

# REAR VIEW MIRROR

|                                          |             |                                                       |              |
|------------------------------------------|-------------|-------------------------------------------------------|--------------|
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# GENERAL INFORMATION

## General

### Description



|                                            |                                                         |
|--------------------------------------------|---------------------------------------------------------|
| 1 - Left Outside Rear View Mirror Assembly | 2 - Outside Rear View Mirror Adjustment Switch Assembly |
| 3 - Inside Rear View Mirror Assembly       | 4 - Right Outside Rear View Mirror Assembly             |

This vehicle is equipped with power outside rear view mirror assembly and inside rear view mirror assembly.

Outside rear view mirror assembly consists power (power glass adjustment and power mirror fold) outside rear view mirror. Low configuration model has no power mirror fold configuration.

Power (power glass adjustment and power mirror fold) outside rear view mirror assembly: Driver can control the rotation of motor by operating the outside rear view mirror adjustment switch in vehicle, thus adjusting the mirror surface to achieve a required visual angle and folding mirror.

Outside rear view mirror adjustment switch: Located under the front left outlet of instrument panel assembly. With ENGINE START STOP ON, press the outside rear view mirror adjustment switch to "L" or "R" position to select left or right outside rear view mirror assembly, and then press the outside rear view mirror adjustment switch up or down and left or right button to achieve a required visual angle. Press the mirror fold button to fold or deploy outside rear view mirror.

Inside rear view mirror assembly: It is necessary to adjust inside rear view mirror to desired direction with hands. When driving at night, required inside rear view mirror assembly angle can be adjusted by pulling back glare-resistant rod to reduce glare.

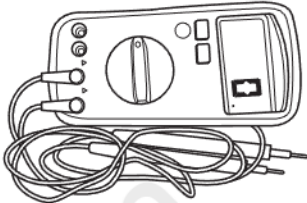
Specifications

Torque Specifications

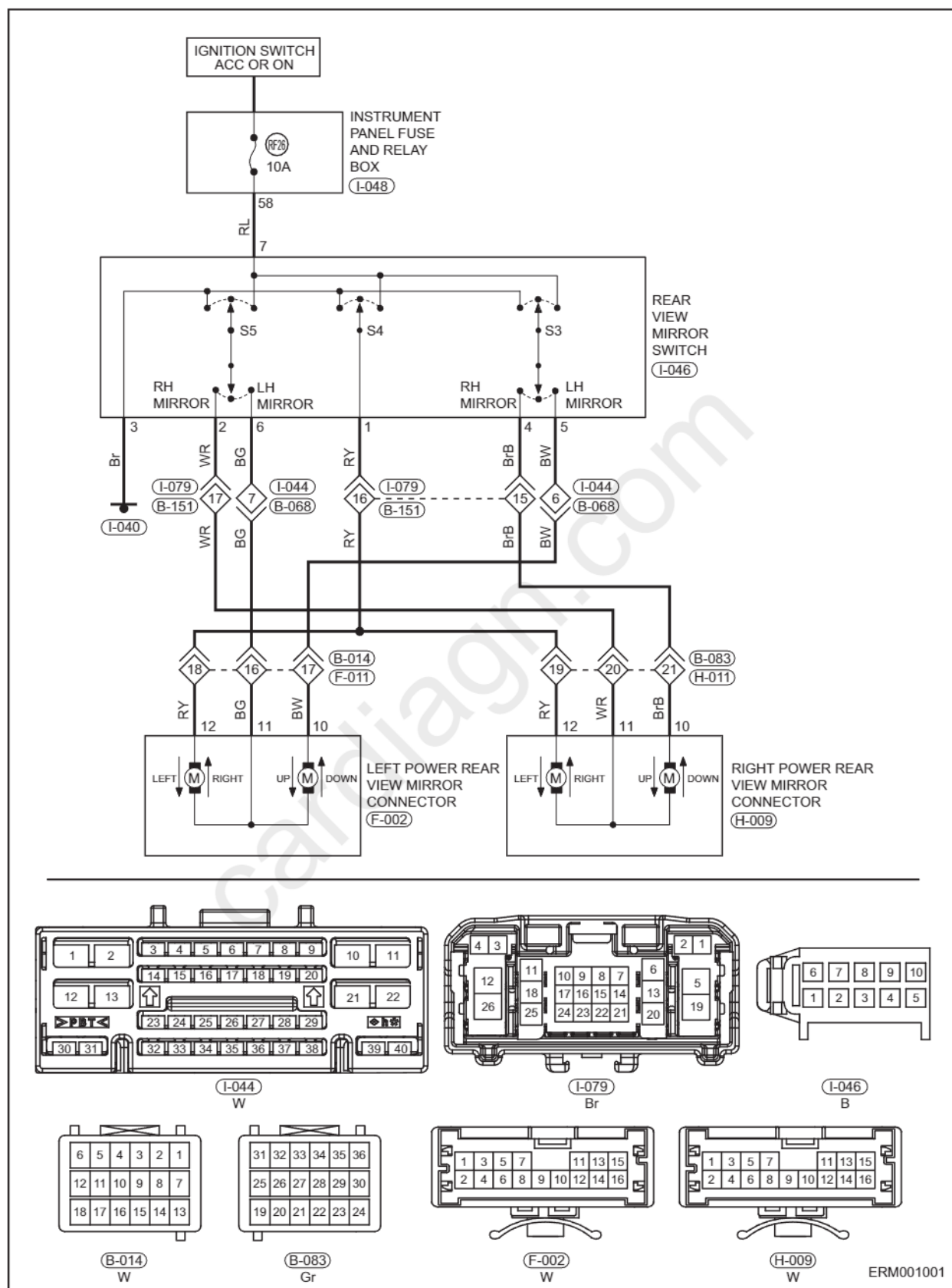
| Description                                   | Torque (N·m) |
|-----------------------------------------------|--------------|
| Outside Rear View Mirror Assembly Fixing Bolt | 7.0 ± 1.5    |
| Inside Rear View Mirror Assembly Fixing Bolt  | 1.5 ± 0.5    |

Tool

General Tool

|                    |                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------|
| Digital Multimeter | <br>002 |
|--------------------|-------------------------------------------------------------------------------------------|

## Circuit Diagram



## DIAGNOSIS & TESTING

### Diagnostic Content

#### Problem Symptoms Table

##### Hint:

Use symptoms table below to help determine cause of problem. Check each suspected area in sequence. Repair or adjust faulty components, or replace as necessary.

| Symptom                                                 | Suspected Area                             |
|---------------------------------------------------------|--------------------------------------------|
| Outside rear view mirror cannot operate                 | Fuse                                       |
|                                                         | Outside Rear View Mirror Adjustment Switch |
|                                                         | Outside Rear View Mirror Assembly          |
|                                                         | Wire harness or connector                  |
| Outside rear view mirror intermittent malfunction       | Ground                                     |
|                                                         | Wire harness or connector                  |
| Rear view mirror defroster cannot operate (if equipped) | Wire harness or connector                  |
|                                                         | Rear Defroster Switch                      |
|                                                         | Outside Rear View Mirror Assembly          |
|                                                         | BCM damaged                                |

#### Diagnostic Help

- Only use a digital multimeter to measure voltage of electronic system.
- Refer to any Technical Bulletin that may apply to this malfunction.
- Visually check the related wire harness.

#### Intermittent Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connector is loose.
- Check if wire harness is worn, pierced, pinched or partially broken.
- Wiggle related wire harness and connector and observe if signal in related circuit is interrupted.
- Check for broken, bent, protruded or corroded terminals.
- Inspect the mounting areas of rear view mirror assembly, wire harness or wire harness connector, etc. for damage, foreign matter, etc. that will cause incorrect signals.
- Check and clean all wire harness connectors and ground parts related to malfunction.
- Refer to any Technical Bulletin that may apply to this malfunction.

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#### Ground Inspection

Ground points are very important to normal operation of circuit, which are normal or not can seriously affect the entire circuit system. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) may increase load resistance. In such cases, the circuit operation will be seriously affected. Circuit is sensitive to ground. A loose or corroded ground can affect the control circuit. Check the ground points as follows:

- Remove ground bolt or nut.
- Check all contact surfaces for tarnish, dirt and rust, etc.
- Clean as necessary to ensure that contacting is in good condition.
- Reinstall ground bolt or nut securely.
- Check if add-on accessories interfere with ground circuit.
- If several wire harnesses are crimped into one ground terminal, check for proper crimps. Make sure that all wire harnesses are clean and securely fastened while providing a good ground path.

## Diagnosis Procedure

### Hint:

Use following procedures to troubleshoot the rear view mirror control system.

### 1 Vehicle brought to workshop

#### Result

|            |
|------------|
| Proceed to |
| Next       |

Next

### 2 Check battery voltage

Check if battery voltage is normal.

#### Normal

Standard voltage: Not less than 12 V

#### Result

|            |
|------------|
| Proceed to |
| OK         |
| NG         |

NG

Replace battery or inspect and repair charging system

Normal

### 3 Customer problem analysis

#### Result

|            |
|------------|
| Proceed to |
| Next       |

Next

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### 4 Troubleshoot according to Problem Symptoms Table

#### Result

|            |
|------------|
| Proceed to |
| Next       |

Next



|   |                                                        |
|---|--------------------------------------------------------|
| 5 | Conduct test and confirm malfunction has been repaired |
|---|--------------------------------------------------------|

Result

|            |
|------------|
| Proceed to |
| Next       |

|      |     |
|------|-----|
| Next | End |
|------|-----|

## ON-VEHICLE SERVICE

### Outside Rear View Mirror Assembly

#### Removal

##### Hint:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

##### Caution:

- Be sure to wear necessary safety equipment to prevent accidents, when removing outside rear view mirror assembly.
- Operate carefully to prevent components from being damaged, when removing outside rear view mirror assembly.
- Prevent interior and body paint surface from being scratched, when removing outside rear view mirror assembly.

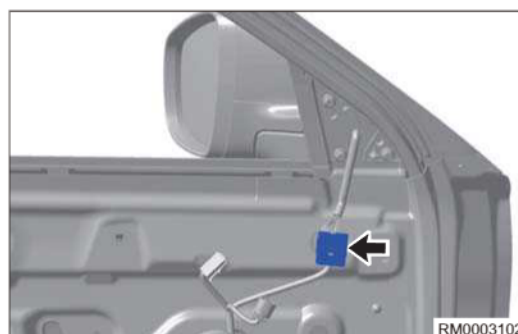
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the left outside rear view mirror inner triangular block.

- (a) Using a screwdriver wrapped with protective tape, pry off clips from outside rear view mirror inner triangular block, and remove the left outside rear view mirror inner triangular block.



4. Remove the front left door inner protector assembly (See page 49-68).
5. Remove the left outside rear view mirror assembly.

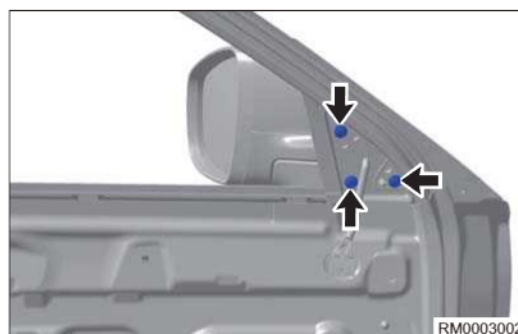
- (a) Disconnect the outside rear view mirror assembly connector (arrow).



- (b) Remove 3 fixing bolts (arrow) from outside rear view mirror assembly.

#### Tightening torque

$7.0 \pm 1.5 \text{ N}\cdot\text{m}$



- (c) Remove the left outside rear view mirror assembly.

## Inspection

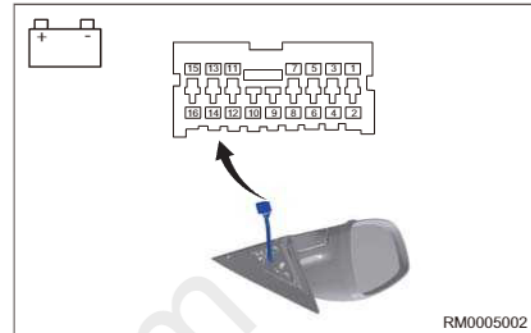
1. Check the outside rear view mirror assembly

### Caution:

- When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

- (a) Apply battery voltage to the terminals of outside rear view mirror assembly connector and check the operation of outside rear view mirror assembly according to the table below.

| Measurement Condition                                                    | Specified Condition     |
|--------------------------------------------------------------------------|-------------------------|
| Battery positive (+) → Terminal 12<br>Battery negative (-) → Terminal 11 | UP                      |
| Battery positive (+) → Terminal 11<br>Battery negative (-) → Terminal 12 | DOWN                    |
| Battery positive (+) → Terminal 10<br>Battery negative (-) → Terminal 11 | LEFT                    |
| Battery positive (+) → Terminal 11<br>Battery negative (-) → Terminal 10 | RIGHT                   |
| Battery positive (+) → Terminal 7<br>Battery negative (-) → Terminal 8   | Turn signal light is ON |



- (b) Turn ENGINE START STOP to ON.  
(c) Turn on the multimedia, and adjust the interface to vehicle setting interface.



- (d) Click "Outside Rear View Mirror Auto Folding OFF" (arrow).  
(e) At this time, close all doors and press remote control key to lock the vehicle or unlock the vehicle, outside rear view mirror will not fold and open automatically.

### Caution:

- It is recommended to turn off the outside rear view mirror auto folding function when it rains or snows in winter, to prevent outside rear view mirror assembly from being damaged when it folds or opens automatically with it is in frozen state.

2. If result is not as specified, replace or inspect and repair the outside rear view mirror assembly.

## Installation

1. Installation is in the reverse order of removal.

**Caution:**

- Install connector in place and tighten fixing nuts to the specified torque, when installing the outside rear view mirror assembly.
- Make sure the outside rear view mirror assembly can move smoothly, flexibly and reliably after installing.
- After installing outside rear view mirror assembly, it is necessary to perform panoramic image calibration.



## Outside Rear View Mirror Lens Assembly

### Removal

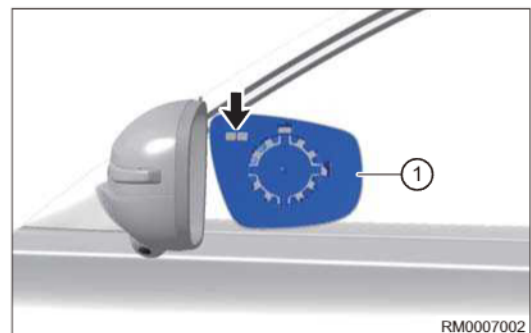
#### Hint:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

#### Caution:

- Be sure to wear necessary safety equipment to prevent accidents, when removing outside rear view mirror assembly.
- Avoid breaking claws when removing the outside rear view mirror lens assembly.
- Avoid damaging lens due to dropping when removing the outside rear view mirror lens assembly.
- Prevent body paint surface from being scratched, when removing the outside rear view mirror lens assembly.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the left outside rear view mirror lens assembly.
  - (a) Press the outside rear view mirror surface to tilt it.
  - (b) Apply protective tape around the exterior frame of outside rear view mirror.
  - (c) Using a screwdriver wrapped with protective tape, pry off the claws of outside rear view mirror lens assembly.
  - (d) Disconnect the connector (arrow) from rear view mirror lens assembly, and remove the left outside rear view mirror lens assembly (1) (if equipped with rear view mirror heater).



### Inspection

1. Check the outside rear view mirror lens assembly (if equipped with rear view mirror heater).

- (a) Apply battery voltage to the terminals of outside rear view mirror lens assembly connector and check the operation of outside rear view mirror lens assembly according to the table below.

| Measurement Condition |                      | Specified Condition                       |
|-----------------------|----------------------|-------------------------------------------|
| Battery positive (+)  | Battery negative (-) | Outside rear view mirror lens become warm |



2. If result is not as specified, replace the rear view mirror lens assembly.

## Installation

1. Installation is in the reverse order of removal.

### Caution:

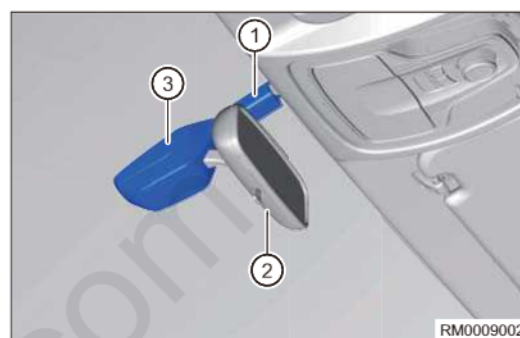
- Make sure the lens can move smoothly, flexibly and reliably after installing outside rear view mirror lens assembly.

## Inside Rear View Mirror Assembly

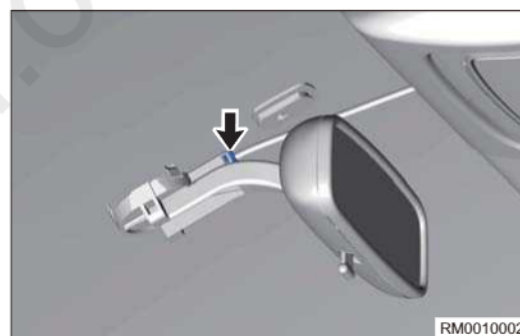
### Removal

#### Caution:

- Appropriate force should be applied when removing the inside rear view mirror assembly. Be careful not to operate roughly.
  - Prevent front windshield from being scratched, when removing the inside rear view mirror assembly.
1. Turn off all electrical equipment and the ENGINE START STOP switch.
  2. Disconnect the negative battery cable.
  3. Remove the inside rear view mirror assembly.
    - (a) Remove the inside rear view mirror protectors (1), (2), (3).



- (b) Remove the inside rear view mirror assembly in the direction of arrow.



### Installation

1. Installation is in the reverse order of removal.

#### Caution:

- Make sure the inside rear view mirror assembly can move smoothly, flexibly and reliably after installing.

## Inside Rear View Mirror Assembly (If equipped)

### Removal

#### Caution:

- Appropriate force should be applied when removing the inside rear view mirror assembly. Be careful not to operate roughly.
  - Prevent front windshield from being scratched, when removing the inside rear view mirror assembly.
1. Turn off all electrical equipment and the ENGINE START STOP switch.
  2. Disconnect the negative battery cable.
  3. Remove the inside rear view mirror assembly.
    - (a) Remove fixing bolt (arrow) from inside rear view mirror.



### Installation

1. Installation is in the reverse order of removal.

#### Caution:

- Make sure the inside rear view mirror assembly can move smoothly, flexibly and reliably after installing.

## Outside Rear View Mirror Adjustment Switch

### Removal

#### Caution:

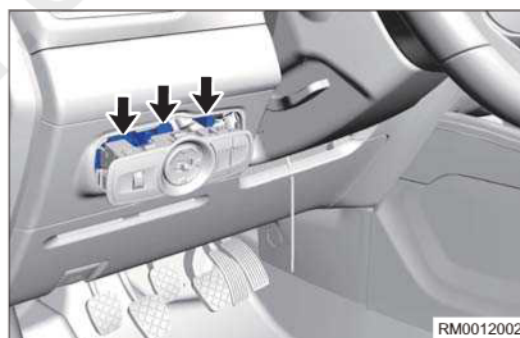
- Be sure to wear safety equipment to prevent accidents, when removing the outside rear view mirror adjustment switch.
- Prevent instrument panel assembly from being scratched, when removing the outside rear view mirror adjustment switch.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the outside rear view mirror adjustment switch.

- (a) Using a screwdriver wrapped with protective tape, pry off the outside rear view mirror control master switch assembly.



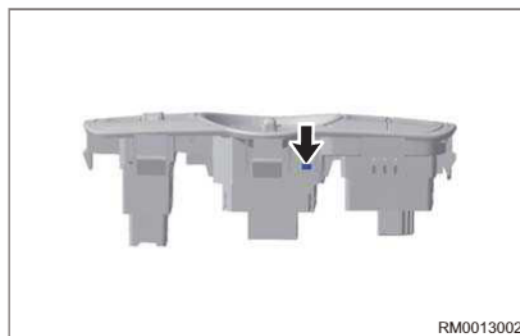
- (b) Disconnect the headlight leveling switch connector (arrow).



- (c) Disconnect the outside rear view mirror adjustment switch connector (arrow).

- (d) Disconnect the combination adjustment switch connector (arrow).

- (e) Using a screwdriver wrapped with protective tape, detach the claw (arrow) from outside rear view mirror adjustment switch.

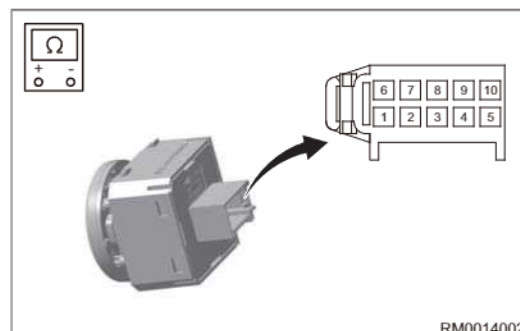


- (f) Remove the outside rear view mirror adjustment switch.

## Inspection

1. Check the outside rear view mirror adjustment switch.
  - (a) Adjust the outside rear view mirror adjustment switch to "L" position.
  - (b) Using a digital multimeter, measure continuity between terminals of the outside rear view mirror adjustment switch according to the table below.

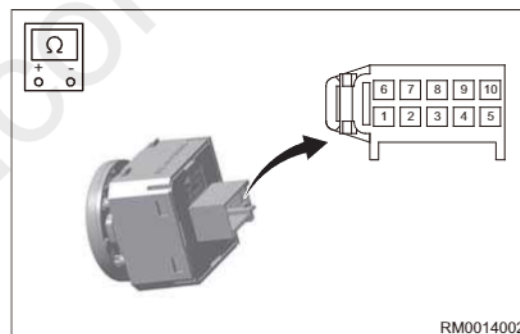
| Multimeter Connection   | Switch Condition | Specified Condition |
|-------------------------|------------------|---------------------|
| Terminal 6 - Terminal 3 | UP               | Continuity          |
| Terminal 7 - Terminal 1 | UP               | Continuity          |
| Terminal 5 - Terminal 7 | DOWN             | Continuity          |
| Terminal 1 - Terminal 3 | DOWN             | Continuity          |
| Terminal 5 - Terminal 7 | LEFT             | Continuity          |
| Terminal 6 - Terminal 3 | LEFT             | Continuity          |
| Terminal 6 - Terminal 7 | RIGHT            | Continuity          |
| Terminal 3 - Terminal 5 | RIGHT            | Continuity          |



RM0014002

- (c) Adjust the outside rear view mirror adjustment switch to "R" position.
  - (d) Using a digital multimeter, measure continuity between terminals of the outside rear view mirror adjustment switch according to the table below.

| Multimeter Connection   | Switch Condition | Specified Condition |
|-------------------------|------------------|---------------------|
| Terminal 2 - Terminal 3 | UP               | Continuity          |
| Terminal 1 - Terminal 7 | UP               | Continuity          |
| Terminal 4 - Terminal 7 | DOWN             | Continuity          |
| Terminal 1 - Terminal 3 | DOWN             | Continuity          |
| Terminal 4 - Terminal 7 | LEFT             | Continuity          |
| Terminal 2 - Terminal 3 | LEFT             | Continuity          |
| Terminal 2 - Terminal 7 | RIGHT            | Continuity          |
| Terminal 3 - Terminal 4 | RIGHT            | Continuity          |



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2. If result is not as specified, replace the outside rear view mirror adjustment switch.

## Installation

1. Installation is in the reverse order of removal.

### Caution:

- Operate carefully to prevent damage to other components, when installing the outside rear view mirror adjustment switch.
- Connect connectors in place when installing the outside rear view mirror adjustment switch.
- Check that the switch can operate normally after installing the outside rear view mirror adjustment switch.

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