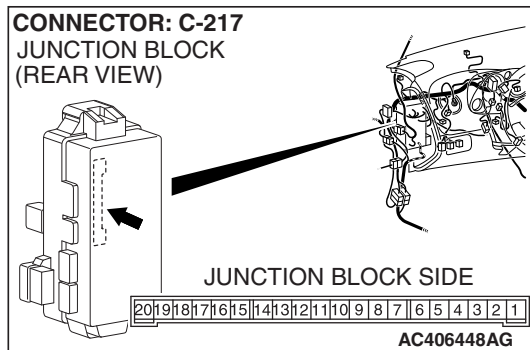
**YES :** Go to Step 13.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.



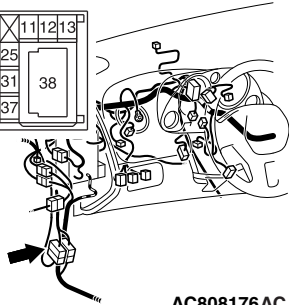
**STEP 13. Check the wiring harness between front combination light (RH) connector A-36 (terminal 3) and ETACS-ECU connector C-217 (terminal 9).**

- Check the communication lines for open circuit and short circuit.



**CONNECTOR: C-24**

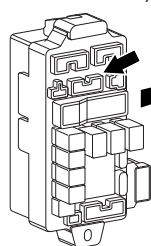
1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	
26	27	28	29					30	31		38	
32	33	34		35		36	37					



AC808176AC

*NOTE: Also check junction block connector C-203 and intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-203 or intermediate connector C-24 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.*

**CONNECTOR: C-203  
JUNCTION BLOCK  
(FRONT VIEW)**



C-203

**HARNESS SIDE**

6	5	4		3	2	1
14	13	12	11	10	9	8
						7

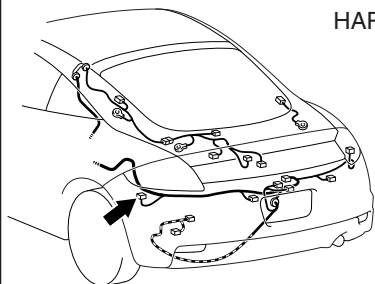
AC406446AM

**Q: Is the wiring harness between front combination light (RH) connector A-36 (terminal 3) and ETACS-ECU connector C-217 (terminal 9) in good condition?**

- YES :** Replace the front combination light socket (RH).  
Verify that the turn-signal lights illuminate normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-14 <ECLIPSE>**

**HARNESS SIDE**



1		2
3	4	5
		6

AC808231AD

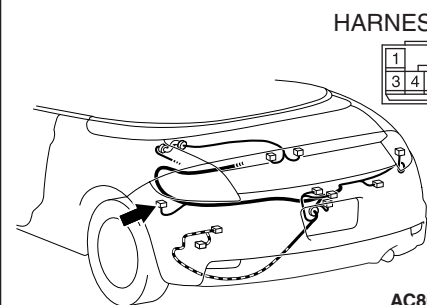
**STEP 14. Check rear combination light (LH) connector F-14 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear combination light (LH) connector F-14 in good condition?**

- YES :** Go to Step 15.
- NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-14 <ECLIPSE SPYDER>**

**HARNESS SIDE**



1		2
3	4	5
		6

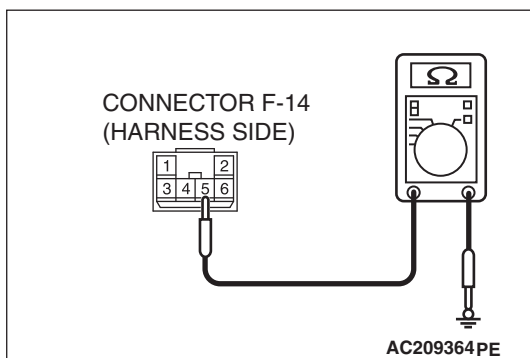
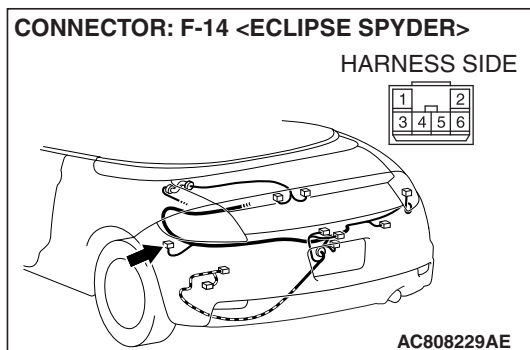
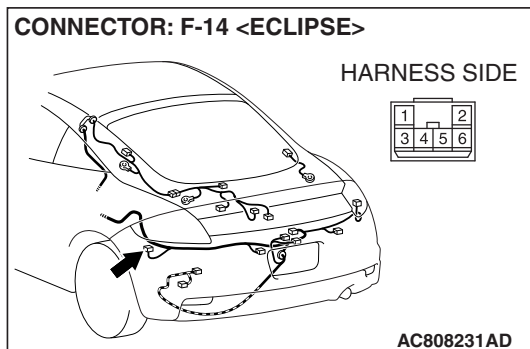
AC808229AE

**STEP 15. Check the rear turn-signal light bulb (LH).**

- (1) Remove the rear turn-signal (LH) light bulb.
- (2) Verify that the rear turn-signal light bulb (LH) is not damaged or burned out.

**Q: Is the rear turn-signal (LH) light bulb in good condition?****YES :** Go to Step 16.**NO :** Replace the rear turn-signal (LH) light bulb. Verify that the turn-signal lights illuminate normally.**STEP 16. Check the ground circuit to the rear combination light (LH). Measure the resistance at rear combination light (LH) connector F-14.**

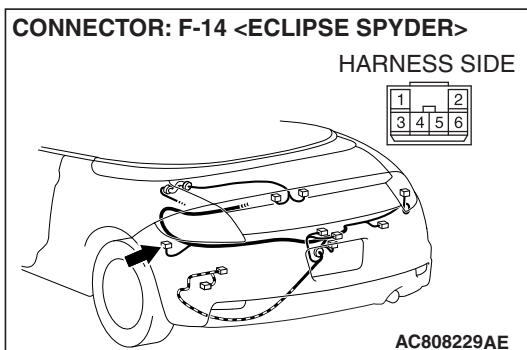
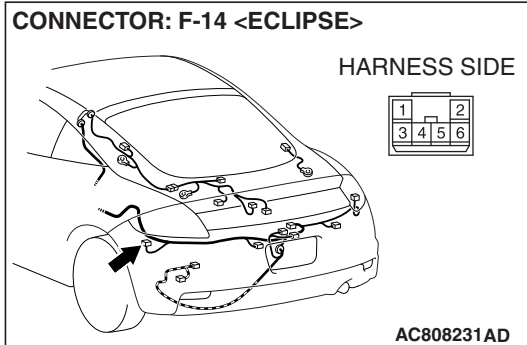
- (1) Disconnect rear combination light (LH) connector F-14 and measure the resistance available at the wiring harness side of the connector.



- (2) Measure the resistance value between terminal 5 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?****YES :** Go to Step 18.**NO :** Go to Step 17.

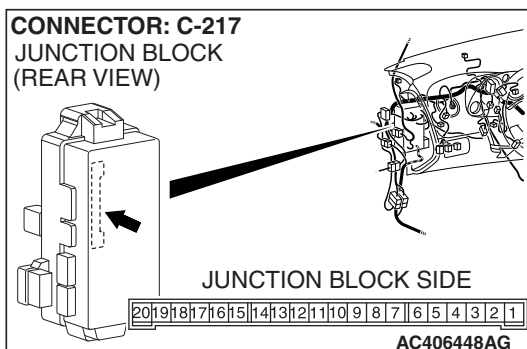


**STEP 17. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground in good condition?**

- YES :** Replace the rear combination light socket assembly (LH). Verify that the turn-signal lights illuminate normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.



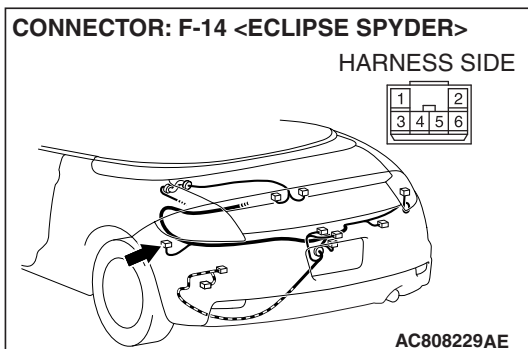
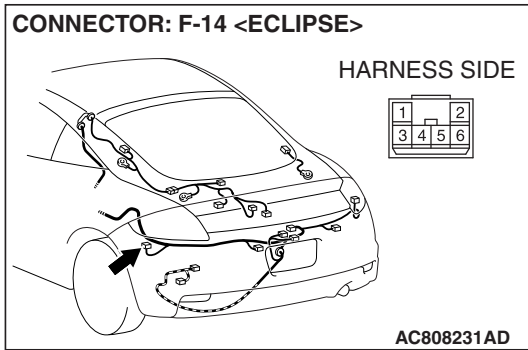
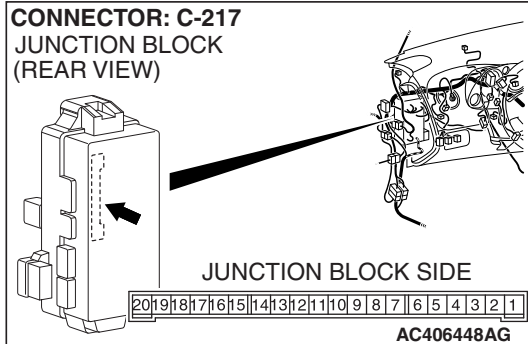
**STEP 18. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

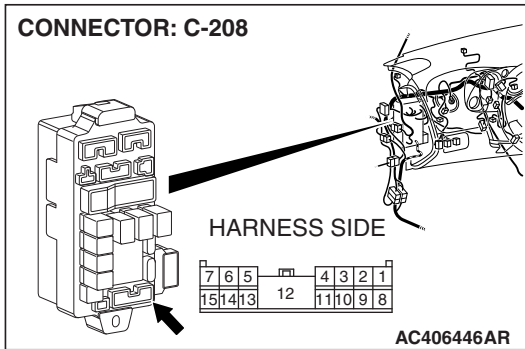
- YES :** Go to Step 19.
- NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

**STEP 19. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 1) and ETACS-ECU connector C-217 (terminal 14).**

- Check the communication lines for open circuit and short circuit.



**CONNECTOR: C-208**



*NOTE: Also check junction block connector C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-208 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 rear combination light (LH) connector F-14 (terminal 1) and ETACS-ECU connector C-217 (terminal 14) in good condition?**

**YES :** Replace the rear combination light socket assembly (LH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

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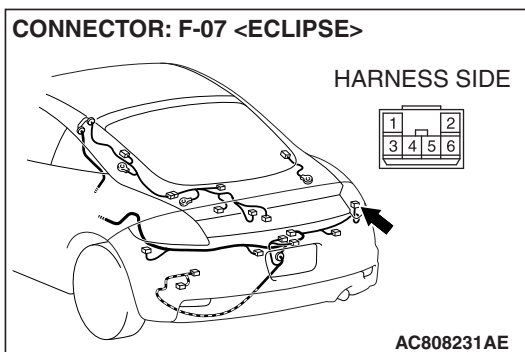
**STEP 20. Check rear combination light (RH) connector F-07 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear combination light (RH) connector F-07 in good condition?**

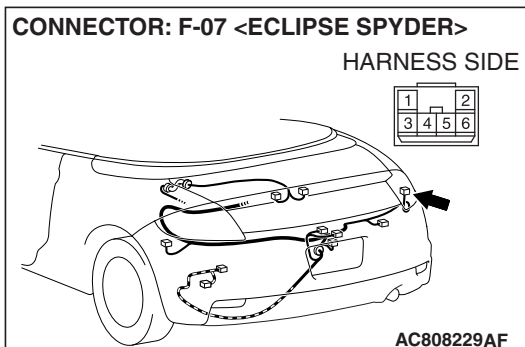
**YES :** Go to Step 21.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-07 <ECLIPSE>**



**CONNECTOR: F-07 <ECLIPSE SPYDER>**




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**STEP 21. Check the rear turn-signal light bulb (RH).**

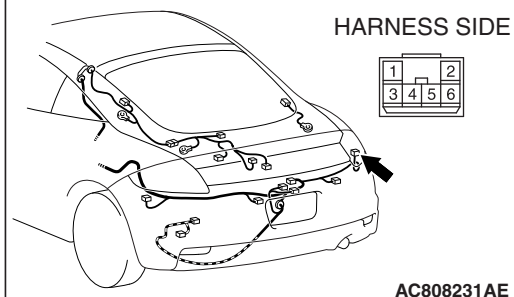
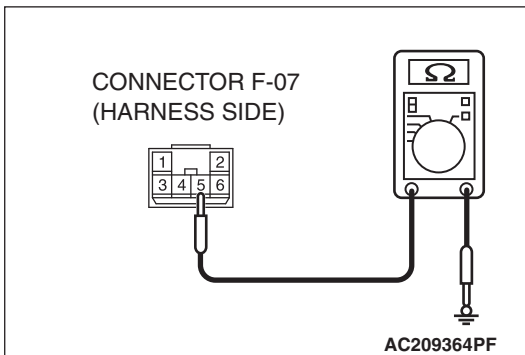
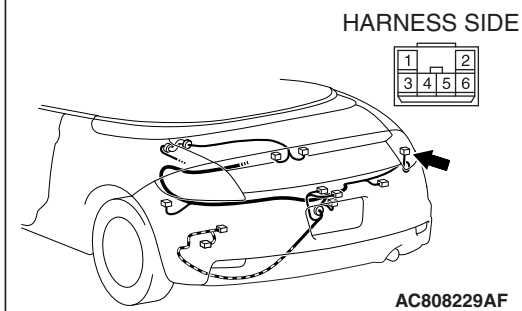
(1) Remove the rear turn-signal (RH) light bulb.

(2) Verify that the rear turn-signal light bulb (RH) is not damaged or burned out.

**Q: Is the rear turn-signal (RH) light bulb in good condition?**

**YES :** Go to Step 22.

**NO :** Replace the rear turn-signal (RH) light bulb. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-07 <ECLIPSE>****CONNECTOR: F-07 <ECLIPSE SPYDER>**

**STEP 22. Check the ground circuit to the rear turn-signal light (RH). Measure the resistance at rear combination light (RH) connector F-07.**

- (1) Disconnect rear combination light (RH) connector F-07 and measure the resistance available at the harness side of the connector.

- (2) Measure the resistance value between terminal 5 and ground.
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

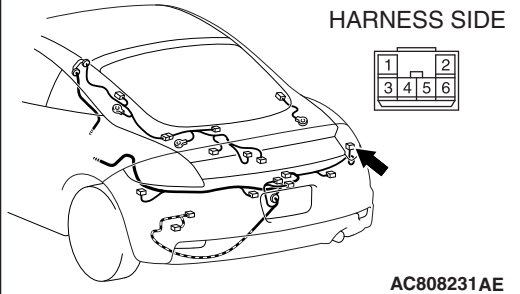
**YES :** Go to Step 24.

**NO :** Go to Step 23.



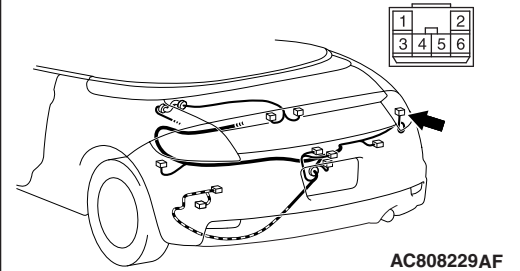
CONNECTOR: F-07 <ECLIPSE>

HARNESS SIDE

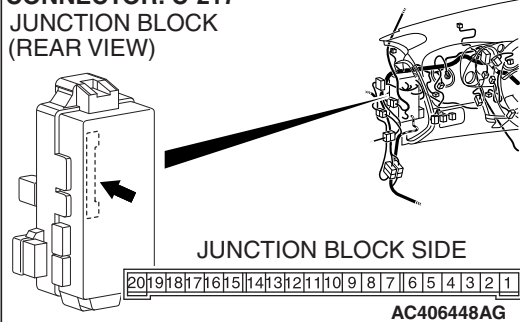


CONNECTOR: F-07 <ECLIPSE SPYDER>

HARNESS SIDE



CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)



**STEP 23. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground in good condition?**

- YES :** Replace the rear combination light socket assembly (RH). Verify that the turn-signal lights illuminate normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

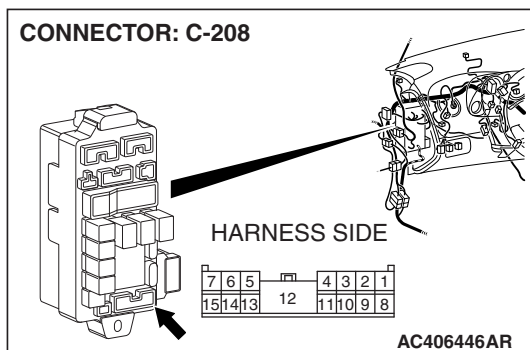
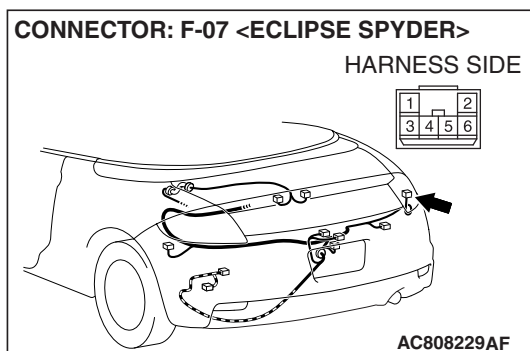
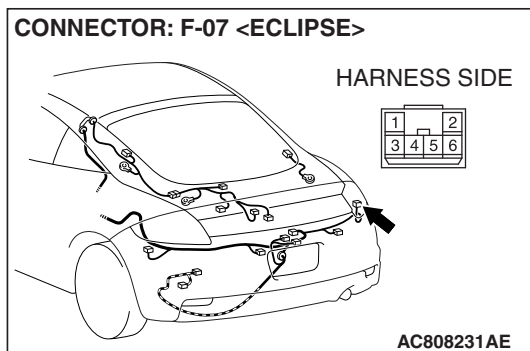
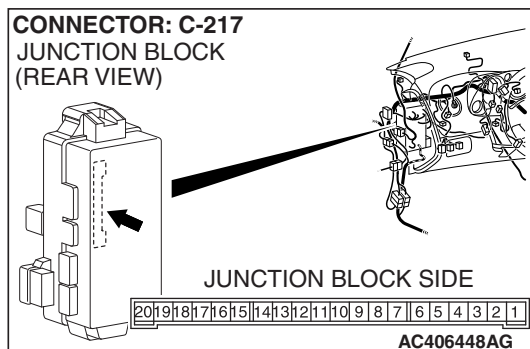
**STEP 24. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

- YES :** Go to Step 25.
- NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

**STEP 25. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 1) and ETACS-ECU connector C-217 (terminal 9).**

- Check the communication lines for open circuit and short circuit.



*NOTE: Also check junction block connector C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-208 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

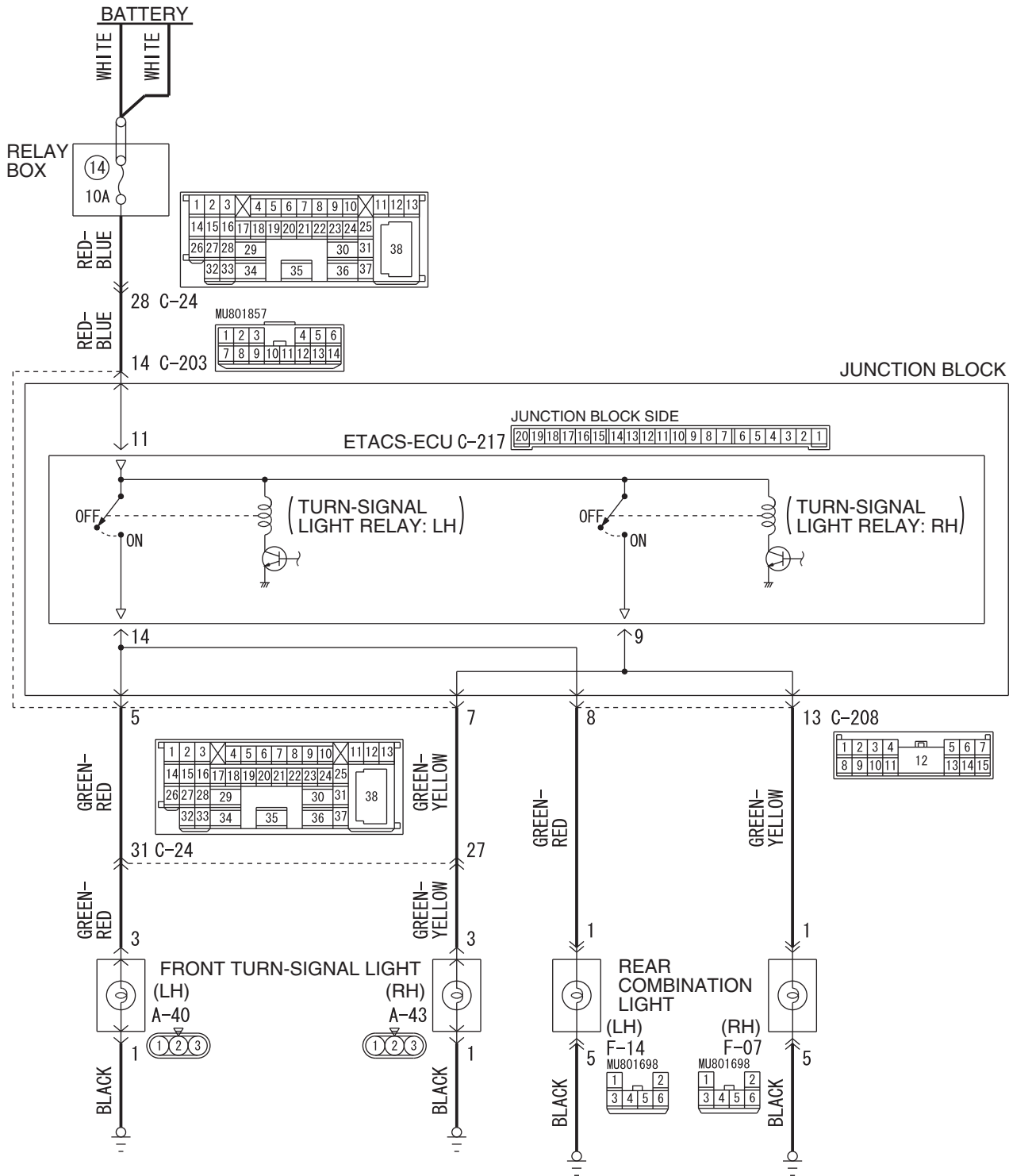
**Q: Is the wiring harness between rear combination light (RH) connector F-07 (terminal 1) and ETACS-ECU connector C-217 (terminal 9) in good condition?**

**YES :** Replace the rear combination light socket assembly (RH). Verify that the turn-signal lights illuminate normally.

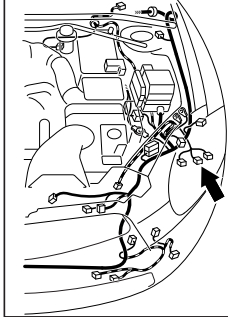
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

**INSPECTION PROCEDURE J-3: Flasher Timer: One of the turn-signal lights does not illuminate.**  
**<Discharge Type Headlight>**

Turn-Signal Lights Circuit <Discharge Type Headlight>

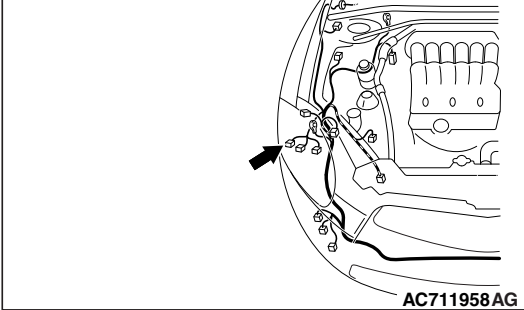


CONNECTOR: A-40



AC711959AF

CONNECTOR: A-43



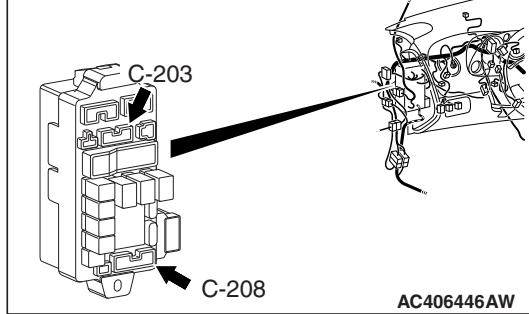
AC711958AG

CONNECTOR: C-24

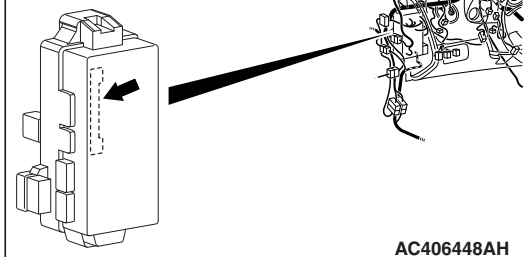


AC406442AQ

CONNECTORS: C-203, C-208

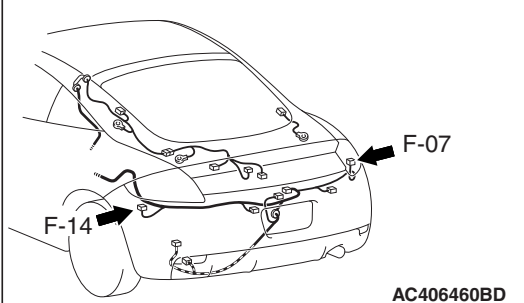


AC406446AW

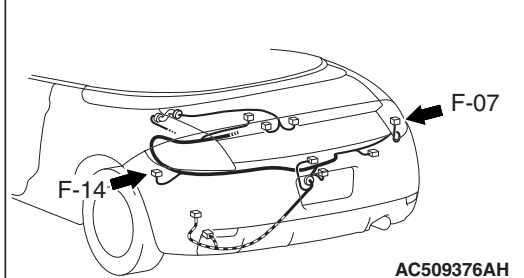
CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)

AC406448AH

CONNECTORS: F-07, F-14 &lt;ECLIPSE&gt;



AC406460BD

CONNECTOR: F-07, F-14  
<ECLIPSE SPYDER>

AC509376AH

**TECHNICAL DESCRIPTION (COMMENT)**

If the right or left turn-signal light does not illuminate, their bulb may be defective.

**TROUBLESHOOTING HINTS**

- The turn-signal light bulb 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

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### STEP 1. Check the hazard warning light.

#### Q: Which turn-signal light does not illuminate?

**Front turn-signal light (LH)** : Go to Step 2.

**Front turn-signal light (RH)** : Go to Step 8.

**Rear combination light (LH)** : Go to Step 14.

**Rear combination light (RH)** : Go to Step 20.

**Turn-signal indicators** : Refer to Inspection Procedure J-4

"The turn-signal light indicator does not illuminate normally [P.54B-399](#)."

**LH side only** : Refer to Inspection Procedure J-1

"Turn-signal lights do not flash when the turn-signal light switch is turned on [P.54B-358](#)."

**RH side only** : Refer to Inspection Procedure J-1

"Turn-signal lights do not flash when the turn-signal light switch is turned on [P.54B-358](#)."

**Both LH and RH sides** : Refer to Inspection Procedure J-2

"Hazard warning lights do not flash when the hazard warning light switch is turned on [P.54B-365](#)."

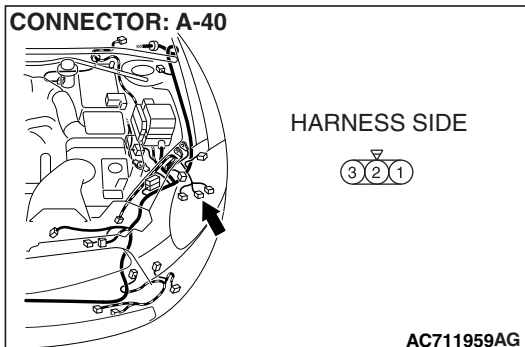
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### STEP 2. Check front turn-signal light (LH) connector A-40 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

#### Q: Is front turn-signal light (LH) connector A-40 in good condition?

**YES** : Go to Step 3.

**NO** : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.



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### STEP 3. Check the front turn-signal light bulb (LH).

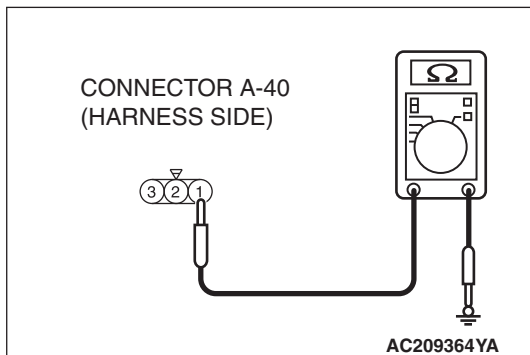
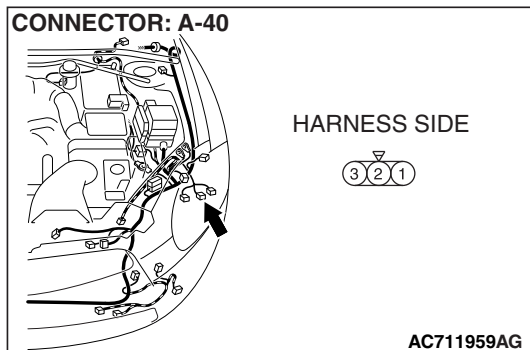
(1) Remove the front turn-signal (LH) light bulb.

(2) Verify that the front turn-signal light bulb (LH) is not damaged or burned out.

#### Q: Is the front turn-signal (LH) light bulb in good condition?

**YES** : Go to Step 4.

**NO** : Replace the front turn-signal (LH) light bulb. Verify that the turn-signal lights illuminate normally.



**STEP 4. Check the ground circuit to the ETACS-ECU.  
Measure the resistance at front turn-signal light (LH)  
connector A-40.**

(1) Disconnect front turn-signal light (LH) connector A-40 and measure the resistance available at the wiring harness side of the connector.

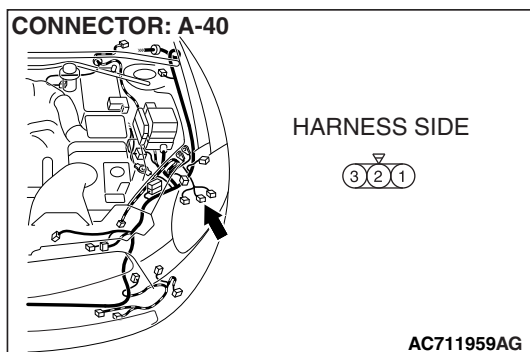
(2) Measure the resistance value between terminal 1 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 6.

**NO :** Go to Step 5.



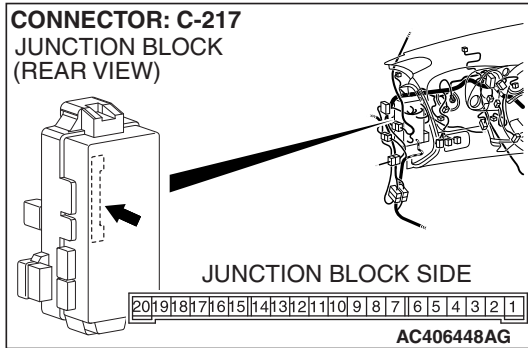
**STEP 5. Check the wiring harness between front  
turn-signal light (LH) connector A-40 (terminal 1) and  
ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between front turn-signal light (LH) connector A-40 (terminal 1) and ground in good condition?**

**YES :** Replace the front turn-signal light socket (LH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.



**STEP 6. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

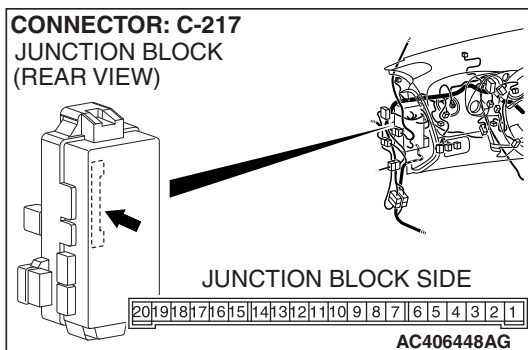
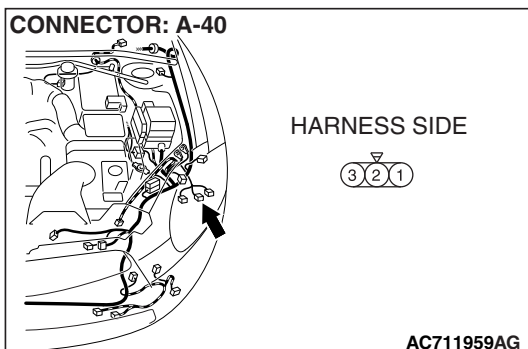
**Q: Is ETACS-ECU connector C-217 in good condition?**

**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

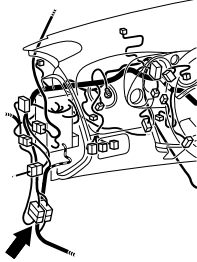
**STEP 7. Check the wiring harness between front turn-signal light (LH) connector A-40 (terminal 3) and ETACS-ECU connector C-217 (terminal 14).**

- Check the communication lines for open circuit and short circuit.



## CONNECTOR: C-24

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	
26	27	28	29					30	31		38	
32	33	34		35				36	37			



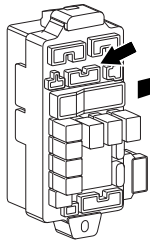
AC406442 AP

**NOTE:** Also check junction block connector C-203 and intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-203 or intermediate connector C-24 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 front turn-signal light (LH) connector A-40 (terminal 3) and ETACS-ECU connector C-217 (terminal 14) in good condition?

**YES :** Replace the front turn-signal light socket (LH). Verify that the turn-signal lights illuminate normally.

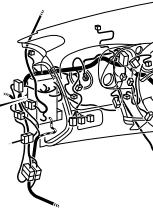
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

CONNECTOR: C-203  
JUNCTION BLOCK  
(FRONT VIEW)

C-203

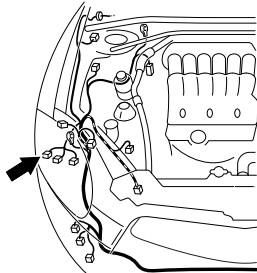
6	5	4		3	2	1
14	13	12	11	10	9	8
7						

AC406446 AM



## CONNECTOR: A-43

HARNESS SIDE



AC711958 AH

**STEP 8. Check front turn-signal light (RH) connector A-43 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q:** Is front turn-signal light (RH) connector A-43 in good condition?

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that the turn-signal lights illuminate normally.

**STEP 9. Check the front turn-signal light bulb (RH).**

(1) Remove the front turn-signal (RH) light bulb.

(2) Verify that the front turn-signal light bulb (RH) is not damaged or burned out.

**Q:** Is the front turn-signal (RH) light bulb in good condition?

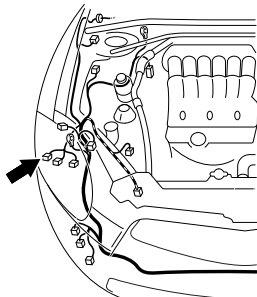
**YES :** Go to Step 10.

**NO :** Replace the front turn-signal (RH) light bulb. Verify that the turn-signal lights illuminate normally.



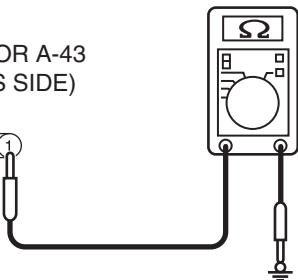
**CONNECTOR: A-43**

HARNESS SIDE



AC711958AH

CONNECTOR A-43  
(HARNESS SIDE)



AC209364YB

**STEP 10. Check the ground circuit to the front turn-signal light (RH). Measure the resistance at front turn-signal light (RH) connector A-43.**

(1) Disconnect front turn-signal light (RH) connector A-43 and measure the resistance available at the wiring harness side of the connector.

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

- The resistance should be 2 ohms or less.

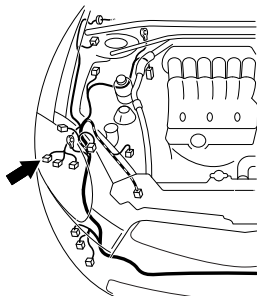
**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 12.

**NO :** Go to Step 11.

**CONNECTOR: A-43**

HARNESS SIDE



AC711958AH

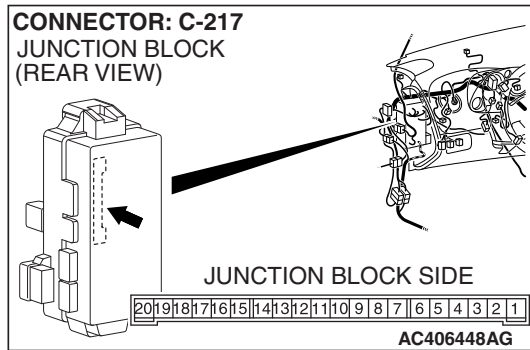
**STEP 11. Check the wiring harness between front turn-signal light (RH) connector A-43 (terminal 1) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between front turn-signal light (RH) connector A-43 (terminal 1) and ground in good condition?**

**YES :** Replace the front turn-signal light socket (RH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.



**STEP 12. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

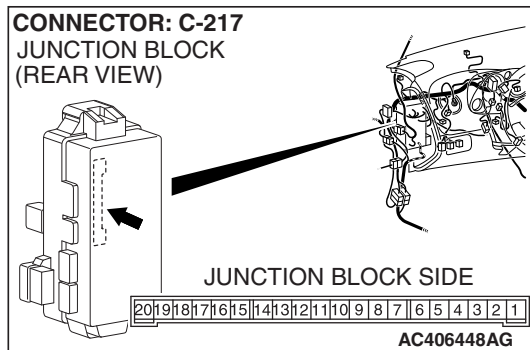
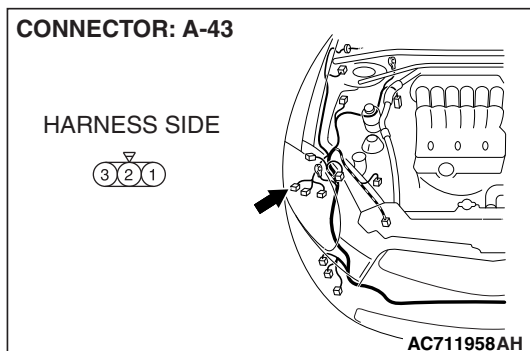
**Q: Is ETACS-ECU connector C-217 in good condition?**

**YES :** Go to Step 13.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

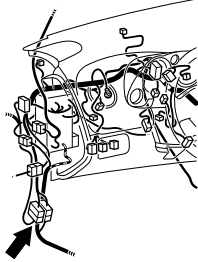
**STEP 13. Check the wiring harness between front turn-signal light (RH) connector A-43 (terminal 3) and ETACS-ECU connector C-217 (terminal 9).**

- Check the communication lines for open circuit and short circuit.



**CONNECTOR: C-24**

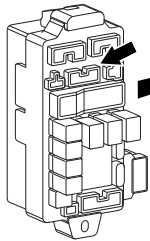
1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	
26	27	28	29					30	31		38	
32	33	34		35				36	37			



AC406442 AP

*NOTE: Also check junction block connector C-203 and intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-203 or intermediate connector C-24 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.*

**CONNECTOR: C-203  
JUNCTION BLOCK  
(FRONT VIEW)**

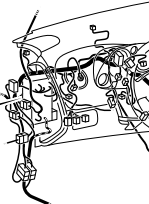


C-203

**HARNESS SIDE**

6	5	4		3	2	1
14	13	12	11	10	9	8
						7

AC406446 AM

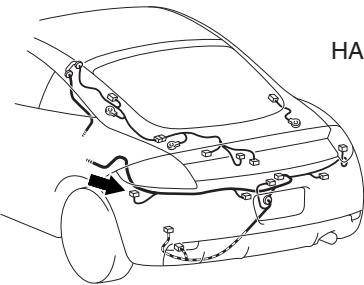


**Q: Is the wiring harness between front turn-signal light (RH) connector A-43 (terminal 3) and ETACS-ECU connector C-217 (terminal 9) in good condition?**

**YES :** Replace the front turn-signal light socket (RH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-14 <ECLIPSE>**



HARNESS SIDE

1	2
3	4
5	6

AC406460 BA

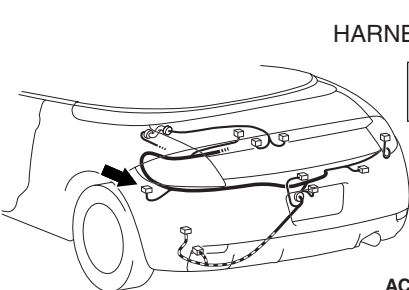
**STEP 14. Check rear combination light (LH) connector F-14 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear combination light (LH) connector F-14 in good condition?**

**YES :** Go to Step 15.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-14 <ECLIPSE SPYDER>**



HARNESS SIDE

1	2
3	4
5	6

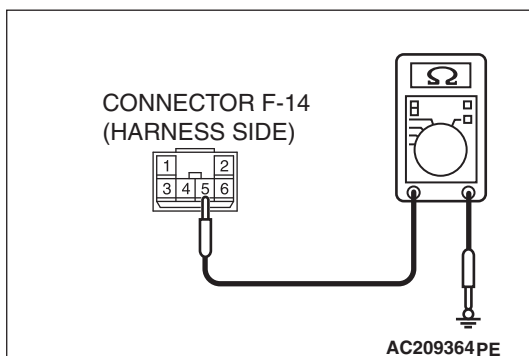
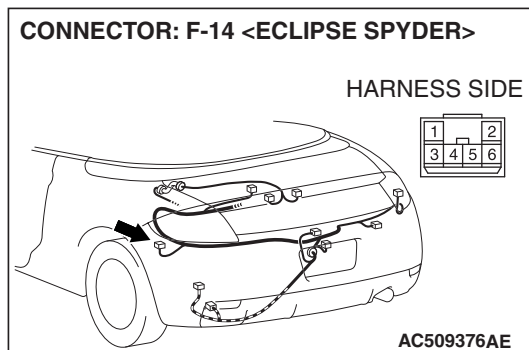
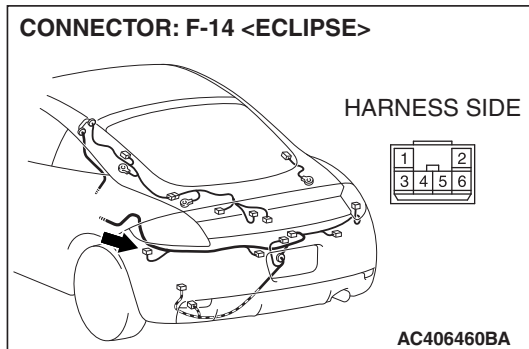
AC509376 AE

**STEP 15. Check the rear turn-signal light bulb (LH).**

- (1) Remove the rear turn-signal (LH) light bulb.
- (2) Verify that the rear turn-signal light bulb (LH) is not damaged or burned out.

**Q: Is the rear turn-signal (LH) light bulb in good condition?****YES :** Go to Step 16.**NO :** Replace the rear turn-signal (LH) light bulb. Verify that the turn-signal lights illuminate normally.**STEP 16. Check the ground circuit to the rear combination light (LH). Measure the resistance at rear combination light (LH) connector F-14.**

- (1) Disconnect rear combination light (LH) connector F-14 and measure the resistance available at the wiring harness side of the connector.

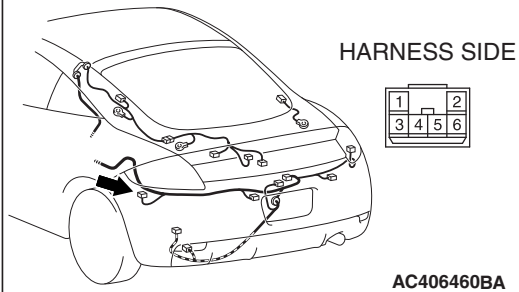


- (2) Measure the resistance value between terminal 5 and ground.

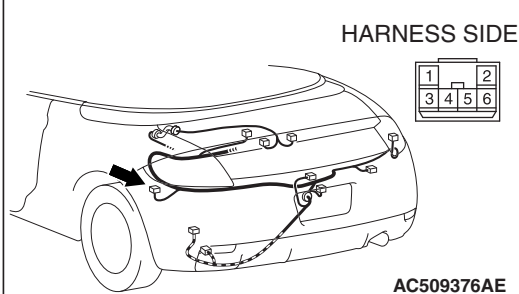
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?****YES :** Go to Step 18.**NO :** Go to Step 17.

**CONNECTOR: F-14 <ECLIPSE>**



**CONNECTOR: F-14 <ECLIPSE SPYDER>**



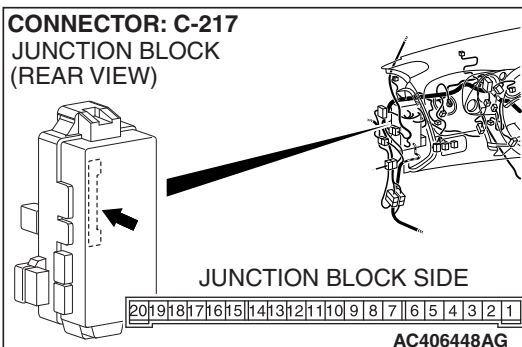
**STEP 17. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (LH) connector F-14 (terminal 5) and ground in good condition?**

- YES :** Replace the rear combination light socket assembly (LH). Verify that the turn-signal lights illuminate normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)**



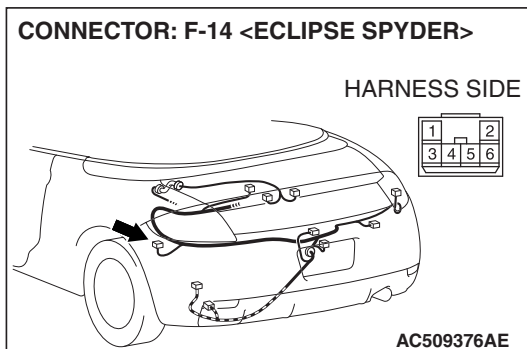
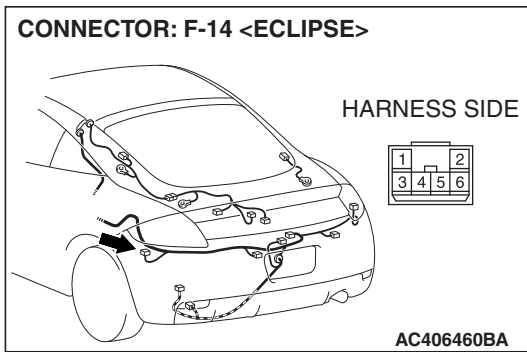
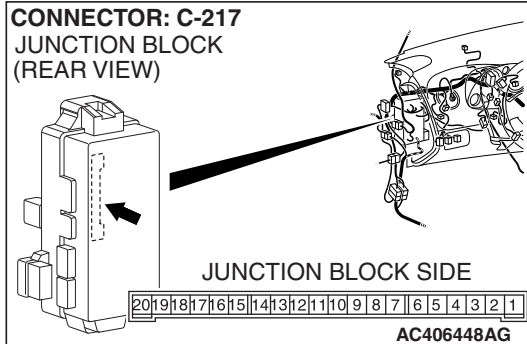
**STEP 18. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

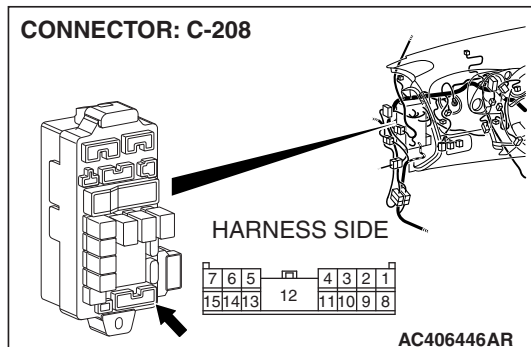
- YES :** Go to Step 19.
- NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

**STEP 19. Check the wiring harness between rear combination light (LH) connector F-14 (terminal 1) and ETACS-ECU connector C-217 (terminal 14).**

- Check the communication lines for open circuit and short circuit.



**CONNECTOR: C-208**



*NOTE: Also check junction block connector C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-208 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 rear combination light (LH) connector F-14 (terminal 1) and ETACS-ECU connector C-217 (terminal 14) in good condition?**

**YES :** Replace the rear combination light socket assembly (LH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

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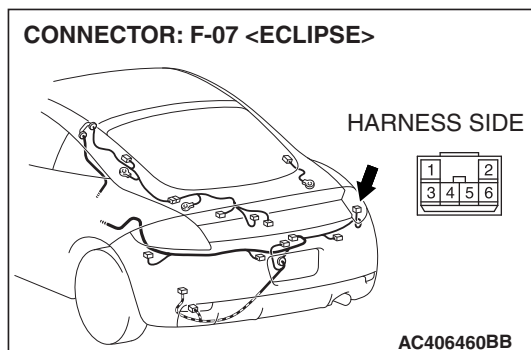
**STEP 20. Check rear combination light (RH) connector F-07 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear combination light (RH) connector F-07 in good condition?**

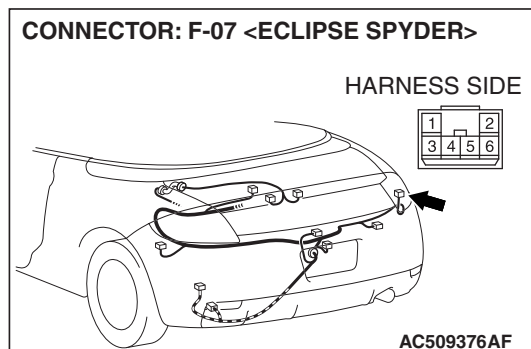
**YES :** Go to Step 21.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-07 <ECLIPSE>**



**CONNECTOR: F-07 <ECLIPSE SPYDER>**




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**STEP 21. Check the rear turn-signal light bulb (RH).**

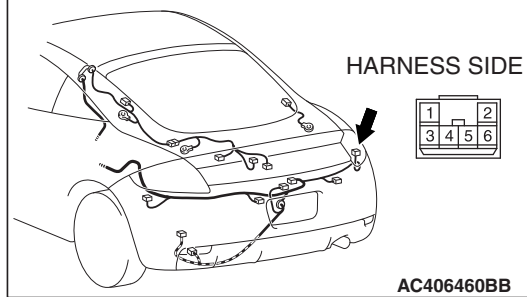
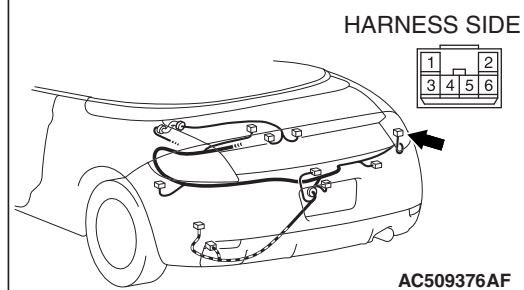
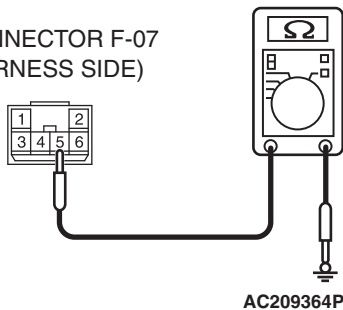
(1) Remove the rear turn-signal (RH) light bulb.

(2) Verify that the rear turn-signal light bulb (RH) is not damaged or burned out.

**Q: Is the rear turn-signal (RH) light bulb in good condition?**

**YES :** Go to Step 22.

**NO :** Replace the rear turn-signal (RH) light bulb. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: F-07 <ECLIPSE>****CONNECTOR: F-07 <ECLIPSE SPYDER>****CONNECTOR F-07  
(HARNESS SIDE)**

**STEP 22. Check the ground circuit to the rear turn-signal light (RH). Measure the resistance at rear combination light (RH) connector F-07.**

- (1) Disconnect rear combination light (RH) connector F-07 and measure the resistance available at the harness side of the connector.

- (2) Measure the resistance value between terminal 5 and ground.

- The resistance should be 2 ohms or less.

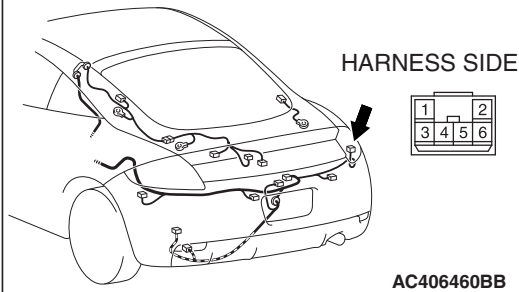
**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 24.

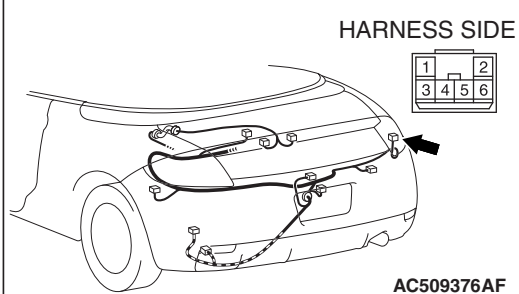
**NO :** Go to Step 23.



**CONNECTOR: F-07 <ECLIPSE>**



**CONNECTOR: F-07 <ECLIPSE SPYDER>**



**STEP 23. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground.**

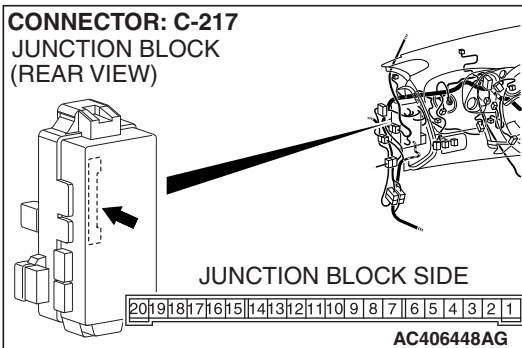
- Check the ground wire for open circuit.

**Q: Is the wiring harness between rear combination light (RH) connector F-07 (terminal 5) and ground in good condition?**

**YES :** Replace the rear combination light socket assembly (RH). Verify that the turn-signal lights illuminate normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

**CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)**



**STEP 24. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

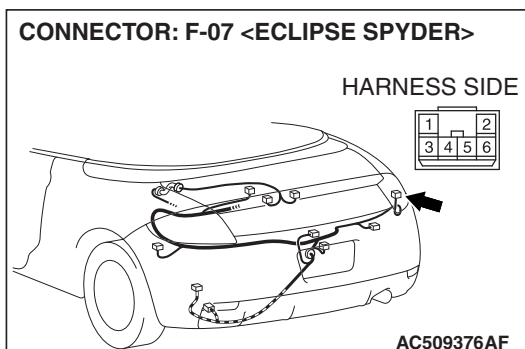
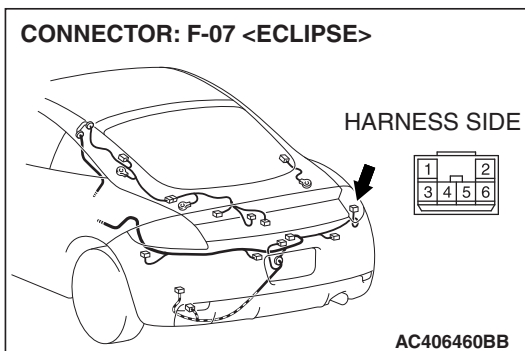
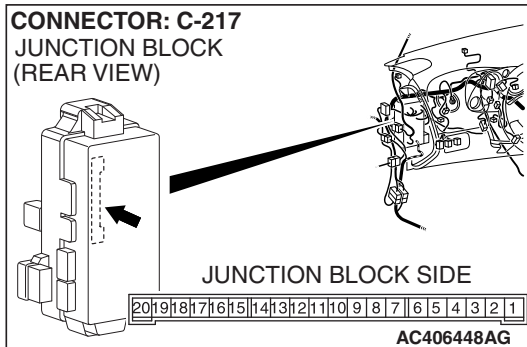
**Q: Is ETACS-ECU connector C-217 in good condition?**

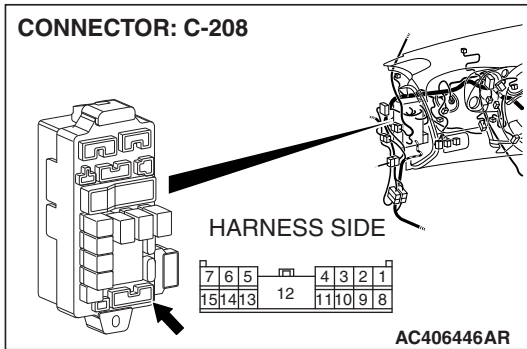
**YES :** Go to Step 25.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the turn-signal lights illuminate normally.

**STEP 25. Check the wiring harness between rear combination light (RH) connector F-07 (terminal 1) and ETACS-ECU connector C-217 (terminal 9).**

- Check the communication lines for open circuit and short circuit.





*NOTE: Also check junction block connector C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-208 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 rear combination light (RH) connector F-07 (terminal 1) and ETACS-ECU connector C-217 (terminal 9) in good condition?**

- YES :** Replace the rear combination light socket assembly (RH). Verify that the turn-signal lights illuminate normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the turn-signal lights illuminate normally.

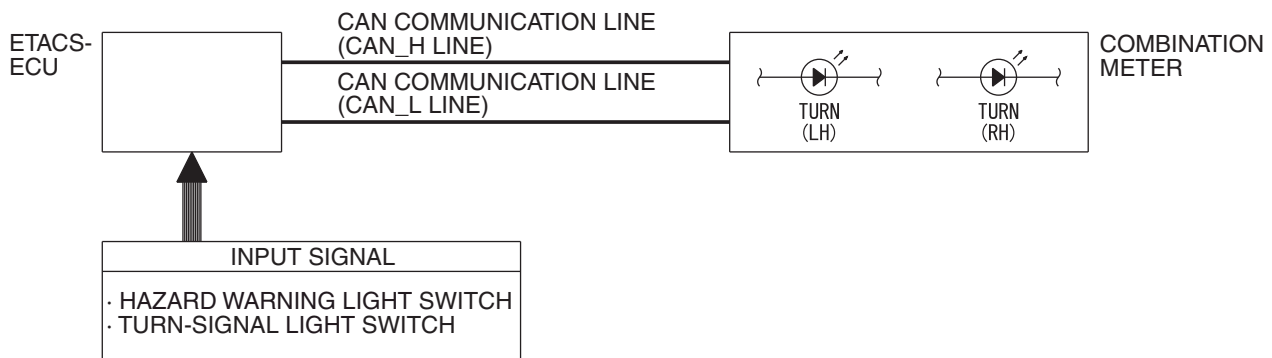
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**INSPECTION PROCEDURE J-4: Flasher Timer: The turn-signal light indicator does not illuminate normally.**

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*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor [P.54B-15](#)."*

**Turn-signal Lights Indicator Light Circuit**



W4P54M82AA

**CIRCUIT OPERATION**

At the same time that the turn-signal lights are illuminated, the ETACS-ECU sends a signal to illuminate the turn-signal light indicator via the CAN bus line.

**TECHNICAL DESCRIPTION (COMMENT)**

If the turn-signal indicator does not illuminate normally, connector(s), wiring harness in the CAN bus lines, the ETACS-ECU or the combination meter may be defective.

**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
- The ETACS-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1. Check the turn-signal lights.**

When the column switch or the hazard warning light switch are operated, check that the turn-signal lights illuminate and go off normally.

**Q: Are the turn-signal lights in good condition?**

**YES :** Go to Step 2.

**NO :** First, repair the turn-signal light(s). Refer to Inspection Procedure J-3 "One of the turn-signal lights does not illuminate [P.54B-367](#)."

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

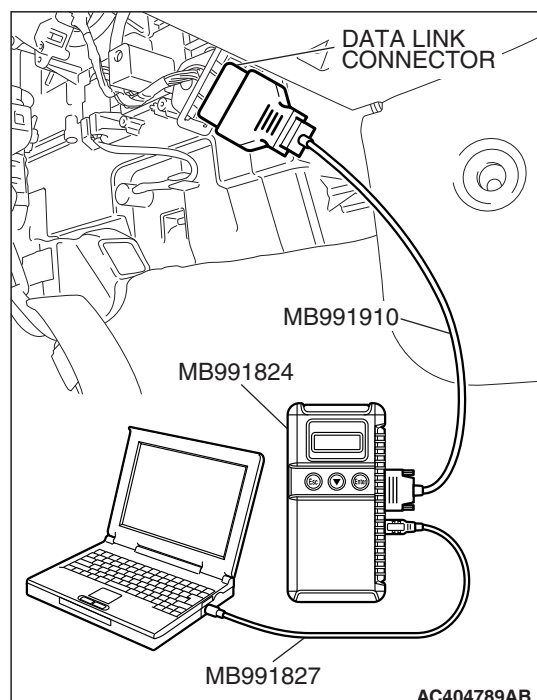
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

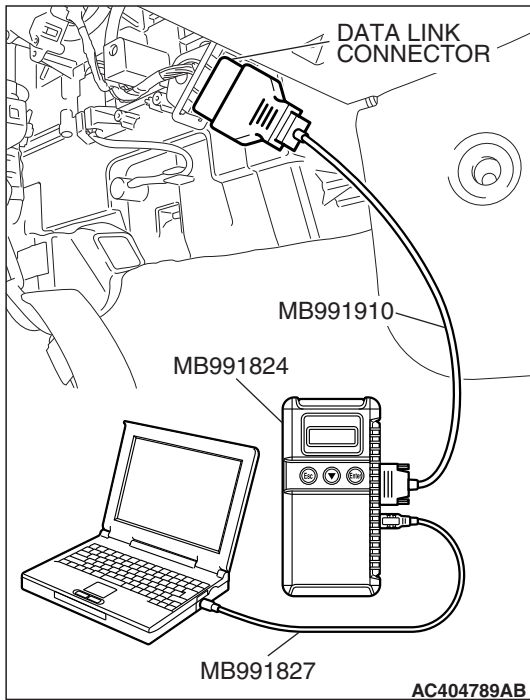
- (1) Connect scan tool MB991958. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

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

**YES :** Go to Step 3.

**NO :** Repair the CAN bus line (Refer to GROUP 54C, Diagnosis [P.54C-17](#)).





**STEP 3. Using scan tool MB991958, read the combination meter diagnostic trouble code.**

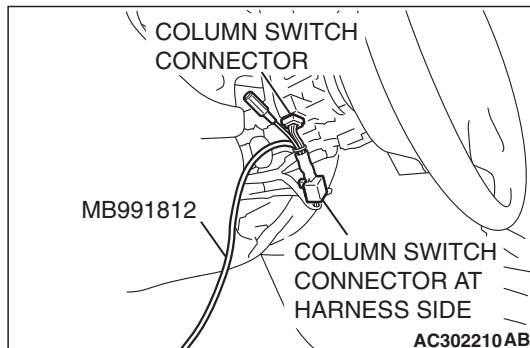
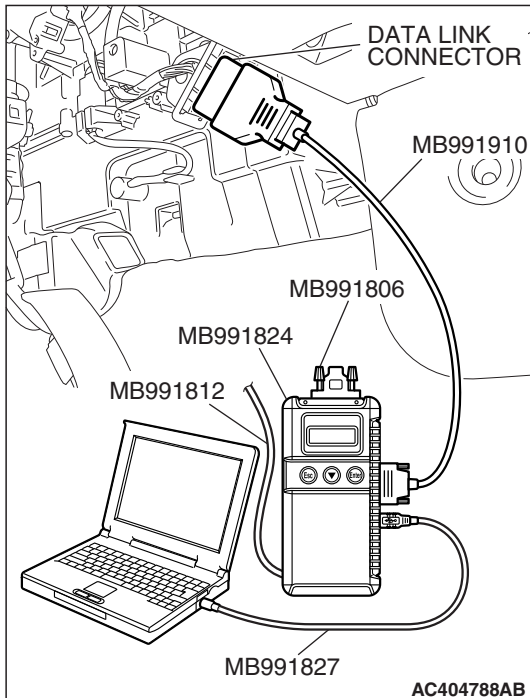
Check whether the combination meter-related DTC is set.

- (1) Turn the ignition switch to the "ON" position.
- (2) Check whether a combination meter-related DTC is set.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES** : Diagnose the combination meter. Refer to [P.54A-60](#).

**NO** : Go to Step 4.



**STEP 4. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

Check the ETACS-ECU.

**⚠ CAUTION**

**Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.**

- (1) Connect the SWS monitor. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 5.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."

**STEP 5. Replace the combination meter.**

- (1) Replace the combination meter.
- (2) Check that the turn-signal light indicator lights illuminate normally.

**Q: Are the turn-signal indicator lights in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Check that the turn-signal light indicator lights illuminate normally.

## FOG LIGHT

### GENERAL DESCRIPTION CONCERNING THE FRONT FOG LIGHTS

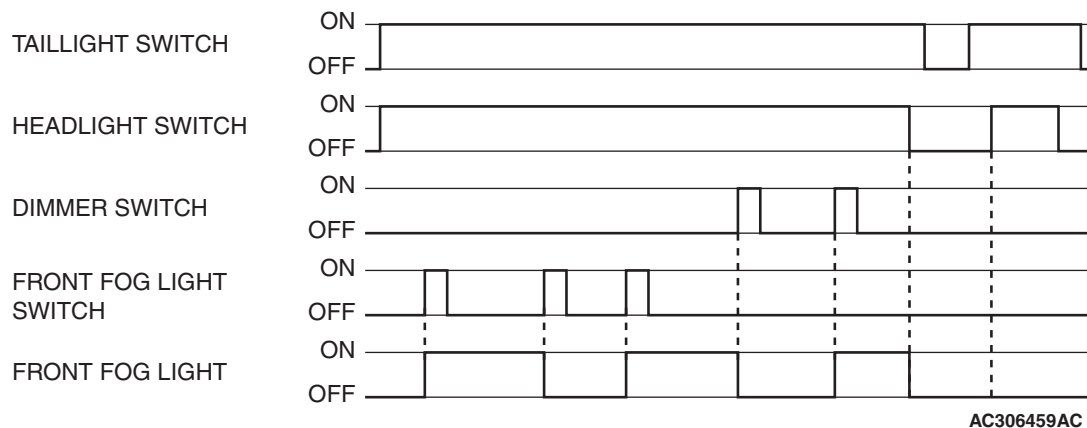
M1549021400272

The following ECUs affect the functions and control of the front fog lights.

FUNCTION	CONTROL ECU
Front fog light	ETACS-ECU, front-ECU, column switch
Front fog light indicator	ETACS-ECU, column switch

### FRONT FOG LIGHT

#### Front fog light



The front fog lights will illuminate only when the front fog light switch is operated while the low-beam headlights are on.

The front fog lights will be switched off when any of the following conditions are met. The front fog lights will also be switched off automatically by headlight automatic shutoff function.

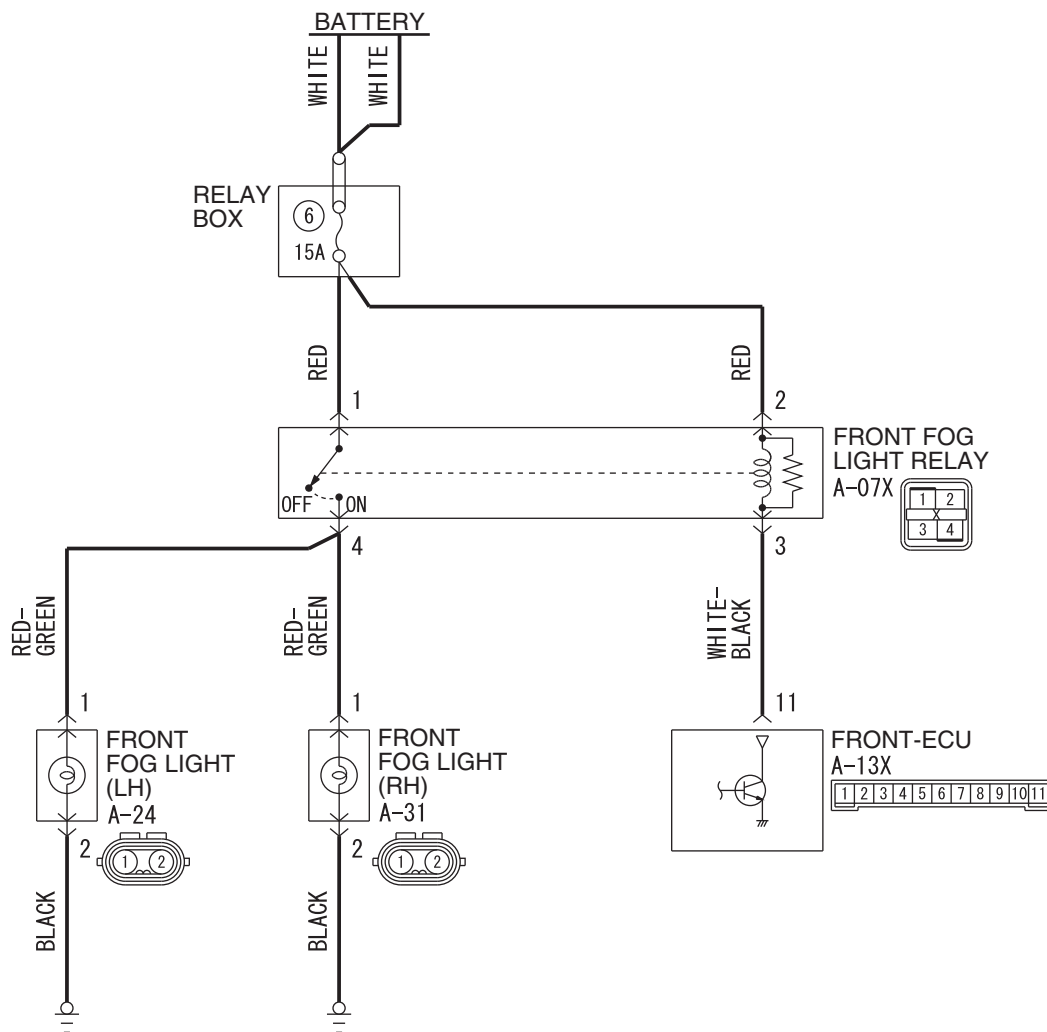
- When the high-beam headlights are switched on, the front fog lights will be switched off. If the low-beam headlights are switched on again, the front fog lights will illuminate again.
- When the headlight switch is turned off or the taillights and headlights are off, the front fog lights will be switched off. If the low-beam headlights are switched on again, the front fog lights will not illuminate again.

### FRONT FOG LIGHT INDICATOR

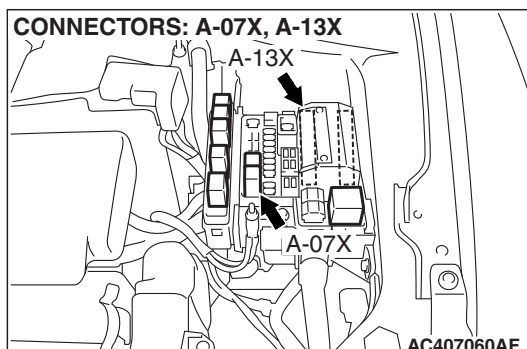
At the same time that the front fog lights are illuminated, the ETACS-ECU sends a signal to illuminate the front fog light indicator via the CAN bus line. The combination meter receives the transmitted signal and turns the front fog light indicator on and off.

**INSPECTION PROCEDURE K-1: Front fog light: Front fog lights do not illuminate when the front fog light switch is turned on.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

**Front Fog Light Circuit**

W9P54M030A





## CIRCUIT OPERATION

- The ETACS-ECU sends a front fog light illumination request signal ("LIGHT ON" signal) to the front-ECU when the front fog light switch is turned on while the headlights are illuminating at low beam.
- Then the front-ECU switches on its relay to illuminate the front fog lights.

## TECHNICAL DESCRIPTION (COMMENT)

If the headlights illuminate at low beam, the front fog light relay, the front fog light switch, the front-ECU or the ETACS-ECU may be defective.

## TROUBLESHOOTING HINTS

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The front fog light relay may be defective
- The front-ECU may be defective
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

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### STEP 1. Check the headlight (low-beam) operation.

**Q: Do the headlights illuminate at low beam normally?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure I-2 "The headlights (low-beam) do not illuminate normally [P.54B-273](#)."

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### STEP 2. Check the input signal by using "FUNCTION DIAG." menu of the SWS monitor.

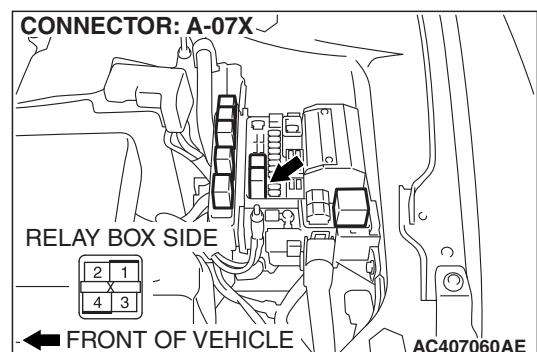
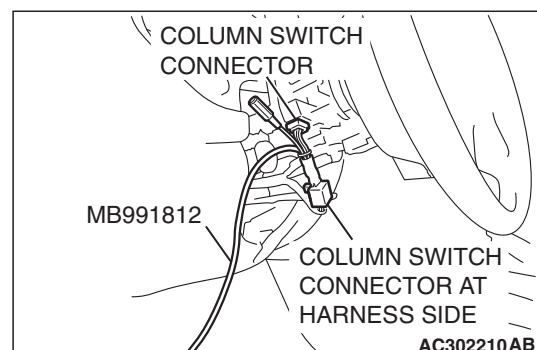
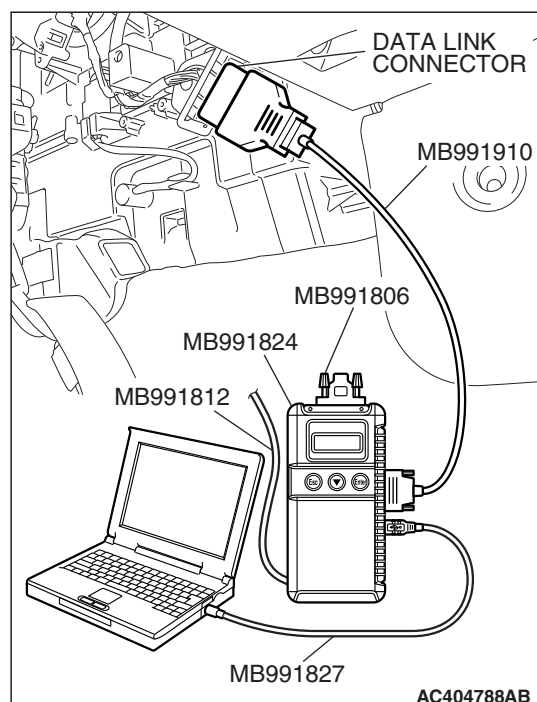
Set each switch to the following condition before checking input signal from the front fog light switch:

- Ignition switch: ON
- Lighting switch: "HEAD"
- Front fog light switch: ON

*NOTE: Turn the ignition switch to the "ON" position in order to disable the headlight automatic shutdown function.*

### 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. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.



- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Operate scan tool MB991958 according to the procedure below to display "F.FOG."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Function Diag."
  - f. Select "LIGHTING."
  - g. Select "F.FOG."
- (3) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 30	IG SW (IG1)	ON
ITEM 36	F.FOG LIGHT	ON

**Q: Does the scan tool MB991958 display the items "IG SW (IG1)" and "F.FOG LIGHT" as normal condition?**

**Normal conditions are displayed for all the items : Go to Step 3.**

**Normal condition is not displayed for "IG SW (IG1)" :**

Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) [P.54B-499](#)."

**Normal condition is not displayed for "F.FOG LIGHT" :**

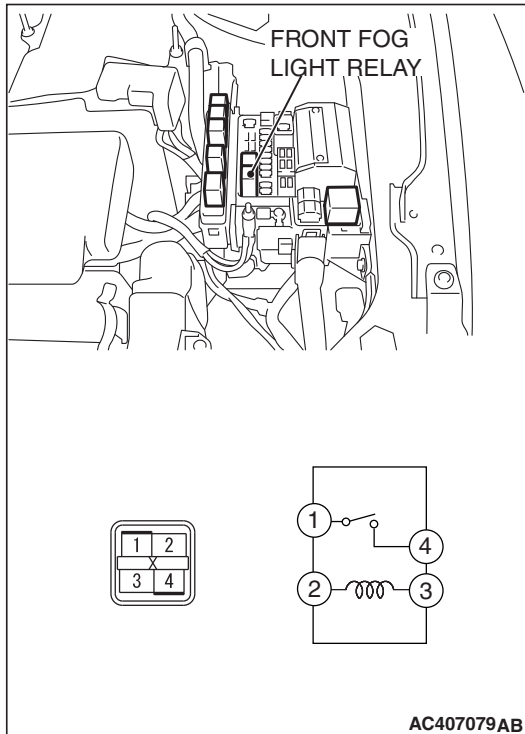
Refer to Inspection Procedure M-3 "ETACS-ECU does not receive any signal from the front fog light switch P.54B-502."

**STEP 3. Check front fog light relay connector A-07X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front fog light relay connector A-07X in good condition?**

**YES** : Go to Step 4.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the front fog lights illuminate normally.

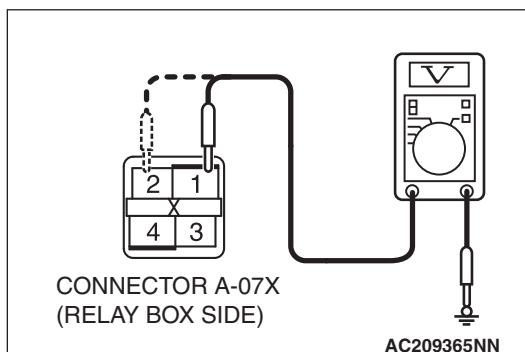
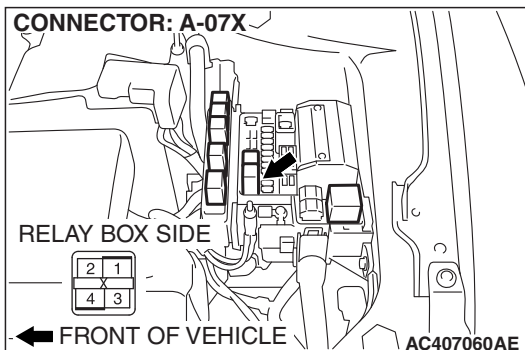
**STEP 4. Check the front fog light relay.**

BATTERY VOLTAGE	TESTER CONNECTION	SPECIFIED CONDITION
Not supplied	1-4	Open circuit
<ul style="list-style-type: none"><li>Connect terminal 2 to the positive battery terminal</li><li>Connect terminal 3 to the negative battery terminal</li></ul>	1-4	Continuity exists (2 ohms or less)

**Q: Is the front fog light relay in good condition?****YES :** Go to Step 5.**NO :** Replace the front fog light relay. Verify that the front fog lights illuminate normally.**STEP 5. Check the battery power supply circuit to the front fog light relay. Measure the voltage at front fog light relay connector A-07X.****⚠ CAUTION**

The top and bottom of the front fog light relay are difficult to identify. Prior to inspection, confirm the triangle mark on the relay box.

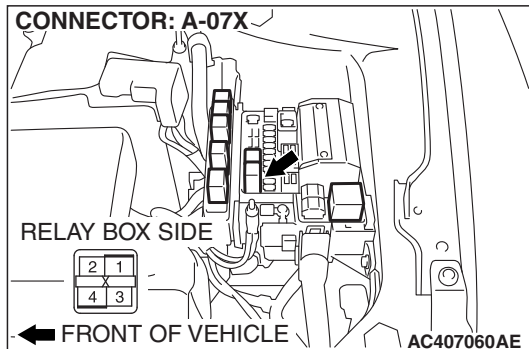
(1) Disconnect front fog light relay and measure the voltage available at the relay box side of the connector.



(2) Measure the voltage between terminal 1 and ground, and also between terminal 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 7.**NO :** Go to Step 6.



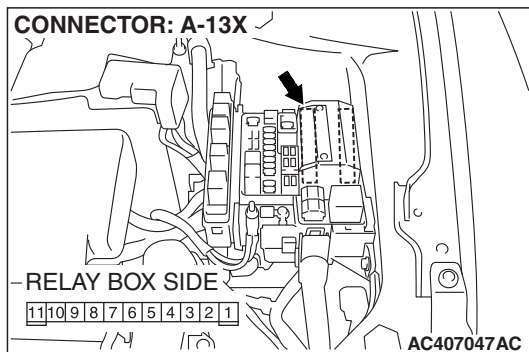
**STEP 6. Check the wiring harness between front fog light relay connector A-07X (terminals 1 and 2) and the battery.**

- Check the power supply line for open circuit and short circuit.

**Q: Is the wiring harness between front fog light relay connector A-07X (terminals 1 and 2) and the battery in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front fog lights illuminate normally.

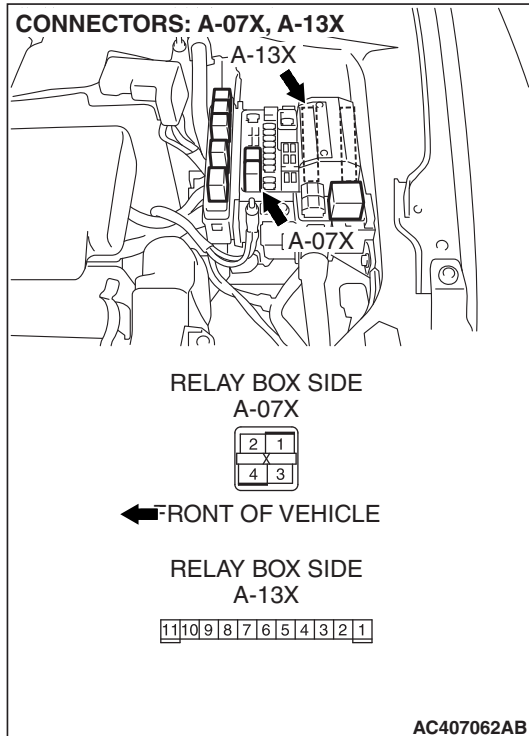


**STEP 7. Check front-ECU connector A-13X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front-ECU connector A-13X in good condition?**

**YES :** Go to Step 8.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the front fog lights illuminate normally.



**STEP 8. Check the wiring harness between front fog light relay connector A-07X (terminal 3) and front-ECU connector A-13X (terminal 11).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between front fog light relay connector A-07X (terminal 3) and front-ECU connector A-13X (terminal 11) in good condition?**

**YES :** Go to Step 9.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front fog lights illuminate normally.

**STEP 9. Replace the ECU.**

- (1) Replace the front-ECU.
- (2) The front fog lights should illuminate normally.

**Q: Do the front fog lights illuminate normally?**

**YES :** No action is necessary and testing is complete.

**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the front fog lights illuminate normally.

**INSPECTION PROCEDURE K-2: Front fog Light: Front fog lights do not go out when the headlights (low-beam) are turned off while the front fog lights are on.**

## TECHNICAL DESCRIPTION (COMMENT)

If the trouble above occurs, the front-ECU may be defective. However, the front fog lights illuminate or light off normally by the front fog light switch operation.

## TROUBLESHOOTING HINT

The front-ECU may be defective

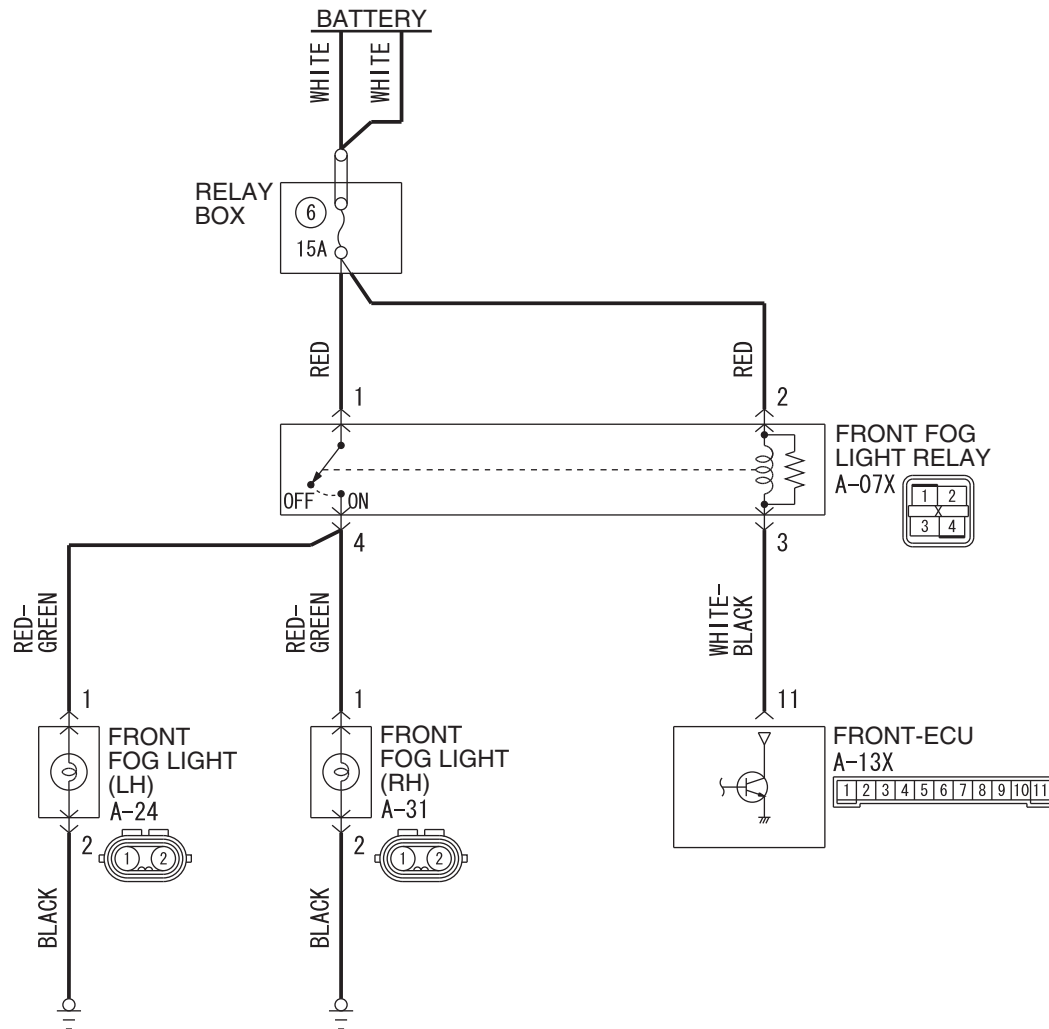
## DIAGNOSIS

Replace the front-ECU.

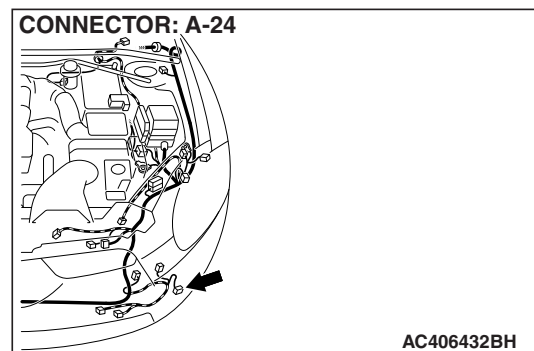
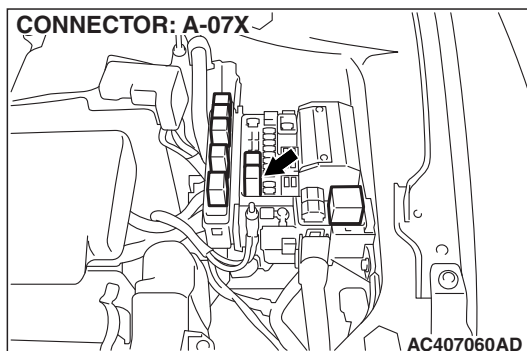
The front fog lights should go out when the headlights (low-beam) are turned off while the front fog lights are on.

## INSPECTION PROCEDURE K-3: Front fog Light: One of the front fog lights does not illuminate.

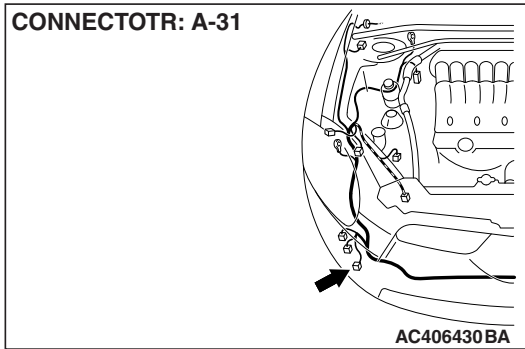
Front Fog Light Circuit



W9P54M030A



**CONNECTOR: A-31**



## TECHNICAL DESCRIPTION (COMMENT)

If one of the front fog lights does not illuminate, the front fog light relay or the front fog light bulb may be defective. If the front fog light indicator light does not illuminate, the combination meter may be defective.

## TROUBLESHOOTING HINTS

- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The front fog light bulb may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

**STEP 1. Verify that the front fog lights and the front fog light indicator light illuminate.**

**Q: Do the front fog lights and the front fog light indicator light illuminate normally?**

**Only the front fog light (LH) does not illuminate :** Go to Step 2.

**Only the front fog light (RH) does not illuminate :** Go to Step 8.

**Only the front fog light indicator does not illuminate :**  
Refer to Inspection Procedure K-4 "The front fog light indicator does not illuminate normally [P.54B-416](#)."

**Both of the front fog lights do not illuminate :** Refer to Inspection Procedure K-1 "Front fog lights do not illuminate when the front fog light switch is turned on [P.54B-404](#)."

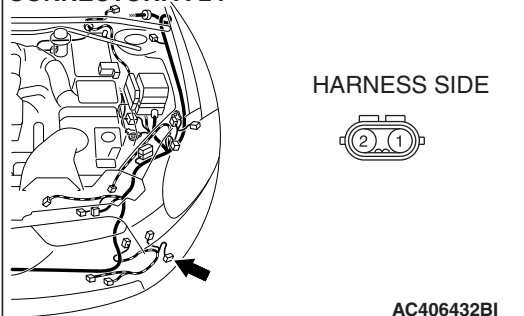
**STEP 2. Check front fog light (LH) connector A-24 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front fog light (LH) connector A-24 in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front fog lights illuminate normally.

**CONNECTOR: A-24**





**STEP 3. Check the front fog light bulb (LH).**

- (1) Remove the front fog light bulb (LH).
- (2) Verify that the front fog light bulb (LH) is not damaged or burned out.

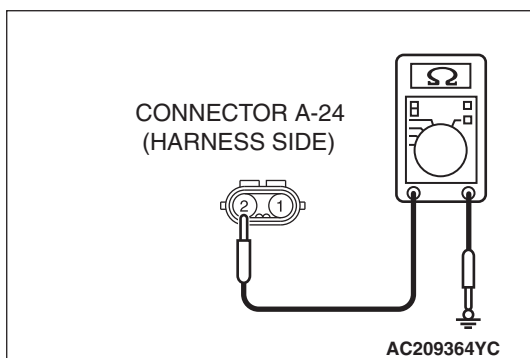
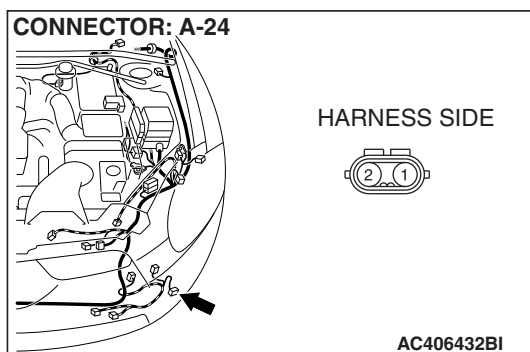
**Q: Is the front fog light bulb (LH) in good condition?**

**YES :** Go to Step 4.

**NO :** Replace the front fog light bulb (LH). Verify that the front fog lights illuminate normally.

**STEP 4. Check the ground circuit to the front fog light (LH). Measure the resistance at front fog light (LH) connector A-24.**

- (1) Disconnect front fog light (LH) connector A-24 and measure the resistance available at the wiring harness side of the connector.



- (2) Measure the resistance value between terminal 2 and ground.
  - The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 6.

**NO :** Go to Step 5.

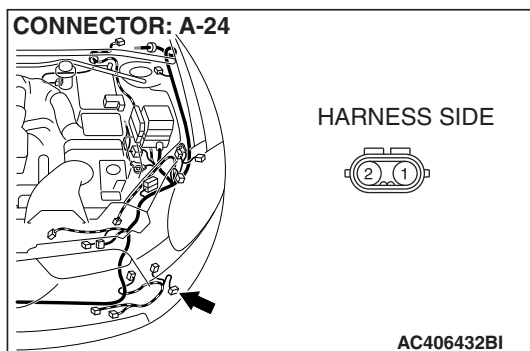
**STEP 5. Check the wiring harness between front fog light (LH) connector A-24 (terminal 2) and ground.**

- Check the ground wire for open circuit.

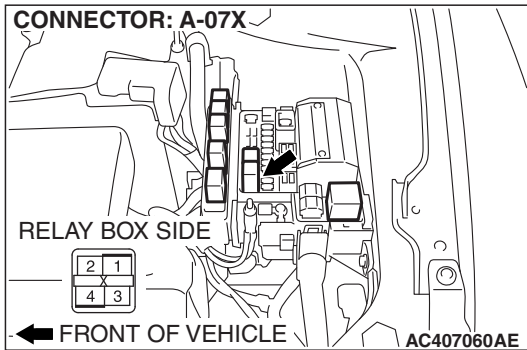
**Q: Is the wiring harness between front fog light (LH) connector A-24 (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front fog lights illuminate normally.







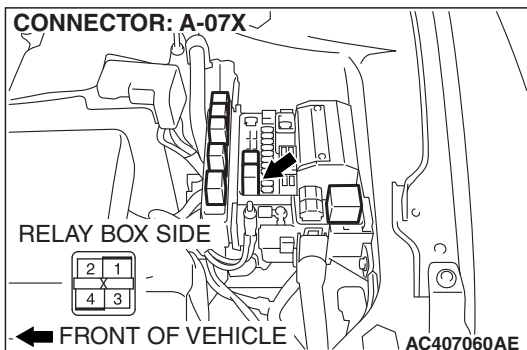
**STEP 6.** Check front fog light relay connector A-07X for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Is front fog light relay connector A-07X in good condition?

**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the front fog lights illuminate normally.



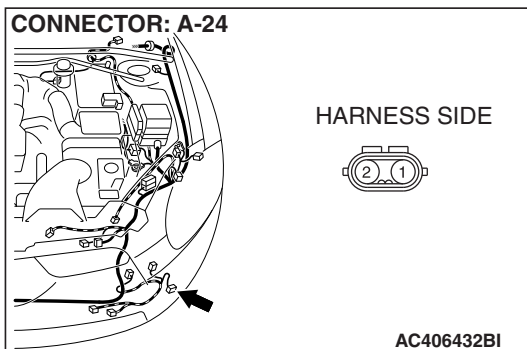
**STEP 7.** Check the wiring harness between front fog light relay connector A-07X (terminal 4) and front fog light (LH) connector A-24 (terminal 1).

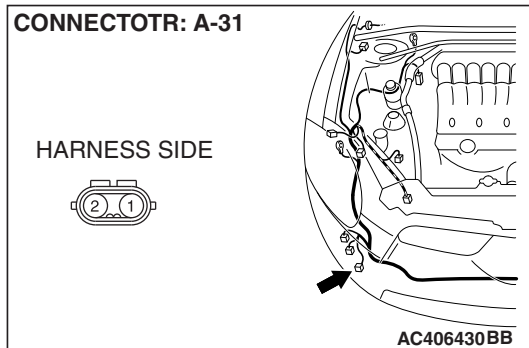
- Check the communication lines for open circuit.

**Q:** Is the wiring harness between front fog light relay connector A-07X (terminal 4) and front fog light (LH) connector A-24 (terminal 1) in good condition?

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front fog lights illuminate normally.





**STEP 8. Check front fog light (RH) connector A-31 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front fog light (RH) connector A-31 in good condition?**

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front fog lights illuminate normally.

**STEP 9. Check the front fog light bulb (RH).**

- (1) Remove the front fog light bulb (RH).
- (2) Verify that the front fog light bulb (RH) is not damaged or burned out.

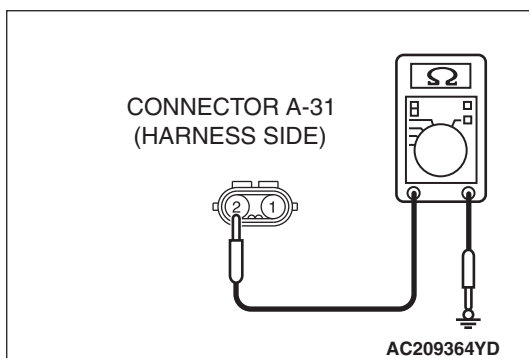
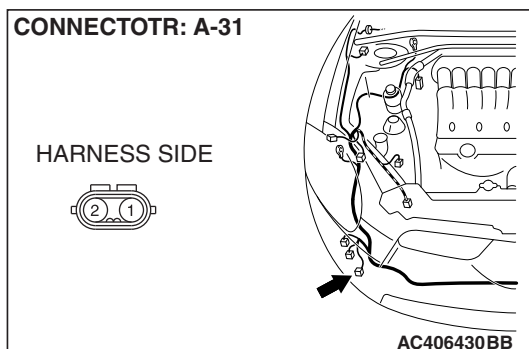
**Q: Is the front fog light bulb (RH) in good condition?**

**YES :** Go to Step 10.

**NO :** Replace the front fog light bulb (RH). Verify that the front fog lights illuminate normally.

**STEP 10. Check the ground circuit to the front fog light (RH). Measure the resistance at front fog light (RH) connector A-31.**

- (1) Disconnect front fog light (RH) connector A-31 and measure the resistance available at the wiring harness side of the connector.



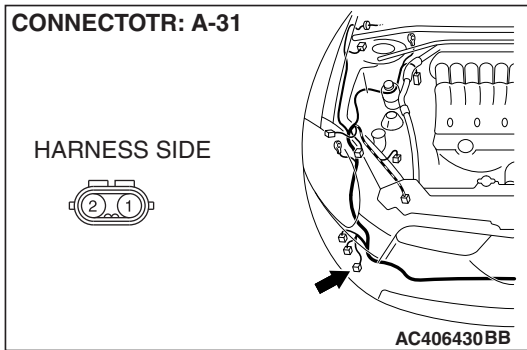
- (2) Measure the resistance value between terminal 2 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 12.

**NO :** Go to Step 11.



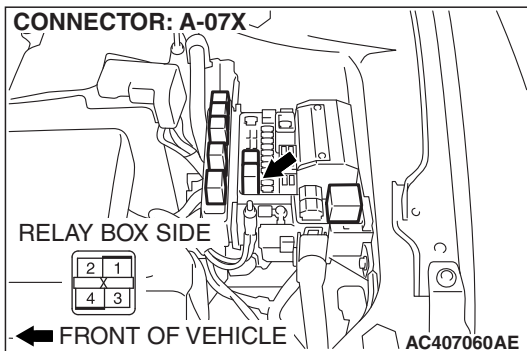
**STEP 11. Check the wiring harness between front fog light (RH) connector A-31 (terminal 2) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between front fog light (RH) connector A-31 (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front fog lights illuminate normally.



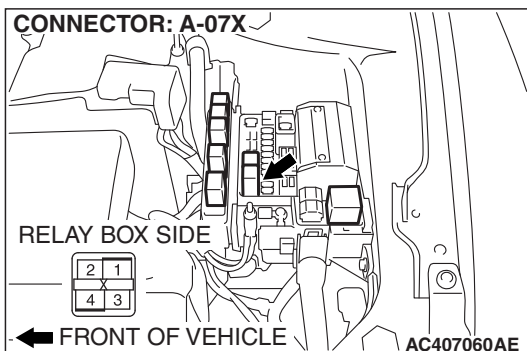
**STEP 12. Check front fog light relay connector A-07X for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front fog light relay connector A-07X in good condition?**

**YES :** Go to Step 13.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

[P.00E-2](#). Check that the front fog lights illuminate normally.



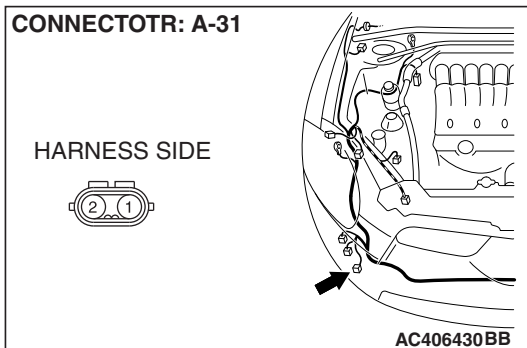
**STEP 13. Check the wiring harness between front fog light relay connector A-07X (terminal 4) and front fog light (RH) connector A-31 (terminal 1).**

- Check the communication lines for open circuit.

**Q: Is the wiring harness between front fog light relay connector A-07X (terminal 4) and front fog light (RH) connector A-31 (terminal 1) in good condition?**

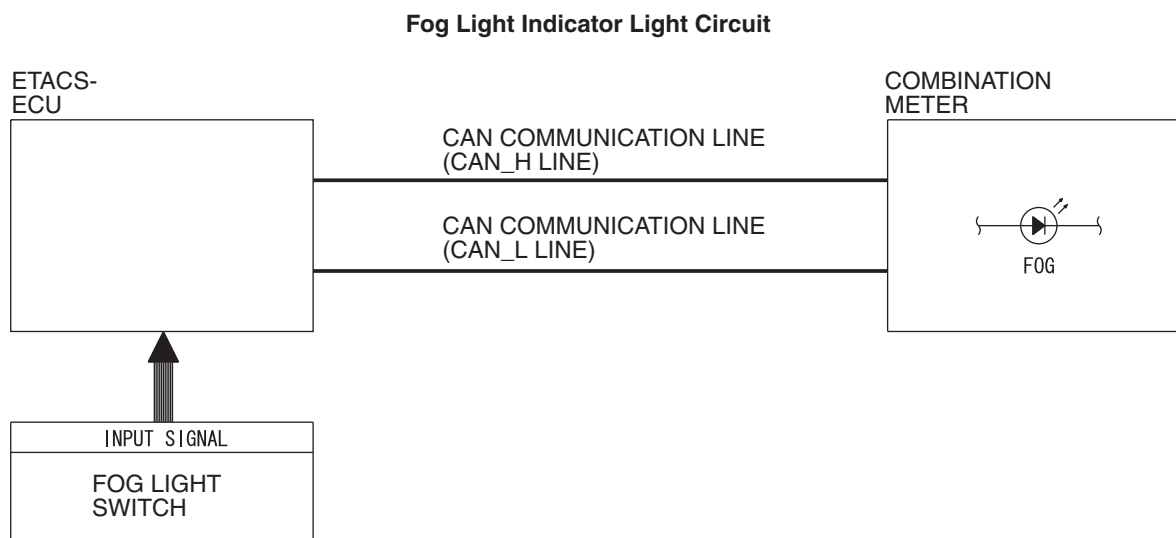
**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the front fog lights illuminate normally.



**INSPECTION PROCEDURE K-4: Front fog light: The front fog light indicator does not illuminate normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*



W4P54M76AA

**CIRCUIT OPERATION**

At the same time that the front fog lights are illuminated, the ETACS-ECU sends a signal to illuminate the front fog light indicator via the CAN bus line.

**TECHNICAL DESCRIPTION (COMMENT)**

If the front fog light indicator does not illuminate normally, connector(s), wiring harness in the CAN bus lines, the ETACS-ECU or the combination meter may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- 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
- The ETACS-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

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**STEP 1. Check the front fog lights.**

- (1) Turn the lighting switch to the "HEAD" position.
- (2) When the front fog light switch is operated, check that the front fog lights illuminate/go off normally.

**Q: Are the front fog lights operating properly?**

**YES :** Go to Step 2.

**NO :** First, repair the front fog lights. Refer to Inspection Procedure K-3 "One of the front fog lights does not illuminate [P.54B-410](#)."

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

**⚠ CAUTION**

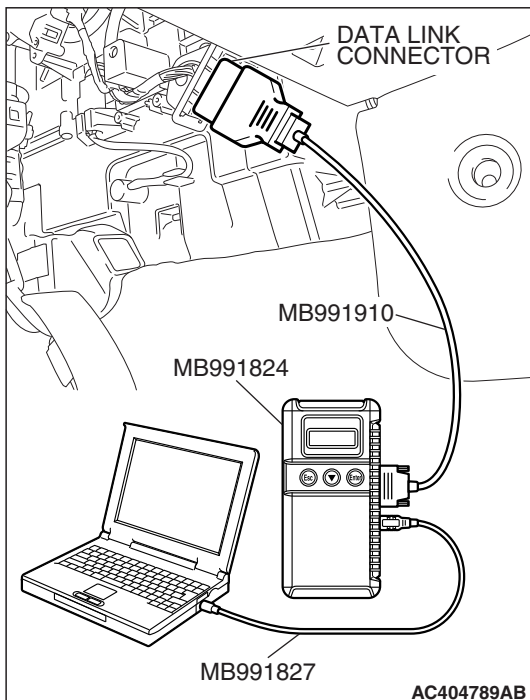
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

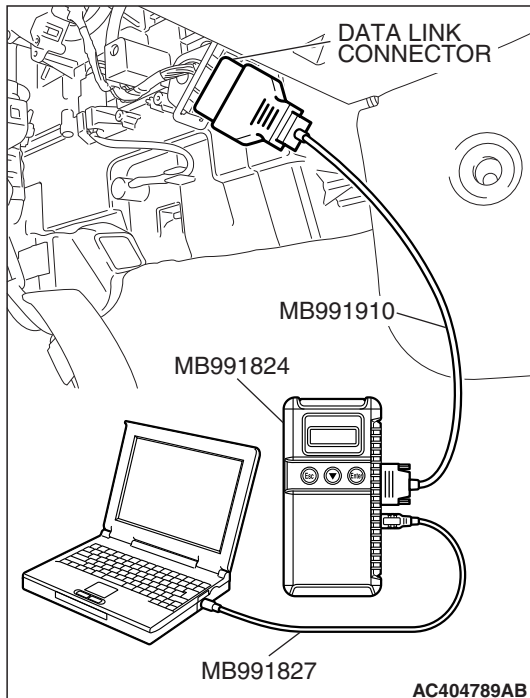
- (1) Connect scan tool MB991958. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "ON" position.
- (3) Diagnose the CAN bus line.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

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

**YES :** Go to Step 3.

**NO :** Repair the CAN bus line (Refer to GROUP 54C, Diagnosis [P.54C-17](#)).



**STEP 3. Using scan tool MB991958, read the combination meter diagnostic trouble code.**

- (1) Check whether a combination meter-related DTC is set.
- (2) Turn the ignition switch to the "ON" position.  
Check whether the combination meter-related DTC is set.
- (3) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES** : Diagnose the combination meter. Refer to [P.54A-60](#).

**NO** : Go to Step 4.

**STEP 4. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

Check the ETACS-ECU.

**⚠ CAUTION**

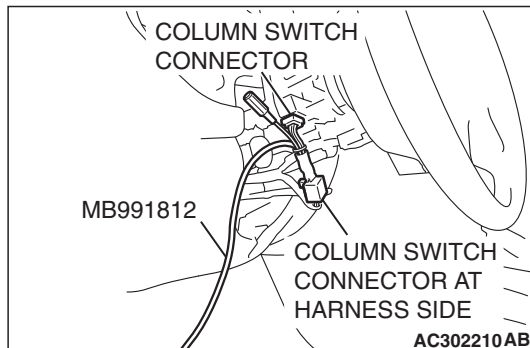
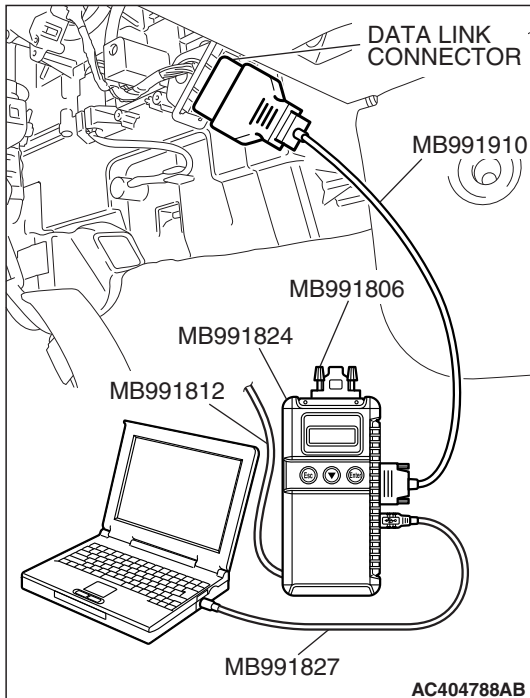
**Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.**

- (1) Connect the SWS monitor. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 5.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."



**STEP 5. Replace the combination meter.**

- (1) Replace the combination meter.
- (2) Check that the front fog light indicator light illuminates normally.

**Q: Is the front fog light indicator light operating properly?**

**YES :** No action is necessary and testing is complete.

**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Check that the front fog light indicator light illuminates normally.

INTERIOR LIGHT

GENERAL DESCRIPTION CONCERNING THE INTERIOR LIGHT

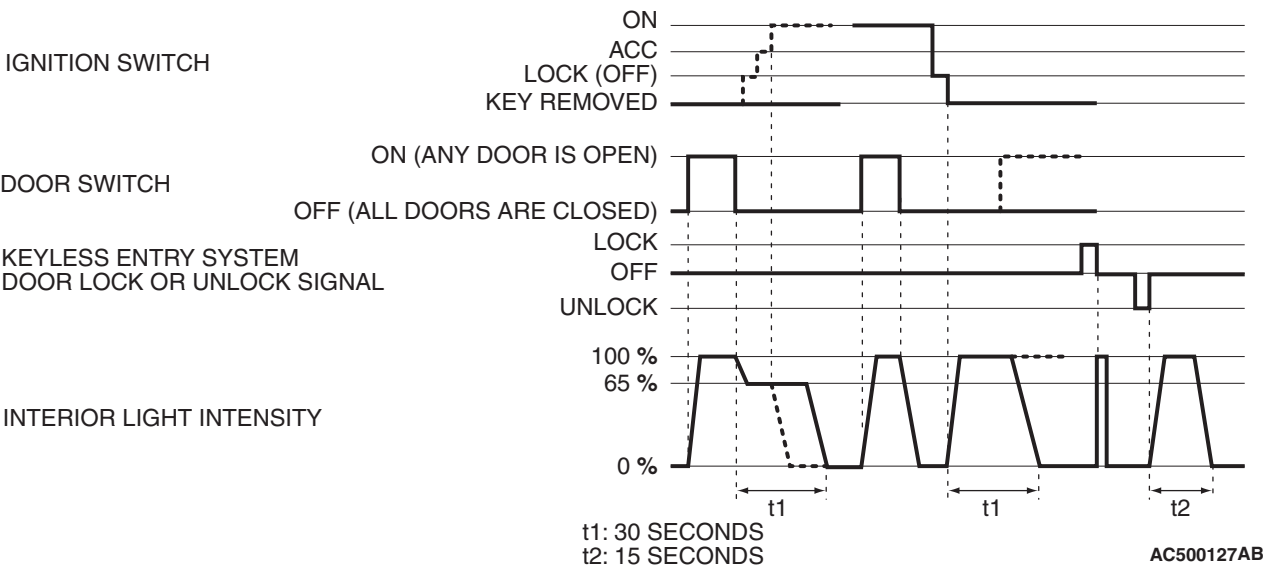
M1549021800322

The following ECUs affect the functions and control of the interior lights.

FUNCTION	CONTROL ECU
Interior light control	ETACS-ECU
Interior light automatic-shutoff function	ETACS-ECU
Seat belt indicator	ETACS-ECU
Door ajar indicator	ETACS-ECU
Ignition key cylinder illumination light function	ETACS-ECU

INTERIOR LIGHT

INTERIOR LIGHT CONTROL



The ETACS-ECU controls the interior lights by turning them on and off in the following way:

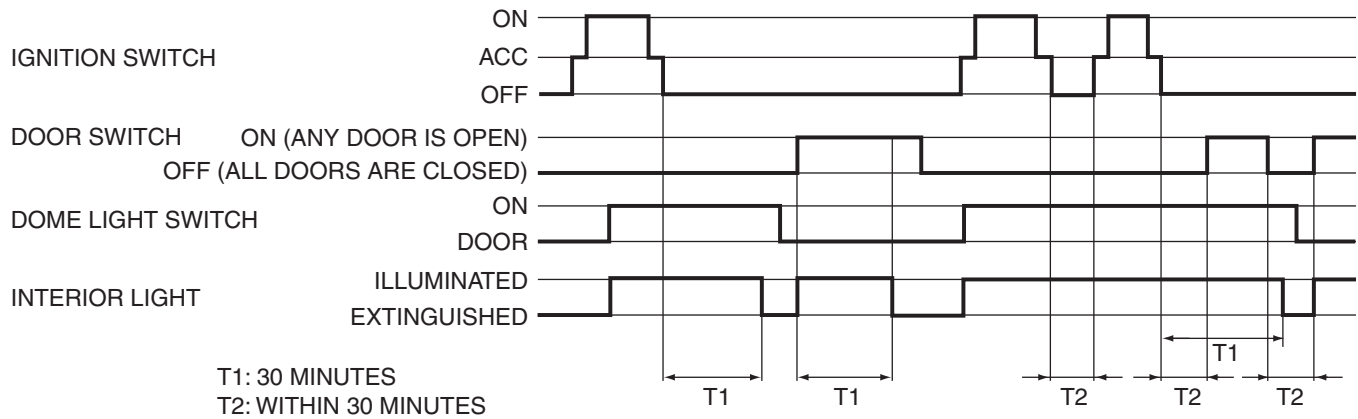
- When a door is opened with the ignition switch off, the interior lights up to a luminance of 100 percent. When a door is closed, the interior lights dim to a luminance of 65 percent, and go off 30 seconds later. However if the ignition switch is turned ON or if a door is locked while the interior lights are dimming, the dome light will go off at that point.
- When a door is opened with the ignition switch ON, the interior lights up at a luminance of 100 percent. When a door is closed, the interior lights go off.

- When the ignition key is removed with all doors closed, the interior lights up at a luminance of 100 percent, and goes off 30 seconds later. However if the ignition key is inserted again or if a door is locked while the interior lights is lighting, the interior lights will go off at that point.
- To check keyless entry operations more easily, the interior lights flash once when the doors are locked. When the doors are unlocked, the interior lights at a luminance of 100 percent, and go off 15 seconds later.

*NOTE: The dotted lines indicate that lighting mode when the ignition switch is turned ON, door is locked, or any door is opened during the timer illumination time.*



## Interior light automatic-shutoff function

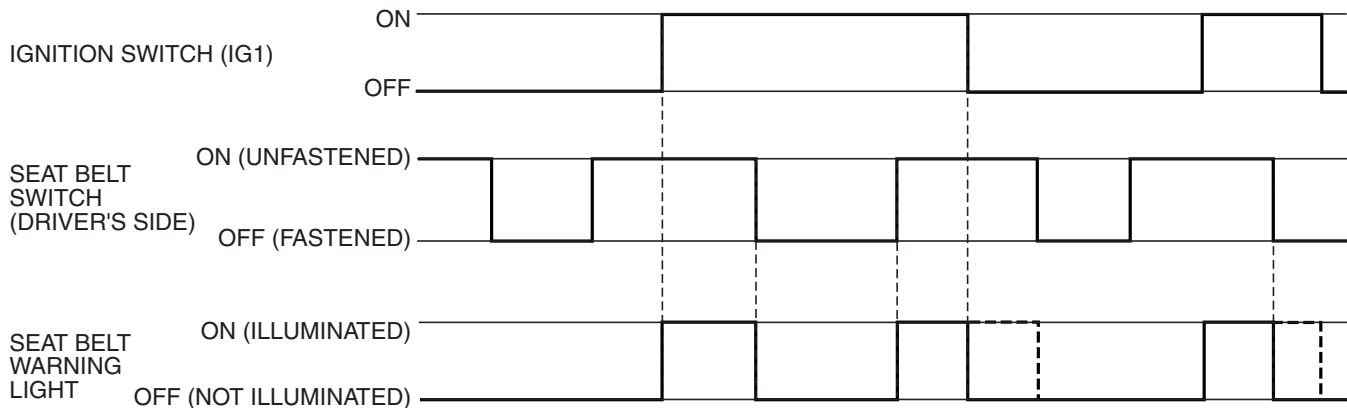


AC210856AC

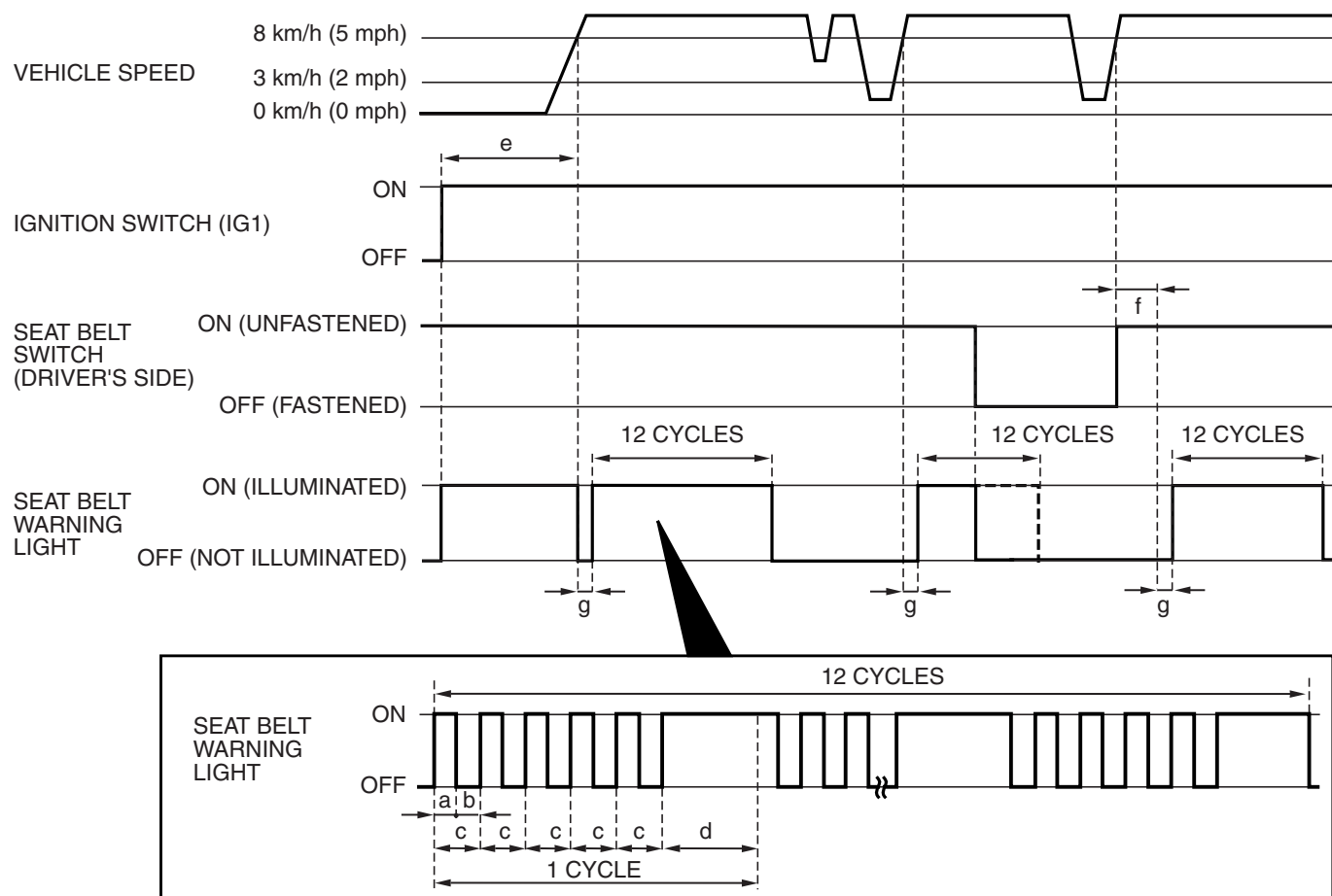
Illuminated interior lights such as the front dome light, etc. (all lights using the dome light fuse as the power supply) will automatically go off in the following conditions to prevent the battery from discharging as a result of forgetting to turn off the lights or incomplete closing of the door.

- When the ignition switch is turned off and more than 30 minutes pass by with the interior light illuminated, the interior lights will go off automatically.
- When the ignition switch is turned off and one of the door switches remains open for 30 minutes continuously, the interior lights will go off automatically.

## Seat belt indicator



AC305420 AC



a: 0.48 SECOND

b: 0.52 SECOND

c: 1 SECOND

d: 3 SECONDS

e: 60 SECONDS OR MORE

f: 10 SECONDS

g: 0.5 SECOND

AC305443AB

If any of the following conditions are met with the ignition switch at "ON" or "ST", the ETACS-ECU illuminates or extinguishes the seat belt indicator by using the driver's seat belt switch signal and the vehicle speed signal from the combination meter.

- The seat belt indicator illuminates when the seat belt switch is turned on (driver's seat belt is not fastened) with the ignition switch "ON".
- Flashes and illuminates the indicator 12 cycles (after 0.5 second) if any of the following conditions are met when 60 seconds or more have elapsed since the ignition switch is turned "ON". One cycle consists of five-second "flash" and then three-second "illuminate".

- The vehicle speed has reached 8 km/h (5 mph) while the seat belt switch is turned on (driver's seat belt is not fastened) with the ignition switch "ON".
- The seat belt switch has been turned on (driver's seat belt has not been fastened) for at least 10 seconds while the ignition switch has been turned "ON" and the vehicle speed has been 8 km/h (5 mph) or more.

**NOTE:** Once this timer operation has been activated, it will not be activated again until the vehicle speed reduces to 3 km/h (2 mph) or less even if any of the following conditions are met.

- The indicator turns off if the ignition switch or the seat belt switch is turned off (the driver's seat belt is fastened) while the timer operation is active.

## DOOR AJAR INDICATOR

The combination meter receives the signal sent from the ETACS-ECU about whether each door is open or closed and turns the door ajar indicator on and off. While the door ajar indicator is illuminated, the door ajar tone alarm function is activated and the door ajar indicator flashes 4 times. If the door remains open even after the 4 warning flashes, the door ajar indicator will be illuminated again. And when the interior light automatic-shutoff function is activated, the door ajar indicator is extinguished.

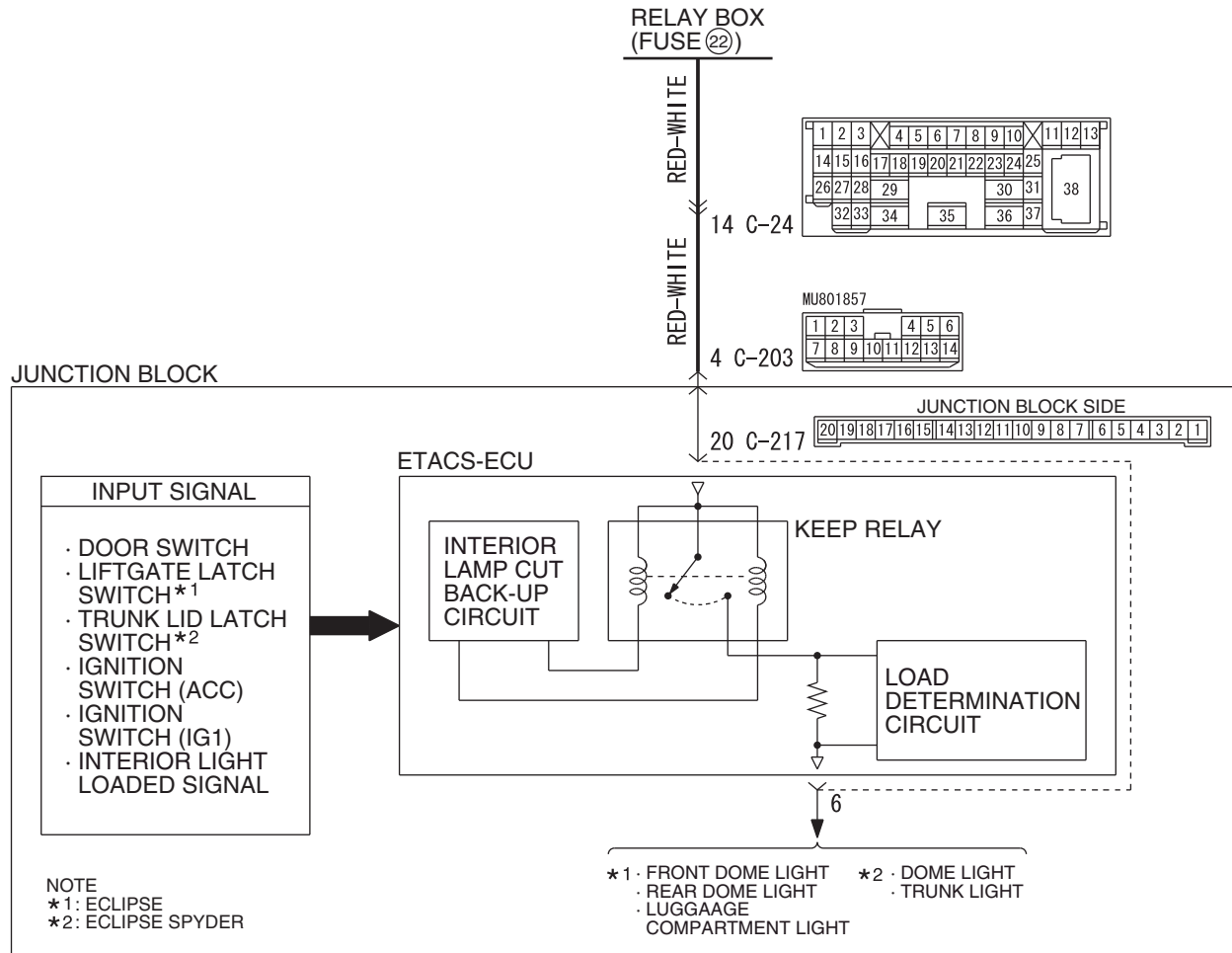
## IGNITION KEY CYLINDER ILLUMINATION FUNCTION

The ignition key cylinder illumination light illuminates when the driver's door is opened with the ignition switch off, and for 30 seconds after the driver's door is closed. It also illuminates for 30 seconds after the ignition key is pulled out. In any case, it goes out when the ignition switch is turned on.

*NOTE: When the ignition key cylinder illumination is extinguished by the interior light automatic-shutoff function, it does not illuminate.*

**INSPECTION PROCEDURE L-1: Interior Light: The dome lights do not illuminate and go out normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

**Interior Light Circuit**

W7P54M007A

**CIRCUIT OPERATION**

The ETACS-ECU operates the dome lights according to the following signals:

- Ignition switch (IG1): ON or OFF
- Key reminder switch: ON or OFF
- Door switches: ON or OFF
- Driver's door lock actuator switch: ON or OFF
- Interior light loaded signal: ON

**TECHNICAL DESCRIPTION (COMMENT)**

If the dome lights does not illuminate normally, a burned-out dome light bulb, the input circuits from the switches described in "CIRCUIT OPERATION", the power supply line to the switches or the ETACS-ECU may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1.** Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.

Check the ETACS-ECU.

**⚠ CAUTION**

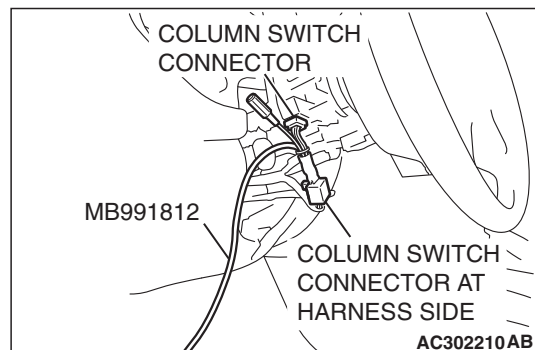
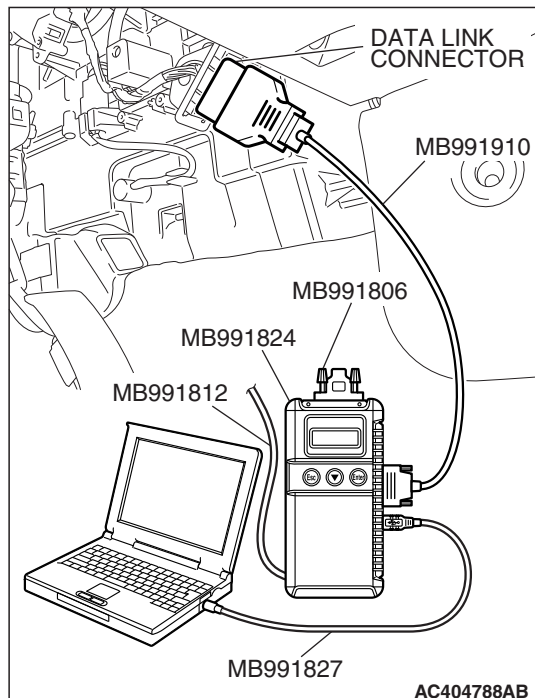
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

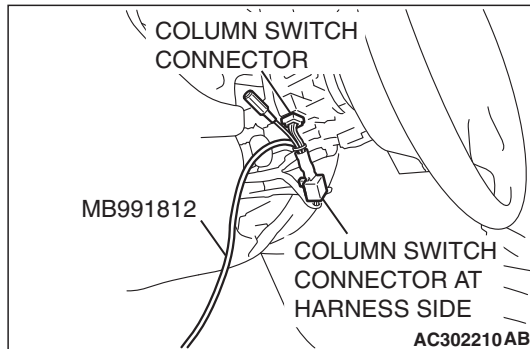
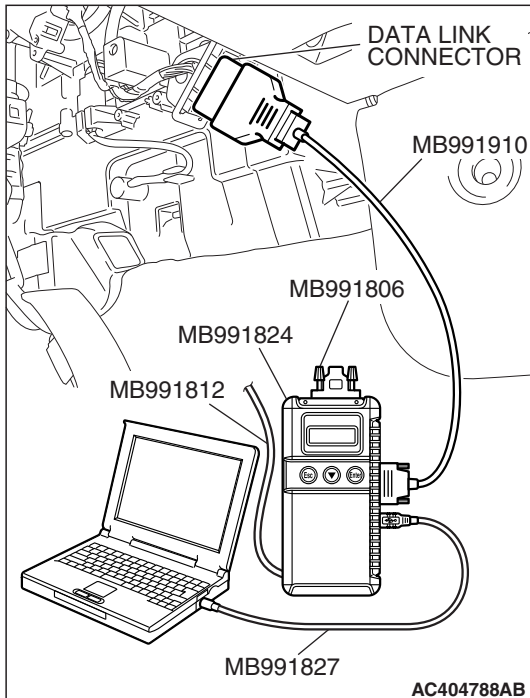
- (1) Connect the special tool. Refer to "How to connect SWS monitor P.54B-13."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible P.54B-74."





**STEP 2. Check the input signal by using "DATA LIST" menu of the SWS monitor.**

Check the input signals from the following switches:

- Ignition switch: ON or START
- Driver's or passenger's door: open

- (1) Operate scan tool MB991958 according to the procedure below to display "ETACS ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "ETACS ECU."
- (2) Check that normal conditions are displayed for the items described in the table below.

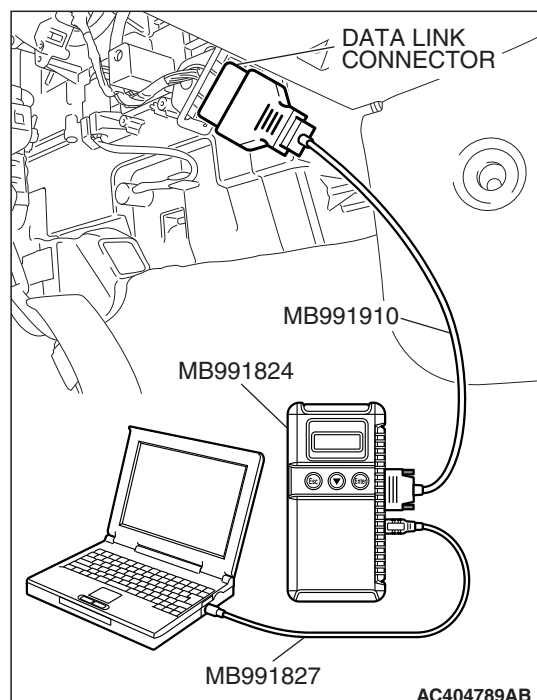
ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 30	IG SW (IG1)	ON
ITEM 32	FRONT DOOR SW	ON

**Q: Does the scan tool MB991958 display the items "IG SW (IG1)" and "FRONT DOOR SW" as normal condition?**

**Normal conditions are displayed for all the items :** Go to Step 3.

**Normal condition is not displayed for "IG SW (IG1)" :**  
Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) [P.54B-499.](#)"

**Normal condition is not displayed for "FRONT DOOR SW" :** Refer to Inspection Procedure M-5 "ETACS-ECU does not receive any signal from the door switches [P.54B-512.](#)"



### STEP 3. Check the input signal (by using the pulse check mode of the monitor).

Check the following switches and input signals:

- Key reminder switch
- Interior light loaded signal

- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (2) Check if scan tool MB991958 sounds or not.

ITEM NAME	CONDITION
Key reminder switch	Remove and reinsert the ignition key
Interior light loaded signal	Turn on one of the interior lights

**Q: When the key reminder switch, any door switch or interior light is operated, does scan tool MB991958 sound?**

**Buzzer of scan tool MB991958 sounds normally. :**

Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the dome light illuminates normally.

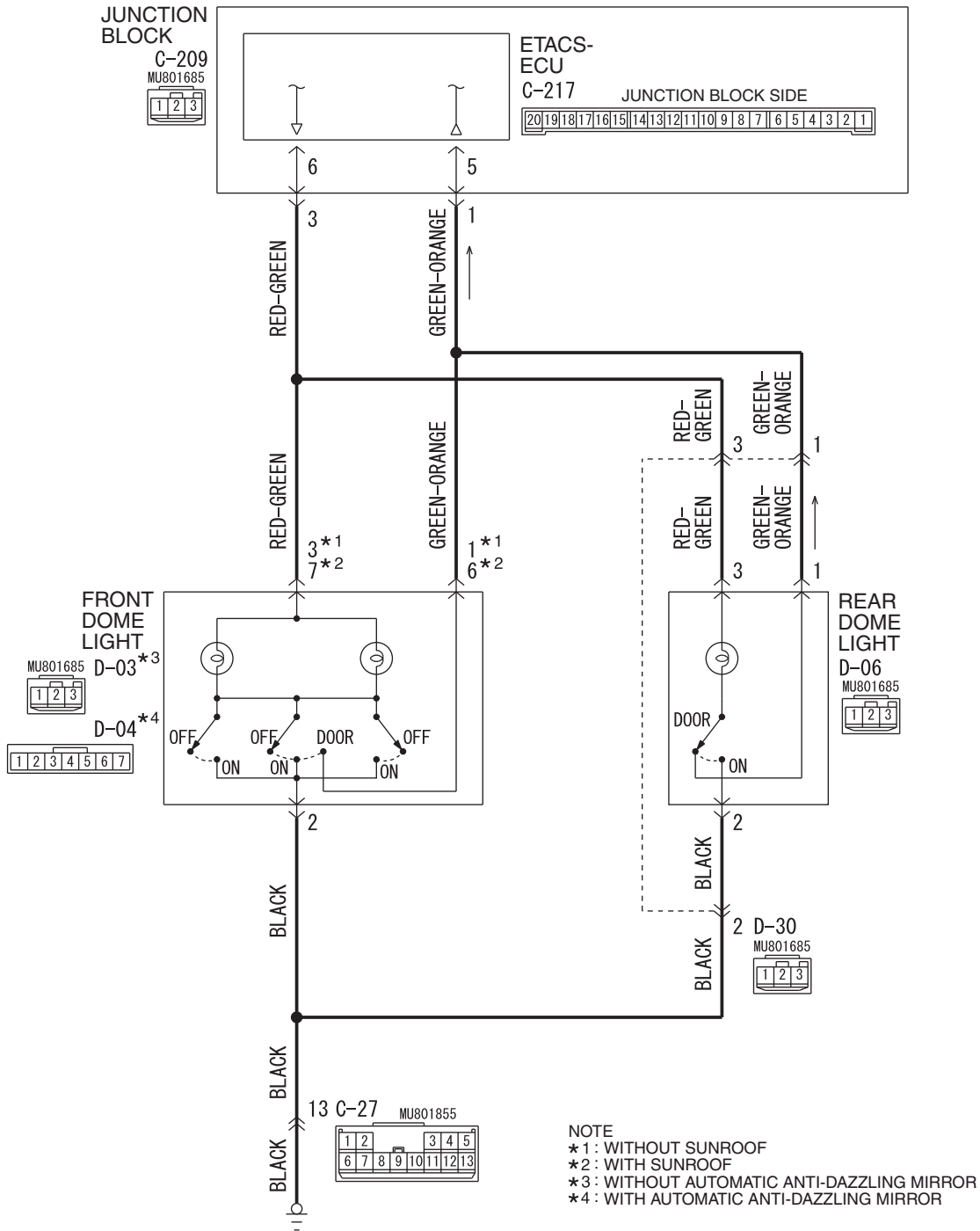
**Scan tool MB991958 does not sound when the ignition key is removed and reinserted :** Refer to Inspection Procedure N-1 "ETACS-ECU does not receive any signal from the key reminder switch [P.54B-537](#)."

**When one of the interior lights is illuminated, scan tool MB991958 does not sound :** Refer to Inspection Procedure N-8 "ETACS-ECU does not receive any interior light loaded signal [P.54B-581](#)."



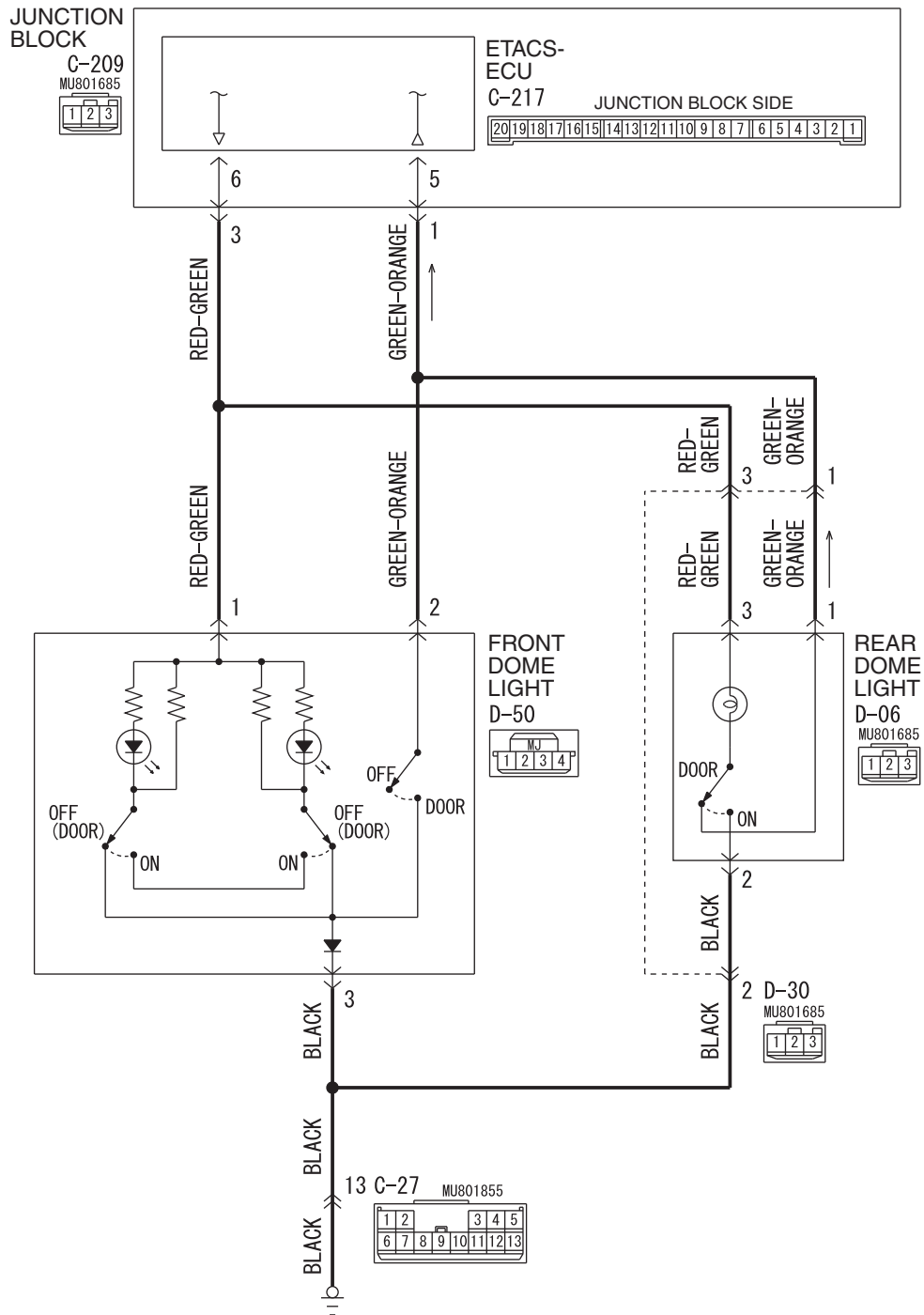
**INSPECTION PROCEDURE L-2: Interior Light: The front dome light or rear dome light does not illuminate or go out normally. <ECLIPSE>**

**Interior Light Circuit <Vehicles without Rear View Camera>**



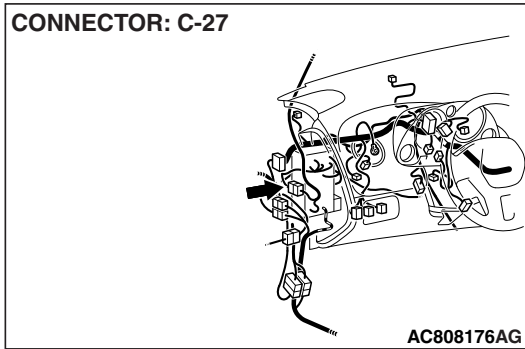
WAP54M026A

## Interior Light Circuit &lt;Vehicles with Rear View Camera&gt;

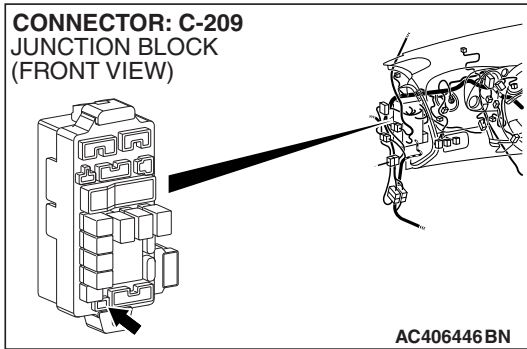


WAP54M025A

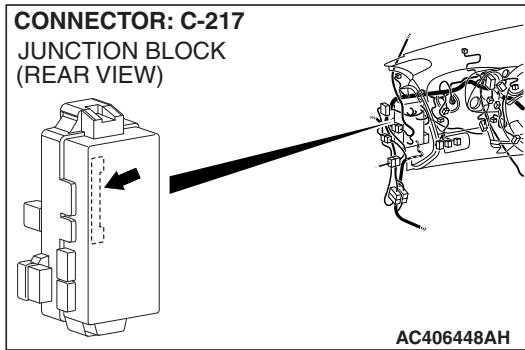
**CONNECTOR: C-27**



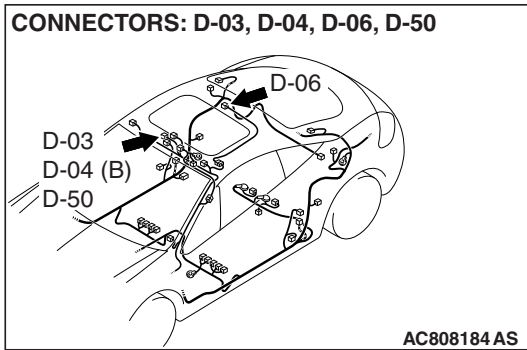
**CONNECTOR: C-209  
JUNCTION BLOCK  
(FRONT VIEW)**



**CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)**



**CONNECTORS: D-03, D-04, D-06, D-50**



## **CIRCUIT OPERATION**

The ETACS-ECU operates the dome light according to the following signals:

- Ignition switch (IG1): ON or OFF
- Key reminder switch: ON or OFF
- Door switches: ON or OFF
- Driver's door lock actuator switch: LOCK or UNLOCK

## **TECHNICAL DESCRIPTION (COMMENT)**

If the dome light does not flash normally, a burned-out dome light bulb, the input circuits from the switches described in "CIRCUIT OPERATION", the power supply line to the switches or the ETACS-ECU may be defective.

## **TROUBLESHOOTING HINTS**

- The front dome light bulb may be defective
- The rear dome light bulb may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## **DIAGNOSIS**

### **Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A

**STEP 1.** Check which of the front dome light or rear dome light does not illuminate normally.

**Q:** Which of the front dome light or rear dome light fail to illuminate normally?

Front dome light and rear dome light <vehicles without rear view camera> : Go to Step 2.

Front dome light <vehicles without rear view camera> :  
Go to Step 4.

Rear dome light : Go to Step 9.

Front dome light and rear dome light <vehicles with rear view camera> : Go to Step 14.

Front dome light <vehicles with rear view camera> : Go to Step 16.

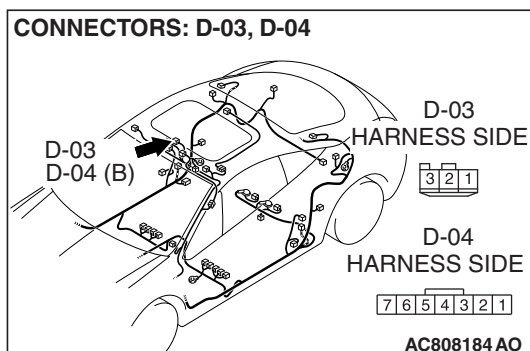
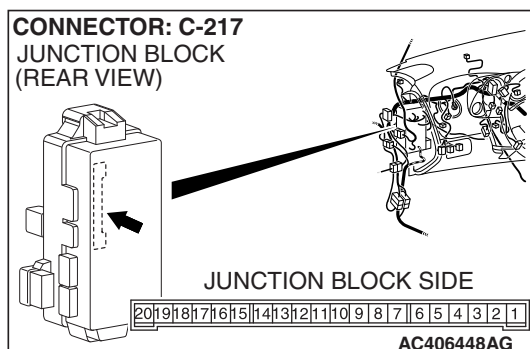
**STEP 2.** Check front dome light connector D-03 <without automatic anti-dazzling mirror>, D-04 <with automatic anti-dazzling mirror> and ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

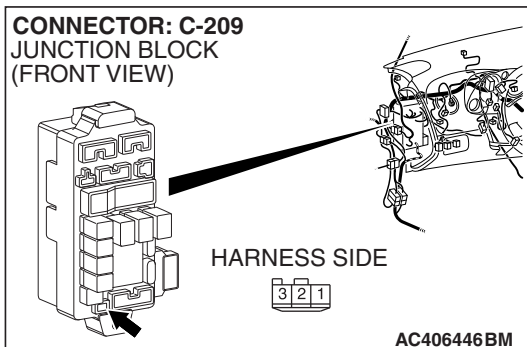
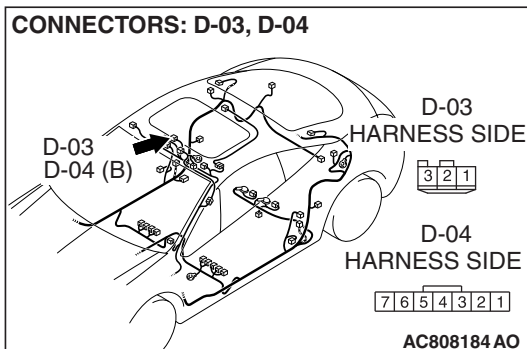
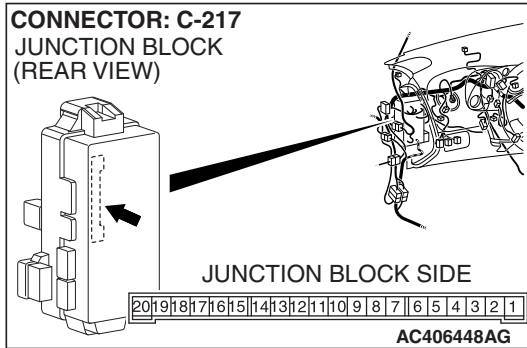
**Q:** Is front dome light connector D-03 <without automatic anti-dazzling mirror>, D-04 <with automatic anti-dazzling mirror> and ETACS-ECU connector C-217 in good condition?

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the front dome light and rear dome light illuminates normally.





**STEP 3.** Check the wiring harness between front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror> (terminals 1 and 3 <without sunroof> or 6 and 7 <with sunroof>) and ETACS-ECU connector C-217 (terminals 5 and 6).

- Check the communication lines for open circuit and short circuit.

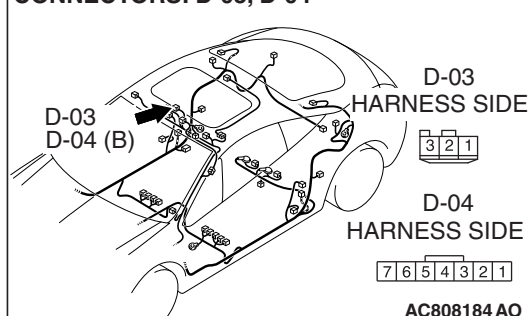
**NOTE:** Also check junction block connector C-209 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-209 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

**Q:** Is the wiring harness between front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror> (terminals 1 and 3 <without sunroof> or 6 and 7 <with sunroof>) and ETACS-ECU connector C-217 (terminals 5 and 6) in good condition?

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light and rear dome light illuminates normally.

CONNECTORS: D-03, D-04



**STEP 4. Check front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror> for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror> in good condition?**

**YES :** Go to Step 5.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front dome light illuminates normally.

**STEP 5. Check the front dome light bulb.**

**Q: Is the front dome light bulb in good condition?**

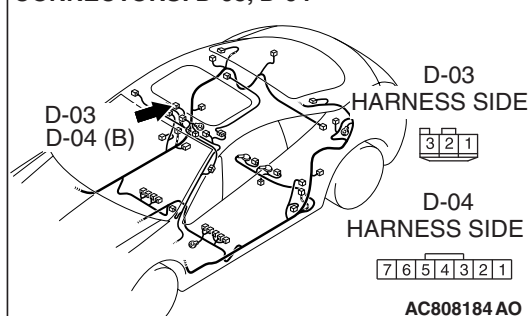
**YES :** Go to Step 6.

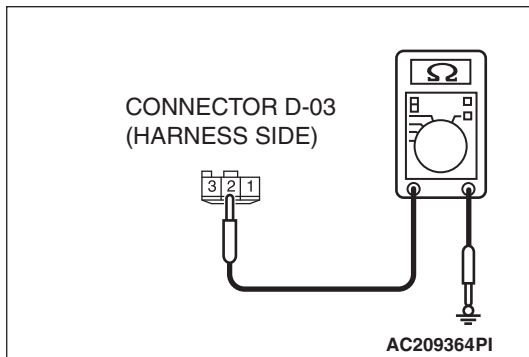
**NO :** Replace the front dome light bulb. Check that the front dome light illuminates normally.

**STEP 6. Check the ground circuit to the front dome light. Measure the resistance at front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror>.**

- (1) Disconnect front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror> and measure the resistance available at the wiring harness side of the connector.

CONNECTORS: D-03, D-04





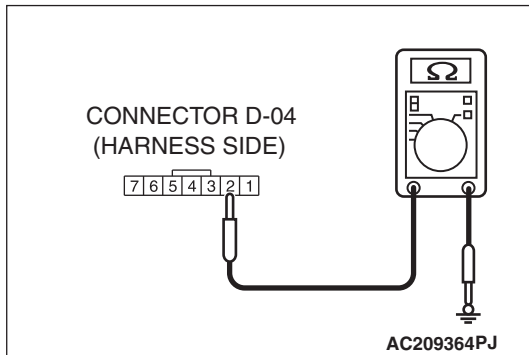
- (2) Measure the resistance value between terminal 2 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 8.

**NO :** Go to Step 7.



**STEP 7. Check the wiring harness between front dome light connector D-03 (terminal 2) <without automatic anti-dazzling mirror> or D-04 (terminal 2) <with automatic anti-dazzling mirror> and ground.**

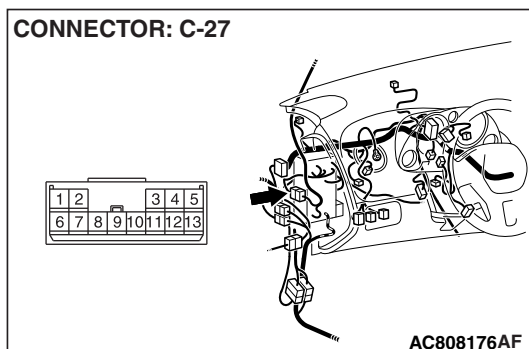
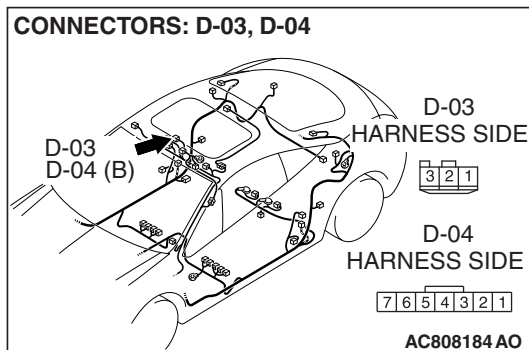
- Check the ground wire for open circuit.

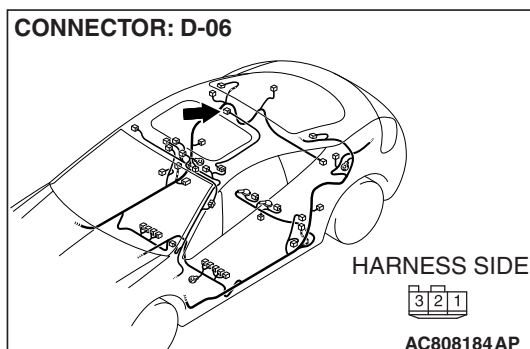
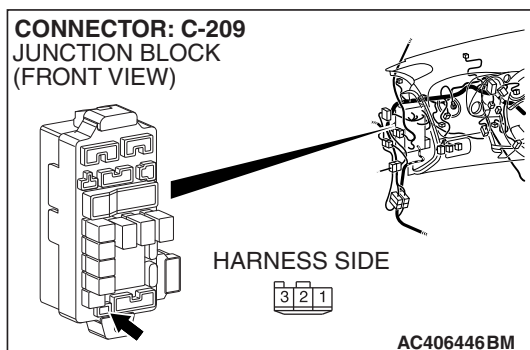
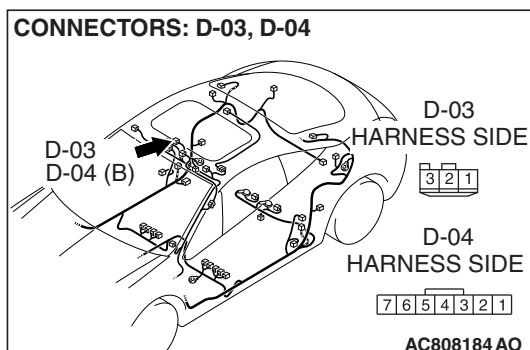
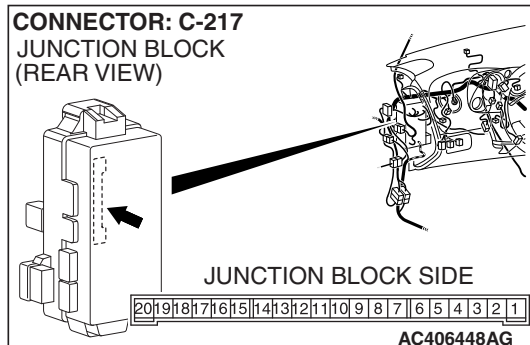
*NOTE: Also check intermediate connector C-27 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-27 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between front dome light connector D-03 (terminal 2) <without automatic anti-dazzling mirror> D-04 (terminal 2) <with automatic anti-dazzling mirror> and ground in good condition?**

**YES :** Replace the front dome light. Check that the front dome light illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light illuminates normally.





**STEP 8.** Check the wiring harness between front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror> (terminals 1 and 3 <without sunroof> or 6 and 7 <with sunroof>) and ETACS-ECU connector C-217 (terminals 5 and 6).

- Check the communication lines for open circuit and short circuit.

**NOTE:** Also check junction block connector C-209 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-209 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 front dome light connector D-03 <without automatic anti-dazzling mirror> or D-04 <with automatic anti-dazzling mirror> (terminals 1 and 3 <without sunroof> or 6 and 7 <with sunroof>) and ETACS-ECU connector C-217 (terminals 5 and 6) in good condition?

**YES :** Replace the front dome light. Check that the front dome light illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light illuminates normally.

**STEP 9.** Check rear dome light connector D-06 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Is rear dome light connector D-06 in good condition?

**YES :** Go to Step 10.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the rear dome light illuminates normally.



**STEP 10. Check the rear dome light bulb.**

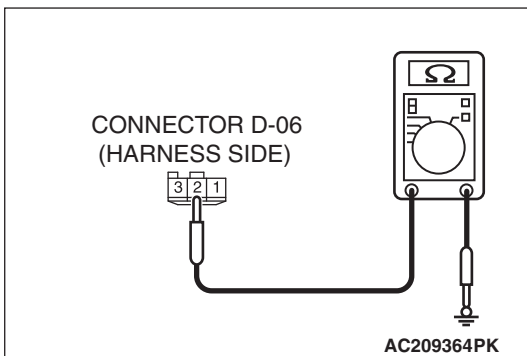
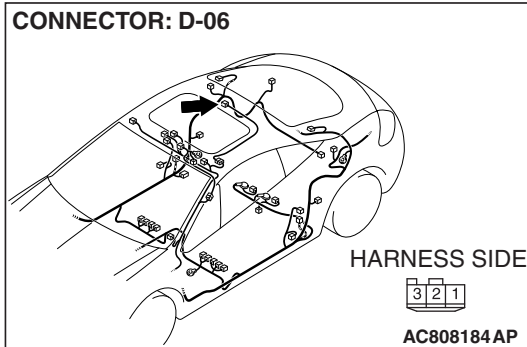
**Q: Is the rear dome light bulb in good condition?**

**YES :** Go to Step 11.

**NO :** Replace the rear dome light bulb. Check that the rear dome light illuminates normally.

**STEP 11. Check the ground circuit to the rear dome light. Measure the resistance at rear dome light connector D-06.**

(1) Disconnect rear dome light connector D-06 and measure the resistance available at the wiring harness side of the connector.



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

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 13.

**NO :** Go to Step 12.

**STEP 12. Check the wiring harness between rear dome light connector D-06 and ground.**

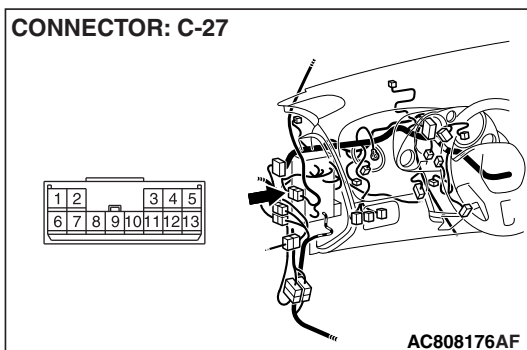
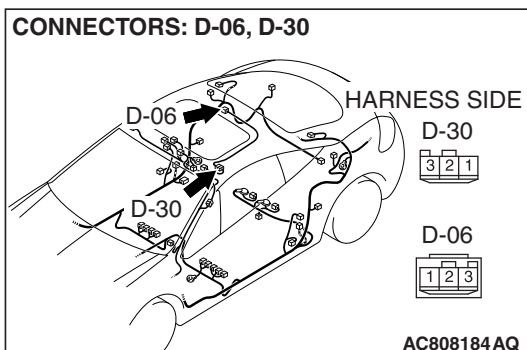
- Check the ground wire for open circuit.

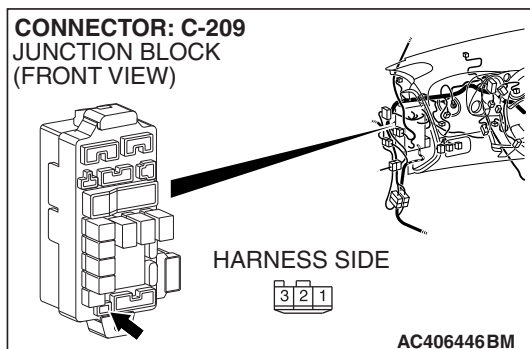
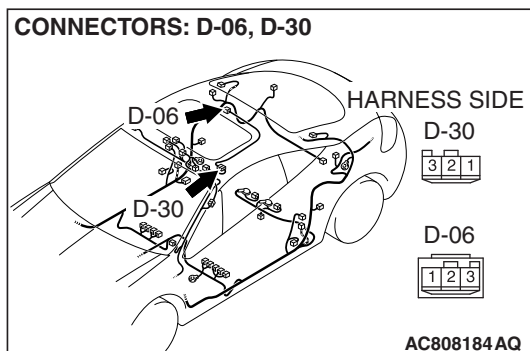
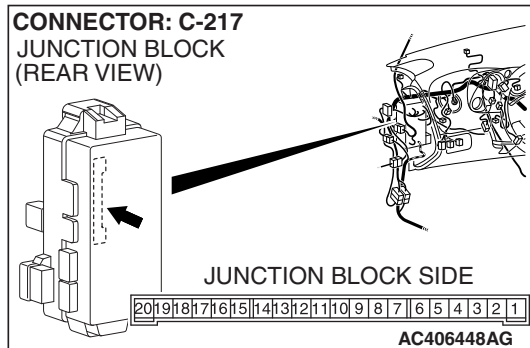
*NOTE: Also check intermediate connectors C-27 and D-30 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-27 or D-30 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.*

**Q: Is the wiring harness between rear dome light connector D-06 and ground in good condition?**

**YES :** Replace the rear dome light. Check that the rear dome light illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the rear dome light illuminates normally.





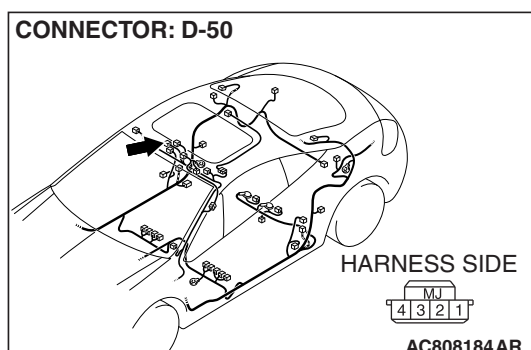
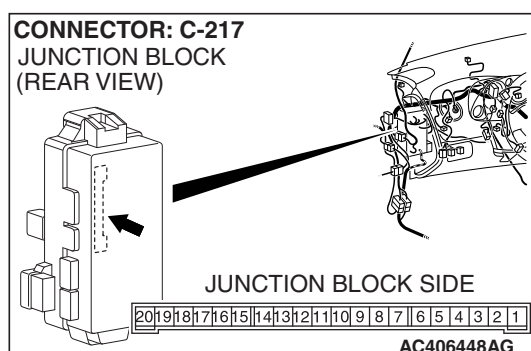
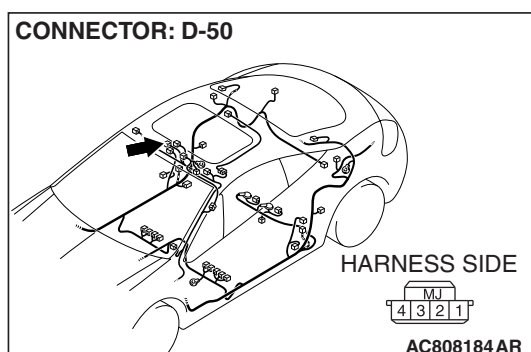
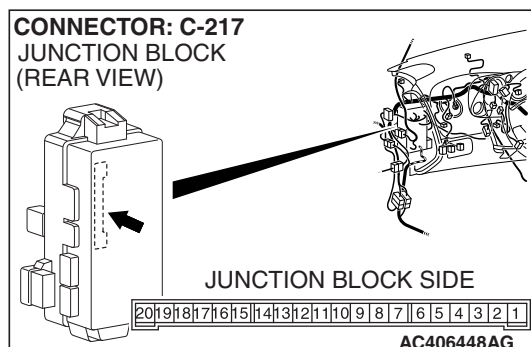
**STEP 13. Check the wiring harness between rear dome light connector D-06 (terminals 1 and 3) and ETACS-ECU connector C-217 (terminals 5 and 6).**

- Check the communication lines for open circuit and short circuit.

*NOTE: Also check intermediate connector D-30 and junction block connector C-209 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector D-30 or junction block connector C-209 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 rear dome light connector D-06 (terminals 1 and 3) and ETACS-ECU connector C-217 (terminals 5 and 6) in good condition?**

- YES :** Replace the rear dome light. Check that the rear dome light illuminates normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the rear dome light illuminates normally.



**STEP 14. Check front dome light connector D-50 and ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front dome light connector D-50 and ETACS-ECU connector C-217 in good condition?**

**YES :** Go to Step 15.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the front dome light and rear dome light illuminates normally.

**STEP 15. Check the wiring harness between front dome light connector D-50 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminals 6 and 5).**

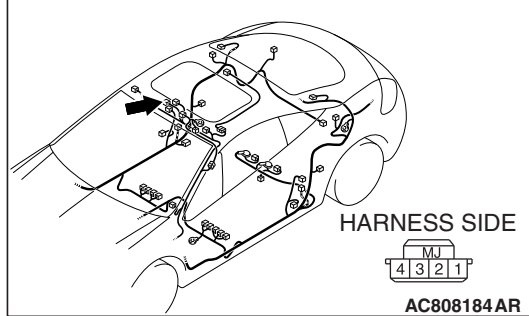
- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between front dome light connector D-50 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminals 6 and 5) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light and rear dome light illuminates normally.

CONNECTOR: D-50



**STEP 16. Check front dome light connector D-50 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

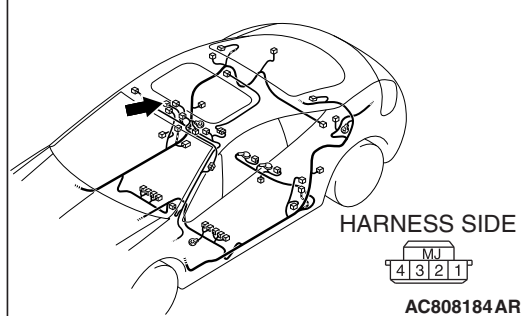
**Q: Is front dome light connector D-50 in good condition?**

**YES :** Go to Step 17.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the front dome light illuminates normally.

CONNECTOR: D-50



**STEP 17. Check the ground circuit to the front dome light. Measure the resistance at front dome light connector D-50.**

(1) Disconnect front dome light connector D-50 and measure the resistance available at the wiring harness side of the connector.

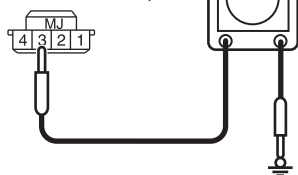
(2) Measure the resistance value between terminal 3 and ground.

- The resistance should be 2 ohms or less.

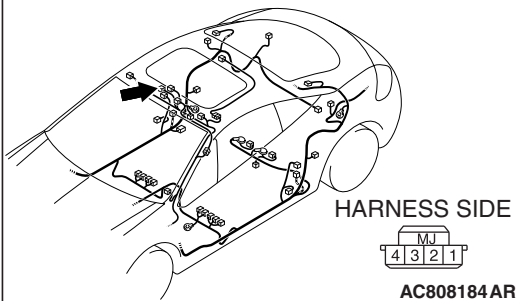
**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 19.

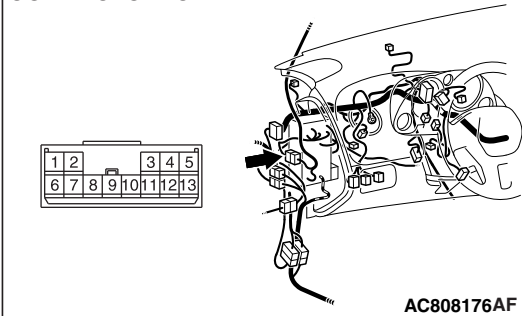
**NO :** Go to Step 18.

CONNECTOR D-50  
(HARNESS SIDE)

CONNECTOR: D-50



CONNECTOR: C-27



**STEP 18. Check the wiring harness between front dome light connector D-50 (terminal 3) and ground.**

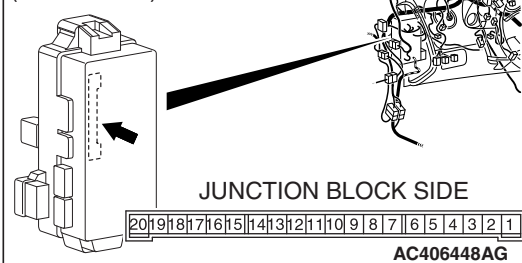
- Check the ground wire for open circuit.

*NOTE: Also check intermediate connector C-27 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-27 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.*

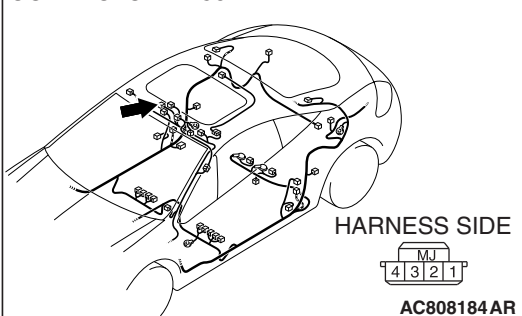
**Q: Is the wiring harness between front dome light connector D-50 (terminal 3) and ground in good condition?**

- YES :** Replace the front dome light. Check that the front dome light illuminates normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light illuminates normally.

CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)



CONNECTOR: D-50



**STEP 19. Check the wiring harness between front dome light connector D-50 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminals 6 and 5).**

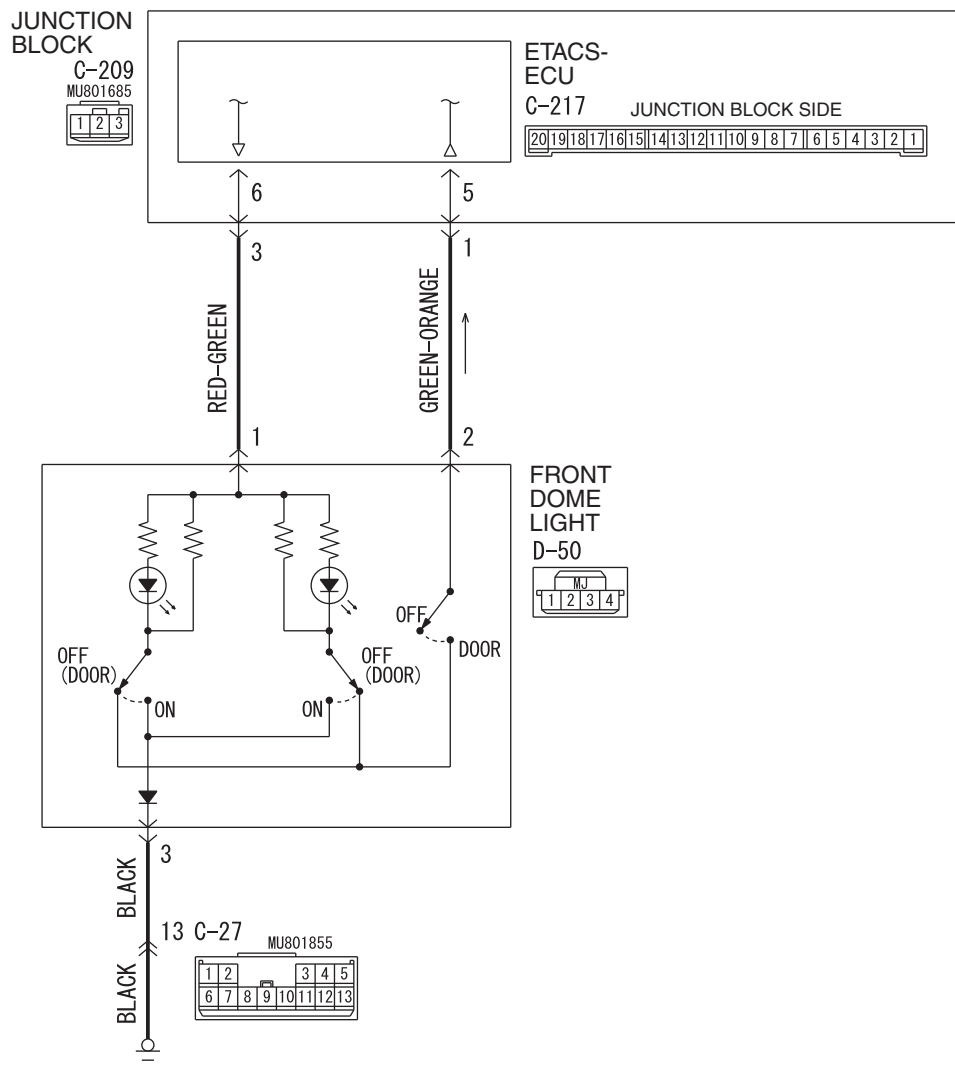
- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between front dome light connector D-50 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminals 6 and 5) in good condition?**

- YES :** Replace the front dome light. Check that the front dome light illuminates normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light illuminates normally.

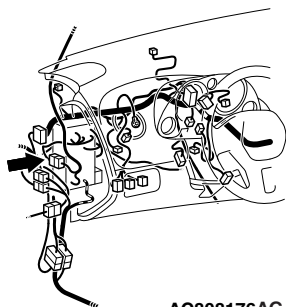
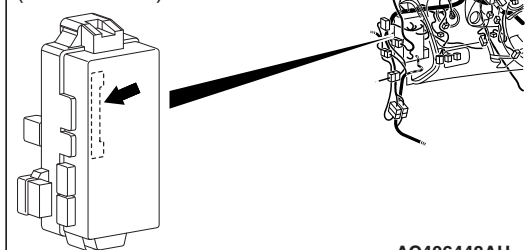
INSPECTION PROCEDURE L-2: Interior Light: The dome light does not illuminate or go out normally.  
<ECLIPSE SPYDER>

Dome Light Circuit

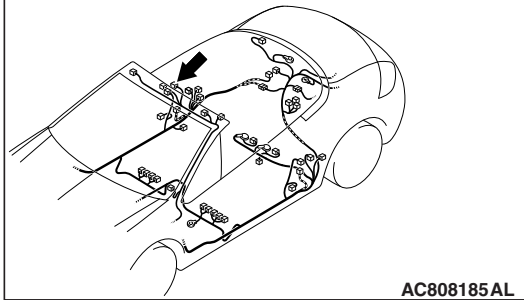


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CONNECTOR: C-27

CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)

CONNECTOR: D-50



## CIRCUIT OPERATION

The ETACS-ECU operates the dome light according to the following signals:

- Ignition switch (IG1): ON or OFF
- Key reminder switch: ON or OFF
- Door switches: ON or OFF
- Driver's door lock actuator switch: LOCK or UNLOCK

## TECHNICAL DESCRIPTION (COMMENT)

If the dome light does not flash normally, the input circuits from the switches described in "CIRCUIT OPERATION", the power supply line to the switches, the ETACS-ECU or the front dome light may be defective.

## TROUBLESHOOTING HINTS

- The front dome light may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A

**STEP 1. Check front dome light connector D-50 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

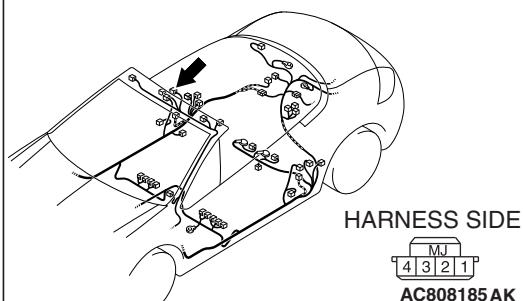
**Q: Is front dome light connector D-50 in good condition?**

**YES :** Go to Step 2.

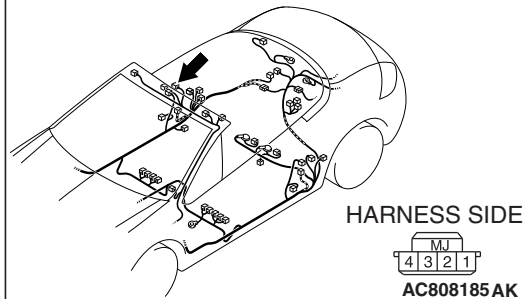
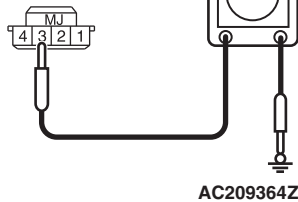
**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Check that the front dome light illuminates normally.

CONNECTOR: D-50



CONNECTOR: D-50

CONNECTOR D-50  
(HARNESS SIDE)**STEP 2. Check the ground circuit to the front dome light.  
Measure the resistance at front dome light connector D-50.**

- (1) Disconnect front dome light connector D-50 and measure the resistance available at the wiring harness side of the connector.

- (2) Measure the resistance value between terminal 3 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

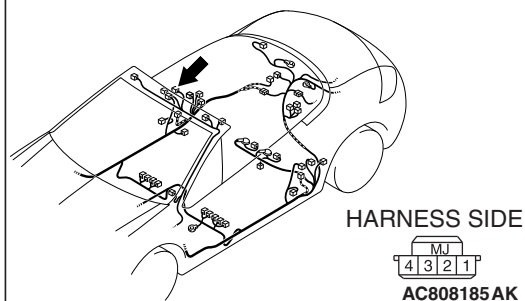
**YES :** Go to Step 4.

**NO :** Go to Step 3.

**STEP 3. Check the wiring harness between front dome light connector D-50 (terminal 3) and ground.**

- Check the ground wire for open circuit.

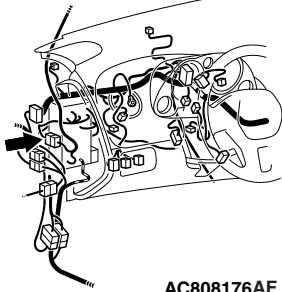
CONNECTOR: D-50





**CONNECTOR: C-27**

1	2	3	4	5
6	7	8	9	10
11	12	13		



AC808176AF

*NOTE: Also check intermediate connector C-27 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-27 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 front dome light connector D-50 (terminal 3) and ground in good condition?**

- YES :** Replace the front dome light. Check that the front dome light illuminates normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light illuminates normally.

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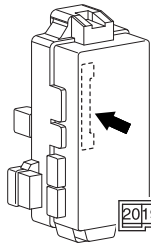
**STEP 4. Check the wiring harness between front dome light connector D-50 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminals 6 and 5).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between front dome light connector D-50 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminals 6 and 5) in good condition?**

- YES :** Replace the front dome light. Check that the front dome light illuminates normally.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light illuminates normally.

**CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)**

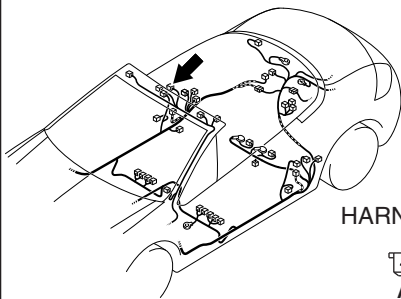


JUNCTION BLOCK SIDE

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---

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**CONNECTOR: D-50**



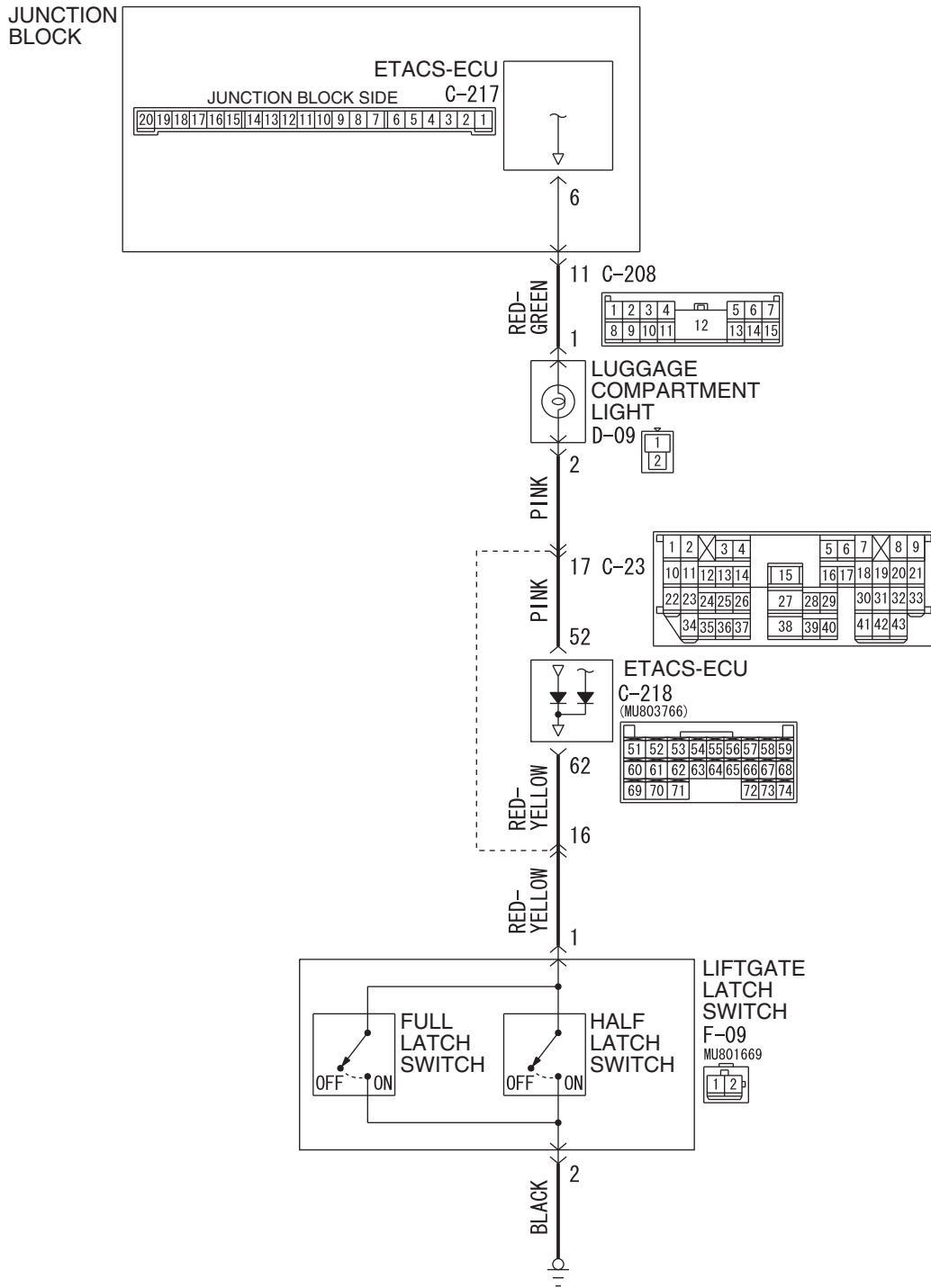
HARNESS SIDE

MJ			
4	3	2	1

AC808185AK

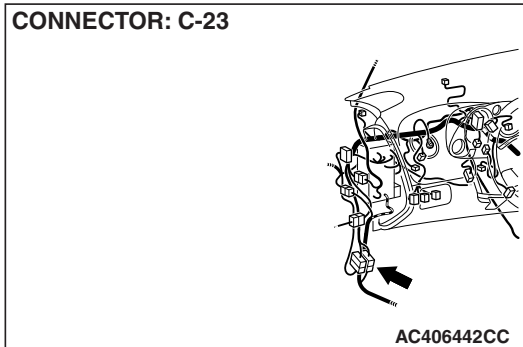
**INSPECTION PROCEDURE L-3: Interior Light: The luggage compartment light does not illuminate or go out normally. <ECLIPSE>**

### Luggage Compartment Light Circuit

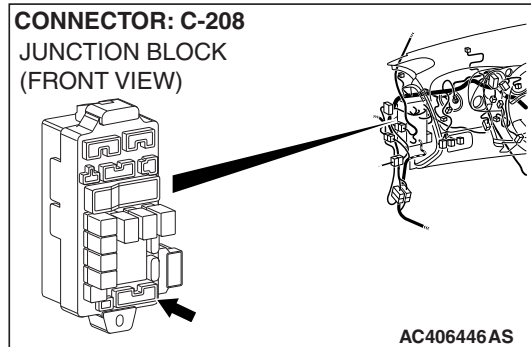


W6P54M060A

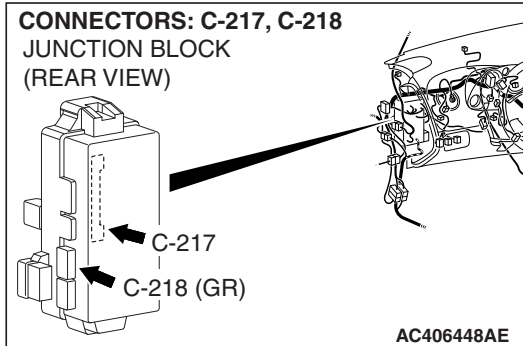
**CONNECTOR: C-23**



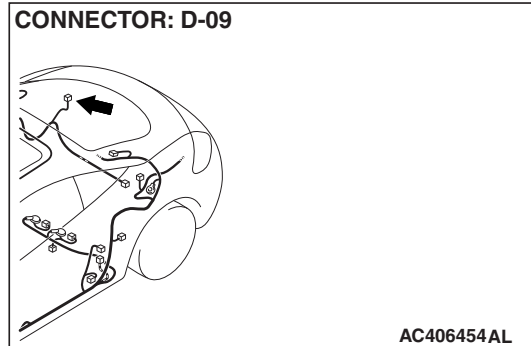
**CONNECTOR: C-208  
JUNCTION BLOCK  
(FRONT VIEW)**



**CONNECTORS: C-217, C-218  
JUNCTION BLOCK  
(REAR VIEW)**



**CONNECTOR: D-09**



## **CIRCUIT OPERATION**

The ETACS-ECU operates the luggage compartment light according to the following signals:

- Ignition switch (IG1): ON or OFF
- Liftgate latch switch: ON

## **TECHNICAL DESCRIPTION (COMMENT)**

If the luggage compartment light does not flash normally, a burned-out dome light bulb, the input circuits from the switches described in "CIRCUIT OPERATION", the power supply line to the switches or the ETACS-ECU may be defective.

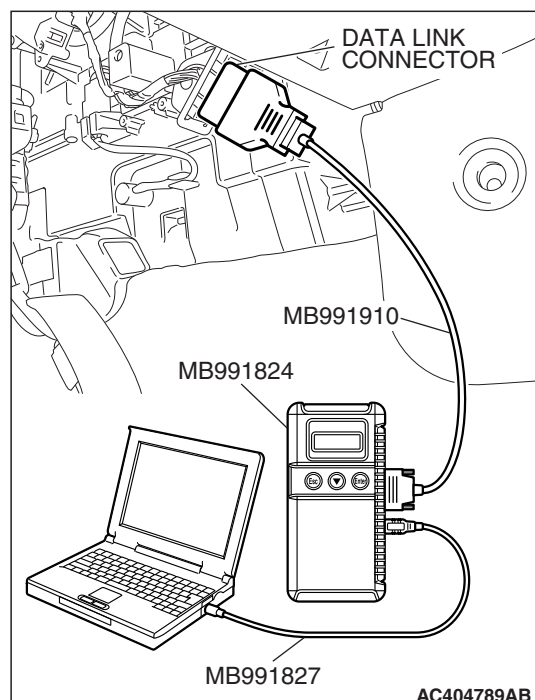
## **TROUBLESHOOTING HINTS**

- The luggage compartment light bulb may be defective
- The liftgate latch switch may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## **DIAGNOSIS**

### **Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A

**STEP 1. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the liftgate latch switch.

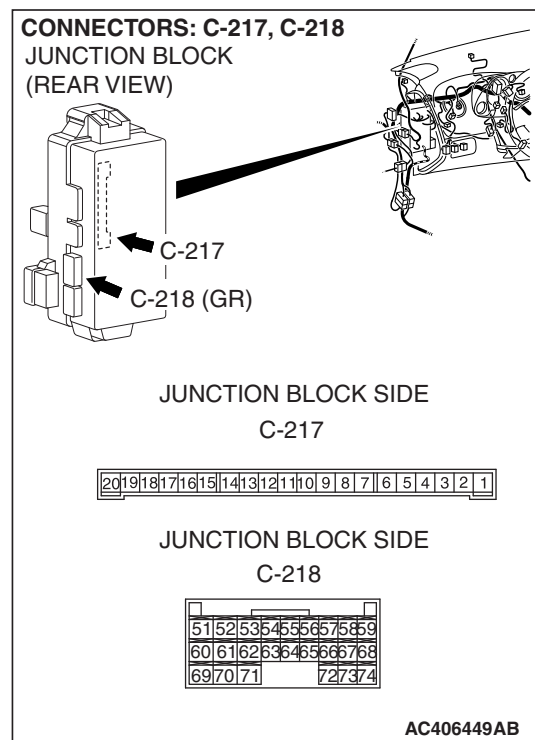
- Check whether scan tool MB991958 sounds or not when the liftgate is opened.

- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System Select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."

**Q: Does scan tool MB991958 sound when the liftgate is opened?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure N-5 "ETACS-ECU does not receive any signal from the liftgate latch switch [P.54B-565](#). <ECLIPSE>"

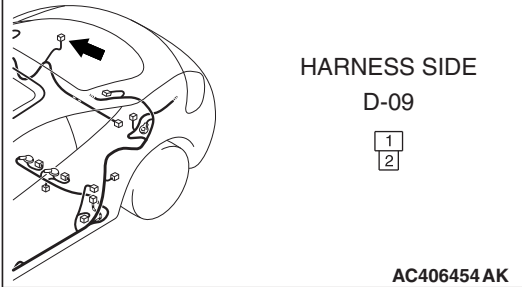
**STEP 2. Check luggage compartment light connector D-09, ETACS-ECU connectors C-217 and C-218 and for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is luggage compartment light connector D-09, ETACS-ECU connectors C-217 and C-218 in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Check that the luggage compartment light illuminates normally.

**CONNECTOR: D-09**



**STEP 3. Check the luggage compartment light bulb.**

**Q: Is the luggage compartment light bulb in good condition?**

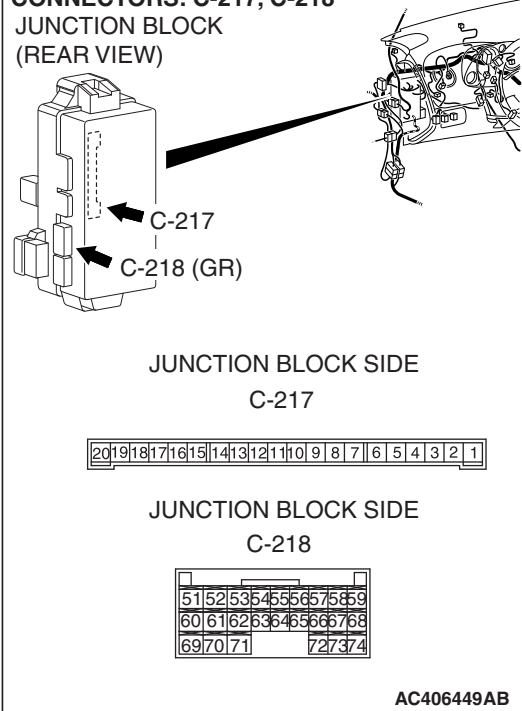
**YES :** Go to Step 4.

**NO :** Replace the luggage compartment light bulb. Check that the luggage compartment light illuminates normally.

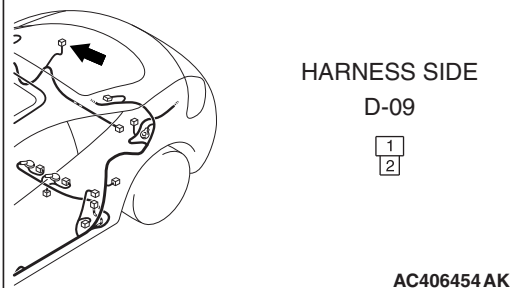
**STEP 4. Check the wiring harness between luggage compartment light connector D-09 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminal 6) or C-218 (terminal 52).**

- Check the communication lines for open circuit and short circuit.

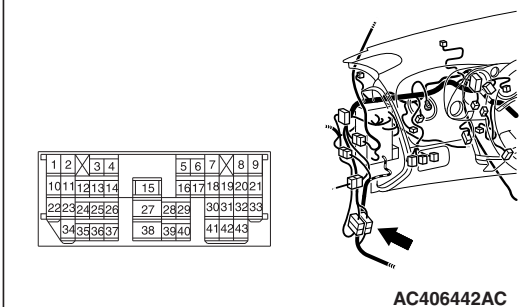
**CONNECTORS: C-217, C-218**  
**JUNCTION BLOCK**  
**(REAR VIEW)**



## CONNECTOR: D-09



## CONNECTOR: C-23



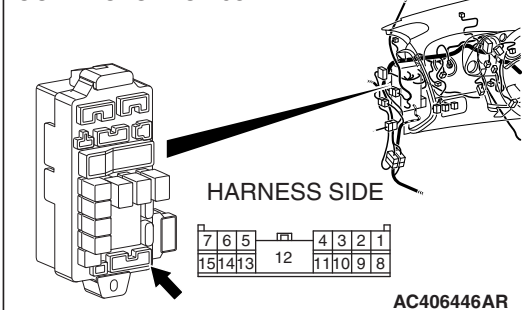
**NOTE:** Also check intermediate connector C-23 and junction block connector C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-23 or junction block connector C-208 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

**Q:** Is the wiring harness between luggage compartment light connector D-09 (terminals 1 and 2) and ETACS-ECU connector C-217 (terminal 6) or C-218 (terminal 52) in good condition?

**YES :** Replace the front dome light. Check that the front dome light illuminates normally.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Check that the front dome light illuminates normally.

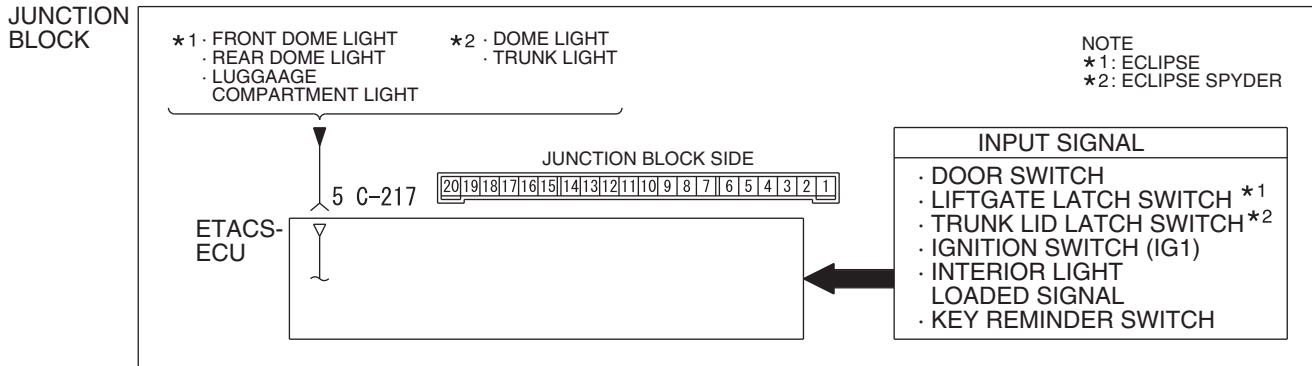
## CONNECTOR: C-208



**INSPECTION PROCEDURE L-4: Interior light: Dome light dimming function does not work normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

**Ignition Dimming Function**



W7P54M010A

**CIRCUIT OPERATION**

The ETACS-ECU operates the dome light dimming function according to the input signals from the following switches:

- Ignition switch (IG1): OFF
- Key reminder switch: ON
- Door switches: OFF
- Driver's door lock actuator switch: LOCK or UNLOCK

**TECHNICAL DESCRIPTION (COMMENT)**

If the dome lights do not dim normally, the input circuits from the switches described in "CIRCUIT OPERATION" or the ETACS-ECU may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1. Check the dome light.**

If a door is opened while the dome light switch is at "door-linked" position, the dome light should illuminate.

**Q: Does the dome light illuminate normally?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure L-1 "The dome lights do not illuminate and go out normally [P.54B-424.](#)"

**STEP 2. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

Check the ETACS-ECU.

**⚠ CAUTION**

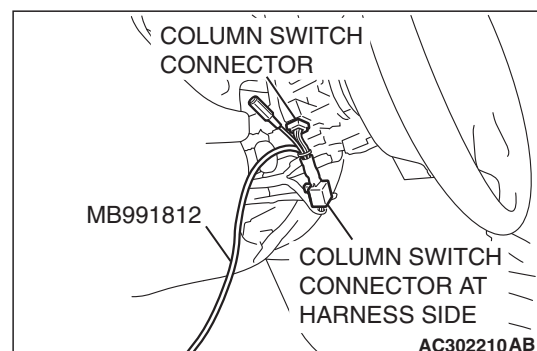
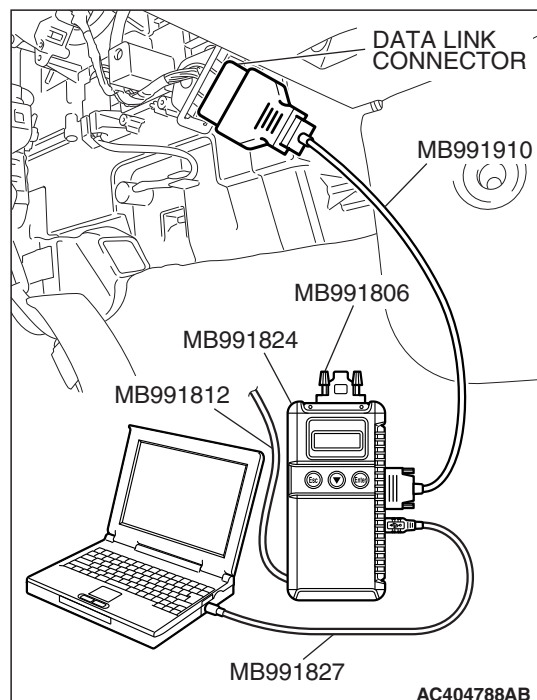
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13.](#)"
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

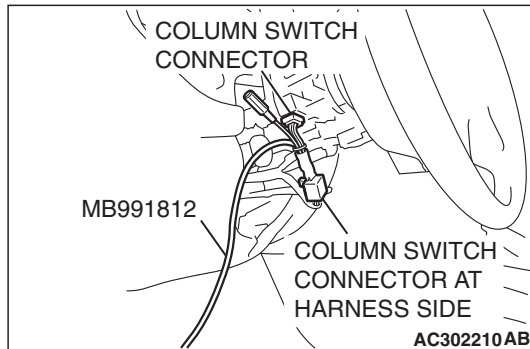
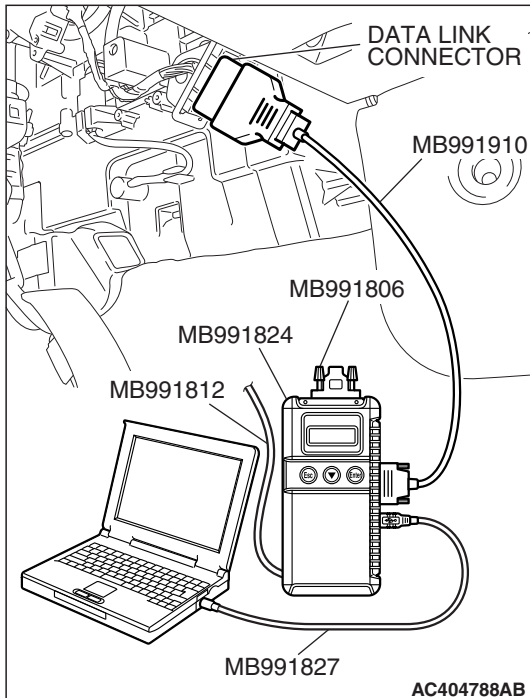
**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 3.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74.](#)"







**STEP 3. Check the input signal by using "DATA LIST" menu of the SWS monitor.**

Check the input signals from the following switches:

- Ignition switch: OFF
- Driver's or passenger's door: open

- (1) Operate scan tool MB991958 according to the procedure below to display "ETACS ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "ETACS ECU."
- (2) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 30	IG SW (IG1)	OFF
ITEM 31	IG SW (ACC)	OFF
ITEM 32	FRONT DOOR SW	ON

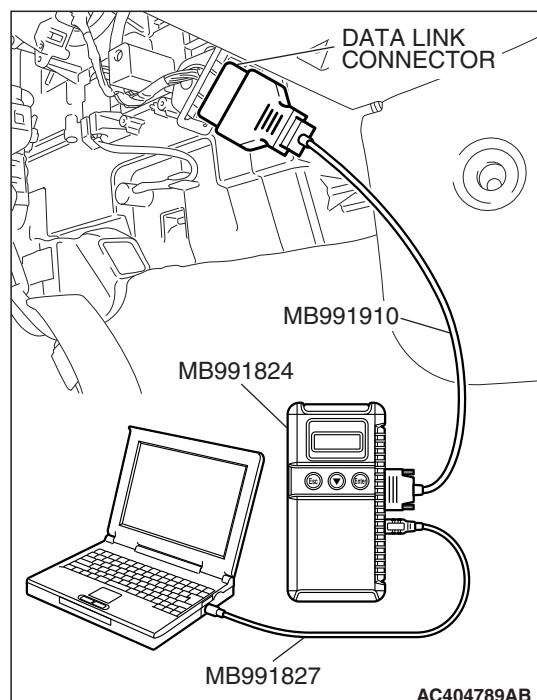
**Q: Does the scan tool MB991958 display the items "IG SW (IG1)", "IG SW (ACC)" and "FRONT DOOR SW" as normal condition?**

**Normal conditions are displayed for all the items :** Go to Step 4.

**Normal condition is not displayed for "IG SW (IG1)" :**  
Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) [P.54B-499.](#)"

**Normal condition is not displayed for "IG SW (ACC)" :**  
Refer to Inspection Procedure M-1 "ETACS-ECU does not receive any signal from the ignition switch (ACC) [P.54B-495.](#)"

**Normal condition is not displayed for "FRONT DOOR SW" :** Refer to Inspection Procedure M-5 "ETACS-ECU does not receive any signal from the door switches [P.54B-512.](#)"

**STEP 4. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the following switches:

- Key reminder switch
- Liftgate latch switch <ECLIPSE>
- Trunk lid latch switch <ECLIPSE SPYDER>

- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (2) Check if scan tool MB991958 sounds or not.

ITEM NAME	CONDITION
key reminder switch	Remove and reinsert the ignition key
liftgate latch switch	Open or close the liftgate
Trunk lid latch switch	Open or close the trunk lid

**Q: When the key reminder switch, any door switch, or the trunk lid is operated, does scan tool MB991958 sound?**

**Buzzer of scan tool MB991958 sounds normally. :**

Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the dome light dimming function works normally.

**Scan tool MB991958 does not sound when the ignition key is removed and reinserted : Refer to Inspection**

Procedure N-1 "ETACS-ECU does not receive a signal from the key reminder switch [P.54B-537](#)."

**When the liftgate is opened and closed, scan tool MB991958 does not sound. : Refer to Inspection**

Procedure N-5 "ETACS-ECU does not receive any signal from liftgate latch switch [P.54B-565](#). <ECLIPSE>"

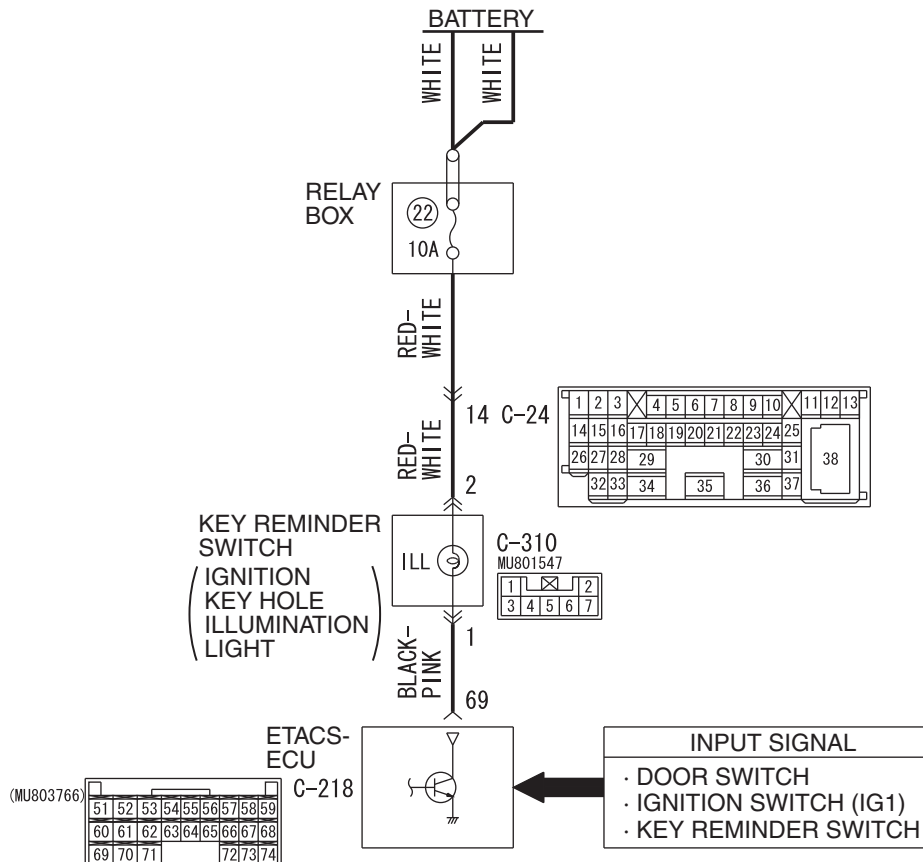
**When the liftgate is opened and closed, scan tool MB991958 does not sound. : Refer to Inspection**

Procedure N-5 "ETACS-ECU does not receive any signal from trunk lid latch switch [P.54B-570](#). <ECLIPSE SPYDER>"

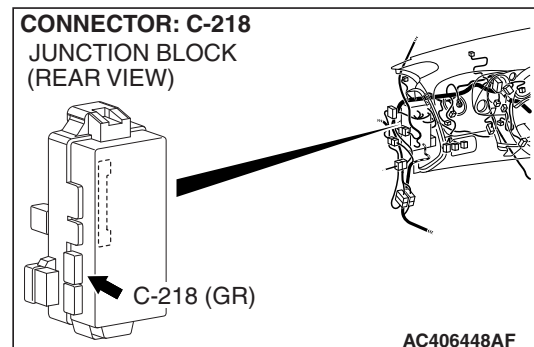
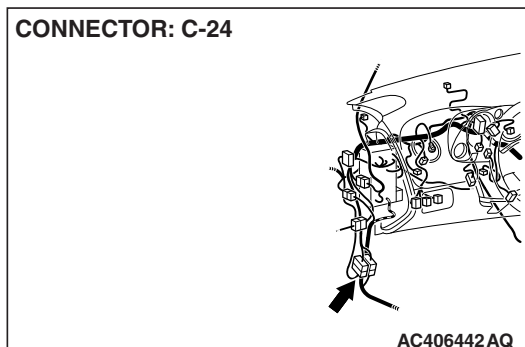
**INSPECTION PROCEDURE L-5: Interior Light: The ignition key hole illumination light does not illuminate or go out normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

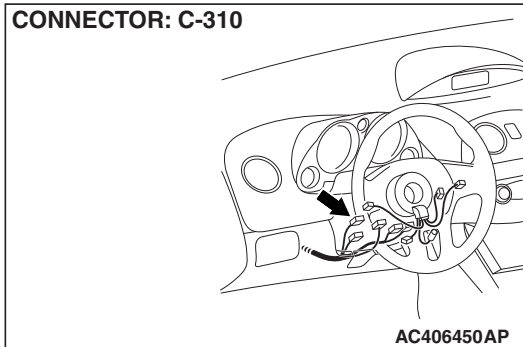
**Ignition Key Hole Illumination Light Circuit**



W6P54M012A



CONNECTOR: C-310



## CIRCUIT OPERATION

- When the driver's door is opened with the ignition switch at "ACC" position, the ETACS-ECU illuminates the ignition key hole illumination light.
- The ignition key hole illumination light goes out in 30 seconds after the driver's door is closed. The ignition key hole illumination light remains illuminated for 30 seconds after the ignition key is pulled out.
- The ETACS-ECU operates the ignition key hole illumination light according to the input signals from the following switches:
  - Ignition switch (IG1): OFF
  - Key reminder switch: OFF
  - Interior light loaded signal: ON
- Vehicle condition:
  - Ignition switch: "LOCK" (OFF) or "ACC" position

- Ignition key: Removed from the ignition key cylinder
- Driver's door: Opened or closed

## TECHNICAL DESCRIPTION (COMMENT)

If the ignition key hole illumination light does not illuminate, the input circuits from the switches described in "CIRCUIT OPERATION", the key reminder switch (ignition key hole illumination light bulb) or the ETACS-ECU may be defective.

## TROUBLESHOOTING HINTS

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1.** Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.

Check the ETACS-ECU.

**⚠ CAUTION**

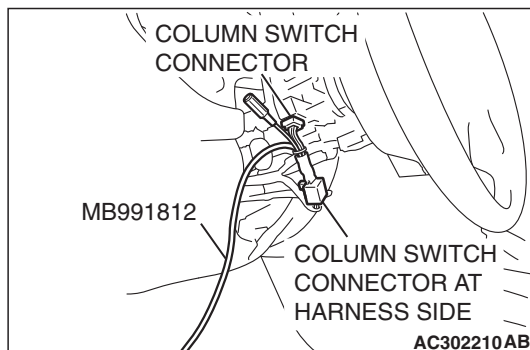
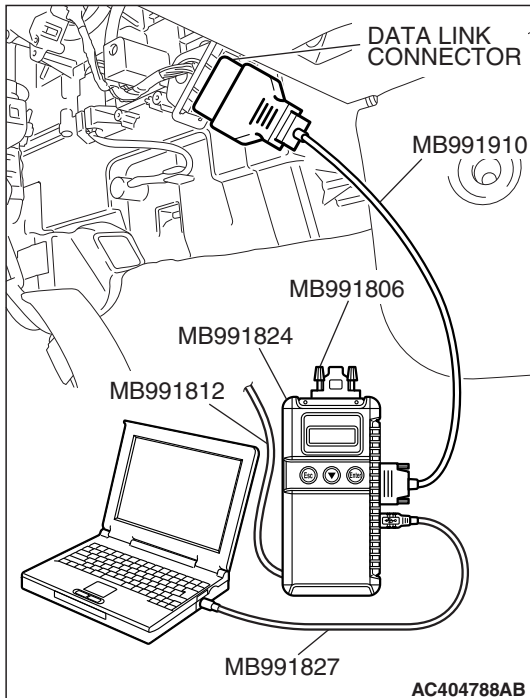
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

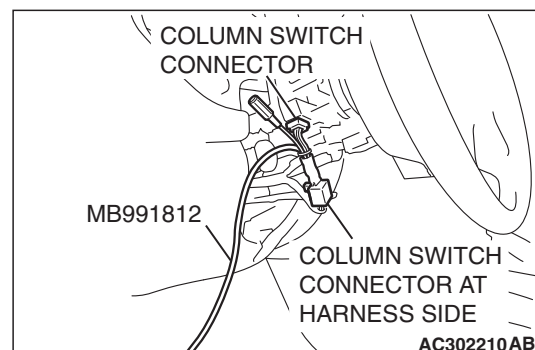
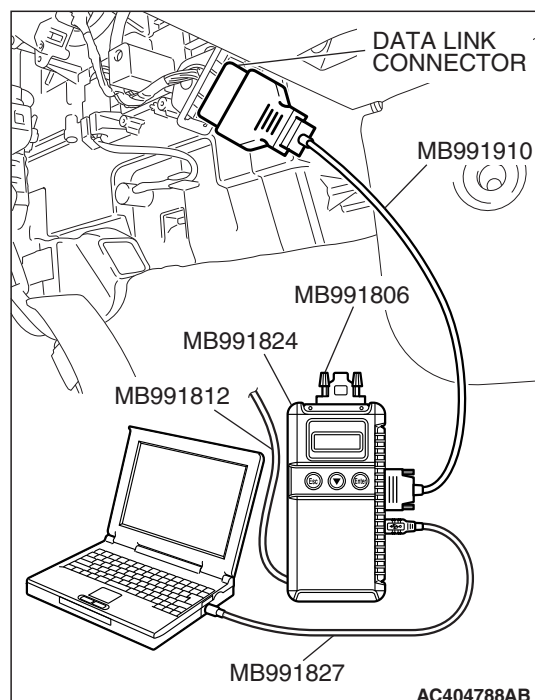
- (1) Connect the special tool. Refer to "How to connect SWS monitor P.54B-13."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible P.54B-74."





## STEP 2. Check the input signal by using "DATA LIST" menu of the SWS monitor.

Check the input signals from the following switches:

- Ignition switch: OFF
- Driver's door: open
- Passenger's door: closed

- (1) Operate scan tool MB991958 according to the procedure below to display "ETACS ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "ETACS ECU."
- (2) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 30	IG SW(IG1)	OFF
ITEM 32	FRONT DOOR SW	ON

**Q: Does the scan tool MB991958 display the items "IG SW (IG1)" and "FRONT DOOR SW" as normal condition?**

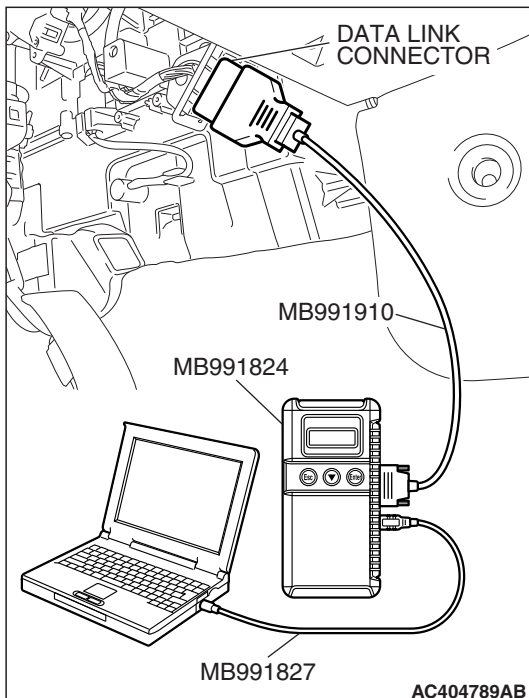
**Normal conditions are displayed for all the items : Go to Step 3.**

**Normal condition is not displayed for "IG SW (IG1)" :**

Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) [P.54B-499.](#)"

**Normal condition is not displayed for "FRONT DOOR SW" :**

Refer to Inspection Procedure M-5 "ETACS-ECU does not receive any signal from the door switches [P.54B-512.](#)"



**STEP 3. Check the input signal (by using the pulse check mode of the monitor).**

Check the following switches and input signals:

- Key reminder switch
- Interior light loaded signal

- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (2) When the switches (see table below), which are applicable for the input signal check, are operated, check if scan tool MB991958 sounds or not.

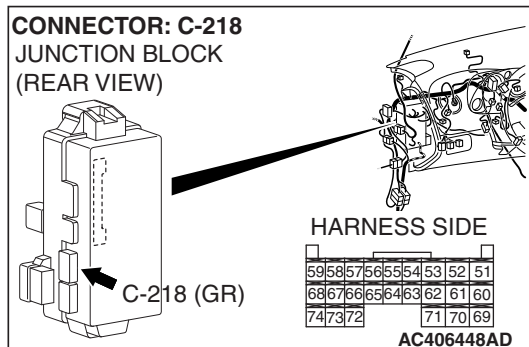
ITEM NAME	CONDITION
key reminder switch	Remove and reinsert the ignition key
interior light loaded signal	Turn on one of the interior lights

**Q: When the key reminder switch and the interior light are operated, does scan tool MB991958 sound in each case?**

**Buzzer of scan tool MB991958 sounds normally.** : Go to Step 4.

**When the ignition key is removed and reinserted, scan tool MB991958 does not sound** : Refer to Inspection Procedure N-1 "ETACS-ECU does not receive any signal from the key reminder switch [P.54B-537](#)."

**When one of the interior lights is illuminated, scan tool MB991958 does not sound** : Refer to Inspection Procedure N-8 "ETACS-ECU does not receive any interior light loaded signal [P.54B-581](#)."



**STEP 4. Check ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

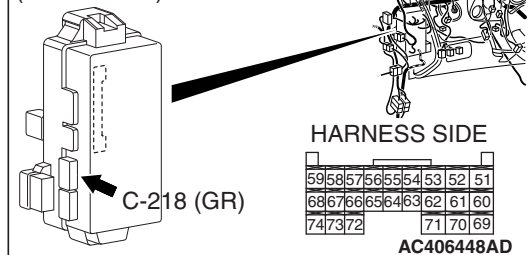
**Q: Is ETACS-ECU connector C-218 in good condition?**

**YES** : Go to Step 5.

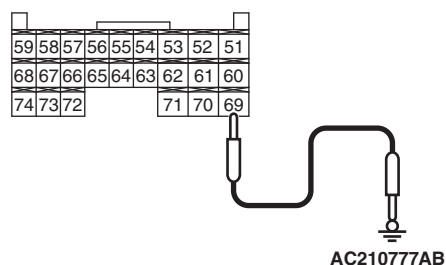
**NO** : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the ignition key hole illumination light illuminates normally.



**CONNECTOR: C-218**  
JUNCTION BLOCK  
(REAR VIEW)



**CONNECTOR C-218**  
(HARNESS SIDE)



**STEP 5. Check at ETACS-ECU connector C-218 in order to check the ignition key hole illumination light circuit.**

(1) Disconnect ETACS-ECU connector C-218, and measure at the wiring harness side.

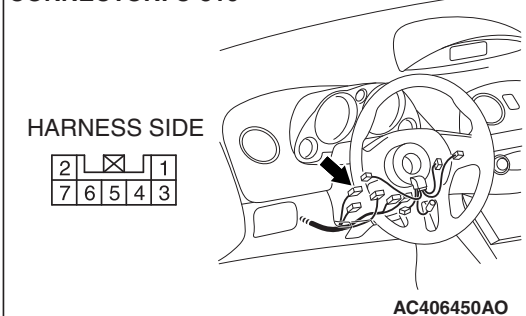
(2) The ignition key hole illumination light should illuminate when terminal 69 is grounded.

**Q: Does the ignition key hole illumination light illuminate?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the ignition key hole illumination light illuminates normally.

**NO :** Go to Step 6.

**CONNECTOR: C-310**



**STEP 6. Check key reminder switch connector C-310 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is key reminder switch connector C-310 in good condition?**

**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Verify that the ignition key hole illumination light illuminates normally.

**STEP 7. Check the ignition key hole illumination light bulb.**

**Q: Is the ignition key hole illumination light bulb in good condition?**

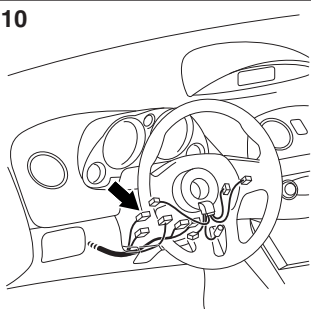
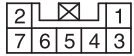
**YES :** Go to Step 8.

**NO :** Replace the bulb. Verify that the ignition key hole illumination light illuminates normally.



**CONNECTOR: C-310**

HARNESS SIDE



AC406450AO

**STEP 8. Check the key reminder switch (ignition key hole illumination).**

- (1) Disconnect key reminder switch connector C-310.
- (2) Remove the ignition key hole illumination light bulb. Then measure the resistance value between the bulb terminals.
- (3) Install a bulb to the key remainder switch, and measure the resistance between connector C-310 terminals 1 and 2. The measured resistance value should be roughly the same as the value measured in Step (2).

**Q: Are these two resistance values extremely different?**

**YES :** Replace the key reminder switch. Verify that the ignition key hole illumination light illuminates normally.

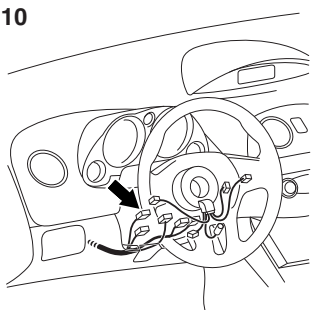
**NO :** <Nearly equal> Go to Step 9.

**STEP 9. Check the battery power supply circuit to the key reminder switch circuit. Measure the voltage at key reminder switch connector C-310.**

- (1) Disconnect key reminder switch connector C-310, and measure the voltage available at the wiring harness side of the connector.

**CONNECTOR: C-310**

HARNESS SIDE



AC406450AO

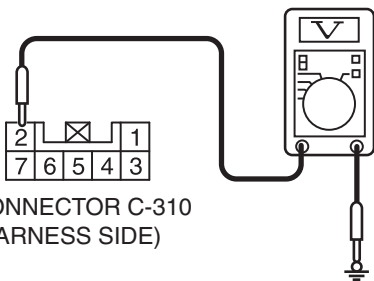
- (2) Measure the voltage between terminal 2 and ground.
  - The voltage should measure approximately 12 volts (battery positive voltage).

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

**YES :** Go to Step 11.

**NO :** Go to Step 10.

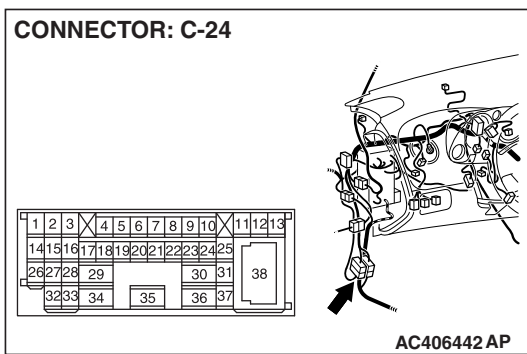
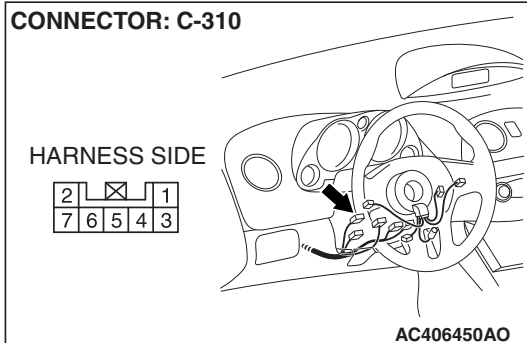
CONNECTOR C-310  
(HARNESS SIDE)



AC209365NO

**STEP 10. Check the wiring harness between key reminder switch connector C-310 (terminal 2) and battery.**

- Check the power supply line for open circuit and short circuit.

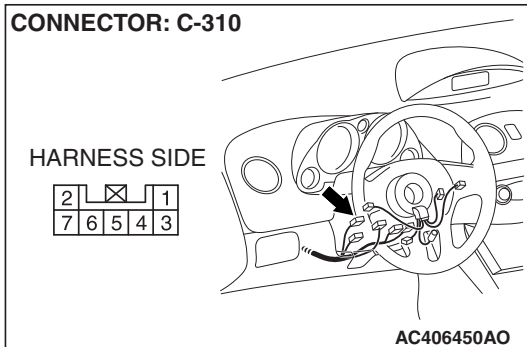
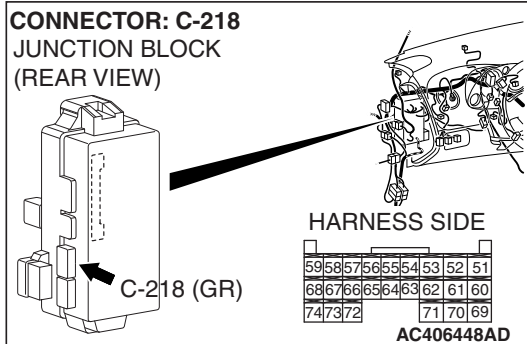


*NOTE: Also check intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-24 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between key reminder switch connector C-310 (terminal 2) and battery in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the ignition key hole illumination light illuminates normally.



**STEP 11. Check the wiring harness between key reminder switch connector C-310 (terminal 1) and ETACS-ECU connector C-218 (terminal 69).**

- Check the communication lines for open circuit and short circuit.

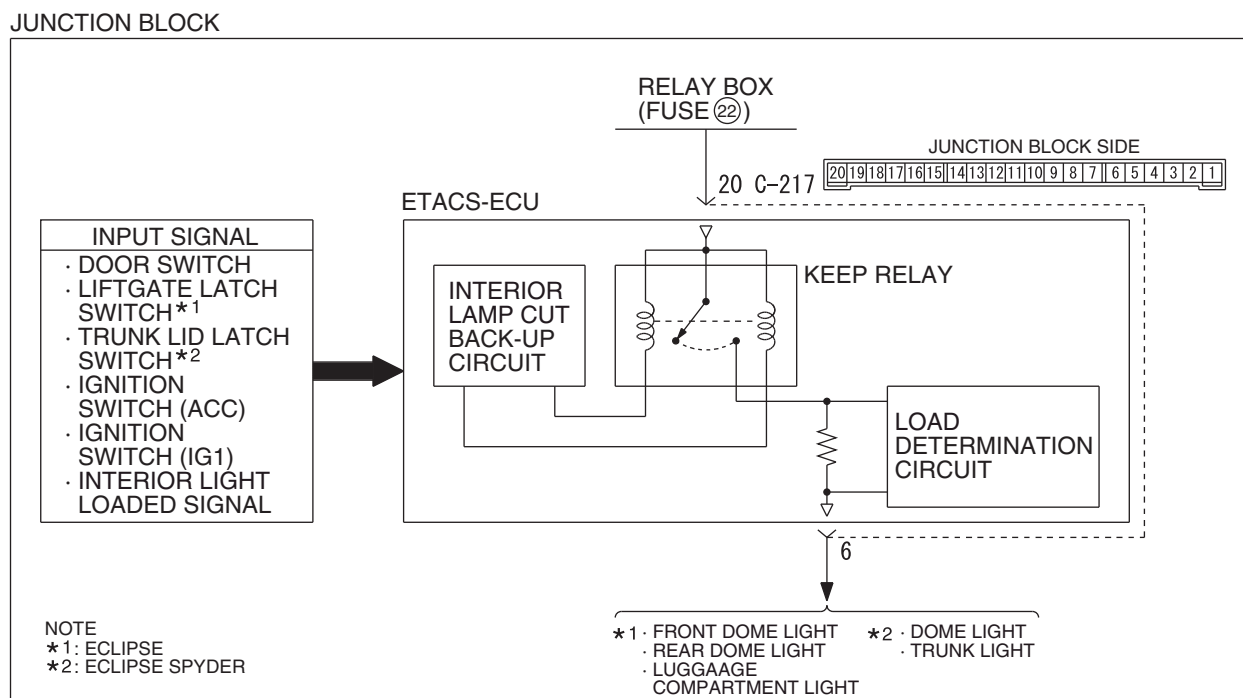
**Q: Is the wiring harness between key reminder switch connector C-310 (terminal 1) and ETACS-ECU connector C-218 (terminal 69) in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the ignition key hole illumination light illuminates normally.

**INSPECTION PROCEDURE L-6: Interior Light: The interior light automatic shutoff function does not work normally.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

**Interior Light Automatic Shutoff Function Circuit**

W7P54M011A

**CIRCUIT OPERATION**

The ETACS-ECU operates the interior light automatic shutdown function according to the following switch signals:

- Ignition switch (ACC)
- Ignition switch (IG1)
- Front door switch (LH)
- Door switches
- interior light loaded signal

**TECHNICAL DESCRIPTION (COMMENT)**

If the function does not work normally, the input circuit system from the switches or the ETACS-ECU may be defective (refer to "CIRCUIT OPERATION").

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable

- MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

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**STEP 1. Check the interior lights.**

If the interior light switch is moved to the "door interlock position", the interior lights should illuminate when either door is opened.

**Q: Do the interior light illuminate normally?**

**All the interior lights illuminate normally. :** Go to Step 2.

**None of the interior lights illuminate normally. :** Refer to Inspection Procedure L-1 "The dome lights do not illuminate and go out normally [P.54B-424](#)."

**Some of the interior lights do not illuminate normally. :** Refer to Inspection Procedure L-2 "The front dome light or rear dome light does not illuminate or go out normally [P.54B-429](#). <ECLIPSE>"

**Some of the interior lights do not illuminate normally. :** Refer to Inspection Procedure L-2 "The dome light does not illuminate or go out normally [P.54B-442](#). <ECLIPSE SPYDER>"

**STEP 2.** Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.

Check the ETACS-ECU.

**⚠ CAUTION**

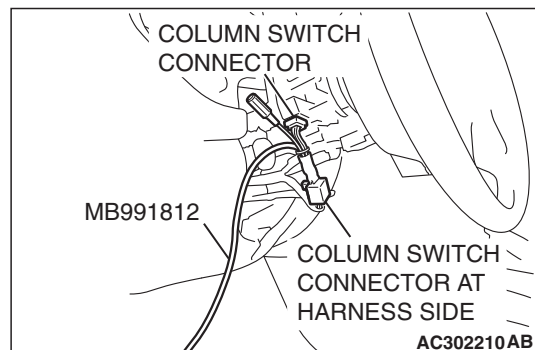
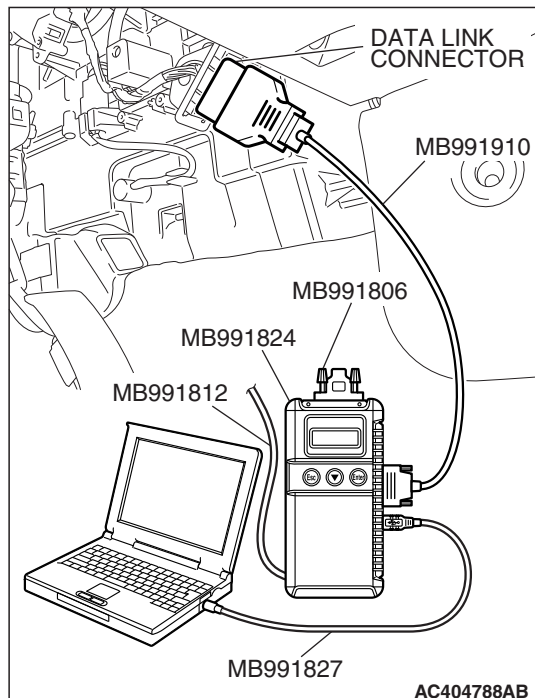
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

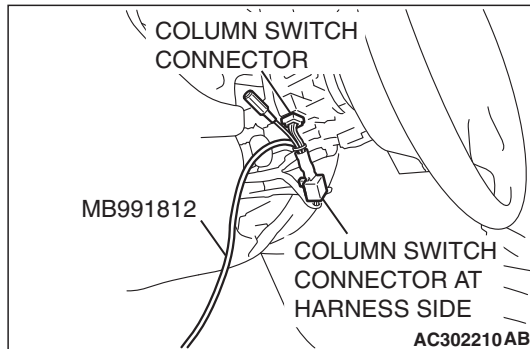
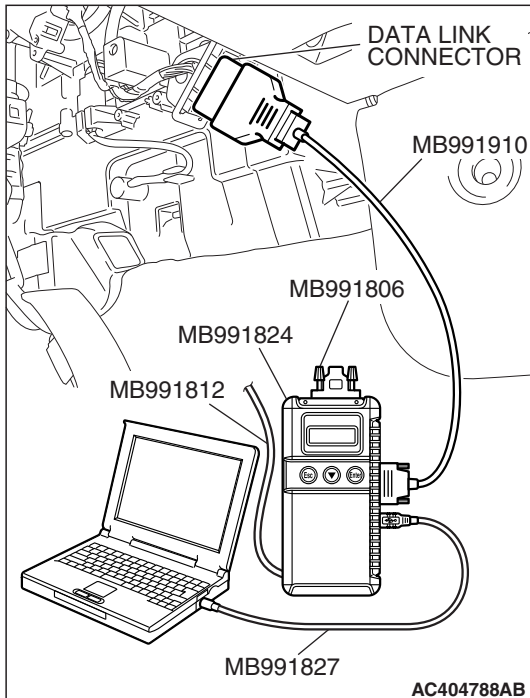
- (1) Connect the special tool. Refer to "How to connect SWS monitor P.54B-13."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 3.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible P.54B-74."





**STEP 3. Check the input signal by using "DATA LIST" menu of the SWS monitor.**

Check the input signals from the following switches:

- Ignition switch: OFF
- Driver's or passenger's door: open

- (1) Operate scan tool MB991958 according to the procedure below to display "ETACS ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "ETACS ECU."
- (2) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 30	IG SW (IG1)	OFF
ITEM 31	IG SW (ACC)	OFF
ITEM 32	FRONT DOOR SW	ON

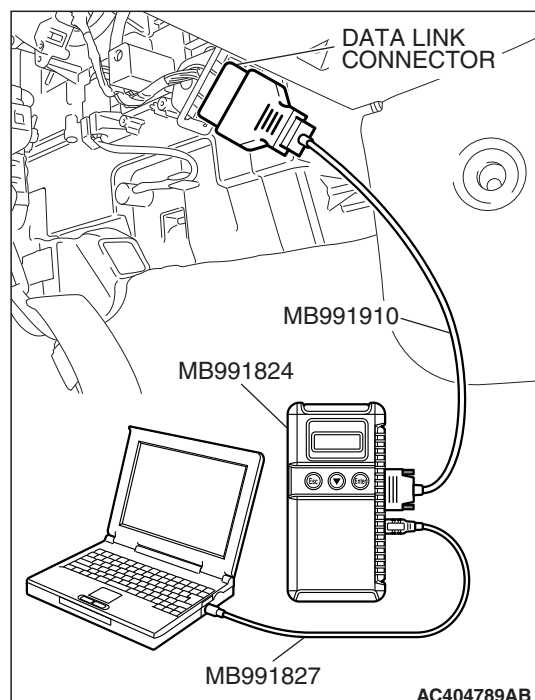
**Q: Does the scan tool MB991958 display the items "IG SW (IG1)", "IG SW (ACC)" and "FRONT DOOR SW" as normal condition?**

**Normal conditions are displayed for all the items :** Go to Step 4.

**Normal condition is not displayed for "IG SW (IG1)" :**  
Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) [P.54B-499.](#)"

**Normal condition is not displayed for "IG SW (ACC)" :**  
Refer to Inspection Procedure M-1 "ETACS-ECU does not receive any signal from the ignition switch (ACC) [P.54B-495.](#)"

**Normal condition is not displayed for "FRONT DOOR SW" :** Refer to Inspection Procedure M-5 "ETACS-ECU does not receive any signal from the door switches [P.54B-512.](#)"



#### STEP 4. Check the input signal (by using the pulse check mode of the monitor).

Check the following switch and input signal:

- Interior light loaded signal

- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (2) Check if scan tool MB991958 sounds or not.

ITEM NAME	CONDITION
interior light loaded signal	Turn on one of the interior lights

**Q: When any door switch, interior light, the liftgate latch or glass hatch latch is operated, does scan tool MB991958 sound?**

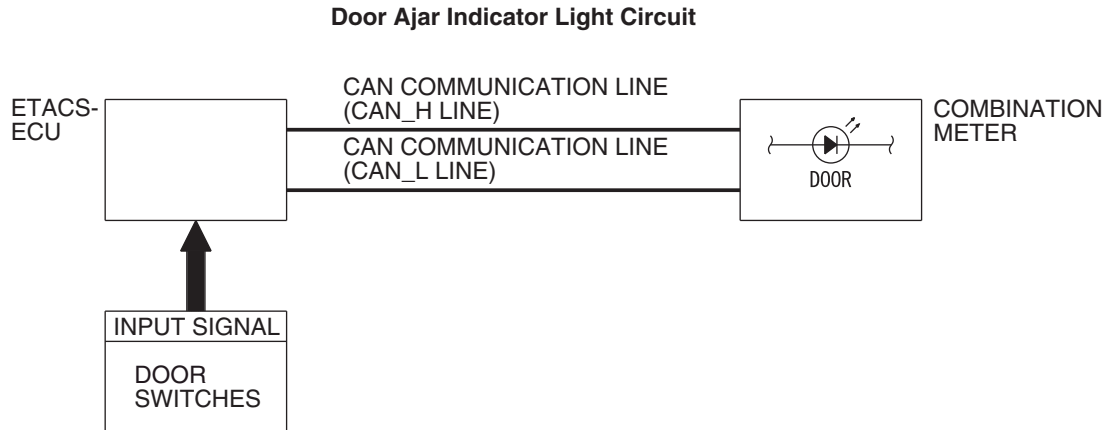
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the dome light illuminates normally.

**NO :** Refer to Inspection Procedure N-8 "ETACS-ECU does not receive any interior light loaded signal [P.54B-581](#)."



**INSPECTION PROCEDURE L-7: Interior Light: The door ajar indicator lights do not illuminate or go out normally**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*



W6P54M014A

**CIRCUIT OPERATION**

The combination meter receives the door switches signals from the ETACS-ECU, and then controls the door ajar indicator, based on these signals.

**TECHNICAL DESCRIPTION (COMMENT)**

If the door ajar indicator does not illuminate, connector(s), wiring harness in the CAN bus lines, the door switches, the ETACS-ECU, or the combination meter may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- 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
- The ETACS-ECU may be defective

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

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

**⚠ CAUTION**

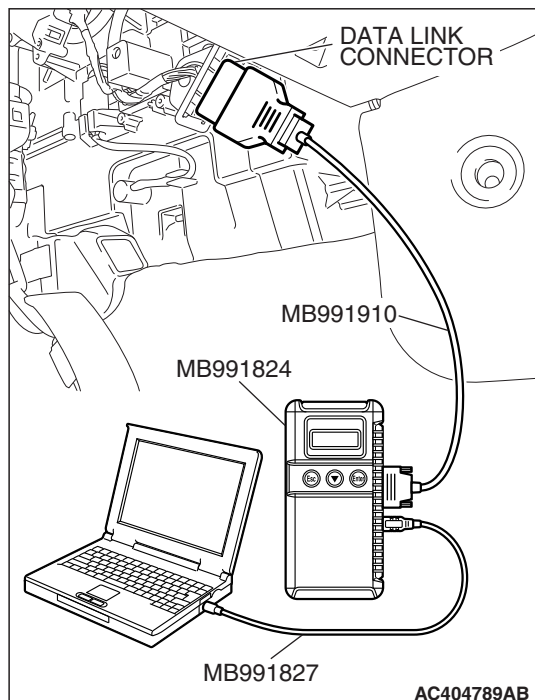
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect SWS monitor P.54B-13."
- (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 54C, Diagnosis P.54C-17).



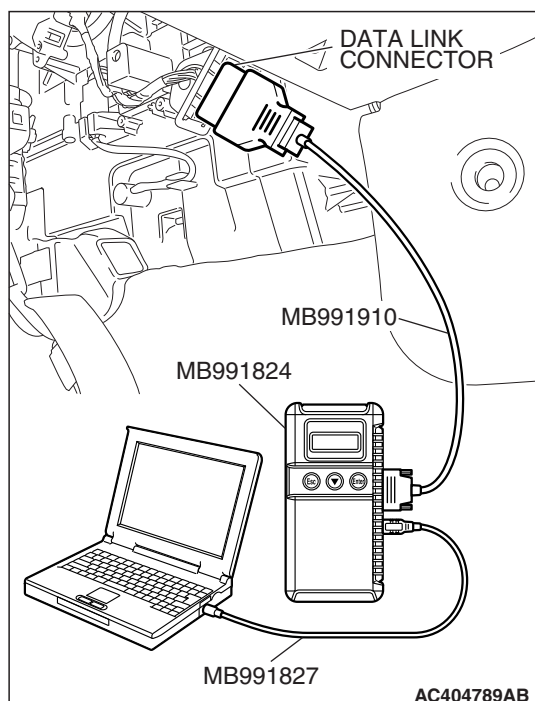
**STEP 2. Using scan tool MB991958, read the combination meter diagnostic trouble code.**

- (1) Check whether the combination meter-related DTC is set.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check whether the combination meter-related DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES :** Diagnose the combination meter. Refer to P.54A-60.

**NO :** Go to Step 3.



**STEP 3. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

Check the ETACS-ECU.

**⚠ CAUTION**

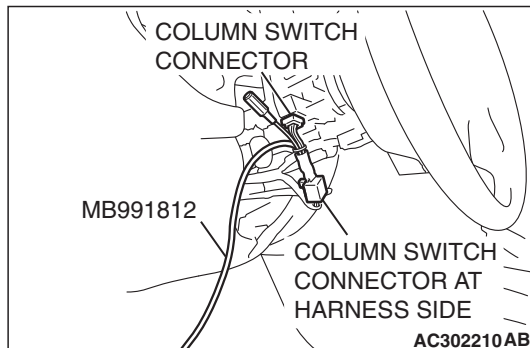
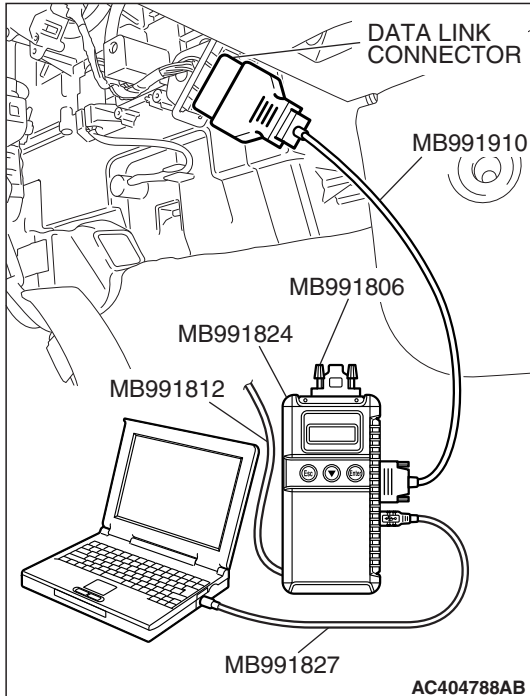
**Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.**

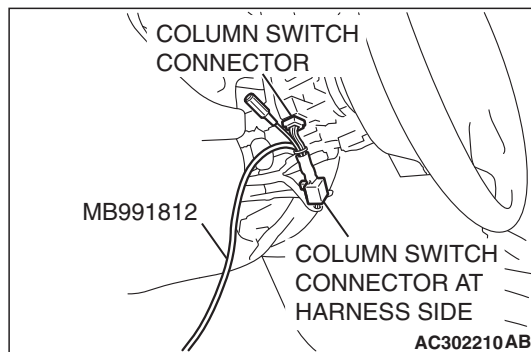
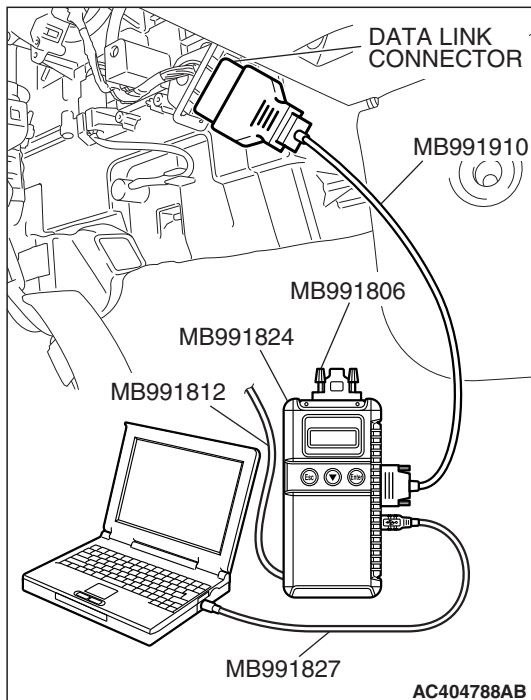
- (1) Connect the SWS monitor. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 4.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."





#### STEP 4. Check the input signal by using "DATA LIST" menu of the SWS monitor.

Check the input signal from the following switch:

- Driver's or passenger's door: open

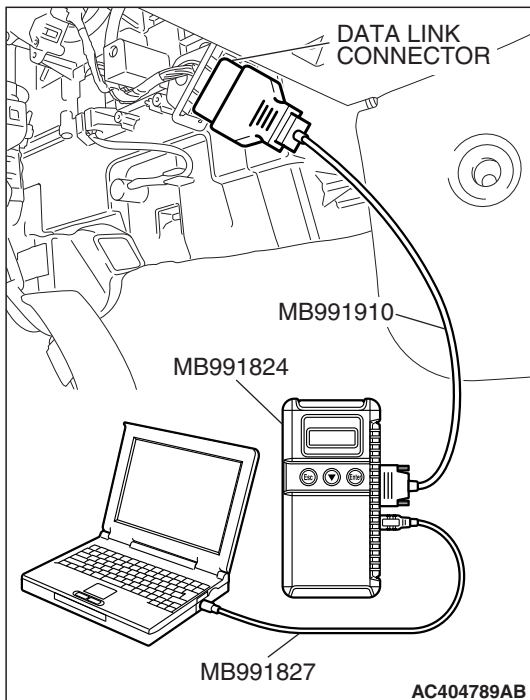
- (1) Operate scan tool MB991958 according to the procedure below to display "ETACS ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "ETACS ECU."
- (2) Check that normal condition are displayed for the item described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 32	FRONT DOOR SW	ON

**Q: Does the scan tool MB991958 display the item "FRONT DOOR SW" as normal condition?**

**YES :** Go to Step 5.

**NO :** Refer to Inspection Procedure M-5 "ETACS-ECU does not receive any signal from the door switches [P.54B-512.](#)"



**STEP 5. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the liftgate latch switch.

- Check whether scan tool MB991958 sounds or not when the liftgate is opened.

- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System Select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."

**Q: Does scan tool MB991958 sound when the liftgate is opened?**

**YES :** Go to Step 6.

**NO :** Refer to Inspection Procedure N-5 "ETACS-ECU does not receive any signal from the liftgate latch switch P.54B-565."

**STEP 6. Replace the combination meter.**

- (1) Replace the combination meter.
- (2) Check that the door ajar indicator light illuminates normally.

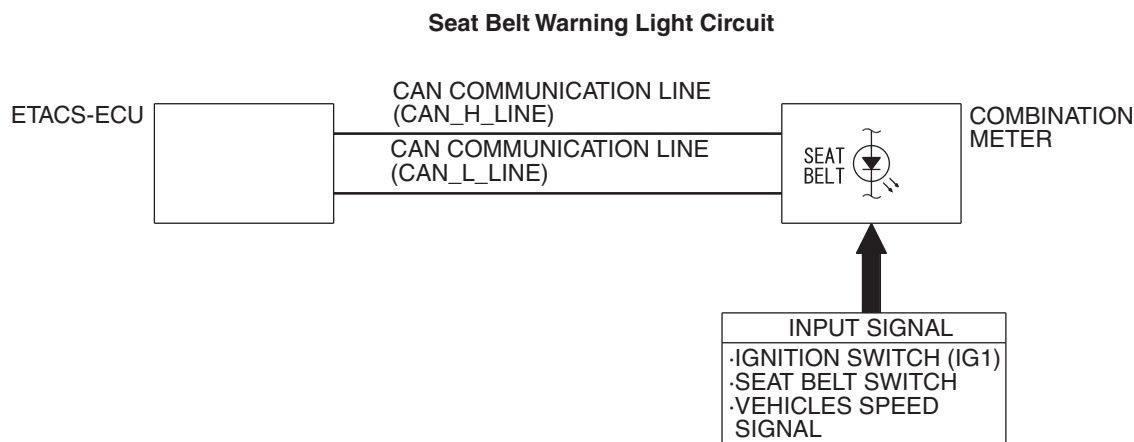
**Q: Is the door ajar indicator light in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-19. Check that the door ajar indicator light illuminates normally.

**INSPECTION PROCEDURE L-8: Interior Light: The seat belt warning light does not illuminate or go out normally**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*



W4P54M111A

**CIRCUIT OPERATION**

The combination meter and the ETACS-ECU illuminates and flashes the seat belt warning light by using the signal from the seat belt switch, the ignition switch (IG1) and the vehicle speed signal.

**TECHNICAL DESCRIPTION (COMMENT)**

If the seat belt warning light does not illuminate or flash correctly, connector(s), wiring harness in the CAN bus lines, the door switches, the ETACS-ECU, or the combination meter may be defective.

**TROUBLESHOOTING HINTS**

- Trouble in input signal system
- 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
- The ETACS-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

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

**⚠ CAUTION**

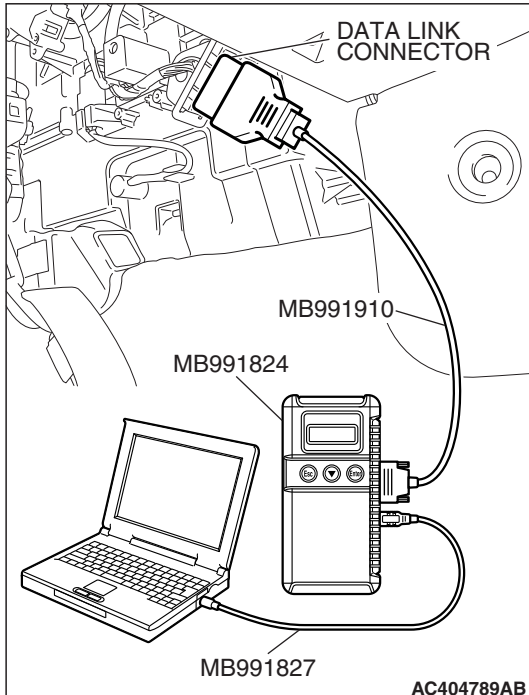
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (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 54C, Diagnosis [P.54C-17](#)).



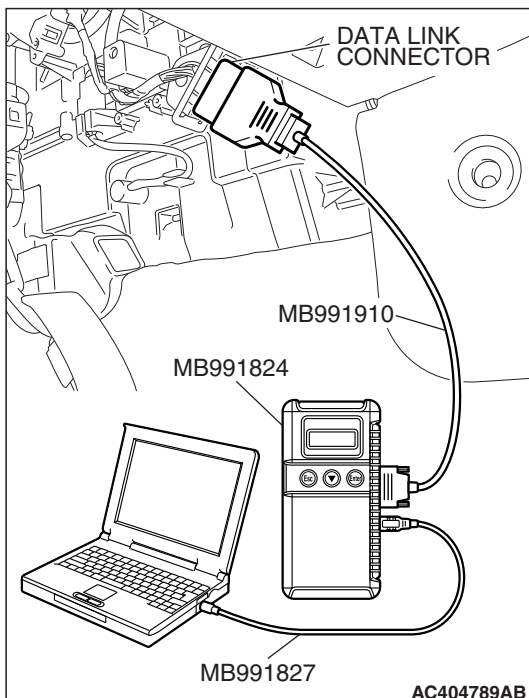
**STEP 2. Using scan tool MB991958, read the combination meter diagnostic trouble code.**

- (1) Check whether the combination meter-related DTC is set.
- (2) Turn the ignition switch to the "ON" position.
- (3) Check whether the combination meter-related DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES :** Diagnose the combination meter. Refer to [P.54A-60](#).

**NO :** Go to Step 3.





**STEP 3. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

Check the ETACS-ECU.

**⚠ CAUTION**

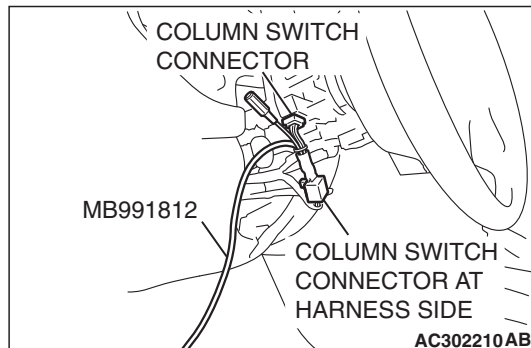
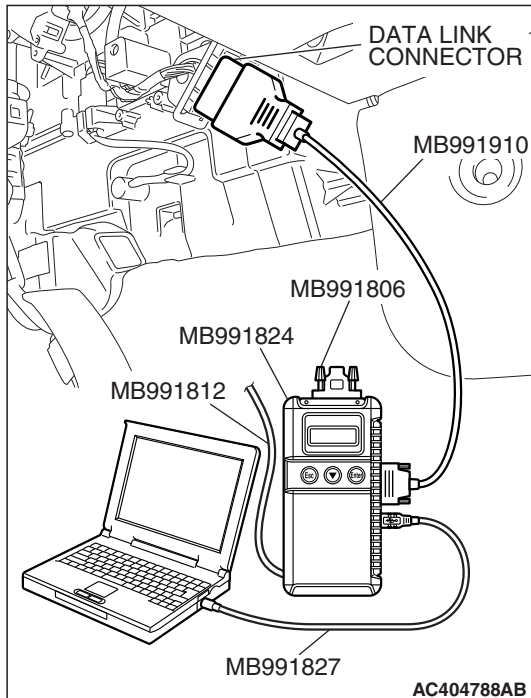
**Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.**

- (1) Connect the SWS monitor. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

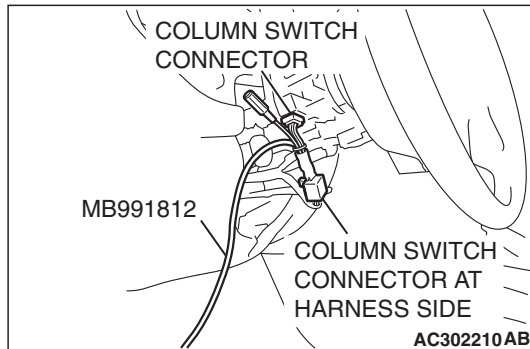
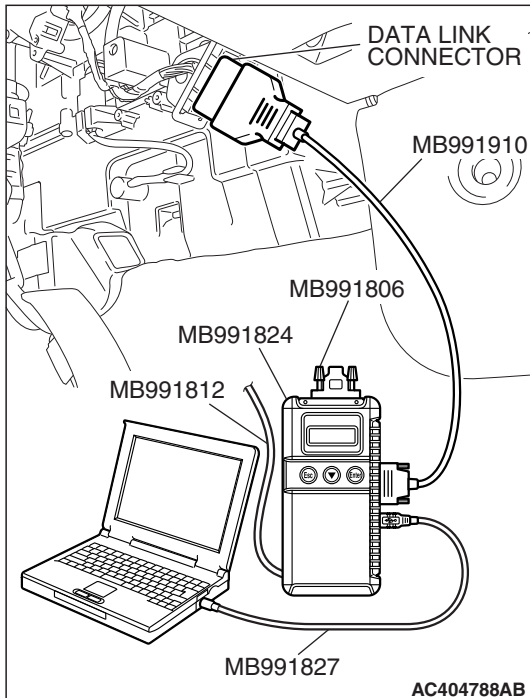
**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 4.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."







**STEP 4. Check the input signal by using "DATA LIST" menu of the SWS monitor.**

Check the input signals from the following switches:

- Ignition switch: ON

- (1) Operate scan tool MB991958 according to the procedure below to display "ETACS ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "ETACS ECU."
- (2) Check that normal conditions are displayed for the items described in the table below.

ITEM NO.	ITEM NAME	NORMAL CONDITION
ITEM 30	IG SW (IG1)	ON

**Q: Is the scan tool MB991958 display the items "IG SW (IG1)" normal condition?**

**YES :** Go to Step 5.

**NO :** Refer to Inspection Procedure M-2 "ETACS-ECU does not receive any signal from the ignition switch (IG1) [P.54B-499](#)."

**STEP 5. Replace the combination meter.**

- (1) Replace the combination meter.
- (2) Check that the seat belt warning light illuminates normally.

**Q: Is the seat belt warning light in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the seat belt warning light illuminates normally.

## THEFT-ALARM SYSTEM

### GENERAL DESCRIPTION CONCERNING THE THEFT-ALARM SYSTEM

M1549022100199

The following ECUs affect the functions and control of the theft-alarm function.

FUNCTION	CONTROL ECU
Theft-alarm system	ETACS-ECU, front-ECU

## THEFT-ALARM SYSTEM

### ARMED STAGE

Park the vehicle and stop the engine. Arm the system as described below:

- Remove the key from the ignition switch.
- Make sure that the engine hood is closed.
- Lock all doors and the trunk lid using power door lock switch or the remote control transmitter. After completion of the steps above, the theft-alarm indicator will illuminate for approximately 18 seconds and then continuously blink on and off, indicating that the system is armed.

#### NOTE:

- *The system will be armed even if the engine hood is open, but when the system is set, be sure that the engine hood is closed.*
- *The system will be disarmed if, while the theft-alarm indicator (located in the front left of the dashboard) is illuminated, all doors or the trunk lid are unlocked by transmitter.*
- *The system will be disarmed if, while the theft-alarm indicator is illuminated, the ignition key is turned to the "ON" or "ACC."*
- *The system will not be armed if a door is not completely closed. Ensure that all the doors and trunk lid are closed, and arm the system again as described above.*
- *Ensure that all passengers exit the vehicle before arming the system. If the driver arms system with passengers in the vehicle, the alarm will be activated when the passengers open the door.*

### DISARMED STAGE

The system will be disarmed when either of the following steps are taken:

- All doors or the trunk lid are unlocked by the transmitter.
- The ignition key is turned to "ACC" or "ON."
- If the UNLOCK button is pressed when all doors and the trunk lid are closed and no door is opened within approximately 30 seconds, re-arming will automatically occur.

*NOTE: Once the system has been disarmed, it cannot be rearmed except by repeating the arming procedure.*

## ALARM STAGE

The alarm will be activated if any of the following occur while the vehicle is parked and the system is armed:

- One of the doors or the trunk lid is opened without the transmitter.
- The ignition key is turned to "ACC" or "ON."
- The engine hood is opened from the outside or inside.

## TYPE OF ALARM

When the alarm is activated:

- The headlights blink on and off for approximately 3 minutes. After approximately 3 minutes the headlights automatically shut off.
- The horn will sound intermittently for approximately 3 minutes.

*NOTE: The alarm will continue to operate for approximately 3 minutes. At the end of that period, the alarm will automatically shut off. The system will then be rearmed until the proper disarming step is taken.*

## ALARM DEACTIVATION

The alarm can be deactivated in the following ways.

- By turning the key (in the driver's door) in either direction (toward lock or unlock).
- By using the transmitter to lock or unlock the door or the trunk lid.

## TESTING THE THEFT-ALARM SYSTEM

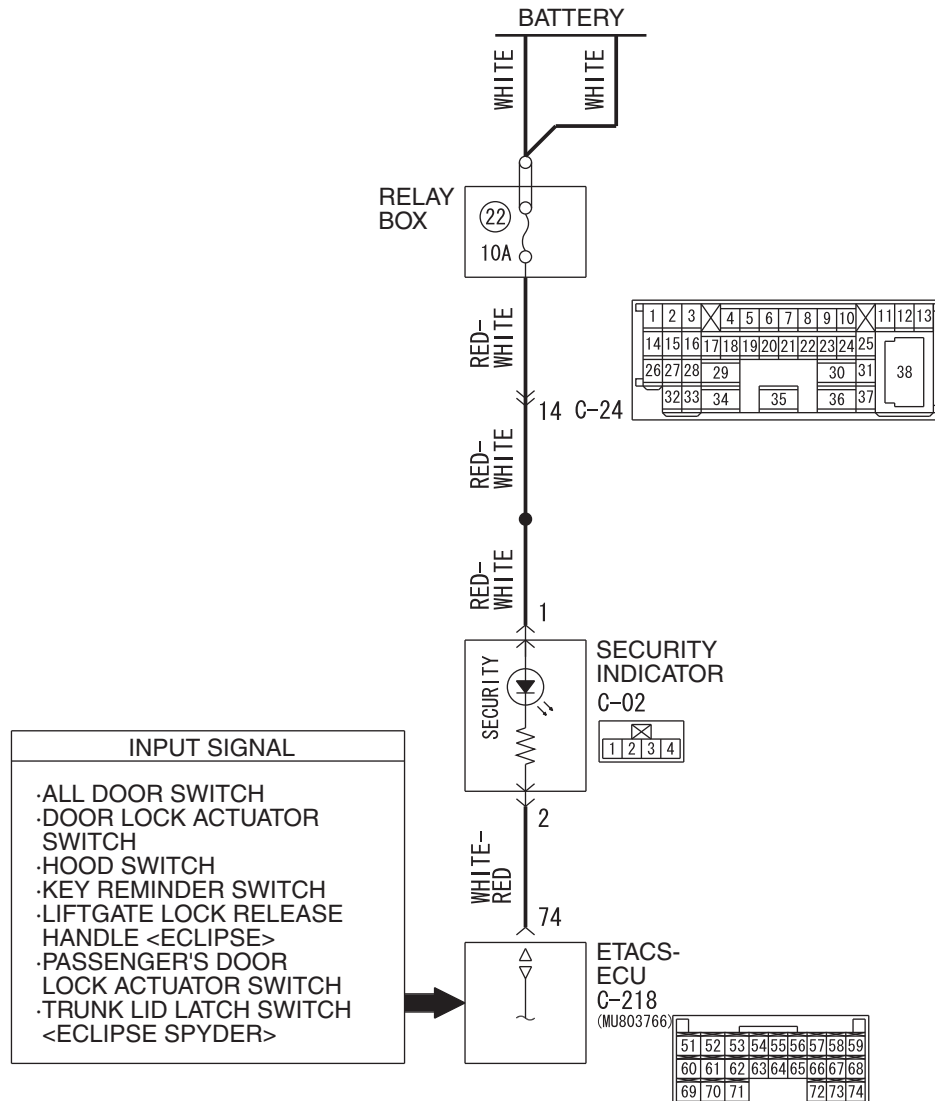
Use the following procedure to test the system:

- Lower the driver's window.
- Arm the system as explained in "Armed stage."
- Make sure that the theft-alarm indicator comes on and flashes in approximately 18 seconds.
- Wait a few seconds and then unlock the driver's side door by using the inside door lock knob and open the door.
- Check to be sure that the horn sounds intermittently and the headlights blink on and off when the door is opened.
- Disarm the system by unlocking doors or the trunk lid by the transmitter.

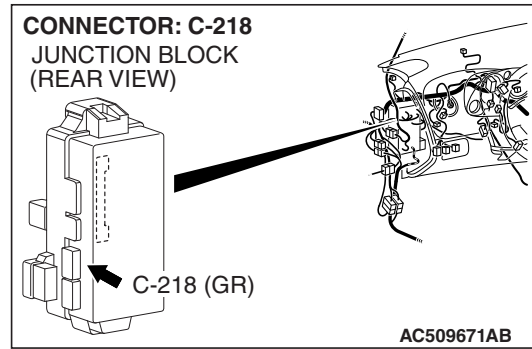
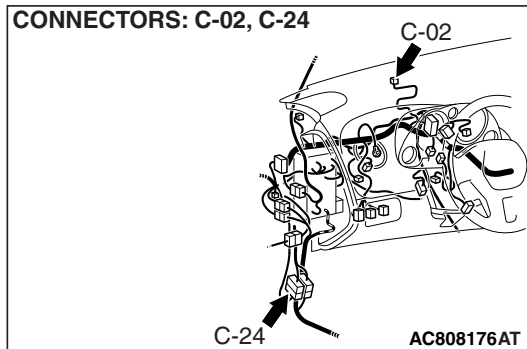
*NOTE: To make sure the alarm sounds when the engine hood is opened, open the engine hood by using the engine hood release lever when the system is in the "armed" stage.*

**INSPECTION PROCEDURE O-1: Theft-alarm System: Theft-alarm system is not armed (theft-alarm indicator does not illuminate).**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.00-14."*

**Theft-alarm Indicator Drive Circuit**

WAP54M027A  
AC712072AB



## CIRCUIT OPERATION

- When the ETACS-ECU receives a "LOCK" signal from the door lock actuator switch, it illuminates the theft-alarm indicator for approximately 18 seconds, and then set the theft-alarm system.
- The ETACS-ECU sets the theft-alarm system according to the input signals from the following signals:
  - Ignition key reminder switch: ON
  - Driver's and passenger's door switch: OFF
  - Driver's, passenger's doors actuator switch: LOCK
  - Trunk lid latch switch: ON <ECLIPSE SPYDER>
  - Liftgate lock release handle: ON <ECLIPSE>
  - Hood switch: OFF
  - Transmitter switch: LOCK
- Vehicle condition:
  - Ignition key: Removed from the ignition key cylinder
  - All doors: Closed
  - Trunk lid latch: Not being operated <ECLIPSE SPYDER>
  - Liftgate lock release handle: Not being operated <ECLIPSE>
  - Hood: Closed
  - Transmitter: Turn to the "LOCK" position

## TECHNICAL DESCRIPTION (COMMENT)

If the theft-alarm system is set normally, the input signal circuit, the theft-alarm indicator or the ETACS-ECU may be defective.

## TROUBLESHOOTING HINTS

- The theft-alarm indicator may be defective
- The ignition key reminder switch may be defective
- The driver's or passenger's door switch may be defective
- The door switches may be defective
- The driver's or passenger's door lock actuator switch may be defective
- The trunk lid latch switch may be defective <ECLIPSE SPYDER>
- The Liftgate lock release handle may be defective <ECLIPSE>
- The hood switch may be defective
- The transmitter may be defective
- The ETACS-ECU 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: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991911: M.U.T.-III Main Harness B
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness
- MB991854: SWS Monitor Harness (For 13-pin)

**STEP 1. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

Check the ETACS-ECU.

**⚠ CAUTION**

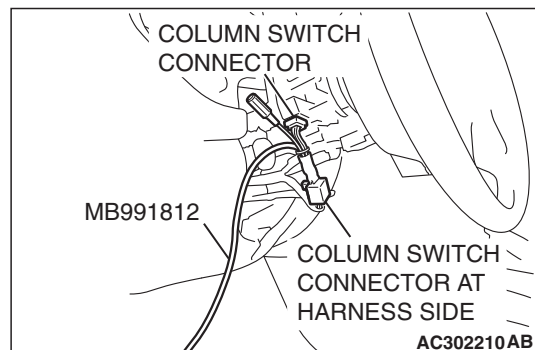
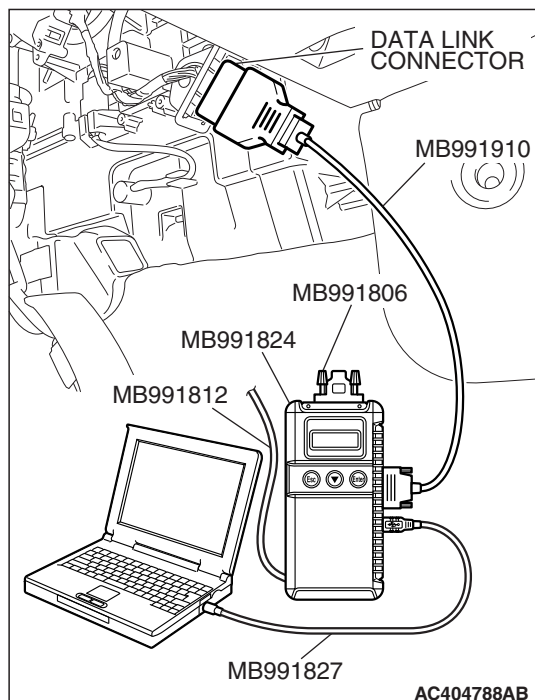
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**Q: Is "OK" displayed for the "ETACS ECU" menu?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."



**STEP 2. Check the input signal by using "DATA LIST" menu of the SWS monitor.**

Satisfy the following conditions to check the driver's and passenger's door switches.

- Driver's door: Open [door switch (LH) is on]  
However, the door should be closed when checking the door switch (RH).
- Passenger's door: Open [door switch (RH) is on] However, the door should be closed when checking the door switch (LH).

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Operate scan tool MB991958 according to the procedure below to display "ETACS ECU."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "Data List."
  - f. Select "ETACS ECU."
- (3) Scan tool should show the following values when each switch is operated.

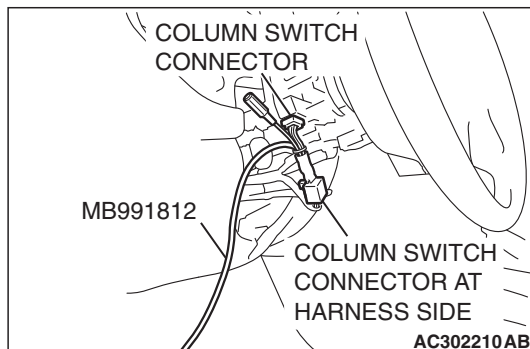
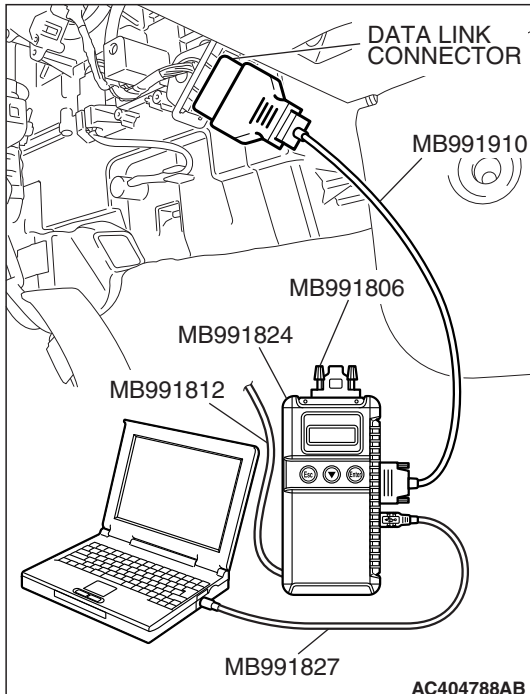
*NOTE: The scan tool MB991958 displays changes when the driver's or the passenger's door is opened. If any of the doors is open, the system cannot be checked correctly.*

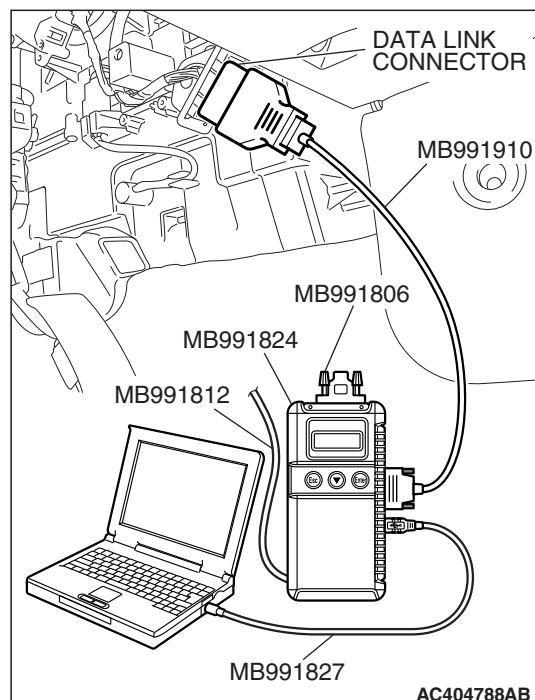
ITEM No.	ITEM NAME	NORMAL CONDITION
ITEM 32	FRONT DOOR SW	ON

**Q: Does the scan tool show the respective normal condition for item "FRONT DOOR SW."?**

**YES :** Go to Step 3.

**NO :** Refer to Inspection Procedure M-5 "ETACS-ECU does not receive any signal from the door switches [P.54B-512](#)."



**STEP 3. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the following switches:

- Key reminder switch
- Door lock actuator
- Hood switch
- Trunk lid latch switch <ECLIPSE SPYDER>
- Liftgate latch switch <ECLIPSE>

- (1) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (2) Check if scan tool MB991958 sounds or not.

ITEM NAME	CONDITION
Key reminder switch	Remove and reinsert the ignition key
Driver's, passenger's door lock actuator switches	Lock or unlock each door
Hood switch	Open and close the hood
Trunk lid latch switch <ECLIPSE SPYDER>	Open or close the trunk lid
Liftgate latch switch <ECLIPSE>	Open or close the liftgate

**Q: When the key reminder switch, door lock actuator, door lock key cylinder switch, hood switch, trunk lid latch switch <ECLIPSE SPYDER> and liftgate latch switch <ECLIPSE> are operated, does scan tool MB991958 sound in all cases?**

**Buzzer of scan tool MB991958 sounds normally.** : Go to Step 4.

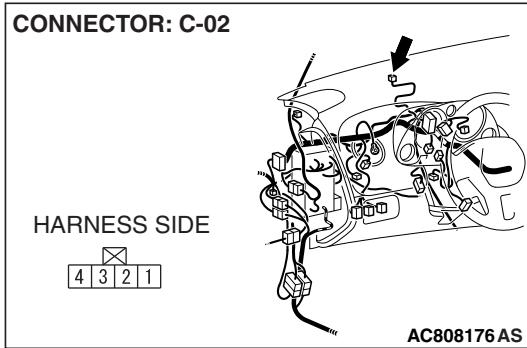
**Scan tool MB991958 does not sound when the ignition key is removed and reinserted** : Refer to Inspection Procedure N-1 "ETACS-ECU does not receive any signal from the key reminder switch [P.54B-537](#)."

**Scan tool MB991958 does not sound when the driver's or the front passenger's door lock actuator switches are operated** : Refer to Inspection Procedure N-3 "ETACS-ECU does not receive any signal from the front door lock actuator [P.54B-545](#)."

**Scan tool MB991958 does not sound when the hood switch is operated** : Refer to Inspection Procedure N-10 "ETACS-ECU does not receive any signal from the hood switch [P.54B-592](#)."

**When the trunk lid is opened and closed, scan tool MB991958 does not sound.** : Refer to Inspection Procedure N-5 "ETACS-ECU does not receive any signal from the trunk lid latch assembly [P.54B-570](#)."



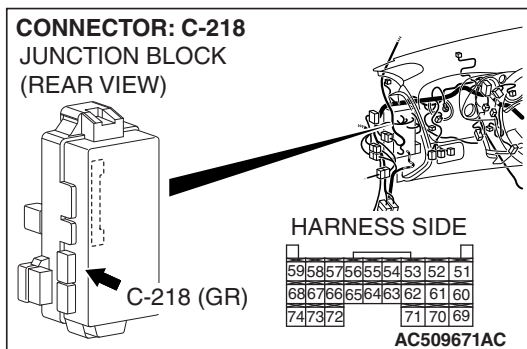


**STEP 4. Check ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-218 in good condition?**

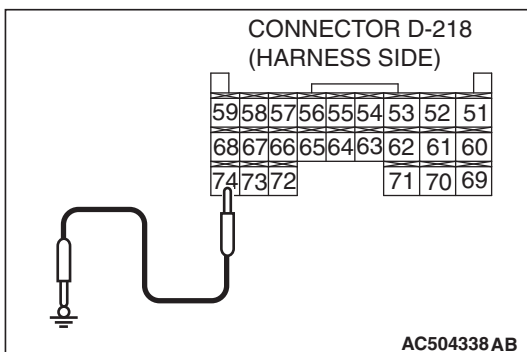
**YES :** Go to Step 5.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). The theft-alarm indicator should illuminate, and the theft-alarm system should be set normally.



**STEP 5. Check at ETACS-ECU connector C-218 in order to check the theft-alarm indicator circuit.**

(1) Disconnect ETACS-ECU connector C-218, and measure at the wiring harness side.



(2) The theft-alarm indicator should illuminate when terminal 74 is grounded.

**Q: Does the theft-alarm indicator illuminate?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). Verify that the theft-alarm indicator should illuminate, and the theft-alarm system should be set normally.

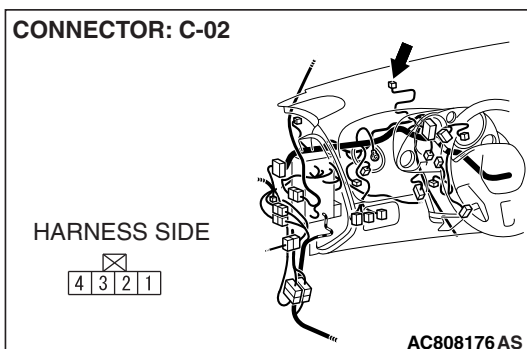
**NO :** Go to Step 6.

**STEP 6. Check security indicator connector C-02 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is security indicator connector C-02 in good condition?**

**YES :** Go to Step 7.

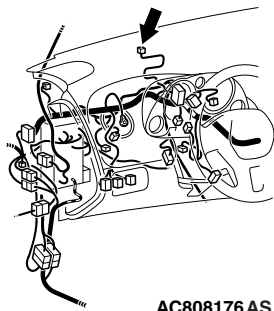
**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). The theft-alarm indicator should illuminate, and the theft-alarm system should be set normally.



## CONNECTOR: C-02

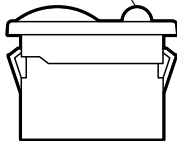
HARNESS SIDE

4 3 2 1



AC808176AS

SECURITY INDICATOR LIGHT



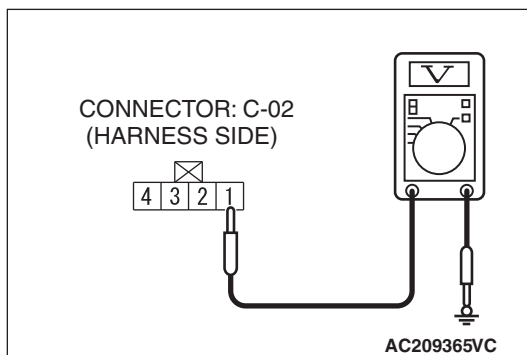
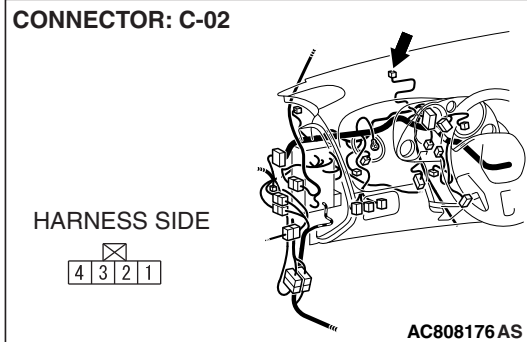
AC509673AB

**STEP 7. Check the security indicator.**

- (1) Remove the security indicator. Refer to GROUP 54A, Theft-alarm [P.54A-339](#).
- (2) Disconnect security indicator connector C-02.

- (3) The security indicator should illuminate when battery voltage is applied between terminals 1 and 2.

**Q: Does the security indicator illuminate?****YES :** Go to Step 8.**NO :** Replace the security indicator. The security indicator should illuminate, and the theft-alarm system should be set normally.



**STEP 8. Check the battery line of power supply circuit to the security indicator circuit. Test at security indicator connector C-02.**

(1) Disconnect security indicator connector C-02 and measure the voltage available at the wiring harness side of the connector.

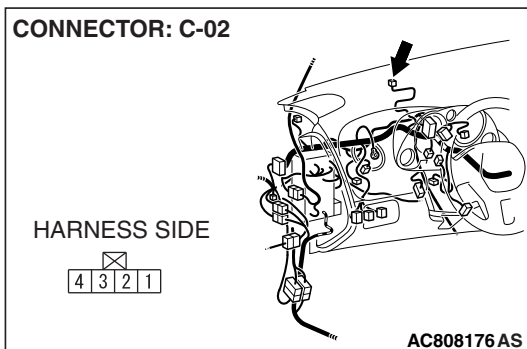
(2) Measure the voltage between terminal 1 and ground.

- 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 10.

**NO :** Go to Step 9.

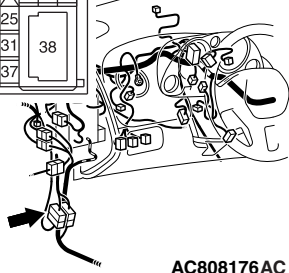


**STEP 9. Check the wiring harness between security indicator connector C-02 (terminal 1) and the battery.**

- Check the power supply line for open circuit and short circuit.

**CONNECTOR: C-24**

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	
26	27	28	29					30	31			
32	33	34		35		36	37					



AC808176 AC

**NOTE:** Also check intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-24 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 security indicator connector C-02 (terminal 1) and the battery in good condition?

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The security indicator should illuminate, and the theft-alarm system should be set normally.

**STEP 10. Check the wiring harness between between security indicator connector C-02 (terminal 2) and ETACS-ECU connector C-218 (terminal 74).**

- Check the communication lines for open circuit and short circuit.

**Q:** Is the wiring harness between between security indicator connector C-02 (terminal 2) and ETACS-ECU connector C-218 (terminal 74) in good condition?

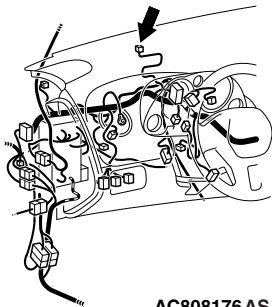
**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The security indicator should illuminate, and the theft-alarm system should be set normally.

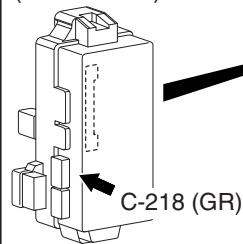
**CONNECTOR: C-02**

HARNESS SIDE

4	3	2	1
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AC808176 AS

**CONNECTOR: C-218**  
JUNCTION BLOCK  
(REAR VIEW)

HARNESS SIDE

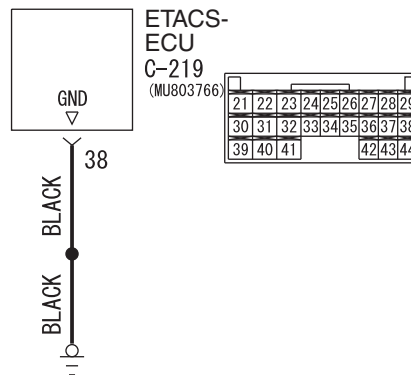
59	58	57	56	55	54	53	52	51
68	67	66	65	64	63	62	61	60
74	73	72				71	70	69

AC509671 AC

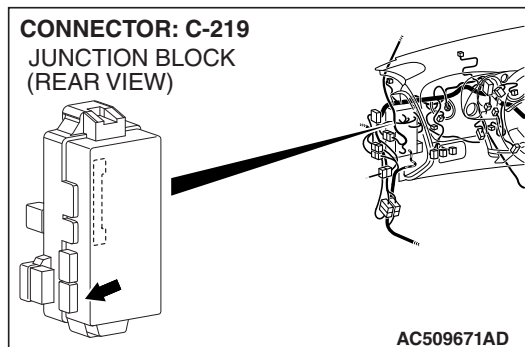
**INSPECTION PROCEDURE O-2: Theft-alarm System: The theft-alarm system is not armed.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.00-14."*

**Theft-alarm Ground Circuit**



W7P54M025A



**CIRCUIT OPERATION**

When the theft alarm operates, the horn sounds and the headlights (high-beam) flashes.

**TECHNICAL DESCRIPTION (COMMENT)**

With all the theft alarm operation conditions satisfied, if the horn does not sound and the headlights (high-beam) does not flash at all (when security indicator and panic alarm are normal), the ground wire for ETACS-ECU theft alarm or ETACS-ECU may be faulty.

**TROUBLESHOOTING HINTS**

- The ETACS-ECU 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:**

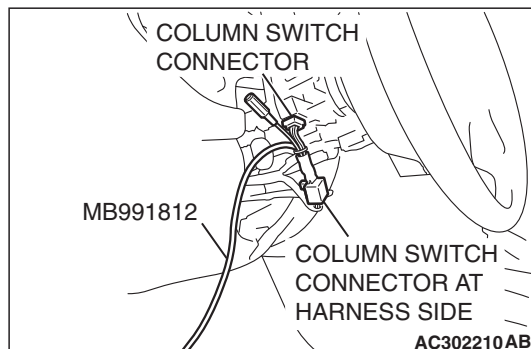
- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.

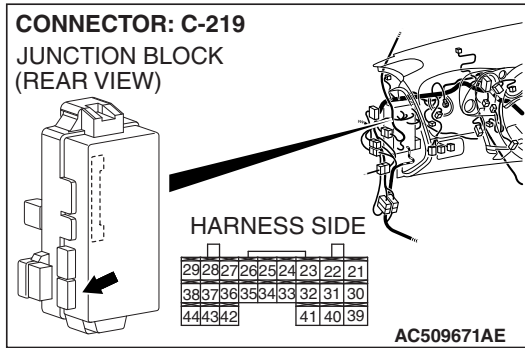
- STEP 1. Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.**

### CAUTION

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate scan tool MB991958 according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool MB991958 should show "OK" on the "ECU COMM Check" menu for the "ETACS ECU" menu.

**NO :** Refer to Inspection Procedure A-3 "Communication with the ETACS-ECU is not possible [P.54B-74](#)."



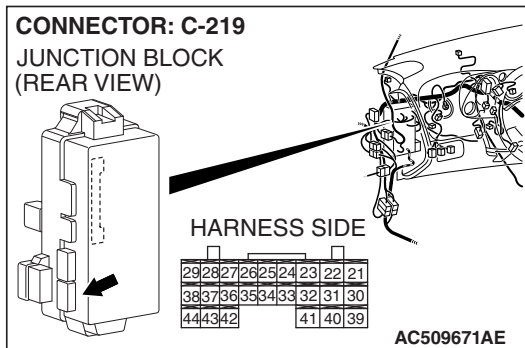


**STEP 2. Check the ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is the ETACS-ECU connector C-219 in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). All the vehicle horn (including the theft-alarm horn) should sound when the theft-alarm system is triggered.



**STEP 3. Check the wiring harness between ETACS-ECU connector C-219 (terminal 38) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between ETACS-ECU connector C-219 (terminal 38) and ground in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). The horns should sound when the theft-alarm system is triggered.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The horns should sound when the theft-alarm system is triggered.

**INSPECTION PROCEDURE O-3: Theft-alarm System: Horn does not sound when the theft-alarm system is triggered.**

## CIRCUIT OPERATION

When the theft-alarm system is triggered, the ETACS-ECU sounds the all the vehicle horns.

## TECHNICAL DESCRIPTION (COMMENT)

If the horns do not sound when the theft-alarm system is triggered, the horn, the horn relay and the ETACS-ECU may be defective.

## TROUBLESHOOTING HINTS

- The horn may be defective
- The horn relay may be defective
- The ETACS-ECU 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

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Verify the keyless entry hazard answerback and horn answerback function.

**Q: Does the keyless entry hazard answerback and horn answerback function work normally?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). The horns should sound when the theft-alarm system is triggered.

**NO :** Refer to Inspection Procedure E-2 "The dome light, the turn-signal lights and the horn do not operate through the answerback function [P.54B-182](#)."

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**INSPECTION PROCEDURE O-4: Theft-alarm System: Headlights (high-beam) do not flash when the theft-alarm system is triggered.**

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#### TECHNICAL DESCRIPTION (COMMENT)

If the headlights (high-beam) illuminate normally, the front-ECU or the ETACS-ECU may be defective.

#### TROUBLESHOOTING HINTS

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

#### DIAGNOSIS

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**STEP 1. Check the headlight (high-beam) operation.**

**Q: Do the headlights illuminate at high beam normally?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure I-3 "Headlights (high-beam) does not illuminate [P.54B-279](#)."

---

**STEP 2. Replace the ECU.**

- (1) Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#).
- (2) The headlights should flash at high beam when the theft-alarm system is triggered.

**Q: Do the headlights flash at high beam when the theft-alarm system is triggered?**

**YES :** No action is necessary and testing is complete.

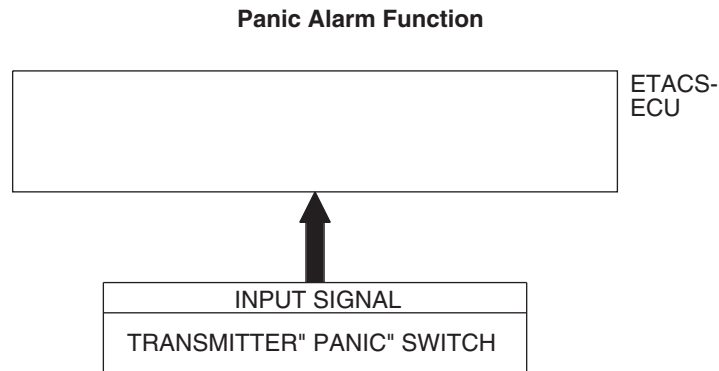
**NO :** Replace the front-ECU. The headlights should flash at high-beam when the theft-alarm system is triggered.



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**INSPECTION PROCEDURE O-5: Theft-alarm System: Panic alarm function does not work.**

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W6P54M108A

**TECHNICAL DESCRIPTION (COMMENT)**

If the keyless entry system is normal, the ETACS-ECU may be defective.

**TROUBLESHOOTING HINTS**

- The ETACS-ECU 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: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991911: M.U.T.-III Main Harness B

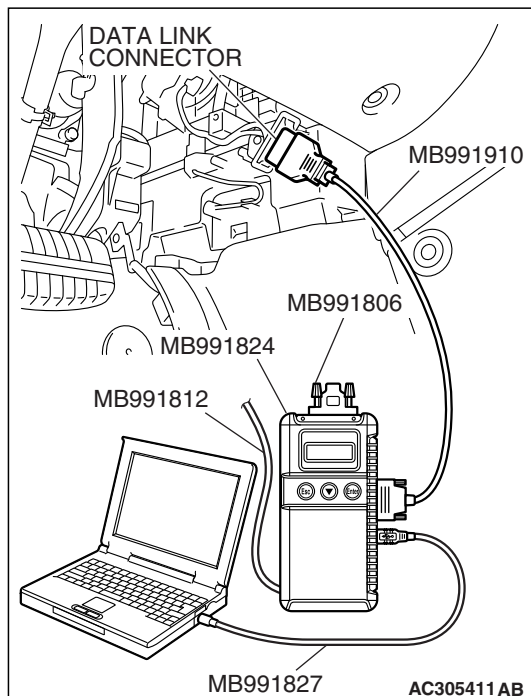
---

**STEP 1. Check the keyless entry system.**

**Q: Does the keyless entry system work normally?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure E-1 "Keyless entry system does not operate [P.54B-180.](#)"

**STEP 2. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the transmitter "PANIC" switch:

**⚠ CAUTION**

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

- (1) Connect the special tool. Refer to "How to connect SWS monitor P.54B-13."
- (2) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (3) Check that scan tool MB991958 sounds.

**Q: Does scan tool MB991958 sound when the transmitter "PANIC" button is pressed?**

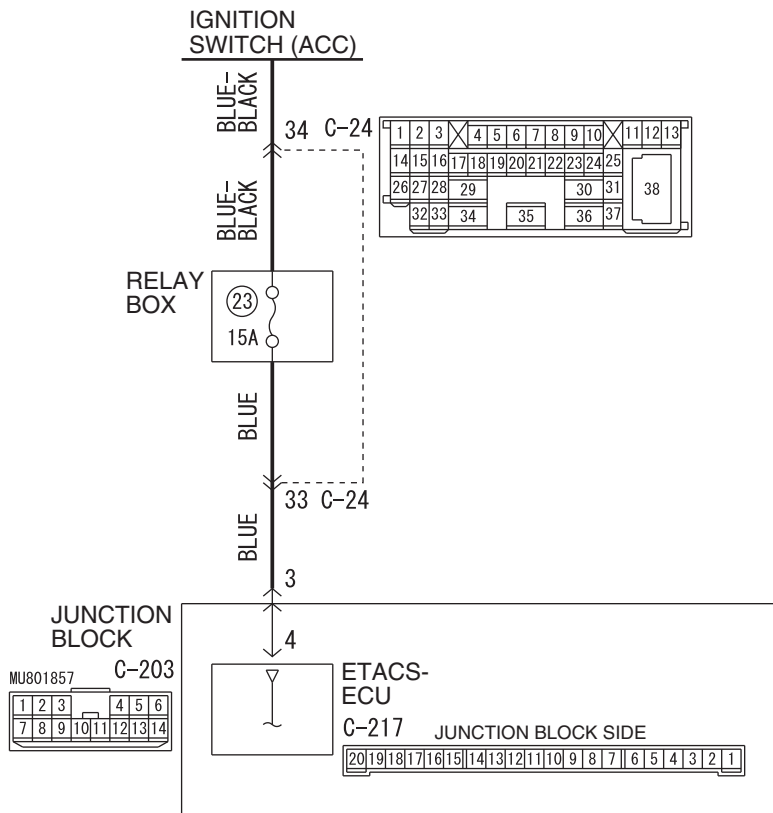
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-19. Verify that the panic alarm works normally.

**NO :** Refer to Inspection Procedure N-7 "ETACS-ECU does not receive any signal from the lock, unlock, liftgate <ECLIPSE>, trunk lid <ECLIPSE SPYDER> or panic switch P.54B-579.

# INPUT SIGNAL PROCEDURES

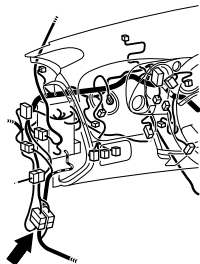
**INSPECTION PROCEDURE M-1: ETACS-ECU does not receive any signal from the ignition switch (ACC).**

Ignition Switch (ACC) Input Circuit



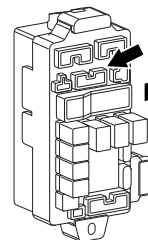
W6P54M034A

CONNECTOR: C-24

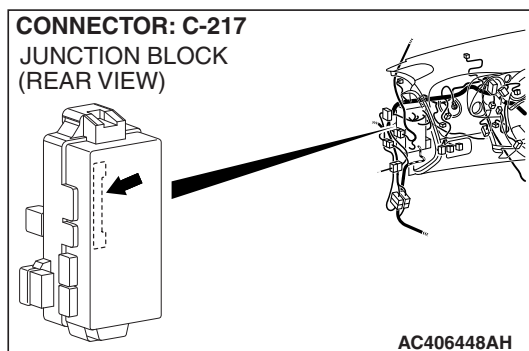


AC406442AQ

CONNECTOR: C-203  
JUNCTION BLOCK  
(FRONT VIEW)



AC406446AX



## CIRCUIT OPERATION

The ETACS-ECU operates the following equipment and function(s) according to signal from the ignition switch (ACC):

- Windshield wiper and washer
- Interior light automatic shutoff function

The ETACS-ECU receives information on the ignition switch condition (ACC) from the middle-grade multi center display unit via CAN communication. If the ignition switch (ACC) input signal is incorrect, refer to the appropriate Diagnostic Trouble Code Chart

[P.54B-26](#).

## TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the equipment and function(s), which are described in "CIRCUIT OPERATION", do not work normally.

## TROUBLESHOOTING HINTS

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

## DIAGNOSIS

### Required Special Tools:

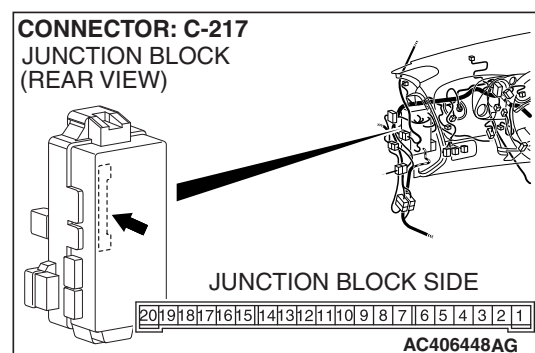
- MB991223: Harness Set
- MB992006: Extra Fine Probe

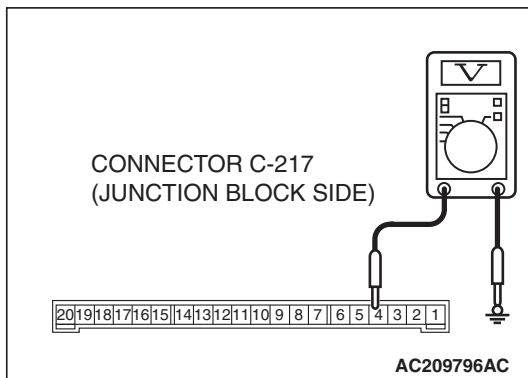
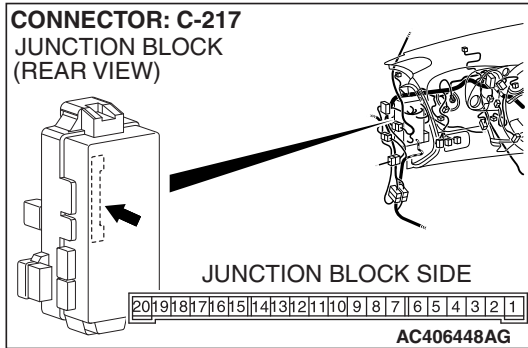
**STEP 1. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the equipment described in "CIRCUIT OPERATION" works normally, the input signal from the ignition switch (ACC) should be normal.





**STEP 2. Check the ignition switch (ACC) line of the power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-217.**

- (1) Disconnect ETACS-ECU connector C-217 and measure the voltage available at the junction block side of the connector.
- (2) Turn the ignition switch to the "ACC" position.

- (3) Measure the voltage between terminal 4 and ground.
  - The voltage should measure approximately 12 volts (battery positive voltage).

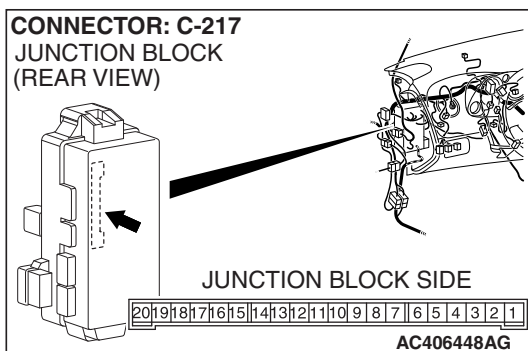
**Q: Is the measured voltage approximately 12 volts (battery positive voltage)?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the equipment described in "CIRCUIT OPERATION" works normally, the input signal from the ignition switch (ACC) should be normal.

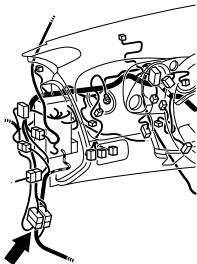
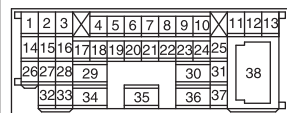
**NO :** Go to Step 3.

**STEP 3. Check the wiring harness between ETACS-ECU connector C-217 (terminal 4) and the ignition switch (ACC).**

- Check the power supply line for open circuit and short circuit.



## CONNECTOR: C-24



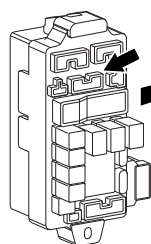
AC406442 AP

**NOTE:** Also check intermediate connector C-24 and junction block connector C-203 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-24 or junction block connector C-203 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

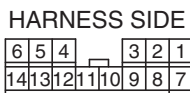
**Q:** Is the wiring harness between ETACS-ECU connector C-217 (terminal 4) and ignition switch (ACC) in good condition?

**YES :** Refer to GROUP 54A – Ignition switch, trouble symptom chart [P.54A-9](#).

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the equipment described in "CIRCUIT OPERATION" works normally, the input signal from the ignition switch (ACC) should be normal.

CONNECTOR: C-203  
JUNCTION BLOCK  
(FRONT VIEW)

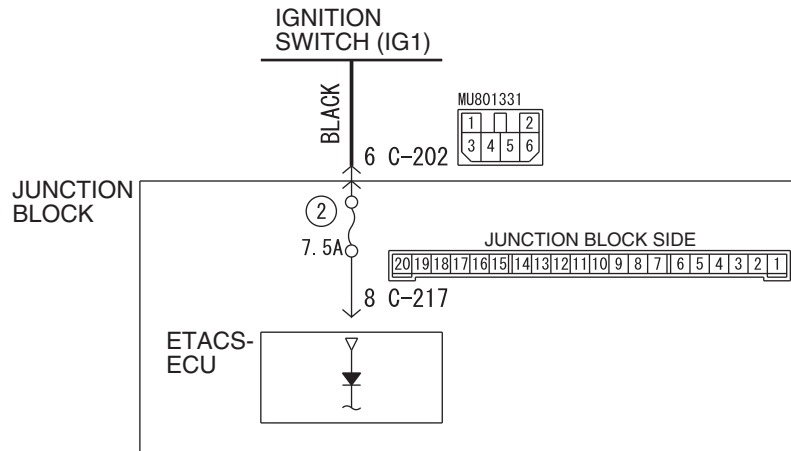
C-203



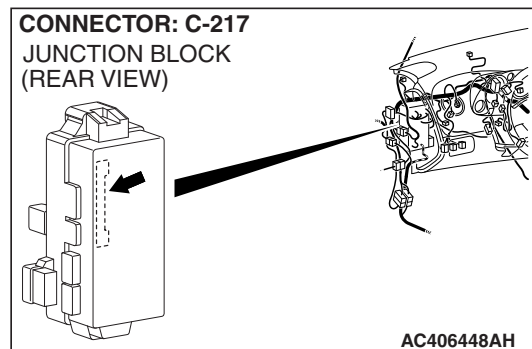
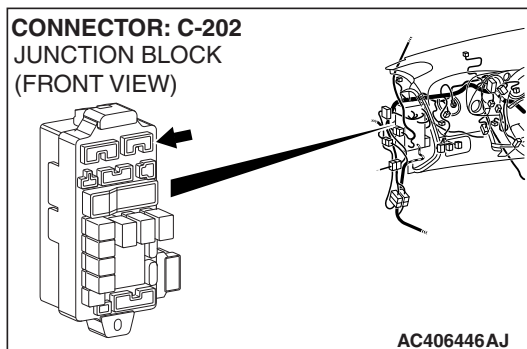
AC406446AM

**INSPECTION PROCEDURE M-2: ETACS-ECU does not receive any signal from the ignition switch (IG1).**

**Ignition Switch (IG1) Input Circuit**



W6P54M017A



**CIRCUIT OPERATION**

The ETACS-ECU operates the following equipment or functions according to signal from the ignition switch (IG1):

- Ignition key reminder tone alarm function
- Light reminder tone alarm function
- Seat belt tone alarm function
- Door ajar warning buzzer
- Power window timer function
- Sunroof timer function
- Headlight automatic shutdown function
- Turn-signal light
- Dome light dimming function
- Ignition key cylinder illumination light

- If the power supply circuit from the battery to the ETACS-ECU is open, this circuit is used as backup circuit.

If the signal is not normal, the equipment or functions described in "CIRCUIT OPERATION" do not work normally.

The ETACS-ECU receives information on the ignition switch condition (IG1) from the combination meter via CAN communication. If the ignition switch (IG1) input signal is incorrect, refer to the Diagnostic Trouble Code Chart [P.54B-26](#).

**TROUBLESHOOTING HINTS**

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

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe

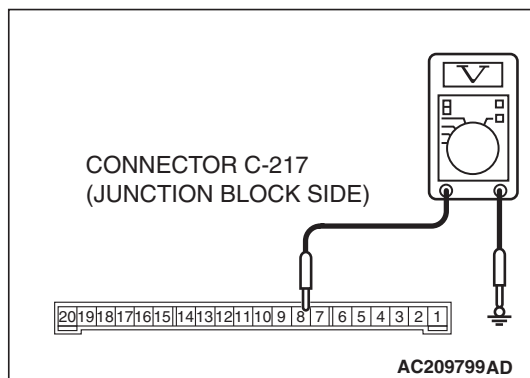
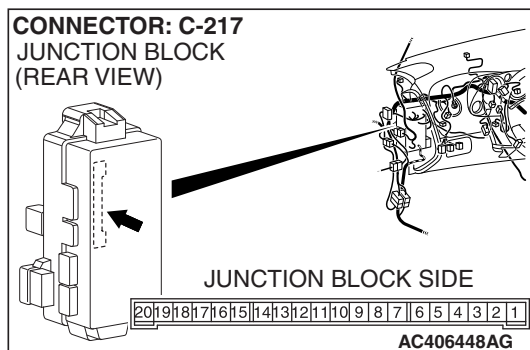
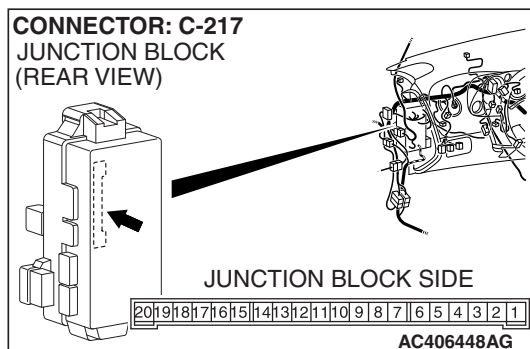
**STEP 1. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the ignition switch (IG1) should be normal.



**STEP 2. Check the ignition switch (IG1) line of the power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-217.**

- (1) Disconnect ETACS-ECU connector C-217 and measure the voltage available at the junction block side of the connector.
- (2) Turn the ignition switch to the "ON" position.

- (3) Measure the voltage between terminal 8 and ground.
  - The voltage should measure approximately 12 volts (battery positive voltage).

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

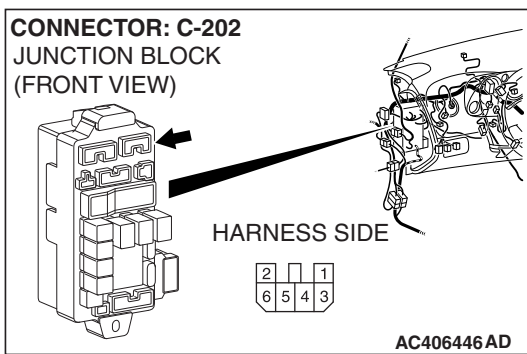
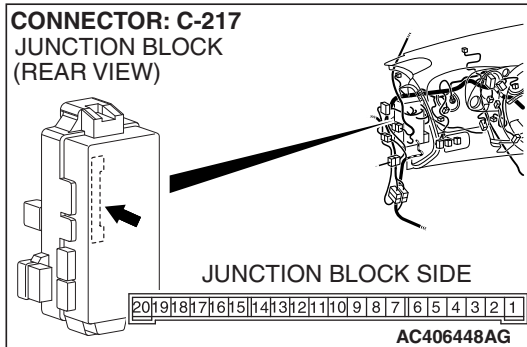
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table **P.54A-19**. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the ignition switch (IG1) should be normal.

**NO :** Go to Step 3.



**STEP 3. Check the wiring harness between ETACS-ECU connector C-217 (terminal 8) and the ignition switch (IG1).**

- Check the power supply line for open circuit and short circuit.



*NOTE: Also check junction block connector C-202 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-202 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

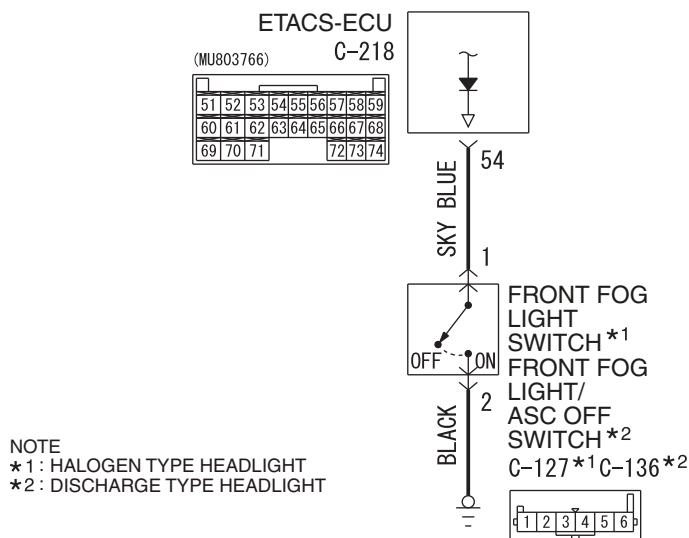
**Q: Is the wiring harness between ETACS-ECU connector C-217 (terminal 8) and ignition switch (IG1) in good condition?**

**YES :** Refer to GROUP 54A – Ignition switch, trouble symptom chart [P.54A-9](#).

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the ignition switch (IG1) should be normal.

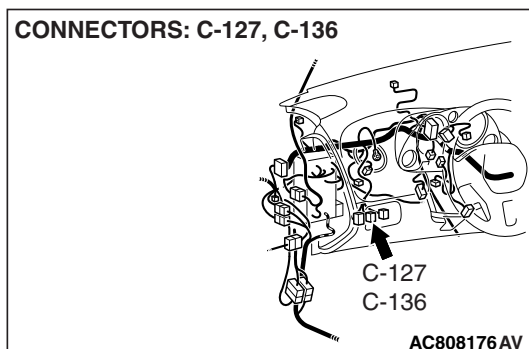
**INSPECTION PROCEDURE M-3: ETACS-ECU does not receive any signal from the front fog light switch.**

### Front Fog Light Switch Input Circuit

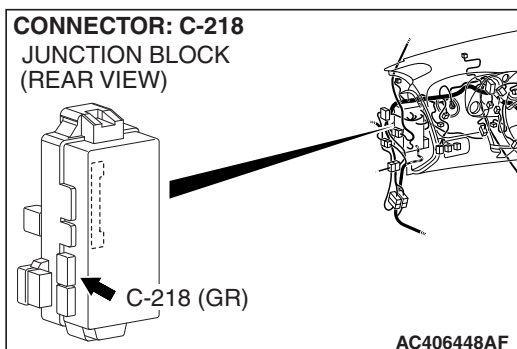


WAP54M028A

#### CONNECTORS: C-127, C-136



#### CONNECTOR: C-218 JUNCTION BLOCK (REAR VIEW)



### CIRCUIT OPERATION

The ETACS-ECU operates the front fog lights according to signal from the front fog light switch.

### TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the front fog lights do not work normally. If the signal is not normal, the front fog light switch or the ETACS-ECU may be defective.

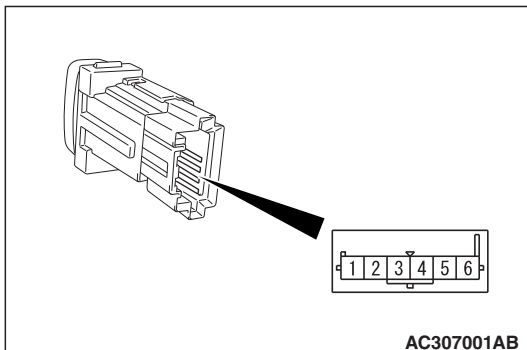
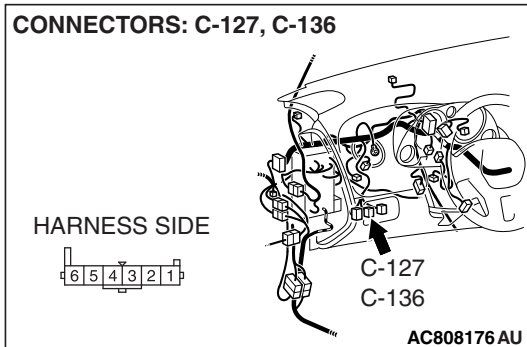
### TROUBLESHOOTING HINTS

- The front fog light switch may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

### DIAGNOSIS

#### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe



**STEP 1. Check front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight> for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight> in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** Repair the front fog light switch. If the front fog light switch operates normally, a correct signal is sent from the front fog light switch.

**STEP 2. Check the front fog light switch.**

Remove the front fog light switch. Refer to GROUP 54A, Front fog light **P.54A-159**. Then check continuity between the switch terminals.

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Released	1 – 2	Open circuit
Pressed	1 – 2	Continuity exists (2 ohms or less)

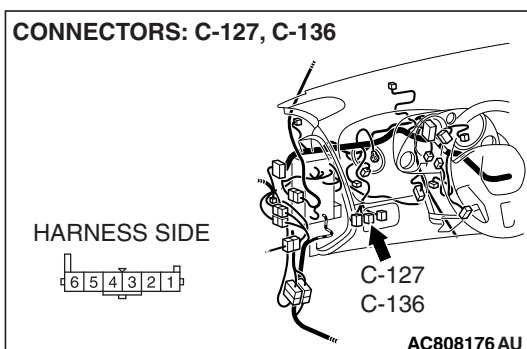
**Q: Is the front fog light switch in good condition?**

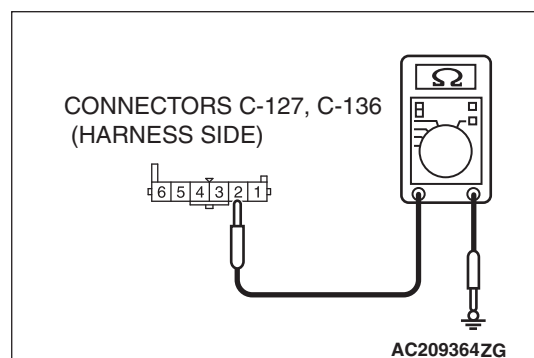
**YES :** Go to Step 3.

**NO :** Repair the front fog light switch. If the front fog light switch operates normally, a correct signal is sent from the front fog light switch.

**STEP 3. Check the ground circuit to the front fog light switch. Measure the resistance at front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight>.**

(1) Disconnect front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight> and measure the resistance available at the wiring harness side of the connector.



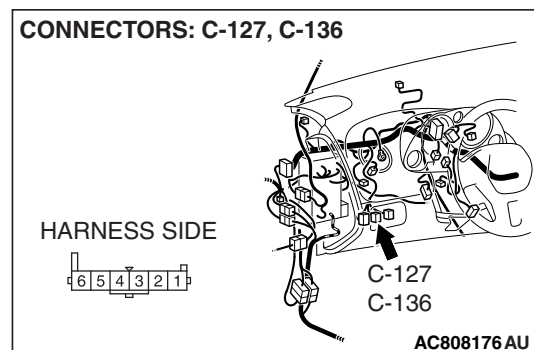


- (2) Measure the resistance value between terminal 2 and ground.
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 5.

**NO :** Go to Step 4.



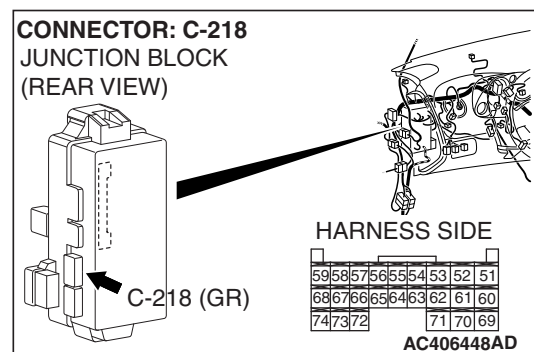
**STEP 4. Check the wiring harness between front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight> (terminal 2) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight> (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the front fog light switch operates normally, a correct signal is sent from the front fog light switch.



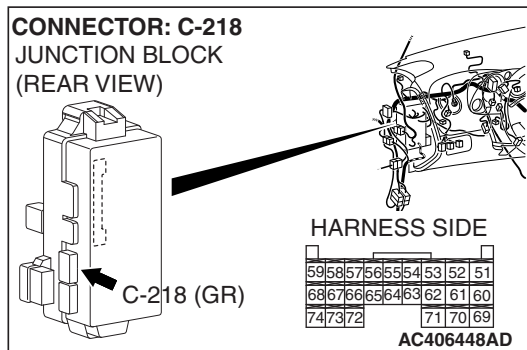
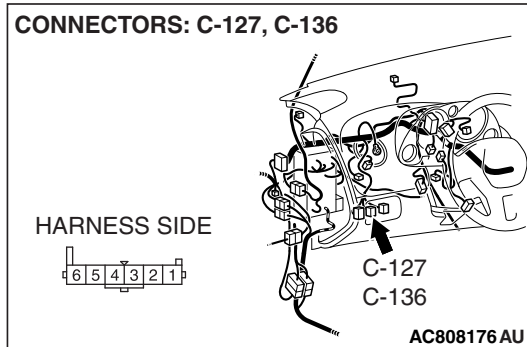
**STEP 5. Check ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-218 in good condition?**

**YES :** Go to Step 6.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** If the front fog light switch operates normally, a correct signal is sent from the front fog light switch.



**STEP 6.** Check the wiring harness between front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight> (terminal 1) and ETACS-ECU connector C-218 (terminal 54).

- Check the communication lines for open circuit and short circuit.

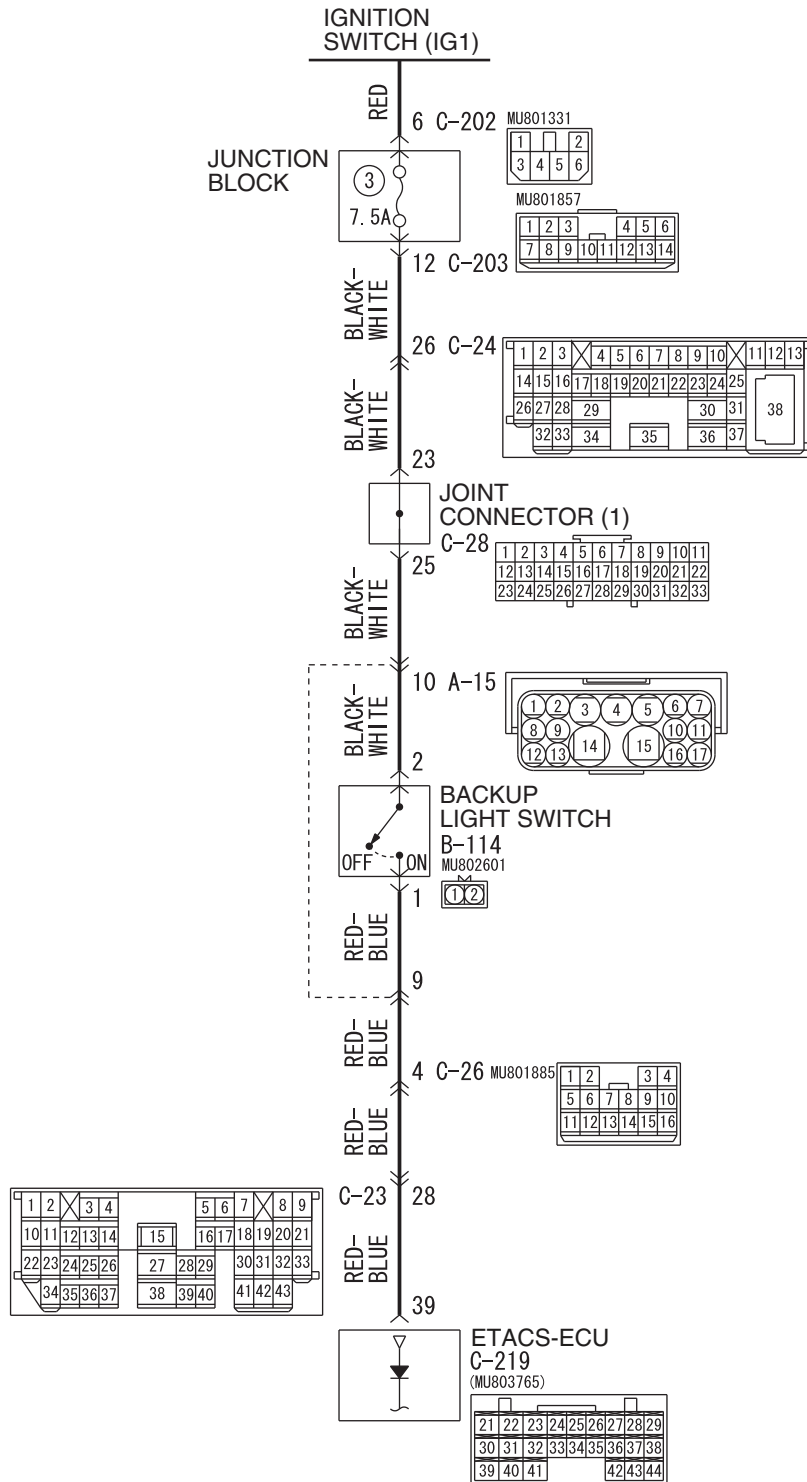
**Q:** Is the wiring harness between front fog light switch connector C-127 <halogen type headlight> or front fog light ASC off switch connector C-136 <discharge type headlight> (terminal 1) and ETACS-ECU connector C-218 (terminal 54) in good condition?

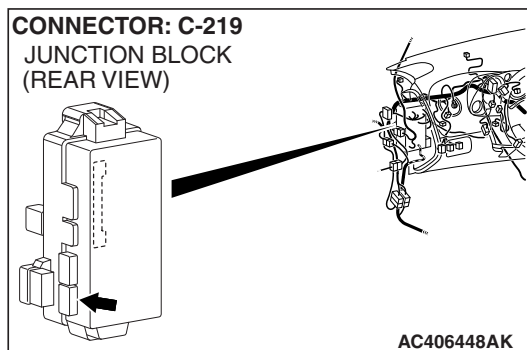
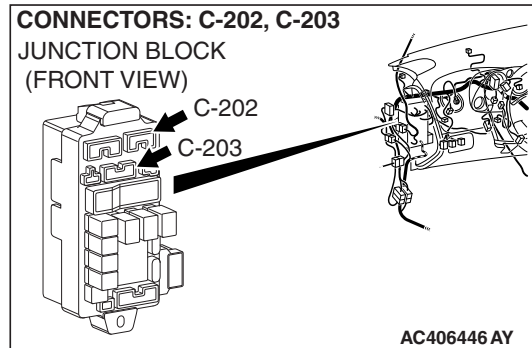
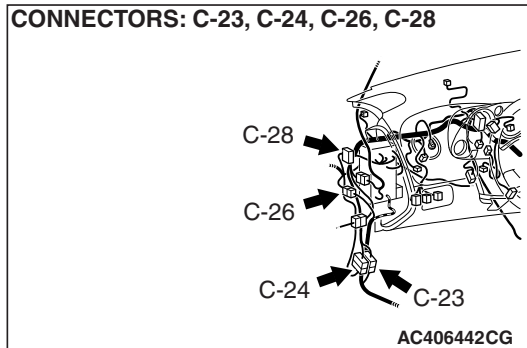
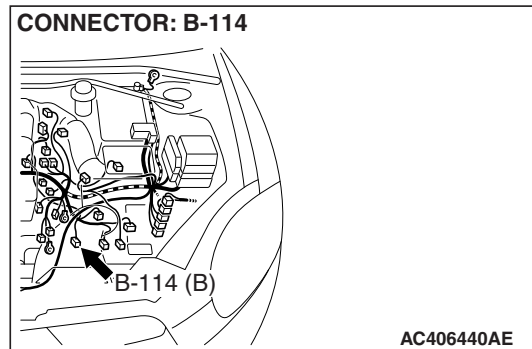
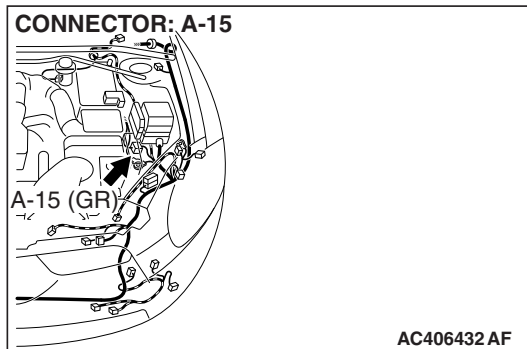
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the front fog light switch operates normally, a correct signal is sent from the front fog light switch.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the front fog light switch operates normally, a correct signal is sent from the front fog light switch.

**INSPECTION PROCEDURE M-4: ETACS-ECU does not receive "R" position signal from the backup light switch <M/T>.**

### Buckup Light Switch Input Circuit





## CIRCUIT OPERATION

The ETACS-ECU operates the rear wiper according to signal from the backup light switch.

## TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the rear wiper does not operate consecutively twice when the shift lever is moved to the "R" position with the rear wiper on. If the signal is not normal, the backup light switch or the ETACS-ECU may be defective.

## TROUBLESHOOTING HINTS

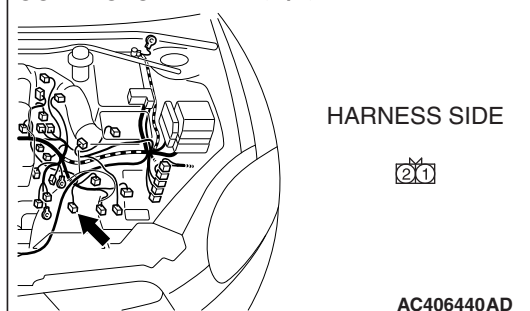
- The backup light switch may be defective
- The ETACS-ECU may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

CONNECTOR: B-114 &lt;M/T&gt;



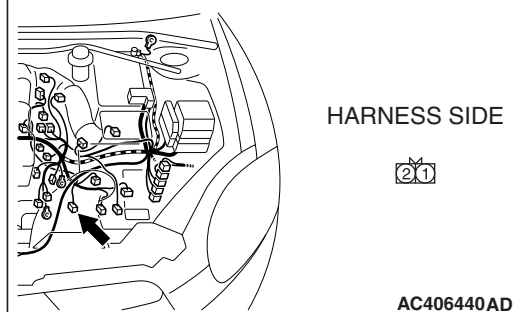
**STEP 1. Check backup light switch connector B-114 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is the backup light switch connector B-114 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the rear wiper operates normally, it indicates that a correct "R" position signal is sent from the backup light switch.

CONNECTOR: B-114 &lt;M/T&gt;



**STEP 2. Check the backup light switch.**

Disconnect backup light switch connector B-114. Then check continuity between the switch terminals.

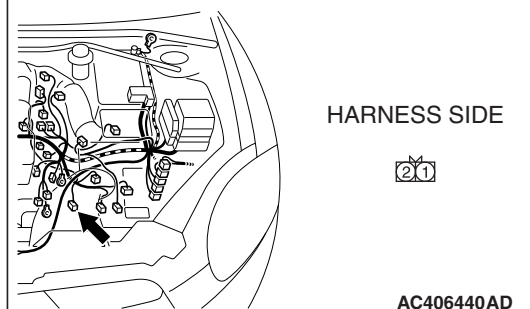
SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Other than "R"	1 – 2	Open circuit
R	1 – 2	Continuity exists (2 ohms or less)

**Q: Is the backup light switch in good condition?**

**YES :** Go to Step 3.

**NO :** Replace the backup light switch. If the rear wiper operates normally, it indicates that a correct "R" position signal is sent from the backup light switch.

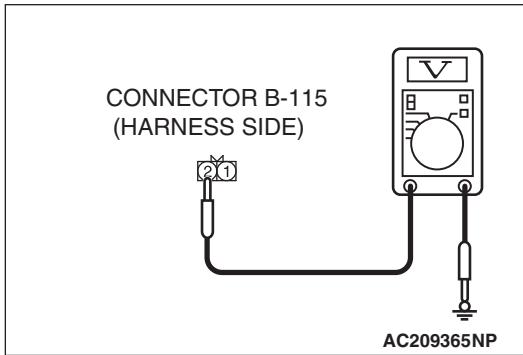
CONNECTOR: B-114 &lt;M/T&gt;



**STEP 3. Check the ignition switch (IG1) circuit to the backup light switch. Measure the voltage at backup light switch connector B-114.**

- (1) Disconnect backup light switch connector B-114 and measure the voltage available at the wiring harness side of the connector.
- (2) Turn the ignition switch to the "ON" position.





- (3) Measure the voltage between terminal 2 and ground.
- The voltage should equal approximately 12 volts (battery positive voltage).

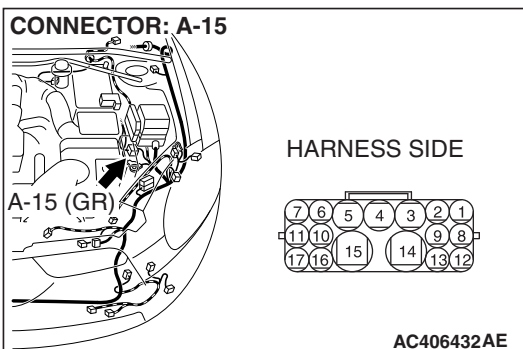
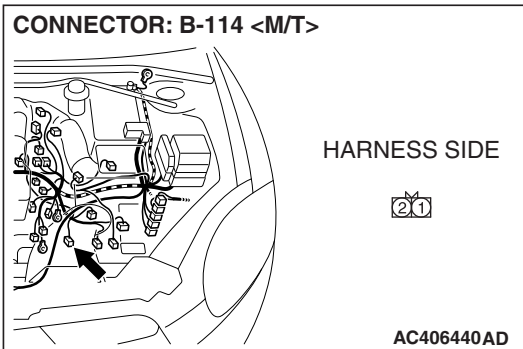
**Q: Is the measured voltage approximately 12 volts (battery positive voltage)?**

**YES :** Go to Step 5.

**NO :** Go to Step 4.

**STEP 4. Check the wiring harness between backup light switch connector B-114 (terminal 2) and the ignition switch (IG1).**

- Check the power supply line for open circuit and short circuit.

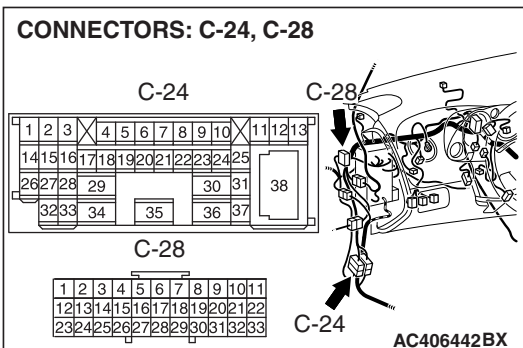


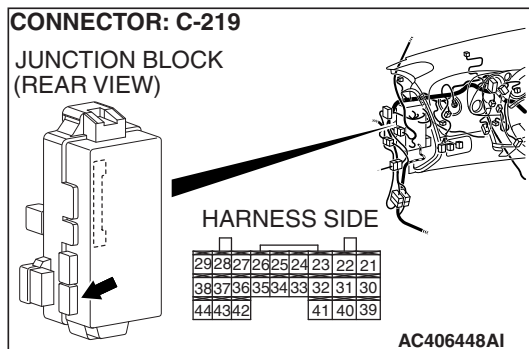
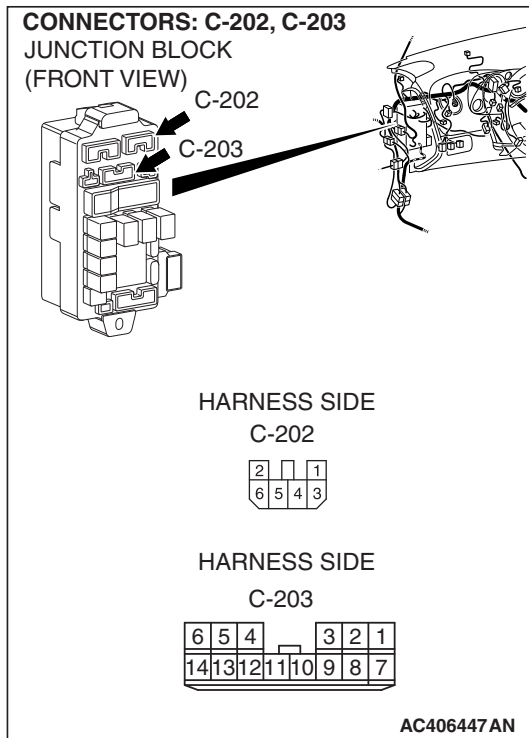
*NOTE: Also check junction block connectors C-202, C-203, joint connector C-28, intermediate connectors A-15 and C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connectors C-202, C-203, joint connector C-28, intermediate connectors A-15 or C-24 are 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 backup light switch connector B-114 (terminal 2) and the ignition switch (IG1) in good condition?**

**YES :** Refer to GROUP 54A – Ignition switch, trouble symptom chart [P.54A-9](#).

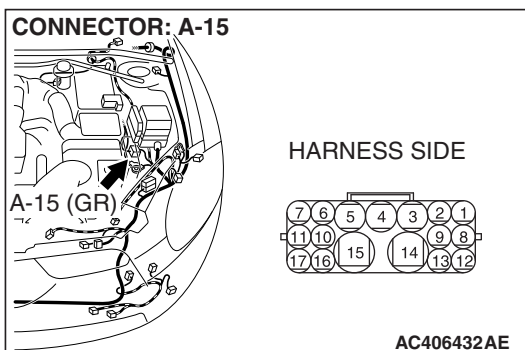
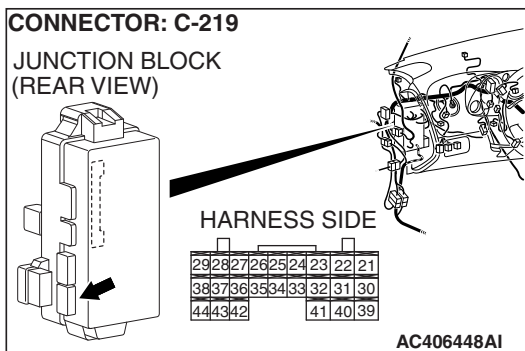
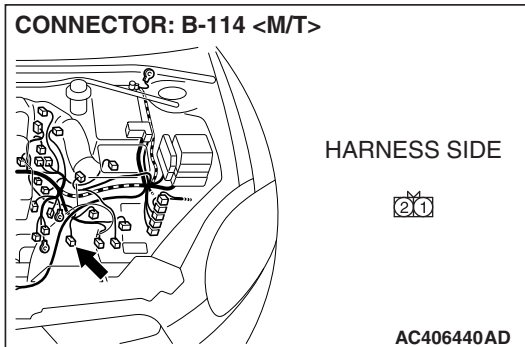
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the rear wiper operates normally, it indicates that a correct "R" position signal is sent from the backup light switch.



**STEP 5. Check ETACS-ECU connector C-219 for damage.****Q: Is ETACS-ECU connector C-219 in good condition?****YES :** Go to Step 6.**NO :** Repair or replace the connector. Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the rear wiper operates normally, it indicates that a correct "R" position signal is sent from the backup light switch.

**STEP 6. Check the wiring harness between backup light switch connector B-114 (terminal 1) and ETACS-ECU connector C-219 (terminal 39).**

- Check the communication lines for open circuit and short circuit.

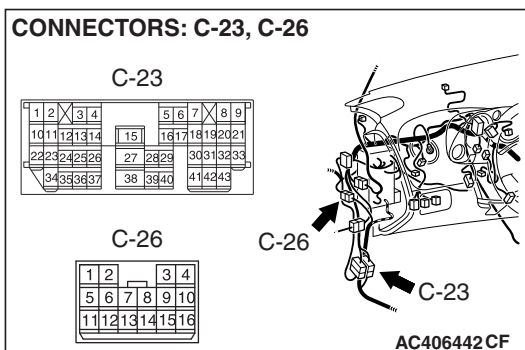


*NOTE: Also check intermediate connectors A-15, C-23 and C-26. If intermediate connectors A-15, C-23 or C-26 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

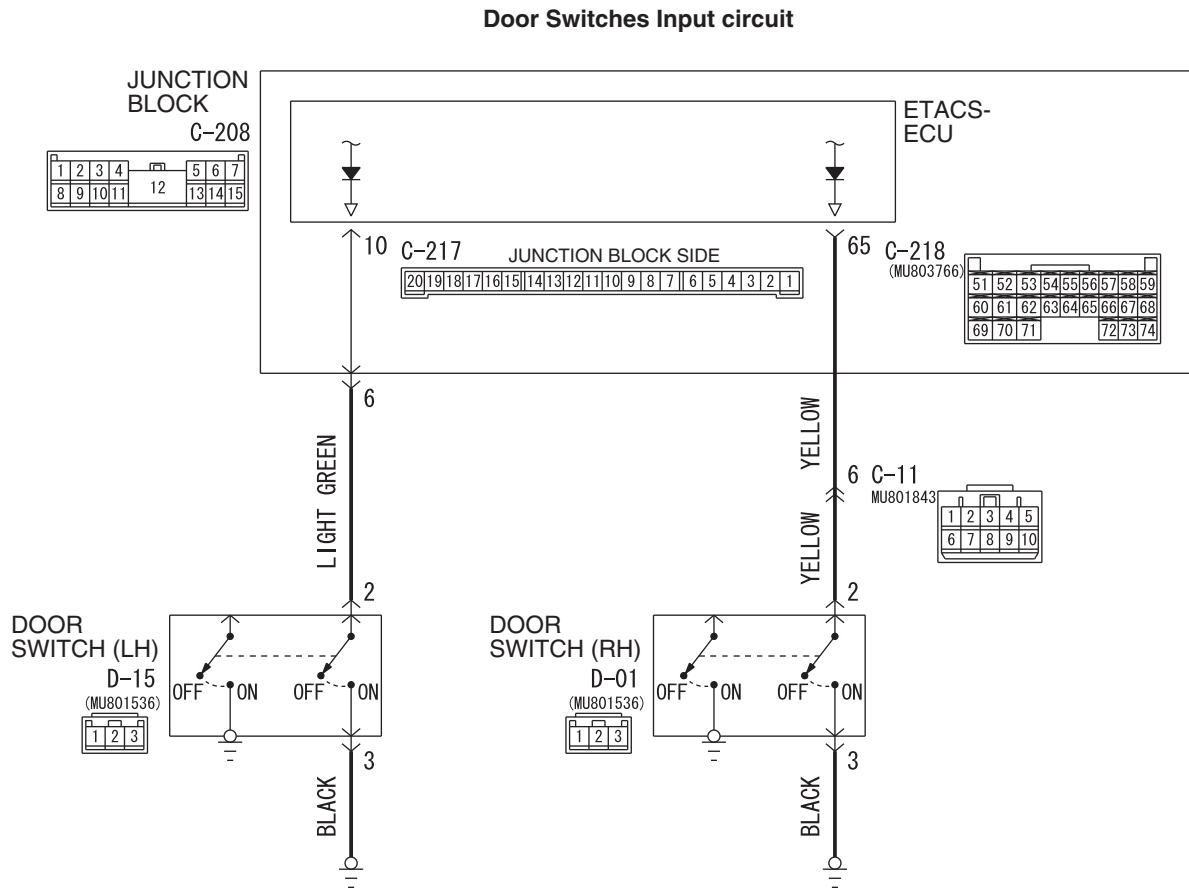
**Q: Is the wiring harness between backup light switch connector B-114 (terminal 1) and ETACS-ECU connector C-219 (terminal 39) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the rear wiper operates normally, it indicates that a correct "R" position signal is sent from the backup light switch.

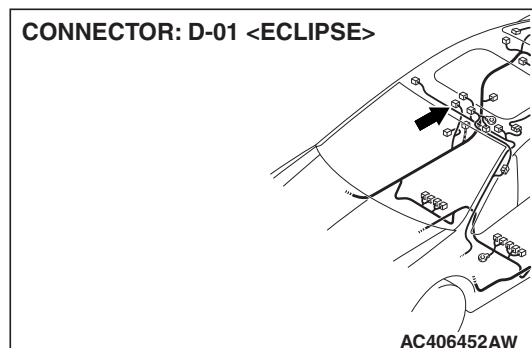
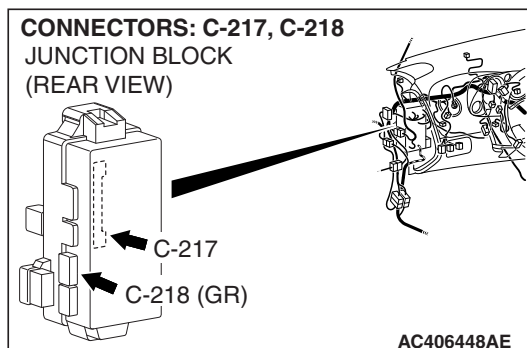
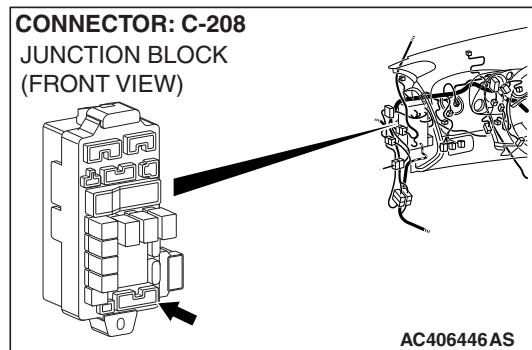
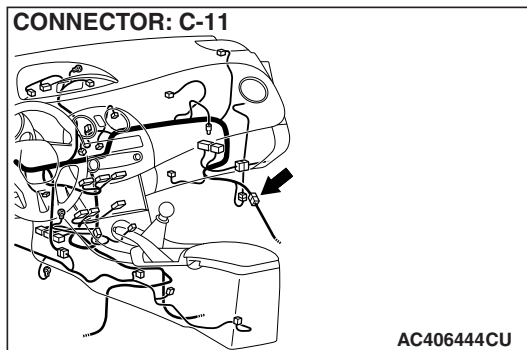
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the rear wiper operates normally, it indicates that a correct "R" position signal is sent from the backup light switch.

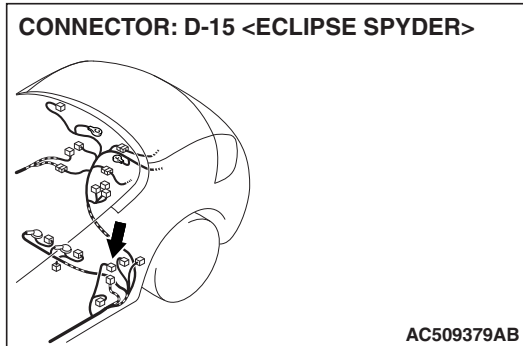
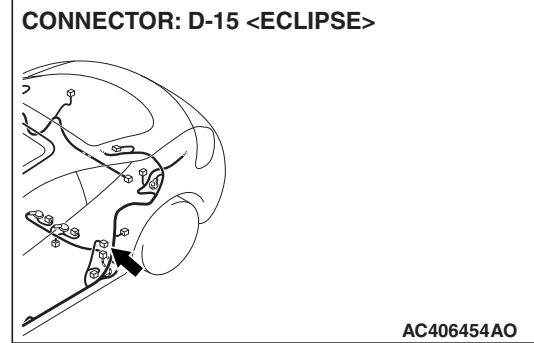
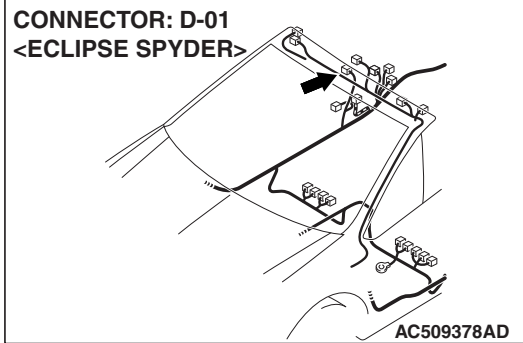


## INSPECTION PROCEDURE M-5: ETACS-ECU does not receive one of signals from the door switches.



W7P54M012A





## CIRCUIT OPERATION

The ETACS-ECU operates the following functions or systems according to signal from the door switches:

- Ignition key reminder tone alarm function <door switch (LH)>
- Light reminder tone alarm function <door switch (LH)>
- Door ajar warning buzzer
- Forgotten key reminder
- Power window timer function
- Sunroof timer function <door switch (LH)>
- Keyless entry system
- Timed locking mechanism
- Headlight automatic shutdown function <door switch (LH)>
- Dome light
- Interior light automatic-shutdown function

- Ignition key cylinder illumination light <door switch (LH)>
- Door-ajar indicator light

## TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the functions or systems described in "CIRCUIT OPERATION" do not work normally. If the signal is not normal, the door switches or the ETACS-ECU may be defective.

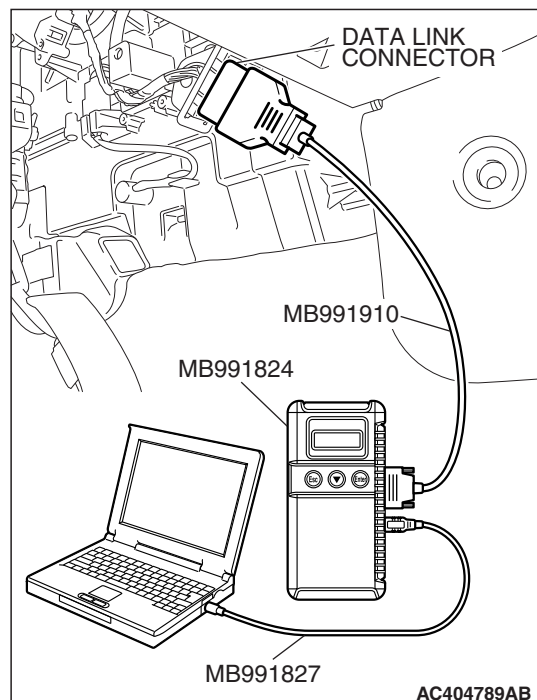
## TROUBLESHOOTING HINTS

- The door switches may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A

**STEP 1. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the door switches.

**CAUTION**

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

- (1) Connect the scan tool MB991958. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (3) Check that scan tool MB991958 sounds.

**Q: Does scan tool MB991958 sound when each door is opened and closed?**

**When the door (LH) is opened and closed, scan tool MB991958 does not sound. : Go to Step 2.**

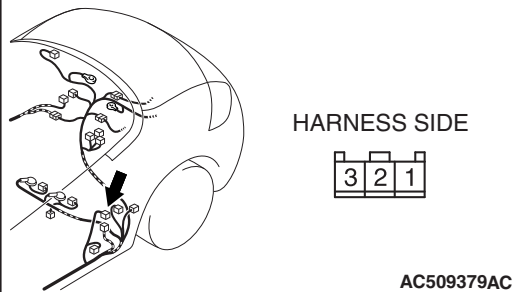
**When the door (RH) is opened and closed, scan tool MB991958 does not sound. : Go to Step 7.**

**When either door is opened and closed, scan tool MB991958 sounds. : Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switches should be normal.**

**CONNECTOR: D-15 <ECLIPSE>**



**CONNECTOR: D-15 <ECLIPSE SPYDER>**



**STEP 2. Check door switch (LH) connector D-15 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is door switch (LH) connector D-15 in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (LH) should be normal.

**STEP 3. Check the door switch (LH).**

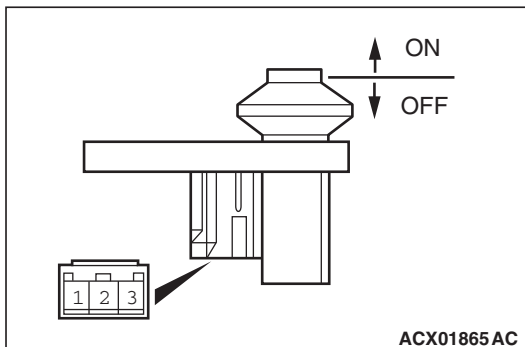
Remove the door switch (LH). Refer to GROUP 42, Door, Door Assembly [P.42-80](#). Then check continuity between the switch terminals and the body ground.

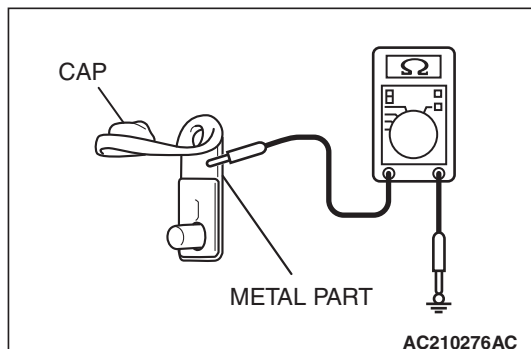
SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Released (ON)	2 – body ground	Continuity exists (2 ohms or less)
Pressed (OFF)	2 – body ground	Open circuit

**Q: Is the door switch (LH) in good condition?**

**YES :** Go to Step 4.

**NO :** Replace the door switch (LH). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (LH) should be normal.





**STEP 4. Measure resistance at the lower metal part of the door switch (LH) in order to check the ground circuit to the door switch (LH).**

*NOTE: Check that the door switch (LH) is grounded to the vehicle body via its mounting screw.*

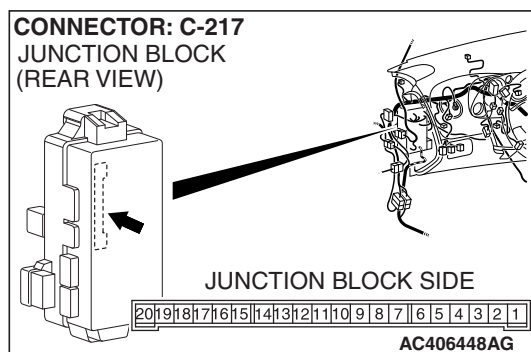
Remove the cap, and measure the resistance value between the lower metal part and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 5.

**NO :** Check the installation of the switch, and repair if necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (LH) should be normal.



**STEP 5. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

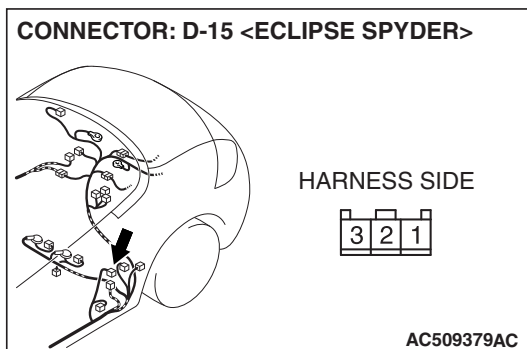
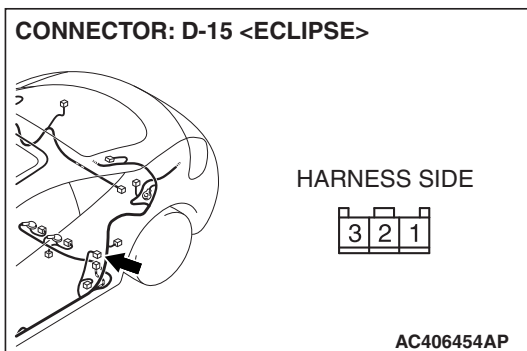
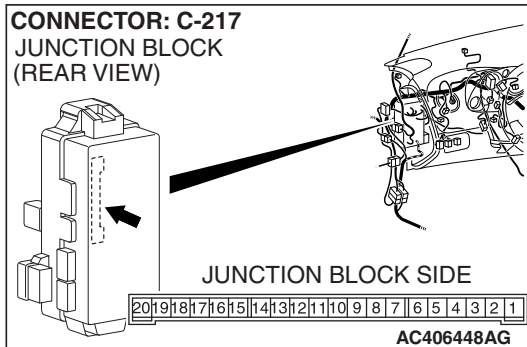
**YES :** Go to Step 6.

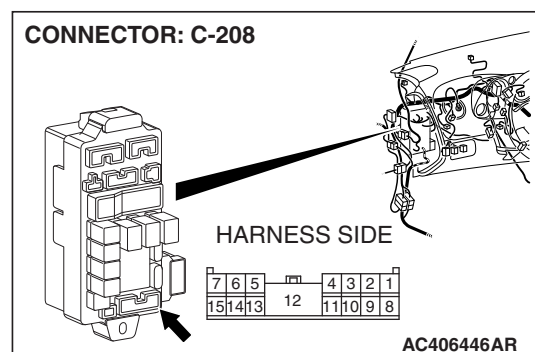
**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (LH) should be normal.



**STEP 6. Check the wiring harness between door switch (LH) connector D-15 (terminal 2) and ETACS-ECU connector C-217 (terminal 10).**

- Check the communication lines for open circuit and short circuit.



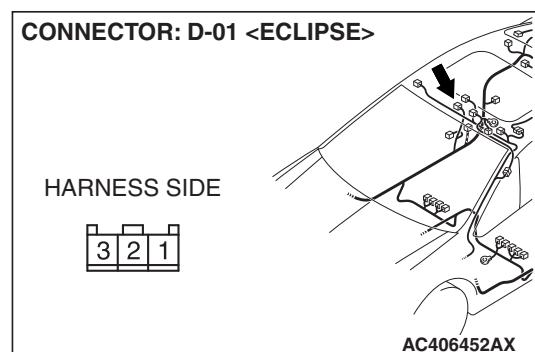


**NOTE:** Also check junction block connector C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-208 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

**Q: Is the wiring harness between door switch (LH) connector D-15 (terminal 2) and ETACS-ECU connector C-217 (terminal 10) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (LH) should be normal.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (LH) should be normal.

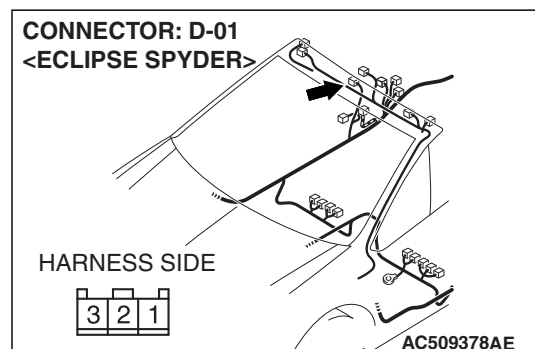


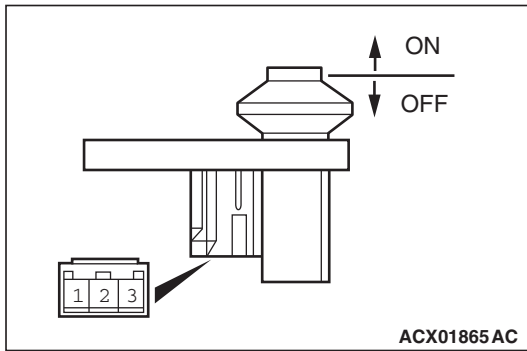
**STEP 7. Check door switch (RH) connector D-01 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is door switch (RH) connector D-01 in good condition?**

**YES :** Go to Step 8.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (RH) should be normal.





**STEP 8. Check the door switch (RH).**

Remove the door switch (RH). Refer to GROUP 42, Door, Door Assembly P.42-80. Then check continuity between the switch terminals and the body ground.

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Released (ON)	2 – body ground	Continuity exists (2 ohms or less)
Pressed (OFF)	2 – body ground	Open circuit

**Q: Is the door switch (RH) in good condition?**

**YES :** Go to Step 9.

**NO :** Replace the door switch (RH). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (RH) should be normal.

**STEP 9. Measure resistance at the lower metal part of the door switch (RH) in order to check the ground circuit to the door switch (RH).**

*NOTE: Check that the door switch (RH) is grounded to the vehicle body via its mounting screw.*

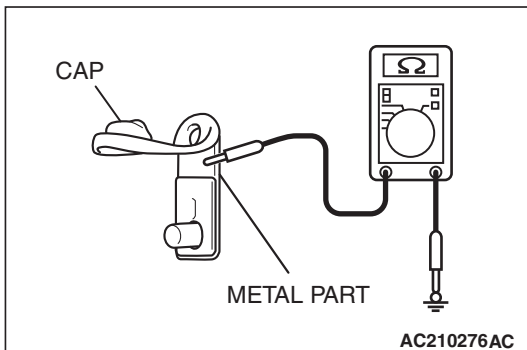
Remove the cap, and measure the resistance value between the lower metal part and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 10.

**NO :** Check the installation of the switch, and repair if necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (RH) should be normal.

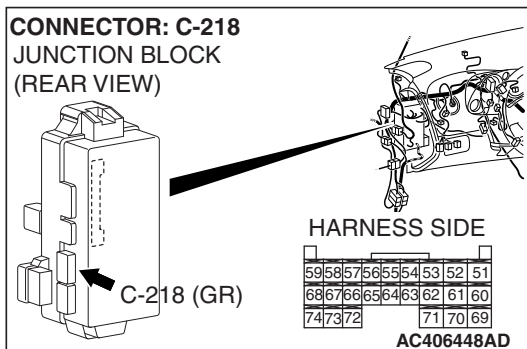


**STEP 10. Check ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-218 in good condition?**

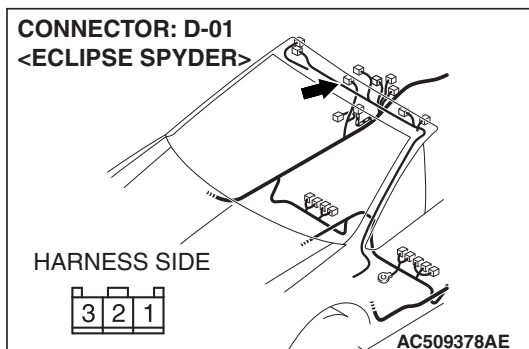
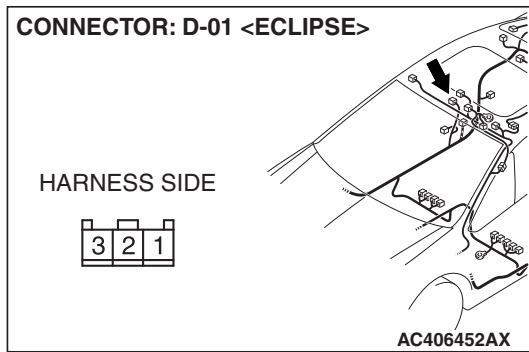
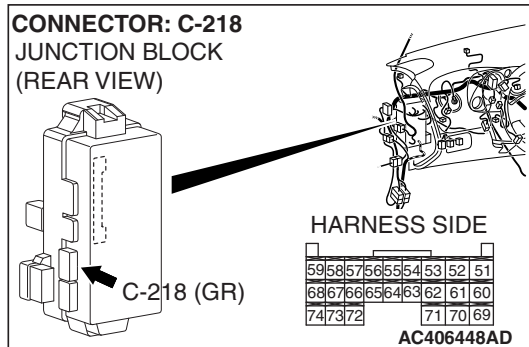
**YES :** Go to Step 11.

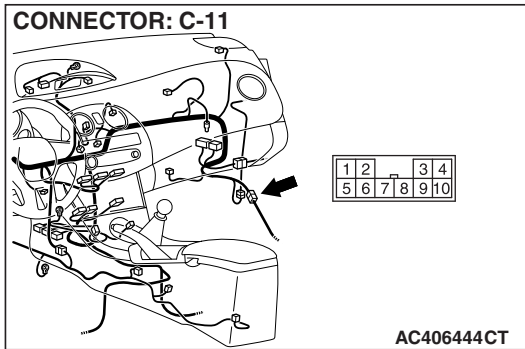
**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (RH) should be normal.



**STEP 11. Check the wiring harness between door switch (RH) connector D-01 (terminal 2) and ETACS-ECU connector C-218 (terminal 65).**

- Check the communication lines for open circuit and short circuit.





*NOTE: Also check intermediate connector C-11 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-11 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between door switch (RH) connector D-01 (terminal 2) and ETACS-ECU connector C-218 (terminal 65) in good condition?**

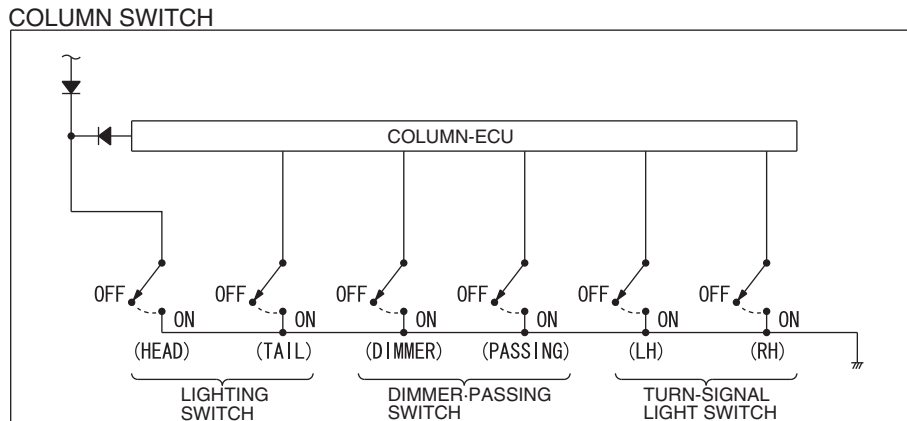
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (RH) should be normal.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door switch (RH) should be normal.

**INSPECTION PROCEDURE M-6: Column Switch:** ETACS-ECU does not receive any signal from the taillight switch, the headlight switch, the passing light switch, the dimmer switch or the turn-signal light switch.

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor P.54B-15."*

#### Turn-signal Light and Lighting Switch Input Circuit



W6P54M102A

### CIRCUIT OPERATION

The ETACS-ECU operates the following equipment or functions according to signal from the column switch (turn-signal light and lighting switch):

- Light reminder tone alarm function
- Headlight
- Turn-signal light
- High-beam indicator
- Turn-signal indicators

### TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the equipment or functions described in "CIRCUIT OPERATION" do not work normally. If the signal is not normal, the column switch (turn-signal light and lighting switch) or the ETACS-ECU may be defective.

### TROUBLESHOOTING HINTS

- The column switch (turn-signal light and lighting switch) may be defective
- The ETACS-ECU may be defective

### DIAGNOSIS

#### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1.** Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.

Check the column-ECU.

**⚠ CAUTION**

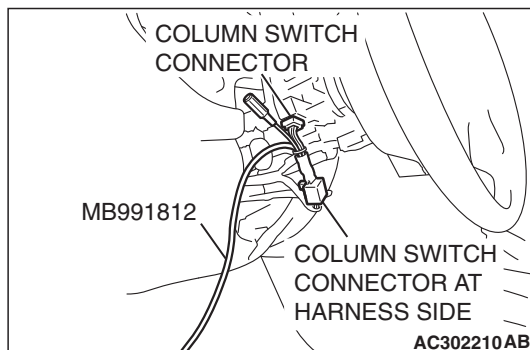
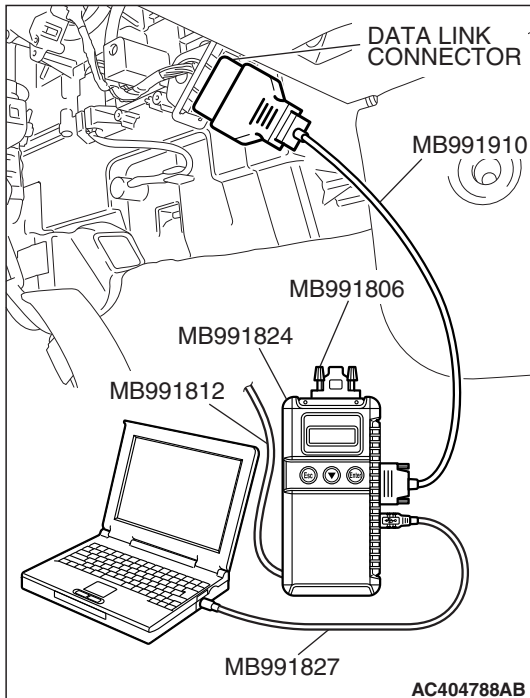
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate the scan tool according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool (M.U.T.-III) should show "OK" on the "ECU COMM Check" menu for the "COLUMN ECU" menu.

**Q: Is "OK" displayed for the "COLUMN ECU" menu?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure A-2 "Communication with the column switch (column-ECU) is not possible [P.54B-66](#)."



**STEP 2. Replace the column switch.**

- (1) Replace the turn-signal light and lighting switch.
- (2) The input signal from the column switch (turn-signal light and lighting switch) should be able to be checked and the functions described in the "CIRCUIT OPERATION" should work normally.

**Q: Is the input signal from the column switch (turn-signal light and lighting switch) input normally?**

**YES :** No action is necessary and testing is complete.

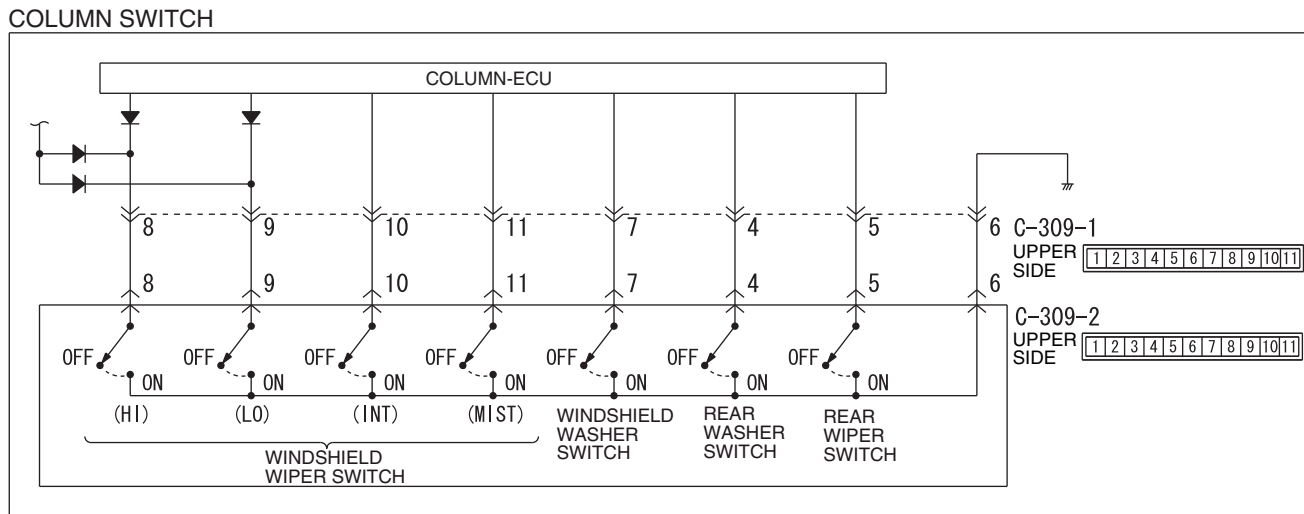
**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). The input signal from the column switch (turn-signal light and lighting switch) should be able to be checked and the functions described in the "CIRCUIT OPERATION" should work normally.



**INSPECTION PROCEDURE M-7: Column switch: ETACS-ECU does not receive any signal from the windshield mist wiper switch, the windshield intermittent wiper switch, the windshield low-speed wiper switch, the windshield high-speed wiper switch, the rear wiper switch, the windshield washer switch or the rear washer switch.**

*NOTE: This troubleshooting procedure requires the use of scan tool MB991958 and SWS monitor kit MB991813. For details on how to use the SWS monitor, refer to "How to use SWS monitor [P.54B-15](#)."*

**Wiper and Washer Switch Input Circuit**



W6P54M103A

**CIRCUIT OPERATION**

The ETACS-ECU operates the windshield wiper/washer and rear wiper/washer according to signal from the windshield wiper and windshield washer switch.

**TECHNICAL DESCRIPTION (COMMENT)**

If the signal is not normal, the windshield wiper/washer and rear wiper/washer do not work normally.

**TROUBLESHOOTING HINTS**

- The column switch may be defective (windshield wiper and windshield washer switch)
- The ETACS-ECU may be defective

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991813: SWS Monitor Kit
  - MB991806: SWS Monitor Cartridge
  - MB991812: SWS Monitor Harness (For Column-ECU)
  - MB991822: Probe Harness

**STEP 1.** Use scan tool MB991958 to select "ECU COMM Check" on the SWS monitor display.

Check the column-ECU.

**⚠ CAUTION**

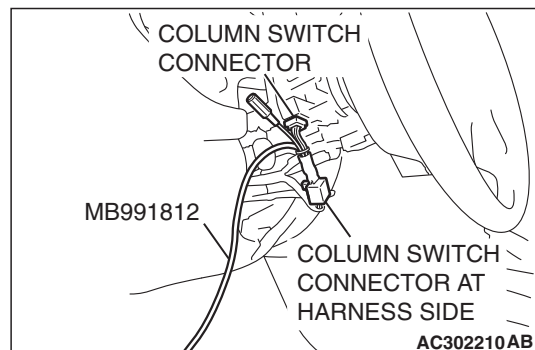
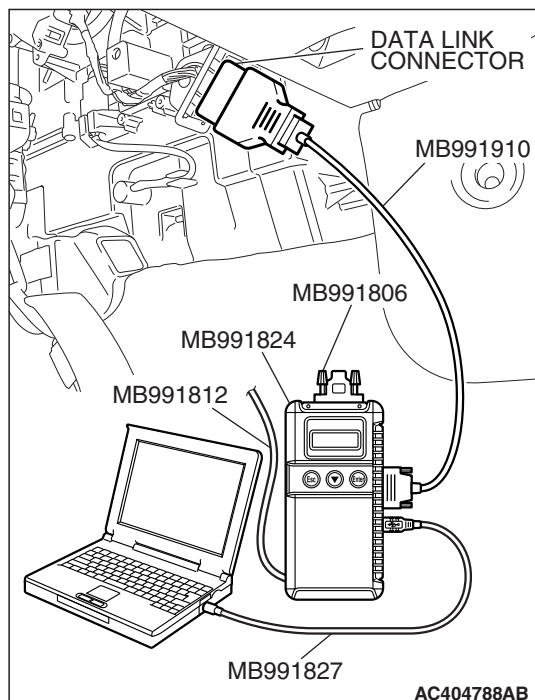
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958. Connect special tool MB991910 before connecting special tool MB991812. Be sure to connect special tool MB991806 after turning on special tool MB991824.

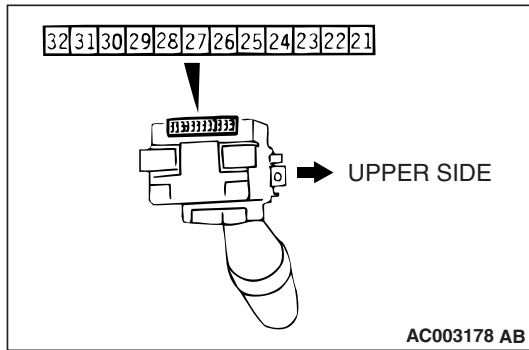
- (1) Connect the special tool. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Turn the ignition switch to the "LOCK" (OFF) position.
- (3) Operate the scan tool according to the procedure below to display "ECU COMM Check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "SWS MONITOR."
  - e. Select "ECU COMM Check."
- (4) Scan tool (M.U.T.-III) should show "OK" on the "ECU COMM Check" menu for the "COLUMN ECU" menu.

**Q: Is "OK" displayed for the "COLUMN ECU" menu?**

**YES :** Go to Step 2.

**NO :** Refer to Inspection Procedure A-2 "Communication with the column switch (column-ECU) is not possible [P.54B-66](#)."





**STEP 2. Check the windshield wiper and windshield washer switch.**

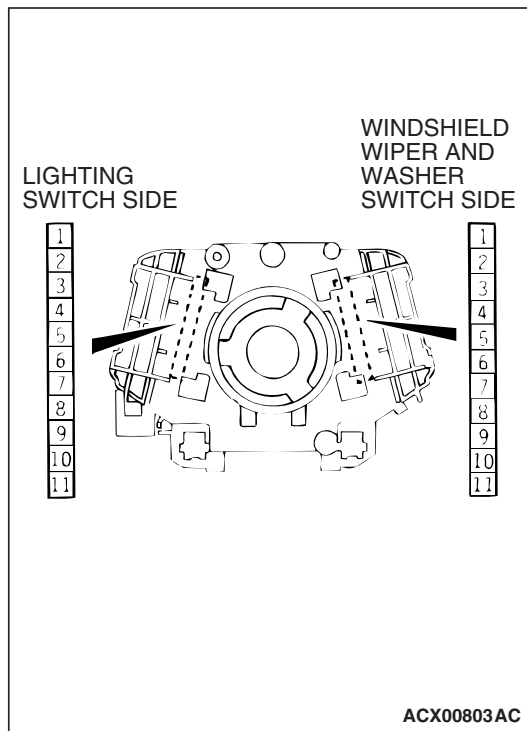
Remove the windshield wiper and windshield washer switch. Then check continuity between the switch terminals.

<b>SWITCH POSITION</b>	<b>TESTER CONNECTION</b>	<b>SPECIFIED CONDITION</b>
OFF	4 – 6, 5 – 6, 6 – 7, 6 – 8, 6 – 9, 6 – 10, 6 – 11	Open circuit
Windshield mist wiper switch	6 – 11	Continuity exists (2 ohms or less)
Windshield intermittent wiper switch	6 – 10	Continuity exists (2 ohms or less)
Windshield low-speed wiper switch	6 – 9	Continuity exists (2 ohms or less)
Windshield high-speed wiper switch	6 – 8	Continuity exists (2 ohms or less)
Windshield washer switch	6 – 7	Continuity exists (2 ohms or less)
Rear wiper switch	5 – 6	Continuity exists (2 ohms or less)
Rear washer switch	4 – 6	Continuity exists (2 ohms or less)

**Q: Are the wiper and washer switch in good condition?**

**YES :** Go to Step 3.

**NO :** Replace the windshield wiper and windshield washer switch. If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the column switch (windshield wiper and windshield washer switch) should be normal.

**STEP 3. Check the switch body.**

Remove the turn-signal light and lighting switch and windshield wiper and windshield washer switch. Then check continuity between the switch body terminals.

SWITCH BODY	TESTER CONNECTION	SPECIFIED CONDITION
Lighting switch side – Windshield wiper and washer switch side	4 – 4, 5 – 5, 6 – 6, 6 – 6, 7 – 7, 8 – 8, 9 – 9, 10 – 10, 11 – 11	Continuity exists (2 ohms or less)

**Q: Is the switch body in good condition?**

**YES :** Go to Step 4.

**NO :** Replace the column switch. If the equipment, which are described in "CIRCUIT OPERATION", work normally, the input signal from the column switch (windshield wiper and windshield washer switch) should be normal.

**STEP 4. Replace the column switch.**

- (1) Replace the turn-signal light and lighting switch.
- (2) If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the column switch (windshield wiper and windshield washer switch) should be normal.

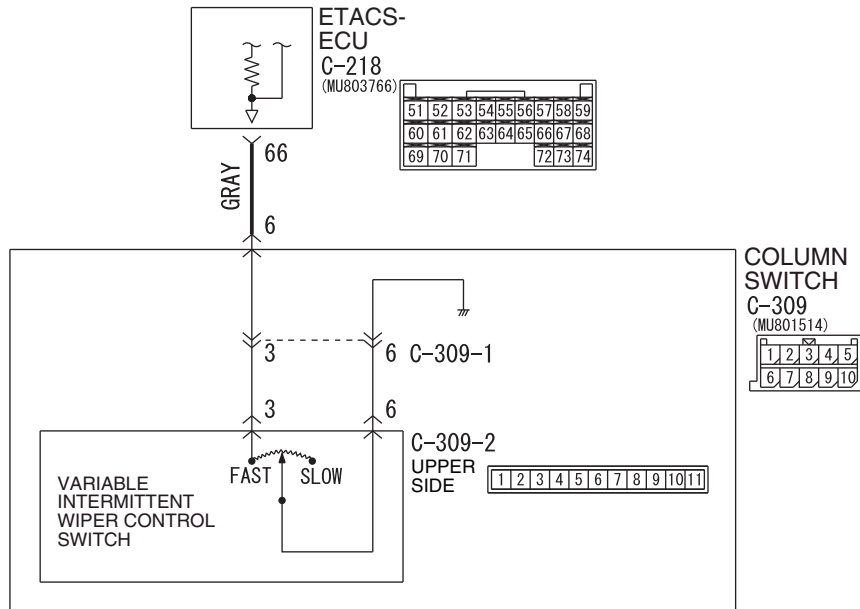
**Q: Does the column switch (windshield wiper and washer switch) send a normal signal to the ECU?**

**YES :** No action is necessary and testing is complete.

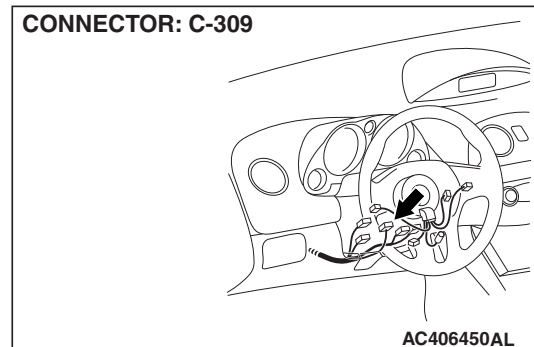
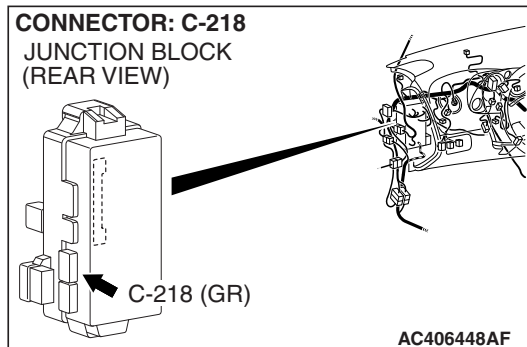
**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the column switch (windshield wiper and windshield washer switch) should be normal.

**INSPECTION PROCEDURE M-8: Column Switch: ETACS-ECU does not receive any signal from the variable intermittent wiper control switch.**

**Variable Intermittent Wiper Control Switch Input Circuit**



W6P54M104A



## CIRCUIT OPERATION

The ETACS-ECU calculates the windshield intermittent wiper interval according to the position of the variable intermittent wiper control switch, which is incorporated in column switch (windshield wiper and washer switch/turn-signal light and lighting switch).

## TECHNICAL DESCRIPTION (COMMENT)

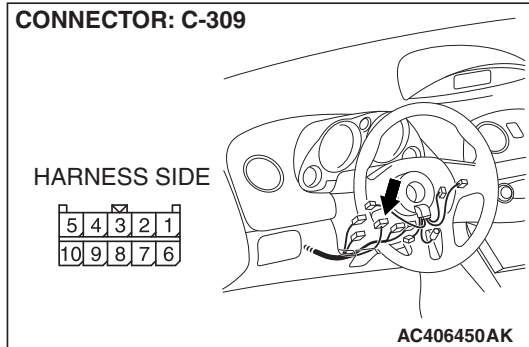
If the windshield intermittent wiper interval cannot be adjusted, the column switch or the ETACS-ECU may be defective.

## TROUBLESHOOTING HINTS

- The column switch may be defective (windshield wiper and washer switch/turn-signal light and lighting switch)
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe



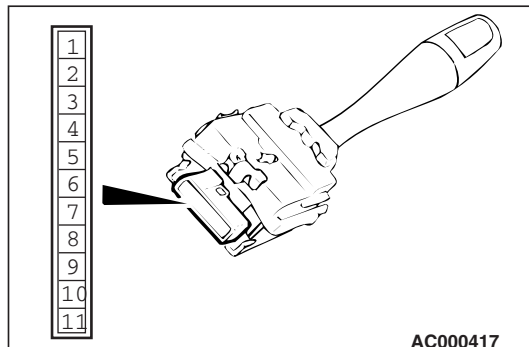
**STEP 1. Check column switch connector C-309 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is column switch connector C-309 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** If the wiper interval can be adjusted normally, the variable intermittent wiper control switch should send a signal to the ECU.



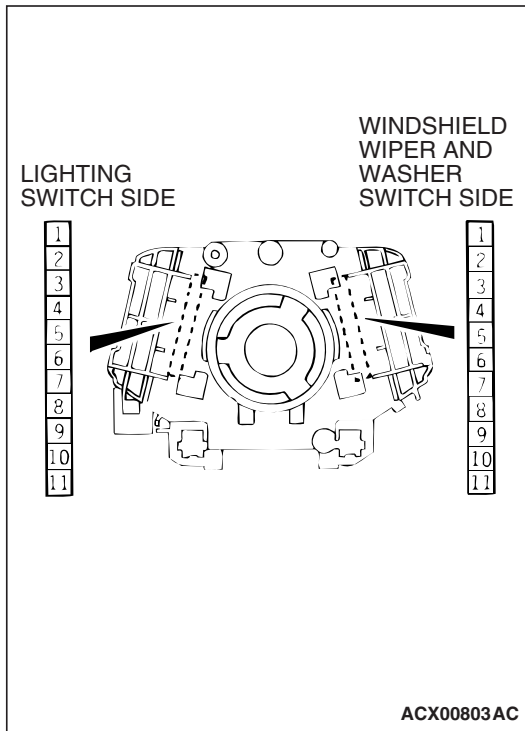
**STEP 2. Check the variable intermittent wiper control switch.**

- (1) Remove the windshield wiper and washer switch, and check at the switch side.
- (2) Measure the resistance value between terminals 3 and 6. The measured resistance should change smoothly from approximately 0 ohm ("FAST" position) to 1 k $\Omega$  ("SLOW" position).

**Q: Is the variable intermittent wiper control switch in good condition?**

**YES :** Go to Step 3.

**NO :** Replace the column switch (windshield wiper and washer switch). If the wiper interval can be adjusted normally, that the variable intermittent wiper control switch should send a signal to the ECU.



**STEP 3. Check the column switch body.**

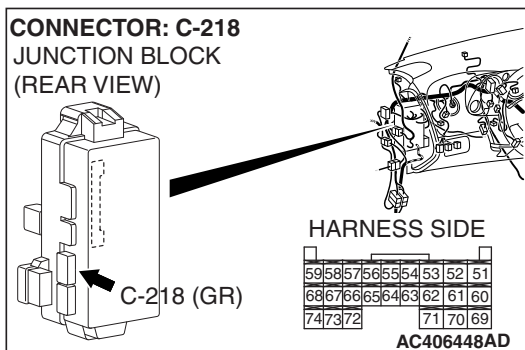
Remove the turn-signal light and lighting switch and windshield wiper and washer switch. Then check continuity between the switch body terminals.

SWITCH BODY	TESTER CONNECTION	SPECIFIED CONDITION
Lighting switch side – Windshield wiper and washer switch side	3 – 3, 6 – 6	Continuity exists (2 ohms or less)

**Q: Is the column switch body in good condition?**

**YES :** Go to Step 4.

**NO :** Replace the column switch body. If the wiper interval can be adjusted normally, it indicates that the variable intermittent wiper control switch should send a signal to the ECU.

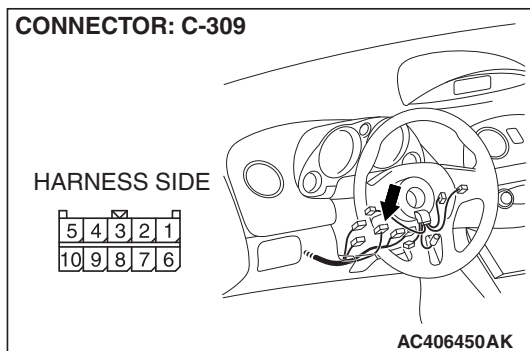
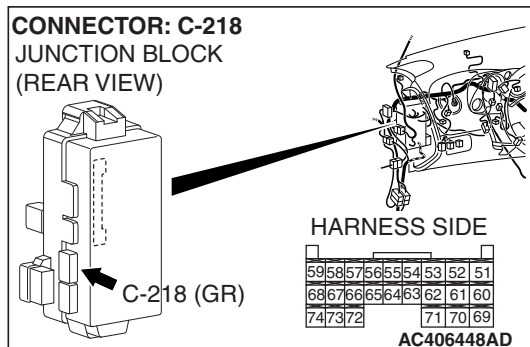


**STEP 4. Check ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-218 in good condition?**

**YES :** Go to Step 5.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the wiper interval can be adjusted normally, that the variable intermittent wiper control switch should send a signal to the ECU.



**STEP 5. Check the wiring harness between column switch connector C-309 (terminal 6) and ETACS-ECU connector C-218 (terminal 66).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between column switch connector C-309 (terminal 6) and ETACS-ECU connector C-218 (terminal 66) in good condition?**

**YES :** Go to Step 6.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the wiper interval can be adjusted normally, the variable intermittent wiper control switch should send a signal to the ECU.

**STEP 6. Replace the column switch.**

- (1) Replace the turn-signal light and lighting switch.
- (2) If the wiper interval can be adjusted normally, the variable intermittent wiper control switch should send a signal to the ECU.

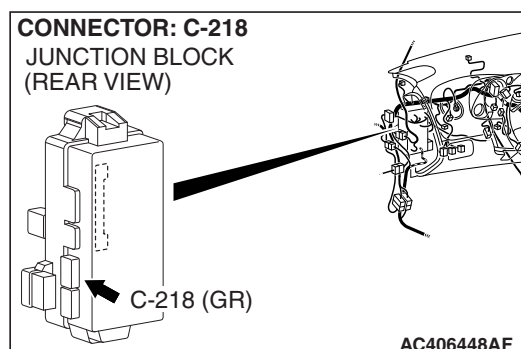
**Q: Can input signal be confirmed when the variable intermittent wiper control switch is operated?**

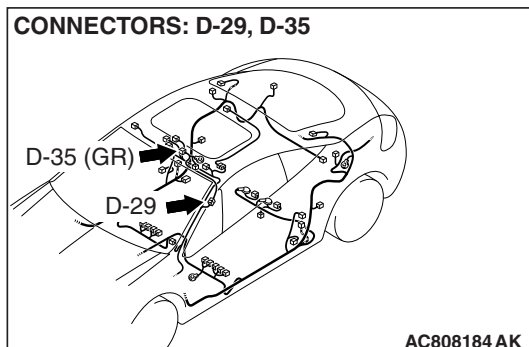
**YES :** No action is necessary and testing is complete.

**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the wiper interval can be adjusted normally, the variable intermittent wiper control switch should send a signal to the ECU.



### Sunroof Switch Input Circuit





## CIRCUIT OPERATION

The ETACS-ECU receives a signal through the sunroof motor assembly via the SWS communication line from the sunroof switch, and sends a signal to the data link connector.

## TECHNICAL DESCRIPTION (COMMENT)

If the SWS communication line between the sunroof motor assembly and the ETACS-ECU is defective, the ETACS-ECU cannot identify the input signal from the sunroof switch even if the sunroof is normal.

## TROUBLESHOOTING HINTS

- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The sunroof motor assembly may be defective
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

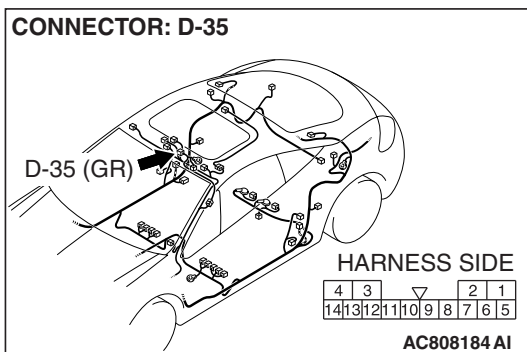
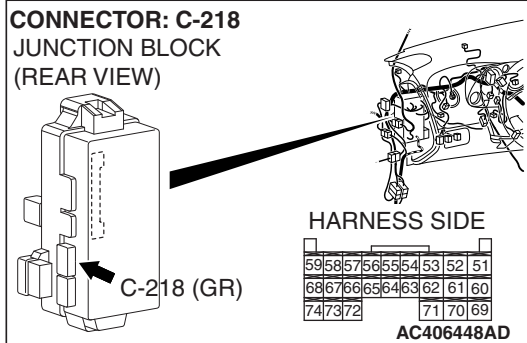
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### STEP 1. Check the sunroof operation.

#### Q: Does the sunroof work normally?

**YES** : Go to Step 2.

**NO** : Refer to Inspection Procedure F-1 "Sunroof does not operate [P.54B-196](#)."



**STEP 2. Check sunroof motor assembly connector D-35 and ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are sunroof motor assembly connector D-35 and ETACS-ECU connector C-218 in good condition?**

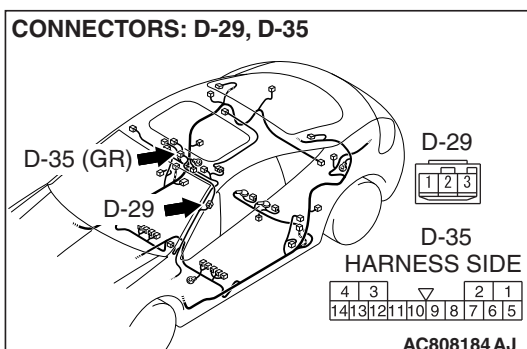
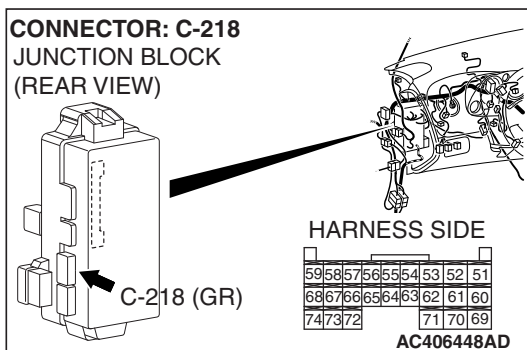
**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

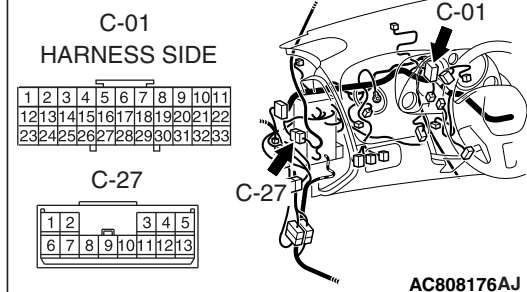
**P.00E-2.** If the sunroof operates normally, a correct signal is sent from the sunroof switch.

**STEP 3. Check the wiring harness between sunroof motor assembly connector D-35 (terminal 6) and ETACS-ECU connector C-218 (terminal 59).**

- Check the communication lines for open circuit and short circuit.



## CONNECTORS: C-01, C-27



**NOTE:** Also check intermediate connectors C-27, D-29 and joint connector C-01. If intermediate connector C-27, D-29 or joint connector C-01 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

**Q:** Is the wiring harness between sunroof motor assembly connector D-35 (terminal 6) and ETACS-ECU connector C-218 (terminal 59) in good condition?

**YES :** Go to Step 4.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the sunroof operates normally, a correct signal is sent from the sunroof switch.

---

**STEP 4. Replace the sunroof motor assembly.**

- (1) Replace the sunroof motor assembly.
- (2) If the sunroof operates normally, a correct signal is sent from the sunroof switch.

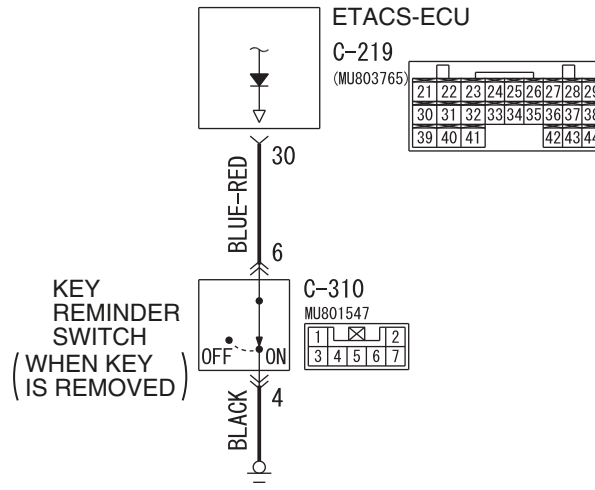
**Q:** Does the ETACS-ECU receive correct signals from the sunroof switch?

**YES :** No action is necessary and testing is complete.

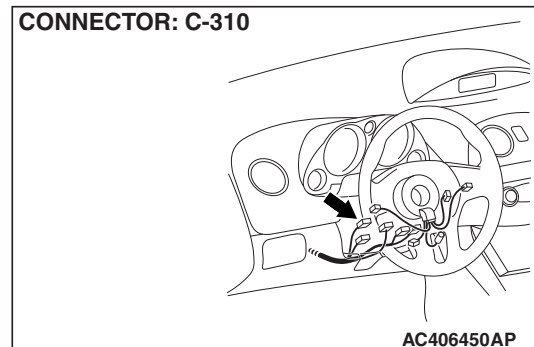
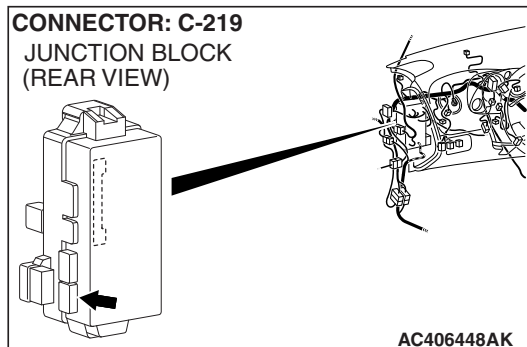
**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the sunroof operates normally, a correct signal is sent from the sunroof switch.

**INSPECTION PROCEDURE N-1: ETACS-ECU does not receive any signal from the key reminder switch.**

**Key Reminder Switch Input Circuit**



W6P54M020A



**CIRCUIT OPERATION**

The ETACS-ECU operates the following functions or systems according to signal from the key reminder switch:

- Ignition key reminder tone alarm function
- Forgotten key reminder
- Keyless entry system
- Timed locking mechanism
- Dome light dimming function
- Ignition key cylinder illumination light

**TECHNICAL DESCRIPTION (COMMENT)**

If the signal is not normal, the functions or systems described in "CIRCUIT OPERATION" do not work normally.

**TROUBLESHOOTING HINTS**

- The key reminder switch may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

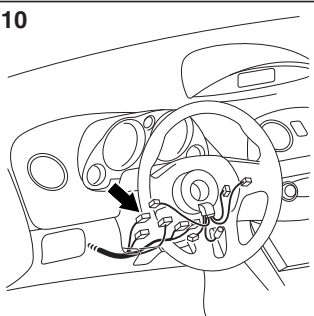
**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe

**CONNECTOR: C-310**

HARNESS SIDE



AC406450AO

**STEP 1. Check key reminder switch connector C-310 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

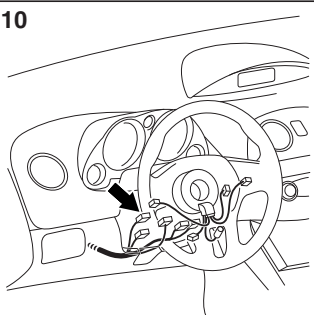
**Q: Is key reminder switch connector C-310 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the key reminder switch should be normal.

**CONNECTOR: C-310**

HARNESS SIDE



AC406450AO

**STEP 2. Check the key reminder switch.**

Disconnect key reminder switch connector C-310. Then check continuity between terminals.

STATUS OF IGNITION KEY	TESTER CONNECTION	SPECIFIED CONDITION
Removed	4-6	Continuity exists (2 ohms or less)
Inserted	4-6	Open circuit

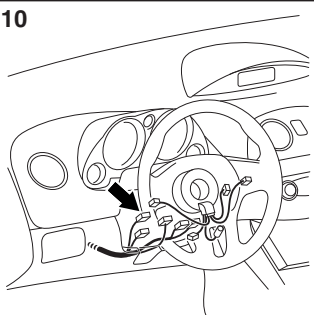
**Q: Is the key reminder switch in good condition?**

**YES :** Go to Step 3.

**NO :** Replace the key reminder switch. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the key reminder switch should be normal.

**CONNECTOR: C-310**

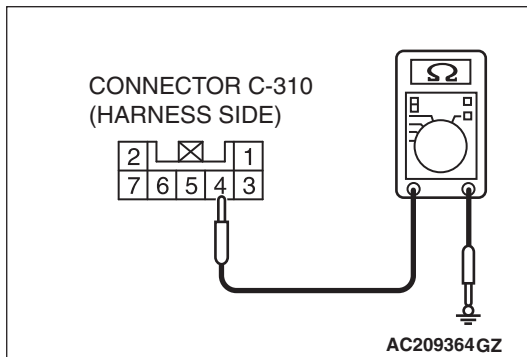
HARNESS SIDE



AC406450AO

**STEP 3. Check the ground circuit to the key reminder switch. Measure the resistance at key reminder switch connector C-310.**

- (1) Disconnect key reminder switch connector C-310 and measure the resistance available at the wiring harness side of the connector.



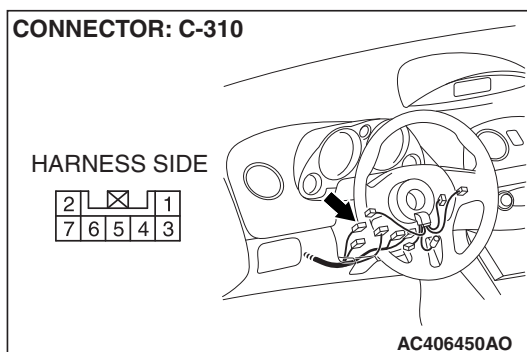
- (2) Measure the resistance value between terminal 4 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 5.

**NO :** Go to Step 4.



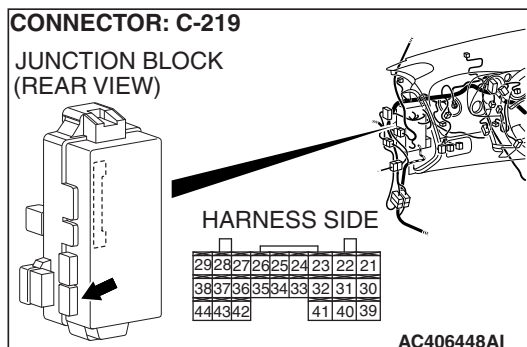
**STEP 4. Check the wiring harness between key reminder switch connector C-310 (terminal 4) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between key reminder switch connector C-310 (terminal 4) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the key reminder switch should be normal.

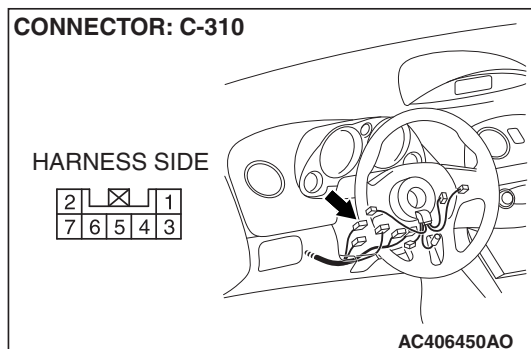
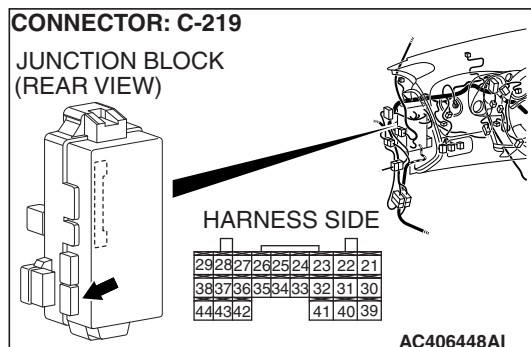


**STEP 5. Check ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-219 in good condition?**

**YES :** Go to Step 6.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the key reminder switch should be normal.



**STEP 6. Check the wiring harness between key reminder switch connector C-310 (terminal 6) and ETACS-ECU connector C-219 (terminal 30).**

- Check the communication lines for open circuit and short circuit.

**Q: Is the wiring harness between key reminder switch connector C-310 (terminal 6) and ETACS-ECU connector C-219 (terminal 30) in good condition?**

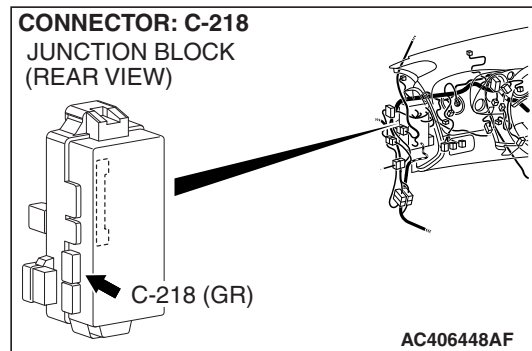
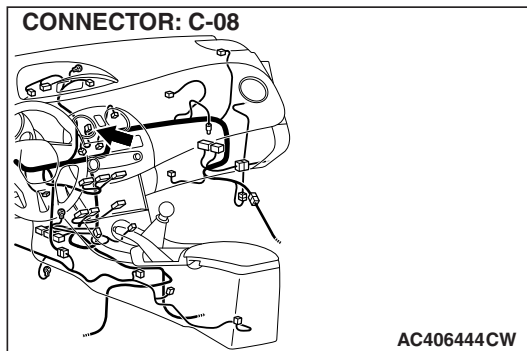
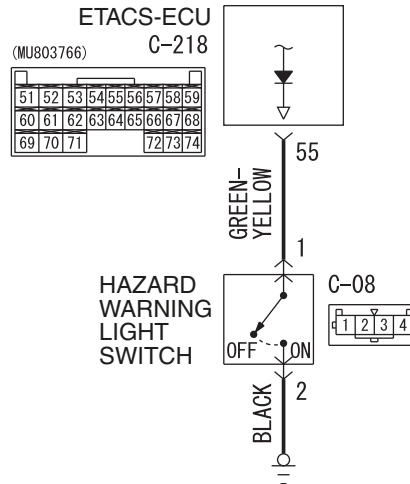
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the key reminder switch should be normal.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the key reminder switch should be normal.



**INSPECTION PROCEDURE N-2: ETACS-ECU does not receive any signal from the hazard warning light switch.**

**Hazard Warning Light Switch Input Circuit**



**CIRCUIT OPERATION**

The ETACS-ECU operates the following functions or systems according to signal from the hazard warning light switch:

- Hazard warning light
- Keyless entry system (registering the encrypted code)

**TECHNICAL DESCRIPTION (COMMENT)**

If the signal is not normal, the equipment or systems described in "CIRCUIT OPERATION" do not work normally.

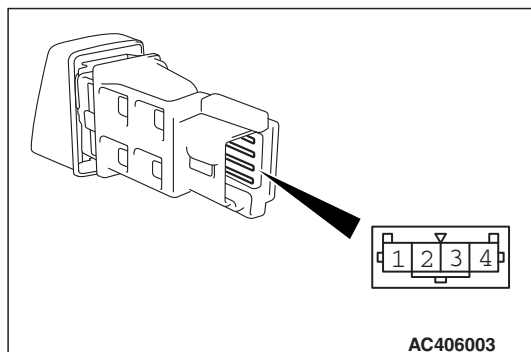
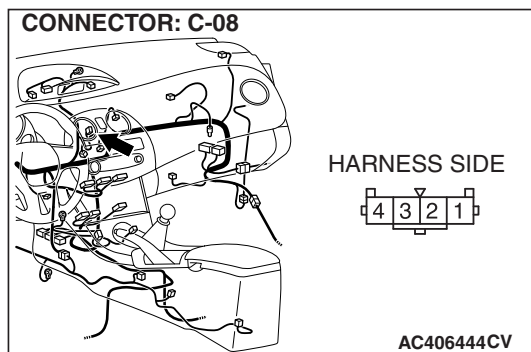
**TROUBLESHOOTING HINTS**

- The hazard warning light switch may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe



**STEP 1. Check hazard warning light switch connector C-08 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is hazard warning light switch connector C-08 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the hazard warning light switch should be normal.

**STEP 2. Check the hazard warning light switch.**

Remove the hazard warning light switch. Refer to GROUP 54A, Hazard Warning Light Switch **P.54A-159**. Then check continuity between the switch terminals.

BATTERY CONNECTION	TESTER CONNECTION	SPECIFIED CONDITION
Pressed	1 – 2	Continuity exists (2 ohms or less)
Released	1 – 2	Open circuit

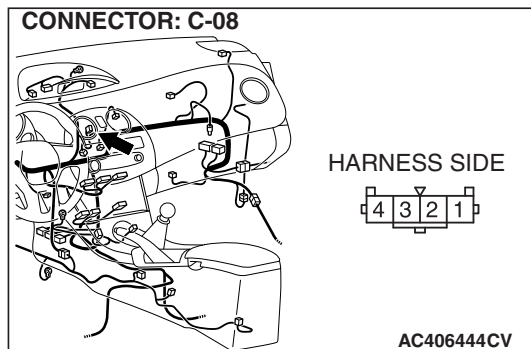
**Q: Is the hazard warning light switch in good condition?**

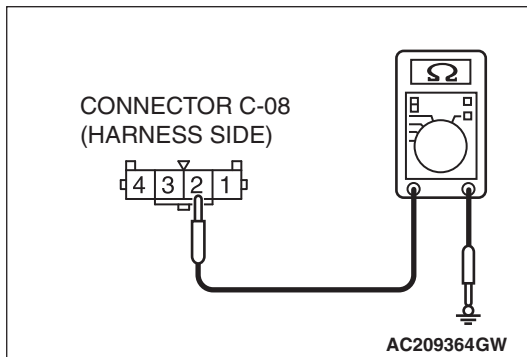
**YES :** Go to Step 3.

**NO :** Replace the hazard warning light switch. If the equipment described in "CIRCUIT OPERATION", work normally the input signal from the hazard warning light switch should be normal.

**STEP 3. Check the ground circuit to the hazard warning light switch. Measure the resistance at hazard warning light switch connector C-08.**

(1) Disconnect hazard warning light switch connector C-08 and measure the resistance available at the wiring harness side of the connector.



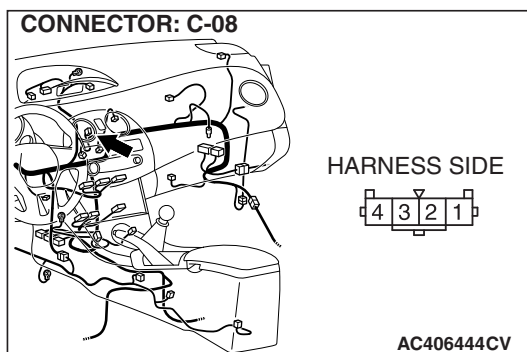


- (2) Measure the resistance value between terminal 2 and ground.
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 5.

**NO :** Go to Step 4.



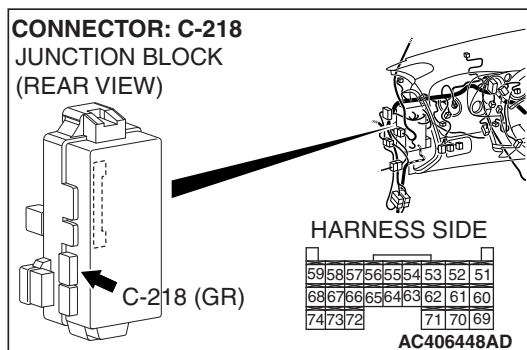
**STEP 4. Check the wiring harness between hazard warning light switch connector C-08 (terminal 2) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between hazard warning light switch connector C-08 (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the hazard warning light switch should be normal.

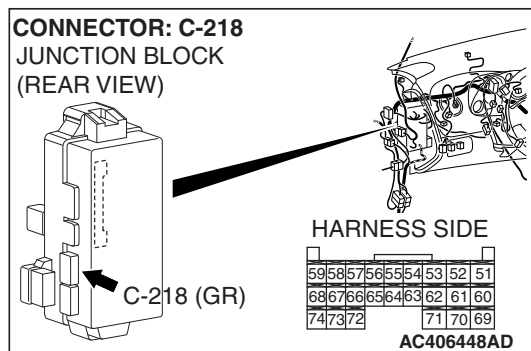
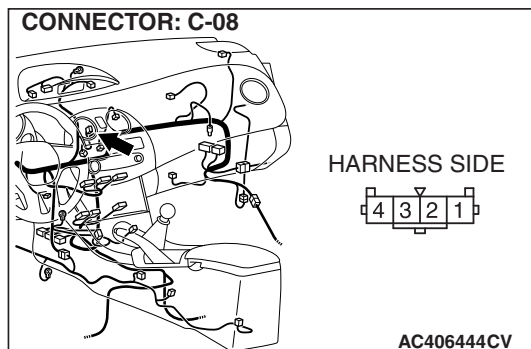


**STEP 5. Check ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-218 in good condition?**

**YES :** Go to Step 6.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the hazard warning light switch should be normal.



**STEP 6. Check the wiring harness between hazard warning light switch connector C-08 (terminal 1) and ETACS-ECU connector C-218 (terminal 55).**

- Check the communication lines for open circuit and short circuit.

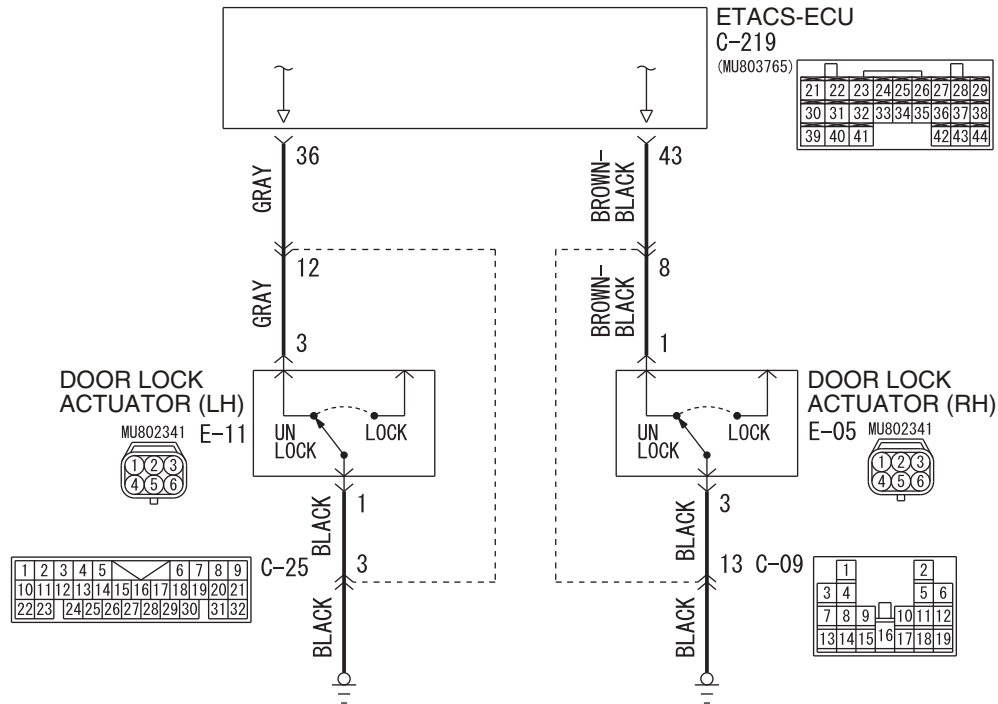
**Q: Is the wiring harness between hazard warning light switch connector C-08 (terminal 1) and ETACS-ECU connector C-218 (terminal 55) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the hazard warning light switch should be normal.

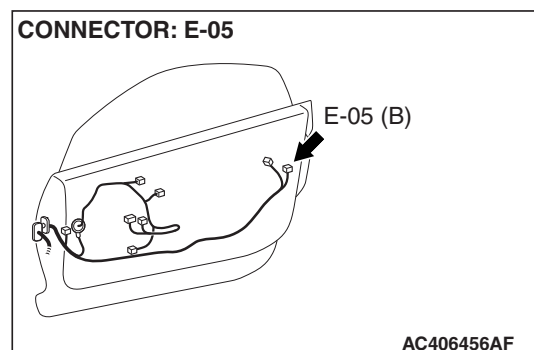
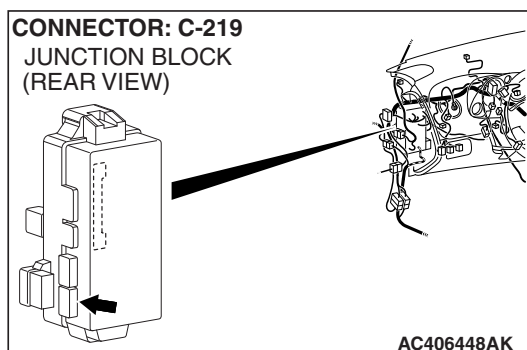
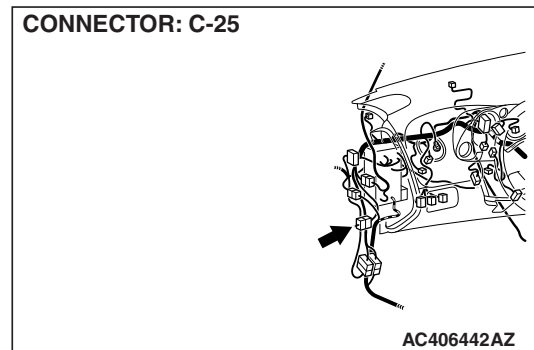
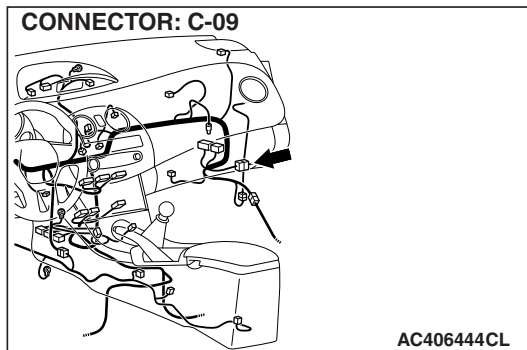
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the equipment described in "CIRCUIT OPERATION" work normally, the input signal from the hazard warning light switch should be normal.

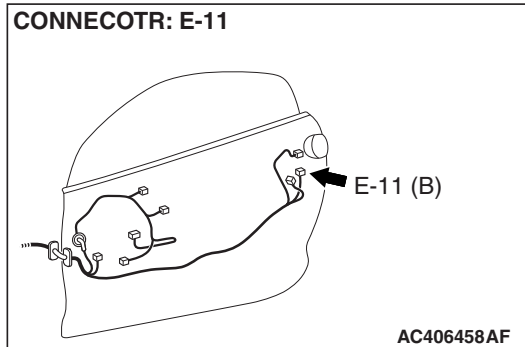
**INSPECTION PROCEDURE N-3: ETACS-ECU does not receive one of signals from the door lock actuators.**

**Door Lock Actuator Input Circuit**



W6P54M068A





## CIRCUIT OPERATION

The ETACS-ECU operates the following functions or systems according to signal from the door lock actuator:

- Central door locking system
- Ignition key reminder tone alarm
- Keyless entry system
- Dome light <door lock actuator (LH)>

## TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the functions or systems described in "CIRCUIT OPERATION" do not work normally.

## TROUBLESHOOTING HINTS

- The door lock actuator may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A

**STEP 1. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the door lock actuators.

**⚠ CAUTION**

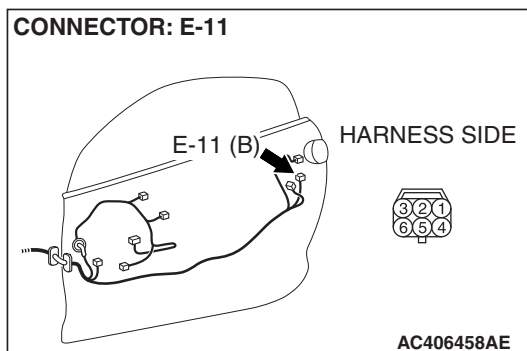
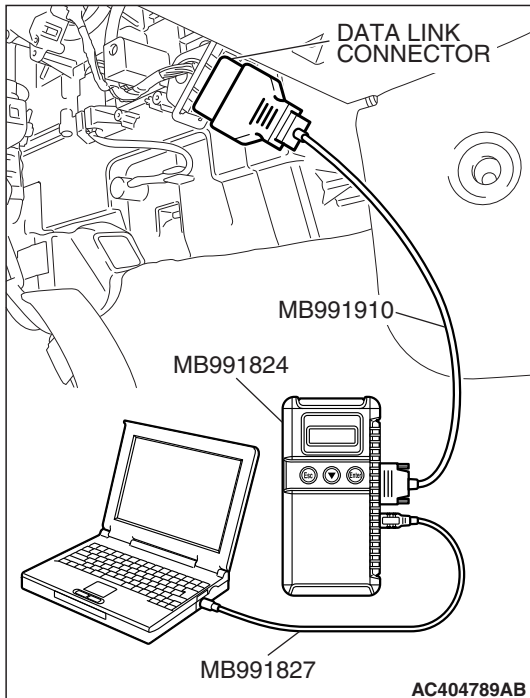
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect the scan tool MB991958. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (3) Check that scan tool MB991958 sounds.

**Q: When the door lock actuators are operated, does the scan tool MB991958 sound?**

**When the door lock actuator (LH) is operated, the scan tool MB991958 does not sound. : Go to Step 2.**

**When the door lock actuator (RH) is operated, the scan tool MB991958 does not sound. : Go to Step 8.**

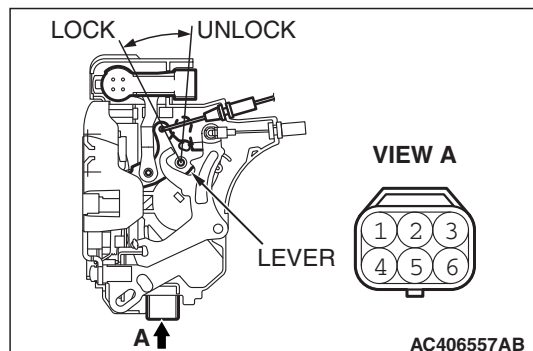


**STEP 2. Check door lock actuator (LH) connector E-11 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is door lock actuator (LH) connector E-11 in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (LH) should be normal.

**STEP 3. Check the door lock actuator (LH).**

Disconnect door lock actuator (LH) connector E-11. Then check continuity between the terminals. Refer to GROUP 42 – Door Handle and Latch P.42-90.

LEVER POSITION	TESTER CONNECTION	SPECIFIED CONDITION
At the "LOCK" position	1 – 3	Open circuit
At the "UNLOCK" position	1 – 3	Continuity exists (2 ohms or less)

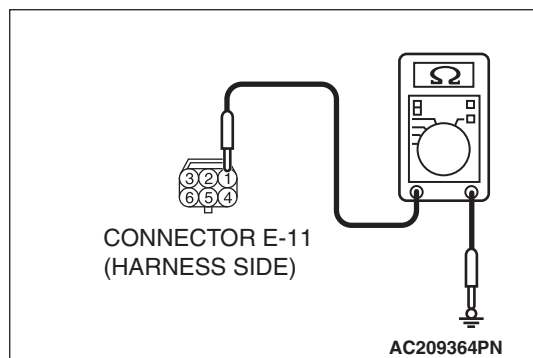
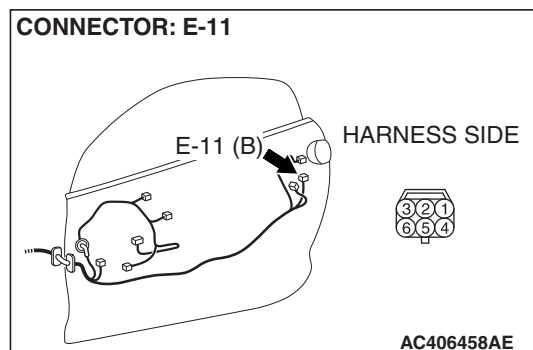
**Q: Is the door lock actuator (LH) in good condition?**

**YES :** Go to Step 4.

**NO :** Replace the door lock actuator (LH). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (LH) should be normal.

**STEP 4. Check the ground circuit to the door lock actuator (LH). Measure the resistance at door lock actuator (LH) connector E-11.**

(1) Disconnect door lock actuator (LH) connector E-11 and measure the resistance available at the wiring harness side of the connector.



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

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

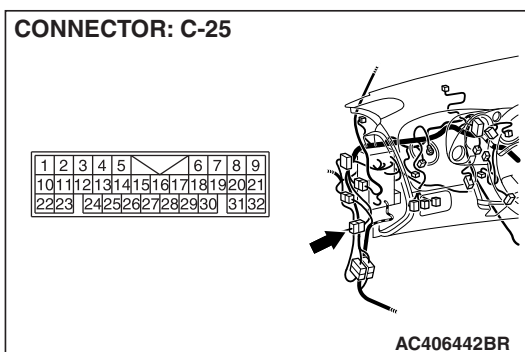
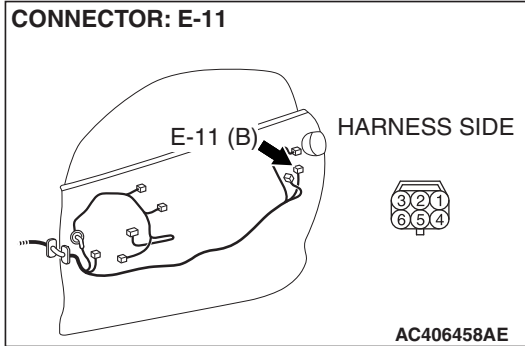
**YES :** Go to Step 6.

**NO :** Go to Step 5.



**STEP 5. Check the wiring harness between door lock actuator (LH) connector E-11 (terminal 1) and ground.**

- Check the ground wire for open circuit.



*NOTE: Also check intermediate connector C-25 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-25 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between door lock actuator (LH) connector E-11 (terminal 1) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

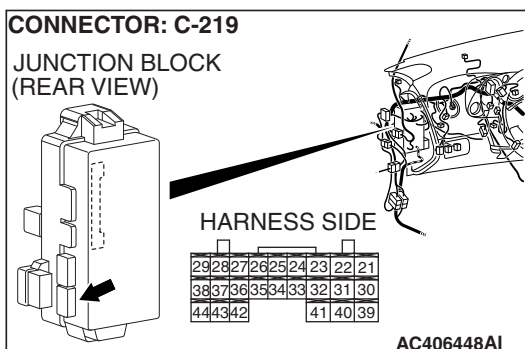
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (LH) should be normal.

**STEP 6. Check ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-219 in good condition?**

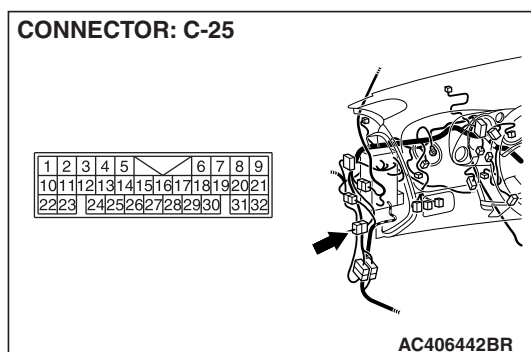
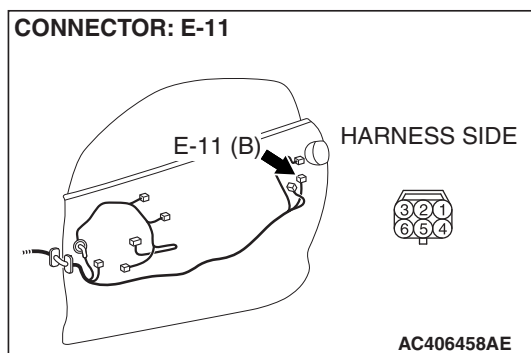
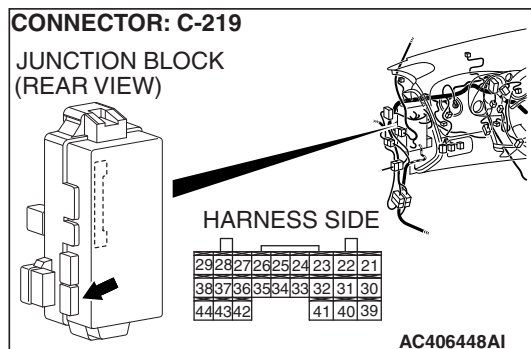
**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (LH) should be normal.



**STEP 7. Check the wiring harness between door lock actuator (LH) connector E-11 (terminal 3) and ETACS-ECU connector C-219 (terminal 36).**

- Check the communication lines for open circuit and short circuit.

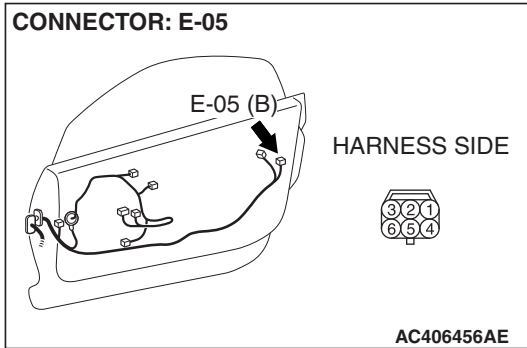


*NOTE: Also check intermediate connector C-25 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-25 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between door lock actuator (LH) connector E-11 (terminal 3) and ETACS-ECU connector C-219 (terminal 36) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (LH) should be normal.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (LH) should be normal.

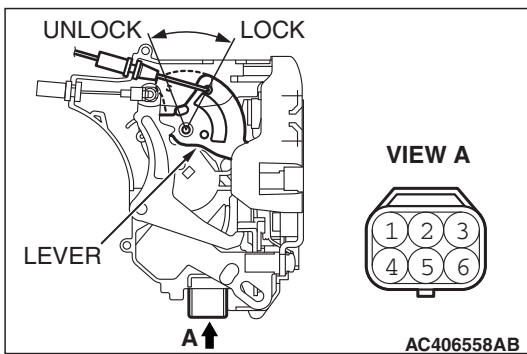


**STEP 8. Check door lock actuator (RH) connector E-05 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is door lock actuator (RH) connector E-05 in good condition?**

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (RH) should be normal.



**STEP 9. Check the door lock actuator (RH).**

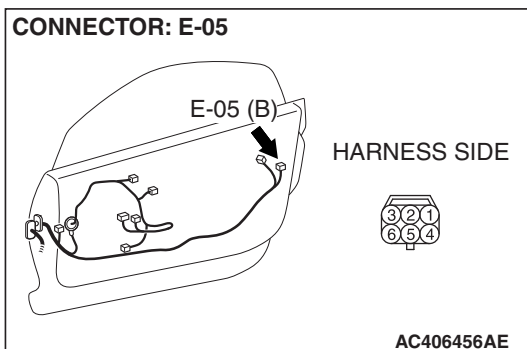
Disconnect door lock actuator (RH) connector E-05. Then check continuity between the terminals. Refer to GROUP 42 – Door Handle and Latch [P.42-90](#).

LEVER POSITION	TESTER CONNECTION	SPECIFIED CONDITION
At the "LOCK" position	1 – 3	Open circuit
At the "UNLOCK" position	1 – 3	Continuity exists (2 ohms or less)

**Q: Is the door lock actuator (RH) in good condition?**

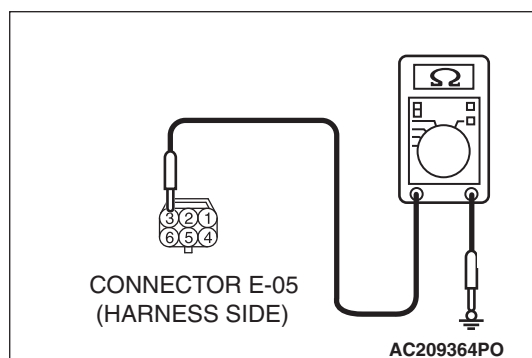
**YES :** Go to Step 10.

**NO :** Replace the door lock actuator (RH). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (RH) should be normal.



**STEP 10. Check the ground circuit to the door lock actuator (RH). Measure the resistance at door lock actuator (RH) connector E-05.**

(1) Disconnect door lock actuator (RH) connector E-05 and measure the resistance available at the wiring harness side of the connector.



(2) Measure the resistance value between terminal 3 and ground.

- The resistance should be 2 ohms or less.

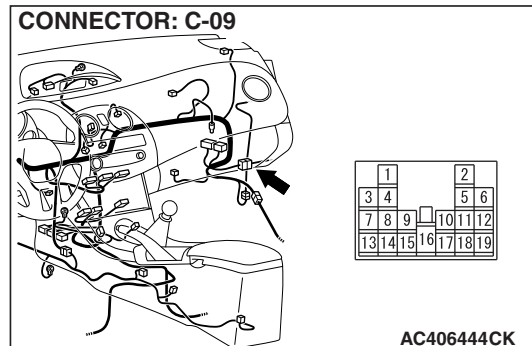
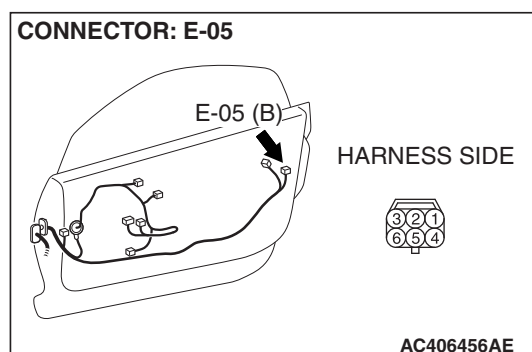
**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 12.

**NO :** Go to Step 11.

**STEP 11. Check the wiring harness between door lock actuator (RH) connector E-05 (terminal 3) and ground.**

- Check the ground wire for open circuit.

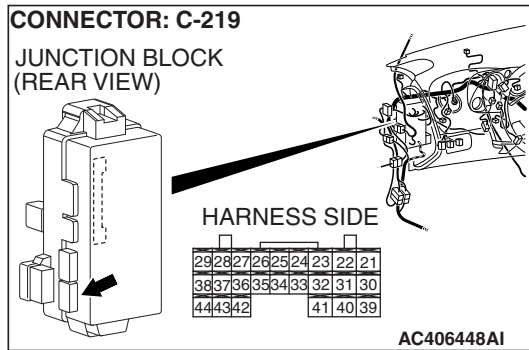


*NOTE: Also check intermediate connector C-09 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-09 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between door lock actuator (RH) connector E-05 (terminal 3) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (RH) should be normal.



**STEP 12. Check ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

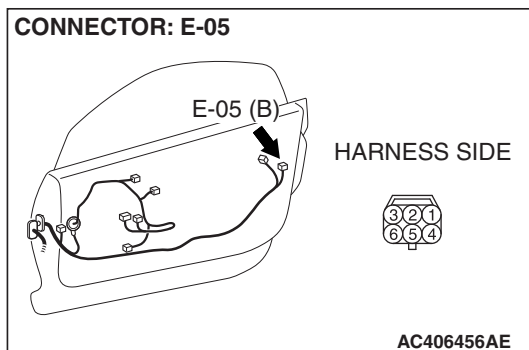
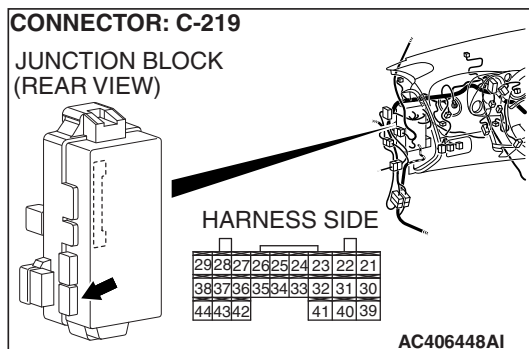
**Q: Is ETACS-ECU connector C-219 in good condition?**

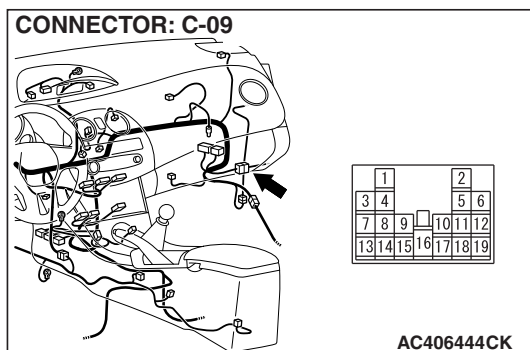
**YES :** Go to Step 13.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (RH) should be normal.

**STEP 13. Check the wiring harness between door lock actuator (RH) connector E-05 (terminal 1) and ETACS-ECU connector C-219 (terminal 43).**

- Check the communication lines for open circuit and short circuit.





*NOTE: Also check intermediate connector C-09 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-09 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

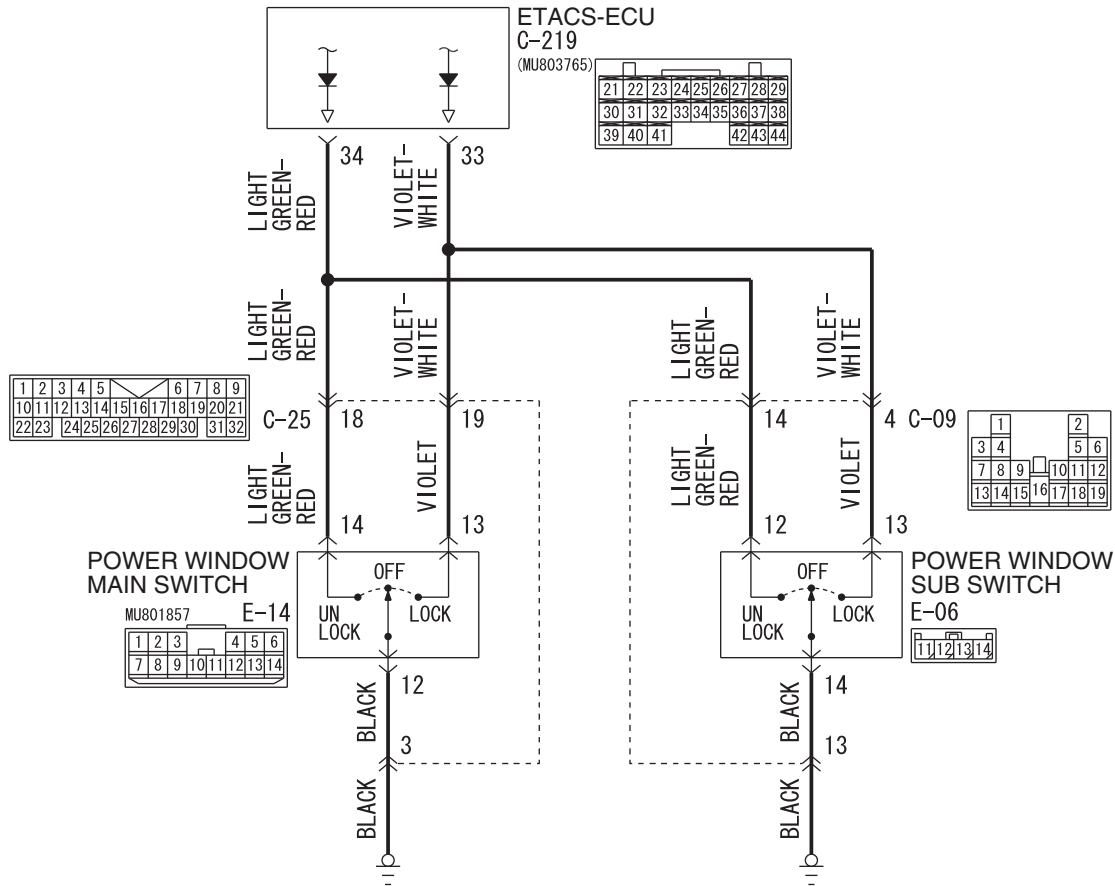
**Q: Is the wiring harness between door lock actuator (RH) connector E-05 (terminal 1) and ETACS-ECU connector C-219 (terminal 43) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (RH) should be normal.

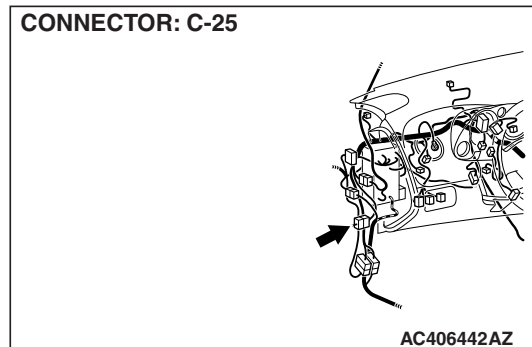
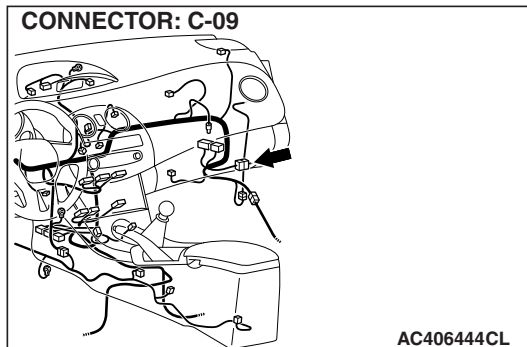
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the door lock actuator (RH) should be normal.

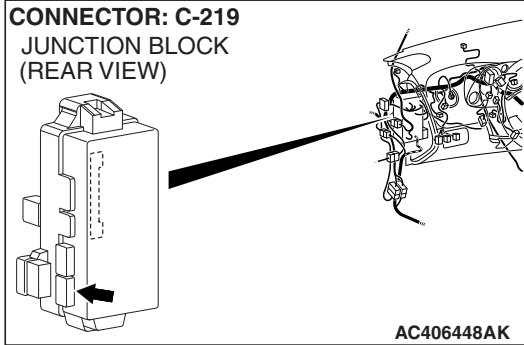
**INSPECTION PROCEDURE N-4: ETACS-ECU does not receive one of signals from the door lock switch (incorporated in the power window main switch and power window sub switch).**

**Door Lock Switch Input Circuit**



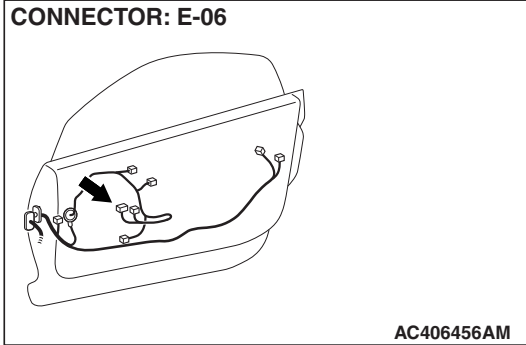
W6P54M069A



CONNECTOR: C-219  
JUNCTION BLOCK  
(REAR VIEW)

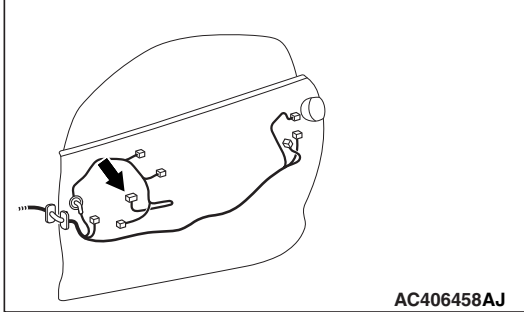
AC406448AK

CONNECTOR: E-06



AC406456AM

CONNECTOR: E-14



AC406458AJ

**CIRCUIT OPERATION**

The ETACS-ECU operates the central door locking system according to signal from the door lock switch (incorporated in the power window main switch and power window sub switch).

**TECHNICAL DESCRIPTION (COMMENT)**

If the signal is not normal, the doors will not lock or unlock. If the signal is not normal, the power window main switch, power window sub switch or the ETACS-ECU may be defective.

**TROUBLESHOOTING HINTS**

- The power window main switch or power window sub switch may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

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

- MB991223: Harness Set
- MB992006: Extra Fine Probe
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A



**STEP 1. Check the input signal (by using the pulse check mode of the monitor).**

Check the input signals from the door lock switch (incorporated in the power window main switch and power window sub switch).

**⚠ CAUTION**

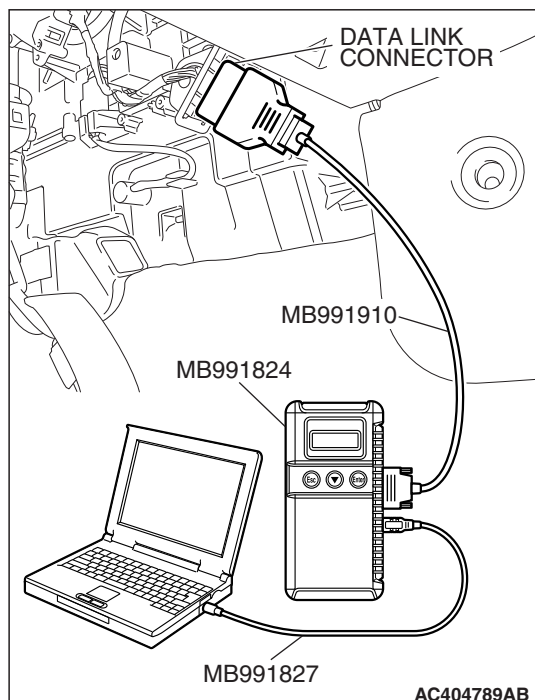
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect the scan tool MB991958. Refer to "How to connect SWS monitor [P.54B-13](#)."
- (2) Operate scan tool MB991958 according to the procedure below to display "Pulse check."
  - a. Select "Interactive Diagnosis."
  - b. Select "System select."
  - c. Select "SWS."
  - d. Select "Pulse Checking."
- (3) Check that scan tool MB991958 sounds.

**Q: When the door lock switch (incorporated in the power window main switch and power window sub switch) is operated, does the scan tool MB991958 sound?**

When the door lock switch (incorporated in the power window main switch) is operated, the scan tool MB991958 does not sound. : Go to Step 2.

When the door lock switch (incorporated in the power window sub switch) is operated, the scan tool MB991958 does not sound. : Go to Step 8.



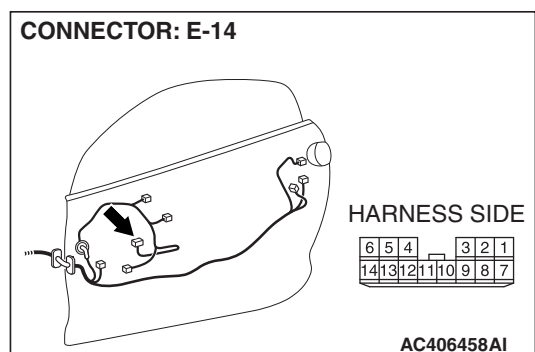
AC404789AB

**STEP 2. Check power window main switch connector E-14 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

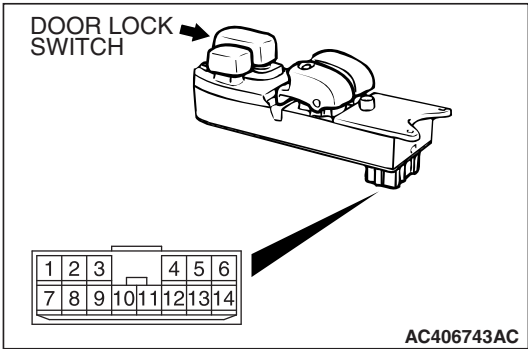
**Q: Is power window main switch connector E-14 in good condition?**

**YES :** Go to Step 3.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the central door locking system works normally, input signal from the door lock switch (power window main switch) should be normal.



AC406458AI



**STEP 3. Check the door lock switch (power window main switch).**

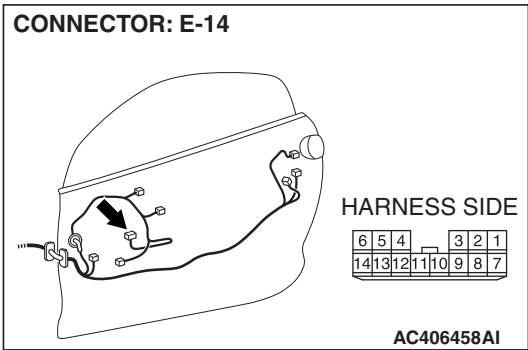
Remove the power window main switch. Then check continuity between the switch terminals. Refer to GROUP 42 – Door Handle and Latch P.42-90.

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	12 – 13	Continuity exists (2 ohms or less)
OFF	12 – 13, 12 – 14	Open circuit
UNLOCK	12 – 14	Continuity exists (2 ohms or less)

**Q: Is the door lock switch (power window main switch) in good condition?**

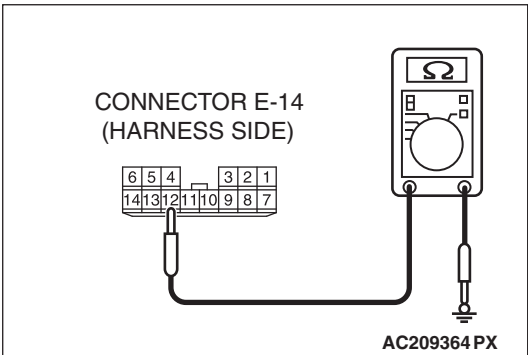
**YES :** Go to Step 4.

**NO :** Replace the power window main switch. If the central door locking system works normally, input signal from the door lock switch (power window main switch) should be normal.



**STEP 4. Check the ground circuit to the power window main switch. Measure the resistance at power window main switch connector E-14.**

(1) Disconnect power window main switch connector E-14 and measure the resistance available at the wiring harness side of the connector.



(2) Measure the resistance value between terminal 12 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

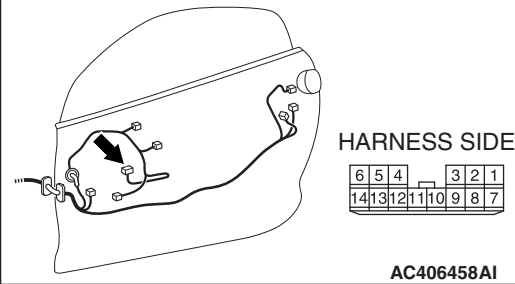
**YES :** Go to Step 6.

**NO :** Go to Step 5.

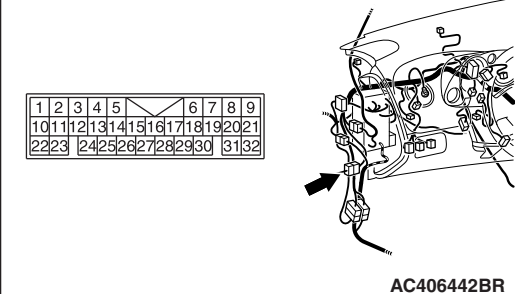
**STEP 5. Check the wiring harness between power window main switch E-14 (terminal 12) and ground.**

- Check the ground wire for open circuit.

**CONNECTOR: E-14**



**CONNECTOR: C-25**



*NOTE: Also check intermediate connector C-25 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-25 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between power window main switch connector E-14 (terminal 12) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the central door locking system works normally, input signal from the door lock switch (power window main switch) should be normal.

**STEP 6. Check ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

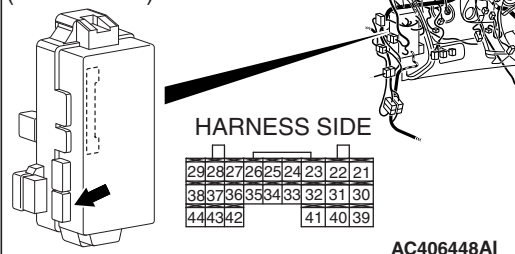
**Q: Is ETACS-ECU connector C-219 in good condition?**

**YES :** Go to Step 7.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the central door locking system works normally, input signal from the door lock switch (power window main switch) should be normal.

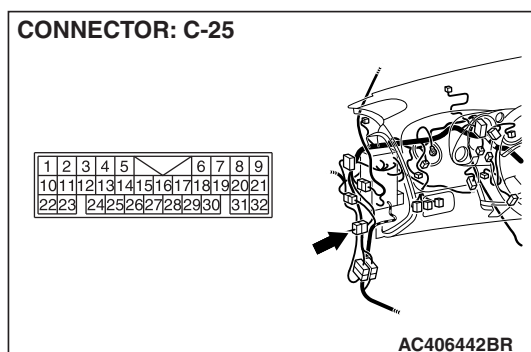
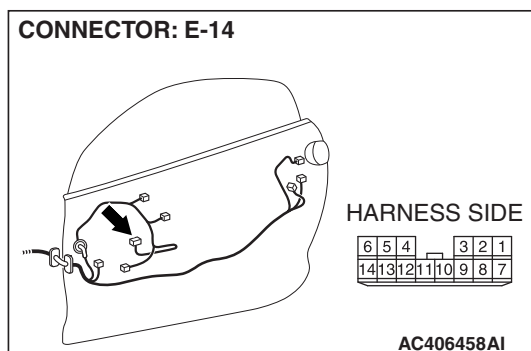
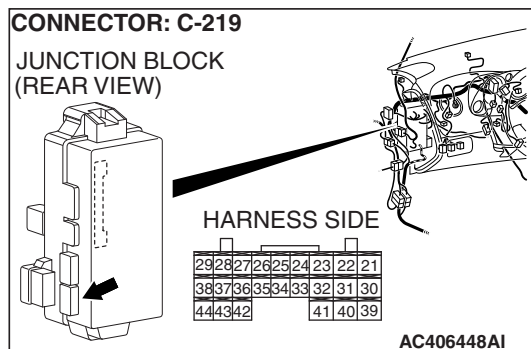
**CONNECTOR: C-219**

JUNCTION BLOCK  
(REAR VIEW)



**STEP 7. Check the wiring harness between power window main switch connector E-14 (terminals 13 and 14) and ETACS-ECU connector C-219 (terminals 33 and 34).**

- Check the communication lines for open circuit and short circuit.

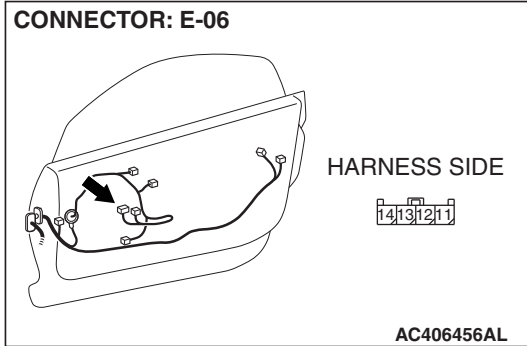


**NOTE:** Also check intermediate connector C-25 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-25 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).

**Q: Is the wiring harness between power window main switch connector E-14 (terminals 13 and 14) and ETACS-ECU connector C-219 (terminals 33 and 34) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the central door locking system works normally, input signal from the door lock switch (power window main switch) should be normal.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the central door locking system works normally, input signal from the door lock switch (power window main switch) should be normal.

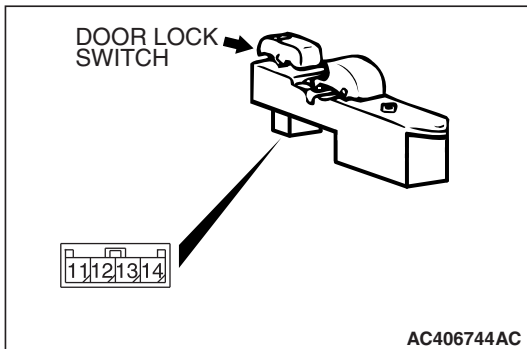


**STEP 8. Check power window sub switch connector E-06 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is power window sub switch connector E-06 in good condition?**

**YES :** Go to Step 9.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the central door locking system works normally, input signal from the door lock switch (power window sub switch) should be normal.



**STEP 9. Check the door lock switch (power window sub switch).**

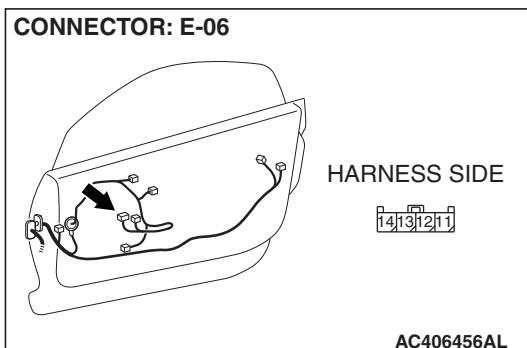
Remove the power window sub switch. Then check continuity between the switch terminals. Refer to GROUP 42 – Door Handle and Latch [P.42-90](#).

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
LOCK	13 – 14	Continuity exists (2 ohms or less)
OFF	13 – 14, 12 – 14	Open circuit
UNLOCK	12 – 14	Continuity exists (2 ohms or less)

**Q: Is the door lock switch (power window sub switch) in good condition?**

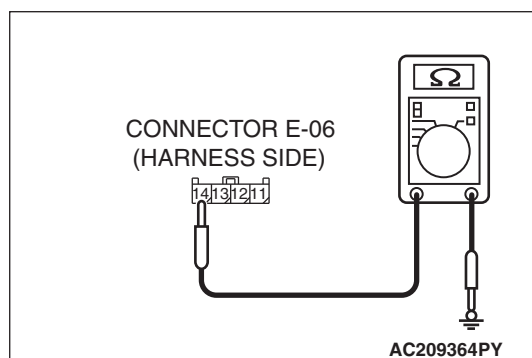
**YES :** Go to Step 10.

**NO :** Replace the power window sub switch. If the central door locking system works normally, input signal from the door lock switch (power window sub switch) should be normal.



**STEP 10. Check the ground circuit to the power window sub switch. Measure the resistance at power window sub switch connector E-06.**

(1) Disconnect power window sub switch connector E-06 and measure the resistance available at the wiring harness side of the connector.



- (2) Measure the resistance value between terminal 14 and ground.
- The resistance should be 2 ohms or less.

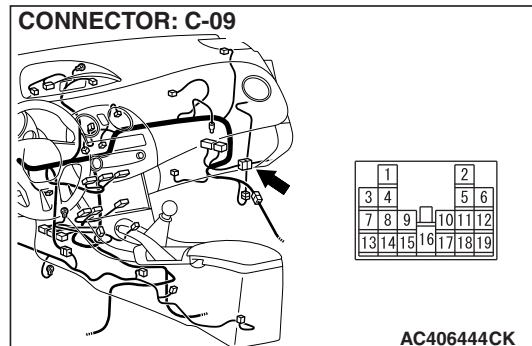
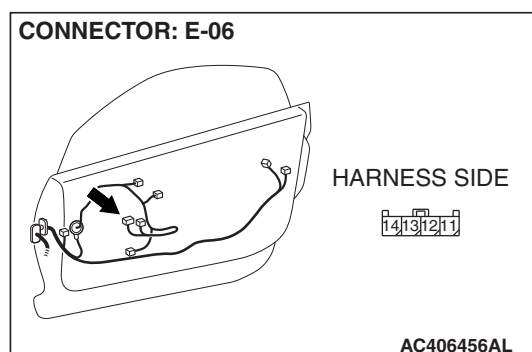
**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 12.

**NO :** Go to Step 11.

**STEP 11. Check the wiring harness between power window sub switch E-06 (terminal 14) and ground.**

- Check the ground wire for open circuit.

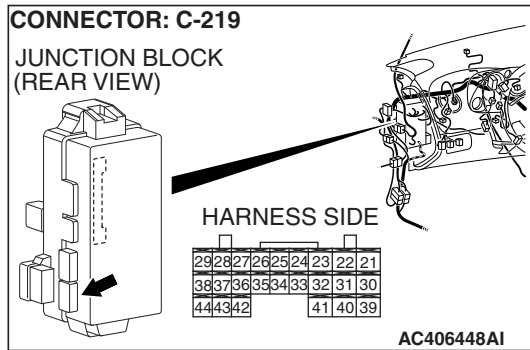


*NOTE: Also check intermediate connector C-09 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-09 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between power window sub switch connector E-06 (terminal 14) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the central door locking system works normally, input signal from the door lock switch should be normal.



**STEP 12. Check ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

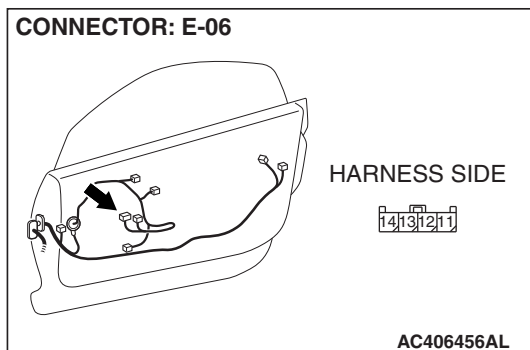
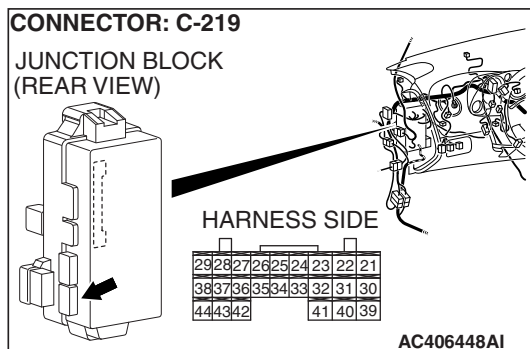
**Q: Is ETACS-ECU connector C-219 in good condition?**

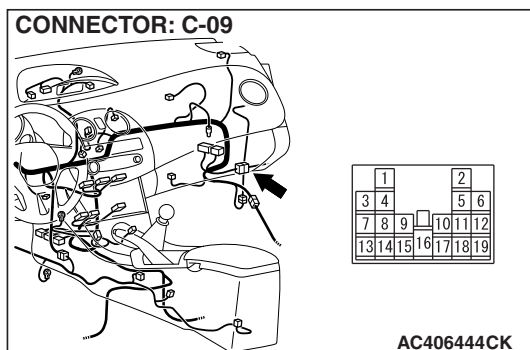
**YES :** Go to Step 13.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the central door locking system works normally, input signal from the door lock switch (power window sub switch) should be normal.

**STEP 13. Check the wiring harness between power window sub switch connector E-06 (terminals 12 and 13) and ETACS-ECU connector C-219 (terminals 34 and 33).**

- Check the communication lines for open circuit and short circuit.





*NOTE: Also check intermediate connector C-09 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-09 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

**Q: Is the wiring harness between power window sub switch connector E-06 (terminal 12 and 13) and ETACS-ECU connector C-219 (terminals 34 and 33) in good condition?**

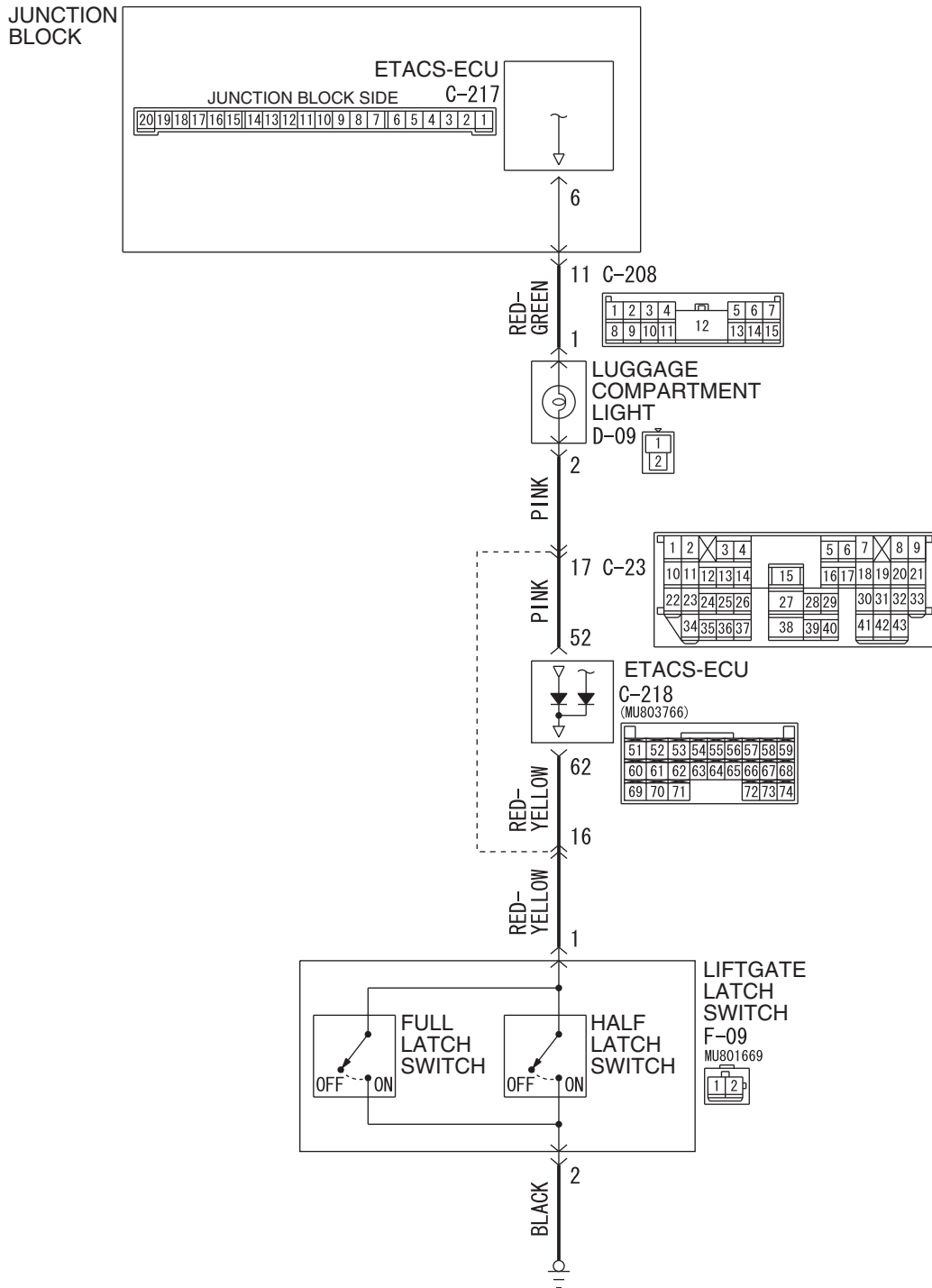
**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the central door locking system works normally, input signal from the door lock switch (power window sub switch) should be normal.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the central door locking system works normally, input signal from the door lock switch (power window sub switch) should be normal.



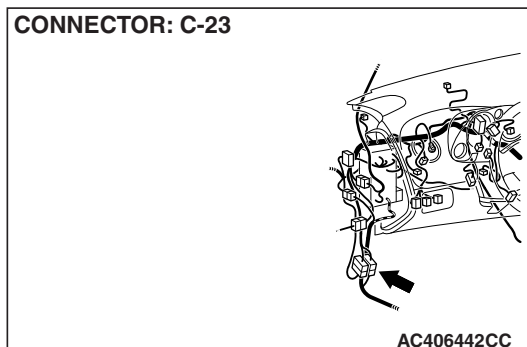
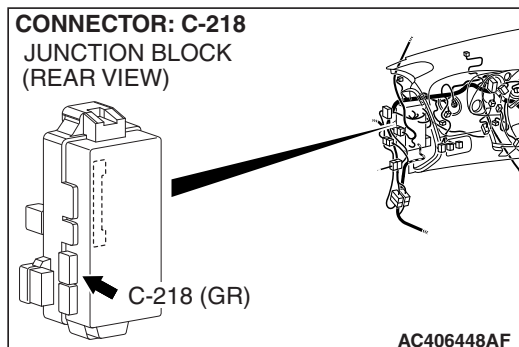
INSPECTION PROCEDURE N-5: ETACS-ECU does not receive any signal from the liftgate latch switch. <ECLIPSE>

Luggage Compartment Light Circuit

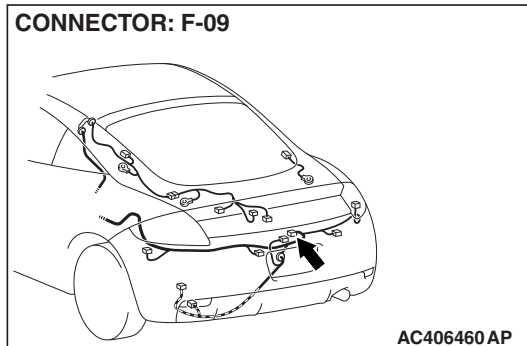


W6P54M060A

CONNECTOR: C-23

CONNECTOR: C-218  
JUNCTION BLOCK  
(REAR VIEW)

CONNECTOR: F-09

**CIRCUIT OPERATION**

The ETACS-ECU operates the luggage compartment light according to signal from the liftgate latch switch.

**TECHNICAL DESCRIPTION (COMMENT)**

The liftgate latch switch input signal is used to operate the luggage compartment light. If the signal fails, this function will not work normally.

**TROUBLESHOOTING HINTS**

- The liftgate latch switch may be defective
- The ETACS-ECU 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

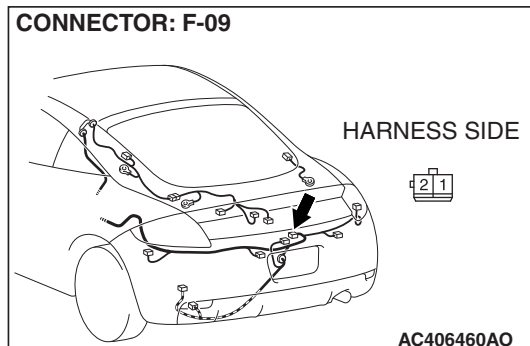
**STEP 1. Check liftgate latch switch connector F-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

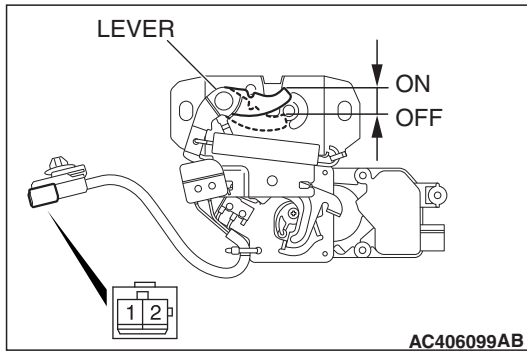
**Q: Is liftgate latch switch connector F-09 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the liftgate latch switch should be normal.

CONNECTOR: F-09





**STEP 2. Check the liftgate latch switch.**

Remove the liftgate latch switch. Refer to GROUP 42, Liftgate, liftgate inspection [P.42-101](#).

LEVER POSITION	TESTER CONNECTION	SPECIFIED CONDITION
At the "ON" position	1 – 2	Continuity exists (2 ohms or less)
At the "OFF" position	1 – 2	Open circuit

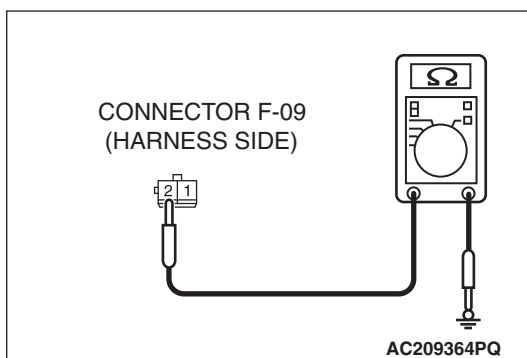
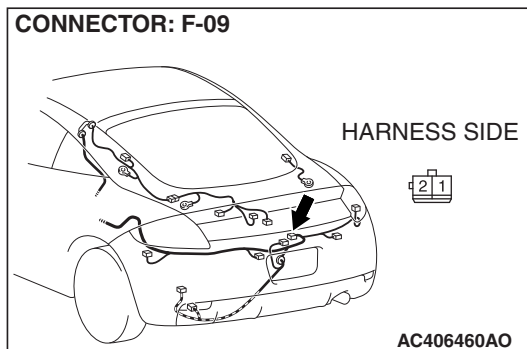
**Q: Is the liftgate latch switch in good condition?**

**YES :** Go to Step 3.

**NO :** Replace the liftgate latch switch. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the liftgate latch switch should be normal.

**STEP 3. Check the ground circuit to the liftgate latch switch. Measure the resistance at liftgate latch switch connector F-09.**

(1) Disconnect liftgate latch switch connector F-09 and measure the resistance available at the wiring harness side of the connector.



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

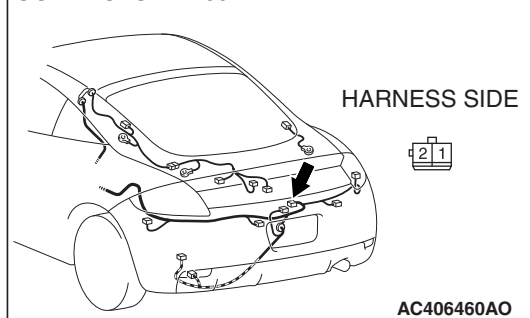
- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 5.

**NO :** Go to Step 4.

CONNECTOR: F-09



**STEP 4. Check the wiring harness between liftgate latch switch connector F-09 (terminal 2) and ground.**

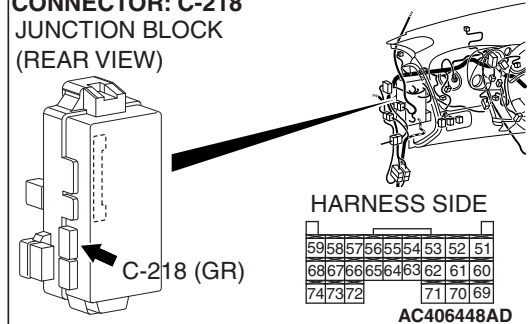
- Check the ground wire for open circuit.

**Q: Is the wiring harness between liftgate latch switch connector F-09 (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the liftgate latch switch should be normal.

CONNECTOR: C-218  
JUNCTION BLOCK  
(REAR VIEW)



**STEP 5. Check ETACS-ECU connector C-218 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

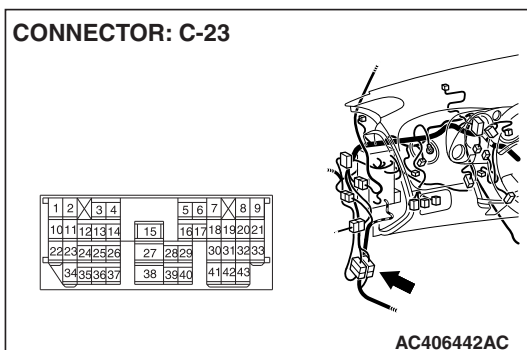
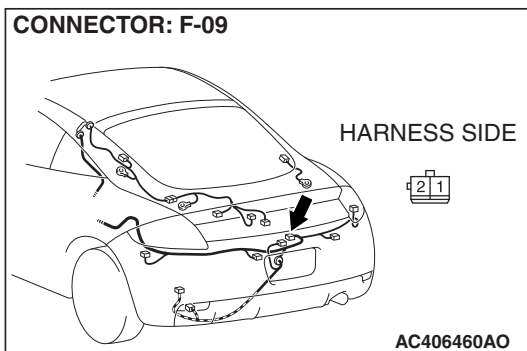
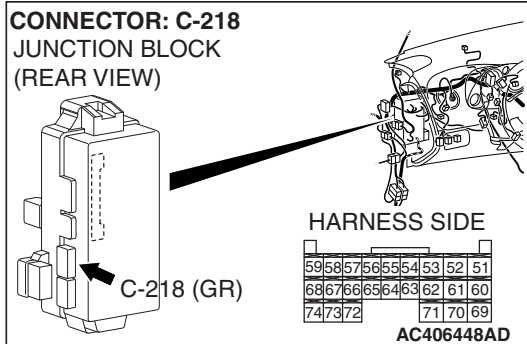
**Q: Is ETACS-ECU connector C-218 in good condition?**

**YES :** Go to Step 6.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the liftgate latch switch should be normal.

**STEP 6. Check the wiring harness between liftgate latch switch connector F-09 (terminal 1) and ETACS-ECU connector C-218 (terminal 62).**

- Check the communication lines for open circuit and short circuit.

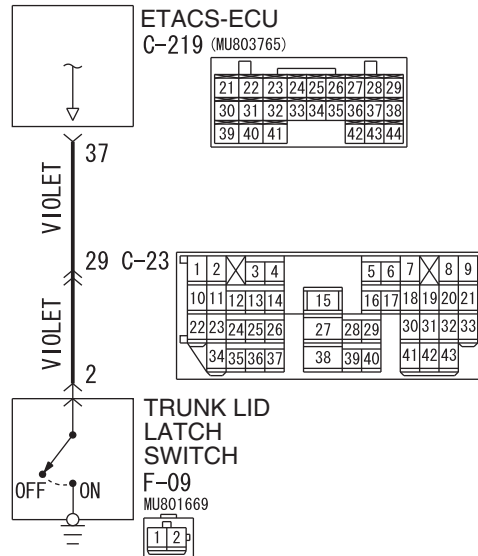


*NOTE: Also check intermediate connector C-23 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-23 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

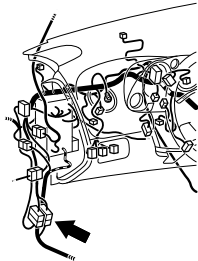
**Q: Is the wiring harness between liftgate latch switch connector F-09 (terminal 1) and ETACS-ECU connector C-218 (terminal 62) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the liftgate latch switch should be normal.

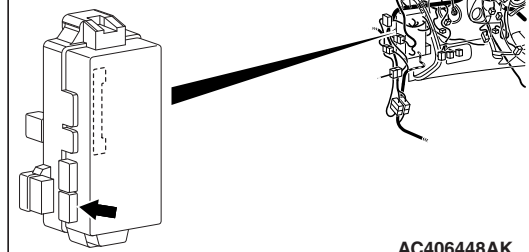
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the liftgate latch switch should be normal.

**INSPECTION PROCEDURE N-5: ETACS-ECU does not receive any signal from the trunk lid latch switch. <ECLIPSE SPYDER>****Trunk Lid Latch Switch Input Circuit**

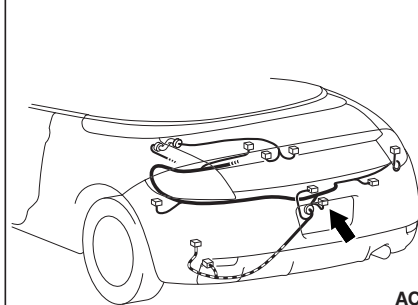
W7P54M013A

**CONNECTOR: C-23**

AC406442CC

**CONNECTOR: C-219**  
JUNCTION BLOCK  
(REAR VIEW)

AC406448AK

**CONNECTOR: F-09**

AC509376AK

**CIRCUIT OPERATION**

The ETACS-ECU operates the dome light according to signal from the trunk lid latch switch.

**TECHNICAL DESCRIPTION (COMMENT)**

The trunk lid latch switch input signal is used to operate the dome light. If the signal fails, this function will not work normally.

## TROUBLESHOOTING HINTS

- The trunk lid latch switch may be defective
- The ETACS-ECU 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:

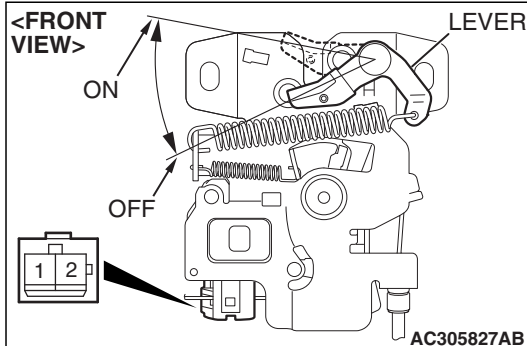
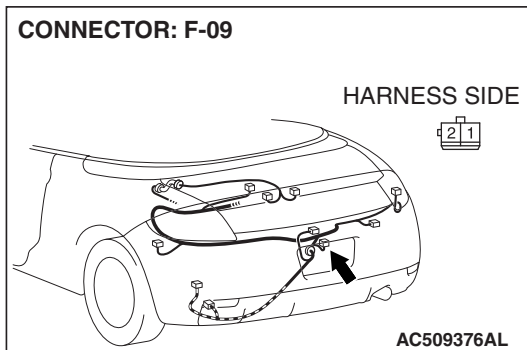
- MB991223: Harness Set
- MB992006: Extra Fine Probe

**STEP 1. Check trunk lid latch switch connector F-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is liftgate latch switch connector F-09 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the trunk lid latch switch should be normal.



### STEP 2. Check the trunk lid latch switch.

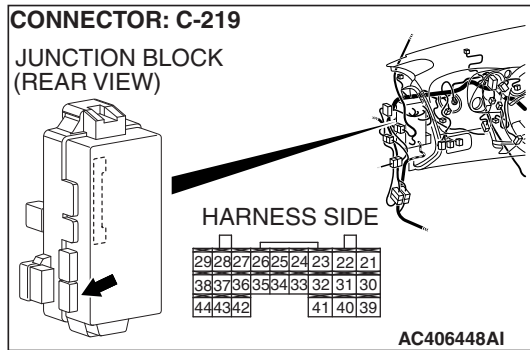
Remove the trunk lid latch switch. Refer to GROUP 42, Trunk lid, trunk inspection [P.42-101](#).

LEVER POSITION	TESTER CONNECTION	SPECIFIED CONDITION
At the "ON" position	2 – Switch body	Continuity exists (2 ohms or less)
At the "OFF" position	2 – Switch body	Open circuit

**Q: Is the liftgate latch switch in good condition?**

**YES :** Go to Step 3.

**NO :** Replace the trunk lid latch assembly. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the trunk lid latch switch should be normal.



**STEP 3. Check ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

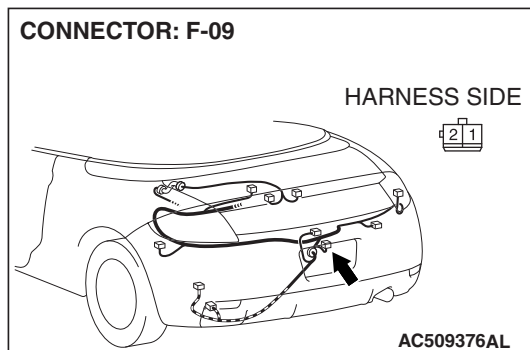
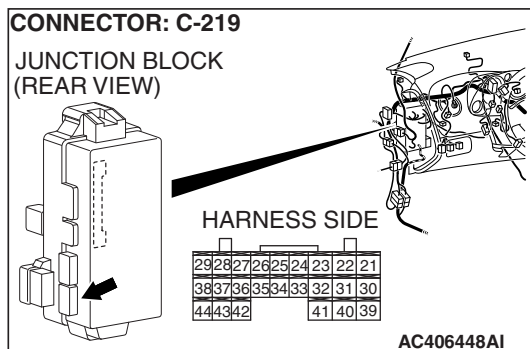
**Q: Is ETACS-ECU connector C-219 in good condition?**

**YES :** Go to Step 4.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the trunk lid latch switch should be normal.

**STEP 4. Check the wiring harness between trunk lid latch switch connector F-09 (terminal 2) and ETACS-ECU connector C-219 (terminal 37).**

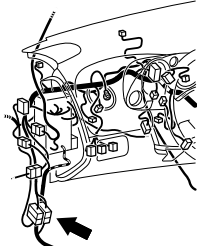
- Check the communication lines for open circuit and short circuit.





**CONNECTOR: C-23**

1	2	X	3	4				5	6	7	X	8	9
10	11	12	13	14		15		16	17	18	19	20	21
22	23	24	25	26		27	28	29		30	31	32	33
34	35	36	37			38	39	40		41	42	43	



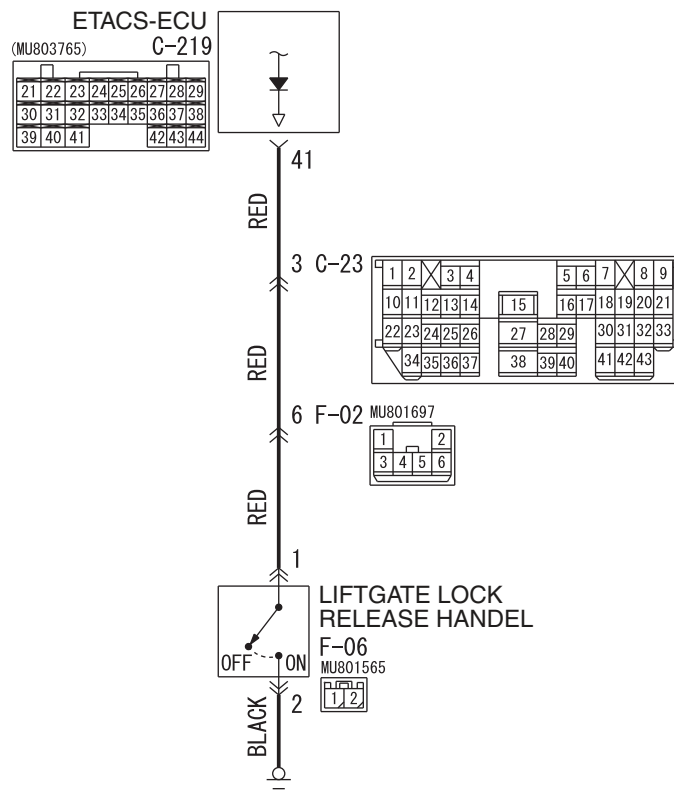
AC406442AC

*NOTE: Also check intermediate connector C-23 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-23 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

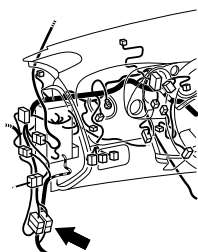
**Q: Is the wiring harness between trunk lid latch switch connector F-09 (terminal 1) and ETACS-ECU connector C-219 (terminal 37) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the trunk lid latch switch should be normal.

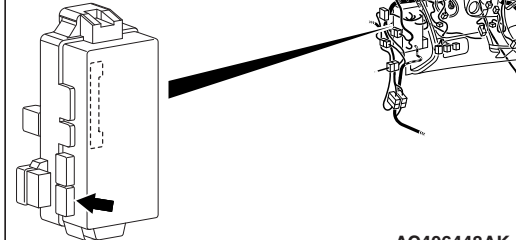
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions described in "CIRCUIT OPERATION" work normally, the input signal from the trunk lid latch switch should be normal.

**INSPECTION PROCEDURE N-6: ETACS-ECU does not receive any signal from the liftgate lock release handle. <ECLIPSE>****Liftgate Lock Release Handle Input Circuit**

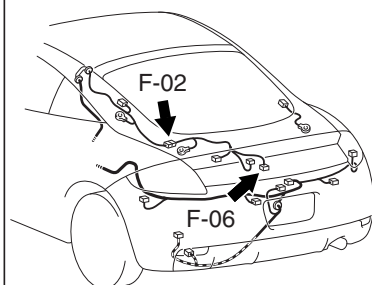
W6P54M070A

**CONNECTOR: C-23**

AC406442CC

**CONNECTOR: C-219  
JUNCTION BLOCK  
(REAR VIEW)**

AC406448AK

**CONNECTORS: F-02, F-06**

AC406460AS

## CIRCUIT OPERATION

The ETACS-ECU operates the liftgate according to signal from the liftgate lock release handle.

## TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the liftgate do not work normally. If the signal is not normal, the liftgate lock release handle or the ETACS-ECU may be defective.

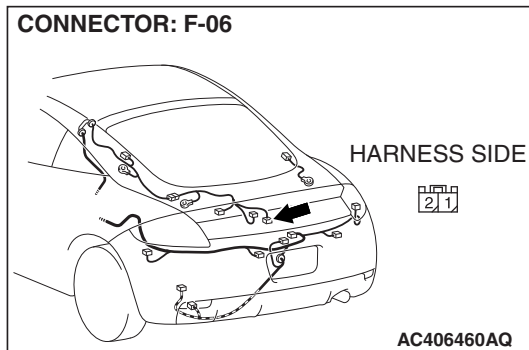
## TROUBLESHOOTING HINTS

- The liftgate lock release handle may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector
- The ETACS-ECU may be defective

## DIAGNOSIS

### Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

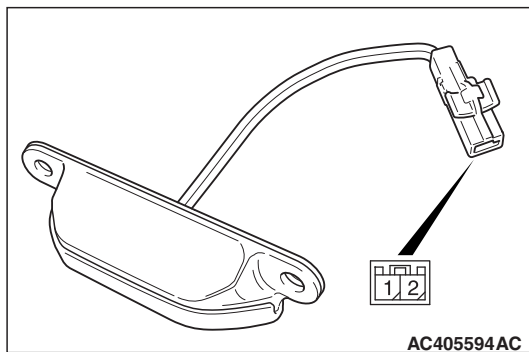


**STEP 1. Check liftgate lock release handle connector F-06 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is liftgate lock release handle connector F-06 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). Repair the liftgate lock release handle. If the liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.



**STEP 2. Check the liftgate lock release handle.**

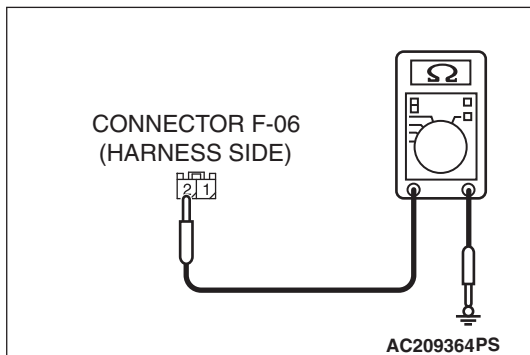
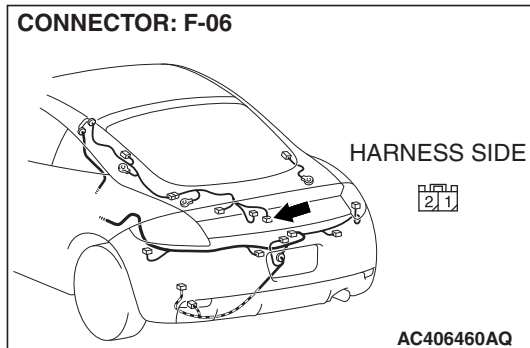
Remove the liftgate lock release handle. Refer to GROUP 42, Liftgate [P.42-101](#). Then check continuity between the switch terminals.

HANDLE POSITION	TESTER CONNECTION	SPECIFIED CONDITION
At the "ON (push)" position	1 – 2	Continuity exists (2 ohms or less)
At the "OFF" position	1 – 2	Open circuit

**Q: Is the liftgate lock release handle in good condition?**

**YES :** Go to Step 3.

**NO :** Repair the liftgate lock release handle. If the liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.



**STEP 3. Check the ground circuit to the liftgate lock release handle. Measure the resistance at liftgate lock release handle connector F-06.**

(1) Disconnect liftgate lock release handle connector F-06 and measure the resistance available at the wiring harness side of the connector.

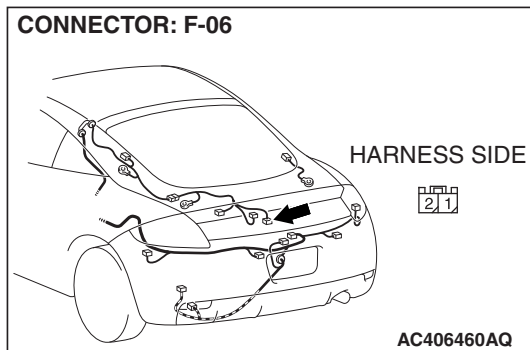
(2) Measure the resistance value between terminal 2 and ground.

- The resistance should be 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 5.

**NO :** Go to Step 4.



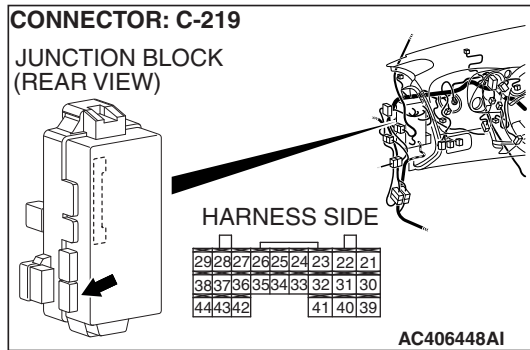
**STEP 4. Check the wiring harness between liftgate lock release handle connector F-06 (terminal 2) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between liftgate lock release handle connector F-06 (terminal 2) and ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.



**STEP 5. Check ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

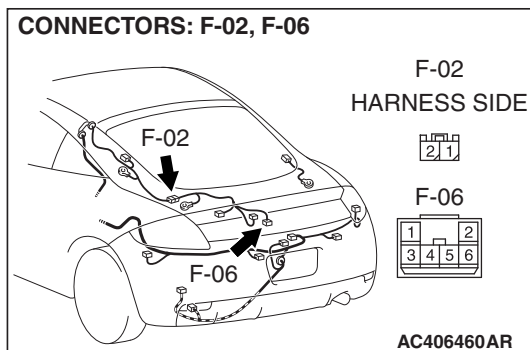
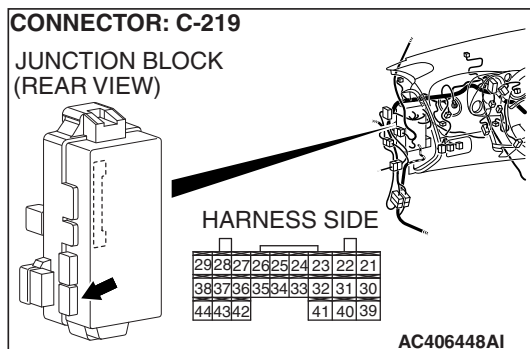
**Q: Is ETACS-ECU connector C-219 in good condition?**

**YES :** Go to Step 6.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.

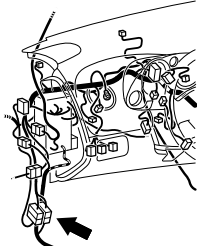
**STEP 6. Check the wiring harness between liftgate lock release handle connector F-06 (terminal 1) and ETACS-ECU connector C-219 (terminal 41).**

- Check the communication lines for open circuit and short circuit.



## CONNECTOR: C-23

1	2	3	4			5	6	7	8	9	
10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	32	33
34	35	36	37		38	39	40	41	42	43	



AC406442AC

*NOTE: Also check junction block connectors C-23 and F-02 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-23 or F-02 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.*

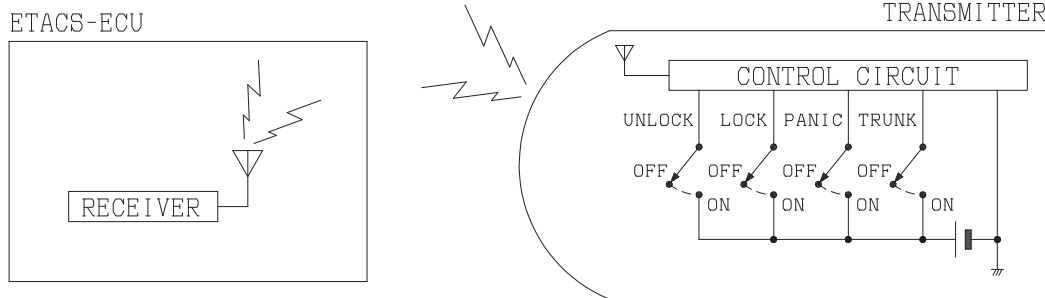
**Q: Is the wiring harness between liftgate lock release handle connector F-06 (terminal 1) and ETACS-ECU connector C-219 (terminal 41) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-19. If the liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.

**INSPECTION PROCEDURE N-7: Transmitter: ETACS-ECU does not receive any signal from the lock, unlock, liftgate <ECLIPSE>, trunk lid <ECLIPSE SPYDER> or panic switch.**

**Receiver and Transmitter Communication Circuit**



AC002099AB

**CIRCUIT OPERATION**

The ETACS-ECU receives signal through its receiver from the transmitter, and operates the keyless entry system according to the signal.

**TECHNICAL DESCRIPTION (COMMENT)**

If the signal is not normal, the keyless entry transmitter does not work normally.

**TROUBLESHOOTING HINTS**

- The transmitter may be defective
- The ETACS-ECU may be defective

**DIAGNOSIS**

**Required Special Tools:**

- MB991223: Harness Set
- MB992006: Extra Fine Probe

**STEP 1. Register the transmitter.**

Register the transmitter. Refer to GROUP 42, Keyless Entry System, On-vehicle Service, How to register secret code [P.42-116](#).

**Q: Can the transmitter be registered correctly?**

**YES :** If the transmitter works normally, the input signal from the transmitter should be normal.

**NO :** Go to Step 2.

**STEP 2. Check the transmitter battery.**

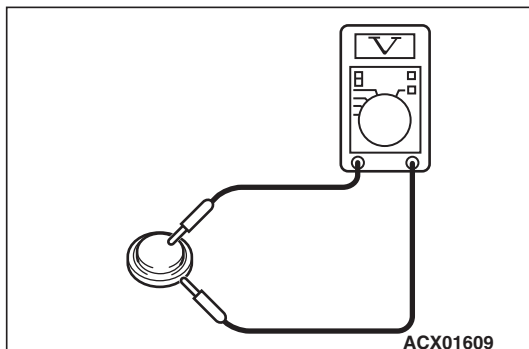
Measure the voltage of the transmitter battery.

- The value should be approximately 2.5 - 3.2 volts.

**Q: Is the measured voltage approximately 2.5 - 3.2 volts?**

**YES :** Go to Step 3.

**NO :** Replace the battery. If the transmitter can be registered normally, and operates normally, it indicates that the transmitter is sending normal signal to the ECU.



**STEP 3. Replace the transmitter.**

Replace the transmitter and register the code. Refer to GROUP 42, Keyless Entry System, On-vehicle Service, How to register secret code [P.42-116](#).

**Q: Can the transmitter be registered correctly?**

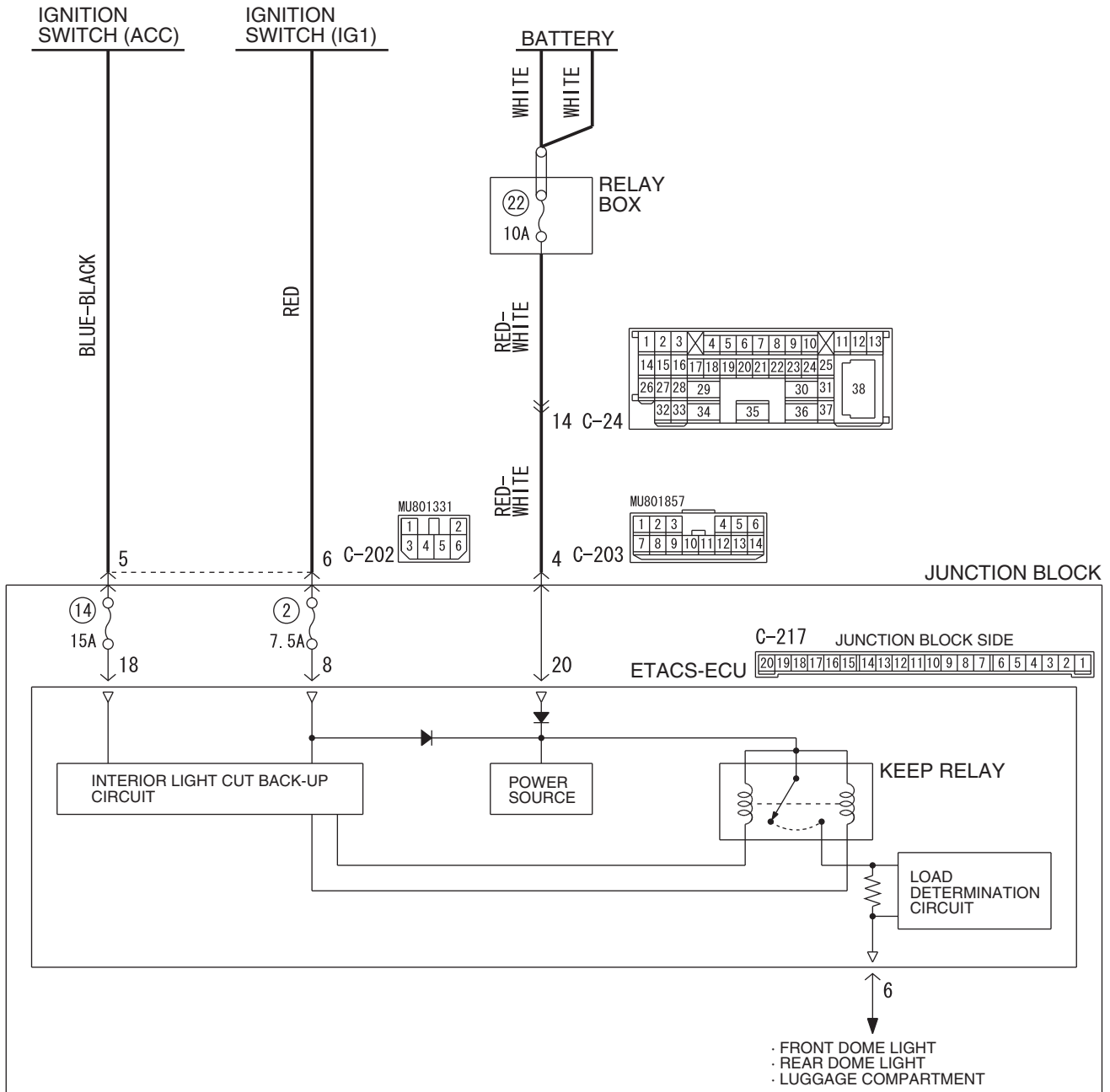
**YES :** If the transmitter works normally, the input signal from the transmitter should be normal.

**NO :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the transmitter works normally, the input signal from the transmitter should be normal.



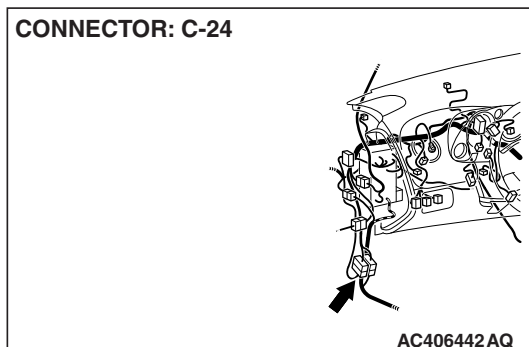
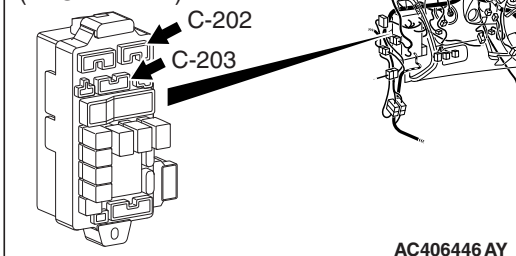
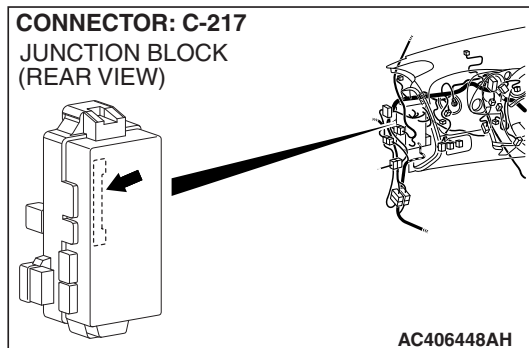
**INSPECTION PROCEDURE N-8: ETACS-ECU does not receive any interior light loaded signal.**

**Interior Light Automatic Shut-Down Function Circuit**



W6P54M035A

CONNECTOR: C-24

CONNECTORS: C-202, C-203  
JUNCTION BLOCK  
(FRONT VIEW)CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)**CIRCUIT OPERATION**

The ETACS-ECU operates the following equipment or functions by the interior light loaded signal:

- Interior light automatic shut-down function
- Dome light
- Ignition key cylinder illumination light

**TECHNICAL DESCRIPTION (COMMENT)**

If the signal is not normal, the equipment or functions described in "CIRCUIT OPERATION" do not work normally.

**TROUBLESHOOTING HINTS**

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

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

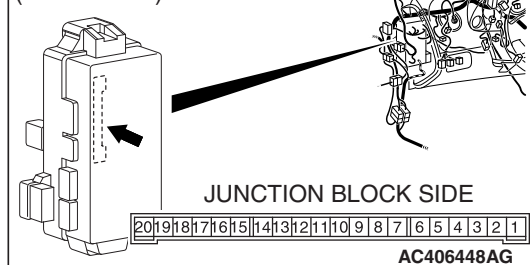
- MB991223: Harness Set
- MB992006: Extra Fine Probe

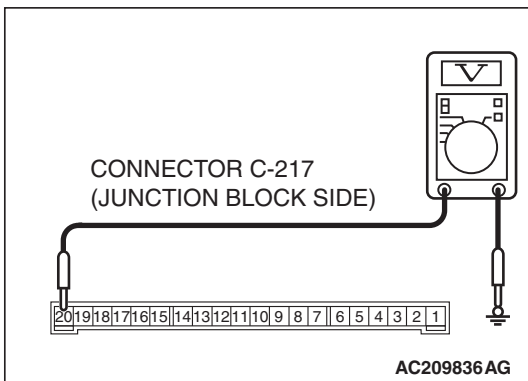
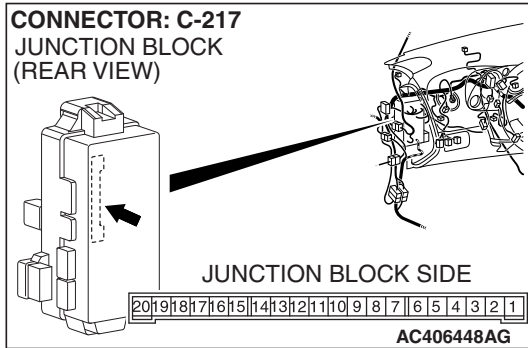
**STEP 1. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-217 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the functions or equipment described in "CIRCUIT OPERATION" work normally, the interior light loaded signal should be normal.

CONNECTOR: C-217  
JUNCTION BLOCK  
(REAR VIEW)



**STEP 2. Check the battery line of power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-217.**

(1) Disconnect ETACS-ECU connector C-217 and measure the voltage available at the junction block side of the connector.

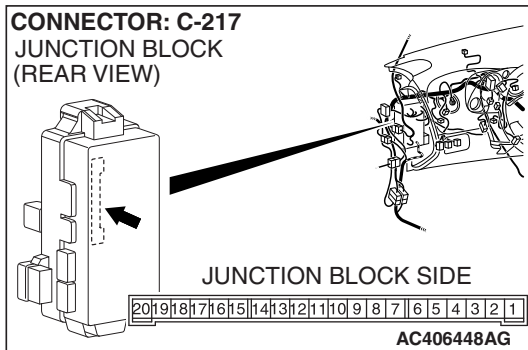
(2) Measure the voltage between terminal 20 and ground.

- 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 4.

**NO :** Go to Step 3.

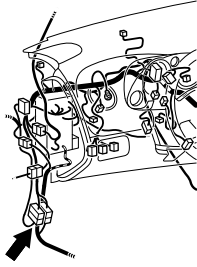


**STEP 3. Check the wiring harness between ETACS-ECU connector C-217 (terminal 20) and battery.**

- Check the power supply line for open circuit and short circuit.

**CONNECTOR: C-24**

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	
26	27	28	29					30	31		38	
32	33	34		35				36	37			



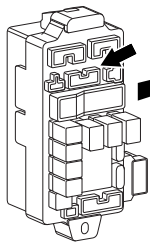
AC406442 AP

**NOTE:** Also check junction block connector C-203 and intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-203 or intermediate connector C-24 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 ETACS-ECU connector C-217 (terminal 20) and battery in good condition?**

**YES :** No action is necessary and testing is complete.

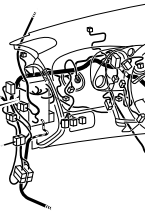
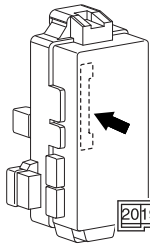
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions or equipment described in "CIRCUIT OPERATION" work normally, the interior light loaded signal should be normal.

**CONNECTOR: C-203**  
JUNCTION BLOCK  
(FRONT VIEW)

C-203

6	5	4		3	2	1
14	13	12	11	10	9	8
7						

AC406446 AM

**CONNECTOR: C-217**  
JUNCTION BLOCK  
(REAR VIEW)

JUNCTION BLOCK SIDE

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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AC406448 AG

**STEP 4. Check the ignition switch (IG1) line of the power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-217.**

- (1) Disconnect ETACS-ECU connector C-217 and measure the voltage available at the junction block side of the connector.
- (2) Turn the ignition switch to the "ON" position.

- (3) Measure the voltage between terminal 8 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 6.

**NO :** Go to Step 5.

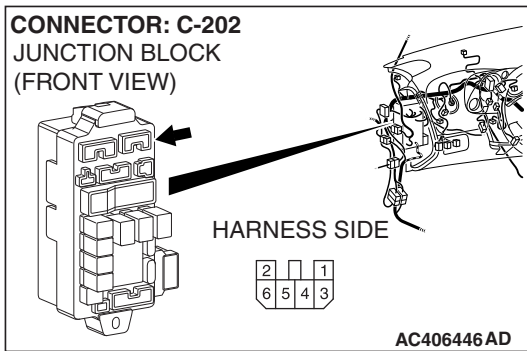
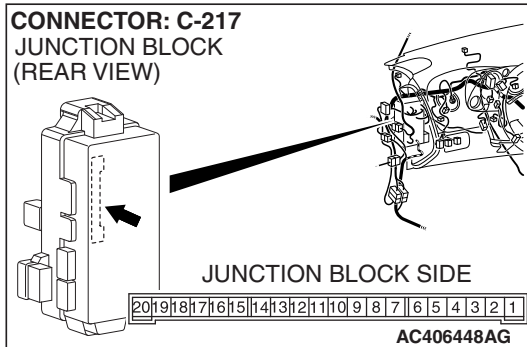
CONNECTOR C-217  
(JUNCTION BLOCK SIDE)

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---

AC209799 AE

**STEP 5. Check the wiring harness between ETACS-ECU connector C-217 (terminal 8) and the ignition switch (IG1).**

- Check the power supply line for open circuit and short circuit.



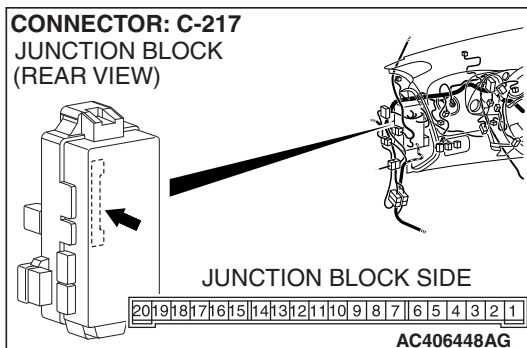
*NOTE: Also check junction block connector C-202 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-202 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

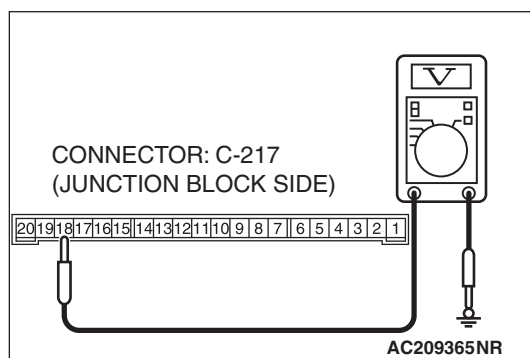
**Q: Is the wiring harness between ETACS-ECU connector C-217 (terminal 8) and the ignition switch (IG1) in good condition?**

- YES :** Refer to GROUP 54A – Ignition switch, trouble symptom chart [P.54A-9](#).
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions or equipment described in "CIRCUIT OPERATION" work normally, the interior light loaded signal should be normal.

**STEP 6. Check the ignition switch (ACC) line of the power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-217.**

- (1) Disconnect ETACS-ECU connector C-217 and measure the voltage available at the junction block side of the connector.
- (2) Turn the ignition switch to the "ACC" position.





- (3) Measure the voltage between terminal 18 and ground.
- The voltage should measure approximately 12 volts (battery positive voltage).

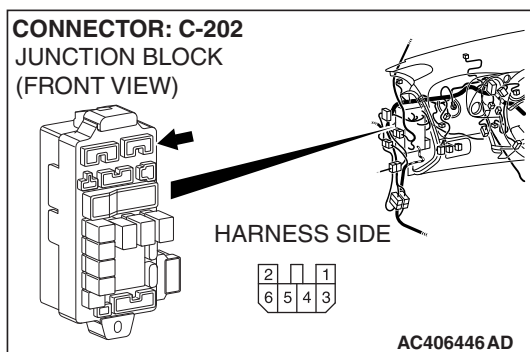
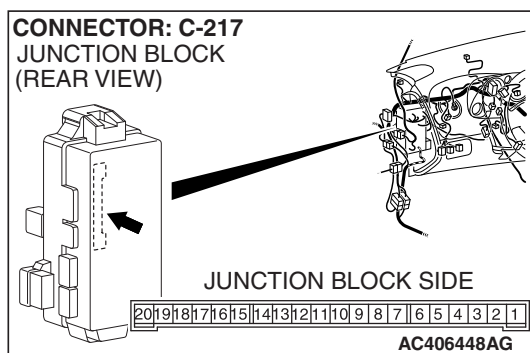
**Q: Is the measured voltage approximately 12 volts (battery positive voltage)?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the functions or equipment described in "CIRCUIT OPERATION" work normally, the interior light loaded signal should be normal.

**NO :** Go to Step 7.

**STEP 7. Check the wiring harness between ETACS-ECU connector C-217 (terminal 18) and the ignition switch (ACC).**

- Check the power supply line for open circuit and short circuit.



*NOTE: Also check junction block connector C-202 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If junction block connector C-202 is damaged, repair or replace the damaged component(s) as described in*

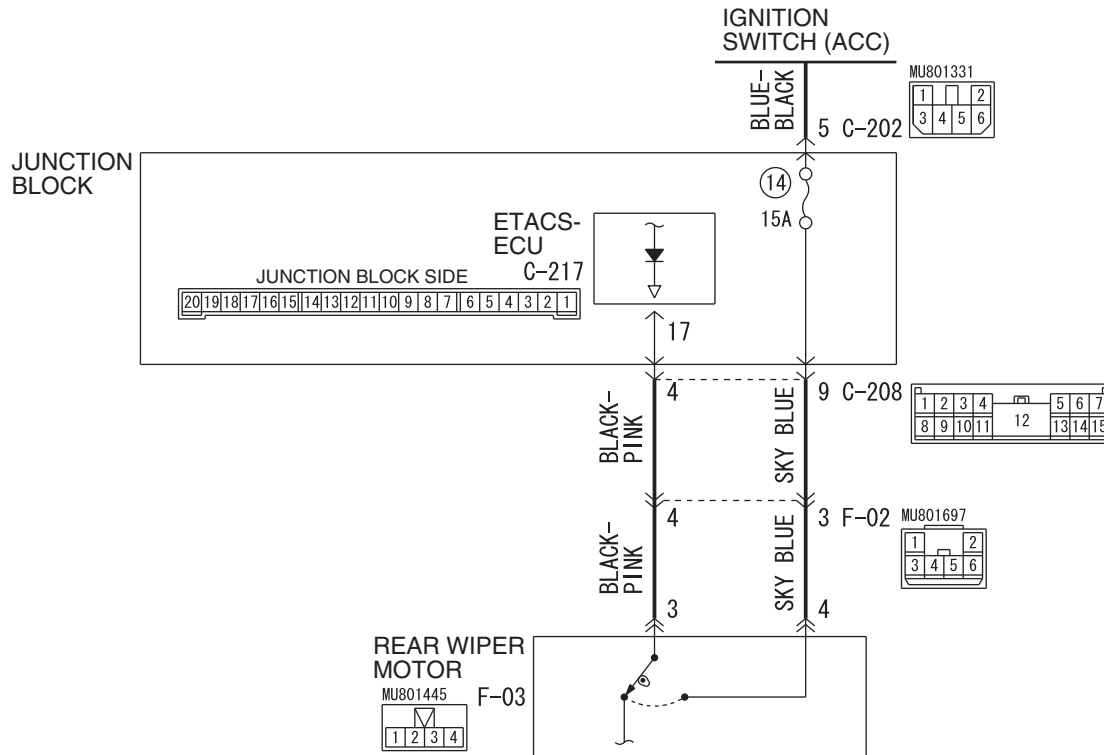
**Q: Is the wiring harness between ETACS-ECU connector C-217 (terminal 18) and ignition switch (ACC) in good condition?**

**YES :** Refer to GROUP 54A – Ignition switch, trouble symptom chart [P.54A-9](#).

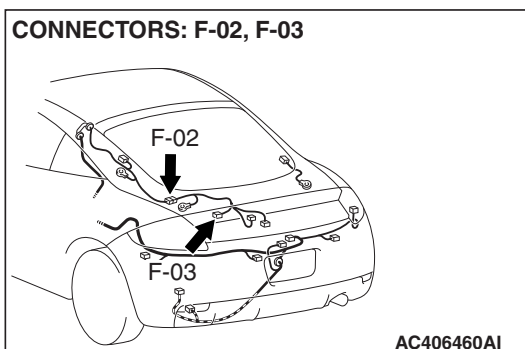
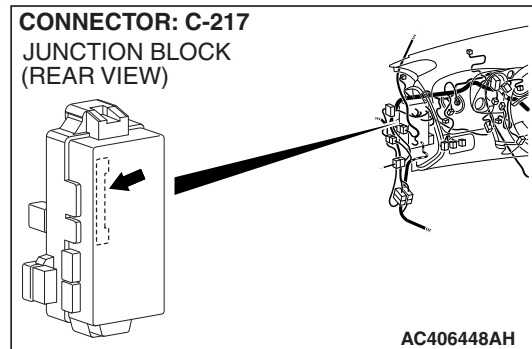
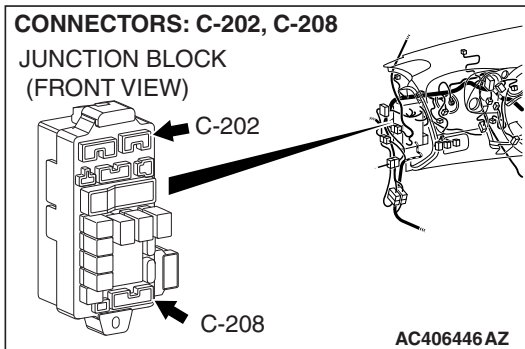
**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the functions or equipment described in "CIRCUIT OPERATION" work normally, the interior light loaded signal should be normal.

INSPECTION PROCEDURE N-9: ETACS-ECU does not receive an auto-stop signal from the rear wiper motor.

Rear Wiper Auto Stop Circuit



W6P54M031A



**CIRCUIT OPERATION**

The ETACS-ECU makes the rear wiper stop at the predetermined park position according to the auto-stop signal from the rear wiper motor.

**TECHNICAL DESCRIPTION (COMMENT)**

If this signal is not normal, the rear wiper does not stop at the predetermined park position.

**TROUBLESHOOTING HINTS**

- The rear wiper motor may be defective
- The ETACS-ECU 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 Tool:**

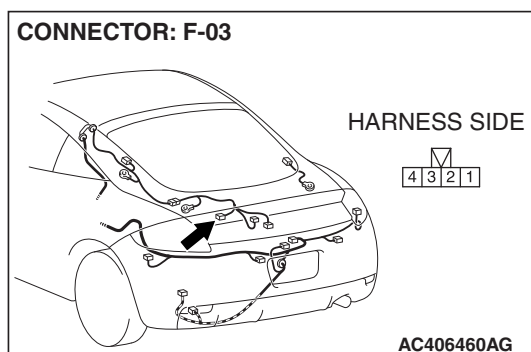
- MB991223: Test Harness Set
- MB992006: Extra Fine Probe

**STEP 1. Check rear wiper motor connector F-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is rear wiper motor connector F-03 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the rear wiper operates normally, it indicates that a correct auto-stop signal is sent from the rear wiper motor.

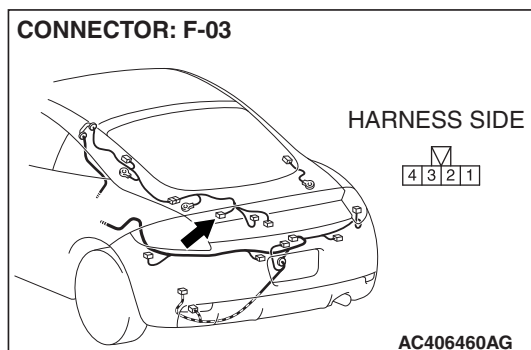


**STEP 2. Check the rear wiper.**

**Q: Does the rear wiper motor operate (however, the rear wiper does not stop at the predetermined park position)?**

**YES :** Go to Step 3.

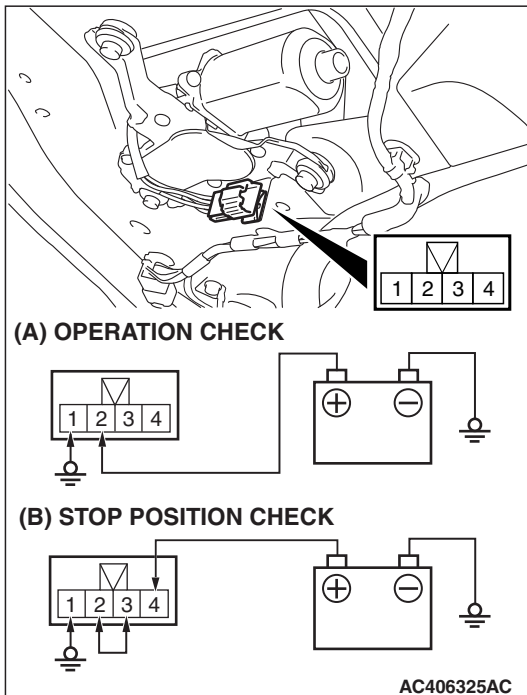
**NO :** Refer to Inspection Procedure H-1 "Rear wiper does not work at all [P.54B-247](#)."



**STEP 3. Check the rear wiper motor.**

(1) Disconnect rear wiper motor connector F-03.



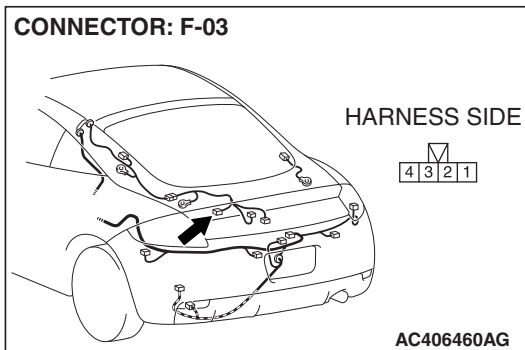


- (2) While the rear wiper motor is running, disconnect the battery to stop the motor.
- (3) When the battery is connected as shown, the motor should run again and stop at the predetermined park position.

**Q: Does the rear wiper motor operate normally?**

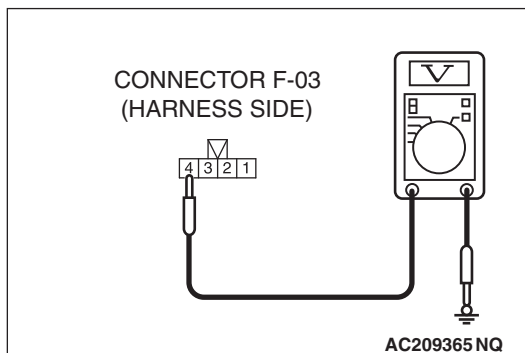
**YES :** Go to Step 4.

**NO :** Replace the rear wiper motor. If the rear wiper operates normally, it indicates that a correct auto-stop signal is sent from the rear wiper motor.



**STEP 4. Measure at rear wiper motor connector F-03 by backprobing to check the ignition switch (ACC) line of the power supply to the rear wiper motor.**

- (1) Do not disconnect rear wiper motor connector F-03 and measure the voltage available at the wiring harness side of the connector.
- (2) Turn the ignition switch to the "ACC" position.



- (3) Measure the voltage between terminal 4 and ground by backprobing.
  - The voltage should equal approximately 12 volts (battery positive voltage).

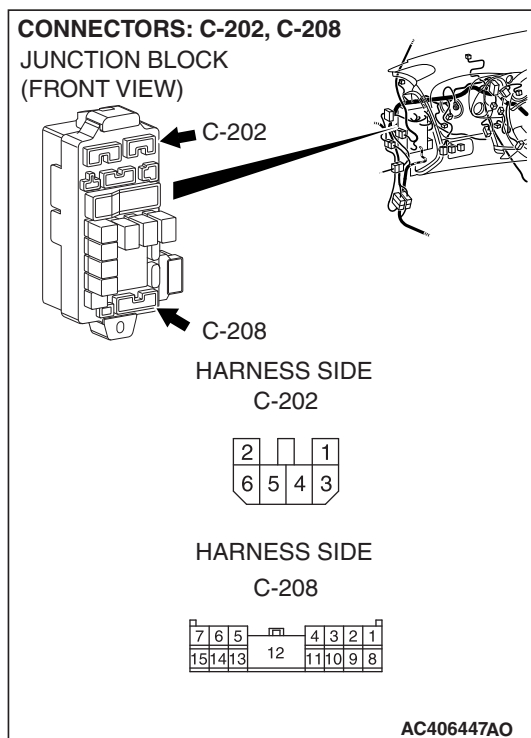
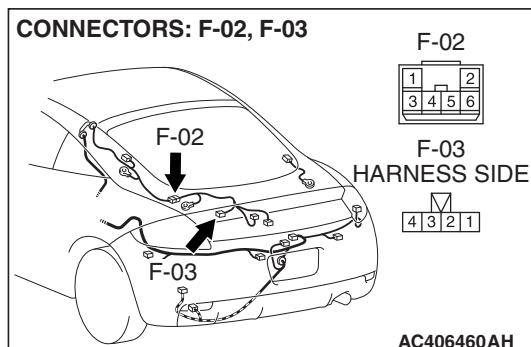
**Q: Is the measured voltage approximately 12 volts (battery positive voltage)?**

**YES :** Go to Step 6.

**NO :** Go to Step 5.

**STEP 5. Check the wiring harness between rear wiper motor connector F-03 (terminal 4) and the ignition switch (ACC).**

- Check the power supply line for open circuit and short circuit.



*NOTE: Also check intermediate connector F-02, junction block connectors C-202 and C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector F-02, junction block connectors C-202 or C-208 are damaged, Repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection [P.00E-2](#).*

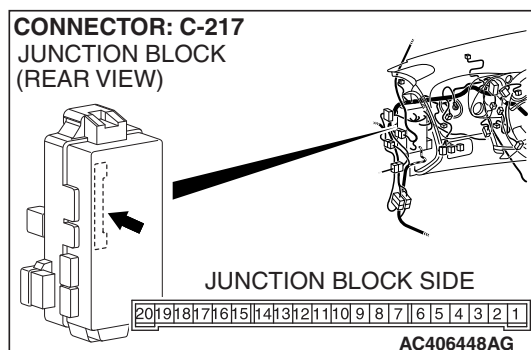
**Q: Is the wiring harness between rear wiper motor connector F-03 (terminal 4) and the ignition switch (ACC) in good condition?**

- YES :** Refer to GROUP 54A – Ignition switch, trouble symptom chart [P.54A-9](#).
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the rear wiper operates normally, it indicates that a correct auto-stop signal is sent from the rear wiper motor.

**STEP 6. Check ETACS-ECU connector C-217 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

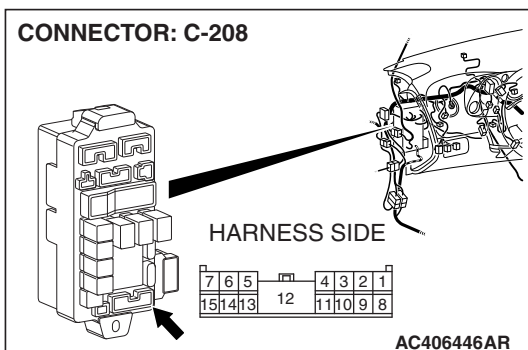
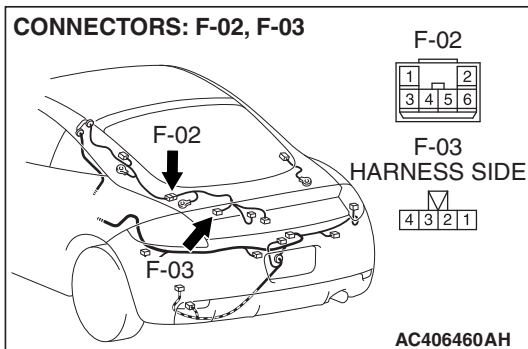
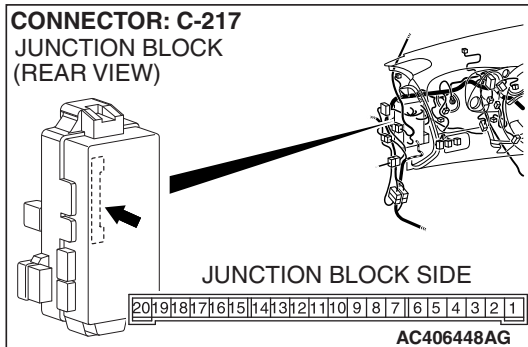
**Q: Is ETACS-ECU connector C-217 in good condition?**

- YES :** Go to Step 7.
- NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection [P.00E-2](#). If the rear wiper operates normally, it indicates that a correct auto-stop signal is sent from the rear wiper motor.



**STEP 7. Check the wiring harness between rear wiper motor connector F-03 (terminal 3) and ETACS-ECU connector C-217 (terminal 17).**

- Check the communication lines for open circuit and short circuit.



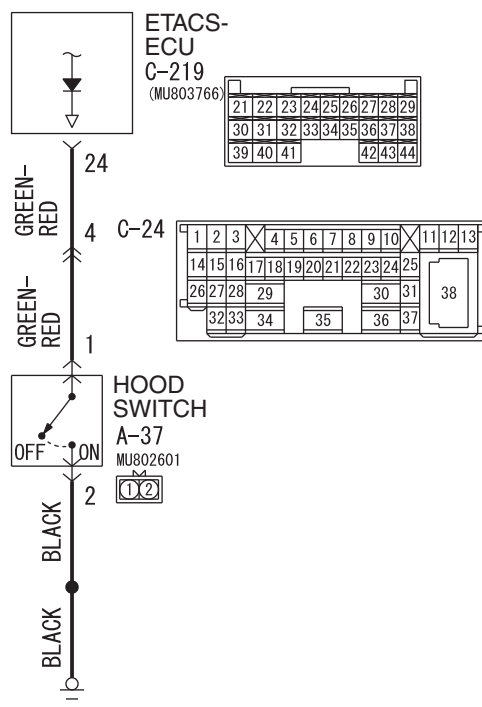
*NOTE: Also check intermediate connector F-02 and junction block connector C-208 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector F-02 or junction block connector C-208 are damaged, Repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.*

**Q: Is the wiring harness between rear wiper motor connector F-03 (terminal 3) and ETACS-ECU connector C-217 (terminal 17) in good condition?**

- YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-19. If the rear wiper operates normally, it indicates that a correct auto-stop signal is sent from the rear wiper motor.
- NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the rear wiper operates normally, it indicates that a correct auto-stop signal is sent from the rear wiper motor.

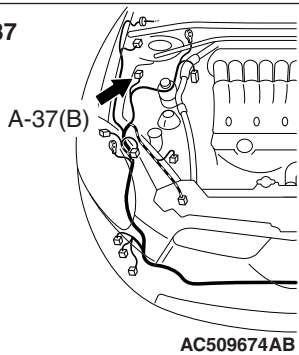
## INSPECTION PROCEDURE N-10: ETACS-ECU does not receive any signal from hood switch.

Hood Switch Circuit

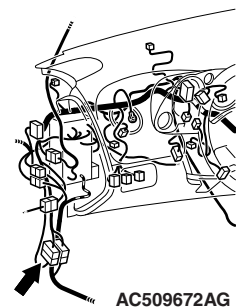
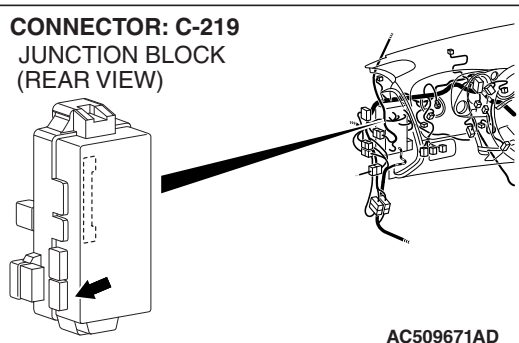


W7P54M026A

CONNECTOR : A-37



CONNECTOR: C-24

CONNECTOR: C-219  
JUNCTION BLOCK  
(REAR VIEW)

## CIRCUIT OPERATION

The ETACS-ECU operates the theft-alarm system according to signal from the hood switch.

## TECHNICAL DESCRIPTION (COMMENT)

If the signal is not normal, the theft-alarm system does not work normally.

## TROUBLESHOOTING HINTS

- The hood switch may be defective
- The ETACS-ECU 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
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991911: M.U.T.-III Main Harness B

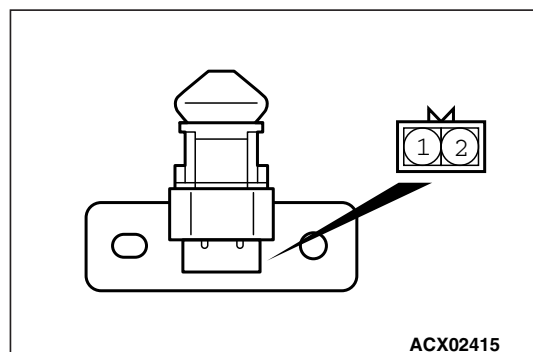
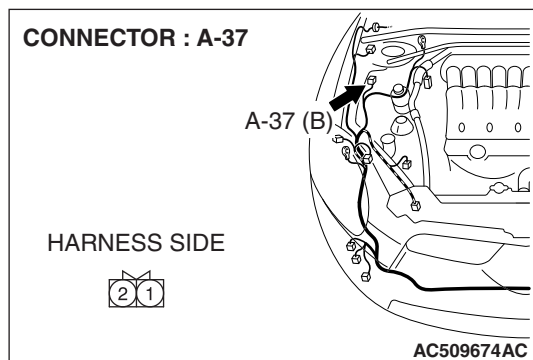
**STEP 1. Check hood switch connector A-37 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is hood switch connector A-37 in good condition?**

**YES :** Go to Step 2.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** If the theft-alarm system operates normally, it indicates that a correct signal is sent from the hood switch.



### STEP 2. Check the hood switch.

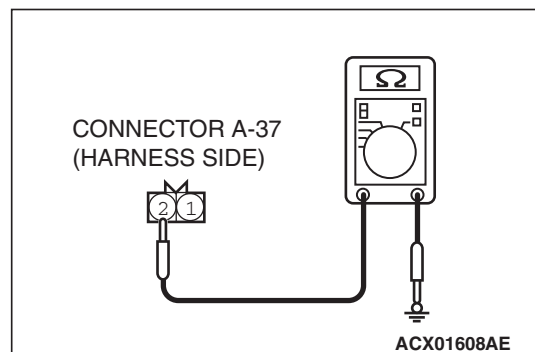
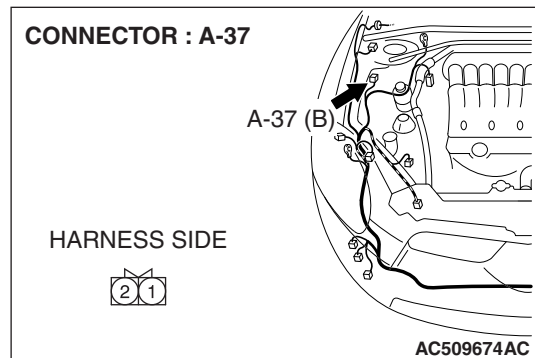
Remove the hood switch. Then check continuity between the switch terminals.

SWITCH POSITION	TESTER CONNECTION	SPECIFIED CONDITION
Released	1 - 2	Continuity exists (2 ohms or less)
Pressed	1 - 2	Open circuit

**Q: Is the hood switch in good condition?**

**YES :** Go to Step 3.

**NO :** Replace the hood switch. If the theft-alarm system operates normally, it indicates that a correct signal is sent from the hood switch.

**STEP 3. Check the ground circuit to the hood switch. Test at hood switch connector A-37.**

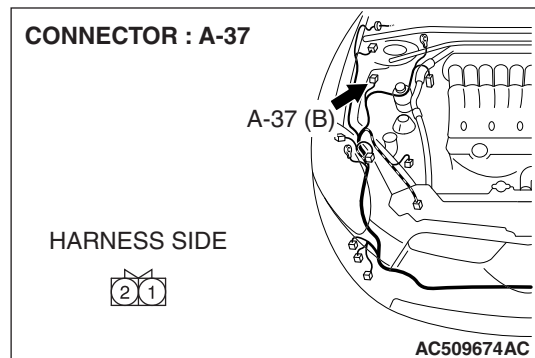
- (1) Disconnect hood switch connector A-37 and measure the resistance available at the wiring harness side of the connector.

- (2) Measure the resistance value between terminal 2 and ground.
- The resistance should equal 2 ohms or less.

**Q: Is the measured resistance 2 ohms or less?**

**YES :** Go to Step 5.

**NO :** Go to Step 4.

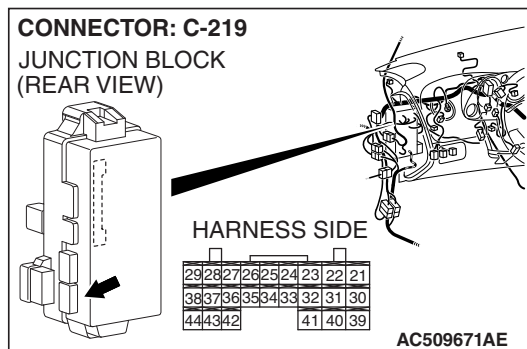
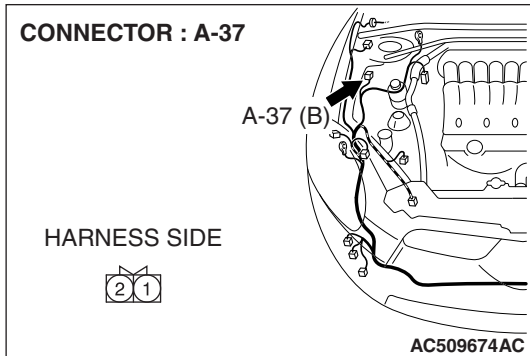
**STEP 4. Check the wiring harness between hood switch connector A-37 (terminal 2) and ground.**

- Check the ground wire for open circuit.

**Q: Is the wiring harness between hood switch connector A-37 (terminal 2) and the ground in good condition?**

**YES :** No action is necessary and testing is complete.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the theft-alarm system operates normally, it indicates that a correct signal is sent from the hood switch.



**STEP 5.** Check hood switch connector A-37 and ETACS-ECU connector C-219 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

**Q:** Are hood switch connector A-37 and ETACS-ECU connector C-219 in good condition?

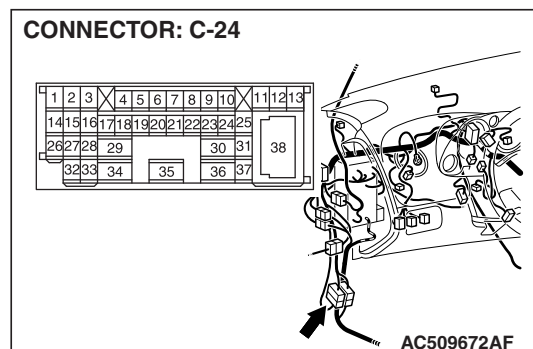
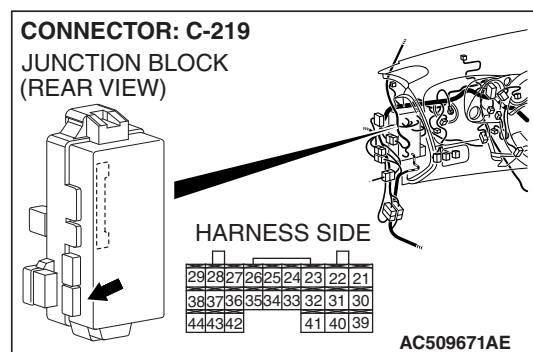
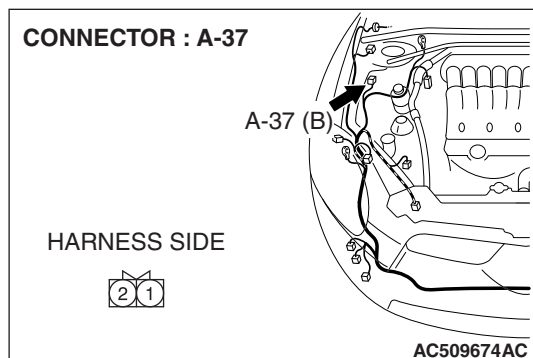
**YES :** Go to Step 6.

**NO :** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection

**P.00E-2.** If the theft-alarm system operates normally, it indicates that a correct signal is sent from the hood switch.

**STEP 6. Check the wiring harness between hood switch connector A-37 (terminal 1) and ETACS-ECU connector C-219 (terminal 24).**

- Check the communication lines for open circuit and short circuit.



**NOTE:** Also check intermediate connector C-24 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-24 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 hood switch connector A-37 (terminal 1) and ETACS-ECU connector C-219 (terminal 24) in good condition?**

**YES :** Replace the ETACS-ECU. When the ETACS-ECU is replaced, register the encrypted code. Refer to GROUP 54A, Encrypted Code Registration Criteria Table [P.54A-19](#). If the theft-alarm system operates normally, it indicates that a correct signal is sent from the hood switch.

**NO :** The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. If the theft-alarm system operates normally, it indicates that a correct signal is sent from the hood switch.



## CHECK AT ECU TERMINAL

M1549001201581

## ETACS-ECU

C-217

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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C-219

21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38
39	40	41				42	43	44

C-218

51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68
69	70	71				72	73	74

AC101265AF

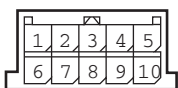
NOTE: \*:The terminal No.1 to 20 connectors cannot be measured as the ETACS-ECU is installed directly on the junction block. Therefore, this information is only for reference.

TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
1	Output to power window relay	When the power windows can work	Battery positive voltage
2	Battery positive voltage (for central door lock)	Always	Battery positive voltage
3	Ground (for ECU)	Always	1 V or less
4	Power supply to ignition switch (ACC)	Ignition switch: "ACC"	Battery positive voltage
5	Output to dome light	When dome light is on	pulse signal
6	Power supply to interior light	Always (when interior light shutoff function is not operating)	Battery positive voltage
7	–	–	–
8	Power supply to ignition switch (IG1)	Ignition switch: "ON"	Battery positive voltage
9	Output to turn-signal light (RH)	When turn-signal light (RH) is on	Battery positive voltage
10	Input from door switch (LH)	Door switch (LH): ON (driver's door open)	1 V or less
11	Battery power supply for turn-signal light	Always	Battery positive voltage
12	Output to door lock	When door lock actuator is operating (doors locked)	Battery positive voltage
13	Output to door unlock (excluding driver's door)	When door lock actuator is operating (doors unlocked)	Battery positive voltage
14	Output to turn-signal light (LH)	When turn-signal light (LH) is on	Battery positive voltage
15	–	–	–
16	Output to rear wiper	When rear wiper is operating	Battery positive voltage
17	Output to automatic stop signal to rear wiper	When rear wiper is operating	Battery positive voltage
18	Power supply to ignition switch (ACC)	Ignition switch: "ACC"	Battery positive voltage
19	–	–	–
20	Battery power supply (for ECU)	Always	Battery positive voltage

TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
21	–	–	–
22	Output to door unlock (for driver's door)	When driver's door lock actuator is operating (doors unlocked)	Battery positive voltage
23	Output to rear washer	When rear washer is operating	Battery positive voltage
24	Input of hood switch signal	Hood: open	1 V or less
25 – 29	–	–	–
30	Input of key reminder switch signal	Key reminder switch: ON (when ignition key is removed)	1 V or less
31	–	–	–
32	Output to liftgate <ECLIPSE> or trunk lid <ECLIPSE SPYDER> open	When liftgate <ECLIPSE> or trunk lid <ECLIPSE SPYDER> open actuator is operating (liftgate <ECLIPSE> or trunk lid <ECLIPSE SPYDER> opened)	Battery positive voltage
33	Input of door lock switch (LOCK) signal	Door lock switch (incorporated in power window switch): LOCK	1 V or less
34	Input of door lock switch (UNLOCK) signal	Door lock switch (incorporated in power window switch): UNLOCK	1 V or less
35	–	–	–
36	Input of door lock actuator (LH) "UNLOCK" signal	Door lock actuator (LH): UNLOCK	1 V or less
37	Input of trunk lid latch switch <ECLIPSE SPYDER>	Trunk lid latch switch: ON	1 V or less
38	Ground (for sensor)	Always	1 V or less
39	Input from backup light switch	Backup light switch: ON	Battery positive voltage
40	–	–	–
41	Input of liftgate lock release handle <ECLIPSE> or trunk lid opener switch <ECLIPSE SPYDER>	Liftgate lock release handle <ECLIPSE> or trunk lid opener switch <ECLIPSE SPYDER>: ON	1 V or less
42	–	–	–
43	Input of passenger's door lock actuator (UNLOCK) signal	Passenger's door lock actuator: UNLOCK	1 V or less
44	Output to horn relay	When a horn sounds by the keyless entry horn answerback function	1 V or less
45 – 50	–	–	–
51	Output to data link connector	When input check signal is output	0 – 12 V (when input pulse signal is fluctuating)
52	Output to luggage compartment light	When luggage compartment light is on	1 V or less
53	–	–	–

TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
54	Input of front fog light switch signal	Front fog light switch: ON	1 V or less
55	Input of hazard warning light switch signal	Hazard warning light switch: ON (When the switch is depressed)	1 V or less
56	Ground (for sensor)	Always	1 V or less
57	Output of key reminder switch (key ring antenna) signal	Always	1 V or less
58	Input of key reminder switch (key ring antenna) signal	Always	1 V or less
59	SWS communication line	Always	0 – 12 V (pulse signal)
60	Output to immobilizer indicator light	When immobilizer indicator light is on	Battery positive voltage
61	–	–	–
62	Input from liftgate latch switch <ECLIPSE>	Liftgate latch switch: ON (liftgate open)	1 V or less
63, 64	–	–	–
65	Input from door switch (RH)	Door switch (RH): ON (passenger's door open)	1 V or less
66	Input of signal from variable intermittent wiper control switch	Ignition switch: "ACC," Variable intermittent wiper control switch: "FAST" to "SLOW"	0 → 2.5 V
67	Input of diagnosis indication selection	When scan tool is connected	1 V or less
68	Output of data request signal	Always	0 – 12 V (pulse signal)
69	Output to ignition key hole illumination light	When ignition key hole illumination light is on	1 V or less
70	–	–	–
71	Power supply to interior light	Always (when interior light shutoff function is not operating)	Battery positive voltage
72, 73	–	–	–
74	Output to security indicator	When security indicator is on (Arm the theft-alarm system)	1 V or less

## COLUMN SWITCH



C-309

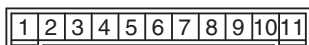
ACX01512AB

TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
1	Battery power supply	Always	Battery positive voltage
2	Input of data request signal	Always	0 – 12 V (pulse signal)

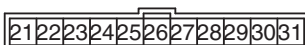
TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
3	SWS communication line	Always	0 – 12 V (pulse signal)
4	Ground	Always	1 V or less
5	–	–	–
6	Output of signal from variable intermittent wiper control switch: "FAST" to "SLOW"	Igniting switch: "ACC," Variable intermittent wiper control switch: "FAST" to "SLOW"	0 → 2.5 V
7	–	–	–
8	Output of backup signal from windshield wiper switch	Windshield low-speed wiper switch or windshield high-speed wiper switch: ON	1 V or less
9	Power supply to ignition switch (IG1)	Ignition switch: "ON"	Battery positive voltage
10	Output of backup signal from headlight switch	Ignition switch: "ON," Headlight switch: ON	1 V or less

## FRONT-ECU

A-13X



A-14X



AC210659AC

*NOTE: Terminal voltages cannot be measured as the front-ECU is installed directly on the relay box. Therefore, this information is only for reference.*

TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
1 – 3	–	–	–
4	Output to taillights	When taillights are on	Battery positive voltage
5	Battery power supply (for ECU)	Always	Battery positive voltage
6	Output to headlight (low-beam)	When headlights (low-beam) are on	Battery positive voltage
7	Battery power supply (for taillight)	Always	Battery positive voltage
8, 9	Battery power supply (for headlight)	Always	Battery positive voltage
10	Output to headlight (high-beam)	When headlights (high-beam) are on	Battery positive voltage
11	Output to front fog light relay	When the front fog lights are on	Battery positive voltage
21	Ground	Always	1 V or less
22	Power supply to ignition switch (IG2)	Ignition switch: "ON"	Battery positive voltage
23	–	–	–

TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
24	Output to windshield wiper (high-speed)	When windshield wiper is on (at high speed)	Battery positive voltage
25	Output to windshield wiper (low-speed)	When windshield wiper is on (at low speed)	Battery positive voltage
26	Input of backup signal to windshield wiper	Windshield low-speed wiper switch or windshield high-speed wiper switch: ON	1 V or less
27	Input of backup signal from headlight switch	Headlight switch: ON	1 V or less
28	Power supply to ignition switch (ACC)	Ignition switch: "ACC"	Battery positive voltage
29	Input of automatic stop signal to windshield wiper	When windshield wiper is on	Battery positive voltage
30	SWS communication line	Always	0 – 12 V (pulse signal)
31	Output to windshield washer	When windshield washer is on	Battery positive voltage

## SUNROOF-ECU

D-35

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

AC406934AB

TERMINAL NO.	INSPECTION ITEM	INSPECTION CONDITION	NORMAL VALUE
1	Battery power supply (for motor)	Always	Battery positive voltage
2	–	–	–
3	Power supply to ignition switch (IG2)	Ignition switch: ON	Battery positive voltage
4	Ground	Always	1 V or less
5	–	–	–
6	SWS communication line	Always	0 – 12 V (pulse signal)
7	–	–	–
8	Input signal ("OPEN") from the sunroof switch	Sunroof switch: "OPEN"	1 V or less
9	Input signal ("UP") from the sunroof switch	Sunroof switch: "UP"	1 V or less
10	Input signal ("CLOSE/DOWN") from the sunroof switch	Sunroof switch: "CLOSE/DOWN"	1 V or less
11 – 14	–	–	–

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## NOTES