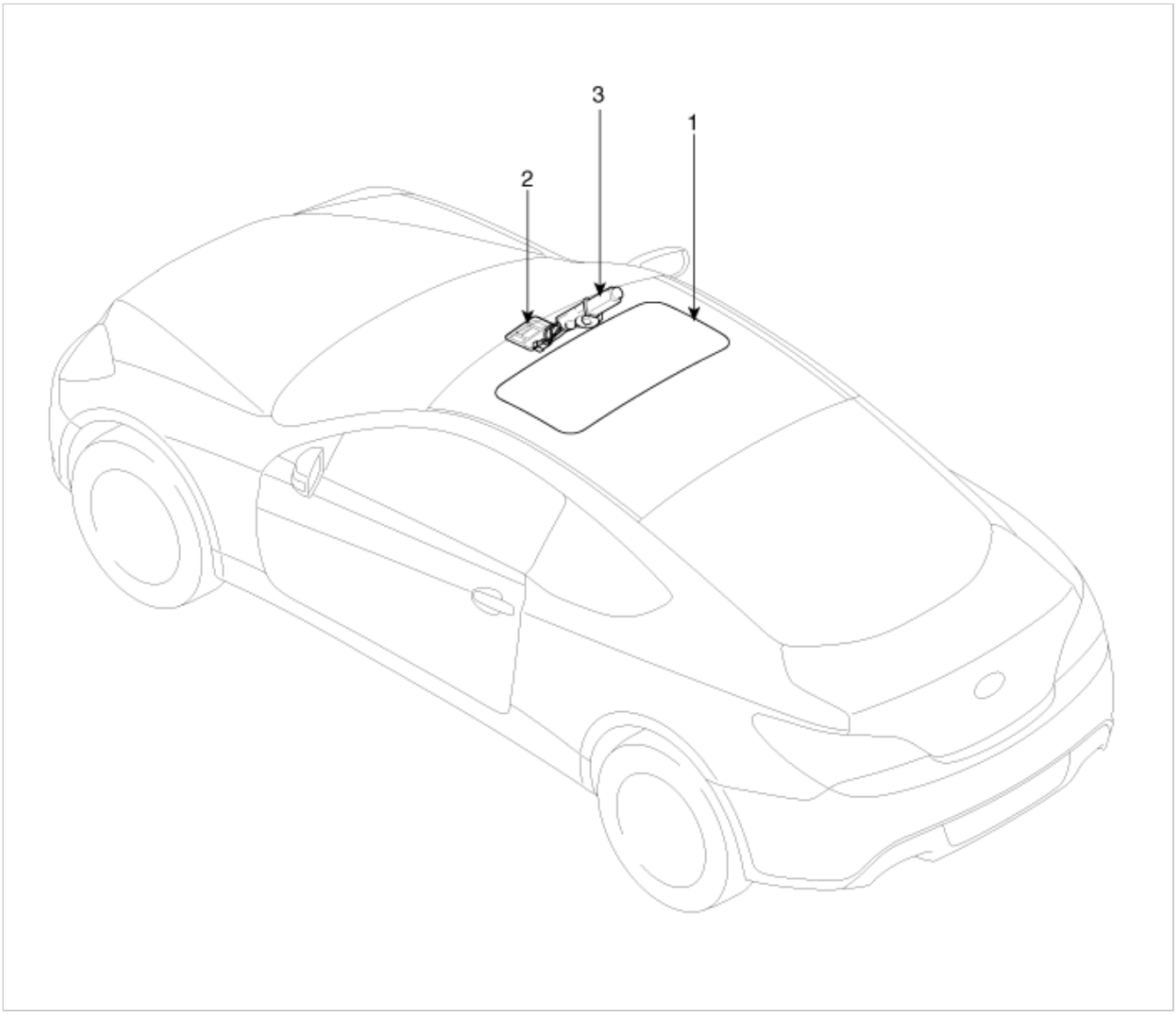
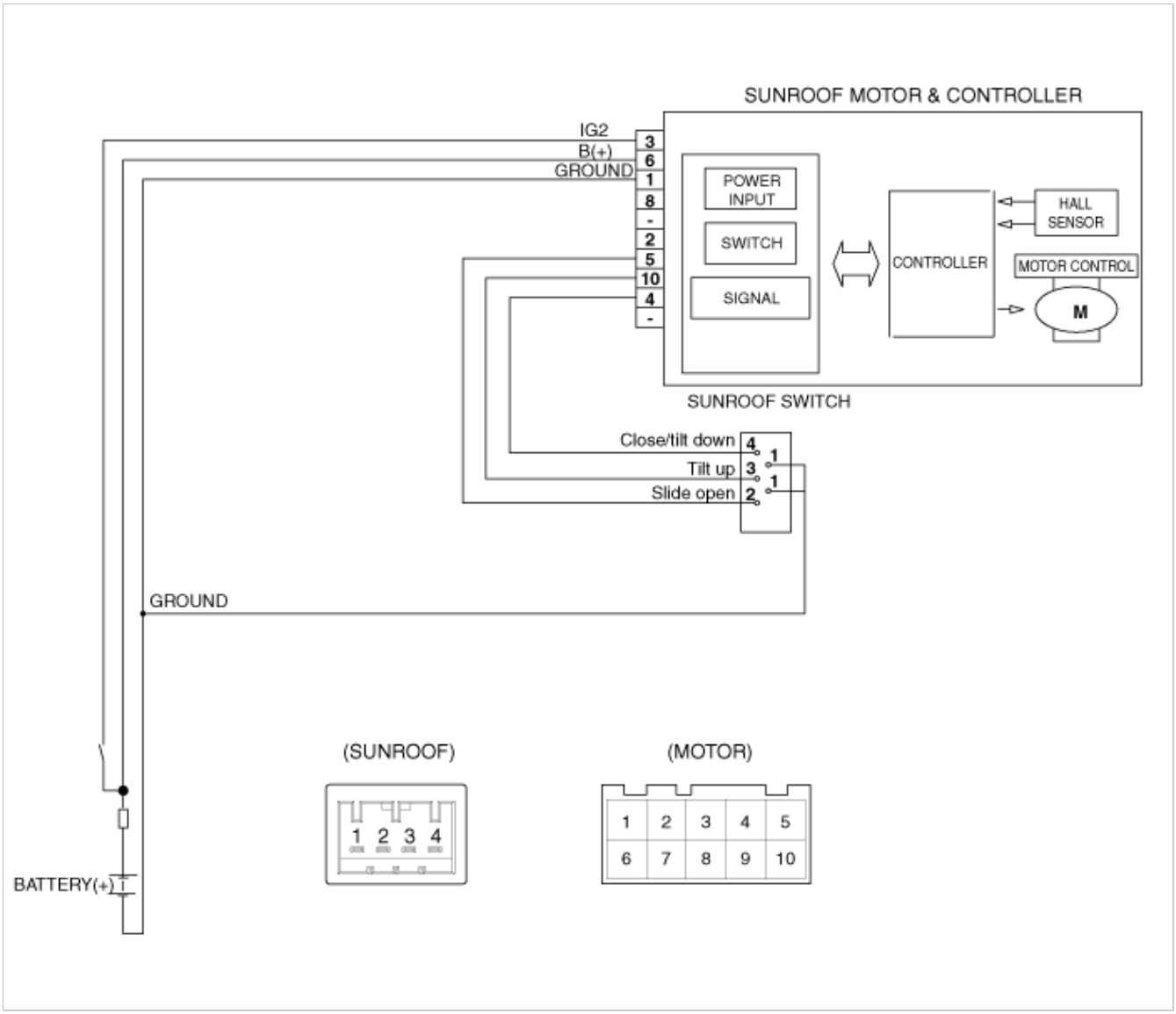
Component Location



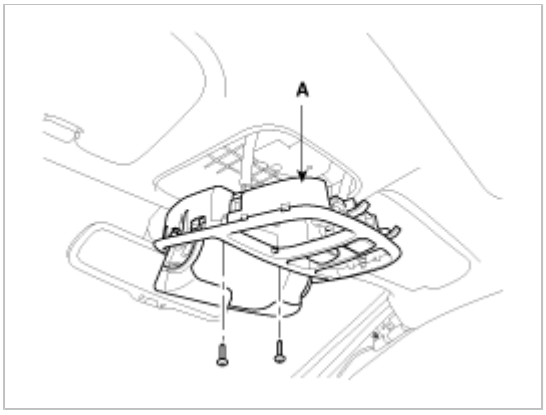
1. Sunroof 2. Sunroof switch	3. Sunroof motor & controller

Circuit Diagram

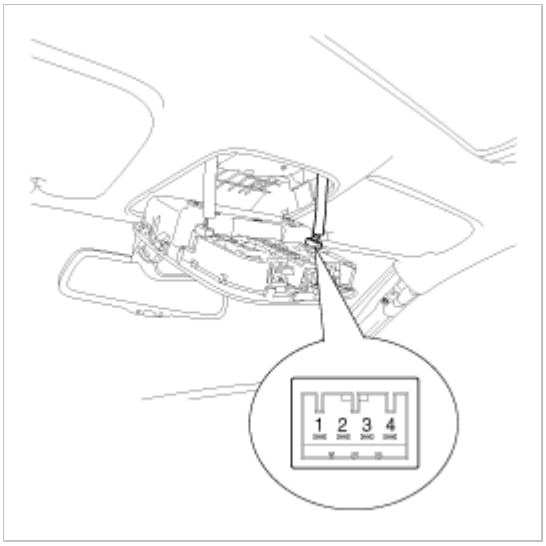


Inspection

1. Disconnect the negative (-) battery terminal.
2. Open the sunglass case cover from the overhead console then remove the 2 screws holding the overhead console(A).



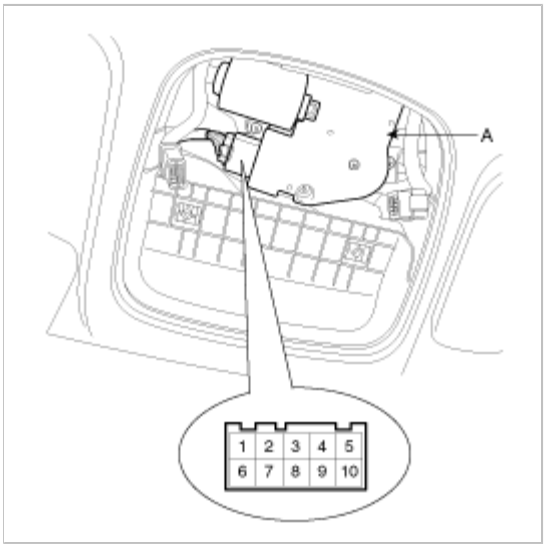
3. Disconnect the connector. Check for continuity between the terminals. If the continuity is not as specified, replace the sunroof switch.



Terminal / Position	1	2	3	4
Manual open	○	○		
Auto open	○	○	○	
Manual close Tilt down	○			○
Auto close	○		○	○
Manual tilt up	○		○	
Manual tilt down	○			○

Inspection

1. Disconnect the negative (-) battery terminal.
2. Open the sunglass case cover from the overhead console then remove the 2 screws holding the overhead console. Disconnect the connector then remove the overhead console lamp assembly from the headliner.
3. Disconnect the sunroof motor(A) connector.



4. Ground the terminals as below table, and check that the sunroof unit operates as below table.

Position \ Terminal	3	4	5	10
Manual open	⊕		⊖	
Auto open	⊕		⊖	⊖
Manual close Manual tilt down	⊕	⊖		⊖
Auto close	⊕	⊖		⊖
Manual tilt up	⊕			⊖
Manual tilt down	⊕	⊖	⊖	

5. Make these input tests at the connector
   If any test indicates a problem, find and correct the cause, then recheck the system.
   If all the input tests prove OK, the sunroof motor must be faulty; replace it.

Terminal	Test condition	Test: Desired result
3	IG2 ON	Check for voltage to ground: There should be battery voltage.
1	Under all conditions	Check for continuity to ground: There should be continuity.
6	Under all conditions	Check for voltage to ground: There should be battery voltage.

Resetting The Sunroof

Whenever the vehicle battery is disconnected or discharged, or you use the emergency handle to operate the sunroof, you have to reset your sunroof system as follows:.

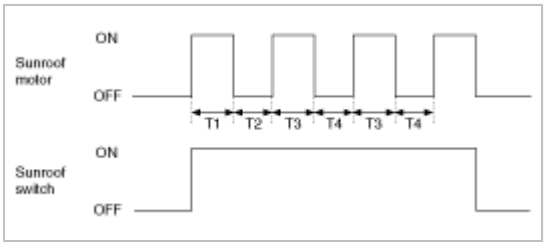
1. Turn the ignition key to the ON position.

2. According to the position of the sunroof, do as follows.
   (1) In case that the sunroof has closed completely or been tilted :
   Press the TILT UP button until the sunroof has tilted upward completely.
   (2) In case that the sunroof has slide-opened:
   Press and hold the CLOSE button for more than 5 seconds until the sunroof has closed completely.
   Press and hold the CLOSE button for more than 5 seconds after the sunroof has closed completely. Press the TILT UP button until the sunroof has tilted upward completely.
3. Release the TILT UP button.
4. Press and hold the TILT UP button once again until the sunroof has raised above and returned to the maximum TILT UP position.
   When this is complete, the sunroof system is reset.

Protecting Motor From Overheating

In order to protect the sunroof motor from overheating from continuous motor operation, the sunroof ECU controls the Run-time and Cool-time of the motor as follows:

1. The Sunroof ECU detects the Run- time of motor
2. Motor can be operated continuously for the 1st run-time(120 ± 10sec.).
3. The continuous operation of motor stops after the 1st Run-time(120 ± 10sec.).
4. Then Motor is not operated for the 1st Cool-time(18 ± 2sec.).
5. Motor is operated for the 2nd Run-time(10 ± 2sec.) at the continued motor operation after 1st Cool-time(18 ± 2sec.)
6. The continuous operation of motor stops operating after the 2nd Run-time(10 ± 2sec.)
7. Motor is not operated for the 2nd Cool-time(18 ± 2sec.).
8. Motor repeats the 2nd run-time and 2nd cool-time at the continued motor operation.
   A. In case that motor is not operated continuously, the run-time is increased.
   B. The Run-Time of motor is initialized to "0" if the battery or fuse is reconnected after being disconnected, discharged or blown.



T1 : 120 ± 10 sec., T2 : 18 ± 2 sec.,
T3 : 10 ± 2 sec., T4 : 18 ± 2 sec.