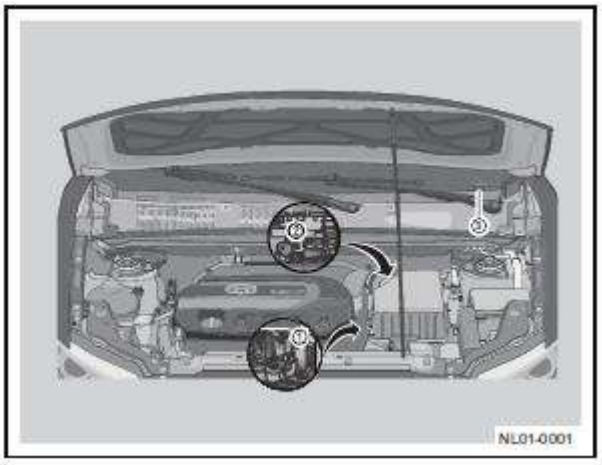
IN

Identification Information

Vehicle Identification

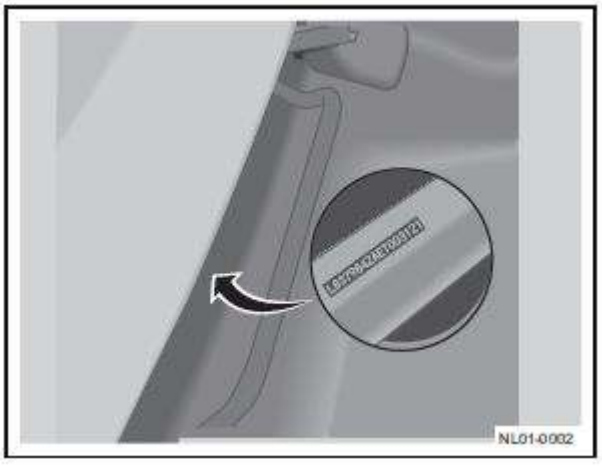
Vehicle identification number



Vehicle identification number (VIN) plate is a statutory marker.

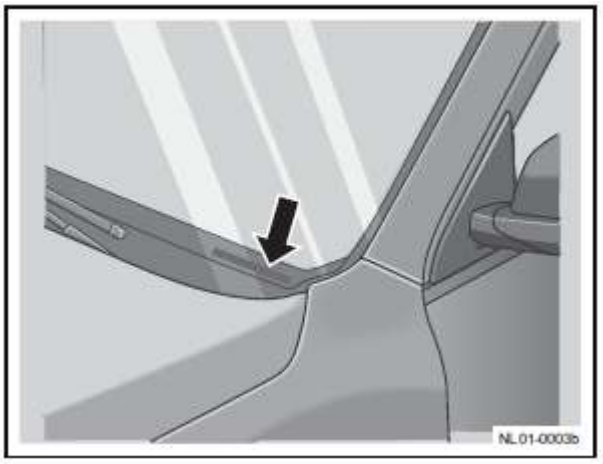
1. Engine code
2. Transmission code
3. Vehicle identification number VIN

Location of Vehicle Identification Number (VIN)



The vehicle identification number (VIN) is printed on the mounting crossbeam of right front seat.

Position of identification number sign

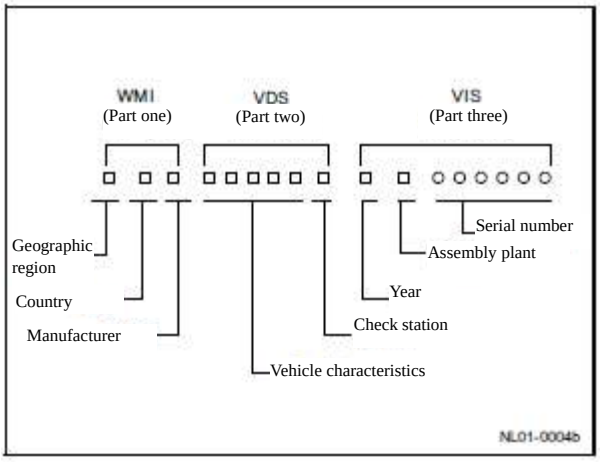


A vehicle identification number (VIN) plate is located at the left upper corner of the instrument panel, which can be viewed through the front windshield.

Vehicle Identification Number (VIN) Description

Composition of a vehicle identification number:

World's manufacturer identification code (WMI), vehicle description section (VDS) and vehicle parts instructions (VIS) three parts (17 bit), as shown below:



Take the vehicle identification number L6T7964S6DN075548 as an example, the meaning of each figure is shown as follows:

1. The vehicle identification number is printed on vehicle body and certification sign.

The fourth digit code provisions

No.	Vehicle class	Code
1	Chassis(Non-complete Vehicle)	0
2	Trunk	1
3	Special purpose vehicle	5

Lifting and Supporting Position of Vehicle

Warning!

Warning: To avoid any vehicle damage, serious personal injury even death when major components are dismantled from the vehicle and the vehicle is supported by a hoist, support with jack the components standing at the opposite end from which the components are being dismantled of the vehicle.

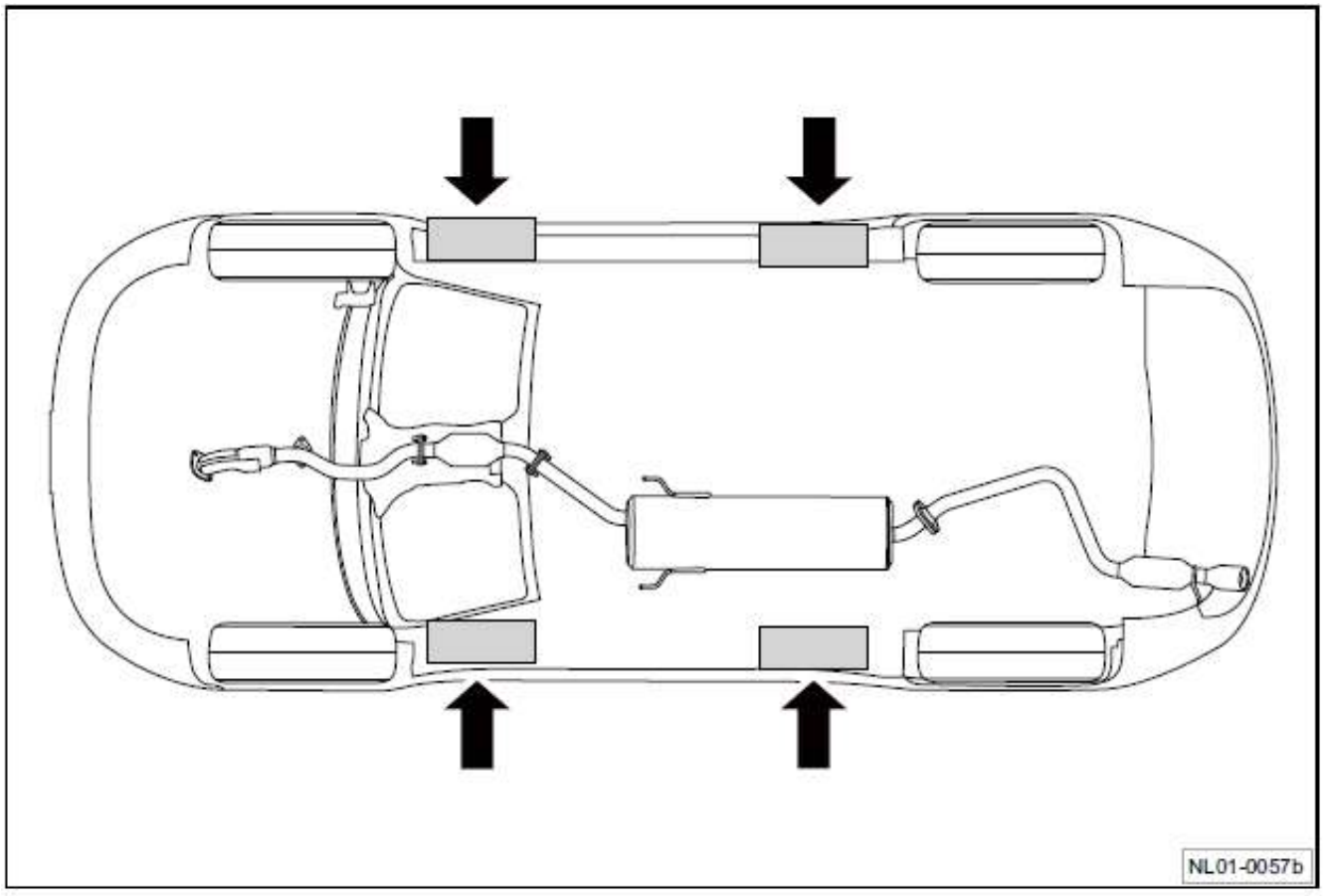
Warning!

To avoid personal injury, always use jack stands when you are working on or under any vehicle that is supported only by a jack.

Notices

When you are jacking or lifting a vehicle at the frame side rails or other prescribed lift points, be certain that the jack pads do not contact the catalytic converter, the brake pipes or the fuel pipe. If such contact occurs, vehicle damage or unsatisfactory vehicle performance may result. Before you begin any lifting procedure, be sure the vehicle is on a clean, hard and level surface. Be sure all the lifting equipment meets weight standards and is in good working condition. Be sure all the vehicle loads are equally distributed and secure. If you are only supporting the vehicle at the frame side rails, make sure the lifting equipment does not put too much stress on or damage the frame side rails.

Vehicle lifting point



Lift up the vehicle, contact lifter of frame

Rear-end chock of frame-contact type lifting machine

Yes

Step 4	Check the A/C working condition.

(a) Use a fault diagnostic scanner to observe whether the A/C working status is consistent with the actual A/C working condition.
(b) When the A/C is turned on and the A/C compressor pump works, observe whether the engine idle speed is stable.

Yes → Go to step 7.

No

Step 5	Check the intake system and exhaust system.

(a) Check intake system and exhaust system for blockage and air leakage.
(b) Confirm whether there is too much carbon residue in throttle.
(c) Confirm whether the above faults are available.

Yes → Repair the fault position.

No

Step 6	Check engine mechanical transmission and accessory transmission.

(a) Operate the starter switch to turn the power supply mode to OFF state.
(b) Check whether the drive belt of engine accessory is loosened.
C. Remove engine accessory belt, neutral gear. Rotate the engine crankshaft and inspect whether engine mechanical moving components catching.
(d) Rotate engine accessory pulley and A/C pump. Check whether there is engine and other accessory components stagnation.
(e) Confirm whether the above faults are available

Yes → Repair the fault position.

No

Step 7	Check the power circuit of EMS.

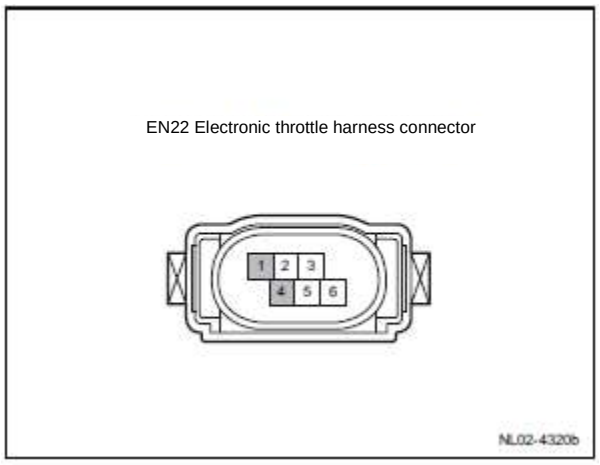
(a) Check whether EMS power supply circuit is normal.
(b) Check whether EMS grounding circuit is normal.

No → Overhaul or replace the harness.

Yes

Step 8	Replace the EMS, refer to "Engine ECU".

Next step



(i) Measure the conductivity between EN22 terminal 4 and EN35 terminal 19.

Standard resistance value: less than 1 Ω

(j) Confirm whether the values meet standard value.

No → Repair faulty position.

ES

Yes

Step 6	Check the power circuit of EMS.

(a) Check whether EMS power supply circuit is normal.

(b) Check whether EMS grounding circuit is normal.

No → Repair faulty position.

Yes

Step 7	Replace the EMS. Please refer to “Engine ECU”.

Next step

Step 8	Carry out the learning for engine speed sensor.

Next step

Step 9	Use fault diagnostic scanner to confirm whether DTC is stored again.

(a) Connect the fault diagnostic scanner to the diagnostic interface.

(b) Operate the starter switch to turn the power supply mode to ON state.

(c) Clear DTC.

(d) Start and run the engine at idle speed to warm up the engine for at least 5min.

(e) Vehicle road test at least 10min.

(f) Read control system DTC again. Confirm system has no fault code output.

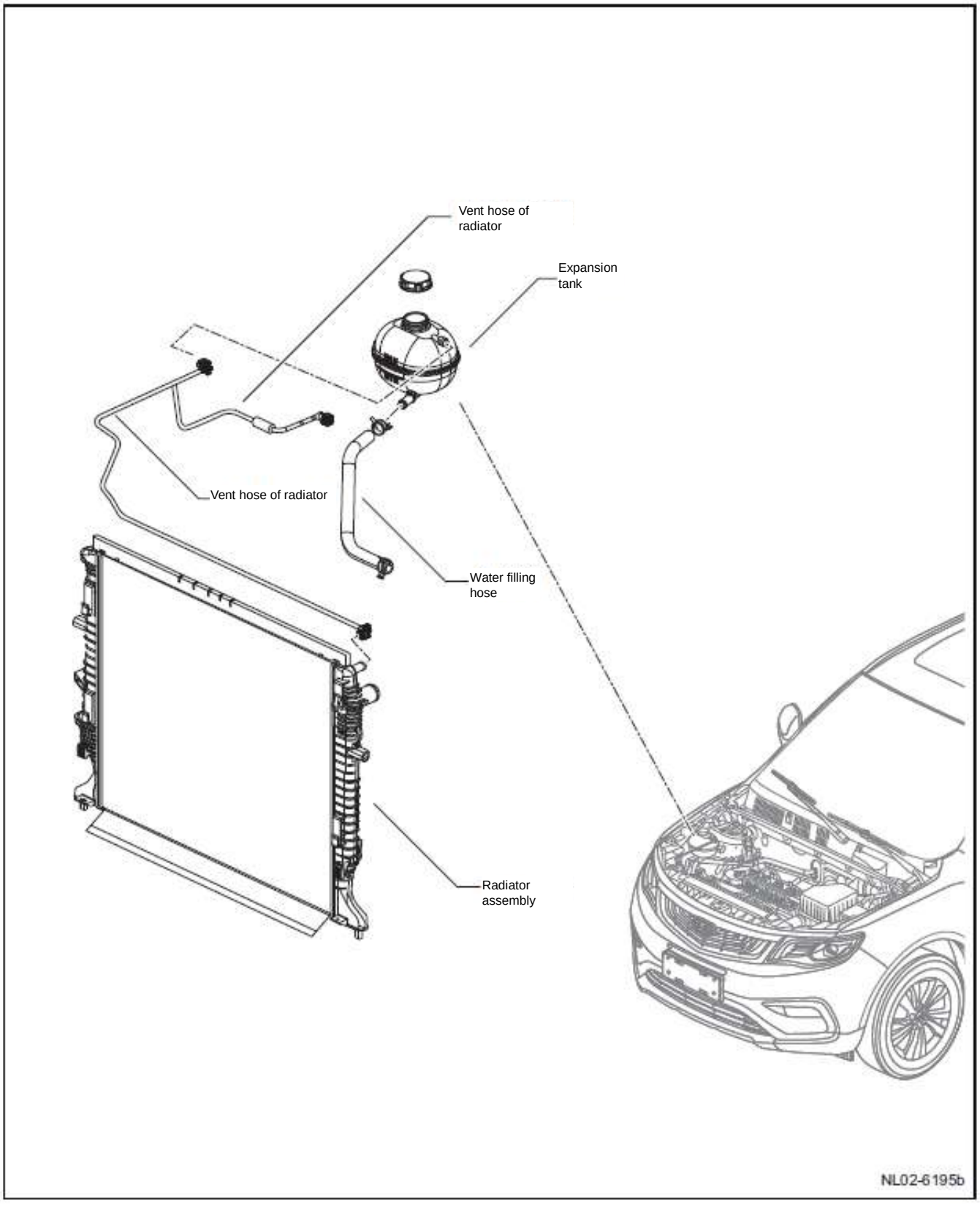
No → Intermittent fault. Please refer to check on intermittent fault.

Next step

Step 10	Troubleshooting.

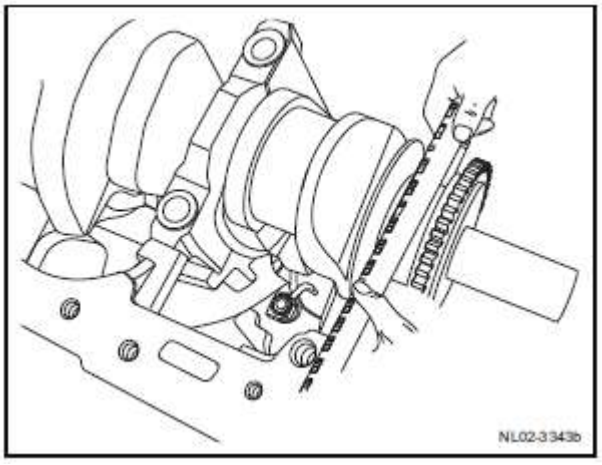
Expansion Tank Assembly

Component



On-board Removal

1. Open the engine hood.
2. Remove the engine trim cover. Refer to “Engine trim cover”.
3. Remove the upper trim panel of front bumper. Refer to "Decorative covering parts of engine compartment"
4. Remove the upper trim panel connecting plate of fender. Refer to "Decorative covering parts of engine compartment"
5. Remove the upper trim panel assembly of left fender. Refer to "Decorative covering parts of engine compartment"
6. Remove the upper trim panel assembly of right fender. Refer to "Decorative covering parts of engine compartment"
7. Release the pressure in fuel system. Refer to "Check procedure for fuel pressure".
8. Recover the refrigerant. Refer to "Recovery and filling of A/C refrigerant"
9. Remove the air filter intake pipe. Refer to “Air filter intake pipe”
10. Remove the air filter assembly. Refer to “Air filter”
11. Remove the battery. Please refer to “Battery cable”.
12. Remove the battery bracket. Refer to “Battery bracket”
13. Remove the engine ECU. Refer to “Engine ECU”
14. Remove the engine ECU bracket assembly
15. Remove the front wheel. Refer to “Wheel and tire”
16. Lift the vehicle
17. Remove the engine bottom guard plate. Refer to “Left and right engine bottom guard plate”
18. Remove the engine left/right guard plate Refer to “Engine bottom left right protective plate”
19. Discharge the engine coolant. Refer to “Drainage and filling for engine coolant”
20. Drain the transmission oil. Refer to “Transmission oil”
21. Remove the solenoid valve of carbon canister. Refer to “Control valve of carbon canister”
22. Remove the front constant velocity drive shaft. Refer to “Front constant velocity drive shaft”
23. Remove the transmission shaft (four-wheel drive). Refer to "transmission shaft assemble (4WD)"
24. Remove power take off(four-wheel drive). Refer to "Power take off"
25. Remove the front suspension longitudinal beam. Refer to "Front suspension longitudinal beam assembly"
26. Remove the reinforcing plate of front suspension. Refer to "Front suspension reinforcing plate"
27. Remove the subframe. Refer to "Front subframe"
28. Remove the three-way catalytic converter assembly Refer to "Exhaust manifold"
29. Remove the front suspension crossbeam. Refer to "Front suspension crossbeam assembly"



8. Check the fit clearance of the crankshaft main bearing bush

1) Check for the corrosive pitting and scratching on the main bearing journal and main bearing bush.

2) Install the upper bearing bush of the crankshaft main bearing.

3) Place the crankshaft on the cylinder block.

4) Place one plastic clearance gauge over each journal.

5) Install the main bearing cap with lower bearing bush on the cylinder block, and make the forward mark of the main bearing cap towards the front of the engine. Tighten the main bearing cap bolt with the specified torque.

Notice

Do not rotate the crankshaft.

6) Remove main bearing cover.

7) Measure the maximum clearance point with plastic clearance gauge.

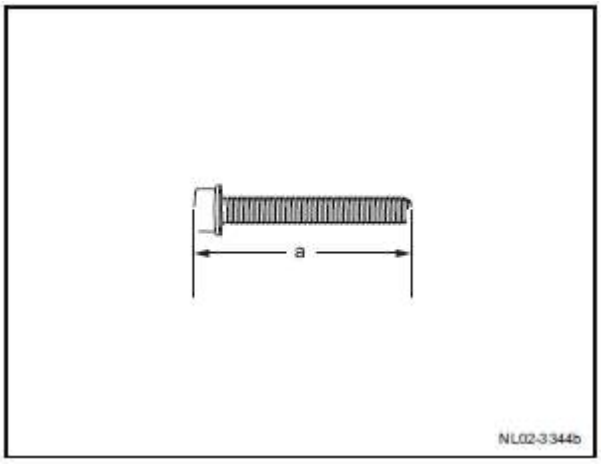
Standard clearance: 0.024~0.046mm (Metric) 0.0009~-0.0018 in (English)

The maximum clearance: 0.046 mm (Metric) 0.0018 in (English).

Notice

If the clearance exceeds this range, replace the main bearing of this crankshaft. If necessary, replace the crankshaft. To replace the crankshaft main bearing, the main bearing with the same number should be chosen. If the number of the main bearing can not be identified, the sum of the numbers printed on the cylinder block and crankshaft is the correct main bearing number. Then use the calculated number to choose a new main bearing. (Cylinder block main bearing hole group No. + crankshaft)

9. Check the main bearing cap bolt.



1) Measure the length of main bearing cap bolt (only applicable to fixing bolt in plastic area).

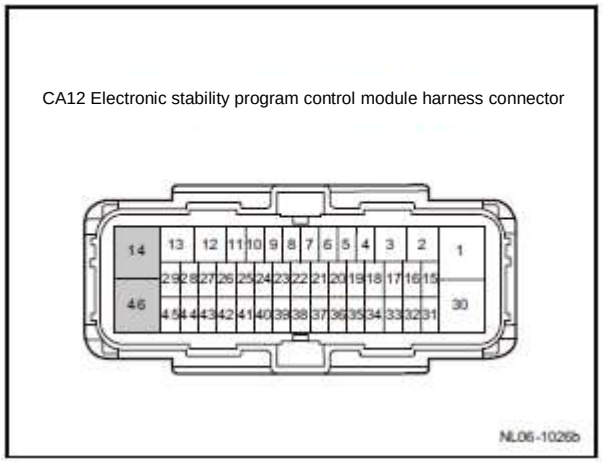
Standard: 80.5~81.5 mm (Metric) 3.16~3.20 in(English)

Maximum wear: 81.5 mm (Metric) 3.20 in (English)

Notice

New bolt must be used in each maintenance.

10. Check the conductivity of piston fuel injector component.



(a) Measure the resistance between the terminal 14/46 of the hydraulic electronic control unit harness connector CA12 and the grounding on the vehicle body.

Standard resistance value: Less than 1 Ω

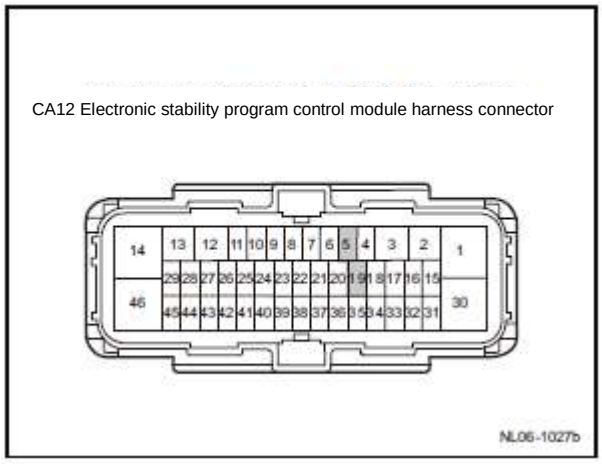
(b) Confirm whether the resistance meets the standard value.

No	Repair or replace the harness or harness connector.

Yes

Step 11	Check the CAN network signal line (line connected with ESP).

BC

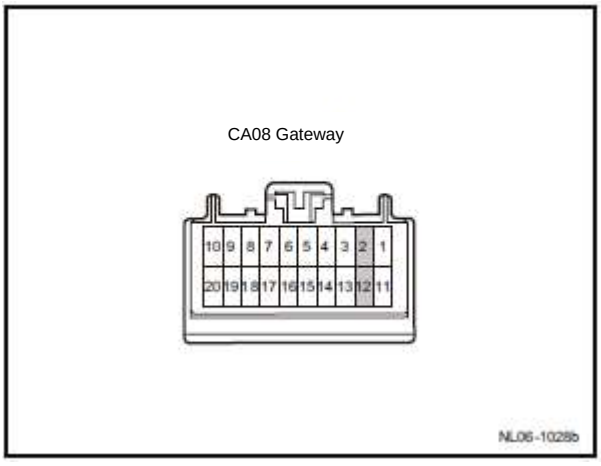


(a) Measure the resistance between the terminal 5/19 of the ESP control unit CA12 and the terminal 2/12 of the gateway CA08.

Standard resistance value: Less than 1 Ω

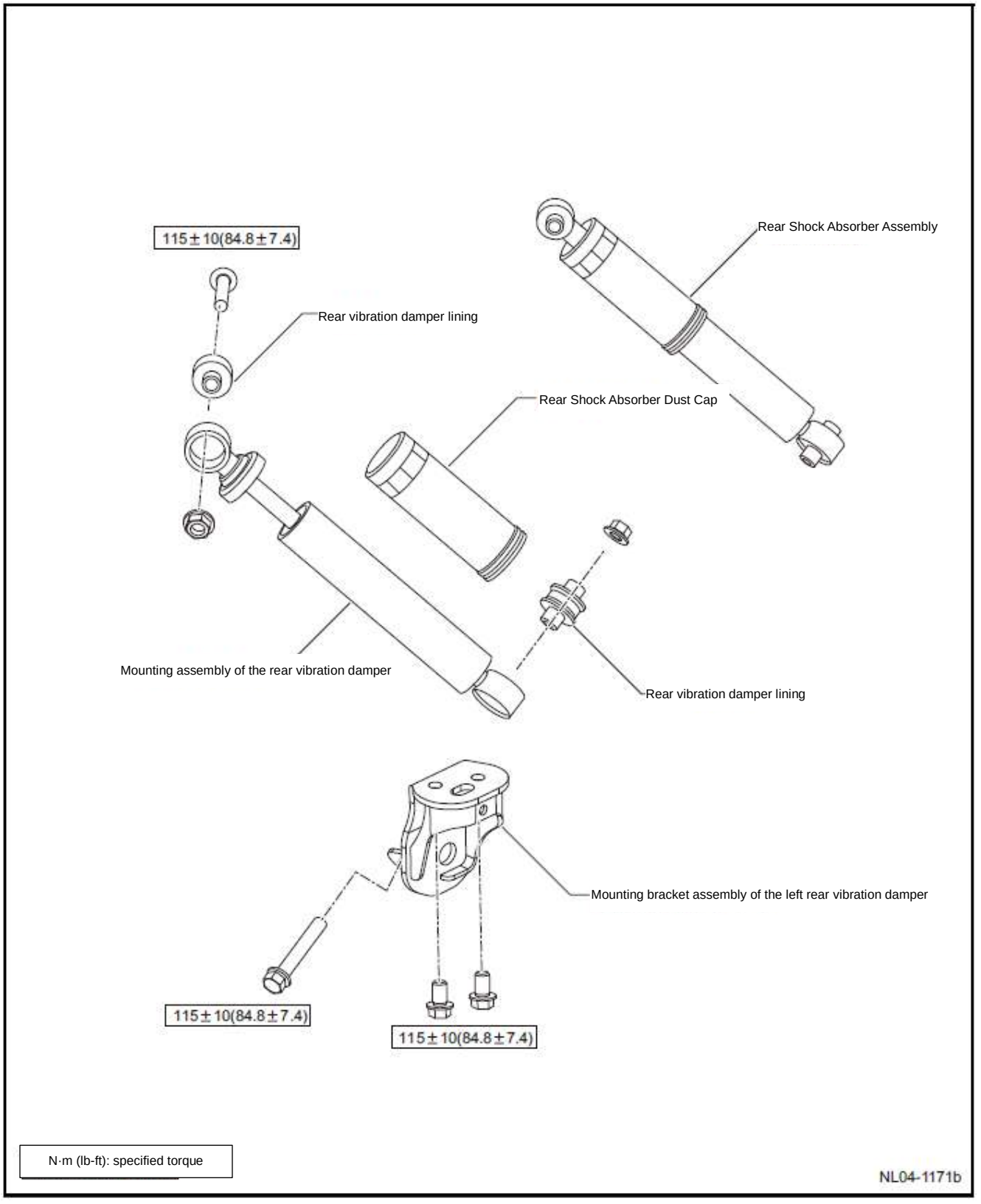
(b) Confirm whether the resistance meets the standard value.

No	Repair or replace the harness or harness connector.



Yes

Step 12	Replace the hydraulic electronic control unit assembly.


115±10(84.8±7.4)
Rear Shock Absorber Assembly
Rear vibration damper lining
Rear Shock Absorber Dust Cap
Mounting assembly of the rear vibration damper
Rear vibration damper lining
Mounting bracket assembly of the left rear vibration damper
115±10(84.8±7.4)
115±10(84.8±7.4)
N·m (lb-ft): specified torque
NL04-1171b

SP

How to Carry out the Analysis for Elimination of Fault

Step 1	Send vehicle into repair shop

Next Step

Step 2	Customer mentioned fault analysis

(a) System instructions, start system diagnosis after being familiar with system function and operation content, this can help to determine the correct fault diagnosis procedures when there is a fault, more importantly, this can help make sure if the situation being described by customer is normal operation or not

Next Step

Step 3	Use diagnostic scanner to read DTC

(b) Check if there is DTC

Yes → Repair the fault according to the DTC list.

No

Step 4	Symptoms simulation

Next Step

Step 5	Check CAN communication system

Notice, make sure to check CAN communication system is working properly before troubleshooting

Next Step

Step 6	The table of fault symptoms

(a) Refer to "The table of fault symptoms".

Next Step

Step 7	Circuit check.

Next Step

Step 8	Fault identification

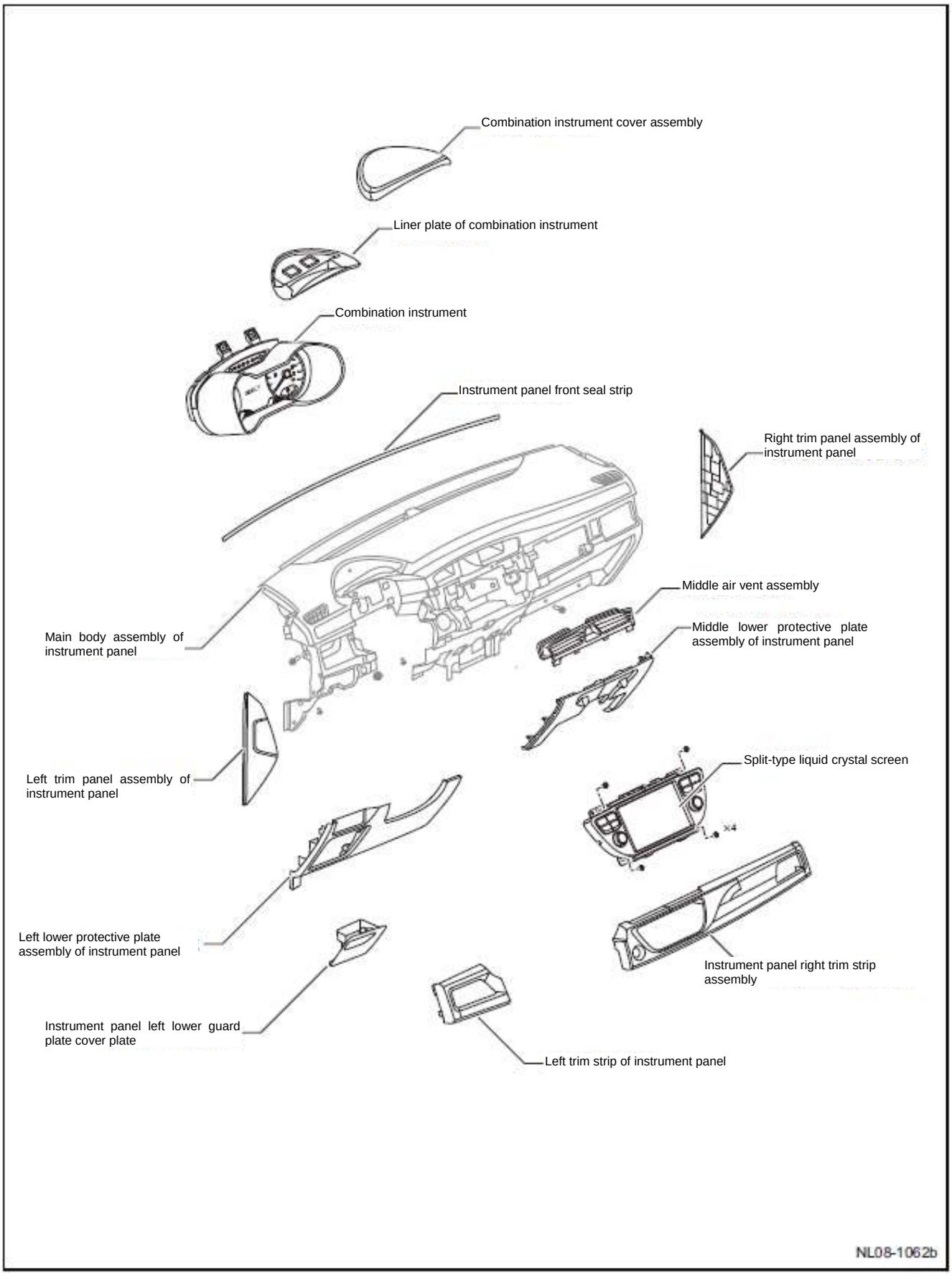
Next Step

Step 9	Repair or replace

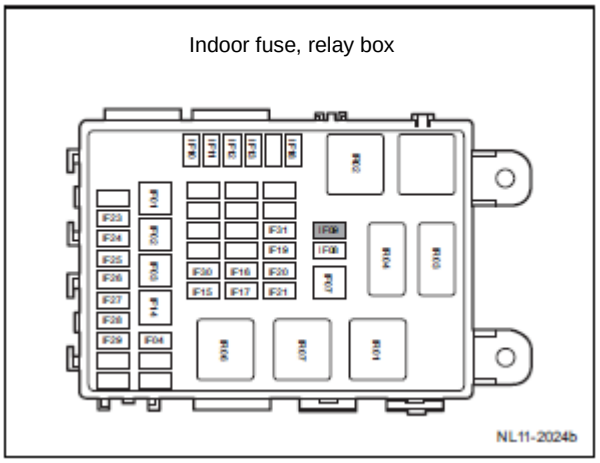
Next Step

Step 10	Confirmation test

TP


Combination instrument cover assembly
Liner plate of combination instrument
Combination instrument
Instrument panel front seal strip
Right trim panel assembly of instrument panel
Middle air vent assembly
Middle lower protective plate assembly of instrument panel
Main body assembly of instrument panel
Left trim panel assembly of instrument panel
Split-type liquid crystal screen
x4
Left lower protective plate assembly of instrument panel
Instrument panel right trim strip assembly
Instrument panel left lower guard plate cover plate
Left trim strip of instrument panel
NL08-1062b

AC



(a) Operate the starter switch to turn the power supply mode to OFF state.

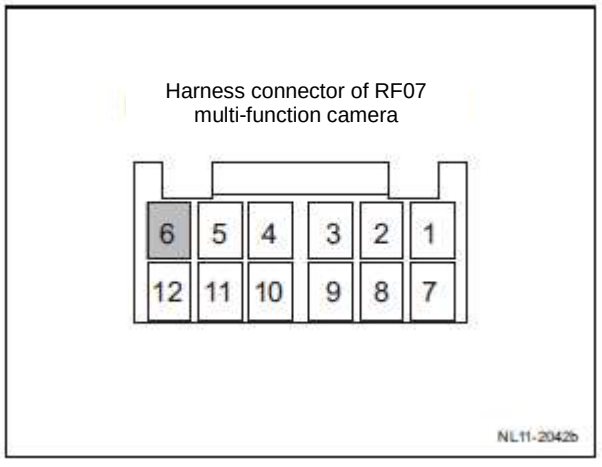
(b) Check the fuse IF09 in the instrument distribution box for blowout.

Rated capacity of the fuse: 10A

Yes → Overhaul the fuse circuit, and replace the original fuse with a fuse with rated capacity

No

Step 4	Check power voltage of LDW host.



(a) Operate the starter switch to turn the power supply mode to OFF state.

(b) Disconnect the LDW host harness connector RF07.

(c) Operate the starter switch to turn the power supply mode to ON state.

(d) Use multimeter to measure the voltage between RF07 terminal 6 and vehicle body grounding.

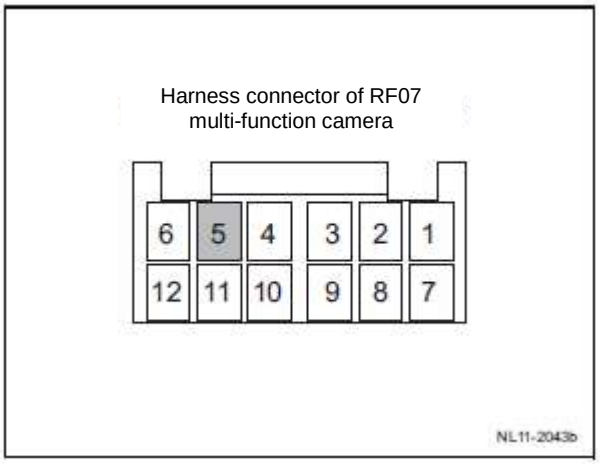
Standard voltage: 11~14V

(e) Confirm whether the measured value meets the standard value.

No → Repair or replace the harness.

Yes

Step 5	Check the grounding wire of LDW host for any fault



(a) Operate the starter switch to turn the power supply mode to OFF state.

(b) Disconnect the LDW host harness connector RF07.

(c) Use multimeter to measure the resistance between RF07 terminal 5 and vehicle body grounding.

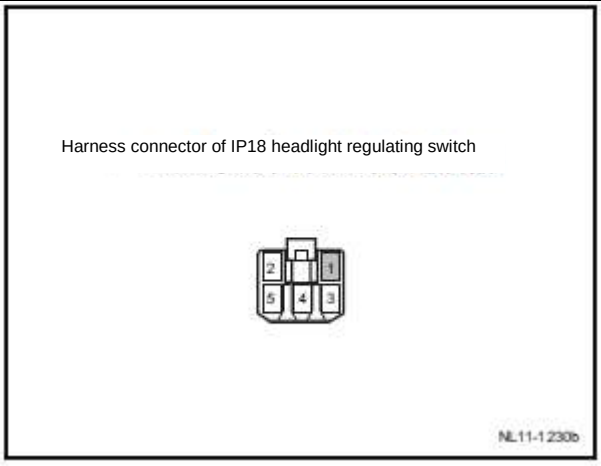
Standard Resistance: less than 1 Ω

(d) Confirm whether the measured value meets the standard value.

No → Repair or replace the harness.

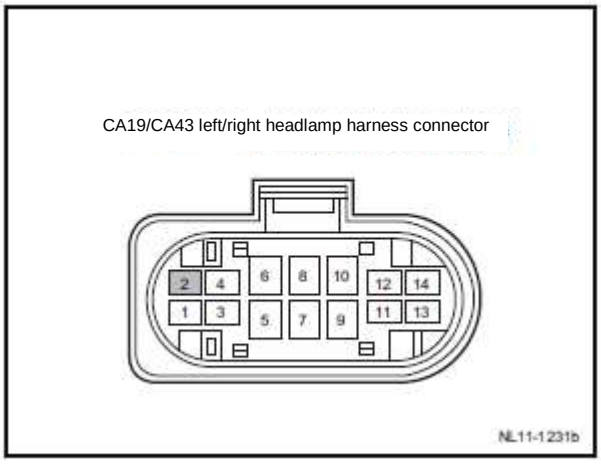
Yes

Step 5	Check the line open-circuit fault between the headlamp height adjustment switch and headlamp optical axis adjustment motor.



(a) Disconnect the headlamp height adjustment switch harness connector IP18.
(b) Disconnect the left headlamp optical axis adjustment motor harness connector CA43.
(c) Disconnect the right headlamp optical axis adjustment motor harness connector CA19.
(d) Use multimeter to measure the resistance between connector IP18 terminal 1 and CA19 terminal 2.
(e) Use multimeter to measure the resistance between connector IP18 terminal 1 and CA43 terminal 2.
Standard resistance value: Less than 1Ω
(f) Confirm whether the resistance meets the standard value.

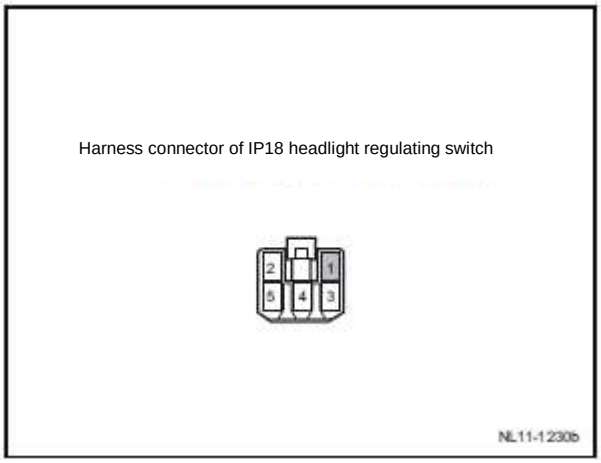
No → Repair or replace the harness.



Yes

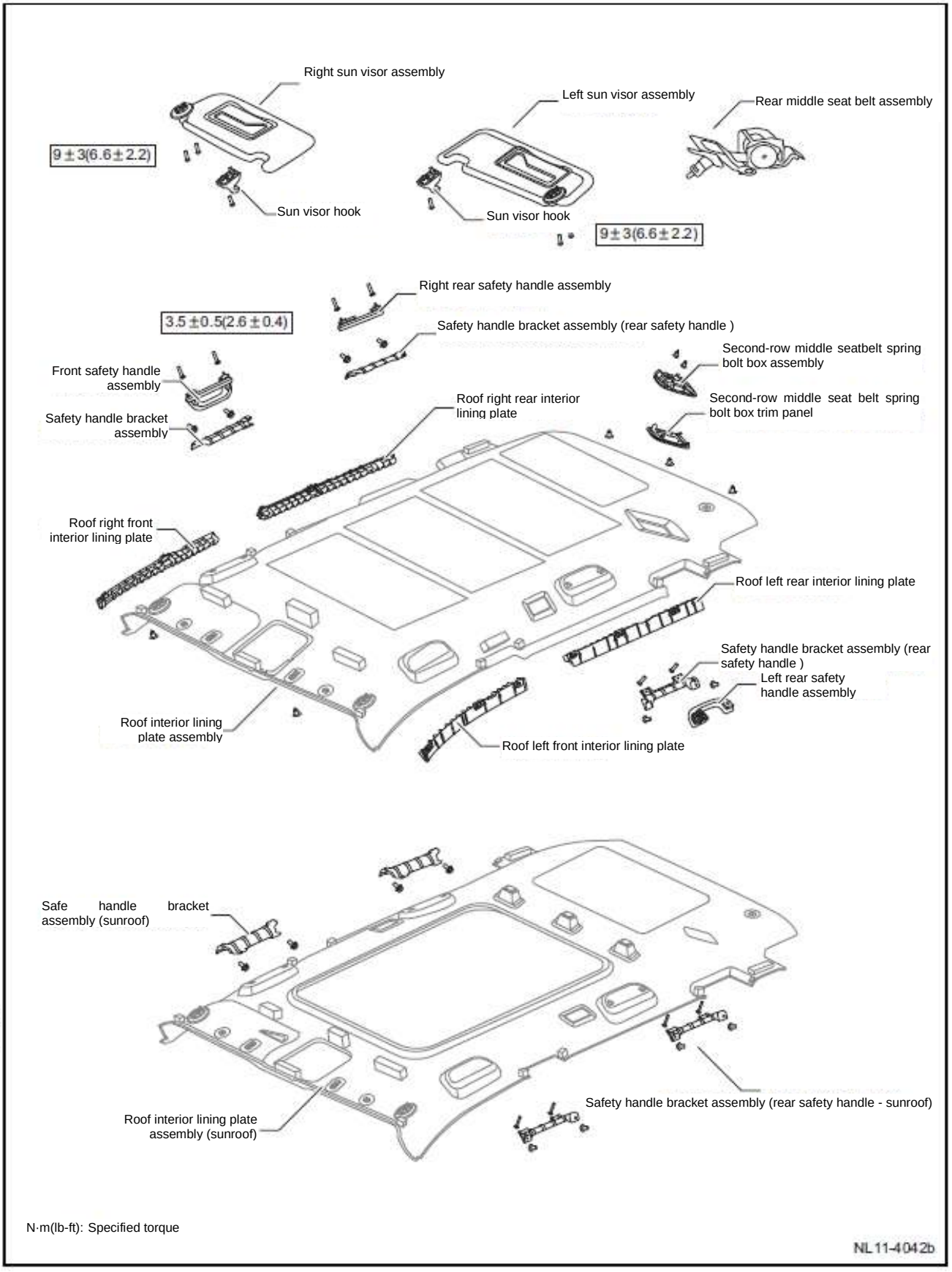
LI

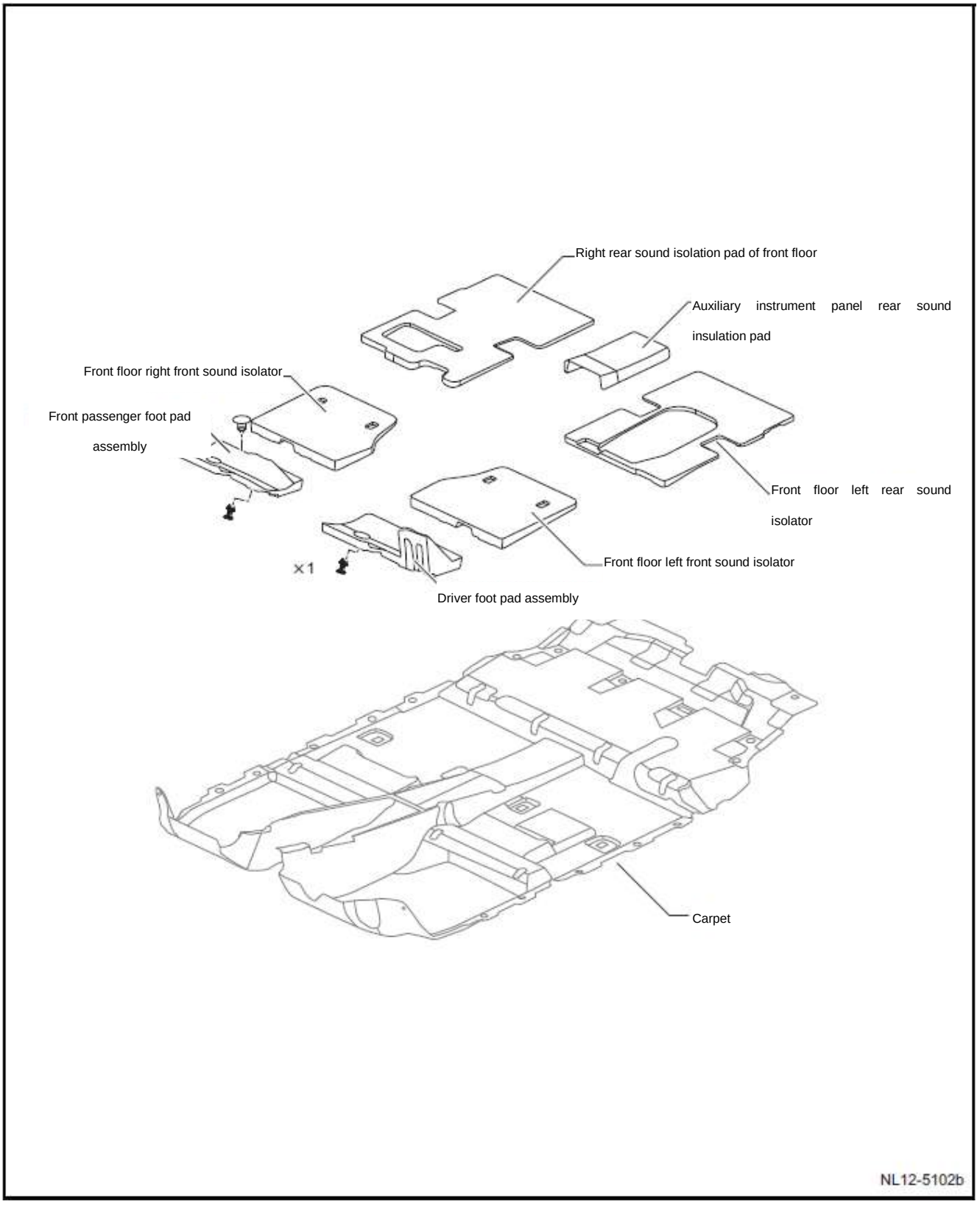
Step 6	Check the signal line short-to-ground fault of the headlamp height adjustment switch.



(a) Disconnect the headlamp height adjustment switch harness connector IP18.
(b) Disconnect the left headlamp optical axis adjustment motor harness connector CA43.
(c) Disconnect the right headlamp optical axis adjustment motor harness connector CA19.
(d) Use multimeter to measure the resistance between IP18 terminal 1 and vehicle body grounding.
Standard resistant: 10kΩ **or higher**
(e) Confirm whether resistance meets the standard value.

No → Repair or replace the harness.


Right sun visor assembly
9±3(6.6±2.2)
Sun visor hook
Left sun visor assembly
Sun visor hook
9±3(6.6±2.2)
Rear middle seat belt assembly
Right rear safety handle assembly
3.5±0.5(2.6±0.4)
Safety handle bracket assembly (rear safety handle)
Second-row middle seatbelt spring bolt box assembly
Front safety handle assembly
Safety handle bracket assembly
Roof right rear interior lining plate
Second-row middle seat belt spring bolt box trim panel
Roof right front interior lining plate
Roof left rear interior lining plate
Safety handle bracket assembly (rear safety handle)
Left rear safety handle assembly
Roof interior lining plate assembly
Roof left front interior lining plate
Safe handle bracket assembly (sunroof)
Safety handle bracket assembly (rear safety handle - sunroof)
Roof interior lining plate assembly (sunroof)
N·m(lb-ft): Specified torque
NL11-4042b


Right rear sound isolation pad of front floor
Auxiliary instrument panel rear sound insulation pad
Front floor right front sound isolator
Front passenger foot pad assembly
Front floor left rear sound isolator
x1
Front floor left front sound isolator
Driver foot pad assembly
Carpet
NL12-5102b