

## SYSTEM DESCRIPTION

### 1. GENERAL

This system has the following functions: manual slide open and close; auto slide open and close; manual tilt up and down; auto tilt up and down; jam protection; and key off operation.

### 2. FUNCTION OF MAIN COMPONENT

Component	Outline
Sliding roof drive gear sub-assembly (Sliding roof ECU)	Sliding roof ECU controls sliding roof motor to rotate forward and backward, which tilts or slides sliding roof glass
Overhead junction block	Output of operation signals from built-in sliding roof switch to sliding roof ECU are handled by overhead junction block

### 3. SYSTEM OPERATION

The sliding roof has the following features.

Function	Outline
Manual slide open and close	This function causes sliding roof to open (or close) when SLIDE OPEN switch (or TILT UP switch) is pressed for a maximum of 0.3 seconds. Sliding roof stops as soon as switch is released.
Auto slide open and close	This function causes sliding roof to be fully opened (or closed) when SLIDE OPEN switch (or TILT UP switch) is pressed for a minimum of 0.3 seconds
Manual tilt up and down	This function causes sliding roof to tilt up (or tilt down) when TILT UP switch (or SLIDE OPEN switch) is pressed for a maximum of 0.3 seconds
Auto tilt up and down	This function enables sliding roof to tilt up (or down) when TILT UP switch (or SLIDE OPEN switch) is pressed for a minimum of 0.3 seconds.
Jam protection function	The jam protection function automatically stops sliding roof, or stops sliding roof and makes it open halfway (or fully tilts it upward) if a foreign object gets jammed in sliding roof during auto close operation (or auto tilt down operation).
Key off operation	Key off operation function makes it possible to operate sliding roof for approximately 45 seconds after ignition switch is turned off if front doors are not opened

## HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the sliding roof system.
- \*: Use the intelligent tester.

### 1 VEHICLE BROUGHT TO WORKSHOP

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### 2 INSPECT BATTERY VOLTAGE

Standard voltage:

11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding.

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### 3 INSPECT COMMUNICATION FUNCTION OF MULTIPLEX COMMUNICATION SYSTEM (CAN)\*

- (a) Using the intelligent tester, check if the Multiplex Communication System (CAN) is functioning normally.

**Result**

Result	Proceed to
CAN DTC is not output	A
CAN DTC is output	B

B

Go to CAN COMMUNICATION SYSTEM

A

### 4 PROBLEM SYMPTOMS TABLE

**Result**

Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B

Go to step 6

A

### 5 OVERALL ANALYSIS AND TROUBLESHOOTING

- (a) Data List / Active Test (see page [RF-7](#))  
 (b) Terminals of ECU (see page [RF-5](#))

(c) On-vehicle Inspection (see page [RF-9](#))

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**6** ADJUST, REPAIR OR REPLACE

NEXT

**7** CONFIRMATION TEST

NEXT

END