

## GROUP 42Ab

## DOOR

## CONTENTS

|                                        |                |                                         |                |
|----------------------------------------|----------------|-----------------------------------------|----------------|
| <b>SPECIFICATION(S)</b> .....          | <b>42Ab-4</b>  | <b>POWER WINDOW DIAGNOSIS</b> .....     | <b>42Ab-38</b> |
| SERVICE SPECIFICATION.....             | 42Ab-4         | TROUBLESHOOTING STRATEGY.....           | 42Ab-38        |
| SEALANT.....                           | 42Ab-4         | DIAGNOSTIC TROUBLE CODE CHART POWER     |                |
| COMPONENT IDENTIFICATIONS.....         | 42Ab-4         | WINDOW.....                             | 42Ab-38        |
|                                        |                | TROUBLE SYMPTOM CHART <POWER WINDOW>    |                |
| <b>GENERAL INFORMATION</b> .....       | <b>42Ab-4</b>  | .....                                   | 42Ab-39        |
|                                        |                | DIAGNOSTIC TROUBLE CODE PROCEDURES      |                |
| <b>CENTRAL DOOR LOCKING SYSTEM</b>     |                | .....                                   | 42Ab-39        |
| <b>DIAGNOSIS</b> .....                 | <b>42Ab-11</b> | CODE NO. L0730 P/W (DR) SW pulse 1      |                |
| TROUBLESHOOTING STRATEGY.....          | 42Ab-11        | disconnection.....                      | 42Ab-39        |
| TROUBLE SYMPTOM CHART <CENTRAL DOOR    |                | CODE NO. L0732 P/W (DR) SW pulse 2      |                |
| LOCKING SYSTEM>.....                   | 42Ab-11        | disconnection.....                      | 42Ab-41        |
| INPUT SIGNAL CHART <CENTRAL DOOR       |                | CODE NO. L0734 P/W (DR) Above window    |                |
| LOCKING SYSTEM>.....                   | 42Ab-11        | position.....                           | 42Ab-43        |
| SYMPTOM PROCEDURES.....                | 42Ab-11        | CODE NO. L0736 P/W (DR) Sensor fail     |                |
| INSPECTION PROCEDURE A-1: Central Door |                | (ground).....                           | 42Ab-44        |
| Locking System does not Work at All.   |                | CODE NO. L0740 P/W (DR) 3 times jam -   |                |
| .....                                  | 42Ab-11        | protection.....                         | 42Ab-46        |
| INSPECTION PROCEDURE A-2: A Door or A  |                | CODE NO. L0746 P/W (DR) Parameter read  |                |
| Liftgate cannot be Locked or Unlocked  |                | failCODE NO. L0750 P/W (DR) Position    |                |
| by The Central Door Locking System.    |                | read fail.....                          | 42Ab-47        |
| .....                                  | 42Ab-14        | <b>SYMPTOM PROCEDURES</b> .....         | <b>42Ab-48</b> |
| INSPECTION PROCEDURE A-3: The Liftgate |                | INSPECTION PROCEDURE C-1: Power         |                |
| does not Open.....                     | 42Ab-25        | Windows do not Work at All.....         | 42Ab-48        |
| INSPECTION PROCEDURE A-4: Selector "P" |                | INSPECTION PROCEDURE C-2: Driver's      |                |
| Position-linked Door Unlock Function   |                | Power Window does not Work by means of  |                |
| does not Operate.....                  | 42Ab-31        | The Power Window Main Switch.           |                |
| <b>INPUT SIGNAL PROCEDURES</b> .....   | <b>42Ab-33</b> | .....                                   | 42Ab-55        |
| INSPECTION PROCEDURE B-1: The Liftgate |                | INSPECTION PROCEDURE C-3: Relevant      |                |
| Lock Release Handle Signal is not      |                | Power Window(s) does not Work by means  |                |
| Received.....                          | 42Ab-33        | of The Front and Rear Passenger's Power |                |
|                                        |                | Window Sub Switches.....                | 42Ab-58        |

Continued on next page

|                                                                                                                                   |         |                                                                    |          |
|-----------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------|----------|
| INSPECTION PROCEDURE C-4: Front and/or Rear Passenger's Power Window(s) do not Work by means of The Power Window Main Switch..... | 42Ab-72 | ON-VEHICLE SERVICE.....                                            | 42Ab-86  |
| INSPECTION PROCEDURE C-5: The Power Window Timer Function does not Work Normally.....                                             | 42Ab-73 | FRONT DOOR FIT ADJUSTMENT....                                      | 42Ab-86  |
| INSPECTION PROCEDURE C-6: Power Window Anti-trap Function does not Work Normally <Driver's Side Only>.....                        | 42Ab-75 | DOOR WINDOW GLASS ADJUSTMENT.....                                  | 42Ab-88  |
| INSPECTION PROCEDURE C-7: The Window Glass Lowers Automatically while it is Rising <Driver's Side Only>.....                      | 42Ab-77 | POWER WINDOW CHECK.....                                            | 42Ab-88  |
| CHECK AT ECU TERMINAL.....                                                                                                        | 42Ab-78 | ADJUSTMENT OF FAULTY POWER WINDOW.....                             | 42Ab-88  |
| DOOR DIAGNOSIS.....                                                                                                               | 42Ab-79 | POWER WINDOW SAFETY MECHANISM CHECK <Driver's side only>.....      | 42Ab-89  |
| INTRODUCTION TO GLASS AND DOOR DIAGNOSIS.....                                                                                     | 42Ab-79 | POWER WINDOW TIMER FUNCTION CHECK.....                             | 42Ab-89  |
| GLASS AND DOOR DIAGNOSTIC TROUBLESHOOTING STRATEGY....                                                                            | 42Ab-79 | POWER WINDOW OPERATION CURRENT CHECK.....                          | 42Ab-89  |
| SYMPTOM CHART.....                                                                                                                | 42Ab-79 | LEARNING PROCEDURES OF THE POWER WINDOW FULLY CLOSED POSITION..... | 42Ab-90  |
| SYMPTOM PROCEDURES.....                                                                                                           | 42Ab-79 | CENTRAL DOOR LOCKING SYSTEM CHECK.....                             | 42Ab-91  |
| INSPECTION PROCEDURE 1: Water Leak Through Door Window Glass.....                                                                 | 42Ab-79 | KEY-IN PREVENTION FUNCTION CHECK.....                              | 42Ab-91  |
| INSPECTION PROCEDURE 2: Door Window Glass Malfunction.....                                                                        | 42Ab-80 | SELECTOR "P" POSITION-LINKED DOOR UNLOCKING FUNCTION CHECK....     | 42Ab-91  |
| INSPECTION PROCEDURE 3: Water Leak Through Door Edge.....                                                                         | 42Ab-80 | DOOR OUTSIDE HANDLE ASSEMBLY PLAY CHECK.....                       | 42Ab-92  |
| INSPECTION PROCEDURE 4: Water Leak from Door Center.....                                                                          | 42Ab-81 | DOOR INSIDE HANDLE CHECK....                                       | 42Ab-93  |
| INSPECTION PROCEDURE 5: Door Hard to Open.....                                                                                    | 42Ab-81 | CUSTOMIZE FUNCTION.....                                            | 42Ab-94  |
| INSPECTION PROCEDURE 6: Door does not Open or Close Completely.....                                                               | 42Ab-81 | DOOR ASSEMBLY.....                                                 | 42Ab-95  |
| INSPECTION PROCEDURE 7: Uneven Gap Between Body.....                                                                              | 42Ab-82 | REMOVAL AND INSTALLATION....                                       | 42Ab-95  |
| INSPECTION PROCEDURE 8: Wind Noise Around Door.....                                                                               | 42Ab-82 | INSPECTION.....                                                    | 42Ab-97  |
| HOW TO LOCATE WIND NOISE....                                                                                                      | 42Ab-82 | DOOR GLASS AND REGULATOR....                                       | 42Ab-97  |
| SPECIAL TOOLS.....                                                                                                                | 42Ab-83 | REMOVAL AND INSTALLATION....                                       | 42Ab-97  |
|                                                                                                                                   |         | INSPECTION.....                                                    | 42Ab-101 |
|                                                                                                                                   |         | DOOR HANDLE AND LATCH.....                                         | 42Ab-102 |
|                                                                                                                                   |         | REMOVAL AND INSTALLATION....                                       | 42Ab-102 |
|                                                                                                                                   |         | INSPECTION.....                                                    | 42Ab-106 |
|                                                                                                                                   |         | WINDOW GLASS RUNCHANNEL AND DOOR OPENING WEATHERSTRIP.....         | 42Ab-110 |

Continued on next page

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REMOVAL AND INSTALLATION. . . . [42Ab-110](#)

## SPECIFICATION(S)

## SERVICE SPECIFICATION

M14203000003USA0000010000

| ITEM                                                                | STANDARD VALUE                                                    |
|---------------------------------------------------------------------|-------------------------------------------------------------------|
| Door inside handle lock knob stroke mm (in) [Target value: mm (in)] | 13.7 - 15.0 (0.54 - 0.59) [14.7 (0.58)]                           |
| Door inside handle play mm (in) [Target value: mm (in)]             | Driver's side<br>10.0 - 23.7 (0.39 - 0.93) [17.0 (0.67)]          |
|                                                                     | Except for driver's side<br>5.0 - 18.7 (0.2 - 0.74) [12.0 (0.47)] |
| Door outside handle play mm (in) [Target value: mm (in)]            | 0.1 - 5.2 (0.004 - 0.2) [2.5 (0.1)]                               |
| Power window operation current A                                    | 7 ± 1 [Power supply voltage 14.5 ± 0.5V at 25°C (77°F)]           |

## SEALANT

M14203000005USA0000010000

| ITEM            | SPECIFIED SEALANT                   | REMARK        |
|-----------------|-------------------------------------|---------------|
| Waterproof film | 3 M™AAD Part No. 8633 or equivalent | Ribbon sealer |

## COMPONENT IDENTIFICATIONS

M14203000985USA0000010000

## &lt;DOOR CHECK&gt;

| Applicable location | Identification mark |
|---------------------|---------------------|
| Front door          | Left door<br>55L    |
|                     | Right door<br>55R   |
| Rear door           | Left door<br>58L    |
|                     | Right door<br>58R   |

## &lt;DOOR OPENING OUTER WEATHERSTRIP&gt;

| Applicable side | Identification clip color |
|-----------------|---------------------------|
| Left door       | White                     |
| Right door      | Pink                      |

## GENERAL INFORMATION

M14203000001USA0000010000

## CENTRAL DOOR LOCKING SYSTEM

The central door locking system operates the door lock actuator to lock or unlock the doors and liftgate using the door lock switch built into the front power window (main or sub) switch or key cylinder. The system has the following operations and features:

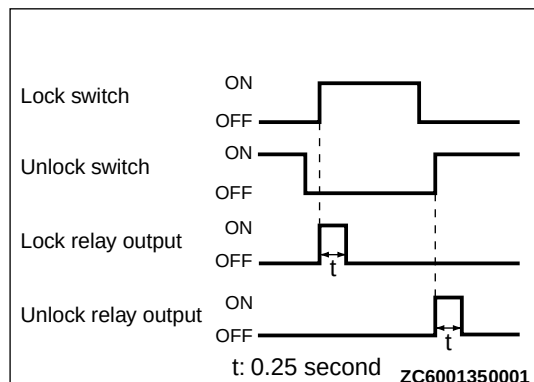
- All doors and liftgate can be locked using the door lock switch built into the front power window (main or sub RH) switch.
- Insert the key into the driver's key cylinder and turn once to the unlock side to unlock the driver's door.

Turn the key once again to the unlock side to unlock all doors and liftgate.

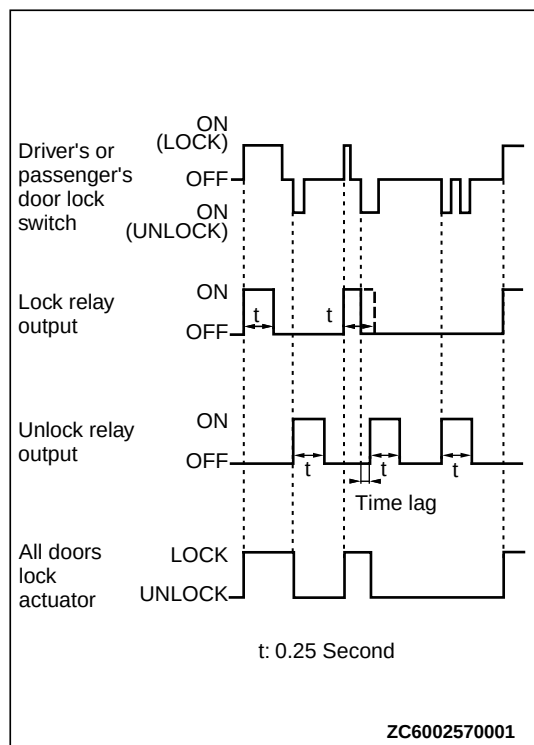
- The key reminder function automatically unlocks all doors and liftgate when door lock operation is performed and the front doors are opened while the key is inserted into the ignition switch.

## CENTRAL DOOR LOCKING OPERATION

The function that allows the driver's door to be opened by pulling the driver's door inside handle even when the driver's door inside lock knob is in the lock position is called "override function".



When the driver's door is locked by turning the door lock key cylinder to the lock side (when the lock switch turns ON after turning OFF the unlock switch in the driver's door lock actuator), ETACS-ECU turns ON the lock relay output for 0.25 second, and locks all doors (including the liftgate). When the driver's door is unlocked by turning the door lock key cylinder to the unlock side (when the unlock switch turns ON after turning OFF the lock switch on the driver's door lock actuator), ETACS-ECU turns ON the unlock relay output for 0.25 second, and unlocks all doors (including the liftgate).



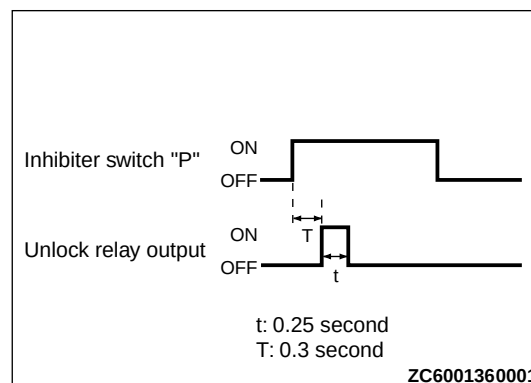
When the door is locked by the driver's or passenger's door lock switch, the ETACS-ECU operates its door lock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to lock all the doors (including the liftgate).

When the door is unlocked by the driver's or passenger's door lock switch, the ETACS-ECU operates its door unlock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to unlock all the doors (including the liftgate).

When the door is locked and unlocked by driver's or passenger's door lock switch consecutively, the ETACS-ECU operates its door lock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to lock all the doors (including the liftgate). Then, the ETACS-ECU operates its door unlock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to unlock all the doors (including the liftgate). Due to this, there may be a time lag between the driver's or passenger's door lock switch actuation and the time when all the doors (including the liftgate) are unlocked.

## SELECTOR "P" POSITION-LINKED DOOR UNLOCKING FUNCTION

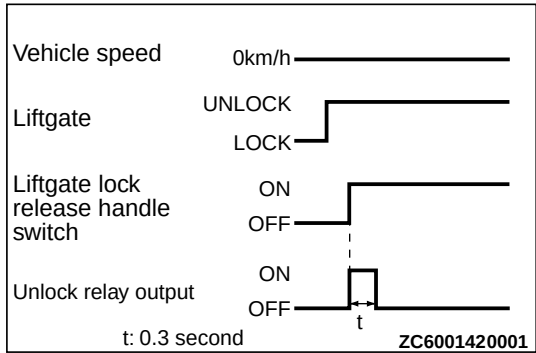
When the selector lever is shifted to the "P" (parking) position with the ignition switch turned ON, all the doors (including the liftgate) will be unlocked automatically, improving passengers' convenience for getting out. Using a customization feature, the selector "P" position-linked door unlocking function can be switched (Refer to P.42Ab-94).



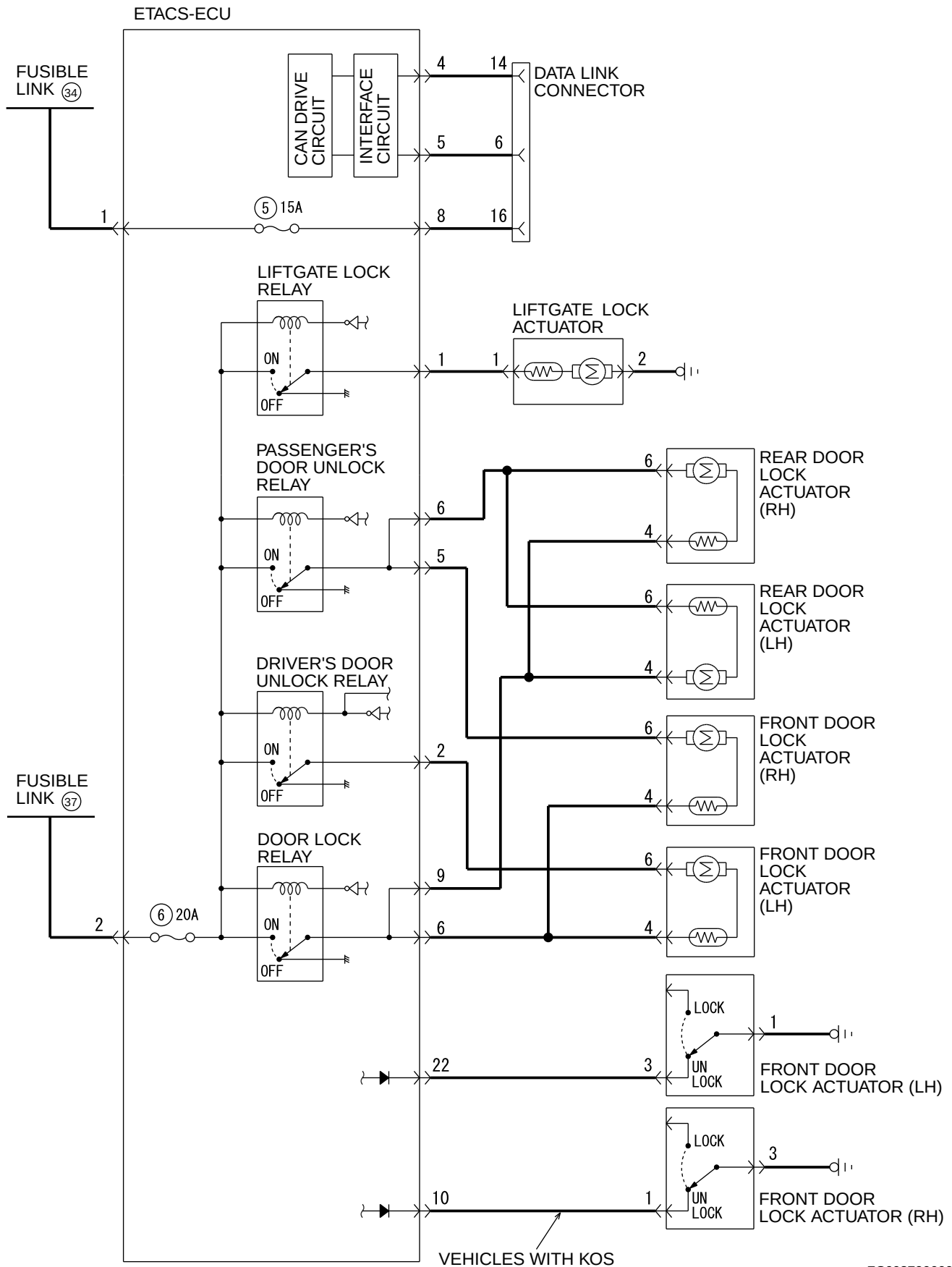
When the selector lever is shifted to the P position with the ignition switch turned ON, the transaxle range switch "P" turns ON, ETACS-ECU turns the unlock relay output ON for 0.25 seconds to unlock all the doors (including the liftgate).

When the liftgate lock release handle is operated to open the liftgate (the liftgate lock release handle switch turns ON) while the vehicle is parked and the liftgate is unlocked, ETACS-ECU turns the unlock relay output ON for 0.3 seconds, thus the liftgate can be opened by the liftgate lock release handle.

LIFTGATE OPENER CONTROL FUNCTION

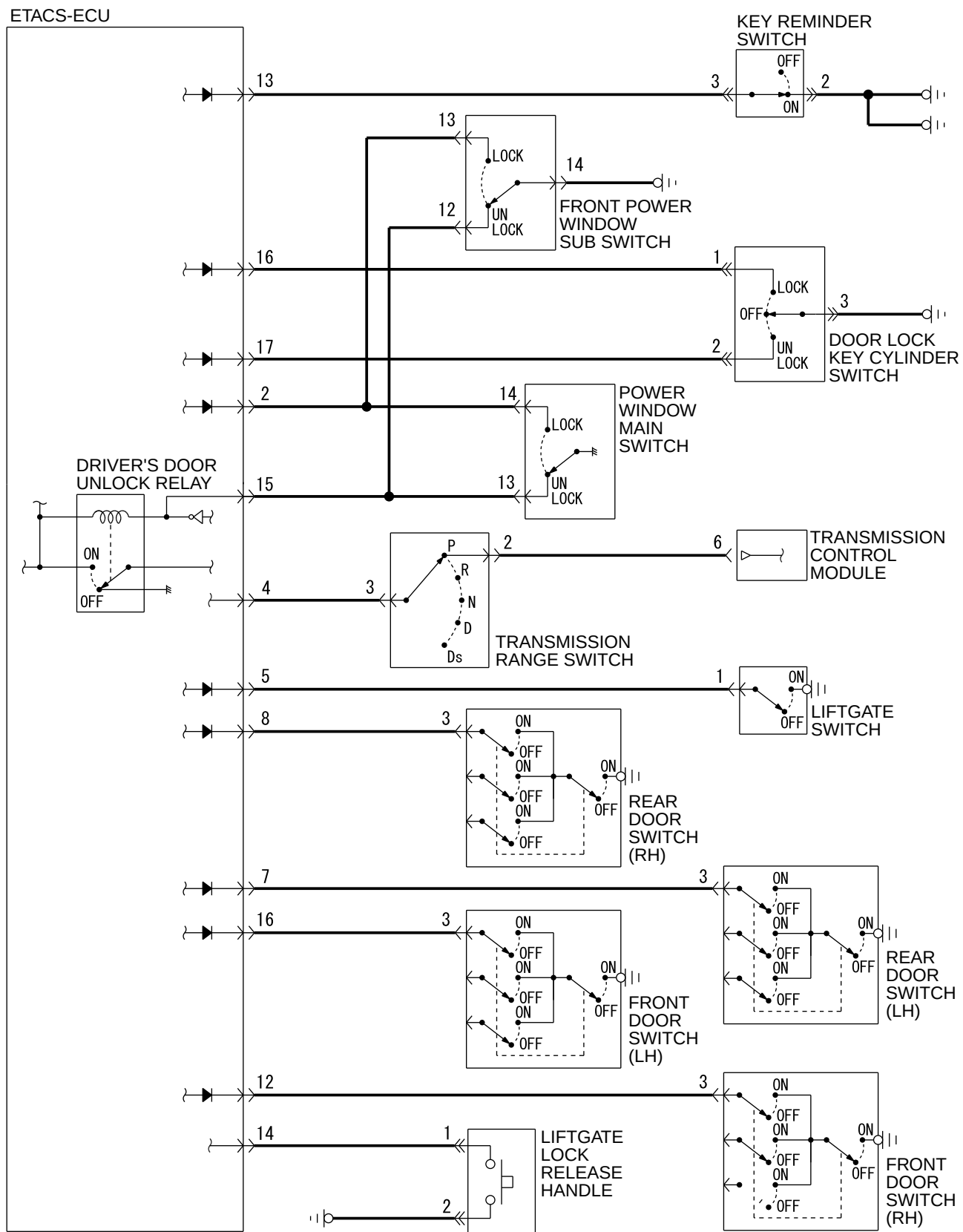


GENERAL CIRCUIT DIAGRAM FOR THE CENTRAL DOOR LOCKING



# DOOR

## GENERAL INFORMATION



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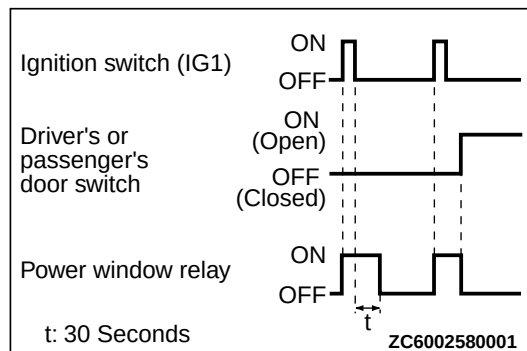
## POWER WINDOWS

When the power window (main or sub) switch is operated, the door windows will open or close. This system has the following operations and features:

- A power window lock switch on the power window main switch prevents the door window glass from opening/closing with the front passenger's and rear power window sub switch.
- The power windows can be opened/closed for 30 seconds after the ignition switch is turned OFF. (The timer expires if the front door LH or RH is opened).
- The power window main switch contains a one-touch switch that will automatically open and close the driver's side door window only.
- With the safety mechanism, the power window main switch detects the pinching of obstacle such as a hand or a head when the driver's door window glass is raised. Then, the mechanism lowers the driver's door window glass for approximately 150 mm (6.0 inches). The safety mechanism is activated when the power window main switch is operated by auto-closing operation (the status when the hand is released from the switch knob after auto-closing operation). The safety mechanism operates as follows.
  - At the manual-closing operation or the continuous auto-closing operation (keep pulling up the switch knob) of the power window switch, the door window glass can be forcibly closed without safety mechanism activation even when the obstacle is detected to be pinched.

- To secure the safety when the power window switch manual-closing or auto-closing operation is performed accidentally during the safety mechanism activation, the power window switch manual-closing and auto-closing operations are prohibited for 3 seconds after the activation of safety mechanism due to the obstacle pinching detection.

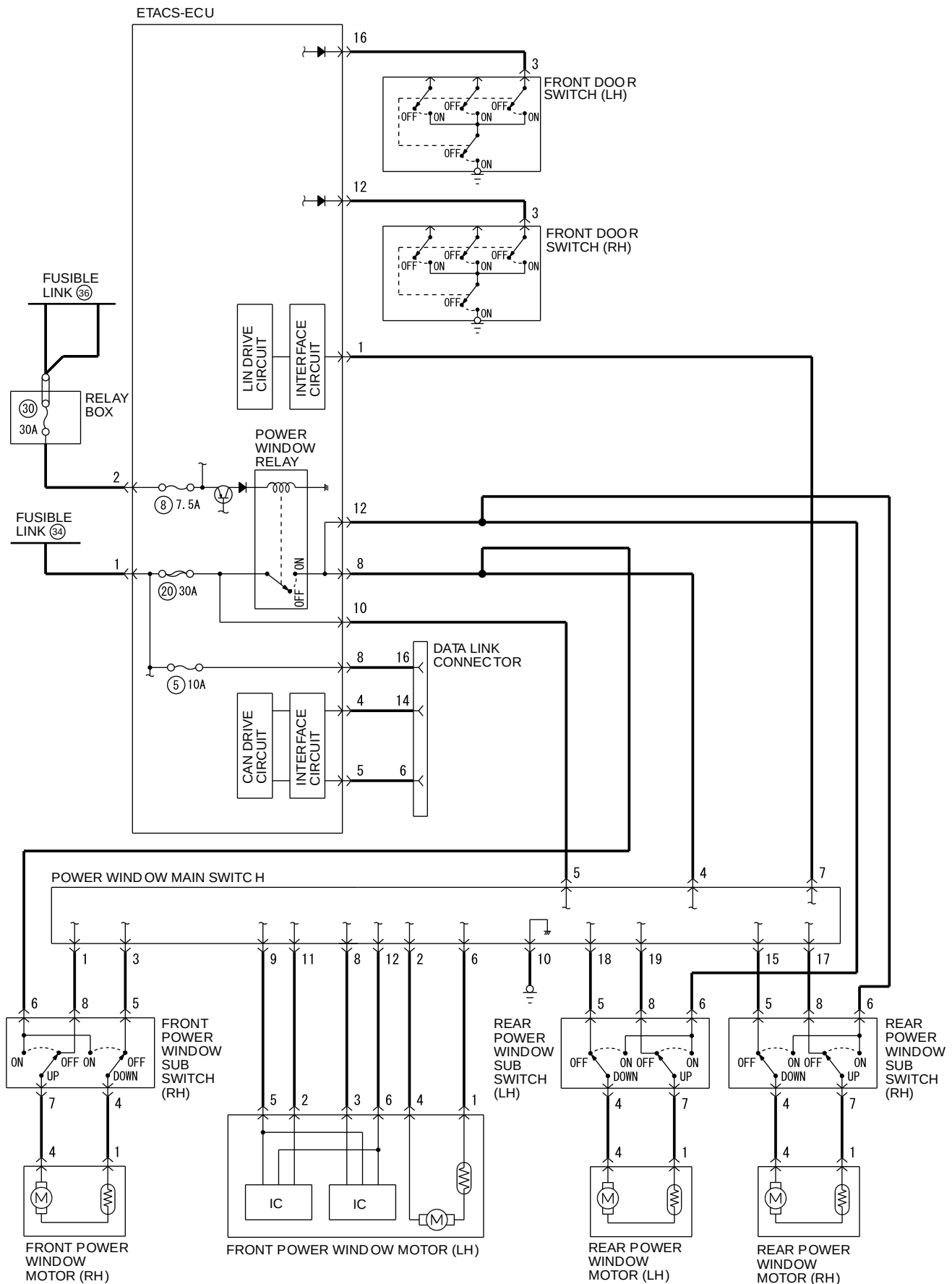
### POWER WINDOW TIMER FUNCTION



Even after the ignition is switched off, the ETACS-ECU keeps the power window relay activated for approximately 30 seconds, enabling raising or lowering of the power windows by using the power window switches. After approximately 30 seconds, the power window relay is deactivated.

During this timed operation, if the driver's or passenger's doors are opened, the power window relay is deactivated from that moment. Using a customization feature, the timer period can be changed (Refer to P.42Ab-94).

## GENERAL CIRCUIT DIAGRAM FOR THE POWER WINDOWS



## CENTRAL DOOR LOCKING SYSTEM DIAGNOSIS

### TROUBLESHOOTING STRATEGY

M14203000067USA0000010001

Refer to GROUP 00, How to Use Troubleshooting/Inspection Service Points, Troubleshooting Contents P.00-6.

### TROUBLE SYMPTOM CHART <CENTRAL DOOR LOCKING SYSTEM>

M14203000070USA0000010001

#### CAUTION

During diagnosis, a diagnostic trouble code associated with other system may be set when the ignition switch is turned on with connector(s)

disconnected. On completion, check all systems for diagnostic trouble code(s). If diagnostic trouble code(s) are set, erase them all.

| Trouble symptom                                                                       | Inspection procedure number | Reference page |
|---------------------------------------------------------------------------------------|-----------------------------|----------------|
| Central door locking system does not work at all.                                     | A-1                         | P.42Ab-11      |
| A door or a liftgate cannot be locked or unlocked by the central door locking system. | A-2                         | P.42Ab-14      |
| The liftgate does not open.                                                           | A-3                         | P.42Ab-25      |
| Selector "P" position-linked door unlock function does not operate.                   | A-4                         | P.42Ab-31      |

### INPUT SIGNAL CHART <CENTRAL DOOR LOCKING SYSTEM>

M14203000920USA0000010000

| Trouble symptom                                          | Inspection procedure number | Reference page |
|----------------------------------------------------------|-----------------------------|----------------|
| The liftgate lock release handle signal is not received. | B-1                         | P.42Ab-33      |

### SYMPTOM PROCEDURES

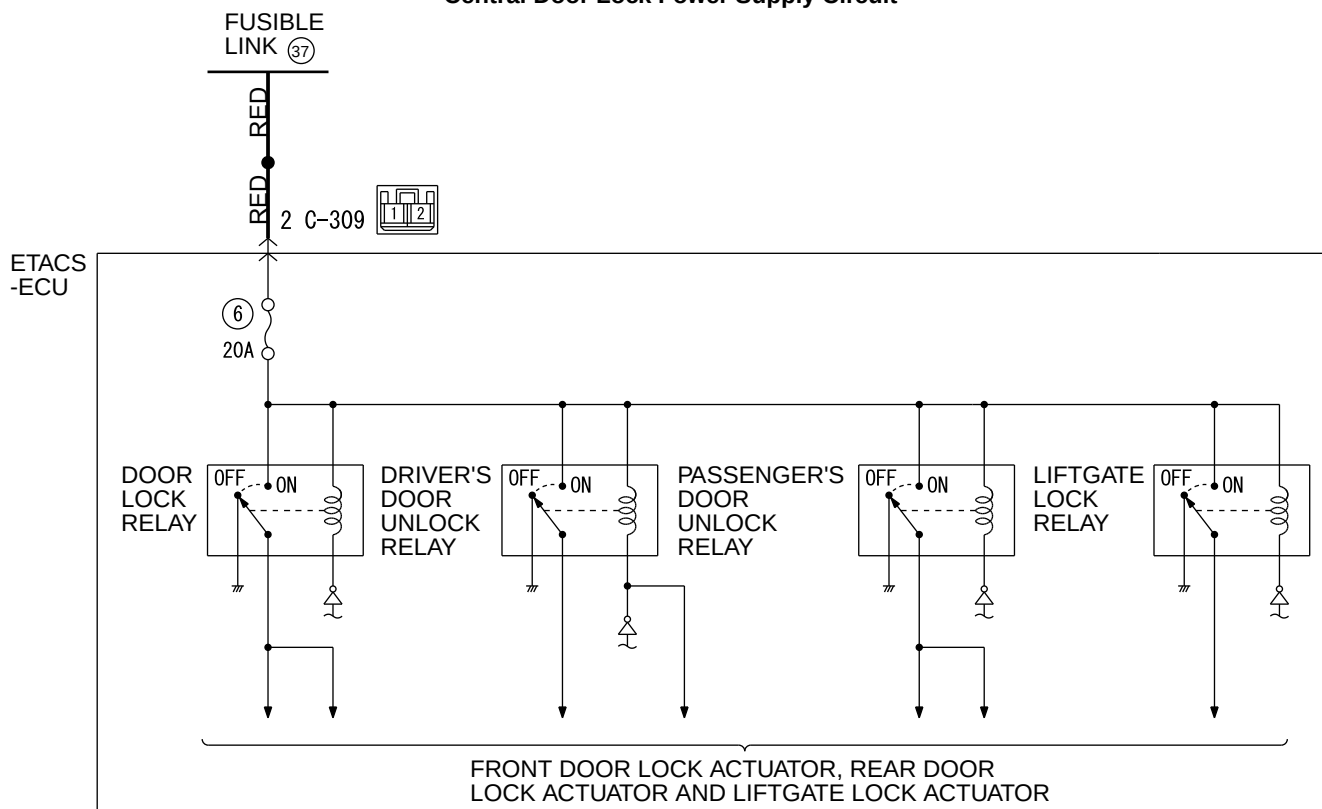
#### INSPECTION PROCEDURE A-1: Central Door Locking System does not Work at All.

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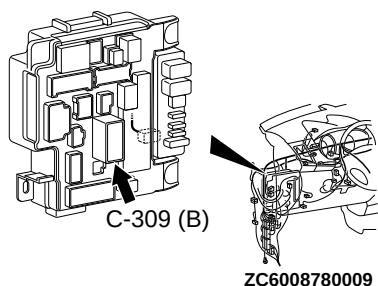
#### CAUTION

Before replacing the ECU, ensure that the power supply circuit, the ground circuit and the communication circuit are normal.

**Central Door Lock Power Supply Circuit**



**Connector: C-309**



### CIRCUIT OPERATION

- The ETACS-ECU controls the central door lock system, locking or unlocking all the doors by

activating the central door lock relay (built into the ETACS-ECU). The ETACS-ECU uses inputs from the following components:

- Door lock actuator
- Door lock key cylinder switch
- Door lock switch, which is incorporated in the power window main switch or power window sub switch

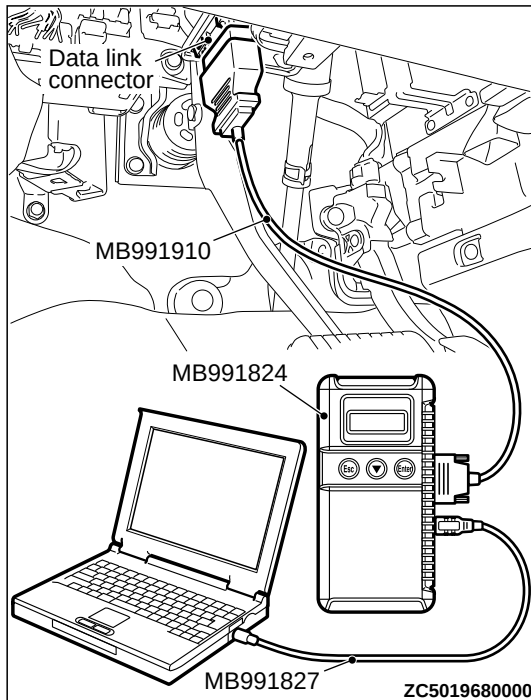
### TROUBLESHOOTING HINTS

- 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

### DIAGNOSTIC PROCEDURE

#### Required Special Tools:

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



\*MB991910: M.U.T.-III Main Harness A

**STEP 1. Using scan tool MB991958, check data list.**

Check the input signals from the front 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 scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ad-5."

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

(3) Check the ETACS data list.

\*Set the driver's door to "UNLOCK."

| Item No. | Item name             | Normal condition |
|----------|-----------------------|------------------|
| Item 271 | Dr door unlock switch | Unlock           |

\*Set the front passenger's door to "UNLOCK." <vehicles with KOS>

| Item No. | Item name             | Normal condition |
|----------|-----------------------|------------------|
| Item 272 | As door unlock switch | Unlock           |

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

**Q:Are normal conditions displayed on the "Dr door unlock switch" and "As door unlock switch"?**

**YES:** Go to Step 2.

**NO:** Refer to GROUP 54Ad, Inspection Procedure 4: ETACS-ECU does not receive any signal from the front door lock actuator P.54Ad-67.

**STEP 2. Check ETACS-ECU connector C-309 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q:Is ETACS-ECU connector C-309 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 central door locking system works normally.

**STEP 3. Check the wiring harness between ETACS-ECU connector C-309 (terminal 2) and fusible link (37).**

**Q:Is the wiring harness between ETACS-ECU connector C-309 (terminal 2) and fusible link (37) in good condition?**

**YES:** Go to Step 4.

**NO:** The wiring harness may be damaged or the connector may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. Verify that the central door locking system works normally.

**STEP 4. Retest the system.**

Check that the central door locking system works normally.

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

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

**NO:** Replace the ETACS-ECU. Check that the central door locking system normally.

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**INSPECTION PROCEDURE A-2: A Door or A Liftgate cannot be Locked or Unlocked by The Central Door Locking System.**

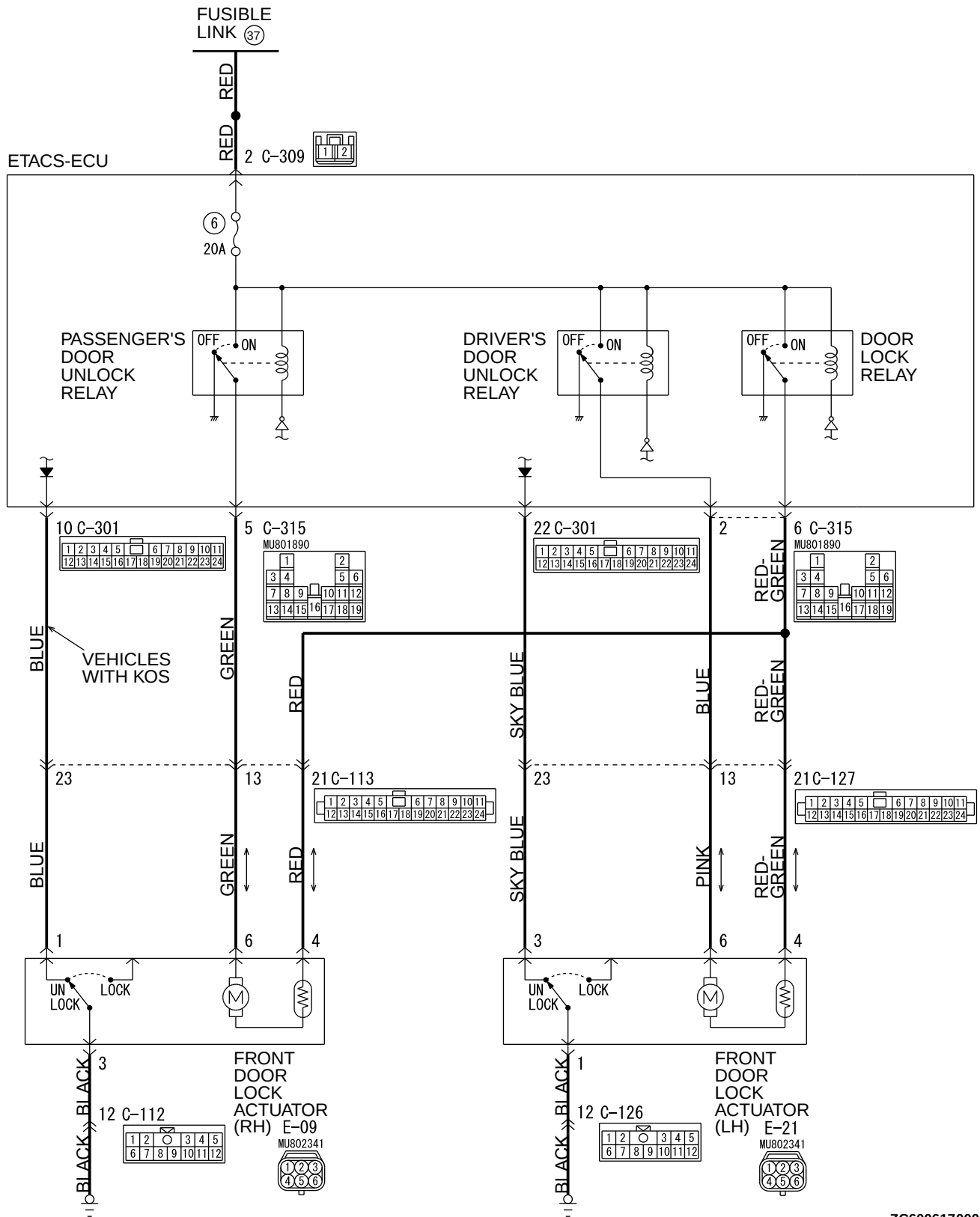
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M14203000917USA0000010000

** CAUTION**

Before replacing the ECU, ensure that the power supply circuit, the ground circuit and the communication circuit are normal.

Central Door Lock Circuit <Front Door>

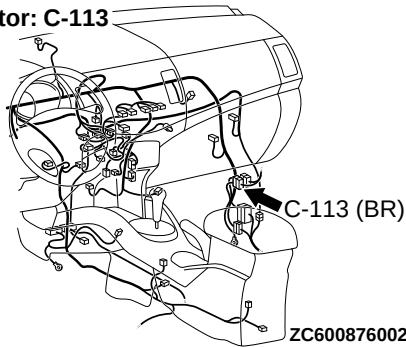


**Central Door Lock Circuit (Rear Door and Liftgate)**

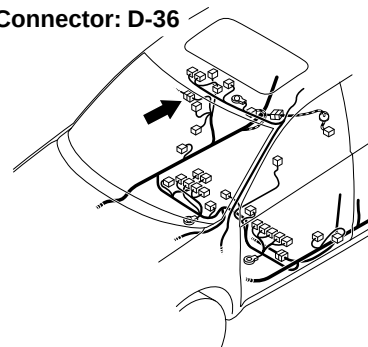
The diagram illustrates the electrical system for the rear door and liftgate locks. Key components and connections include:

- Power Source:** A FUSIBLE LINK (37) provides RED power to the ETACS-ECU.
- ETACS-ECU:** The central control unit, connected to a 20A fuse (F-11) and a 2C-309 connector.
- Relays:**
  - PASSENGER'S DOOR UNLOCK RELAY:** Controlled by the ETACS-ECU, it powers the rear door lock actuators.
  - DOOR LOCK RELAY:** Controls the rear door lock actuators.
  - LIFTGATE LOCK RELAY:** Controls the liftgate lock actuator.
- Actuators:**
  - REAR DOOR LOCK ACTUATOR (LH):** Connected to the Passenger's Door Unlock Relay and the Door Lock Relay.
  - REAR DOOR LOCK ACTUATOR (RH):** Connected to the Door Lock Relay.
  - LIFTGATE LOCK ACTUATOR:** Connected to the Liftgate Lock Relay.
- Wiring and Connectors:**
  - Light Green:** Powers the rear door lock actuators.
  - White/Blue:** Powers the rear door lock actuators.
  - Grey:** Powers the liftgate lock actuator.
  - Red/White:** Powers the liftgate lock actuator.
  - Black:** Ground for the liftgate lock actuator.
- Connectors:**
  - 2C-309:** Connects the ETACS-ECU to the relays.
  - D-21, D-36, D-12:** Connectors for the rear door and liftgate lock actuators.

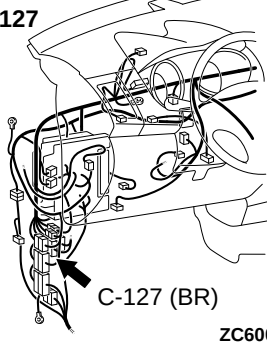
Connector: C-113



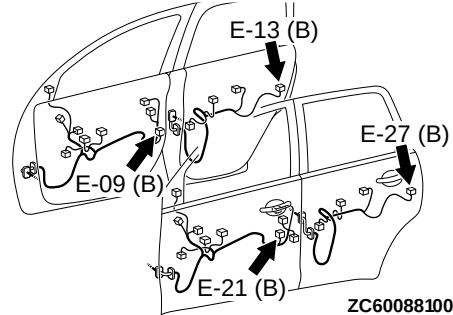
Connector: D-36



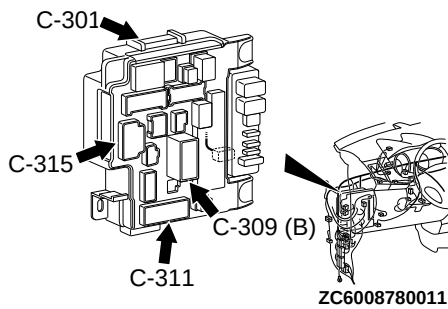
Connector: C-127



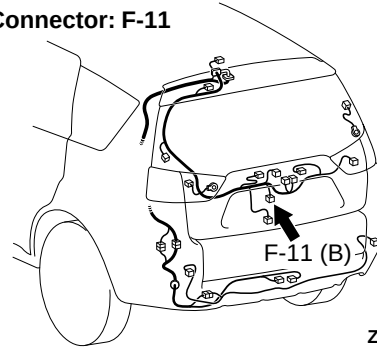
Connectors: E-09, E-13, E-21, E-27



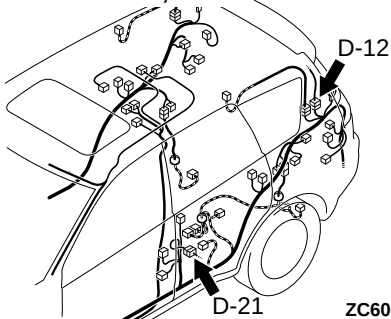
Connectors: C-301, C-309, C-311, C-315



Connector: F-11



Connectors: D-12, D-21



### CIRCUIT OPERATION

- The ETACS-ECU operates the central door lock system according to the following signals:
  - Door lock actuator switch
  - Door lock key cylinder switch
  - Door lock switch, which is incorporated in the power window main switch or power window sub switch
- The ETACS-ECU locks or unlocks all the doors by operating the central door lock relay (incorporated in the ECU) in response to input signals.

### TECHNICAL DESCRIPTION (COMMENT)

The wiring harness between the ETACS-ECU and the door lock actuator may be defective.

### TROUBLESHOOTING HINTS

- The door lock actuator may be defective
- The liftgate 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

### DIAGNOSTIC PROCEDURE

**STEP 1. Confirmation of the defective door lock actuator or liftgate lock actuator.**

**Q:Which door or liftgate is not operating normally?**

**Driver's door:** Go to Step 2.

**Front passenger's door:** Go to Step 6.

**Rear right door:** Go to Step 10.

**Rear left door:** Go to Step 14.

**Liftgate:** Go to Step 18.

**STEP 2. Check front door lock actuator (LH) connector E-21 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

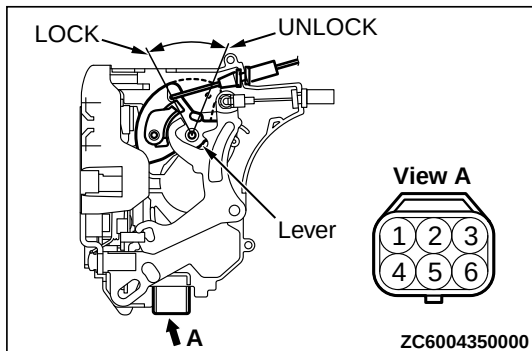
**Q:Is the front door lock actuator (LH) connector E-21 in good condition?**

**YES:** Go to Step 3.

**NO:** Repair or check the connector. Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that all the doors and the liftgate can be locked and unlocked normally.

**STEP 3. Check the front door lock actuator (LH).**

Remove the front door lock actuator (LH). The illustration shows when the door lock actuator is viewed from inside the door. Refer to P.42Ab-102.



| Lever position           | Battery connection                                                                                                                                                             | Lever operation                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position   | <ul style="list-style-type: none"> <li>• Connect terminal No.4 to the negative battery terminal.</li> <li>• Connect terminal No.6 to the positive battery terminal.</li> </ul> | The lever moves from the "LOCK" position to the "UNLOCK" position. |
| At the "UNLOCK" position | <ul style="list-style-type: none"> <li>• Connect terminal No.6 to the negative battery terminal.</li> <li>• Connect terminal No.4 to the positive battery terminal.</li> </ul> | The lever moves from the "UNLOCK" position to the "LOCK" position. |

**Q:Does the front door lock actuator (LH) work normally?**

---

**YES:** Go to Step 4.

**NO:** Replace the front door lock actuator (LH). Verify that all the doors and the liftgate can be locked and unlocked normally.

---

**STEP 4. Check ETACS-ECU connector C-315 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-315 in good condition?**

**YES:** Go to Step 5.

**NO:** Repair or check the connector. Refer to GROUP 00E, Harness Connector Inspection P. 00E-2. Verify that all the doors and the liftgate can be locked and unlocked normally.

---

**STEP 5. Check the wiring harness between ETACS-ECU connector C-315 (terminals No. 2 and 6) and front door lock actuator (LH) connector E-21 (terminals No. 6 and 4).**

*NOTE: Also check intermediate connector C-127 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-127 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-315 (terminals No. 2 and 6) and front door lock actuator (LH) connector E-21 (terminals No. 6 and 4) in good condition?**

**YES:** Go to Step 24.

**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 or replace the damaged component(s). Verify that all the doors and the liftgate can be locked and unlocked normally.

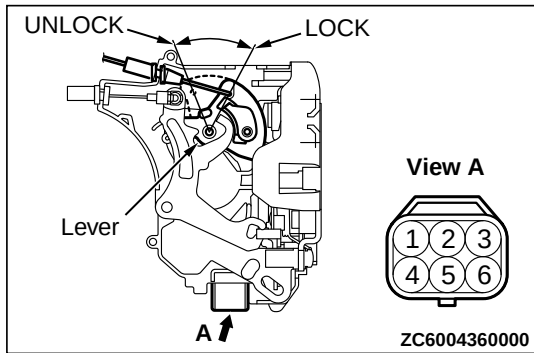
---

**STEP 6. Check front door lock actuator (RH) connector E-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is front door lock actuator (RH) connector E-09 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 all the doors and the liftgate can be locked and unlocked normally.



### STEP 7. Check the front door lock actuator (RH).

Remove the front door lock actuator (RH). The illustration shows when the door lock actuator is viewed from inside the door. Refer to P.42Ab-102.

| Lever position           | Battery connection                                                                                                                                                         | Lever operation                                                    |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position   | <ul style="list-style-type: none"> <li>Connect terminal No.4 to the negative battery terminal.</li> <li>Connect terminal No.6 to the positive battery terminal.</li> </ul> | The lever moves from the "LOCK" position to the "UNLOCK" position. |
| At the "UNLOCK" position | <ul style="list-style-type: none"> <li>Connect terminal No.6 to the negative battery terminal.</li> <li>Connect terminal No.4 to the positive battery terminal.</li> </ul> | The lever moves from the "UNLOCK" position to the "LOCK" position. |

### Q:Is the front door lock actuator (RH) normal?

**YES:** Go to Step 8.

**NO:** Replace the front door lock actuator (RH). Verify that all the doors and the liftgate can be locked and unlocked normally.

### STEP 8. Check ETACS-ECU connector C-315 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

### Q:Is ETACS-ECU connector C-315 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 all the doors and the liftgate can be locked and unlocked normally.

### STEP 9. Check the wiring harness between ETACS-ECU connector C-315 (terminals No. 5 and 6) and front door lock actuator (RH) connector E-09 (terminals No. 6 and 4).

*NOTE: Also check intermediate connector C-113 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-113 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-315 (terminals No. 5 and 6) and front door lock actuator (RH) connector E-09 (terminals No. 6 and 4) in good condition?

**YES:** Go to Step 24.

**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 all the doors and the liftgate can be locked and unlocked normally.

**STEP 10. Check rear door lock actuator (RH) connector E-13 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

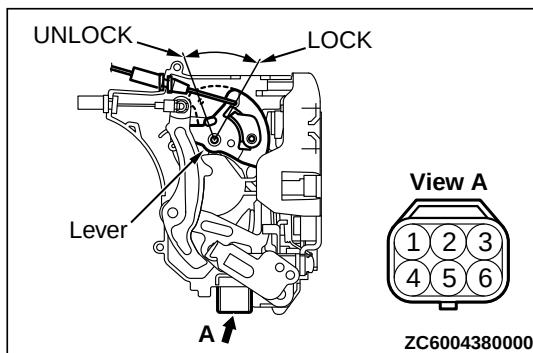
**Q: Is rear door lock actuator (RH) connector E-13 in good condition?**

**YES:** Go to Step 11.

**NO:** Repair or check the connector. Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that all the doors can be locked and unlocked normally.

**STEP 11. Check the rear door lock actuator (RH).**

Remove the rear door lock actuator (RH). The illustration shows when the door lock actuator is viewed from inside the door. Refer to P.42Ab-102.



| Lever position           | Battery connection                                                                                                                                                             | Lever operation                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position   | <ul style="list-style-type: none"> <li>• Connect terminal No.4 to the negative battery terminal.</li> <li>• Connect terminal No.6 to the positive battery terminal.</li> </ul> | The lever moves from the "LOCK" position to the "UNLOCK" position. |
| At the "UNLOCK" position | <ul style="list-style-type: none"> <li>• Connect terminal No.6 to the negative battery terminal.</li> <li>• Connect terminal No.4 to the positive battery terminal.</li> </ul> | The lever moves from the "UNLOCK" position to the "LOCK" position. |

**Q: Is the rear door lock actuator (RH) normal?**

**YES:** Go to Step 12.

**NO:** Replace the rear door lock actuator (RH). Verify that all the doors and the liftgate can be locked and unlocked normally.

**STEP 12. Check ETACS-ECU connector C-311 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-311 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 all the doors and the liftgate can be locked and unlocked normally.

**STEP 13. Check the wiring harness between ETACS-ECU connector C-311 (terminals No. 6 and 9) and rear door lock actuator (RH) connector E-13 (terminals No. 6 and 4).**

**NOTE:** Also check intermediate connector D-36 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector D-36 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-311 (terminals No. 6 and 9) and rear door lock actuator (RH) connector E-13 (terminals No. 6 and 4) in good condition?**

**YES:** Go to Step 24.

**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 all the doors and the liftgate can be locked and unlocked normally.

**STEP 14. Check rear door lock actuator (LH) connector E-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

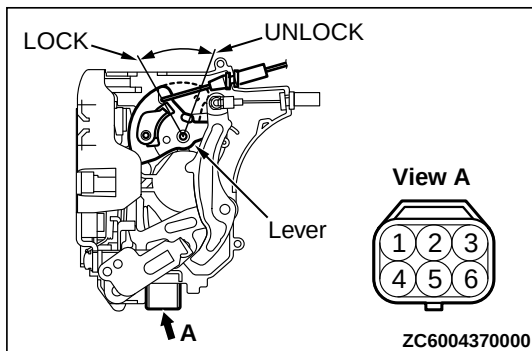
**Q: Is rear door lock actuator (LH) connector E-27 in good condition?**

**YES:** Go to Step 15.

**NO:** Repair or check the connector. Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that all the doors and the liftgate can be locked and unlocked normally.

**STEP 15. Check the rear door lock actuator (LH).**

Remove the rear door lock actuator (LH). The illustration shows when the door lock actuator is viewed from inside the door. Refer to P.42Ab-102.



| Lever position         | Battery connection                                                                                                                                                             | Lever operation                                                    |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position | <ul style="list-style-type: none"> <li>• Connect terminal No.4 to the negative battery terminal.</li> <li>• Connect terminal No.6 to the positive battery terminal.</li> </ul> | The lever moves from the "LOCK" position to the "UNLOCK" position. |

| Lever position           | Battery connection                                                                                                                                                          | Lever operation                                                    |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "UNLOCK" position | <ul style="list-style-type: none"><li>• Connect terminal No.6 to the negative battery terminal.</li><li>• Connect terminal No.4 to the positive battery terminal.</li></ul> | The lever moves from the "UNLOCK" position to the "LOCK" position. |

**Q: Is the rear door lock actuator (LH) normal?**

**YES:** Go to Step 16.

**NO:** Replace the rear door lock actuator (LH). Verify that all the doors and the liftgate can be locked and unlocked normally.

---

**STEP 16. Check ETACS-ECU connector C-311 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-311 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. Verify that all the doors and the liftgate can be locked and unlocked normally.

---

**STEP 17. Check the wiring harness between ETACS-ECU connector C-311 (terminals No. 6 and 9) and rear door lock actuator (LH) connector E-27 (terminals No. 6 and 4).**

*NOTE: Also check intermediate connector D-21 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector D-21 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-311 (terminals No. 6 and 9) and rear door lock actuator (LH) connector E-27 (terminals No. 6 and 4) in good condition?**

**YES:** Go to Step 24.

**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 all the doors and the liftgate can be locked and unlocked normally.

---

**STEP 18. Check liftgate lock actuator connector F-11 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

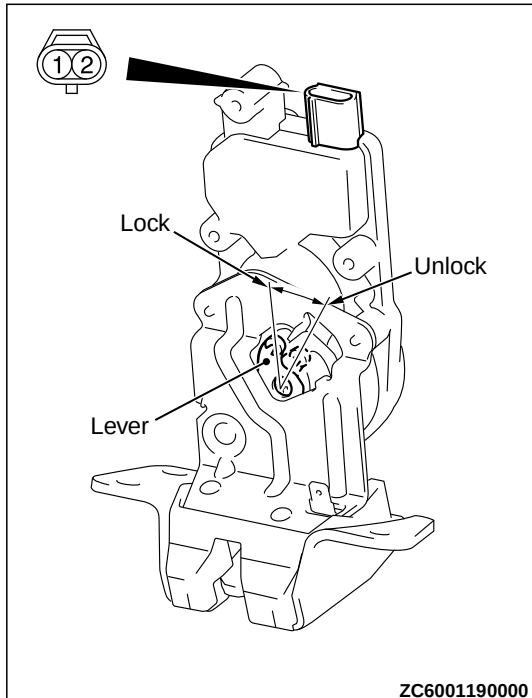
**Q: Is liftgate lock actuator connector F-11 in good condition?**

**YES:** Go to Step 19.

**NO:** Repair or check the connector. Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that all the doors and the liftgate can be locked and unlocked normally.

**STEP 19. Check the liftgate lock actuator.**

Remove the liftgate lock actuator. The illustration shows when the liftgate lock actuator is viewed from inside the liftgate. Refer to GROUP 42Ac, Liftgate Handle and Latch P.42Ac-10.



| Lever position         | Battery connection                                                                                                                                                             | Lever operation                                                    |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position | <ul style="list-style-type: none"> <li>*Connect terminal No. 2 to the negative battery terminal.</li> <li>*Connect terminal No. 1 to the positive battery terminal.</li> </ul> | The lever moves from the "LOCK" position to the "UNLOCK" position. |

**Q: Is the liftgate lock actuator normal?**

**YES:** Go to Step 20.

**NO:** Replace the liftgate lock actuator. Verify that all the doors and the liftgate can be locked and unlocked normally.

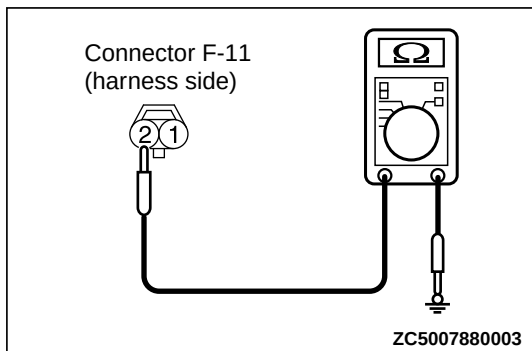
**STEP 20. Check the ground circuit to the liftgate lock actuator. Measure the resistance at liftgate lock actuator connector F-11.**

- (1) Disconnect liftgate lock actuator connector F-11 and measure the resistance on 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 21.

**NO:** Go to Step 22.



**STEP 21. Check the wiring harness between liftgate lock actuator connector F-11 (terminal No. 2) and ground.**

**Q: Is the wiring harness between liftgate lock actuator connector F-11 (terminal No. No. 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 all the doors and the liftgate can be locked and unlocked normally.

**STEP 22. Check ETACS-ECU connector C-311 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-311 in good condition?**

**YES:** Go to Step 23.

**NO:** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P. 00E-2. Verify that all the doors and the liftgate can be locked and unlocked normally.

**STEP 23. Check the wiring harness between ETACS-ECU connector C-311 (terminal No. 1) and liftgate lock actuator connector F-11 (terminal No. 1).**

*NOTE: Also check intermediate connector D-12 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector D-12 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-311 (terminal No. 1) and liftgate lock actuator connector F-11 (terminal No. 1) in good condition?**

**YES:** Go to Step 24.

**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 all the doors and the liftgate can be locked and unlocked normally.

**STEP 24. Retest the system.**

Check that the central door locking system works normally.

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

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

**NO:** Replace the ETACS-ECU. Check that the central door locking system normally.

---

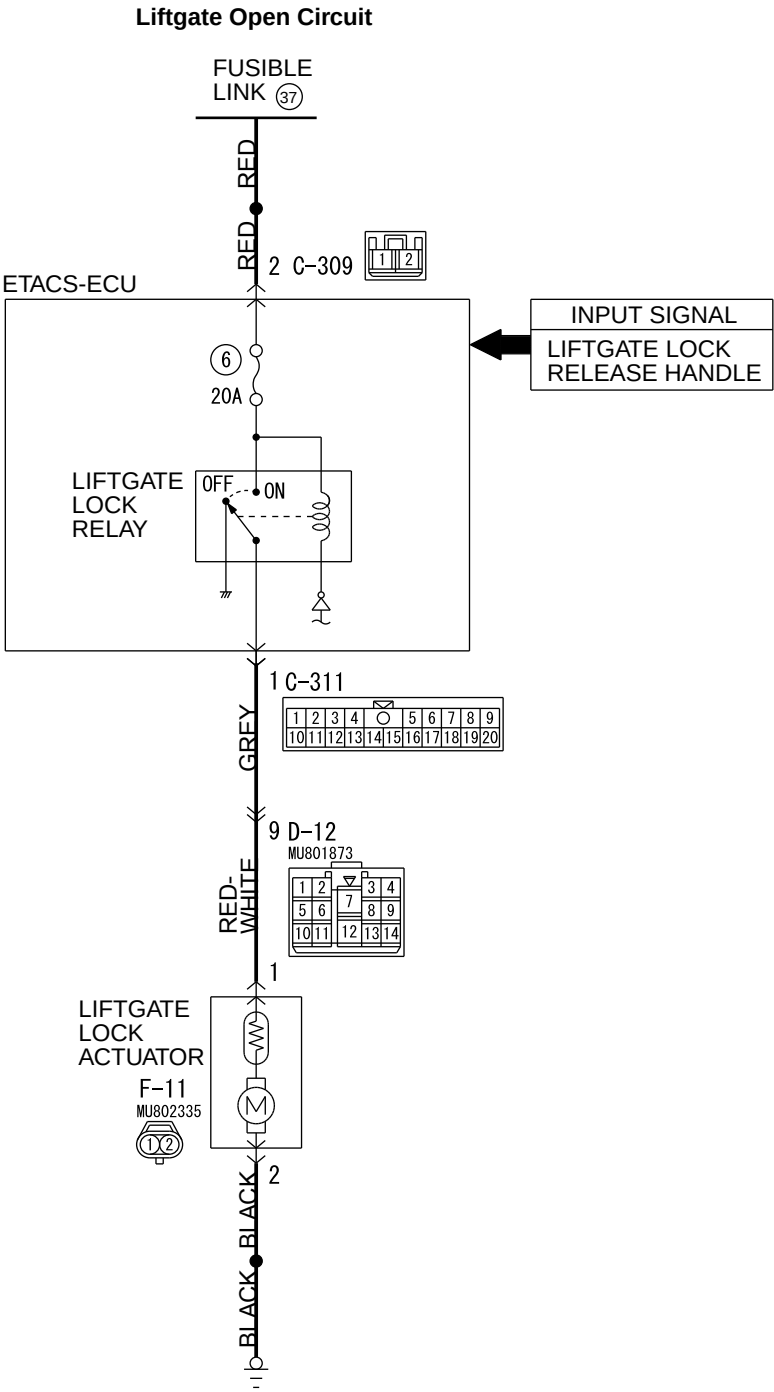
## INSPECTION PROCEDURE A-3: The Liftgate does not Open.

---

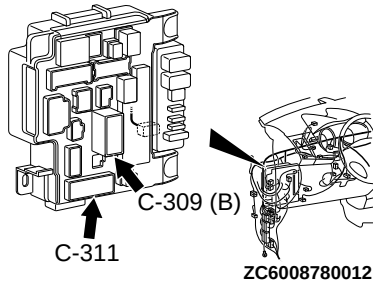
M14203000918USA0000010000

### CAUTION

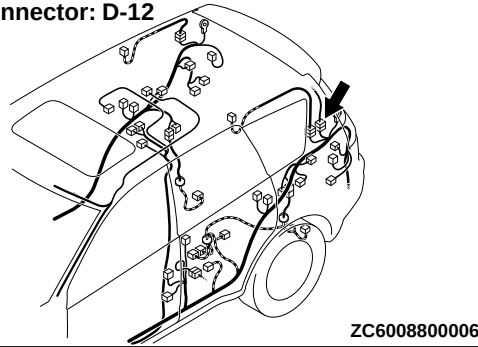
Before replacing the ECU, ensure that the input and output signal circuits are normal.



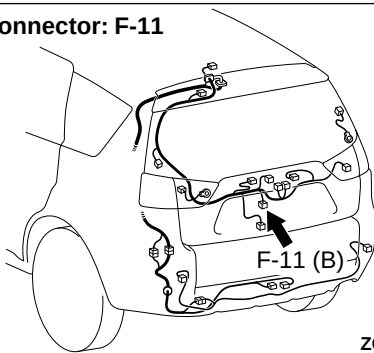
Connectors: C-309, C-311



Connector: D-12



Connector: F-11



### CIRCUIT OPERATION

The ETACS-ECU operates this function in accordance with the input signals below.

- Vehicle speed signal (A/T-ECU)

- Liftgate lock release handle
- Liftgate lock actuator

### TECHNICAL DESCRIPTION (COMMENT)

If this function does not work normally, a malfunction of the input signal circuit(s) mentioned above or ETACS-ECU is suspected.

### TROUBLESHOOTING HINTS

- Vehicle speed signal (A/T-ECU) error
- Malfunction of the liftgate lock release handle
- Malfunction of the liftgate lock actuator
- Malfunction of ETACS-ECU
- Damaged wiring harness and connectors

## DIAGNOSTIC PROCEDURE

### Required Special Tools:

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

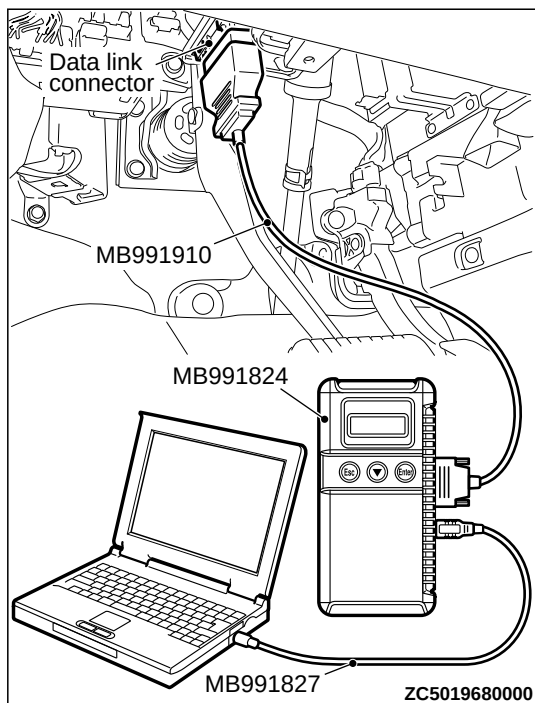
### STEP 1. Checking central door unlocking operation

Check that the central door locking system works normally.

### Q:Is the check result normal?

**YES:** Go to Step 2.

**NO:** Refer to P. 42Ab-11.



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

**⚠ CAUTION**

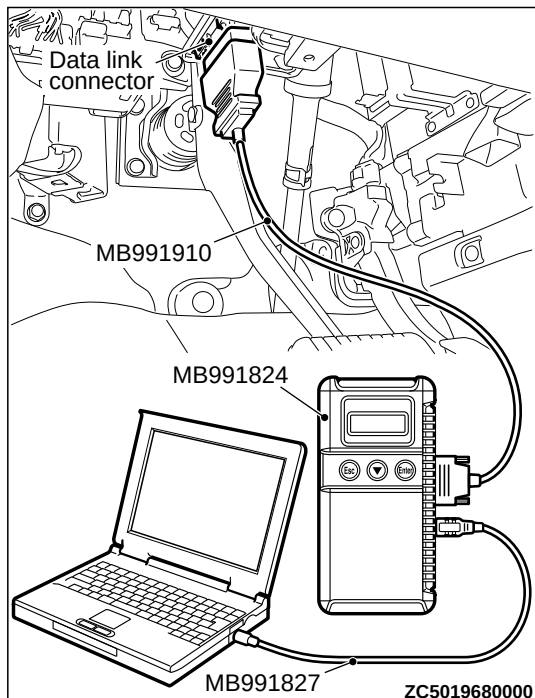
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to GROUP 54Ad, "How to connect scan tool (M.U.T.-III) P.54Af-4."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check whether the CAN bus lines related DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q:Is the DTC set?**

**YES:** Repair the CAN bus line (Refer to GROUP 54D, CAN bus diagnostics table P.54D-17).

**NO:** Go to Step 3.



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

**⚠ CAUTION**

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

- (1) Connect scan tool MB991958. Refer to GROUP 54Ad, "How to connect scan tool (M.U.T.-III) P.54Af-4."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check that the A/T-ECU sets a diagnostic trouble code.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

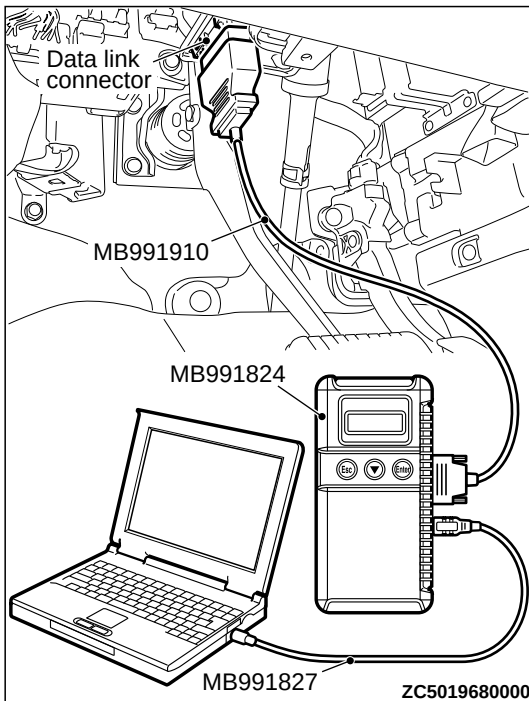
**Q:Is the DTC set?**

**YES:** Diagnose A/T-ECU (Refer to GROUP 23, Diagnostic Trouble Code Chart P.23A-22).

**NO:** Go to Step 4.

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

Check the input signals from the liftgate lock release handle.



**CAUTION**

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

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ad-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check the data list of the ETACS.

\*Liftgate lock release handle: from OFF to ON

| Item No. | Item name           | Normal condition |
|----------|---------------------|------------------|
| Item 230 | Trunk / gate opener | from OFF to ON   |

- (4) Turn the ignition switch to the "LOCK" (OFF) position.  
**OK: Normal condition is displayed.**

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

**YES:** Go to Step 5.

**NO:** Refer to P. 42Ab-11.

**STEP 5. Check ETACS-ECU connector C-311 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-311 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. Verify that the liftgate can be locked and unlocked normally.

**STEP 6. Check the liftgate lock actuator.**

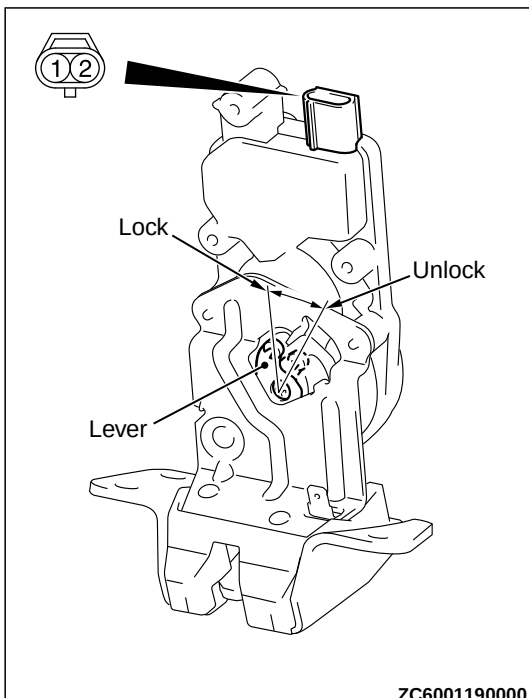
Remove the liftgate lock actuator. The illustration shows when the liftgate lock actuator is viewed from inside the liftgate. Refer to GROUP 42Ac, Liftgate Handle and Latch P.42Ac-10.

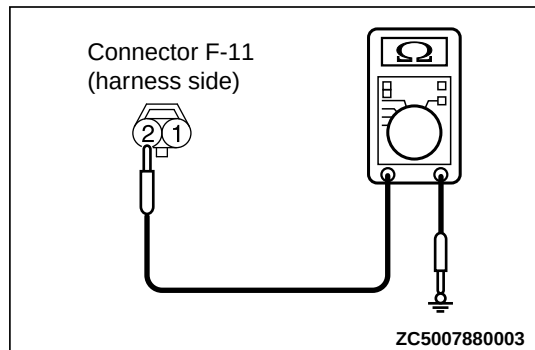
| Lever position         | Battery connection                                                                                                                                                             | Lever operation                                                    |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position | <ul style="list-style-type: none"> <li>*Connect terminal No. 2 to the negative battery terminal.</li> <li>*Connect terminal No. 1 to the positive battery terminal.</li> </ul> | The lever moves from the "LOCK" position to the "UNLOCK" position. |

**Q: Is the liftgate lock actuator normal?**

**YES:** Go to Step 7.

**NO:** Replace the liftgate lock actuator. Verify that the liftgate can be locked and unlocked normally.





**STEP 7. Check the ground circuit to the liftgate lock actuator. Measure the resistance at liftgate lock actuator connector F-11.**

- (1) Disconnect liftgate lock actuator connector F-11 and measure the resistance on 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 9.

**NO:** Go to Step 8.

**STEP 8. Check the wiring harness between liftgate lock actuator connector F-11 (terminal 2) and ground.**

**Q: Is the wiring harness between liftgate lock actuator connector F-11 (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 liftgate can be locked and unlocked normally.

**STEP 9. Check the wiring harness between ETACS-ECU connector C-311 (terminal 1) and liftgate lock actuator connector F-11 (terminal 1).**

*NOTE: Also check intermediate connector D-12 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector D-12 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-311 (terminal 1) and liftgate lock actuator connector F-11 (terminal 1) in good condition?**

**YES:** Go to Step 10.

**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 liftgate can be locked and unlocked normally.

**STEP 10. Retest the system.**

Check that the liftgate can be locked and unlocked normally.

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

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

**NO:** Replace the ETACS-ECU. Check that the liftgate can be locked and unlocked normally.

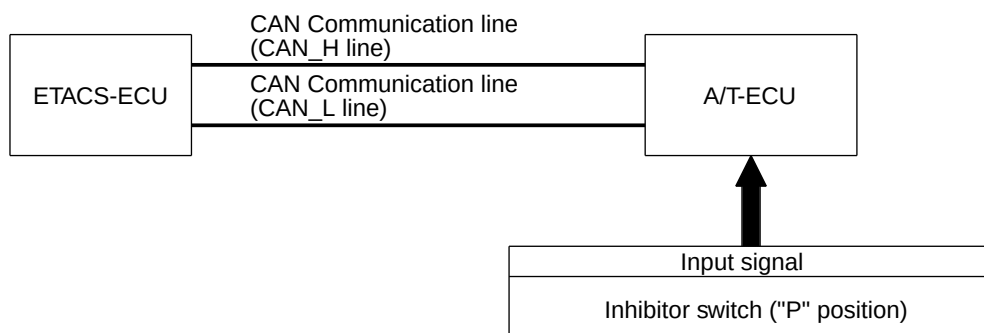
## INSPECTION PROCEDURE A-4: Selector "P" Position-linked Door Unlock Function does not Operate.

M14203000919USA0000010000

### **CAUTION**

Before replacing the ECU, ensure that the power supply circuit, the ground circuit and the communication circuit are normal.

#### Selector "P" Position-linked Door Unlock Function



ZC6004390000

### OPERATION

ETACS-ECU determines whether the shift position is "P" or not according to the shift position signal sent by A/T-ECU.

position signal input circuit(s) or ETACS-ECU is suspected. Also, the selector "P" position-linked door unlock function may have been "disabled" with the customization function.

### TECHNICAL DESCRIPTION (COMMENT)

If the doors are not unlocked when the selector lever is shifted to the "P" position, a malfunction of the shift

### TROUBLESHOOTING HINTS

- Malfunction of ETACS-ECU
- Damaged wiring harness and connectors

## DIAGNOSTIC PROCEDURE

### Required Special Tools:

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

### STEP 1. Checking central door unlocking operation

Check that the central door locking system works normally.

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

**YES:** Go to Step 2.

**NO:** Refer to P. 42Ab-11.

**STEP 2. Check the customize function.**

Check that either of the followings other than "Disable" is set for "Auto door unlock by P position" with the customization function.

- Always enabled
- P/W unlocked

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

**YES:** Go to Step 3.

**NO:** Set either of the followings other than "Disable" for "Auto door unlock by P position" with the customization function (Refer to P. 42Ab-94).

**STEP 3. Using scan tool MB991958, check CAN bus for diagnostic trouble code.**

**⚠ CAUTION**

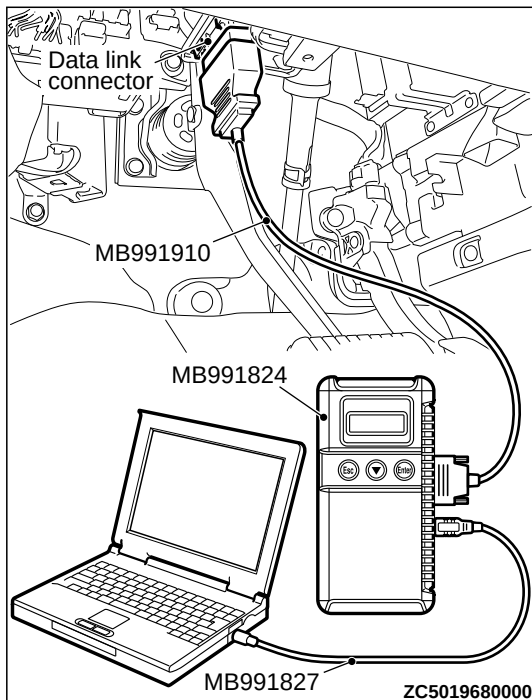
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

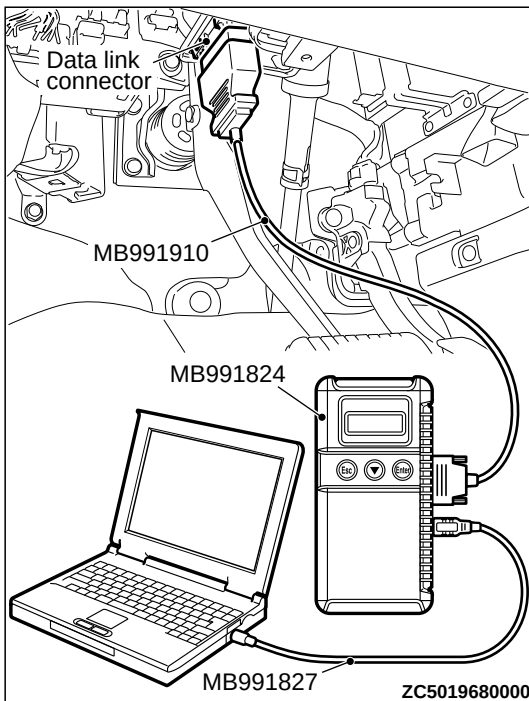
- (1) Connect scan tool MB991958. Refer to GROUP 54Ad, "How to connect scan tool (M.U.T.-III) P.54Af-4."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check whether CAN bus lines related DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

**YES:** Repair the CAN bus line (Refer to GROUP 54D, CAN bus diagnostics table P. 54D-17).

**NO:** Go to Step 4.





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

**⚠ CAUTION**

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

- (1) Connect scan tool MB991958. Refer to GROUP 54Ad, "How to connect scan tool (M.U.T.-III) P.54Af-4."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check the A/T-ECU for diagnostic trouble code.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q:Is the DTC set?**

**YES:** Diagnose A/T-ECU (Refer to GROUP 23, Diagnostic Trouble Code Chart P.23A-22).

**NO:** Go to Step 5.

**STEP 5. Retest the system.**

Check that shifting the selector lever to the "P" position unlocks the doors.

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

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

**NO:** Replace the ETACS-ECU. Check that the selector lever to the P position unlocks the doors normally.

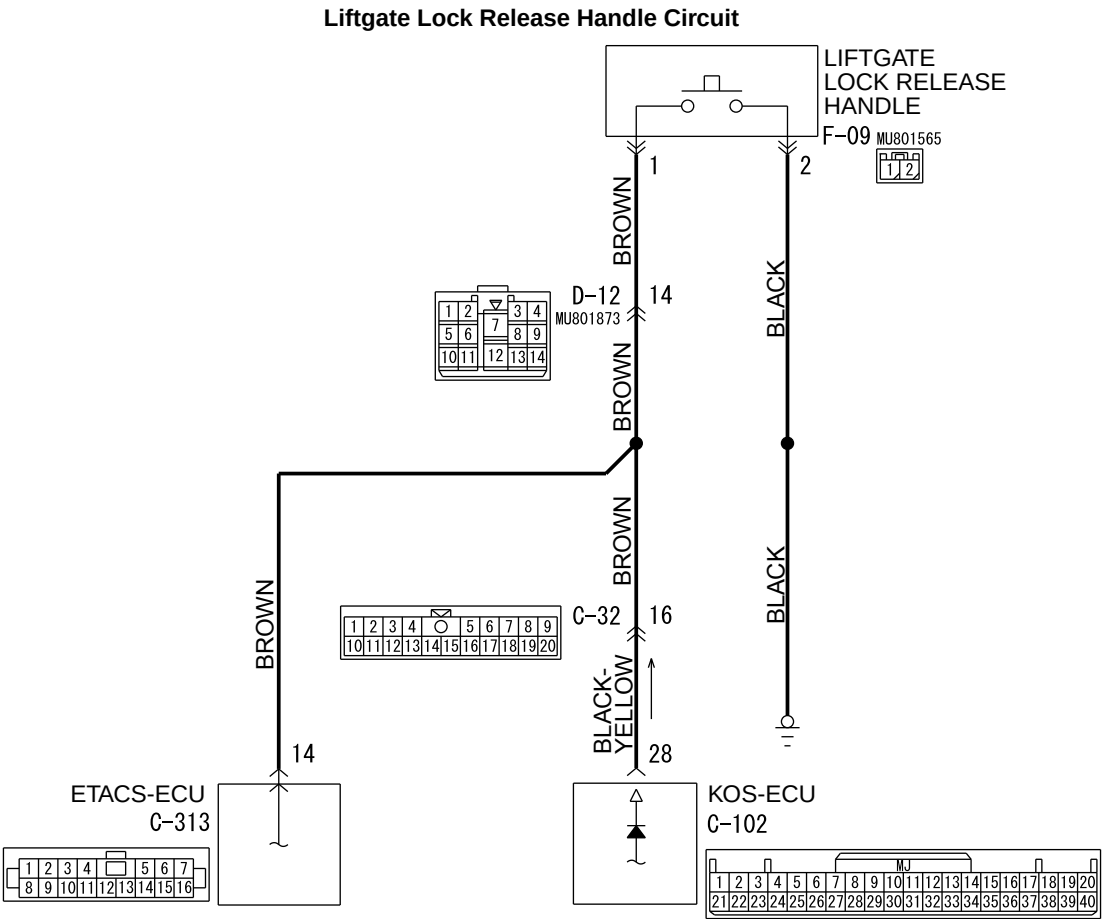
## INPUT SIGNAL PROCEDURES

### INSPECTION PROCEDURE B-1: The Liftgate Lock Release Handle Signal is not Received.

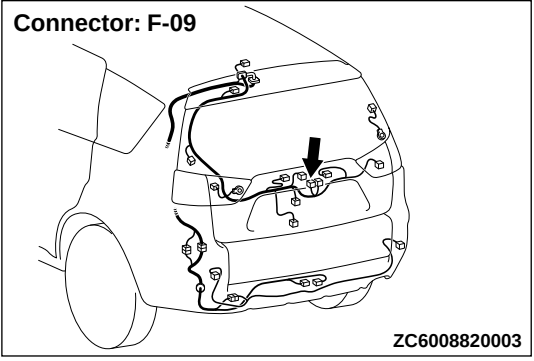
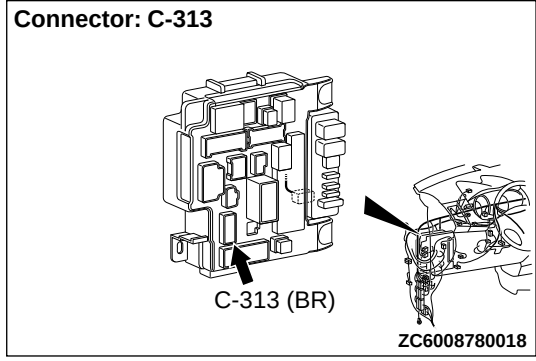
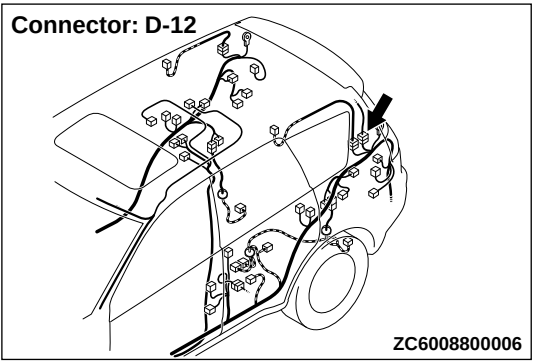
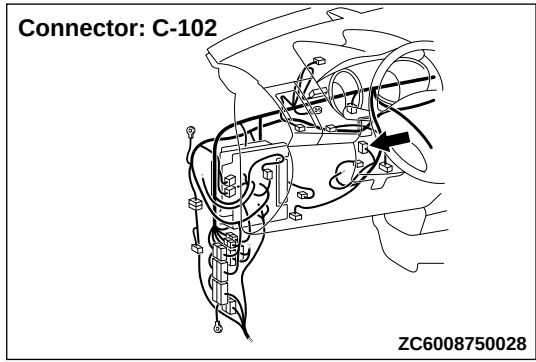
M14203000922USA0000010000

**⚠ CAUTION**

Before replacing the ECU, ensure that the power supply circuit, the ground circuit and the communication circuit are normal.



ZC6031330000



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**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 will 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

---

**DIAGNOSTIC PROCEDURE****Required Special Tools:**

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

---

**STEP 1. Check liftgate lock release handle connector F-09 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is liftgate lock release handle connector F-09 in good condition?**

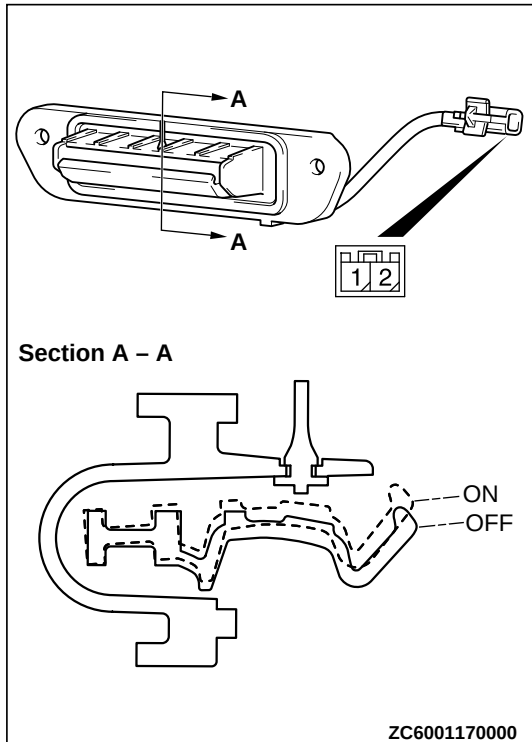
**YES:** Go to Step 2.

**NO:** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. 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 42Ac, Liftgate Handle and Latch P.42Ac-10. Then check continuity between the switch terminals.



<Vehicles without Keyless Operation System (KOS)>

| Handle position | Terminal number | Normal value                           |
|-----------------|-----------------|----------------------------------------|
| ON              | 1 - 2           | Continuity exists (2 $\Omega$ or less) |
| OFF             | 1 - 2           | Open circuit                           |

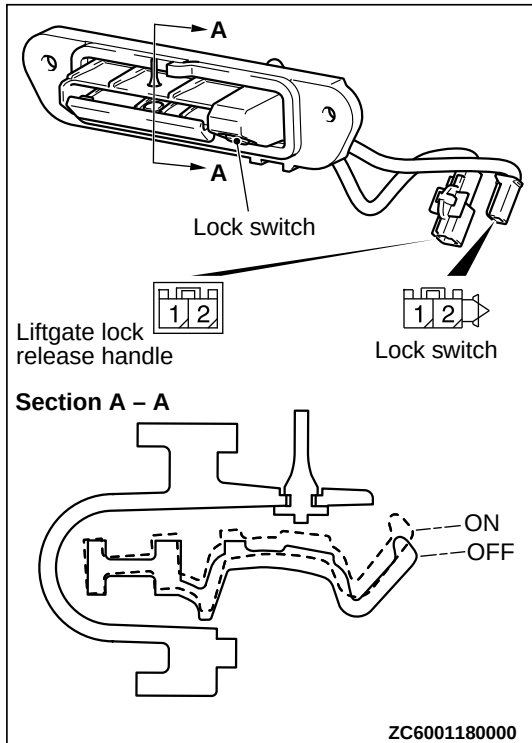
<Vehicles with Keyless Operation System (KOS)>

| Handle position | Terminal number | Normal value                           |
|-----------------|-----------------|----------------------------------------|
| ON              | 1 - 2           | Continuity exists (2 $\Omega$ or less) |
| OFF             | 1 - 2           | Open circuit                           |

**Q: Is the liftgate lock release handle in good condition?**

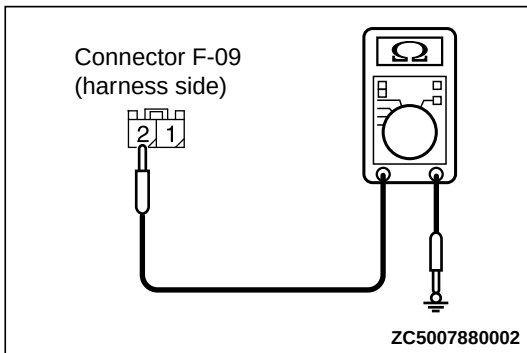
**YES:** Go to Step 3.

**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-09.**

- (1) Disconnect liftgate lock release handle connector F-09 and measure the resistance on 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-09 (terminal 2) and ground.**

**Q: Is the wiring harness between liftgate lock release handle 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 liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.

---

**STEP 5. Check ETACS-ECU connector C-313 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-313 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.

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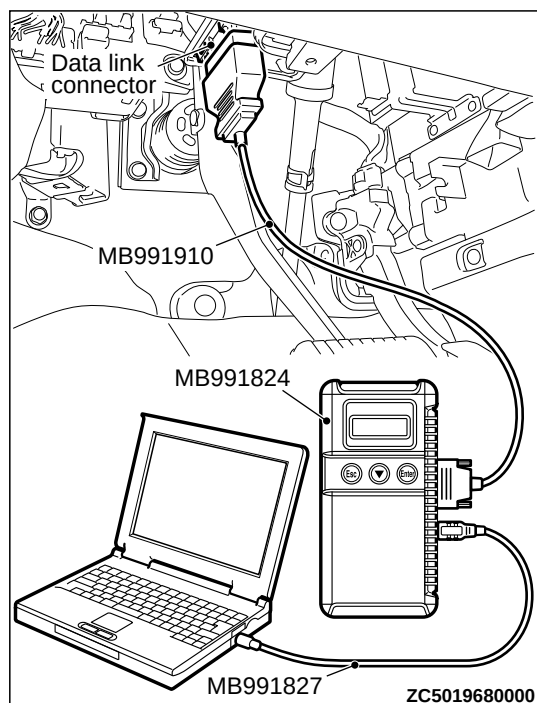
**STEP 6. Check the wiring harness between liftgate lock release handle connector F-09 (terminal 1) and ETACS-ECU connector C-313 (terminal 14).**

*NOTE: Also check intermediate connector D-12 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector D-12 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-09 (terminal 1) and ETACS-ECU connector C-313 (terminal 14) in good condition?**

**YES:** Go to Step 7.

**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 7. Using scan tool MB991958, check data list.**

Check the signals related to the liftgate lock release handle operation.

**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 GROUP 54Ad, "How to connect the Scan Tool (M.U.T.-III) P.54Ad-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check the data list of the ETACS.

\*Liftgate lock release handle: from OFF to ON

| Item No. | Item name           | Normal condition |
|----------|---------------------|------------------|
| 230      | Trunk / gate opener | from OFF to ON   |

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

**OK: Normal condition is displayed.**

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

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

**NO:** Replace the ETACS-ECU. If the liftgate lock release handle operates normally, a correct signal is sent from the liftgate lock release handle.

## POWER WINDOW DIAGNOSIS

## TROUBLESHOOTING STRATEGY

M14203000067USA0000010000

Refer to GROUP 00, How to Use Troubleshooting/Inspection Service Points, Troubleshooting Contents P.00-6.

## DIAGNOSTIC TROUBLE CODE CHART POWER WINDOW

M14203000069USA0000010000

**CAUTION**

On troubleshooting, if the ignition switch is turned ON while disconnecting connector(s), diagnostic trouble code(s) associated with other system may

be set. On completion, check all systems for diagnostic trouble code(s). If diagnostic trouble code(s) are set, erase them all.

| Diagnostic trouble code No. | Diagnostic item                   | Reference page |
|-----------------------------|-----------------------------------|----------------|
| L0730                       | P/W (DR) SW pulse1 disconnection  | P.42Ab-39      |
| L0732                       | P/W (DR) SW pulse2 disconnection  | P.42Ab-41      |
| L0734                       | P/W (DR) Above window position    | P.42Ab-43      |
| L0736                       | P/W (DR) Sensor fail (ground)     | P.42Ab-44      |
| L0740                       | P/W (DR) 3 times jam - protection | P.42Ab-46      |
| L0746                       | P/W (DR) Parameter read fail      | P.42Ab-47      |

| Diagnostic trouble code No. | Diagnostic item             | Reference page |
|-----------------------------|-----------------------------|----------------|
| L0750                       | P/W (DR) Position read fail |                |

*NOTE: P/W: Abbreviation of power Window*

## TROUBLE SYMPTOM CHART <POWER WINDOW>

M14203000070USA0000010000

### **⚠ CAUTION**

During diagnosis, a diagnostic trouble code associated with other system may be set when the ignition switch is turned on with connector(s)

disconnected. On completion, check all systems for diagnostic trouble code(s). If diagnostic trouble code(s) are set, erase them all.

| Trouble symptom                                                                                              | Inspection procedure number | Reference page |
|--------------------------------------------------------------------------------------------------------------|-----------------------------|----------------|
| Power windows do not work at all.                                                                            | C-1                         | P.42Ab-48      |
| Driver's power window does not work by means of the power window main switch.                                | C-2                         | P.42Ab-55      |
| Relevant power window(s) does not work by means of the front and rear passenger's power window sub switches. | C-3                         | P.42Ab-58      |
| Front and/or rear passenger's power window(s) do not work by means of the power window main switch.          | C-4                         | P.42Ab-72      |
| The power window timer function does not work normally.                                                      | C-5                         | P.42Ab-73      |
| Power window anti-trap function does not work normally.                                                      | C-6                         | P.42Ab-75      |
| The window glass lowers automatically while it is rising.                                                    | C-7                         | P.42Ab-77      |

## DIAGNOSTIC TROUBLE CODE PROCEDURES

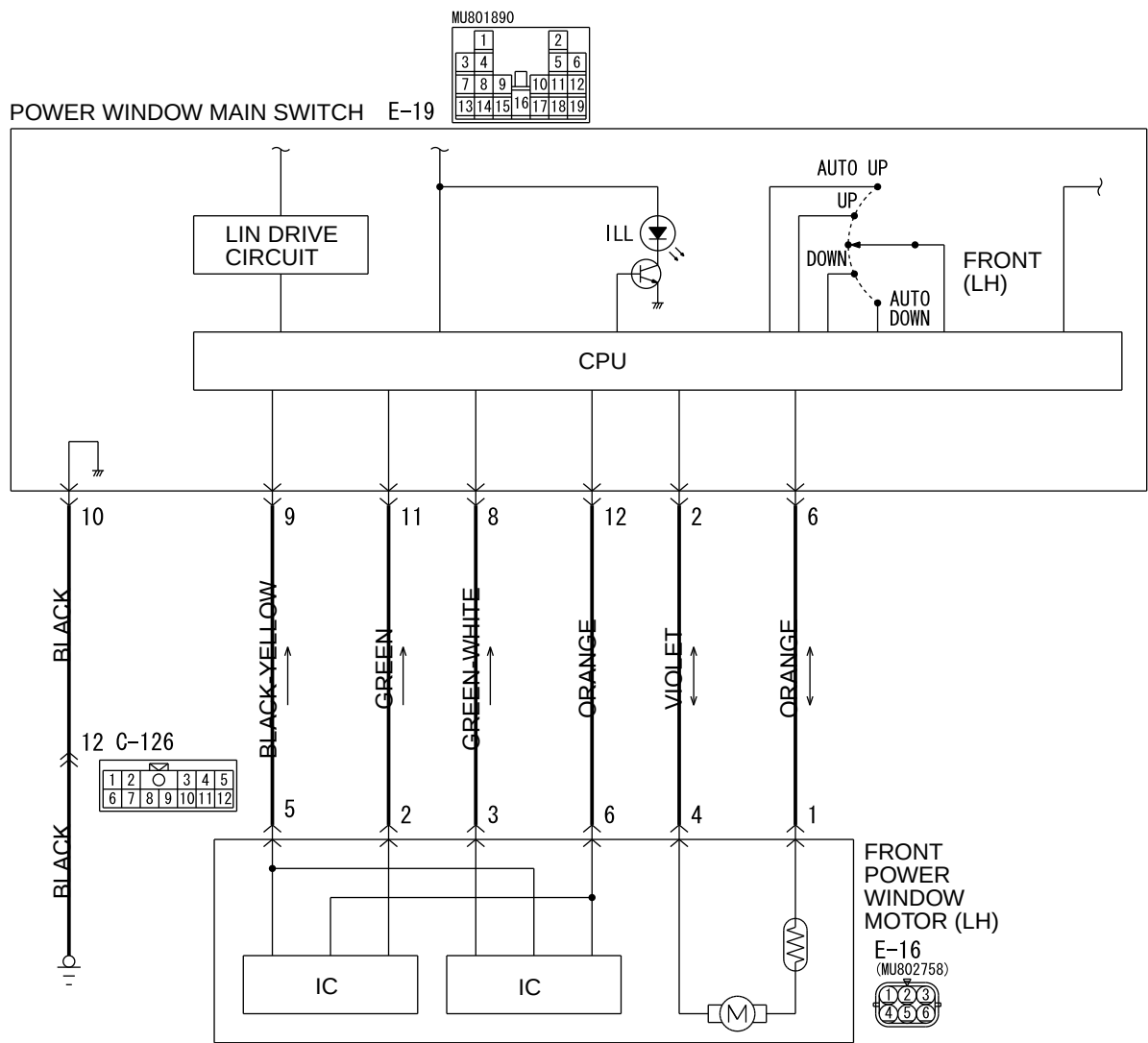
### CODE NO. L0730 P/W (DR) SW pulse 1 disconnection

M14203000932USA0000010000

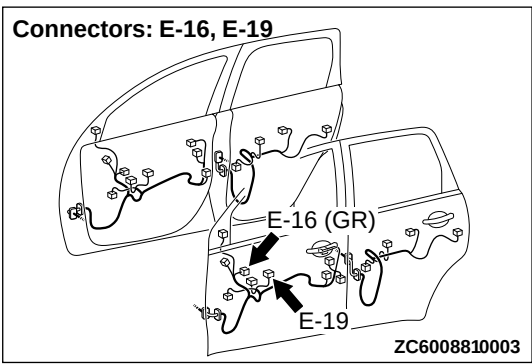
### **⚠ CAUTION**

Before replacing the ECU, ensure that the input and output signal circuits are normal.

Driver's Power Window Circuit



ZC6013680000



COMMENTS ON TROUBLE SYMPTOM

If the pulse 1 signal from the front power window motor (LH) cannot be received, the power window main switch sets the diagnosis trouble code No. L0730.

PROBABLE CAUSES

- Malfunction of the front power window motor (LH)
- Malfunction of the power window main switch
- Damaged wiring harness and connectors

DIAGNOSTIC PROCEDURE

STEP 1. Check power window main switch connector E-19, front power window motor (LH) connector E-16 for loose,

corroded or damaged terminals, or terminals pushed back in the connector.

**Q:**Are power window main switch connector E-19, front power window motor (LH) connector E-16 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. Verify that the power window works normally.

**STEP 2. Check the wiring harness between power window main switch connector E-19 (terminals 8, 9 and 12) and front power window motor (LH) connector E-16 (terminals 3, 5 and 6).**

**Q:**Is the wiring harness between power window main switch connector E-19 (terminals 8, 9 and 12) and front power window motor (LH) connector E-16 (terminals 3, 5 and 6) in good condition?

**YES:** Go to Step 3.

**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 power window works normally.

**STEP 3. Diagnostic trouble code recheck**

Replace the front power window motor (LH). Recheck if the diagnostic trouble code is set.

- (1) Erase the diagnostic trouble code.
- (2) Operate the driver's door window switch on the power window main switch.
- (3) Check if the diagnostic trouble code is set.

**Q:**Is the diagnostic trouble code set?

**YES:** Replace the power window main switch.

**NO:** The procedure is complete. Verify that the power window works normally.

---

## CODE NO. L0732 P/W (DR) SW pulse 2 disconnection

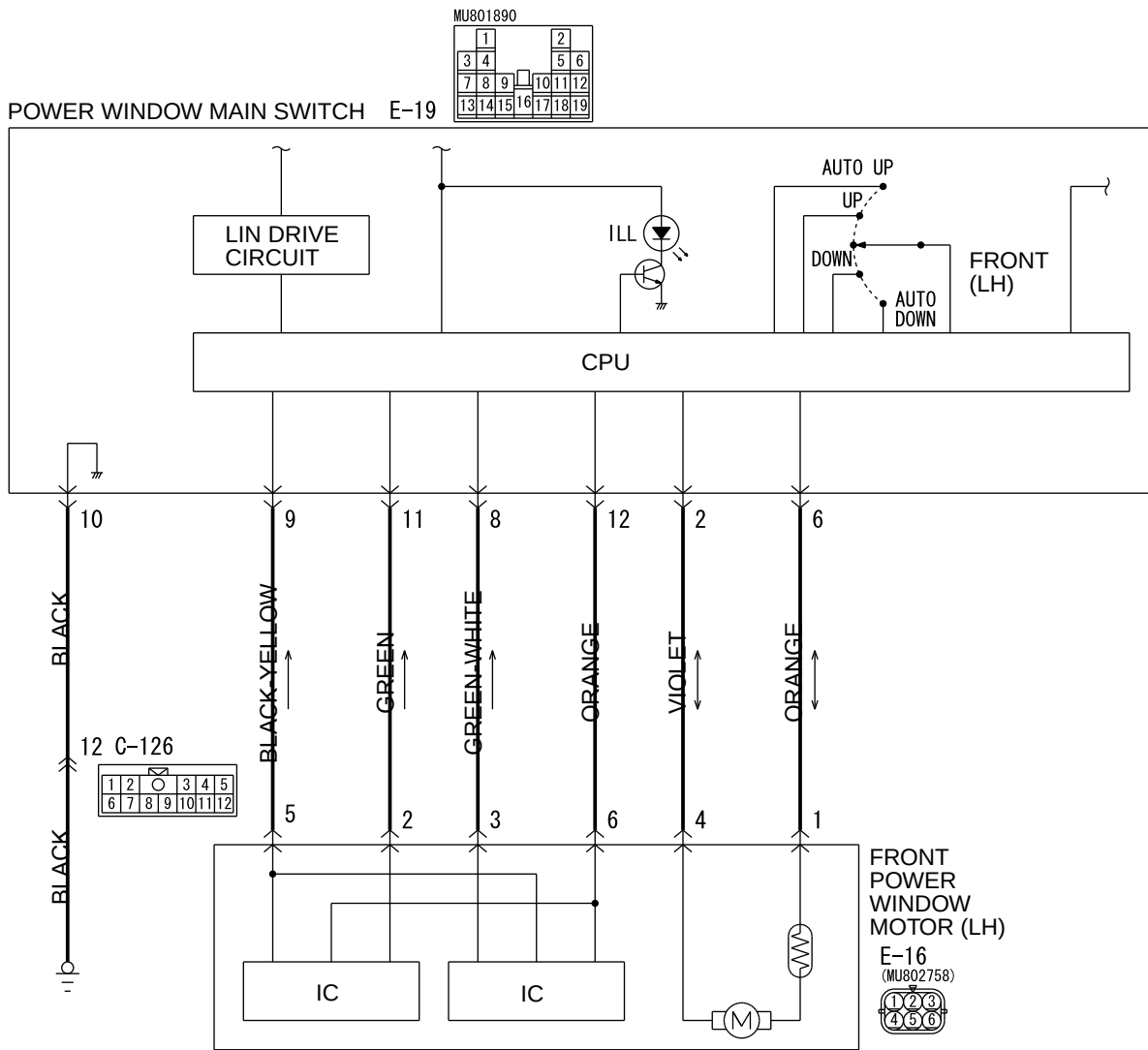
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M14203000933USA0000010000

### CAUTION

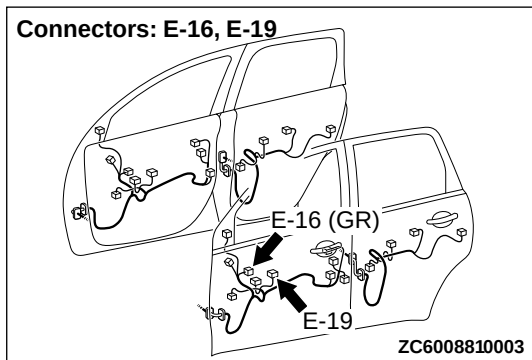
Before replacing the ECU, ensure that the input and output signal circuits are normal.

Driver's Power Window Circuit



ZC6013680000

Connectors: E-16, E-19



COMMENTS ON TROUBLE SYMPTOM

If the pulse 2 signal from the front power window motor (LH) cannot be received, the power window main switch sets the diagnosis trouble code No. L0732.

PROBABLE CAUSES

- Malfunction of the front power window motor (LH)
- Malfunction of the power window main switch
- Damaged wiring harness and connectors

DIAGNOSTIC PROCEDURE

STEP 1. Check power window main switch connector E-19, front power window motor (LH) connector E-16 for loose,

---

corroded or damaged terminals, or terminals pushed back in the connector.

**Q:**Are power window main switch connector E-19, front power window motor (LH) connector E-16 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. Verify that the power window works normally.

---

**STEP 2. Check the wiring harness between power window main switch connector E-19 (terminals 9, 11 and 12) and front power window motor (LH) connector E-16 (terminals 5, 2 and 6).**

**Q:**Is the wiring harness between power window main switch connector E-19 (terminals 9, 11 and 12) and front power window motor (LH) connector E-16 (terminals 5, 2 and 6) in good condition?

**YES:** Go to Step 3.

**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 power window works normally.

---

**STEP 3. Diagnostic trouble code recheck**

Replace the front power window motor (LH). Recheck if the diagnostic trouble code is set.

- (1) Erase the diagnostic trouble code.
- (2) Operate the driver's door window switch on the power window main switch.
- (3) Check if the diagnostic trouble code is set.

**Q:**Is the diagnostic trouble code set?

**YES:** Replace the power window main switch.

**NO:** The procedure is complete. Verify that the power window works normally.

---

## CODE NO. L0734 P/W (DR) Above window position

---

M14203000934USA0000010000

### COMMENTS ON TROUBLE SYMPTOM

If the driver's door window glass exceeds the fully closed position, power window main switch sets the diagnostic trouble code No. L0734.

### PROBABLE CAUSES

- Malfunction of the front power window motor (LH)
- Malfunction of the power window main switch

**DIAGNOSTIC PROCEDURE****STEP 1. Check the power window fully closed position**

- (1) Carry out the learning procedures of the power window fully closed position. Refer to P.42Ab-90.
- (2) Recheck if the diagnostic trouble code is set.  
Erase the diagnostic trouble code.  
Press the driver's door window switch (on the power window main switch) down to open the window, and pull up the driver's door window switch to fully close the window.  
Check if the diagnostic trouble code is set.

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

**YES:** The procedure is complete.

**NO:** Go to Step 2.

**STEP 2. Diagnostic trouble code recheck**

Replace the front power window motor (LH). Recheck if the diagnostic trouble code is set.

- (1) Erase the diagnostic trouble code.
- (2) Press the driver's door window switch (on the power window main switch) down to open the window, and pull up the driver's door window switch to fully close the window.
- (3) Check if the diagnostic trouble code is set.

**Q:Is the diagnostic trouble code set?**

**YES:** Replace the power window main switch.

**NO:** The procedure is complete. Verify that the power window works normally.

---

**CODE NO. L0736 P/W (DR) Sensor fail (ground)**

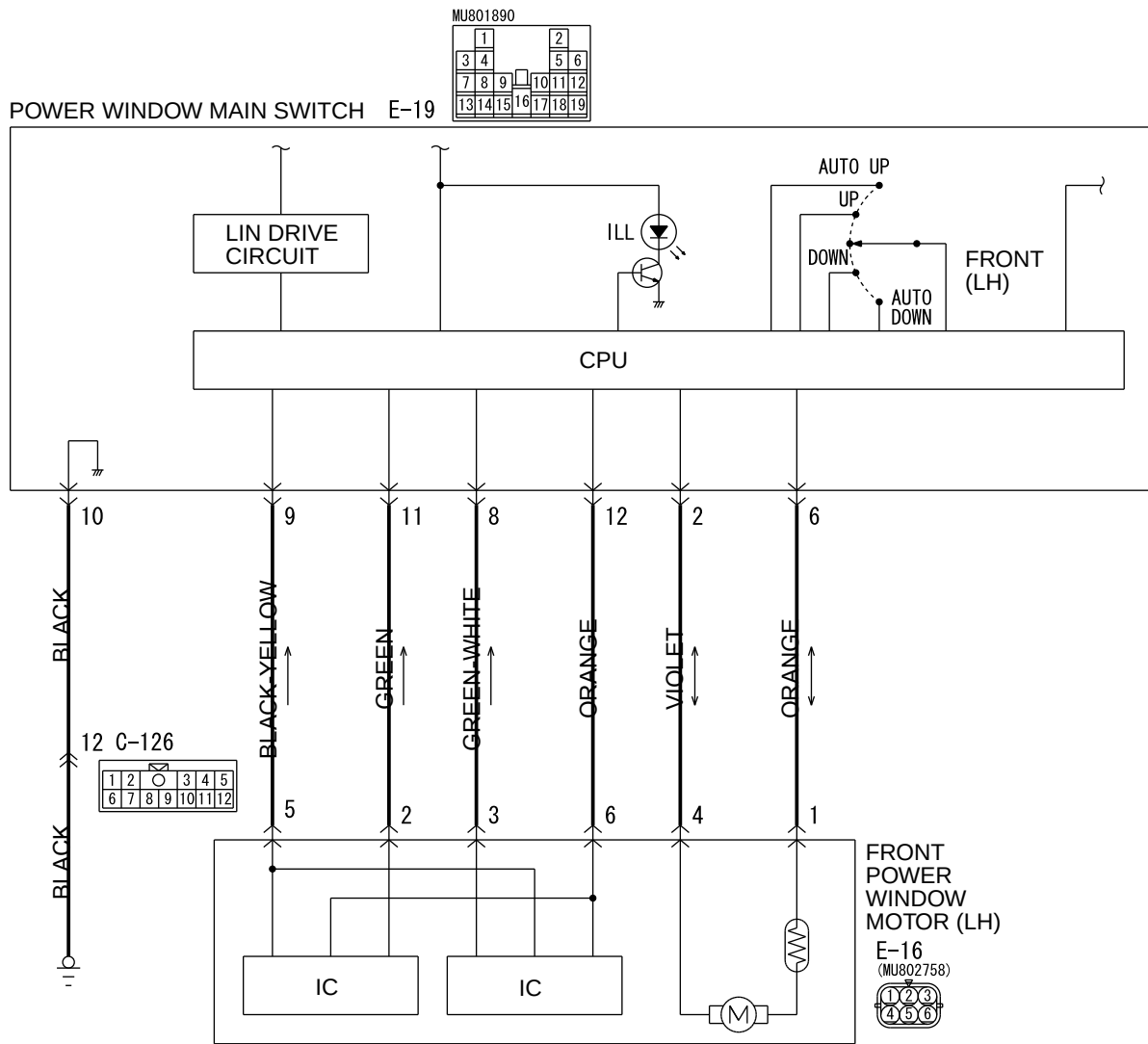
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M14203000935USA0000010000

**CAUTION**

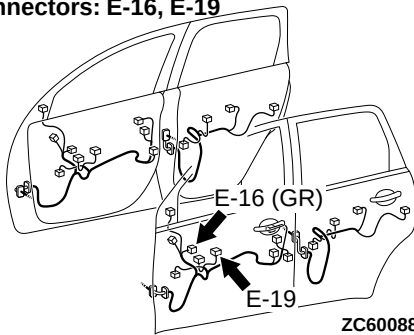
Before replacing the ECU, ensure that the input and output signal circuits are normal.

Driver's Power Window Circuit



ZC6013680000

Connectors: E-16, E-19



ZC6008810003

COMMENTS ON TROUBLE SYMPTOM

If the earth fault of the front power window motor (LH) sensor power supply is detected, power window main switch sets the diagnosis trouble code No. L0736

PROBABLE CAUSES

- Malfunction of the front power window motor (LH)
- Malfunction of the power window main switch
- Damaged wiring harness and connectors

DIAGNOSTIC PROCEDURE

STEP 1. Check power window main switch connector E-19, front power window motor (LH) connector E-16 for loose,

corroded or damaged terminals, or terminals pushed back in the connector.

**Q:Are power window main switch connector E-19, front power window motor (LH) connector E-16 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. Verify that the power window works normally.

**STEP 2. Check the wiring harness between power window main switch connector E-19 (terminal 12) and front power window motor (LH) connector E-16 (terminal 6).**

**Q:Is the wiring harness between power window main switch connector E-19 (terminal 12) and front power window motor (LH) connector E-16 (terminal 6) in good condition?**

**YES:** Go to Step 3.

**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 power window works normally.

**STEP 3. Diagnostic trouble code recheck**

Replace the front power window motor (LH). Recheck if the diagnostic trouble code is set.

- (1) Erase the diagnostic trouble code.
- (2) Operate the driver's door window switch on the power window main switch.
- (3) Check if the diagnostic trouble code is set.

**Q:Is the diagnostic trouble code set?**

**YES:** Replace the power window main switch.

**NO:** The procedure is complete. Verify that the power window works normally.

---

## CODE NO. L0740 P/W (DR) 3 times jam - protection

---

M14203000936USA0000010000

### COMMENTS ON TROUBLE SYMPTOM

If the anti-trap function is activated consecutively three times or more, power window main switch sets the diagnostic trouble code No. L0740.

### PROBABLE CAUSES

- Malfunction of the front power window motor (LH)
- Malfunction of the power window main switch

### DIAGNOSTIC PROCEDURE

---

**STEP 1. Check the power window fully closed position**

- (1) Carry out the learning procedures of the power window fully closed position. Refer to P.42Ab-90.
- (2) Recheck if the diagnostic trouble code is set.  
Erase the diagnostic trouble code.  
Turn the ignition switch from the LOCK (OFF) position to the ON position.  
Check if the diagnostic trouble code is set.

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

**YES:** The procedure is complete.

**NO:** Go to Step 2.

---

**STEP 2. Diagnostic trouble code recheck**

Replace the front power window motor (LH). Recheck if the diagnostic trouble code is set.

- (1) Erase the diagnostic trouble code.
- (2) Operate the driver's door window switch on the power window main switch.
- (3) Check if the diagnostic trouble code is set.

**Q:Is the diagnostic trouble code set?**

**YES:** Replace the power window main switch.

**NO:** The procedure is complete. Verify that the power window works normally.

---

**CODE NO. L0746 P/W (DR) Parameter read fail**

**CODE NO. L0750 P/W (DR) Position read fail**

---

M14203000937USA0000010000

**COMMENTS ON TROUBLE SYMPTOM**

- If the power window main switch information signals cannot be read, power window main switch sets the diagnostic trouble code No. L0746.
- If the driver's door window glass position cannot be read, power window main switch sets the diagnostic trouble code No. L0750.

**PROBABLE CAUSES**

- Malfunction of the power window main switch

---

**DIAGNOSTIC PROCEDURE**

**Diagnostic trouble code recheck**

Recheck if the diagnostic trouble code is set.

- (1) Erase the diagnostic trouble code.
- (2) Operate the driver's door window switch on the power window main switch.
- (3) Check if the diagnostic trouble code is set.

**Q:Is the diagnostic trouble code set?**

---

**YES:** Replace the power window main switch.

**NO:** The procedure is complete. Verify that the power window works normally.

## SYMPTOM PROCEDURES

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### INSPECTION PROCEDURE C-1: Power Windows do not Work at All.

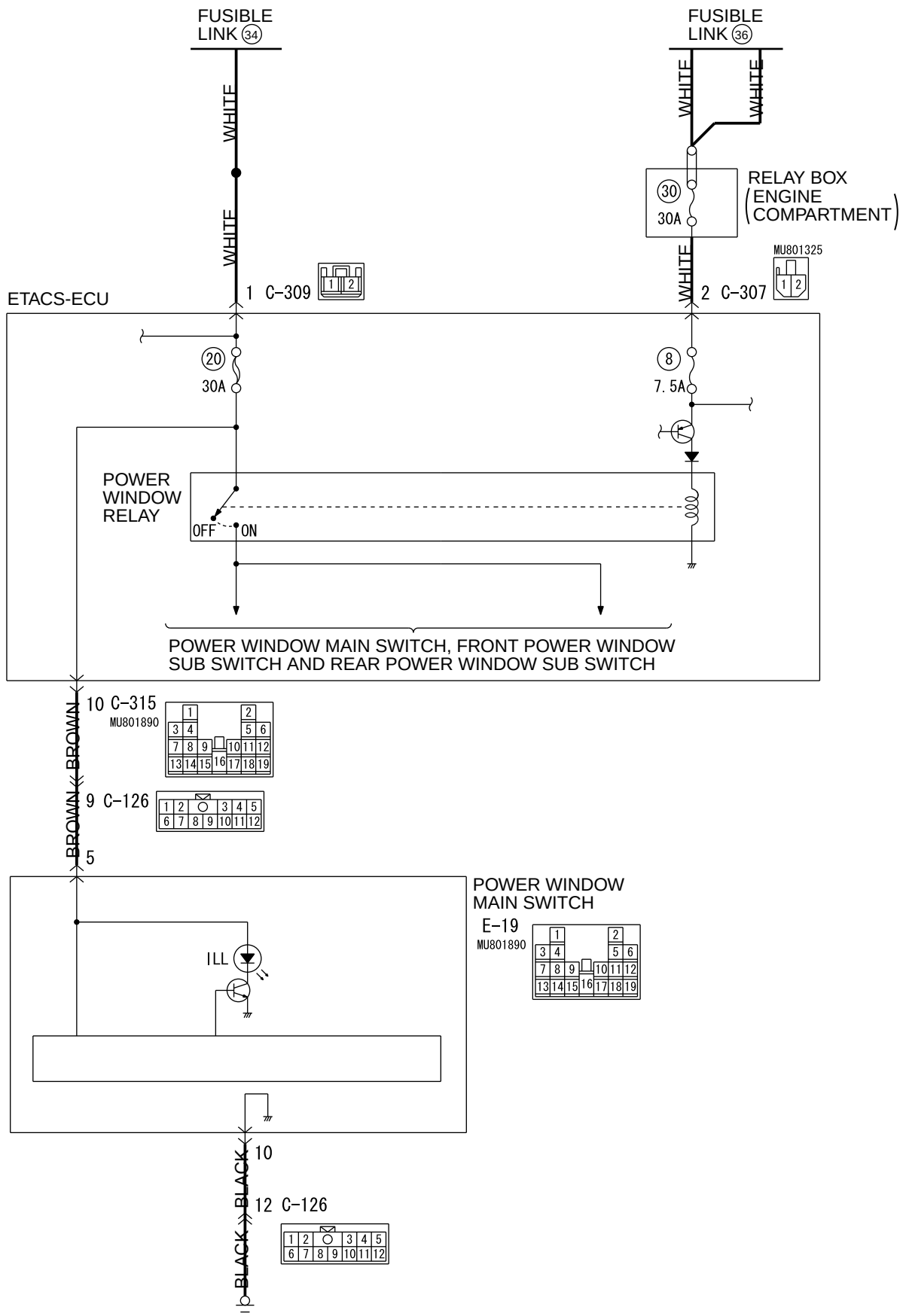
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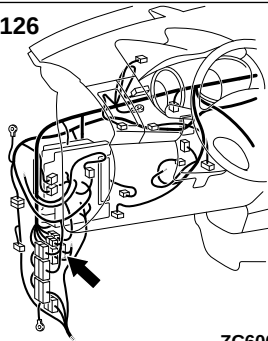
** CAUTION**

Before replacing the ECU, ensure that the power supply circuit, the ground circuit and the communication circuit are normal.

Power Window Power Supply Circuit

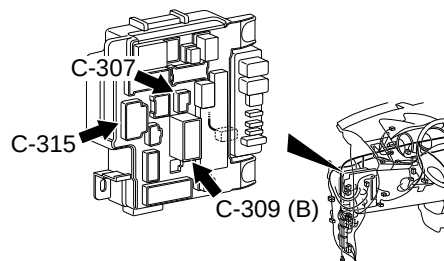


Connector: C-126



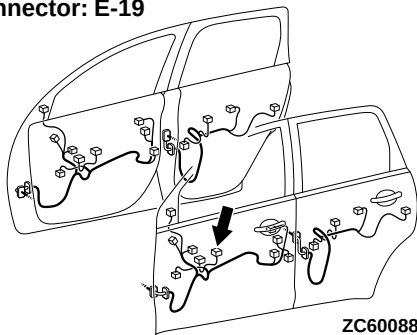
ZC6008750021

Connectors: C-307, C-309, C315



ZC6008780013

Connector: E-19



ZC6008810000

**TROUBLESHOOTING HINTS**

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

**CIRCUIT OPERATION**

The ETACS-ECU turns on the power window relay to activate the power windows when the ignition switch (IG1) is turned to the "ON" position.

**DIAGNOSTIC PROCEDURE****Required Special Tools:**

- MB992006: Extra fine probe
- MB991223: Harness set
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: Vehicles Communication Interface (V.C.I.)
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)

**STEP 1. Check the power supply system.**

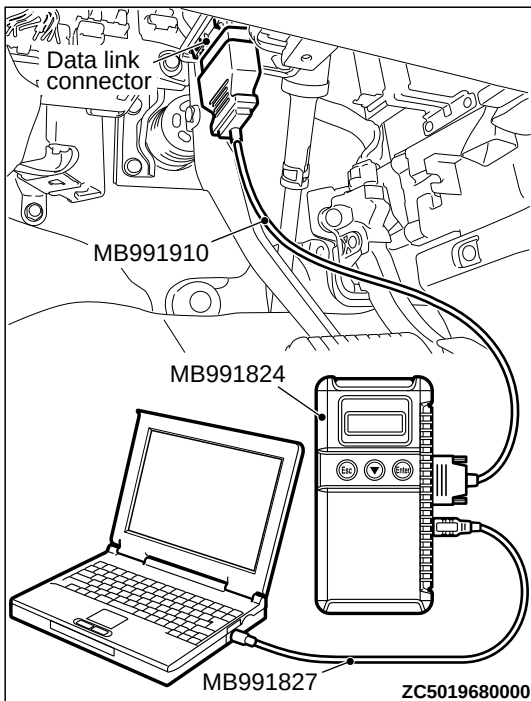
With the ignition switch in the LOCK (OFF) position, check if the following function operates normally:

- Hazard warning light
- Central door locking system

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

**YES:** Go to Step 2.

**NO:** Refer to GROUP 54Ad, Malfunction of ETACS-ECU power supply circuit P.54Ad-57.



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

**⚠ CAUTION**

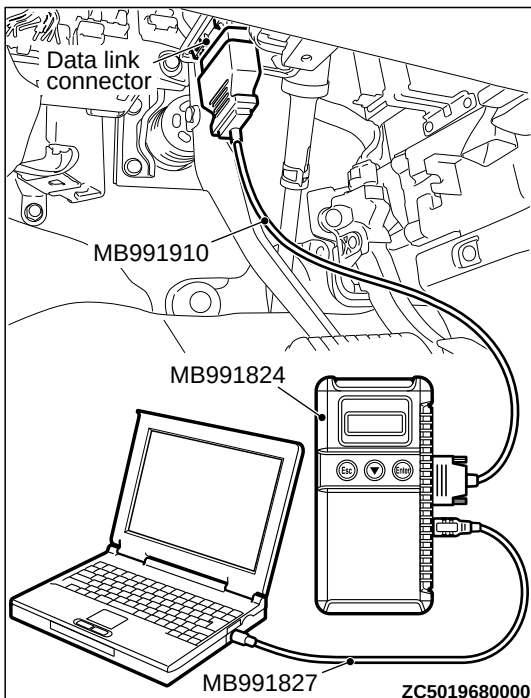
To prevent damage to scan tool MB991958, always turn the ignition switch to the "LOCK" (OFF) position before connecting or disconnecting scan tool MB991958.

- (1) Connect scan tool MB991958. Refer to "How to connect scan tool (M.U.T.-III) P.54Af-4."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check whether the ETACS-ECU related DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q: Is the DTC set?**

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

**NO:** Go to Step 3.



**STEP 3. Using scan tool MB991958, check data list.**

Check the signals related to the power window operation.

**⚠ 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 GROUP 54Ad, "How to connect the Scan Tool (M.U.T.-III) P.54Ad-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check the data list of the ETACS.

\* Turn the ignition switch to the LOCK (OFF) position.

| Item No. | Item name  | Normal condition |
|----------|------------|------------------|
| 254      | IG voltage | Battery voltage  |

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

**OK: Normal condition is displayed.**

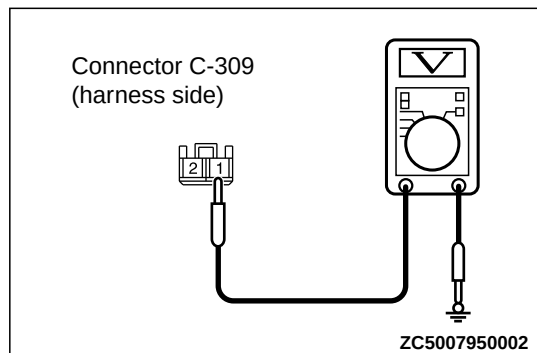
**Q: Is the check result normal?**

**YES:** Go to Step 4.

**NO:** Refer to GROUP 54Ad, Inspection Procedure 2: ETACS-ECU does not receive any signal from the ignition switch (IG1) P. 54Ad-62.

**STEP 4. Check ETACS-ECU connector C-309 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-309 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 power window works normally.

---

**STEP 5. Check the fusible link (34) line of power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-309.**

- (1) Disconnect ETACS-ECU connector C-309 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 7.

**NO:** Go to Step 6.

---

**STEP 6. Check the wiring harness between ETACS-ECU connector C-309 (terminal 1) and fusible link (34).**

**Q: Is the wiring harness between ETACS-ECU connector C-309 (terminal 1) and fusible link (34) 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 power window works normally.

---

**STEP 7. Check ETACS-ECU connector C-307 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-307 in good condition?**

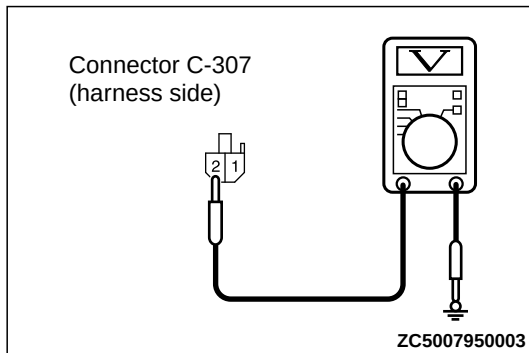
**YES:** Go to Step 8.

**NO:** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. Verify that the power window works normally.

---

**STEP 8. Check the fusible link (36) line of power supply circuit to the ETACS-ECU. Measure the voltage at ETACS-ECU connector C-307.**

- (1) Disconnect ETACS-ECU connector C-307 and measure the voltage available at the wiring harness side of the connector.



- (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 10.

**NO:** Go to Step 9.

**STEP 9. Check the wiring harness between ETACS-ECU connector C-307 (terminal 2) and fusible link (36).**

**Q: Is the wiring harness between ETACS-ECU connector C-307 (terminal 2) and fusible link (36) 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 power window works normally.

**STEP 10. Check power window main switch connector E-19 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is power window main switch connector E-19 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 power window works normally.

**STEP 11. Check the ETACS-ECU connector C-315 line circuit to the power window main switch. Measure the voltage at power window main switch connector E-19.**

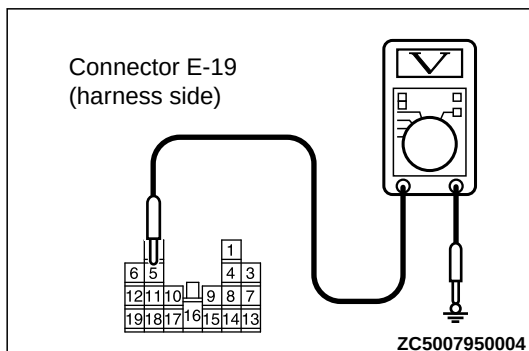
- (1) Disconnect power window main switch connector E-19 and measure the voltage available at the wiring harness side of the connector.

- (2) Measure the voltage between terminal 5 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 14.

**NO:** Go to Step 12.



**STEP 12. Check ETACS-ECU connector C-315 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-315 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 power window works normally.

**STEP 13. Check the wiring harness between ETACS-ECU connector C-315 (terminal 10) and power window main switch connector E-19 (terminal 5).**

*NOTE: Also check intermediate connector C-126 for loose, corroded, or damaged terminals, or terminals pushed back in the connector. If intermediate connector C-126 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-315 (terminal 10) and power window main switch connector E-19 (terminal 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 power window works normally.

**STEP 14. Check the ground circuit to the power window main switch. Measure the resistance at power window main switch connector E-19.**

(1) Disconnect power window main switch connector E-19 and measure the resistance available at the wiring harness side of the connector.

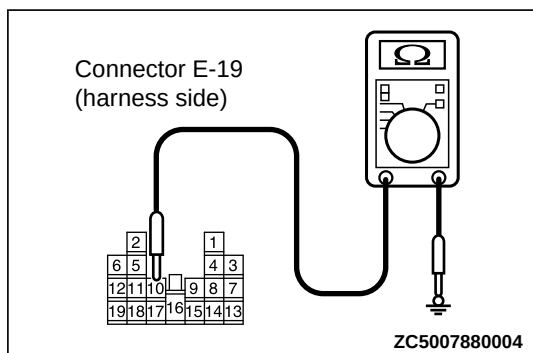
(2) Measure the resistance value between terminal 10 and ground.

• The resistance should be 2 ohms or less.

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

**YES:** Go to Step 16.

**NO:** Go to Step 15.



**STEP 15. Check the wiring harness between power window main switch connector E-19 (terminal 10) and ground.**

**Q: Is the wiring harness between power window main switch connector E-19 (terminal 10) 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. Check that the sunroof works normally.

**STEP 16. Retest the system.**

Check that all the power windows work.

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

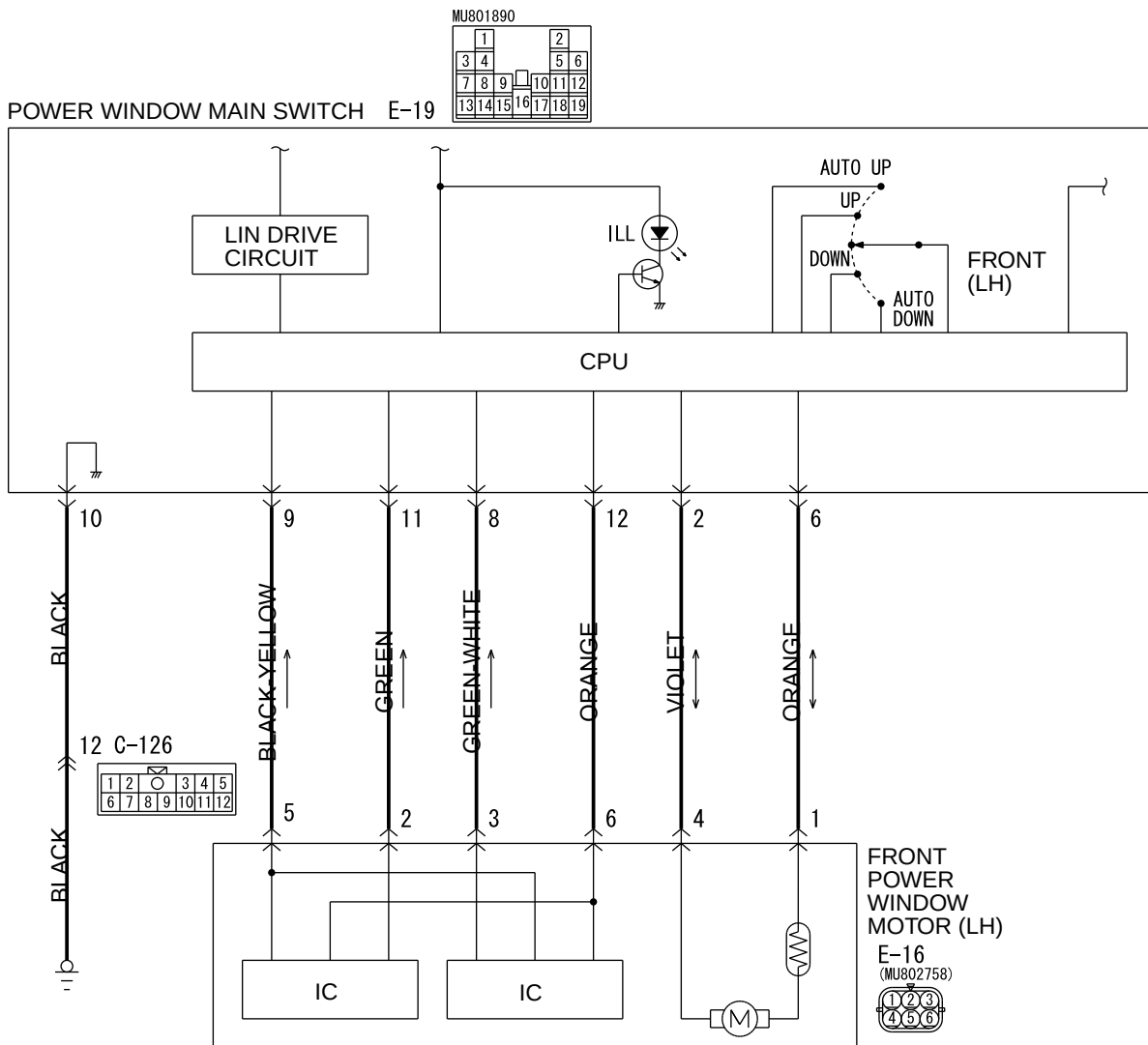
**YES:** No action is necessary and testing is complete.

**NO:** Replace ETACS-ECU. Check that the power window works normally.

## INSPECTION PROCEDURE C-2: Driver's Power Window does not Work by means of The Power Window Main Switch.

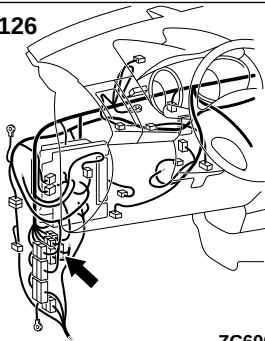
M14203000926USA0000010000

Driver's Power Window Circuit



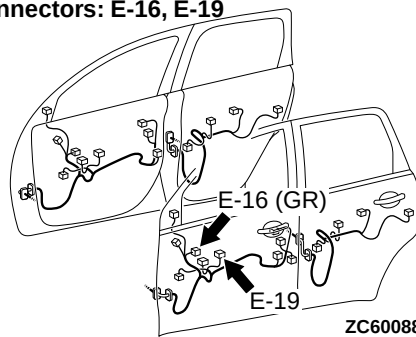
ZC6013680000

Connector: C-126



ZC6008750021

Connectors: E-16, E-19



ZC6008810003

**CIRCUIT OPERATION**

The front power window motor (LH) receives a signal ("UP", "DOWN", "AUTO UP" or "AUTO DOWN") from the front power window main switch and controls the driver's power window.

**TECHNICAL DESCRIPTION (COMMENT)**

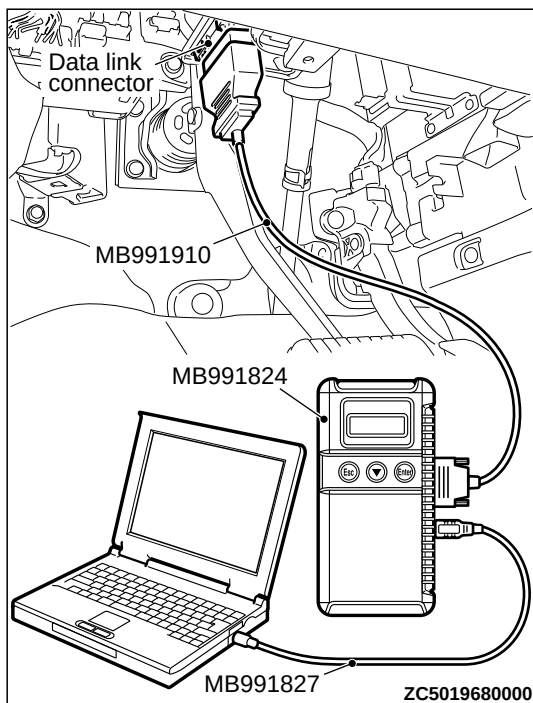
The power window main switch or the front power window motor (LH) may be defective.

**TROUBLESHOOTING HINTS**

- The power window main switch may be defective
- The front power window motor (LH) may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

**DIAGNOSTIC PROCEDURE****Required Special Tools:**

- MB992006: Extra fine probe
- MB991223: Harness set
- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: Vehicles Communication Interface (V.C.I.)
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A (Vehicles with CAN communication system)



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

**⚠ CAUTION**

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

- (1) Connect scan tool MB991958. Refer to GROUP 54Ad, "How to connect scan tool (M.U.T.-III) P.54Af-4."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check whether the ETACS-ECU related DTC is set.
- (4) Turn the ignition switch to the "LOCK" (OFF) position.

**Q:Is the DTC set?**

**YES:** Diagnose the ETACS-ECU. Refer to P. 42Ab-38.

**NO:** Go to Step 2.

**STEP 2. Check the power window main switch.**

Check that the passenger's or rear power window works by means of the power window main switch.

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

**YES:** Go to Step 3.

**NO:** Refer to P. 42Ab-39.

**STEP 3. Check power window main switch connector E-19, front power window motor (LH) connector E-16 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q:Are power window main switch connector E-19, front power window motor (LH) connector E-16 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 power window works normally.

**STEP 4. Check the wiring harness between power window main switch connector E-19 (terminals 2 and 6) and front power window motor (LH) connector E-16 (terminals 4 and 1).**

**Q:Is the wiring harness between power window main switch connector E-19 (terminals 2 and 6) and front power window motor (LH) connector E-16 (terminals 4 and 1) in good condition?**

**YES:** Go to Step 5.

---

**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 power works normally.

---

**STEP 5. Retest the system.**

Check that the driver's power window works by means of the power window main switch.

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

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

**NO:** Replace the front power window motor (LH). Check that the power works normally.

---

**INSPECTION PROCEDURE C-3: Relevant Power Window(s) does not Work by means of The Front and Rear Passenger's Power Window Sub Switches.**

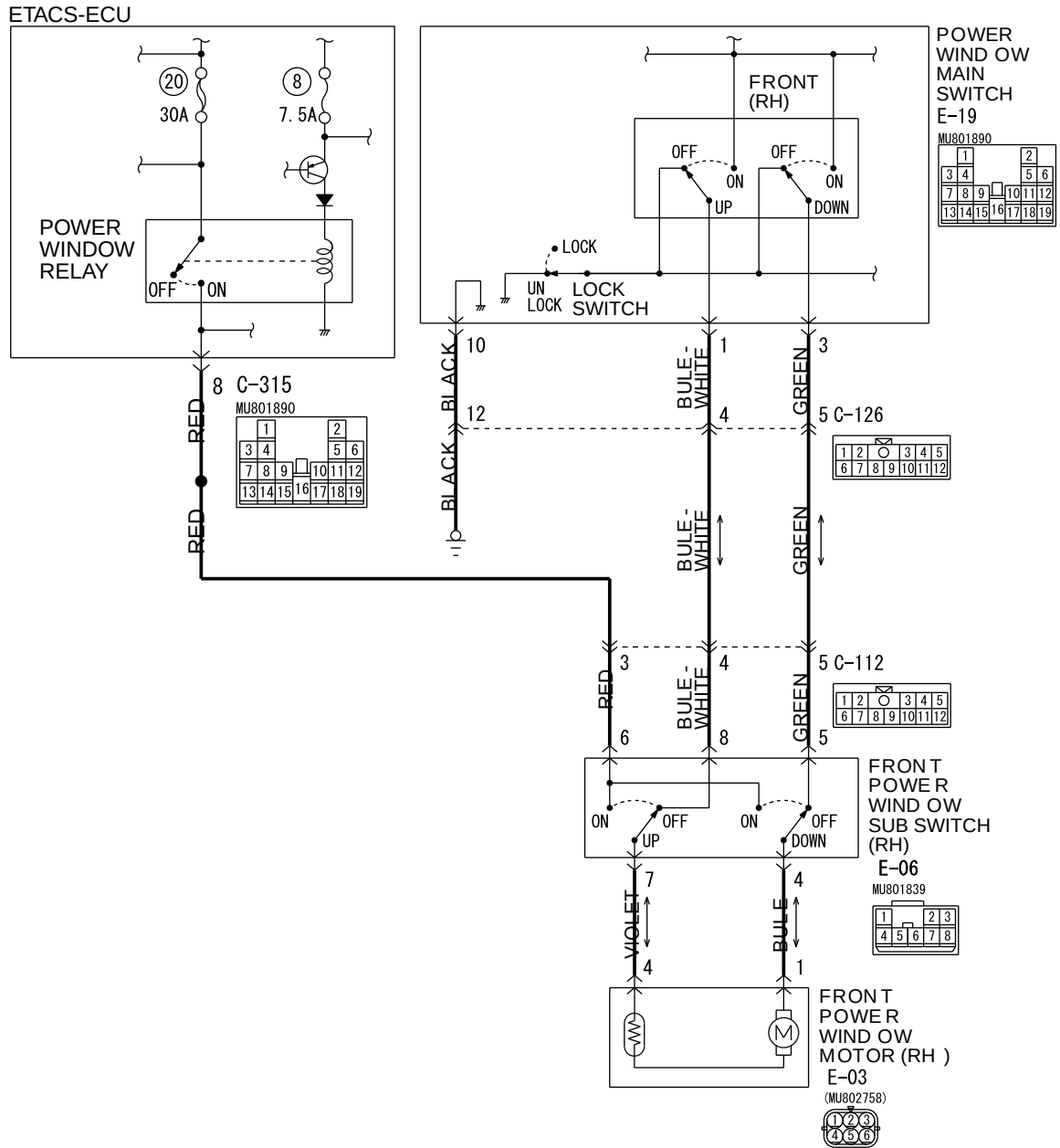
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M14203000927USA0000010000

 **CAUTION**

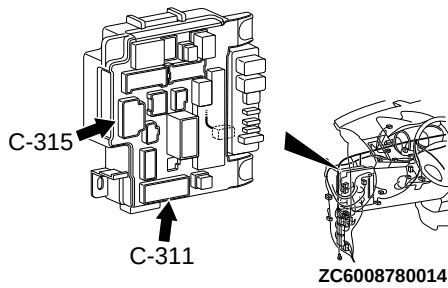
Before replacing the ECU, ensure that the power supply circuit, the ground circuit and the communication circuit are normal.

Power Window (Passenger) Circuit

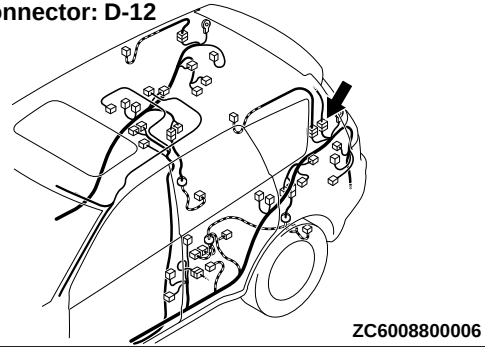


ZC6008750022

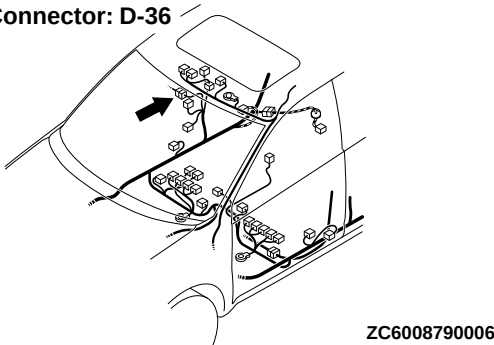
Connectors: C-311, C-315



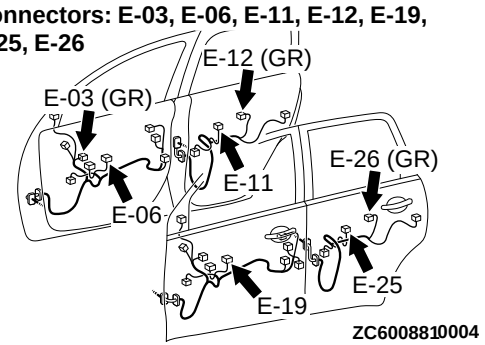
Connector: D-12



Connector: D-36



Connectors: E-03, E-06, E-11, E-12, E-19, E-25, E-26



## CIRCUIT OPERATION

power window motors raise and lower the door windows when the front passenger's or rear passenger's sub switch is moved to "UP" or "DOWN" position.

## TECHNICAL DESCRIPTION (COMMENT)

A power window sub switch or power window motor may be defective. Or, the power window lock switch (incorporated in the power window main switch in the driver's door) may remain pressed in the "LOCK" position.

## TROUBLESHOOTING HINTS

- The power window main switch may be defective
- The front power window sub switch may be defective
- The rear power window sub switches may be defective
- The front power window motor (RH) may be defective
- The rear power window motors may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

## DIAGNOSTIC PROCEDURE

**STEP 1.** Check the power window lock switch.

**Q:**Is the power window lock switch in the "UNLOCK" position?

**YES:** Go to Step 2.

**NO:** Operate the power window lock switch to the "UNLOCK" position. When the power window sub switch is operated, the power windows should raise and lower normally.

**STEP 2. Check power window main switch connector E-19 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is power window main switch connector E-19 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. When the front power window sub switch (RH) is operated, the front power window (RH) should raise and lower normally.

**STEP 3. Check which door window does not move.**

**Q: Which door window does not move?**

**Front passenger's door:** Go to Step 4.

**Rear left door:** Go to Step 13.

**Rear right door:** Go to Step 22.

**STEP 4. Check front power window sub switch connector E-06 and front power window motor (RH) connector E-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are front power window sub switch connector E-06 and front power window motor (RH) connector E-03 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. When the front power window sub switch (RH) is operated, the front power window (RH) should raise and lower normally.

**STEP 5. Check the front power window sub switch for continuity.**

- (1) Remove the front power window sub switch. Refer to GROUP 42Ab, Door, Door Glass and Regulator P.42Ab-97.
- (2) Check continuity when the front power window sub switch is operated to "UP" or "DOWN" position.

| Switch position | Tester connection | Specified condition             |
|-----------------|-------------------|---------------------------------|
| UP              | 4 - 5, 6 - 7      | Continuity exists (2 Ω or less) |
| OFF             | 4 - 5, 7 - 8      |                                 |
| DOWN            | 4 - 6, 7 - 8      |                                 |

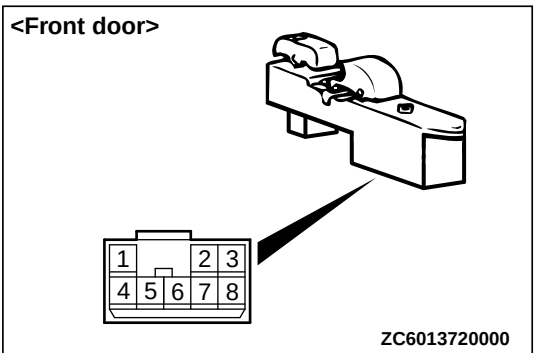
**Q: Is the front power window sub switch normal?**

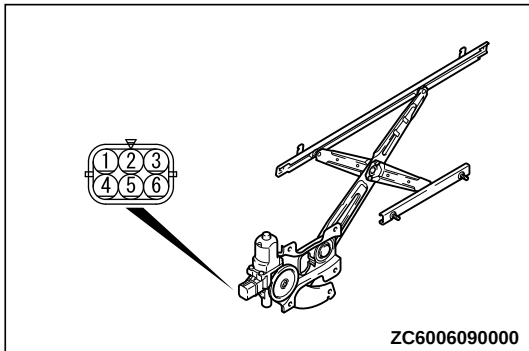
**YES:** Go to Step 6.

**NO:** Replace the front power window sub switch. When the front power window sub switch is operated, the front power window should raise and lower normally.

**STEP 6. Check the front power window motor (RH).**

- (1) Remove the front power regulator assembly (RH). Refer to GROUP 42Ab, Door, Door Glass and Regulator P. 42Ab-97.





- (2) Connect a battery to the motor terminal, and check that the motor runs freely.

| Battery connection                                                                                                                                                     | Slider position |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <ul style="list-style-type: none"> <li>• Connect terminal 1 to the negative battery terminal</li> <li>• Connect terminal 4 to the positive battery terminal</li> </ul> | UP              |
| <ul style="list-style-type: none"> <li>• Connect terminal 4 to the negative battery terminal</li> <li>• Connect terminal 1 to the positive battery terminal</li> </ul> | DOWN            |

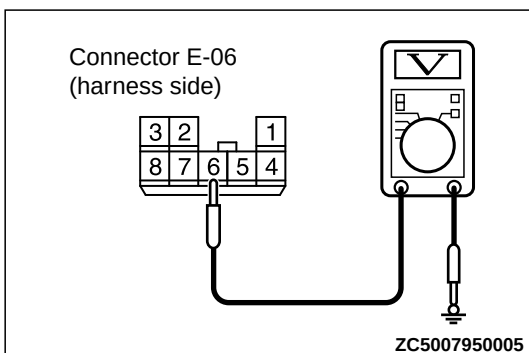
**Q: Is the front power window motor (RH) normal?**

**YES:** Go to Step 7.

**NO:** Replace the front power assembly (RH). When the front power window sub switch (RH) is operated, the front power window (RH) should raise and lower normally.

**STEP 7. Check the battery power supply circuit to the front power window sub switch. Measure the voltage at front power window sub switch connector E-06.**

- (1) Disconnect front power window sub switch connector E-06 and measure the voltage available at the wiring harness side of the connector.
- (2) Measure the voltage between terminal 6 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 8.

**STEP 8. Check ETACS-ECU connector C-315 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-315 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. When the front power window sub switch (RH) is operated, the front power window (RH) should raise and lower normally.

**STEP 9. Check the wiring harness between ETACS-ECU connector C-315 (terminal 8) and front power window sub switch connector E-06 (terminal 6).**

*NOTE: Also check intermediate connector C-112. If intermediate connectors C-112 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-315 (terminal 8) and front power window sub switch connector E-06 (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. When the front power window sub switch is operated, the front power window (RH) should raise and lower normally.

**STEP 10. Check the ground circuit to the front power window sub switch. Measure the resistance at front power window sub switch connector E-06.**

(1) Disconnect front power window sub switch connector E-19 and measure the resistance available at the wiring harness side of the connector.

(2) Measure the resistance value between terminal 5 and ground, and also between terminal 8 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.

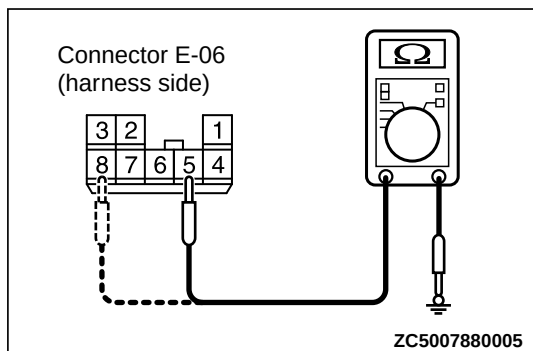
**STEP 11. Check the wiring harness between power window main switch connector E-19 (terminals 1 and 3) and front power window sub switch connector E-06 (terminals 8 and 5).**

*NOTE: Also check intermediate connectors C-112 and C-126. If intermediate connector C-112 or C-126 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 power window main switch connector E-19 (terminals 1 and 3) and front power window sub switch connector E-06 (terminals 8 and 5) in good condition?**

**YES:** Replace the power window main switch. When the front power window sub switch (RH) is operated, the front power window (RH) should raise and lower 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. When the front power window sub switch (RH) is operated, the front power window (RH) should raise and lower normally.

**STEP 12. Check the wiring harness between front power window sub switch connector E-06 (terminals 4 and 7) and front power window motor (RH) connector E-03 (terminals 1 and 4).**

**Q: Is the wiring harness between front power window sub switch connector E-06 (terminals 4 and 7) and front power window motor (RH) connector E-03 (terminals 1 and 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. When the front power window sub switch (RH) is operated, the front power window (RH) should raise and lower normally.

**STEP 13. Check rear power window sub switch (LH) connector E-25 and rear power window motor (LH) connector E-26 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Are rear power window sub switch (LH) connector E-25 and rear power window motor (LH) connector E-26 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. When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower normally.

**STEP 14. Check the rear power window sub switch (LH) for continuity.**

(1) Remove the rear power window sub switch (LH). Refer to GROUP 42Ab, Door, Door Glass and Regulator P. 42Ab-97.

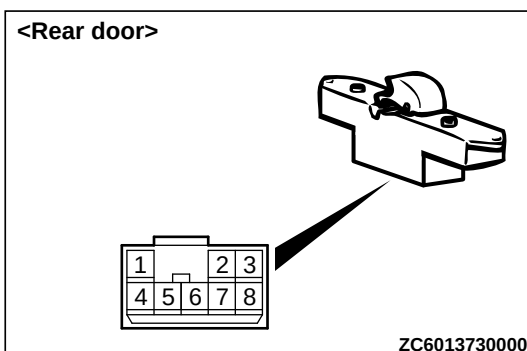
(2) Check continuity when the rear power window sub switch (LH) is operated to "UP" or "DOWN" position.

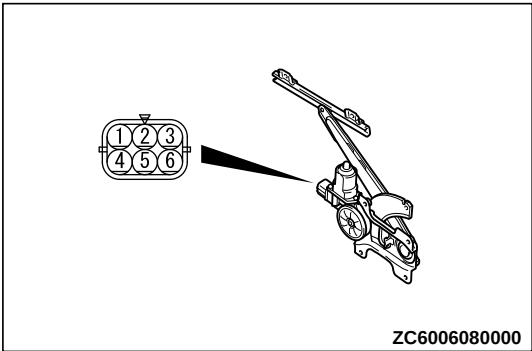
| Switch position | Tester connection | Specified condition             |
|-----------------|-------------------|---------------------------------|
| UP              | 4 - 5, 6 - 7      | Continuity exists (2 Ω or less) |
| OFF             | 4 - 5, 7 - 8      |                                 |
| DOWN            | 4 - 6, 7 - 8      |                                 |

**Q: Is the rear power window sub switch (LH) normal?**

**YES:** Go to Step 15.

**NO:** Replace the rear power window sub switch (LH). When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower normally.





**STEP 15. Check the rear power window motor (LH).**

- (1) Remove the rear power window regulator assembly (LH). Refer to GROUP 42Ab, Door, Door Glass and Regulator P. 42Ab-97.
- (2) Connect a battery to the motor terminal, and check that the motor runs freely.

| Battery connection                                                                                                                                                  | Slider position |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <ul style="list-style-type: none"><li>• Connect terminal 1 to the negative battery terminal</li><li>• Connect terminal 4 to the positive battery terminal</li></ul> | UP              |
| <ul style="list-style-type: none"><li>• Connect terminal 4 to the negative battery terminal</li><li>• Connect terminal 1 to the positive battery terminal</li></ul> | DOWN            |

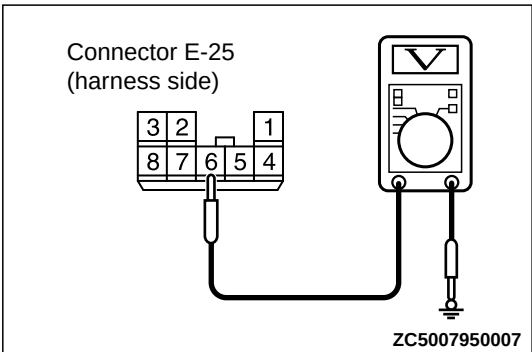
**Q:Is the rear power window motor (LH) normal?**

**YES:** Go to Step 16.

**NO:** Replace the rear power window motor (LH). When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower normally.

**STEP 16. Check the battery power supply circuit to the rear power window sub switch (LH). Measure the voltage at rear power window sub switch (LH) connector E-25.**

- (1) Disconnect rear power window sub switch (LH) connector E-25 and measure the voltage available at the wiring harness side of the connector.
- (2) Measure the voltage between terminal 6 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 19.

**NO:** Go to Step 17.

**STEP 17. Check ETACS-ECU connector C-311 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q:Is ETACS-ECU connector C-311 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. When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower normally.

**STEP 18. Check the wiring harness between ETACS-ECU connector C-311 (terminal 12) and rear power window sub switch (LH) connector E-25 (terminal 6).**

*NOTE: Also check intermediate connectors D-21. If intermediate connector D-21 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection P. 00E-2.*

**Q: Is the wiring harness between ETACS-ECU connector C-311 (terminal 12) and rear power window sub switch (LH) connector E-25 (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. When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower normally.

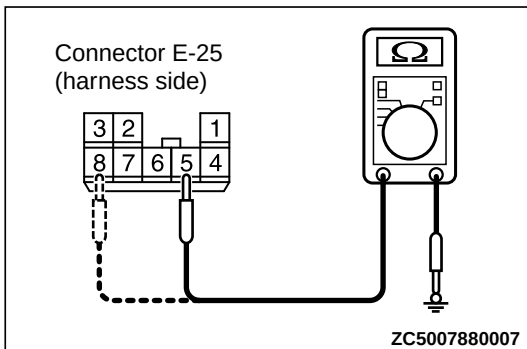
**STEP 19. Check the ground circuit to the rear power window sub switch (LH). Measure the resistance at rear power window sub switch (LH) connector E-25.**

- (1) Disconnect rear power window sub switch (LH) connector E-25 and measure the resistance available at the wiring harness side of the connector.
- (2) Measure the resistance value between terminal 5 and ground, and also between terminal 8 and ground.
  - The resistance should be 2 ohms or less.

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

**YES:** Go to Step 21.

**NO:** Go to Step 20.



**STEP 20. Check the wiring harness between power window main switch connector E-19 (terminals 18 and 19) and rear power window sub switch (LH) connector E-25 (terminals 5 and 8).**

*NOTE: Also check intermediate connectors C-32, C-126 and D-21. If intermediate connector C-32, C-126 or D-21 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 power window main switch connector E-19 (terminals 18 and 19) and rear power window sub switch (LH) connector E-25 (terminals 5 and 8) in good condition?**

**YES:** Replace the power window main switch. When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower 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. When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower normally.

**STEP 21. Check the wiring harness between rear power window sub switch (LH) connector E-25 (terminals 4 and 7) and rear power window motor (LH) connector E-26 (terminals 4 and 1).**

**Q:Is the wiring harness between rear power window sub switch (LH) connector E-25 (terminals 4 and 7) and rear power window motor (LH) connector E-26 (terminals 4 and 1) in good condition?**

**YES:** Replace the power window main switch. When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower 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. When the rear power window sub switch (LH) is operated, the rear power window (LH) should raise and lower normally.

**STEP 22. Check rear power window sub switch (RH) connector E-11 and rear power window motor (RH) connector E-12 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q:Are rear power window sub switch (RH) connector E-11 and rear power window motor (RH) connector E-12 in good condition?**

**YES:** Go to Step 23.

**NO:** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower normally.

**STEP 23. Check the rear power window sub switch (RH) for continuity.**

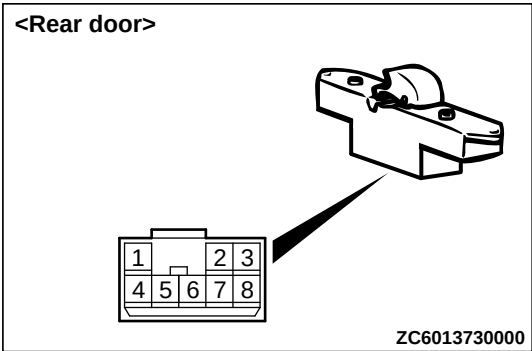
(1) Remove the rear power window sub switch (RH). Refer to GROUP 42Ab, Door, Door Glass and Regulator P. 42Ab-97.

(2) Check continuity when the rear power window sub switch (RH) is operated to "UP" or "DOWN" position.

| Switch position | Tester connection | Specified condition             |
|-----------------|-------------------|---------------------------------|
| UP              | 4 - 5, 6 - 7      | Continuity exists (2 Ω or less) |
| OFF             | 4 - 5, 7 - 8      |                                 |
| DOWN            | 4 - 6, 7 - 8      |                                 |

**Q:Is the rear power window sub switch (RH) normal?**

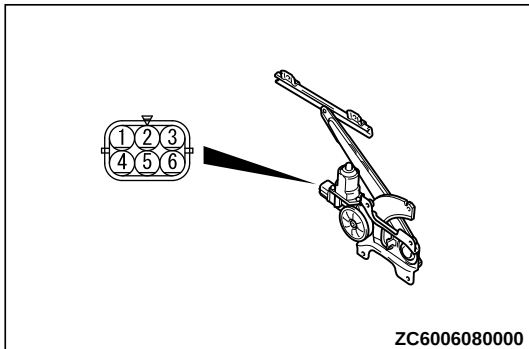
**YES:** Go to Step 24.



**NO:** Replace the rear power window sub switch (RH). When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower normally.

**STEP 24. Check the rear power window motor (RH).**

- (1) Remove the rear power window regulator assembly (RH). Refer to GROUP 42Ab, Door, Door Glass and Regulator P. 42Ab-97.
- (2) Connect a battery to the motor terminal, and check that the motor runs freely.



| Battery connection                                                                                                                                                     | Slider position |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <ul style="list-style-type: none"> <li>• Connect terminal 1 to the negative battery terminal</li> <li>• Connect terminal 4 to the positive battery terminal</li> </ul> | UP              |
| <ul style="list-style-type: none"> <li>• Connect terminal 4 to the negative battery terminal</li> <li>• Connect terminal 1 to the positive battery terminal</li> </ul> | DOWN            |

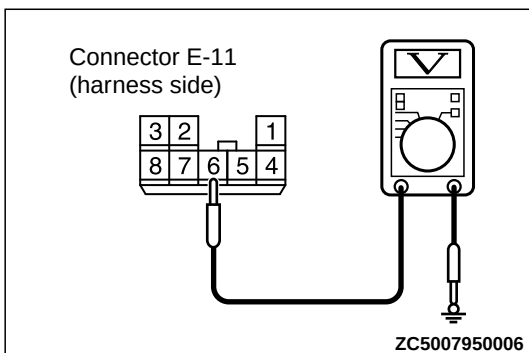
**Q: Is the rear power window motor (RH) normal?**

**YES:** Go to Step 25.

**NO:** Replace the rear power window motor (RH). When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower normally.

**STEP 25. Check the battery power supply circuit to the rear power window sub switch (RH). Measure the voltage at rear power window sub switch (RH) connector E-11.**

- (1) Disconnect rear power window sub switch (RH) connector E-11 and measure the voltage available at the wiring harness side of the connector.
- (2) Measure the voltage between terminal 6 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 28.

**NO:** Go to Step 26.

**STEP 26. Check ETACS-ECU connector C-311 for loose, corroded or damaged terminals, or terminals pushed back in the connector.**

**Q: Is ETACS-ECU connector C-311 in good condition?**

**YES:** Go to Step 27.

**NO:** Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower normally.

**STEP 27. Check the wiring harness between ETACS-ECU connector C-311 (terminal 12) and rear power window sub switch (RH) connector E-11 (terminal 6).**

*NOTE: Also check intermediate connectors D-36. If intermediate connector D-36 is damaged, repair or replace the connector as described in GROUP 00E, Harness Connector Inspection P.00E-2.*

**Q: Is the wiring harness between ETACS-ECU connector C-311 (terminal 12) and rear power window sub switch (RH) connector E-11 (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. When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower normally.

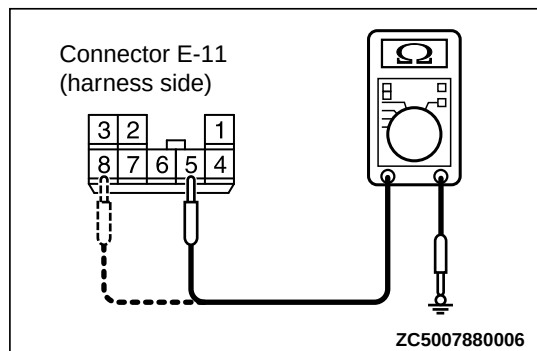
**STEP 28. Check the ground circuit to the rear power window sub switch (RH). Measure the resistance at rear power window sub switch (RH) connector E-11.**

- (1) Disconnect rear power window sub switch (RH) connector E-11 and measure the resistance available at the wiring harness side of the connector.
- (2) Measure the resistance value between terminal 5 and ground, and also between terminal 8 and ground.
  - \*The resistance should be 2 ohms or less.

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

**YES:** Go to Step 30.

**NO:** Go to Step 29.



**STEP 29. Check the wiring harness between power window main switch connector E-19 (terminals 15 and 17) and rear power window sub switch (RH) connector E-11 (terminals 5 and 8).**

*NOTE: Also check intermediate connectors C-20, C-126 and D-36. If intermediate connector C-20, C-126 or D-36 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 power window main switch connector E-19 (terminals 15 and 17) and rear power window sub switch (RH) connector E-11 (terminals 5 and 8) in good condition?**

---

**YES:** Replace the power window main switch. When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower 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. When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower normally.

---

**STEP 30. Check the wiring harness between rear power window sub switch (RH) connector E-11 (terminals 4 and 7) and rear power window motor (RH) connector E-12 (terminals 4 and 1).**

**Q: Is the wiring harness between rear power window sub switch (RH) connector E-11 (terminals 4 and 7) and rear power window motor (RH) connector E-12 (terminals 4 and 1) in good condition?**

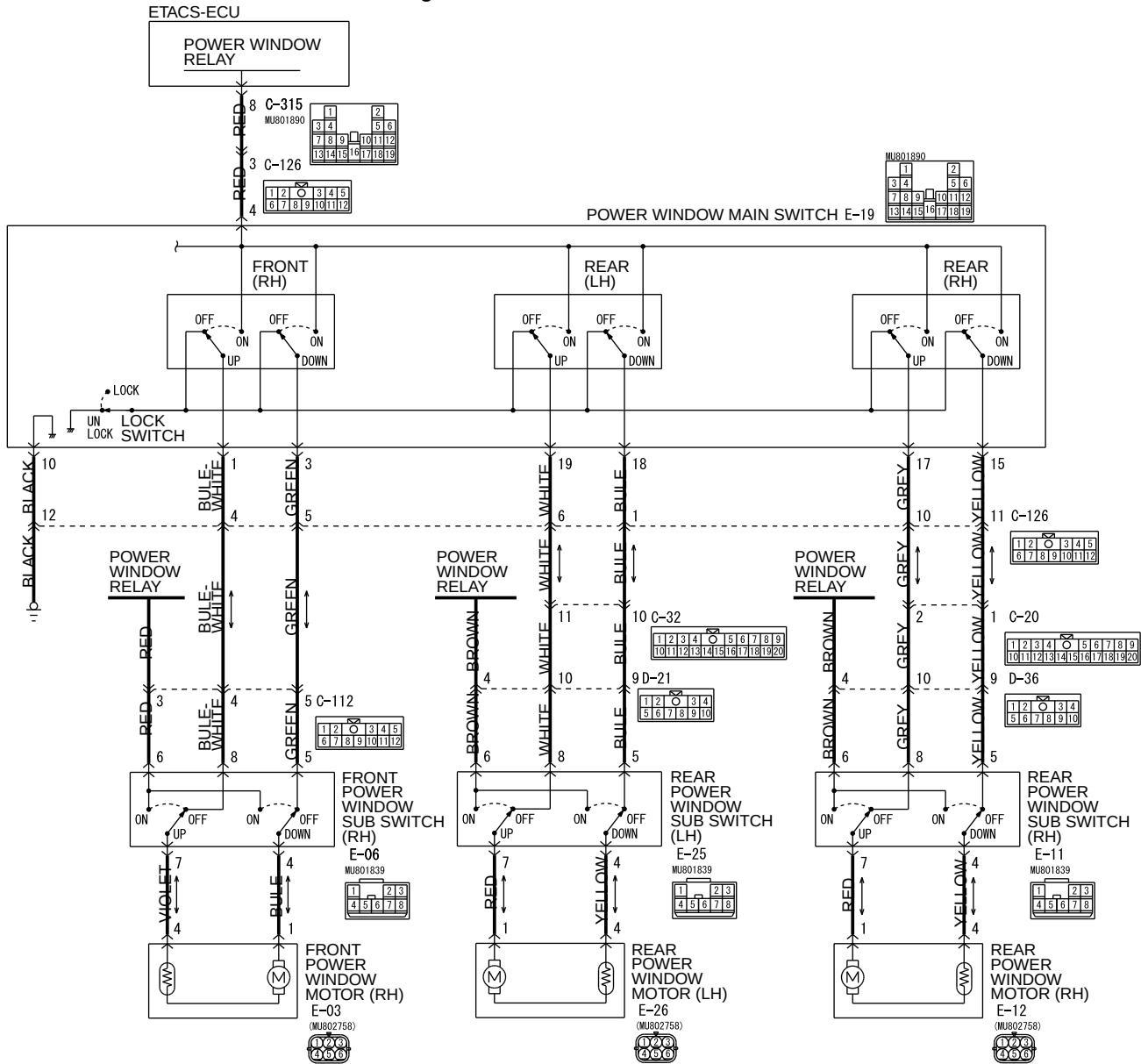
**YES:** No action is necessary and testing is complete.

**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. When the rear power window sub switch (RH) is operated, the rear power window (RH) should raise and lower normally.

# INSPECTION PROCEDURE C-4: Front and/or Rear Passenger's Power Window(s) do not Work by means of The Power Window Main Switch.

M14203000928USA0000010000

Passenger's and Rear Power Window Circuit



ZC6013690000

## CIRCUIT OPERATION

When you operate each power window switch for front or rear passengers (incorporated in the power window main switch), the corresponding power window motor operates, opening or closing each power window.

## TECHNICAL DESCRIPTION (COMMENT)

If the corresponding power window opens and closes normally when each power window sub-switch is operated, the power window main switch may be defective.

---

### TROUBLESHOOTING HINT

The power window main switch may be defective

### DIAGNOSTIC PROCEDURE

Check that power window sub switches operate normally.

**Q:**A power window cannot work by using the power window main switch. Can you operate the power window by using the corresponding power window sub switch?

**YES:** Replace the power window main switch. Check that the front or rear passenger's power window can work normally by means of power window main switch.

**NO:** Refer to Symptom Chart P. 42Ab-39 before resolving this trouble.

---

### INSPECTION PROCEDURE C-5: The Power Window Timer Function does not Work Normally.

---

M14203000929USA0000010000

#### CAUTION

Before replacing the ECU, ensure that the power supply circuit, the ground circuit and the communication circuit are normal.

#### COMMENTS ON TROUBLE SYMPTOM

If the power window timer does not work normally, a malfunction of the power window main switch or ETACS-ECU is suspected.

#### PROBABLE CAUSES

- Malfunction of the door switch (Front: RH)
- Malfunction of the power window main switch
- Malfunction of ETACS-ECU
- Damaged wiring harness and connectors

### DIAGNOSTIC PROCEDURE

#### STEP 1. Check the power supply system.

With the ignition switch in the LOCK (OFF) position, check if the following function operates normally:

- Hazard warning light
- Central door locking system

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

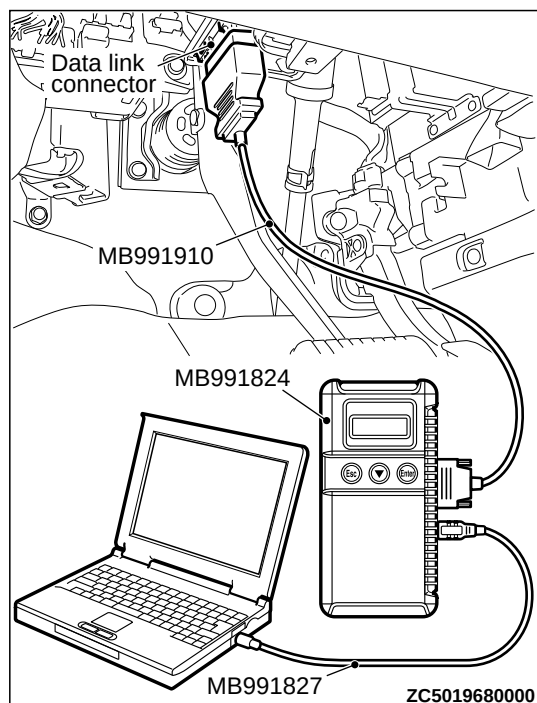
**YES:** Go to Step 2.

**NO:** Refer to GROUP 54Ad, Malfunction of ETACS-ECU power supply circuit P. 54Ad-57.

---

#### STEP 2. Using scan tool MB991958, check data list.

Check the signals related to the power window timer function operation.

**CAUTION**

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

- (1) Connect scan tool MB991958. Refer to "How to connect the Scan Tool (M.U.T.-III) P.54Ad-5."
- (2) Turn the ignition switch to the "ON" position.
- (3) Check the data list of the ETACS.
  - Turn the ignition switch to the LOCK (OFF) position.
  - Close the driver's door.
  - Close the passenger's door.

| Item No. | Item name           | Normal condition |
|----------|---------------------|------------------|
| 254      | IG voltage          | Battery voltage  |
| 256      | Dr door ajar switch | Close            |
| 257      | As door ajar switch | Close            |

- (4) Turn the ignition switch to the "LOCK" (OFF) position.  
**OK: Normal condition is displayed.**

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

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

**Normal condition is not displayed for item No. 254.:** Refer to GROUP 54Ad, Inspection Procedure 2: ETACS-ECU does not receive any signal from the ignition switch (IG1) P. 54Ad-62.

**Normal condition is not displayed for item No. 256.:** Refer to GROUP 54Ad, Inspection Procedure 5: ETACS-ECU does not receive any signal from the front door switch (LH) P. 54Ad-73.

**Normal condition is not displayed for item No. 257.:** Refer to GROUP 54Ad, Inspection Procedure 6: ETACS-ECU does not receive any signal from the front door switch (RH) P. 54Ad-75.

**STEP 3. Retest the system.**

Check that the power window timer function works normally.

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

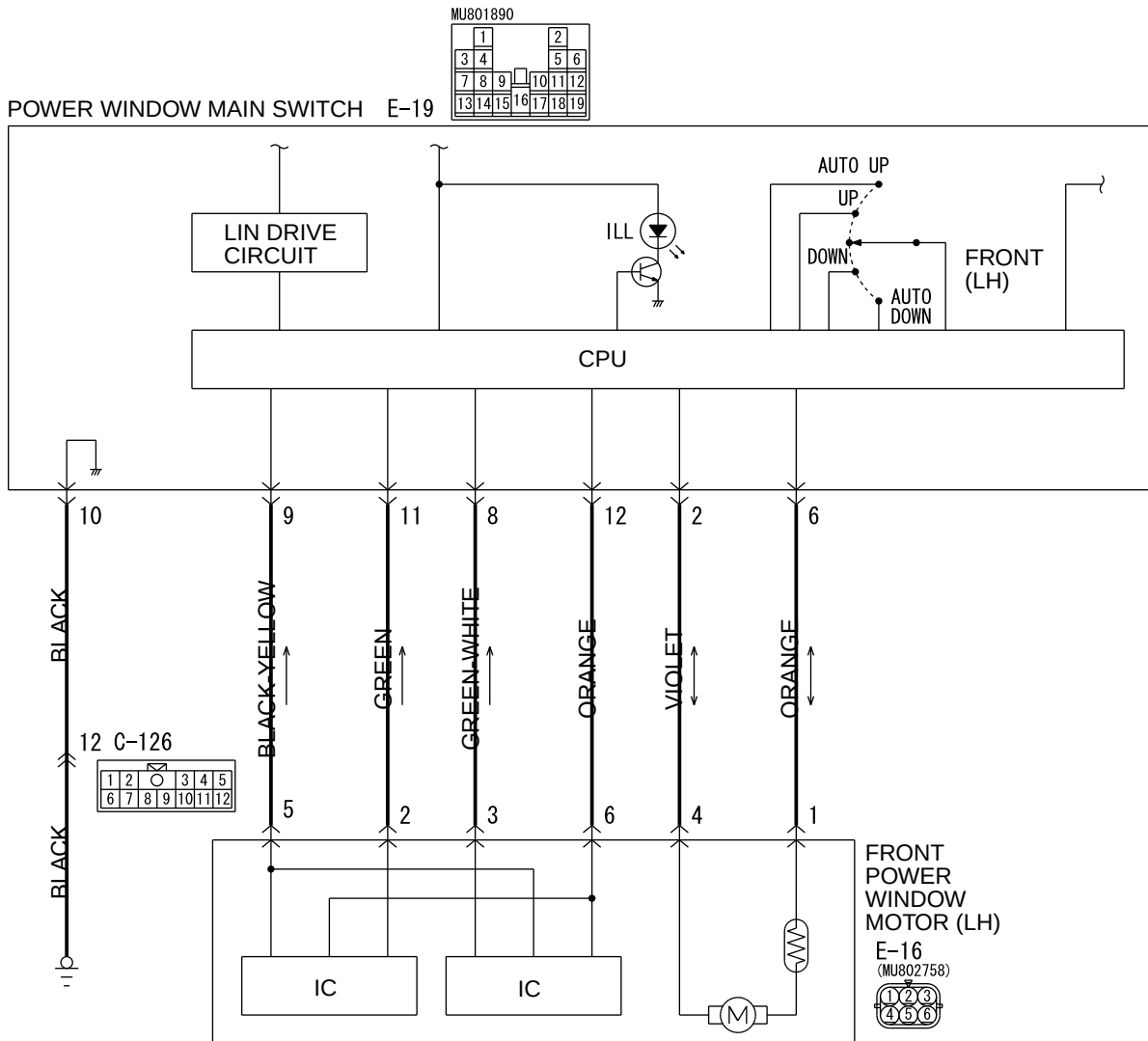
**YES:** Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

**NO:** Replace the power window main switch.

## INSPECTION PROCEDURE C-6: Power Window Anti-trap Function does not Work Normally <Driver's Side Only>.

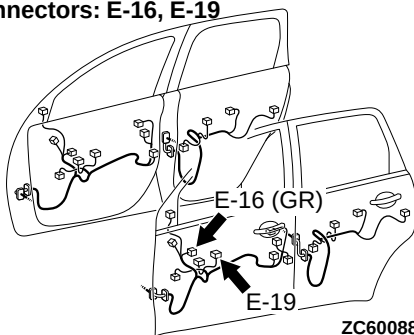
M14203000930USA0000010000

Driver's Power Window Circuit



ZC6013680000

Connectors: E-16, E-19



ZC6008810003

### CIRCUIT OPERATION

Malfunction of the power window motor revolution detection sensor is suspected.

### TROUBLESHOOTING HINTS

- Malfunction of the power window motor
- Damaged wiring harness and connectors

**DIAGNOSTIC PROCEDURE**

---

**STEP 1. Check the power window operating current.**

Check that the power window operating current is normal. (Refer to P.42Ab-89).

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

**YES:** Door window glass adjustment (Refer to P. 42Ab-88). Then go to Step 2.

**NO:** Replace the power window motor. Verify that the power window anti-trap function works normally.

---

**STEP 2. Confirm the power window learning function.**

Check that the power window switch has learned the fully closed position of the windows.

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

**YES:** Go to Step 3.

**NO:** Make the power window switch learn the fully closed position of the windows (Refer to P. 42Ab-90). Verify that the power window anti-trap function works normally.

---

**STEP 3. Check power window main switch connector E-19, front power window motor (LH) connector E-16 for loose, corroded or damaged terminals, or terminals pushed back in the connector.****Q:Are power window main switch connector E-19, front power window motor (LH) connector E-16 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 power window anti-trap function works normally.

---

**STEP 4. Check the wiring harness between power window main switch connector E-19 (terminals 8, 9, 11 and 12) and front power window motor (LH) connector E-16 (terminals 3, 5, 2 and 6).****Q:Is the wiring harness between power window main switch connector E-19 (terminals 8, 9, 11 and 12) and front power window motor (LH) connector E-16 (terminals 3, 5, 2 and 6) in good condition?**

**YES:** Go to Step 5.

**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 power window anti-trap function works normally.

---

**STEP 5. Retest the system.**

Check that the power window anti-trap function works.

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

**YES:** Intermittent malfunction (Refer to GROUP 00 – How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

**NO:** Replace the front power window motor (LH). Verify that the power window anti-trap function works normally.

---

## **INSPECTION PROCEDURE C-7: The Window Glass Lowers Automatically while it is Rising <Driver's Side Only>.**

---

M14203000931USA0000010000

### **CIRCUIT OPERATION**

If the sliding resistance is too great when the window is being raised or the window glass encounters an object, the window glass will lower by approximately 150 mm (5.9 inches).

### **TROUBLESHOOTING HINTS**

- Improper adjusted door window glass
- Incorrectly installed or warped glass slider
- Malfunction of the power window motor
- Malfunction of the window regulator

### **DIAGNOSTIC PROCEDURE**

#### **STEP 1. Check the power window anti-trap function.**

Check that the power window anti-trap function works. Refer to P.42Ab-89.

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

**YES:** Go to Step 2.

**NO:** Refer to P. 42Ab-39.

#### **STEP 2. Check that the door window glasses are installed correctly.**

Check that the door window glasses are installed correctly.

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

**YES:** Go to Step 3.

**NO:** Adjust the door window glass (Refer to P.42Ab-88).  
Verify that the power window works normally.

#### **STEP 3. Retest the system.**

Check that the power window does not lower while it is being raised.

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

**YES:** Intermittent malfunction (Refer to GROUP 00, How to Use Troubleshooting/Inspection Service Points – How to Cope with Intermittent Malfunction P.00-15).

**NO:** Replace the power window motor of the defective window. Verify that the power window works normally.

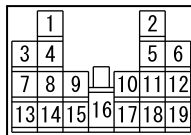
## CHECK AT ECU TERMINAL

M14203000977USA0000010000

## POWER WINDOW SWITCH TERMINAL CHECK

## POWER WINDOW MAIN SWITCH

E-19



ZC6006130000

| Terminal No. | Check items                                                  | Check conditions                     | Normal conditions        |
|--------------|--------------------------------------------------------------|--------------------------------------|--------------------------|
| 1            | Output to power window motor (Passenger's side)              | -                                    | -                        |
| 2            | Output to power window motor (Driver's side)                 | -                                    | -                        |
| 3            | Output to power window motor (Passenger's side)              | -                                    | -                        |
| 4            | Power supply                                                 | Power window relay: ON               | Battery voltage          |
| 5            | Power supply                                                 | Always                               | Battery voltage          |
| 6            | Output to power window motor (Driver's side)                 | -                                    | -                        |
| 7            | LIN communication line (between ETACS-ECUs)                  | Always                               | 0 to 12 V (pulse signal) |
| 8            | Input from power window motor (pulse sensor signal)          | When the power windows are operating | 0 to 5 V (pulse signal)  |
| 9            | Input from power window motor (pulse sensor ground)          | -                                    | 0 V                      |
| 10           | Ground                                                       | Always                               | 0 V                      |
| 11           | Input from power window motor (pulse sensor signal)          | When the power windows are operating | 0 to 5 V (pulse signal)  |
| 12           | Input from power window motor (power supply to pulse sensor) | When the power windows are operating | 5 V                      |
| 13           | -                                                            | -                                    | -                        |
| 14           | -                                                            | -                                    | -                        |
| 15           | Output to power window motor (Rear right side)               | -                                    | -                        |
| 16           | -                                                            | -                                    | -                        |
| 17           | Output to power window motor (Rear right side)               | -                                    | -                        |
| 18           | Output to power window motor (Rear left side)                | -                                    | -                        |

| Terminal No. | Check items                                   | Check conditions | Normal conditions |
|--------------|-----------------------------------------------|------------------|-------------------|
| 19           | Output to power window motor (Rear left side) | -                | -                 |

## DOOR DIAGNOSIS

### INTRODUCTION TO GLASS AND DOOR DIAGNOSIS

M14203000073USA0000010002

Glass and door faults include water leaks and improper opening and closing. Causes for these faults can include faults in the glass, weatherstrip, drain hole or door installation.

### GLASS AND DOOR DIAGNOSTIC TROUBLESHOOTING STRATEGY

M14203000067USA0000010002

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

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

## SYMPTOM CHART

M14203000070USA0000010002

| SYMPTOM                                | INSPECTION PROCEDURE | REFERENCE PAGE |
|----------------------------------------|----------------------|----------------|
| Water leak through door window glass   | 1                    | P.42Ab-79      |
| Door window glass malfunction          | 2                    | P.42Ab-80      |
| Water leak through door edge           | 3                    | P.42Ab-80      |
| Water leak from door center            | 4                    | P.42Ab-81      |
| Door hard to open                      | 5                    | P.42Ab-81      |
| Door does not open or close completely | 6                    | P.42Ab-81      |
| Uneven gap between body                | 7                    | P.42Ab-82      |
| Wind noise around door                 | 8                    | P.42Ab-82      |

## SYMPTOM PROCEDURES

### INSPECTION PROCEDURE 1: Water Leak Through Door Window Glass

M14203000078USA0000010000

#### DIAGNOSIS

**STEP 1. Check the window glass runchannel.**

**Q:**Is the window glass runchannel in good condition?

**YES:** Go to Step 2.

**NO:** Replace the runchannel, then go to Step 4.

**STEP 2. Check the door window glass installation.**

**Q:**Is the door window glass installed correctly?

**YES:** Go to Step 3.

**NO:** Reinstall the door window glass (Refer to P. 42Ab-97). Then go to Step 4.

**STEP 3. Check the clearance at the top of the door window glass.**

**Q:**Is the clearance at the top of the door window glass correct?

**YES:** Go to Step 4.

**NO:** Adjust the door window glass (Refer to P. 42Ab-86). Then go to Step 4.

**STEP 4. Retest the system.**

**Q:**Is any water leaking?

**YES:** Return to Step 1.

**NO:** The procedure is complete.

---

**INSPECTION PROCEDURE 2: Door Window Glass Malfunction**

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M14203000079USA0000010000

**DIAGNOSIS****STEP 1. Check the door window glass installation condition.**

**Q:**Is the door window installed correctly?

**YES:** Go to Step 2.

**NO:** Reinstall the door window glass (Refer to P. 42Ab-97). Then go to Step 4.

**STEP 2. Check the delta window glass.**

**Q:**Is the delta window glass in good condition?

**YES:** Go to Step 3.

**NO:** Repair or replace delta window glass, then go to Step 4.

**STEP 3. Inspect the window regulator assembly.**

**Q:**Is the window regulator assembly in good condition?

**YES:** Go to Step 4.

**NO:** Repair or replace the window regulator assembly, then go to Step 4.

**STEP 4. Retest the system.**

**Q:**Does the door window operate correctly?

**YES:** The procedure is complete.

**NO:** Return to Step 1.

---

**INSPECTION PROCEDURE 3: Water Leak Through Door Edge**

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M14203000080USA0000010000

**DIAGNOSIS****STEP 1. Check the weatherstrip.**

**Q:**Is the weatherstrip in good condition?

**YES:** Go to Step 2.

**NO:** Replace the weatherstrip, then go to Step 3.

**STEP 2. Check the door fit (alignment).**

**Q:**Is the door fit (alignment) correct?

**YES:** Go to Step 3.

**NO:** Adjust the door fit (Refer to P. 42Ab-86). Then go to Step 3.

**STEP 3. Retest the system.**

**Q:**Is any water leaking?

**YES:** Return to Step 1.

**NO:** The procedure is complete.

---

## INSPECTION PROCEDURE 4: Water Leak from Door Center

---

M14203000081USA0000010000

### DIAGNOSIS

#### STEP 1. Check the drain hole.

##### Q:Is the drain hole clogged?

**YES:** Clean the drain hole, then go to Step 3.

**NO:** Go to Step 2.

#### STEP 2. Check the weatherstrip.

##### Q:Is the weatherstrip in good condition?

**YES:** Go to Step 3.

**NO:** Repair or replace the weatherstrip, then go to Step 3.

#### STEP 3. Retest the system.

##### Q:Is any water leaking?

**YES:** Return to Step 1.

**NO:** The procedure is complete.

---

## INSPECTION PROCEDURE 5: Door Hard to Open

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M14203000082USA0000010000

### DIAGNOSIS

#### STEP 1. Adjust the latch and striker engagement.

##### Q:Is the latch and striker engagement adjusted?

**YES:** Go to Step 2.

**NO:** Adjust the latch and striker (Refer to P. 42Ab-97). Then go to Step 4.

#### STEP 2. Check for lock cable and lock rod damage.

##### Q:Are the lock cable and the lock rod damaged?

**YES:** Repair or replace the lock cable and the lock rod, then go to Step 4.

**NO:** Go to Step 3.

#### STEP 3. Check the door handle flexibility (amount of movement of handle required to open door).

##### Q:Is the door handle flexibility good?

**YES:** Go to Step 4.

**NO:** Check the door outside handle and inside handle (Refer to P. 42Ab-92 and P. 42Ab-93). Then go to Step 4.

#### STEP 4. Retest the system.

##### Q:Does the door open easily?

**YES:** The procedure is complete.

**NO:** Return to Step 1.

---

## INSPECTION PROCEDURE 6: Door does not Open or Close Completely

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M14203000083USA0000010000

### DIAGNOSIS

#### STEP 1. Check the door hinge position.

##### Q:Is the door hinge correct?

**YES:** Go to Step 2.

**NO:** Adjust the door hinge (Refer to P. 42Ab-97). Then go to Step 4.

#### STEP 2. Check the door for damage.

##### Q:Is the door in good condition?

**YES:** Go to Step 3.

**NO:** Repair or replace the door, then go to Step 4.

#### STEP 3. Check lubrication.

##### Q:Are the door check and door hinge sufficiently lubricated?

**YES:** Go to Step 4.

**NO:** Apply grease, then go to Step 4.

#### STEP 4. Retest the system.

##### Q:Does the door open and close completely?

**YES:** The procedure is complete.**NO:** Return to Step 1.

---

**INSPECTION PROCEDURE 7: Uneven Gap Between Body**

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**DIAGNOSIS**

Adjust the door fit (Refer to P.42Ab-97). Then check that the gap has been improved.

---

**INSPECTION PROCEDURE 8: Wind Noise Around Door**

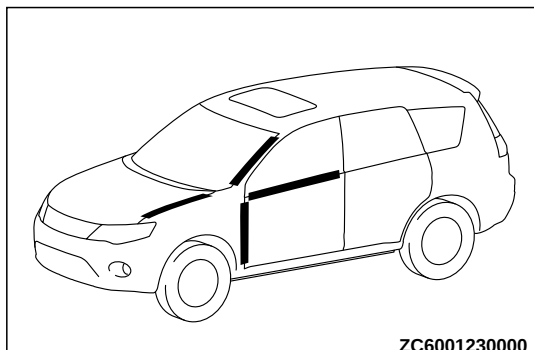
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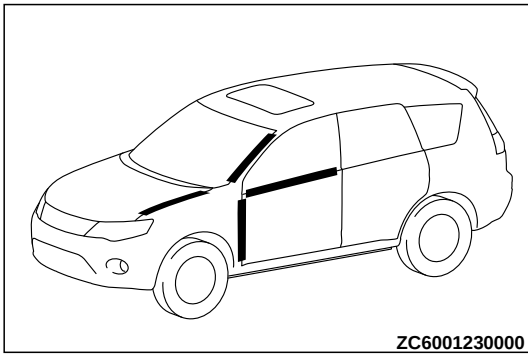
**DIAGNOSIS****STEP 1. Check the weatherstrip for holding condition.****Q: Is the weatherstrip holding firmly?****YES:** Go to Step 2.**NO:** Adjust fit of weatherstrip. Then go to Step 5.**STEP 2. Check the weatherstrip for installation condition.****Q: Is the weatherstrip installed properly?****YES:** Go to Step 3.**NO:** Repair or replace the weatherstrip. Then go to Step 5.**STEP 3. Check the clearance.****Q: Are the door glass and door weatherstrip holder installed properly?****YES:** Go to Step 4.**NO:** Adjust the door glass and the weatherstrip holder (Refer to P.42Ab-88). Then go to Step 5.**STEP 4. Check the door for deformation.****Q: Is the door deformed?****YES:** Replace the door. Then go to Step 5.**NO:** Go to Step 5.**STEP 5. Retest the system.****Q: Has the wind noise been improved?****YES:** Return to Step 1.**NO:** This diagnosis complete.**HOW TO LOCATE WIND NOISE**

M14203000983USA0000010000

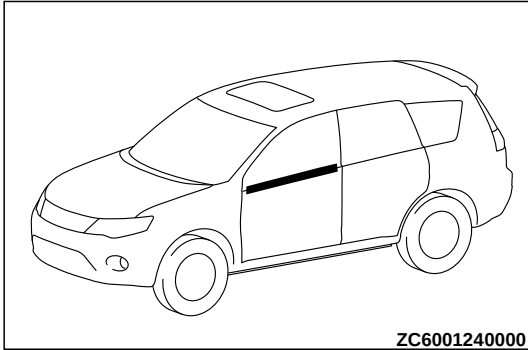
1. Attach cloth tape to every place, such as panel seams, projections, molding seams, glass and body seams, etc. which might conceivably be the source of wind noise.
2. Then make a road test to check that the places not covered by tape are not sources of wind noise.



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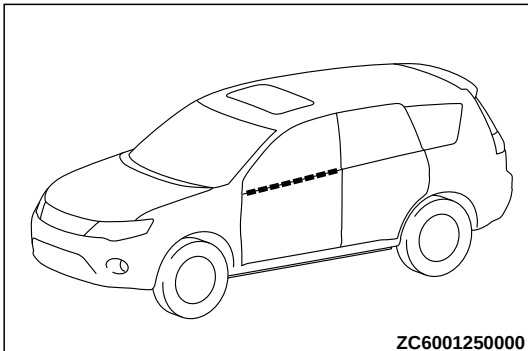


3. Remove the strips of tape one by one, making a road test after each is removed, until a wind noise source is discovered.

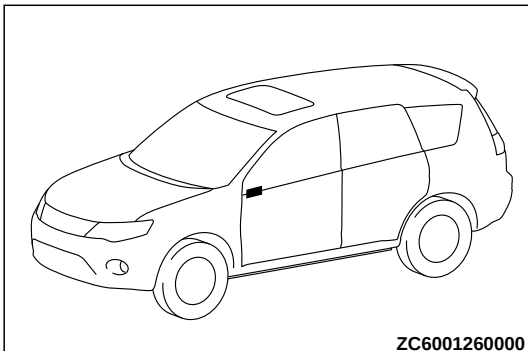


4. When such a place is found, cover it again and repeat the procedure to check if there are any other noise source.

5. If no others are found, the last remaining tape is the only source.



6. Cut the remaining piece of tape into smaller pieces, attach it again as it was before, and then remove the pieces one by one to narrow down the source.

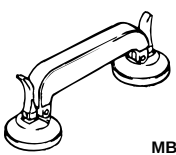


7. Check that wind noise occurs when the last remaining tape is removed, and that noise does not occur when it is re-attached.

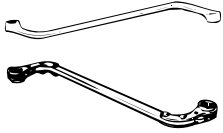
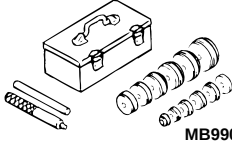
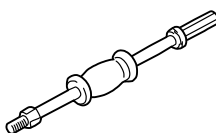
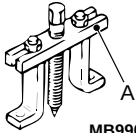
8. When the source(s) of the wind noise is finally located, attach butyl tape, body sealer or similar material to obstruct this source as much as possible.

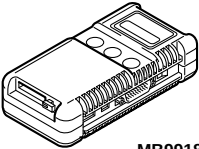
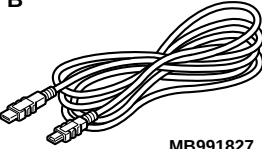
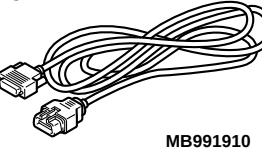
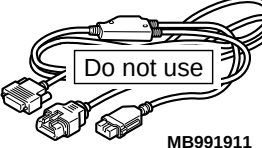
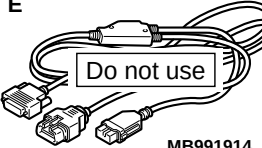
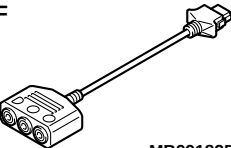
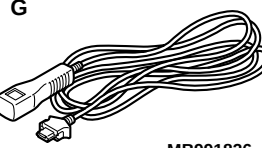
## SPECIAL TOOLS

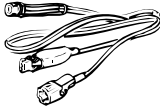
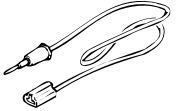
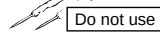
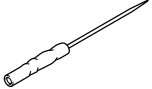
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| TOOL                                                                                                | TOOL NUMBER AND NAME  | SUPERSESSION         | APPLICATION                                        |
|-----------------------------------------------------------------------------------------------------|-----------------------|----------------------|----------------------------------------------------|
|  <p>MB990480</p> | MB990480 Glass holder | General service tool | Removal and installation of power window regulator |

DOOR  
SPECIAL TOOLS

| TOOL                                                                                              | TOOL NUMBER AND NAME                                                         | SUPERSESSION                           | APPLICATION                |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------|----------------------------|
| <br>MB990900     | MB990900 or<br>MB991164 Door<br>adjusting wrench                             | MB990900-01                            | Adjustment of door fit     |
| <br>MB990925      | MB990925 Bearing and<br>oil seal installer set<br>A: MB990939<br>Remover bar | MB990925-01 or<br>General service tool | Adjustment of door striker |
| <br>YB990211AA00 | MB990211 Slider<br>hammer                                                    | MB990211-01                            |                            |
| <br>MB990241AE  | MB990241 Axle shaft<br>puller<br>A: MB990243 Body<br>puller                  | MB990241-01 or<br>General service tool |                            |

| TOOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TOOL NUMBER AND NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | SUPERSESSSION                                                                                                                           | APPLICATION                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A</p>  <p>MB991824</p> <p>B</p>  <p>MB991827</p> <p>C</p>  <p>MB991910</p> <p>D</p>  <p>MB991911</p> <p>E</p>  <p>MB991914</p> <p>F</p>  <p>MB991825</p> <p>G</p>  <p>MB991826<br/>YB9919580001</p> | <p>MB991958</p> <p>A: MB991824<br/>B: MB991827<br/>C: MB991910<br/>D: MB991911<br/>E: MB991914<br/>F: MB991825<br/>G: MB991826</p> <p>Scan tool (M.U.T.-III sub assembly)</p> <p>A: Vehicle communication interface (V.C.I.)<br/>B: M.U.T.-III USB cable<br/>C: M.U.T.-III main harness A (Vehicles with CAN communication system)<br/>D: M.U.T.-III main harness B (Vehicles without CAN communication system)<br/>E: M.U.T.-III main harness C (for Daimler Chrysler models only)<br/>F: M.U.T.-III measurement adapter<br/>G: M.U.T.-III trigger harness</p> | <p>MB991824-KIT</p> <p><i>NOTE: G: MB991826<br/>M. U. T. -III Trigger Harness is not necessary when pushing V. C. I. ENTER key.</i></p> | <p>Communication line check (ECU check and service data)</p> <p><b>⚠ CAUTION</b></p> <p><b>For vehicles with CAN communication, use M.U.T.-III main harness A to send simulated vehicle speed. If you connect M.U.T.-III main harness B instead, the CAN communication does not function correctly.</b></p> |

| TOOL                                                                                                                                                                                                                                                                                                                                                                                            | TOOL NUMBER AND NAME                                                                                                                                       | SUPERSESSION          | APPLICATION                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a</p>  <p>b</p>  <p>c</p>  <p>d</p>  <p>YB9912230000</p> | <p>MB991223 Harness set</p> <p>A: MB991219 Test harness</p> <p>B: MB991220 LED harness</p> <p>C: MB991221 LED harness adapter</p> <p>D: MB991222 Probe</p> | General service tools | <p>Making voltage and resistance measurement during troubleshooting</p> <p>A: Connector pin contact pressure inspection</p> <p>B: Power circuit inspection</p> <p>C: Power circuit inspection</p> <p>D: Commercial tester connection</p> |
|  <p>MB992006</p>                                                                                                                                                                                                                                                                                               | <p>MB992006</p> <p>Extra fine probe</p>                                                                                                                    | -                     | <p>Making voltage and resistance measurement during troubleshooting</p>                                                                                                                                                                  |

## ON-VEHICLE SERVICE

## FRONT DOOR FIT ADJUSTMENT

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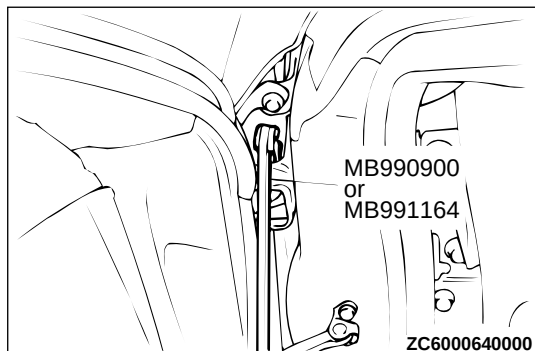
## Required Special Tools:

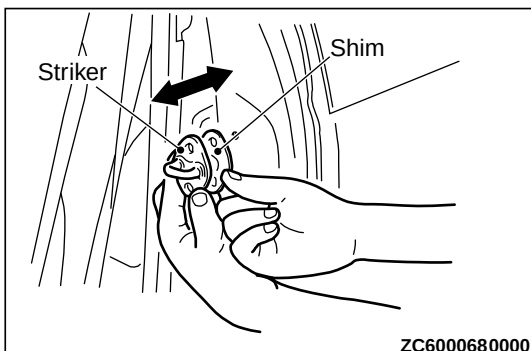
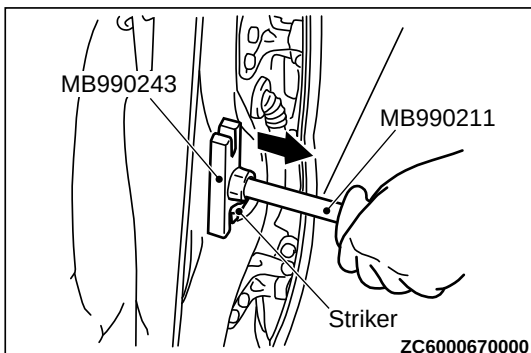
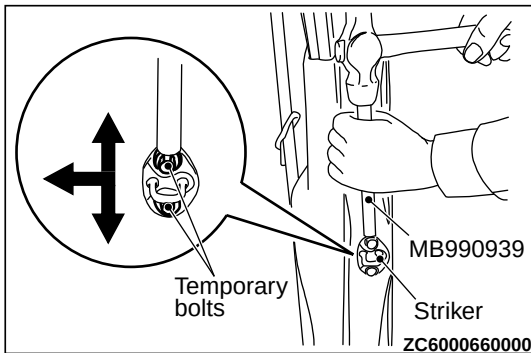
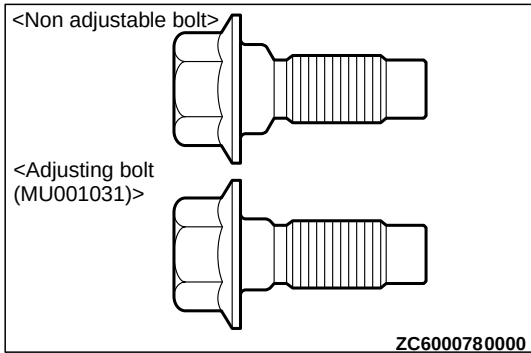
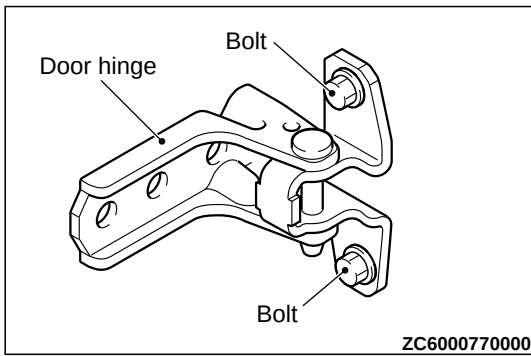
- MB990211: Slide Hammer
- MB990243: Body Puller
- MB990900 or MB991164: Door adjusting Wrench
- MB990939: Brass Bar

**CAUTION**

- Do not rotate special tool MB991164 with a torque of over 98 N?m (72 ft-lb).

- When the clearance between the door and the body is uneven
  - Apply protective tape to the fender around the hinge installation position and door edge.
  - Remove the splash shield front <Front door only> (Refer to GROUP 42Aa, Splash Shield P.42Aa-9).
  - Remove the center pillar trim <Rear door only> (Refer to GROUP 52A, Interior Trim P.52A-10).
  - Use special tool MB990900 or MB991164 to loosen the hinge mounting bolts on the body side, and then adjust the clearance around the door so that it is uniform on all sides.
  - Move the door to adjust until the clearance around the door is even.





2. When the door is not flush with the vehicle body surface.
  - (1) Loosen the door-side hinge mounting bolts.
  - (2) Move the door to adjust so that the door is flush with the vehicle body.
  - (3) If adjustment is not possible, replace the door-side door hinge mounting bolt with the adjustment bolt (MU001031).

*NOTE: If the adjustment bolt has been already installed, reuse it.*

  - (4) Move the door to adjust so that the door is flush with the vehicle body.
  - (5) Tighten the door-side door hinge mounting bolt to the specified torque.

**Tightening torque:  $26 \pm 6 \text{ N}\cdot\text{m}$  ( $19 \pm 5 \text{ ft}\cdot\text{lb}$ )**

3. When the door is stiff to close and open
  - (1) Adjustment using the striker (toward the inside of the vehicle and vertical direction)
 

Install a temporary bolt instead of the striker mounting bolt, and use special tool MB990939 and a hammer to tap the bolt in the desired direction.
  - (2) Adjustment by using the striker (toward the outside of the vehicle)
 

Use special tools MB990211 and MB990243 to pull the striker toward the outside of the vehicle.
  - (3) Adjustment using shims (forward and rearward)
 

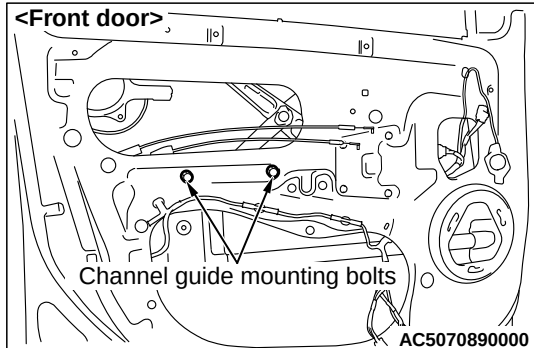
Increase or decrease the number of shims so that the striker engages with the door latch properly.

## DOOR WINDOW GLASS ADJUSTMENT

M14203000013USA0000010000

Check that the door glass operates smoothly and moves along the door glass run channel when the door window glass is fully raised and fully lowered. If there is a problem, adjust by the following procedure.

1. Remove the door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11).
2. Remove the waterproof film (Refer to P.42Ab-110).
3. Raise the door window glass and loosen the channel guide mounting bolts to adjust tilting up/down of the glass.



## POWER WINDOW CHECK

M14203000901USA0000010000

Check the power window as described below. If it does not work, perform troubleshooting (Refer to P.42Ab-39).

- Turn off the power window lock switch of the power window main switch, and operate each of the power window switches to check that each power window operates.
- Turn on the power window lock switch of the power window main switch, and operate the front and rear passenger's power window sub switches to check that the power windows do not work.
- Turn on the power window lock switch of the power window main switch, and operate the power window main switch to check that each power window operates.

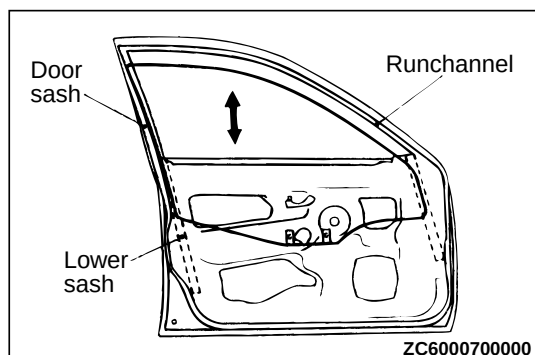
*NOTE: The power window lock switch function can be adjusted with the customization feature, confirm it before check (Refer to P. 42Ab-94).*

## ADJUSTMENT OF FAULTY POWER WINDOW

M14203000902USA0000010000

If the door window glass wrongly, automatically lowers while being raised, adjust or replace as follows:

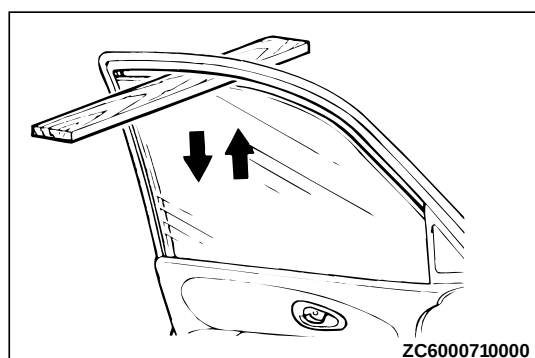
1. Remove the door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11).
2. Remove waterproof film (Refer to P.42Ab-110).
3. Remove the window regulator assembly from the door window glass, and then raise and lower the door window glass by hand to check the operation force.



4. If the door window glass does not move up and down smoothly, check and repair as follows:
  - Check the installation condition of the runchannel.
  - Straighten twist in the door sash.
  - Check the installation condition of the lower sash.
5. If repair or adjustment is impossible, replace the door assembly.

## POWER WINDOW SAFETY MECHANISM CHECK <Driver's side only>

M14203000984USA0000010000



1. Place an approximately 10 mm (0.39 inch) thick wood chip as shown. Then, raise the window glass.
2. Check that the window lowers by about 150 mm (5.9 inches) when the window clamps the board. If this doesn't happen, do troubleshooting. Refer to P.42Ab-39.

*NOTE: If the anti-trap function (safety mechanism) is activated consecutively three times or more, carry out the learning procedures of the power window fully closed position (Refer to P. 42Ab-88).*

## POWER WINDOW TIMER FUNCTION CHECK

M14203000904USA0000010000

Check the power window timer as described below. If it does not work, perform troubleshooting (Refer to P.42Ab-39).

- Close the door and turn the ignition switch to the LOCK (OFF) position, and then check that the power windows operate for 30 seconds.
- Close the door and turn the ignition switch to the LOCK (OFF) position. While the timer is on, open the driver's door or front passenger's door, and check that the timer is cancelled.

## POWER WINDOW OPERATION CURRENT CHECK

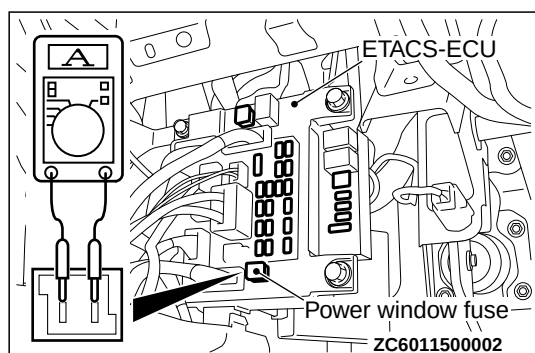
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1. Remove the power window fuse, and connect a multimeter as shown in the illustration.
2. Raise the power window to measure the current during operation.

**Standard value: 7 A or less [Power supply voltage 14.5 ± 0.5 V, at 25°C (77°F)]**

*NOTE: If the power supply voltage does not meet the standard value, check and repair the generator and the battery. Then carry out this check again.*

3. If the operation current is outside the standard value, refer to P.42Ab-88.



## LEARNING PROCEDURES OF THE POWER WINDOW FULLY CLOSED POSITION

M14203000924USA0000010000

### LEARNING PROCEDURES OF THE FULLY CLOSED POSITION WHEN THE POWER WINDOW SWITCH IS REMOVED, OR THE POWER WINDOW REGULATOR ASSEMBLY IS REMOVED OR REPLACED

1. If the anti-trap function (safety mechanism) is activated consecutively three times or more, the fully closed position that the power window switch has learned will be erased (initialised).
2. Operate the power window switch and fully open the door window glass.

#### CAUTION

The anti-trap function will not activated until the learning procedures of the fully closed position have been completed (because the anti-trap function was reset).

3. Operate the power window switch and fully close the door window glass. The power window activates for 0.7 seconds and stops automatically when the power window switch is pressed once. Repeat this operation until the door window glass fully closes and release the switch once. Then, hold the power window switch to the fully closed side again for one second so that the power window switch completes learning the fully closed position.

*NOTE: If the power window switch is operated to open the door window glass while the switch is learning, the learning will be cancelled. If this happens, return to step 2.*

### LEARNING PROCEDURES WHEN THE POWER WINDOW SWITCH IS REPLACED WITH A NEW ONE

#### CAUTION

The anti-trap function will not activated until the learning procedures of the fully closed position have been completed (because the anti-trap function was reset).

Operate the power window switch to fully close the door window glass by one-shot up action so that the power window switch will complete learning (no initialization is required).

## CENTRAL DOOR LOCKING SYSTEM CHECK

M14203000908USA0000010000

- Check that the central door locking system works by operating the driver's door key cylinder or the door lock switch. If it does not operate, perform troubleshooting. Refer to P.42Ab-11.

*NOTE: When the inside lock knob is operated with the driver's door opened, the driver's door is not locked.*

- Check whether the driver's door is opened when the driver's door inside handle is pulled with all the doors locked. If it does not operate, replace the driver's door latch assembly. Refer to P.42Ab-102.

## KEY-IN PREVENTION FUNCTION CHECK

M14203000909USA0000010000

Check that the driver's door is not locked when the key cylinder or door lock switch is operated with the driver's door opened. If it is locked, replace the door latch. Refer to P.42Ab-102.

## SELECTOR "P" POSITION-LINKED DOOR UNLOCKING FUNCTION CHECK

M14203000910USA0000010000

When the selector is moved to the P (parking) position with the ignition switch on, all the doors and the liftgate will be unlocked. Carry out troubleshooting if the door is unlocked. Refer to P. 42Ab-11.

*NOTE: The selector "P" position-linked door unlocking function can be switched with the customization function. Confirm it before check. Refer to P. 42Ab-94.*

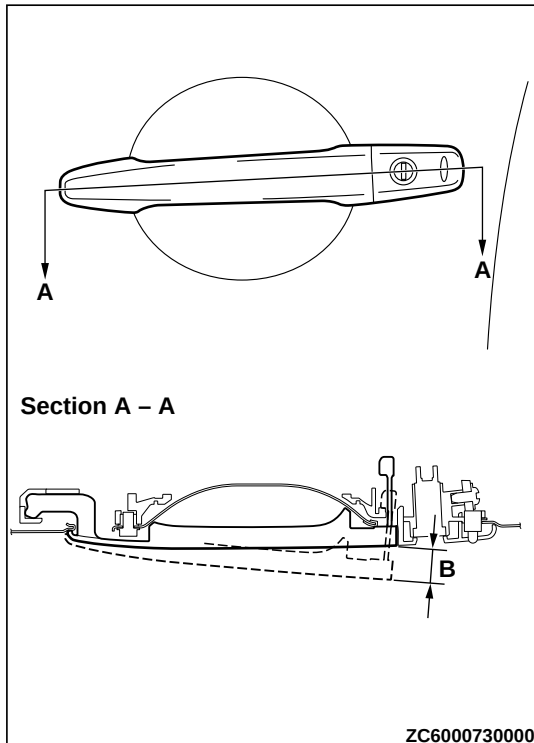
**DOOR OUTSIDE HANDLE ASSEMBLY PLAY  
CHECK**

M14203000016USA0000010000

1. Check that the door inside handle assembly play meets the standard value.

**Standard value (B): 0.1 - 5.2 mm (0.004 - 0.2 inch)****[Target value: 2.5 mm (0.1 inch)]**

2. Check the door outside handle assembly and door latch assembly, and replace them if they are out of the standard value.



## DOOR INSIDE HANDLE CHECK

M14203000015USA0000010000

### DOOR INSIDE HANDLE KNOB PLAY CHECK

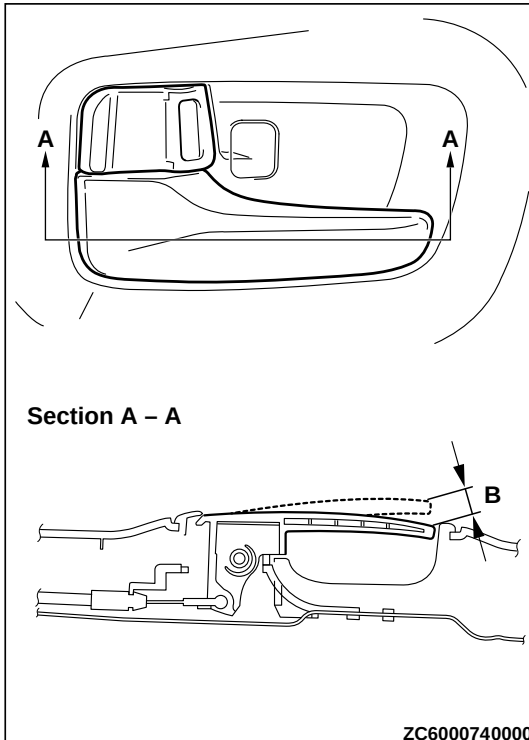
1. Check that the door inside handle knob play meets the standard value.

**Standard value (B):**

**Front driver's side: 10.0 - 23.7 mm (0.39 - 0.93 inch)**  
**[Target value: 17.0 mm (0.67 inch)]**

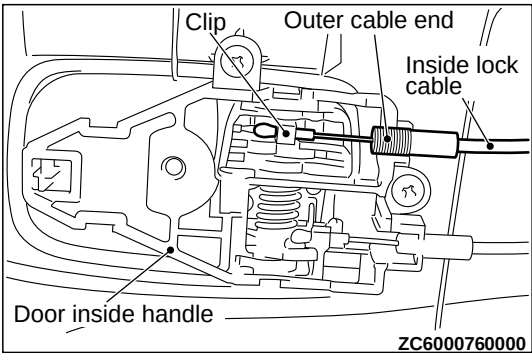
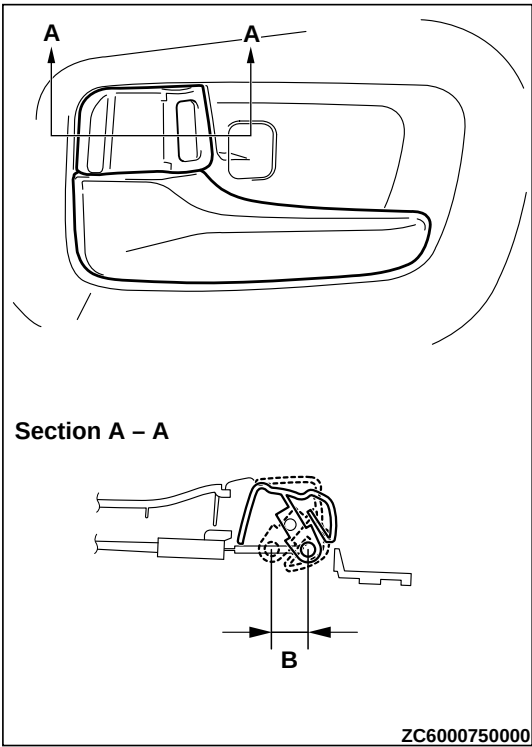
**Except Front driver's side: 5.0 - 18.7 mm (0.2 - 0.74 inch)**  
**[Target value: 12.0 mm (0.47 inch)]**

2. Check the door inside handle and door latch assembly, and replace them if they are out of the standard value.



### DOOR INSIDE HANDLE LOCK KNOB STROKE CHECK

1. Remove the door trim assembly (Refer to GROUP 52A - Door Trim P.52A-11).



2. Check that the stroke of the door inside handle lock knob meets the standard value.  
**Standard value (B): 13.7 - 15.0 mm (0.54 - 0.59 inch)**  
**[Target value: 14.7 mm (0.58 inch)]**

3. If it is outside the standard value, adjust the stroke of the inside handle lock knob by using the outer cable end, which connects the inside handle lock knob to the inside lock cable.

## CUSTOMIZE FUNCTION

M14203000976USA0000010000

With the scan tool MB991958 operation, the following information is held even when the battery is disconnected. The programmed functions can be programmed.

| Adjustment item (scan tool MB991958 display) | Adjustment item                         | Adjusting contents (scan tool MB991958 display) | Adjusting contents                                                                         |
|----------------------------------------------|-----------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------|
| Door unlock mode                             | Door lock system                        | All doors unlock                                | All the doors are unlocked when the driver's side door is unlocked.                        |
|                                              |                                         | Dr door unlock                                  | Only the driver's side door is unlocked when the driver's side door is unlocked. (default) |
| Auto door unlock by P position               | Auto door unlock by P position function | Disable                                         | Without function (default)                                                                 |
|                                              |                                         | Always enabled                                  | Always with function                                                                       |
|                                              |                                         | P/W unlocked                                    | With function (with power window unlocked)                                                 |

## DOOR ASSEMBLY

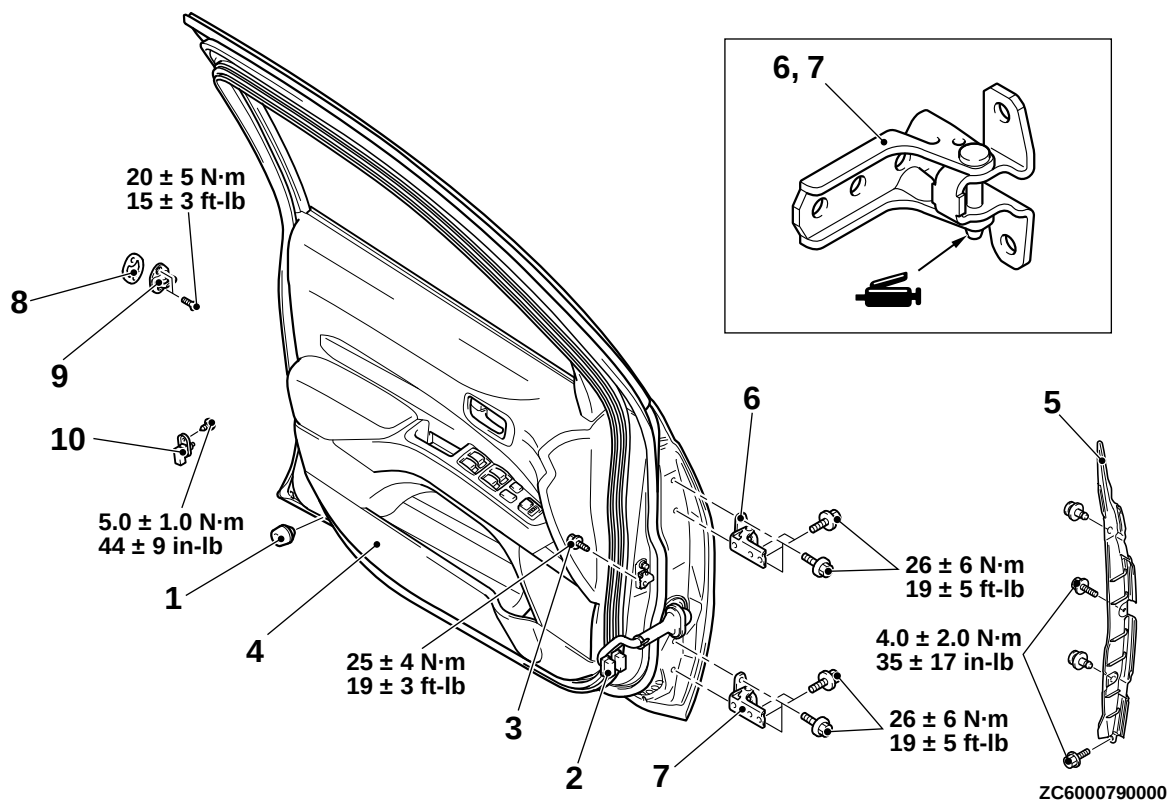
### REMOVAL AND INSTALLATION

M14203000022USA0000010000

#### Post-installation operation

- Door adjustment (Refer to P.42Ab-86.)

#### <Front door>



#### Damper removal

1. Damper

#### Door assembly and front door hinge removal steps

1. Front scuff plate, cowl side trim (Refer to GROUP 52A - Interior Trim P. 52A-10.)
2. Wiring harness connector connection
3. Door check connecting bolt
4. Door assembly
- Side air dams (Refer to GROUP 51A, Side Air Dams P.51A-15.)

>>A<<

#### Door assembly and front door hinge removal steps

5. Fender rear protector
6. Front door upper hinge
7. Front door lower hinge

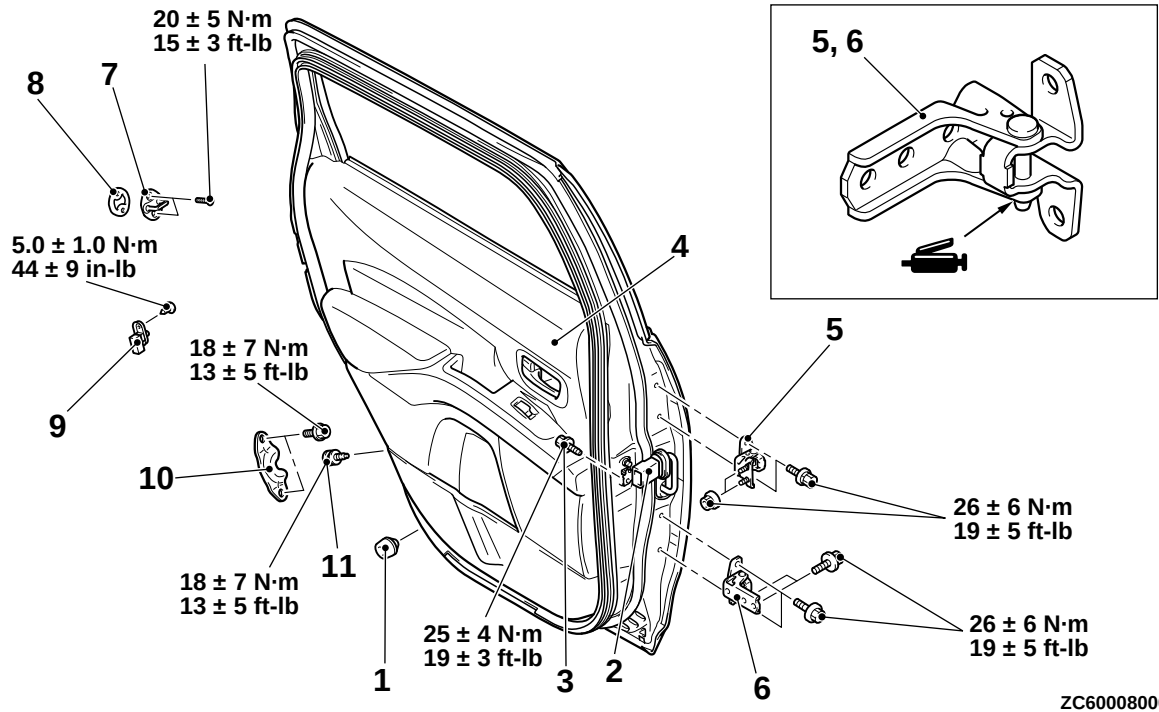
#### Striker removal steps

8. Striker
9. Striker shim

#### Door switch removal

10. Door switch

<Rear door>



**Damper removal**

1. Damper

**Door assembly removal steps**

2. Wiring harness connector connection
3. Door check connecting bolt
4. Door assembly

**Rear door hinge removal steps**

- Center pillar trim (Refer to GROUP 52A, Interior Trim P.52A-10.)
5. Rear door upper hinge

**Rear door hinge removal steps**

6. Rear door lower hinge

**Striker removal steps**

7. Striker
8. Striker shim

**Door switch removal**

9. Door switch

**Rear door catch removal**

10. Rear door catch

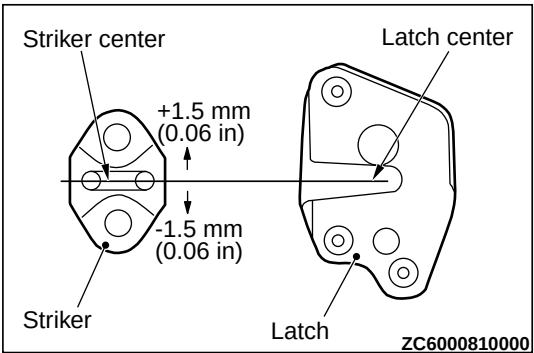
**Rear door lock hook removal**

11. Rear door lock hook

**INSTALLATION SERVICE POINT**

**>>A<< STRIKER INSTALLATION**

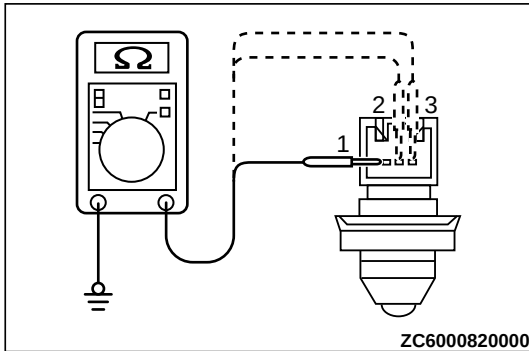
Install the striker so that the striker center does not deviate more than ±1.5 mm (0.06 inch) from the latch center.



## INSPECTION

M14203000060USA0000010000

### DOOR SWITCH CHECK



| Switch position | Terminal number                    | Normal value                           |
|-----------------|------------------------------------|----------------------------------------|
| Release (ON)    | 1 - Ground, 2 - Ground, 3 - Ground | Continuity exists (2 $\Omega$ or less) |
| Depressed (OFF) | 1 - Ground, 2 - Ground, 3 - Ground | Open circuit                           |

## DOOR GLASS AND REGULATOR

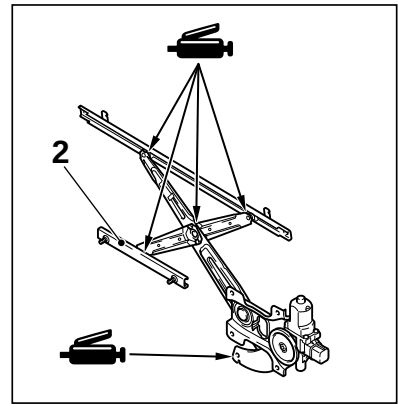
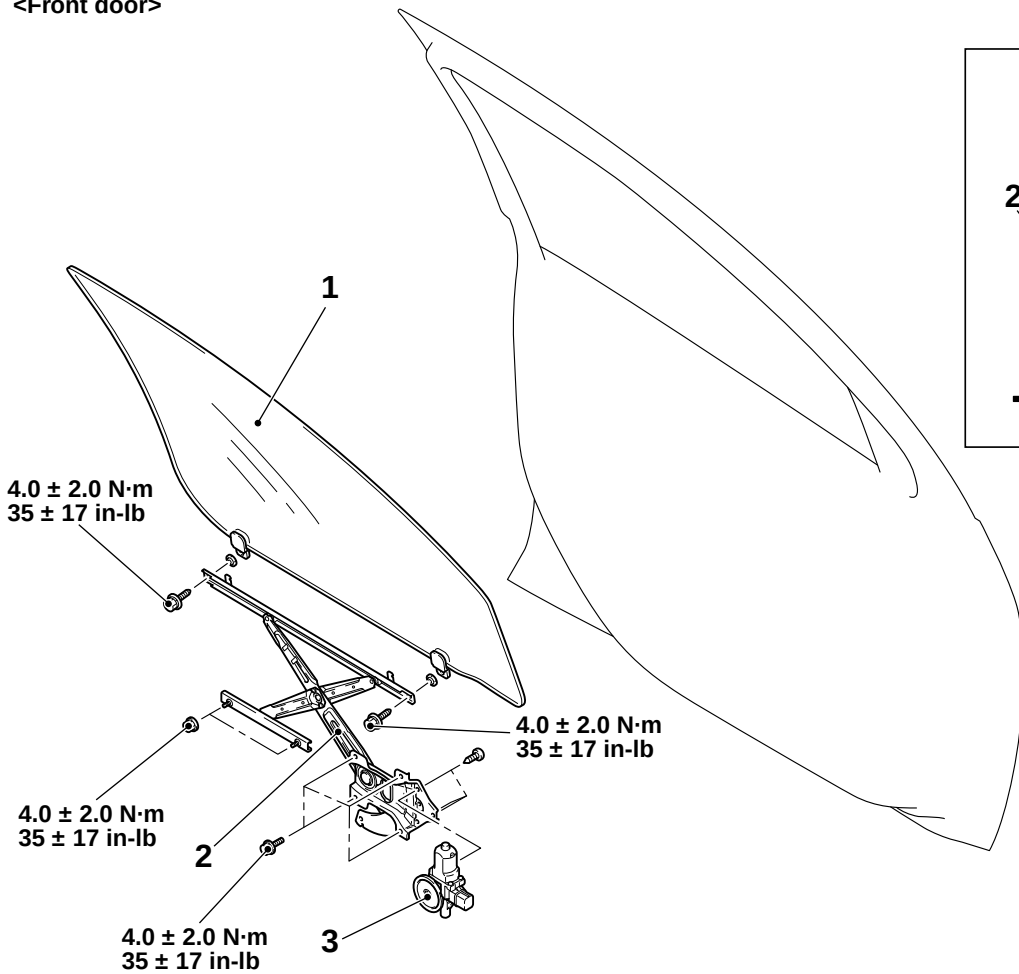
### REMOVAL AND INSTALLATION

M14203000912USA0000010000

#### Post-installation operation

- Door window glass adjustment (Refer to P.42Ab-88.)

<Front door>



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**Door window glass assembly removal steps**

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)
- Waterproof film, belt line molding, belt line weatherstrip inner, and speaker bracket (Refer to P.42Ab-110.)
- 1. Door window glass assembly

**Power window regulator removal steps**

- >>A<< · Post-installation operation check <Driver's side only>

**Power window regulator removal steps**

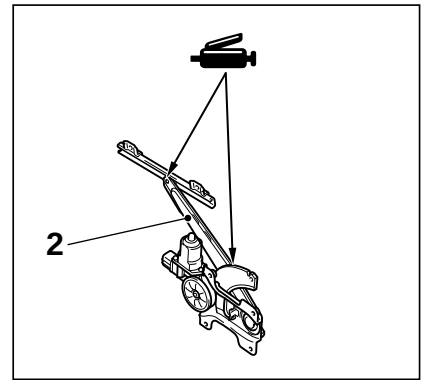
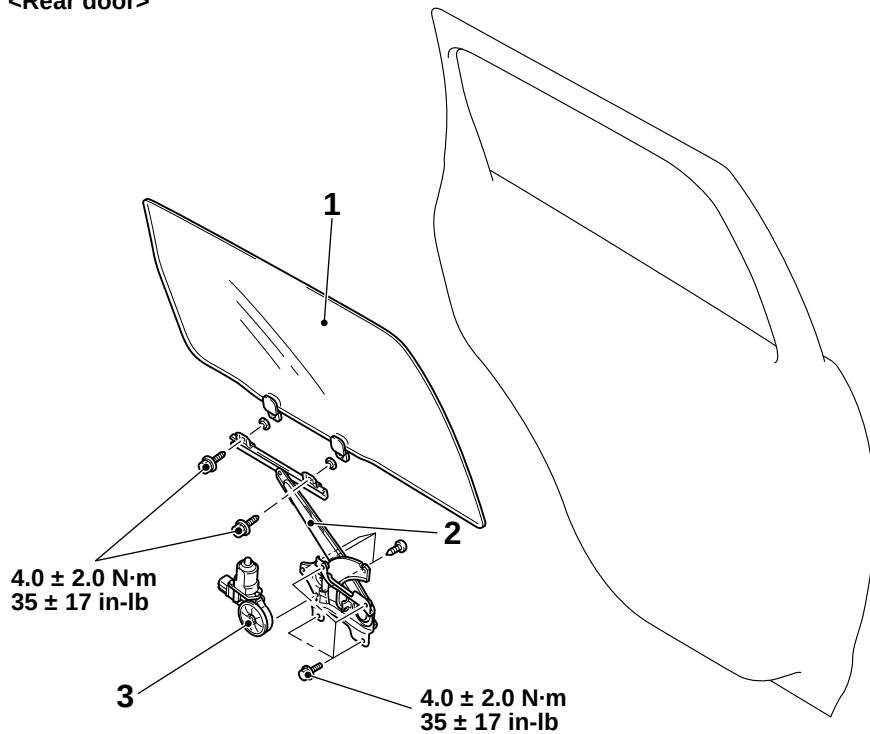
- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)
- Waterproof film and speaker bracket (Refer to P.42Ab-110.)
- 2. Power window regulator
- 3. Power window motor

<<A>>

Required Special Tool:

\*MB990480: Window Glass Holder

<Rear door>



ZC6000840000

**Door window glass assembly removal steps**

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)
- Waterproof film, belt line molding, belt line weatherstrip inner, door window glass channel, and speaker bracket (Refer to P.42Ab-110.)
- Door latch assembly (Refer to P. 42Ab-102.)

<<A>>

**Door window glass assembly removal steps**

1. Door window glass assembly

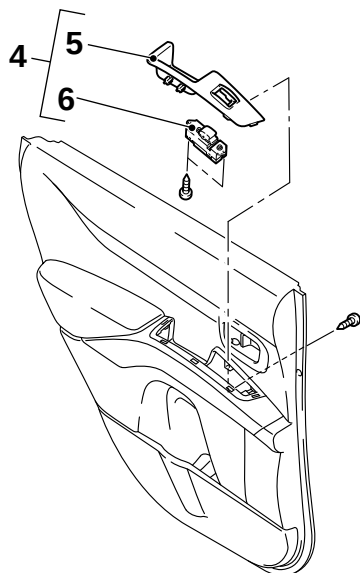
**Power window regulator removal steps**

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)
  - Waterproof film and speaker bracket (Refer to P.42Ab-110.)
2. Power window regulator
  3. Power window motor

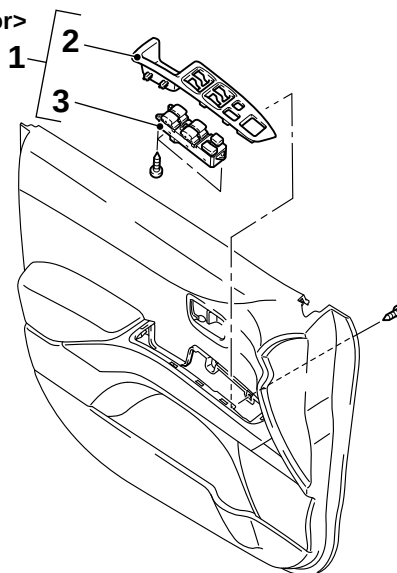
**Required Special Tool:**

▪MB990480: Window Glass Holder

&lt;Rear door&gt;



&lt;Front door&gt;



ZC6000870000

**Power window switch <Front door> removal step**

- >>A<<
- Post-installation operation check <Driver's side only>
  - Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)
1. Power window switch panel assembly
  2. Power window switch panel

**Power window switch <Front door> removal step**

3. Power window main switch <Driver's side>, power window sub switch <Front passenger's side>

**Power window sub switch <Rear door> removal step**

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)
4. Power window switch panel assembly
  5. Power window switch panel
  6. Power window sub switch

## REMOVAL SERVICE POINT

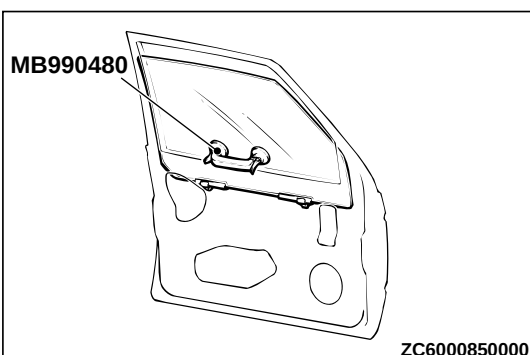
### <<A>> POWER WINDOW REGULATOR REMOVAL

1. Remove the door window glass installation bolts.

**⚠ CAUTION**

If tinting film is adhered to the door window glass, attach special tool MB990480 to the outside of the glass to prevent the film from peeling off.

2. Lift the door window glass, and attach special tool MB990480 to the glass as shown to prevent the glass from falling.
3. Remove the power window regulator.



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## INSTALLATION SERVICE POINT

### >>A<< POST-INSTALLATION OPERATION CHECK

#### <Driver's side only>

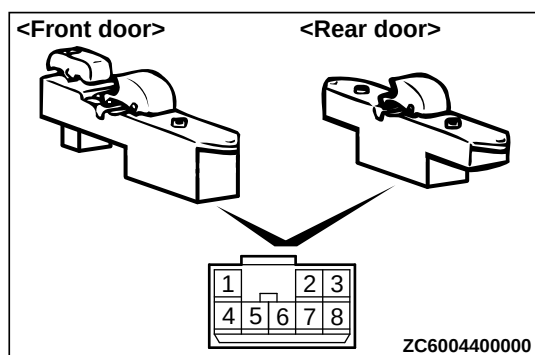
When the following procedures are carried out, carry out the learning procedures of the power window fully closed position (Refer to P.42Ab-90).

- Power window regulator removal or replacement
- Power window switch removal or replacement

## INSPECTION

M14203000913USA0000010000

## POWER WINDOW SWITCH CONTINUITY CHECK

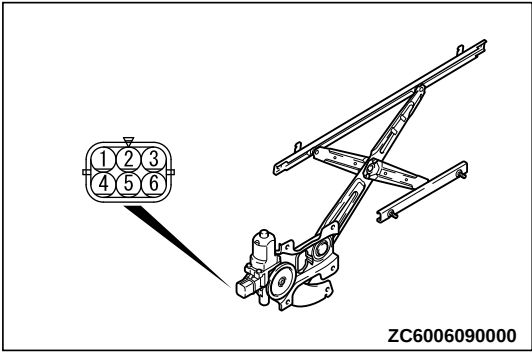


### Sub switch

| Switch position | Tester connection | Specified condition                    |
|-----------------|-------------------|----------------------------------------|
| UP              | 4 - 5, 6 - 7      | Continuity exists (2 $\Omega$ or less) |
| OFF             | 4 - 5, 7 - 8      | Continuity exists (2 $\Omega$ or less) |
| DOWN            | 4 - 6, 7 - 8      | Continuity exists (2 $\Omega$ or less) |

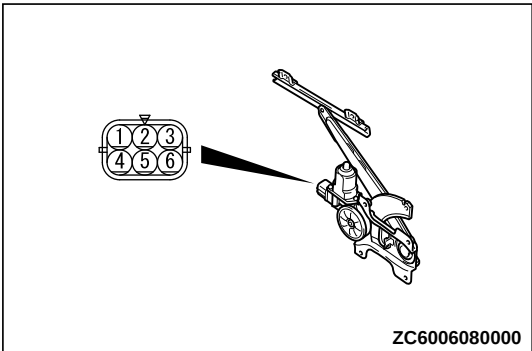
## DOOR WINDOW REGULATOR CHECK

1. Connect a battery directly to the motor terminals and check that the motor runs smoothly.
2. Check that the motor runs in the opposite direction when the battery is connected with the polarity reversed.
3. If a defect is found, replace the window regulator as an assembly.



<Front door (passenger's side)>

| Battery connection                                                                                                                                                            | Slider position |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <ul style="list-style-type: none"><li>▪ Connect terminal No. 1 to the negative battery terminal.</li><li>▪ Connect terminal No. 4 to the positive battery terminal.</li></ul> | UP              |
| <ul style="list-style-type: none"><li>▪ Connect terminal No. 4 to the negative battery terminal.</li><li>▪ Connect terminal No. 1 to the positive battery terminal.</li></ul> | DOWN            |



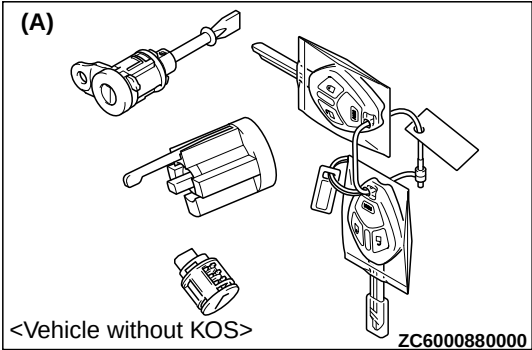
<Rear door>

| Battery connection                                                                                                                                                            | Slider position |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <ul style="list-style-type: none"><li>▪ Connect terminal No. 4 to the negative battery terminal.</li><li>▪ Connect terminal No. 1 to the positive battery terminal.</li></ul> | UP              |
| <ul style="list-style-type: none"><li>▪ Connect terminal No. 1 to the negative battery terminal.</li><li>▪ Connect terminal No. 4 to the positive battery terminal.</li></ul> | DOWN            |

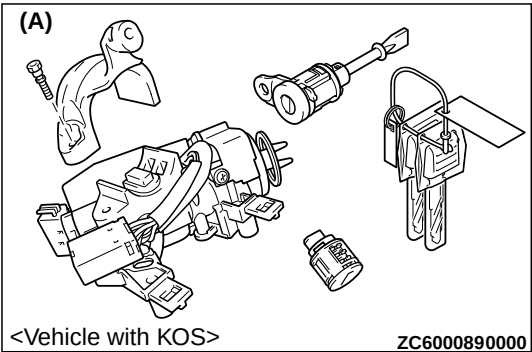
DOOR HANDLE AND LATCH

REMOVAL AND INSTALLATION

**CAUTION**

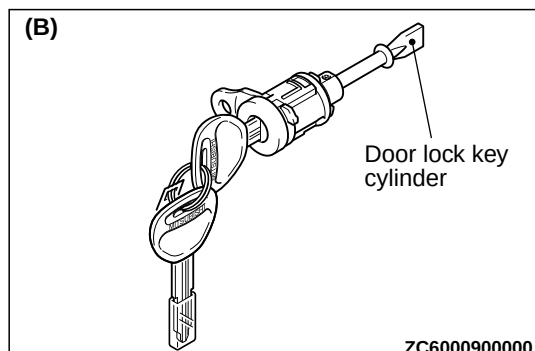


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When the door lock key cylinder is replaced by the key set (A) in the figure, register the encrypted code of the bar code attached to the ignition key. Refer to GROUP 42B, ID Code Registration Criteria Table P.42B-12the vehicle with KOS, or GROUP 42C, ID Code Registration Criteria Table P.42C-8vehicles without KOS.

When the door lock key cylinder is replaced by the key set (B) in the figure, do not register the encrypted code of the bar code attached to the ignition key. If the encrypted code is registered, the engine cannot start.



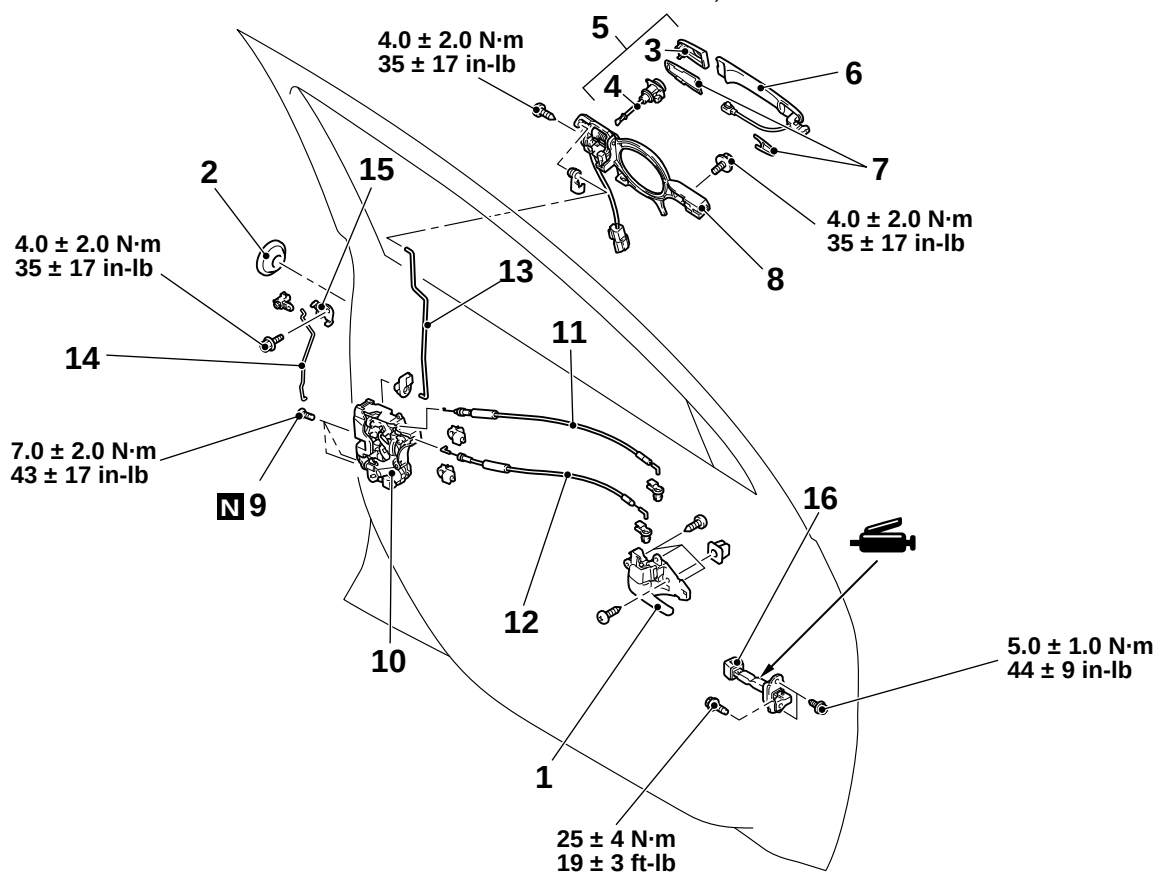
#### Pre-removal operation

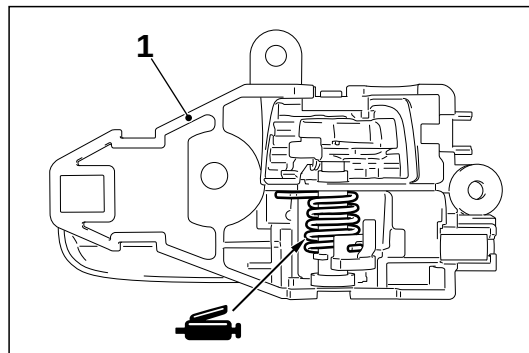
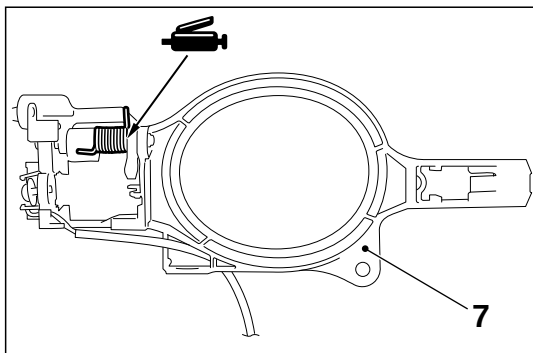
- Door trim assembly removal (Refer to GROUP 52A, Door Trim P.52A-11).

#### Post-installation operation

- Door inside handle play check (Refer to P.42Ab-93).
- Door outside handle play check (Refer to P.42Ab-92).
- Door trim assembly installation (Refer to GROUP 52A, Door Trim P.52A-11.)

<Front door>





ZC6000920000

**Door inside handle removal**

- >>B<< 1. Door inside handle

**Door lock key cylinder and door outside handle removal steps**

- Rear lower sash (Refer to P. 42Ab-110.)
- 2. Plug
- 3. Door outside handle cover assembly driver's seat only
- 4. Door lock key cylinder driver's seat only
- 5. Door outside handle cover
- 6. Door outside handle
- 7. Door outside handle gasket
- 8. Door outside handle base

**Door handle and door latch removal steps**

- Rear lower sash (Refer to P. 42Ab-110.)

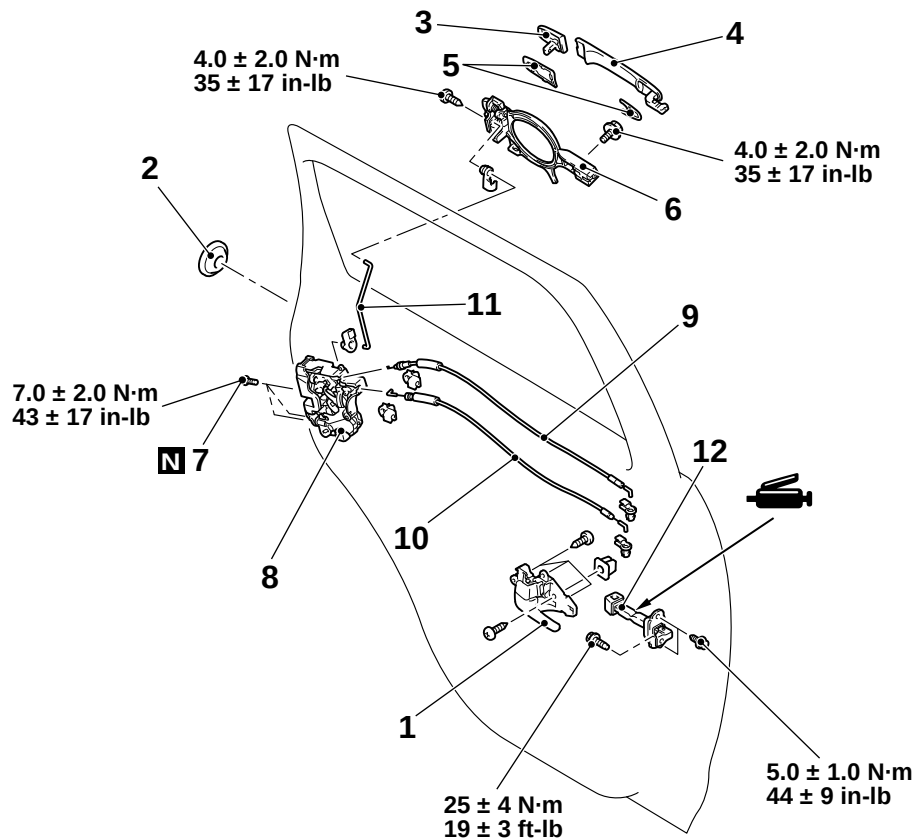
**Door handle and door latch removal steps**

- 9. Screw
- 10. Door latch assembly
- 11. Inside lock cable
- 12. Inside handle cable
- 13. Outside handle rod
- 14. Front door outside lock rod
- 15. Front door panel bracket

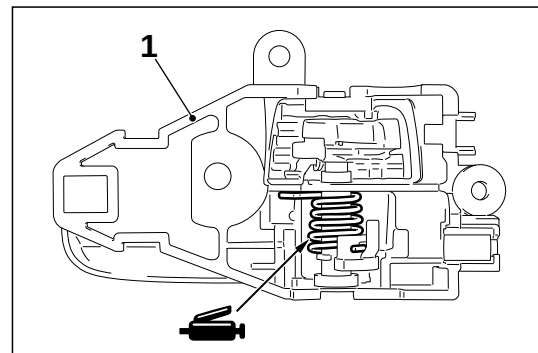
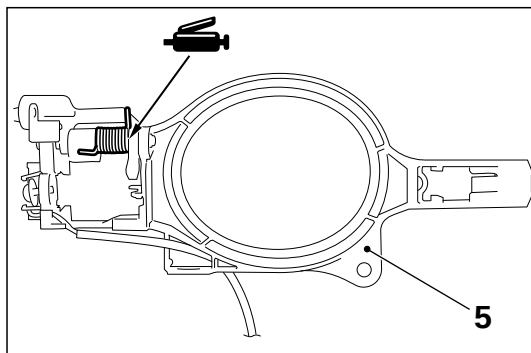
**Door check removal steps**

- Front door speaker (Refer to GROUP 54A, Speaker P.54B-170.)
- >>A<< 16. Door check

<Rear door>



ZC6000930000



ZC6000920001

#### Door inside handle removal

- >>B<< 1. Door inside handle
- Door lock key cylinder and door outside handle removal steps**
- Rear lower sash (Refer to P. 42Ab-110.)
2. Plug
3. Door outside handle cover
4. Door outside handle
5. Door outside handle gasket
6. Door outside handle base

#### Door handle and door latch removal steps

- Rear lower sash (Refer to P. 42Ab-110.)

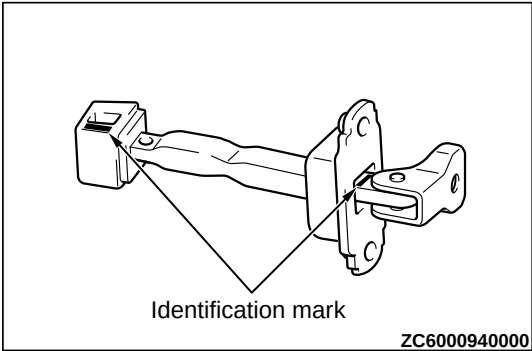
#### Door handle and door latch removal steps

7. Screw
8. Door latch assembly
9. Inside lock cable
10. Inside handle cable
11. Outside handle rod
- Door check removal steps**
- Rear door speaker (Refer to GROUP 54A, Speaker P.54B-170.)
- >>A<< 12. Door check

INSTALLATION SERVICE POINTS

>>A<< DOOR CHECK INSTALLATION

Install the door check with the following identification marks facing upward.



| Applicable location |            | Identification mark |
|---------------------|------------|---------------------|
| Front door          | Left door  | 55L                 |
|                     | Right door | 55R                 |
| Rear door           | Left door  | 58L                 |
|                     | Right door | 58R                 |

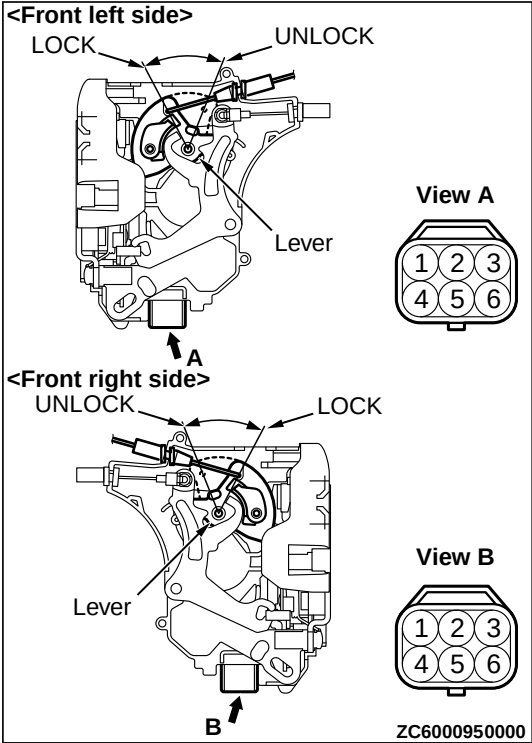
>>B<< DOOR INSIDE HANDLE INSTALLATION

When connecting the inside cable to the door inside handle, ensure that the door latch and the inside handle are unlocked.

INSPECTION

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FRONT DOOR LOCK ACTUATOR CHECK  
ACTUATOR OPERATION CHECK



| Lever position           | Battery connection                                                                                                     | Lever operation                                                    |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position   | • Connect terminal No.4 to the negative battery terminal.<br>• Connect terminal No.6 to the positive battery terminal. | The lever moves from the "LOCK" position to the "UNLOCK" position. |
| At the "UNLOCK" position | • Connect terminal No.6 to the negative battery terminal.<br>• Connect terminal No.4 to the positive battery terminal. | The lever moves from the "UNLOCK" position to the "LOCK" position. |

ACTUATOR SWITCH CHECK <DRIVER'S SIDE>

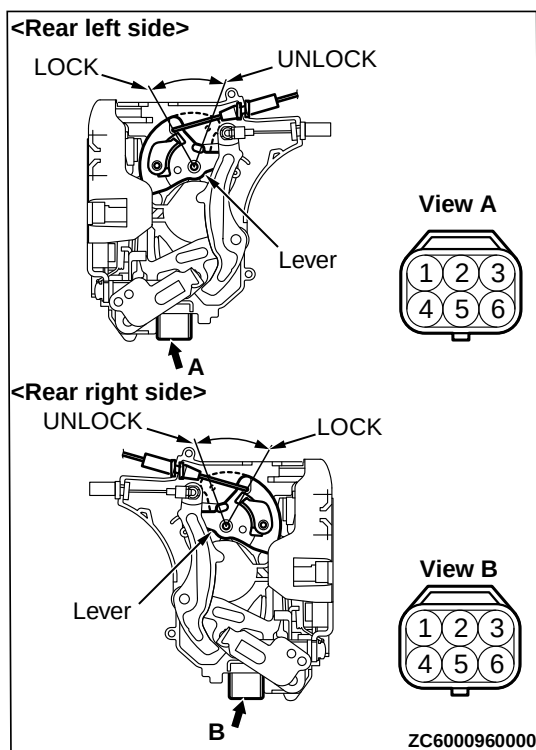
| Lever position | Terminal number | Normal value                    |
|----------------|-----------------|---------------------------------|
| LOCK           | 2 - 3           | Continuity exists (2 Ω or less) |

| Lever position | Terminal number | Normal value                    |
|----------------|-----------------|---------------------------------|
| UNLOCK         | 1 - 3           | Continuity exists (2 Ω or less) |

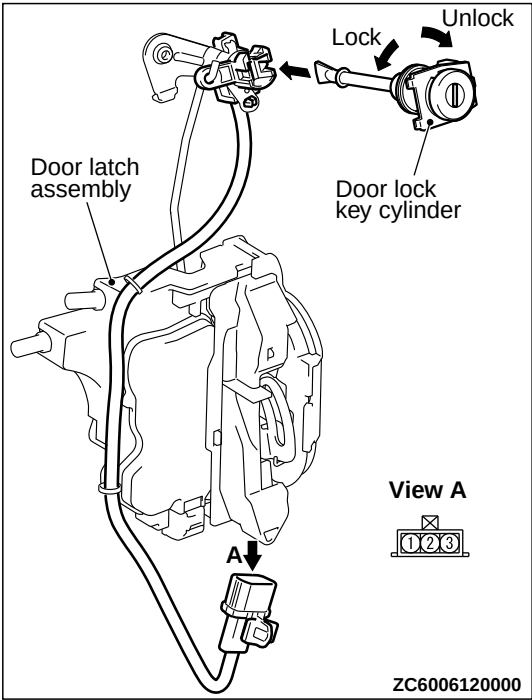
ACTUATOR SWITCH CHECK <PASSENGER' S SIDE>

| Lever position | Terminal number | Normal value                    |
|----------------|-----------------|---------------------------------|
| LOCK           | 1 - 3           | Continuity exists (2 Ω or less) |
| UNLOCK         | 2 - 3           | Continuity exists (2 Ω or less) |

REAR DOOR LOCK ACTUATOR CHECK  
ACTUATOR OPERATION CHECK



| Lever position           | Battery connection                                                                                                                                                             | Lever operation                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| At the "LOCK" position   | <ul style="list-style-type: none"> <li>• Connect terminal No.4 to the negative battery terminal.</li> <li>• Connect terminal No.6 to the positive battery terminal.</li> </ul> | The lever moves from the "LOCK" position to the "UNLOCK" position. |
| At the "UNLOCK" position | <ul style="list-style-type: none"> <li>• Connect terminal No.6 to the negative battery terminal.</li> <li>• Connect terminal No.4 to the positive battery terminal.</li> </ul> | The lever moves from the "UNLOCK" position to the "LOCK" position. |



### DOOR LOCK KEY CYLINDER SWITCH CONTINUITY CHECK

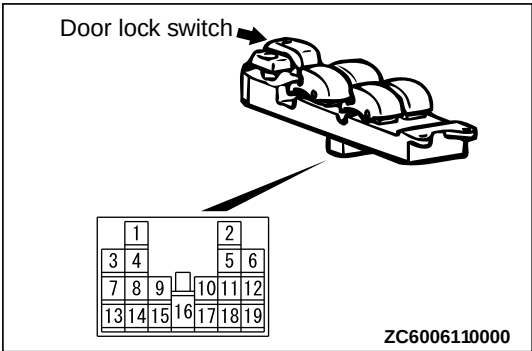
Install the door lock key cylinder to the door latch assembly, and check the door lock key cylinder switch.

| Switch position | Tester connection | Specified condition             |
|-----------------|-------------------|---------------------------------|
| LOCK            | 1 - 3             | Continuity exists (2 Ω or less) |
| NEUTRAL (OFF)   | 1 - 2, 2 - 3      | Open circuit                    |
| UNLOCK          | 2 - 3             | Continuity exists (2 Ω or less) |

### CENTRAL DOOR LOCK SWITCH CONTINUITY CHECK

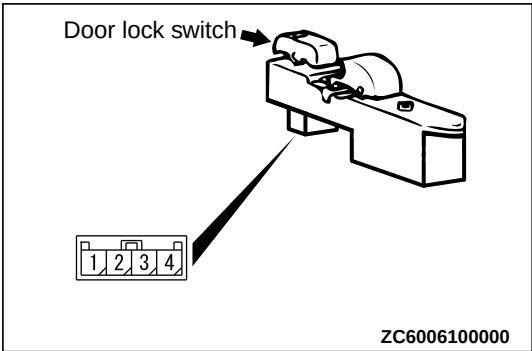
Remove the power window switch (Refer to P.42Ab-97).

<DRIVER' S SIDE>

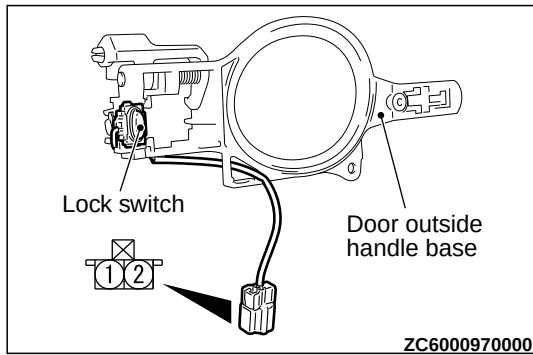


| Switch position | Tester connection | Specified condition             |
|-----------------|-------------------|---------------------------------|
| LOCK            | 14 - Ground       | Continuity exists (2 Ω or less) |
| UNLOCK          | 13 - Ground       | Continuity exists (2 Ω or less) |

<PASSENGER' S SIDE>



| Switch position | Tester connection | Specified condition             |
|-----------------|-------------------|---------------------------------|
| LOCK            | 1 - 2             | Continuity exists (2 Ω or less) |
| OFF             | 1 - 2, 2 - 3      | Open circuit                    |
| UNLOCK          | 2 - 3             | Continuity exists (2 Ω or less) |



**LOCK SWITCH CHECK <Vehicle with keyless operation system (KOS)>**

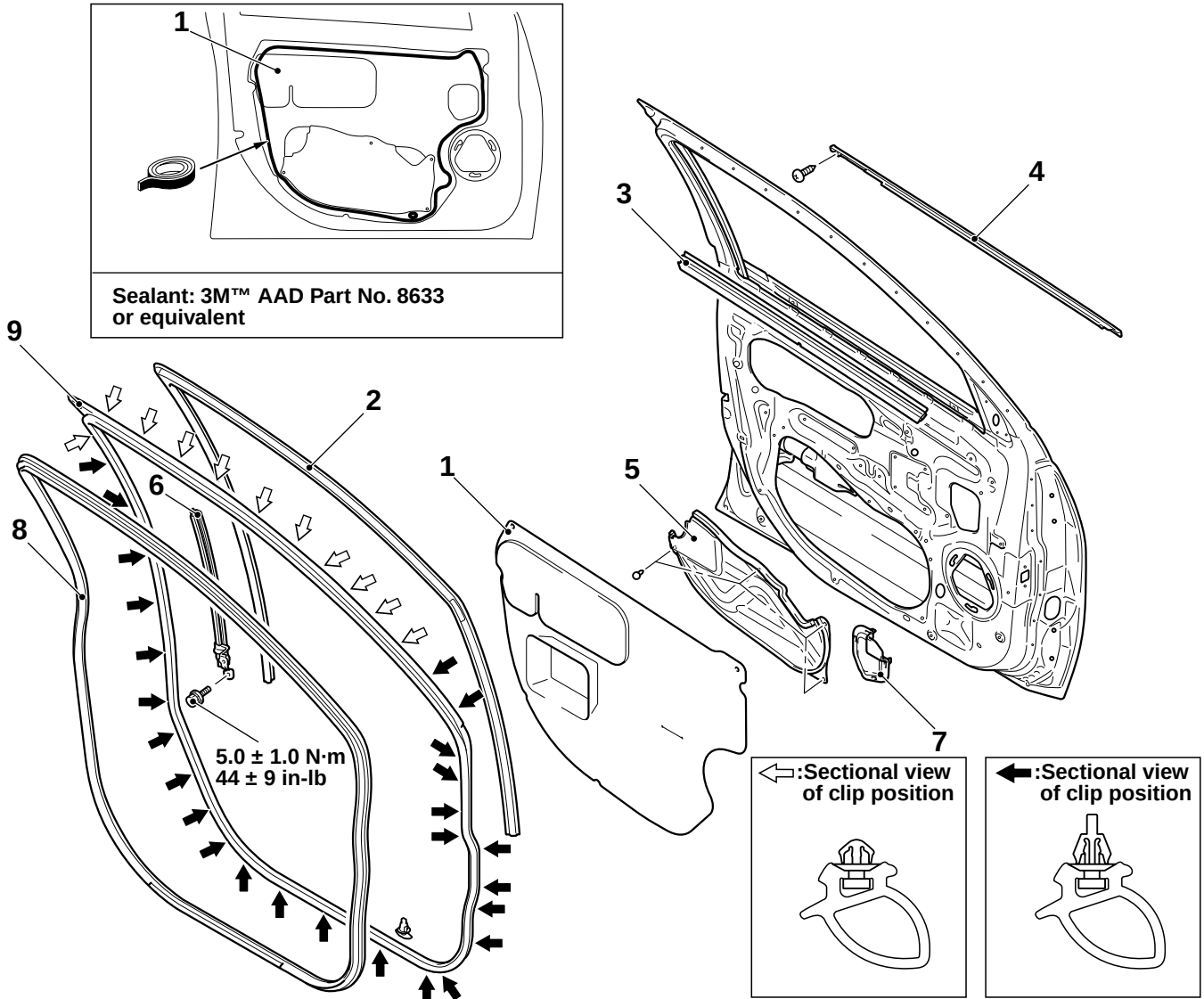
| Switch position | Tester connection | Specified condition                    |
|-----------------|-------------------|----------------------------------------|
| ON              | 1 - 2             | Continuity exists (2 $\Omega$ or less) |
| OFF             | 1 - 2             | Open circuit                           |

# WINDOW GLASS RUNCHANNEL AND DOOR OPENING WEATHERSTRIP

## REMOVAL AND INSTALLATION

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<Front door>



ZC6000980000

### Waterproof film removal steps

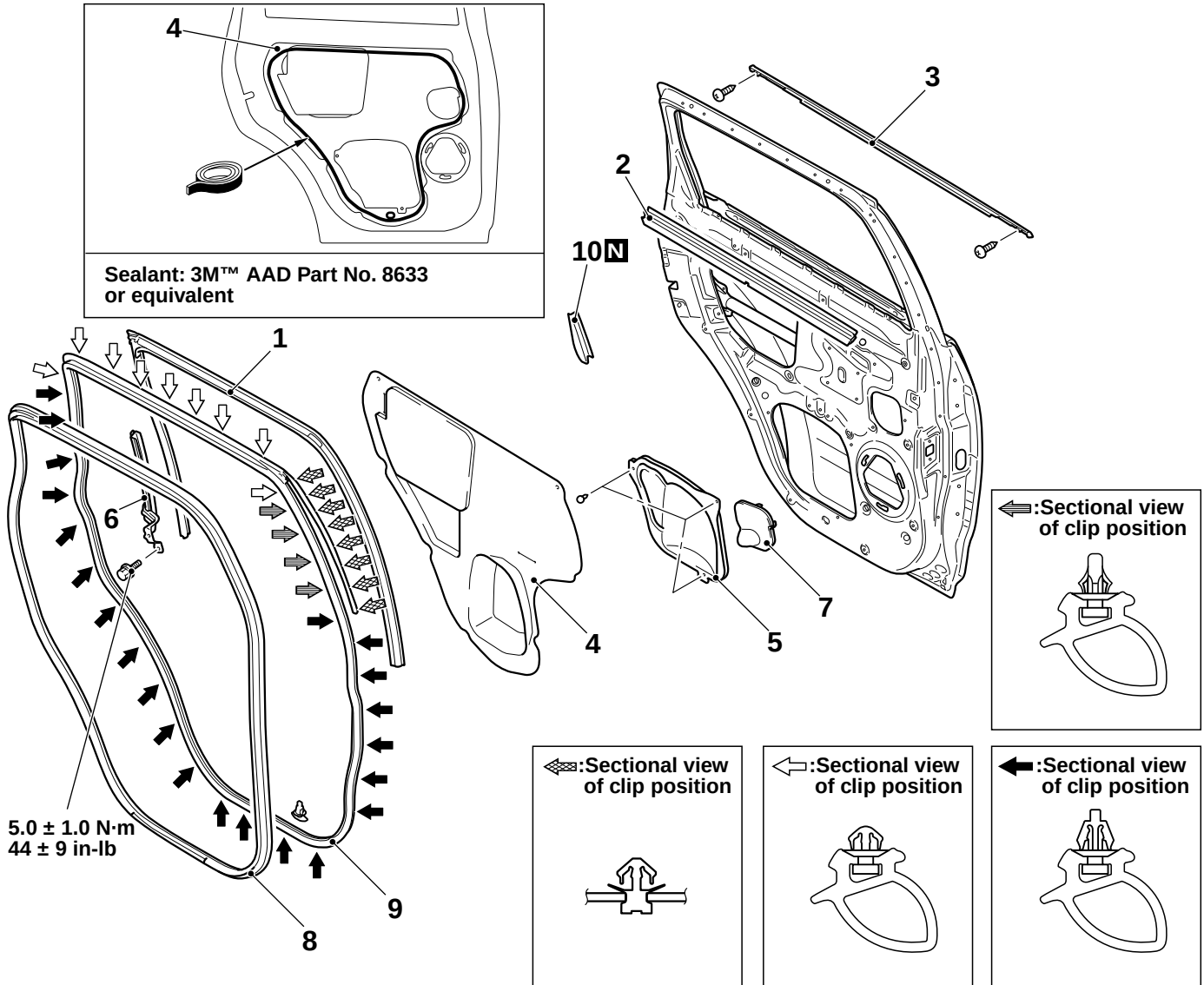
- Pull handle bracket (Refer to GROUP 52A, Door Trim P.52A-11.)
- >>B<< 1. Waterproof film
- Door window glass run channel removal steps**
- Pull handle bracket (Refer to GROUP 52A, Door Trim P.52A-11.)
- >>B<< 1. Waterproof film

### Door window glass run channel removal steps

- 2. Door window glass run channel
- Door beltline weatherstrip inner removal steps**
- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)
- 3. Door beltline weatherstrip inner

|       |                                                                          |       |       |    |                                                                               |
|-------|--------------------------------------------------------------------------|-------|-------|----|-------------------------------------------------------------------------------|
|       | <b>Door beltline molding removal steps</b>                               |       |       |    | <b>Rear lower sash removal steps</b>                                          |
|       | · Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)           |       |       | 6. | Rear lower sash                                                               |
|       | · Door mirror assembly (Refer to GROUP 51C, Outside Mirror P. 51C-12.)   |       |       |    | <b>Speaker cover removal steps</b>                                            |
|       |                                                                          |       |       |    | <b>&lt;Vehicles with rockford fosgate premium sound system&gt;</b>            |
|       | 4. Door beltline molding                                                 |       |       | ·  | Pull handle bracket (Refer to GROUP 52A, Door Trim P.52A-11.)                 |
|       | <b>Speaker bracket removal steps</b>                                     | >>B<< |       | 1. | Waterproof film                                                               |
|       | <b>&lt;Vehicles with rockford fosgate premium sound system&gt;</b>       |       |       | 7. | Speaker cover                                                                 |
|       | · Pull handle bracket (Refer to GROUP 52A, Door Trim P.52A-11.)          |       |       |    | <b>Door opening weatherstrip inner removal steps</b>                          |
| >>B<< | 1. Waterproof film                                                       |       |       | ·  | Cowl side trim and scuff plate (Refer to GROUP 52A, Interior Trim P. 52A-10.) |
|       | 5. Speaker bracket                                                       |       |       | 8. | Door opening weatherstrip inner removal steps                                 |
|       | <b>Rear lower sash removal steps</b>                                     |       |       |    | <b>Door opening weatherstrip outer removal steps</b>                          |
|       | · Pull handle bracket (Refer to GROUP 52A, Door Trim P.52A-11.)          |       |       | ·  | Door channel mounting bolt (door-side) (Refer to P.42Ab-102.)                 |
| >>B<< | 1. Waterproof film                                                       |       |       | 9. | Door opening weatherstrip outer                                               |
|       | 5. Speaker bracket <Vehicles with rockford fosgate premium sound system> | <<A>> | >>C<< |    |                                                                               |

<Rear door>



ZC6000990000

**Door window glass run channel removal**

1. Door window glass run channel

**Door beltline weatherstrip inner removal steps**

- Door trim assembly (Refer to GROUP 52A, Door Trim P.52A-11.)

2. Door beltline weatherstrip inner

**Door beltline molding removal**

3. Door beltline molding

**Waterproof film removal steps**

- Rear door arm rest bracket (Refer to GROUP 52A, Door Trim P.52A-11.)

- >>B<< 4. Waterproof film

**Speaker bracket removal steps  
<Vehicles with rockford fosgate premium sound system>**

- Rear door arm rest bracket (Refer to GROUP 52A, Door Trim P.52A-11.)

>>B<<

4. Waterproof film
5. Speaker bracket

**Rear lower sash removal steps**

- Rear door arm rest bracket (Refer to GROUP 52A, Door Trim P.52A-11.)

>>B<<

4. Waterproof film
5. Speaker bracket <Vehicles with rockford fosgate premium sound system>
5. Rear lower sash

**Speaker cover removal steps  
vehicles with Rockford Fosgate  
Premium Sound System**

- Rear door arm rest bracket (Refer to GROUP 52A, Door Trim P.52A-11.)
- >>B<< 4. Waterproof film
- 7. Speaker cover

**Door opening weatherstrip inner  
removal steps**

- Cowl side trim, scuff plate, center pillar trim (Refer to GROUP 52A, Interior Trim P.52A-10.)

**Door opening weatherstrip inner  
removal steps**

- 8. Door opening weatherstrip inner removal steps

**Door opening weatherstrip outer  
removal**

- 9. Door opening weatherstrip outer

**Door tape removal steps**

- 1. Door window glass run channel
- 2. Door beltline weatherstrip inner
- Rear door arm rest bracket (Refer to GROUP 52A, Door Trim P.52A-11.)

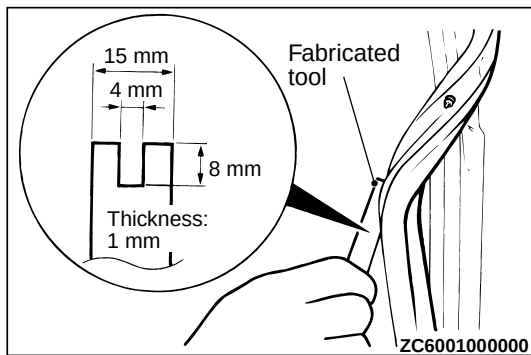
- >>B<< 4. Waterproof film

- >>A<< 10. Door tape

## REMOVAL SERVICE POINT

### <<A>> DOOR OPENING WEATHERSTRIP OUTER REMOVAL

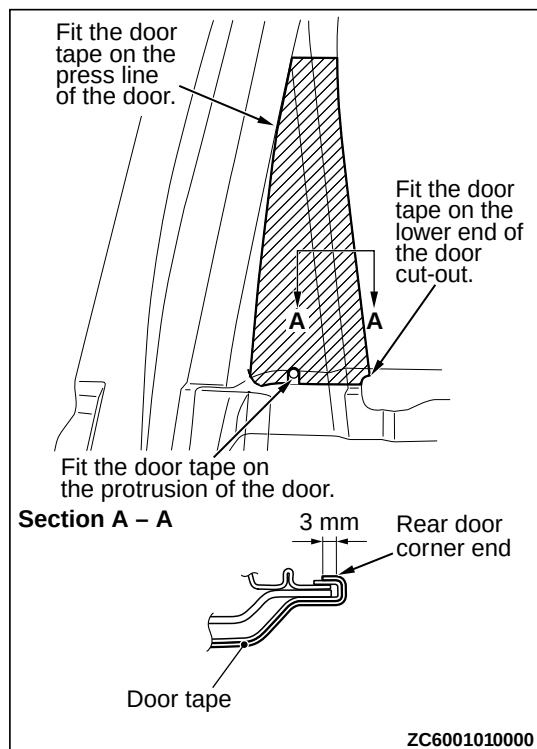
Make the tool as shown in the figure, and remove the weatherstrip from the door panel.



## INSTALLATION SERVICE POINTS

### >>A<< DOOR TAPE INSTALLATION

Apply the specified adhesive to the door tape as shown in the figure and stick the tape.



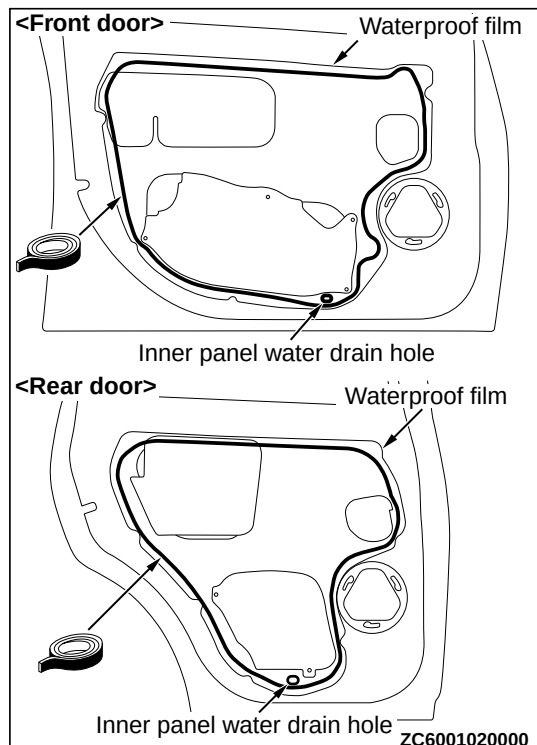
### >>B<< WATERPROOF FILM INSTALLATION

#### **CAUTION**

When a waterproof film is applied, guide the butyl rubber tape under the inner panel drain hole.

Apply the specified adhesive to the waterproof film as shown in the figure and stick the film.

**Butyl rubber tape: 3M™ AAD Part number 8633 or equivalent**



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**>>C<< DOOR OUTER OPENING WEATHERSTRIP  
INSTALLATION**

The clip color identifies the left and right weatherstrips so be sure to see the colors so as to install correctly.

| <b>Applicable side</b> | <b>Identification color</b> |
|------------------------|-----------------------------|
| Left door              | White                       |
| Right door             | Pink                        |

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MEMO