

SECTION **RSU**
 REAR SUSPENSION

A
B
C
D

RSU

CONTENTS

| | | | | |
|--|----|--|----|---|
| SERVICE INFORMATION | 2 | Check Suspension Indicator Lamp Stays On When Ignition Switch Is Turned On | 20 | F |
| PRECAUTIONS | 2 | REAR SUSPENSION ASSEMBLY | 21 | G |
| Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" | 2 | Component | 21 | |
| Precaution for Rear Suspension | 2 | On-Vehicle Inspection and Service | 22 | |
| PREPARATION | 3 | Wheel Alignment Inspection | 23 | H |
| Commercial Service Tool | 3 | REAR SUSPENSION MEMBER | 26 | |
| NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING | 4 | Removal and Installation | 26 | I |
| NVH Troubleshooting Chart | 4 | SHOCK ABSORBER | 30 | |
| CAN COMMUNICATION | 5 | Removal and Installation | 30 | J |
| System Description | 5 | SUSPENSION ARM | 31 | |
| TROUBLE DIAGNOSIS | 6 | Removal and Installation | 31 | K |
| How to Perform Trouble Diagnosis for Quick and Accurate Repair | 6 | FRONT LOWER LINK | 33 | |
| Component Parts and Harness Connector Location | 8 | Removal and Installation | 33 | L |
| Wiring Diagram - A/SUSP - | 9 | REAR LOWER LINK & COIL SPRING | 35 | |
| Basic Inspection | 10 | Removal and Installation | 35 | M |
| Check Suspension Indicator Lamp Timing | 11 | STABILIZER BAR | 37 | |
| Control Unit Input/Output Signal Standard | 11 | Removal and Installation | 37 | N |
| CONSULT-II Function (AIR LEVELIZER) | 11 | REAR LOAD LEVELING AIR SUSPENSION COMPRESSOR ASSEMBLY | 38 | |
| TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS | 14 | Removal and Installation | 38 | O |
| Height Sensor System Inspection | 14 | HEIGHT SENSOR | 40 | |
| Exhaust Valve Solenoid System Inspection | 15 | Removal and Installation | 40 | P |
| Compressor Motor, Compressor Motor Relay and Circuit Inspection | 17 | CONTROL UNIT | 42 | |
| TROUBLE DIAGNOSES FOR SYMPTOMS | 19 | Removal and Installation | 42 | |
| Load Leveling Rear Air Suspension System Does Not Operate | 19 | Initialization Procedure | 42 | |
| | | SERVICE DATA AND SPECIFICATIONS (SDS) | 43 | |
| | | Wheel Alignment | 43 | |
| | | Ball Joint | 43 | |
| | | Wheelarch Height (Unladen* ¹) | 44 | |

PRECAUTIONS

< SERVICE INFORMATION >

SERVICE INFORMATION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

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The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

Precaution for Rear Suspension

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- When installing the rubber bushings, the final tightening must be done under unladen condition and with the tires on level ground. Oil will shorten the life of the rubber bushings, so wipe off any spilled oil immediately.
- Unladen condition means the fuel tank, engine coolant and lubricants are at the full specification. The spare tire, jack, hand tools, and mats are in their designated positions.
- After installing suspension components, check the wheel alignment.
- Caulking nuts are not reusable. Always use new caulking nuts for installation. New caulking nuts are pre-oiled, do not apply any additional lubrication.

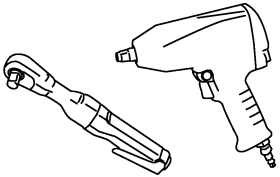
PREPARATION

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PREPARATION

Commercial Service Tool

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| Tool name | Description |
|--|--|
| <p data-bbox="159 352 267 378">Power tool</p>  <p data-bbox="914 569 984 588">PBIC0190E</p> | <ul data-bbox="1065 352 1471 464" style="list-style-type: none">• Removing wheel nuts• Removing brake caliper assembly• Removing rear suspension component parts |

A

B

C

D

RSU

F

G

H

I

J

K

L

M

N

O

P

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SERVICE INFORMATION >

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

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Use chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

| Symptom | | Possible cause and SUSPECTED PARTS | | | | | | | | | | | | | Reference page | | | | |
|---------|-------------------------------|------------------------------------|--|-----------------------------------|--------------------|----------------|----------------------|---------------------------|------------------------|-----------------|--------------|------------|------------------|-------|----------------|------------|-------------|--|------------------------|
| | | Improper installation, looseness | Shock absorber deformation, damage or deflection | Bushing or mounting deterioration | Parts interference | Spring fatigue | Suspension looseness | Incorrect wheel alignment | Stabilizer bar fatigue | PROPELLER SHAFT | DIFFERENTIAL | FRONT AXLE | FRONT SUSPENSION | TIRES | | ROAD WHEEL | DRIVE SHAFT | BRAKES | STEERING |
| Symptom | Noise | x | x | x | x | x | x | | | x | x | x | x | x | x | x | x | x | RSU-21 |
| | Shake | x | x | x | x | | x | | | x | | x | x | x | x | x | x | x | RSU-30 |
| | Vibration | x | x | x | x | x | | | | x | | x | x | x | | x | | x | — |
| | Shimmy | x | x | x | x | | | x | | | | x | x | x | x | | x | x | — |
| | Shudder | x | x | x | | | | | | | | x | x | x | x | | x | x | RSU-21 |
| | Poor quality ride or handling | x | x | x | x | x | | x | x | | | x | x | x | x | | | | RSU-23 |
| | | | | | | | | | | | | | | | | | | RSU-37 | |
| | | | | | | | | | | | | | | | | | | PR-3, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | RFD-7, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | FAX-4, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | FSU-4, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | WT-4, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | WT-4, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | FAX-4, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | BR-4, "NVH Troubleshooting Chart" | |
| | | | | | | | | | | | | | | | | | | PS-5, "NVH Troubleshooting Chart" | |

x: Applicable

CAN COMMUNICATION

< SERVICE INFORMATION >

CAN COMMUNICATION

System Description

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Refer to [EC-32](#).

A

B

C

D

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TROUBLE DIAGNOSIS

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TROUBLE DIAGNOSIS

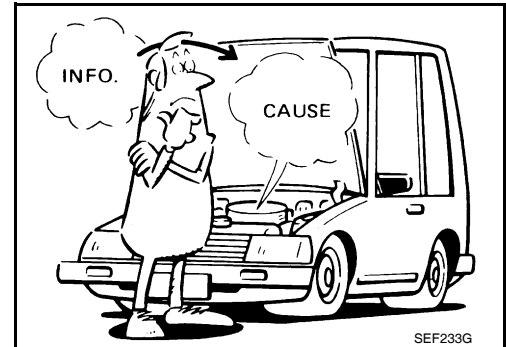
How to Perform Trouble Diagnosis for Quick and Accurate Repair

INFOID:000000003532657

INTRODUCTION

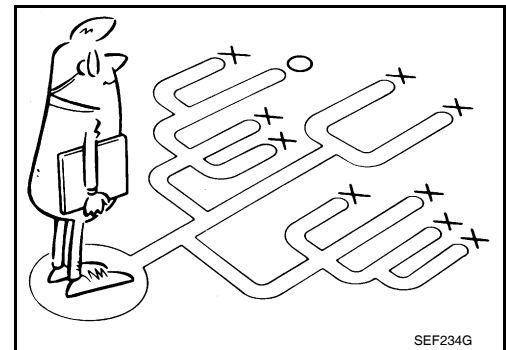
The rear load leveling air suspension system uses an electronic control unit to control major functions. The control unit accepts input signals from the height sensor and controls compressor and exhaust valve operation.

It is much more difficult to diagnose a rear load leveling air suspension system problem that occurs intermittently rather than continuously. Most intermittent problems are caused by poor electrical connections or faulty wiring. In this case, careful checking of suspicious circuits may help prevent the replacement of good parts.



Before undertaking actual checks, take just a few minutes to talk with a customer who approaches with an air suspension system complaint. The customer is a very good source of information on such problems, especially intermittent ones. Through discussion with the customer, find out what symptoms are present and under what conditions they occur.

Start your diagnosis by looking for basic mechanical problems first. This is one of the best ways to troubleshoot concerns on an air suspension system equipped vehicle. Also check related Service Bulletins for information.



CLARIFY CONCERN

- A customer's description of a vehicle concern may vary depending on the individual. It is important to clarify the customer's concern.
- Ask the customer about what symptoms are present under what conditions. Use this information to reproduce the symptom.

KEY POINTS

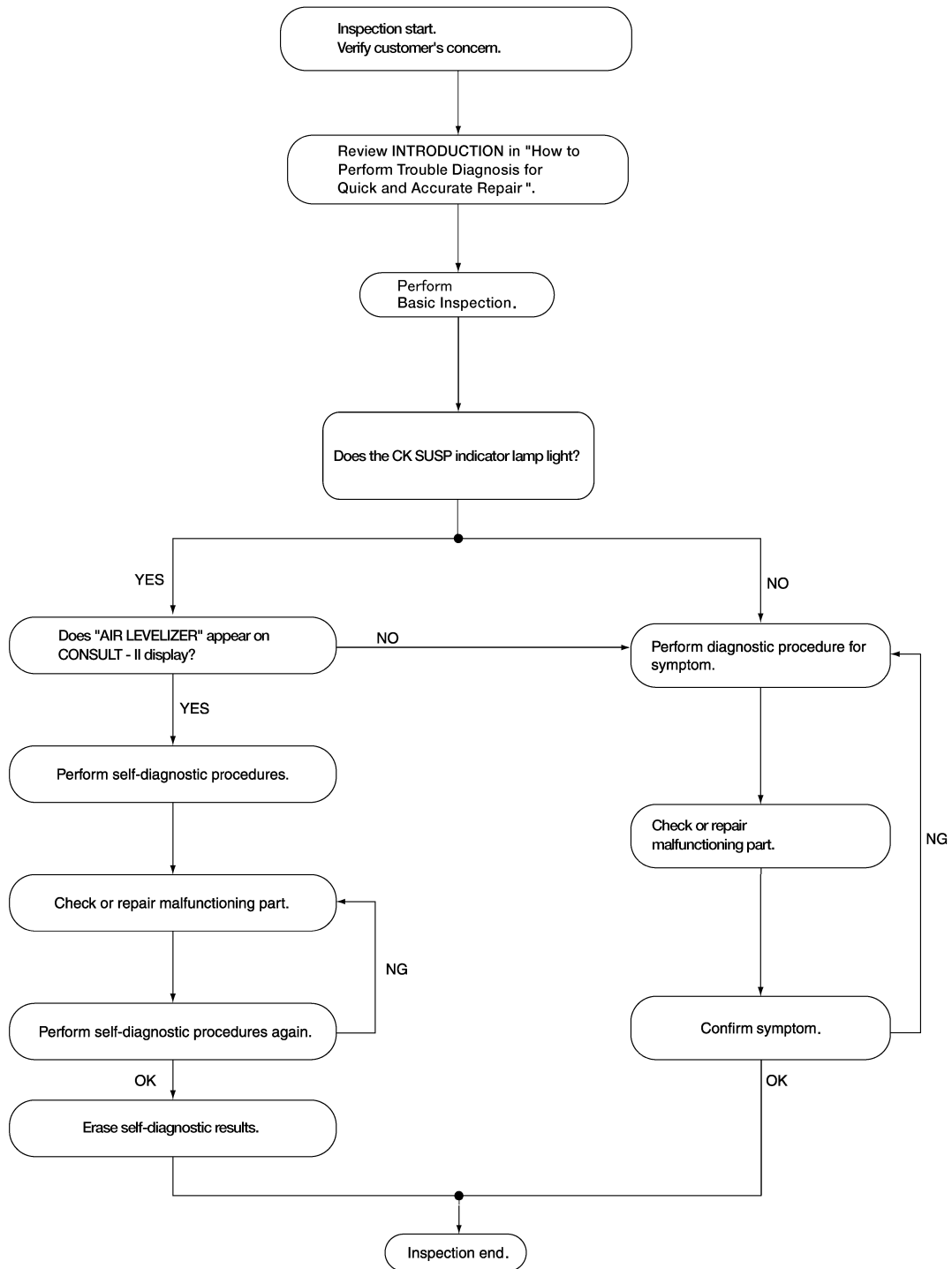
- WHAT** Vehicle model
WHEN Date, Frequencies
WHERE Road conditions
HOW Operating conditions,
Weather conditions,
Symptoms

SBR339B

TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

WORK FLOW



A

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C

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RSU

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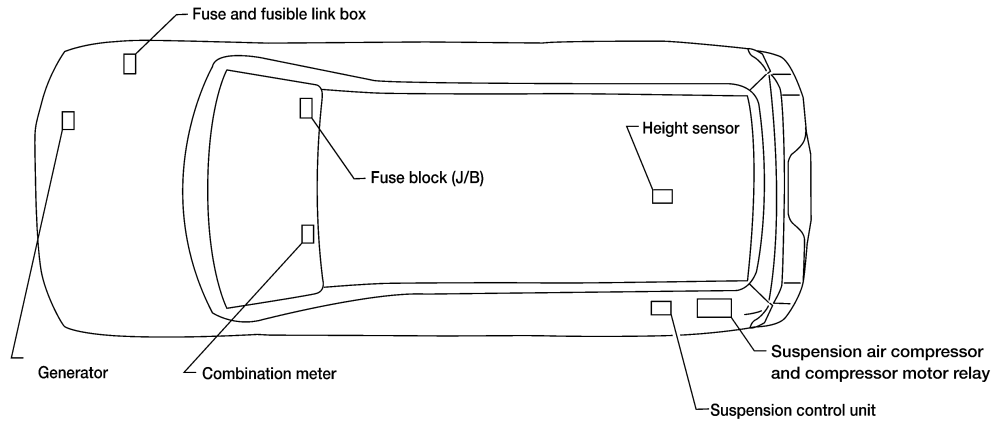
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TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

Component Parts and Harness Connector Location

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--------------------------------|-----|-----|-----|-----|-----|---|---|-----|-----|-----|-----|-----|-----|-----|-----|---|---|---|---|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------------------|
| <p>Fuse block (J/B) fuse layout</p> <p>10A [19] 10A [14] 10A [12]</p> | <p>Fuse and fusible link box</p> <p>Front ↓</p> <table border="1"> <tr> <td>24</td><td>25</td><td>26</td><td>27</td> <td>f</td><td>g</td><td>h</td><td>i</td> </tr> <tr> <td>20A</td><td>15A</td><td>10A</td><td>20A</td> <td>50A</td><td>30A</td><td>30A</td><td>40A</td> </tr> </table> <p>H-1</p> <table border="1"> <tr> <td>j</td><td>k</td><td>l</td><td>m</td> <td>28</td><td>29</td><td>30</td><td>31</td> </tr> <tr> <td>30A</td><td>40A</td><td>40A</td><td>40A</td> <td>15A</td><td>10A</td><td>10A</td><td>20A</td> </tr> </table> <p>24 - 31: FUSE 1 - m: FUSIBLE LINK</p> | 24 | 25 | 26 | 27 | f | g | h | i | 20A | 15A | 10A | 20A | 50A | 30A | 30A | 40A | j | k | l | m | 28 | 29 | 30 | 31 | 30A | 40A | 40A | 40A | 15A | 10A | 10A | 20A | <p>Suspension control unit (B3)</p> |
| 24 | 25 | 26 | 27 | f | g | h | i | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20A | 15A | 10A | 20A | 50A | 30A | 30A | 40A | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| j | k | l | m | 28 | 29 | 30 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30A | 40A | 40A | 40A | 15A | 10A | 10A | 20A | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Front</p> <p>Suspension air compressor and compressor motor relay (C9, E130, E131)</p> | <p>Height sensor (C8)</p> | <p>Combination meter (M24)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>View from under vehicle</p> <p>Front</p> <p>Generator (E205)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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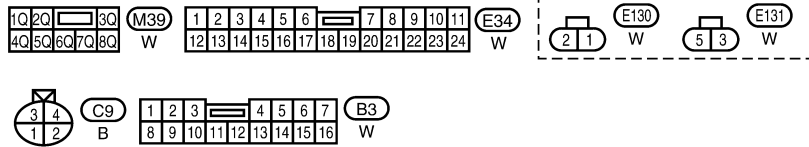
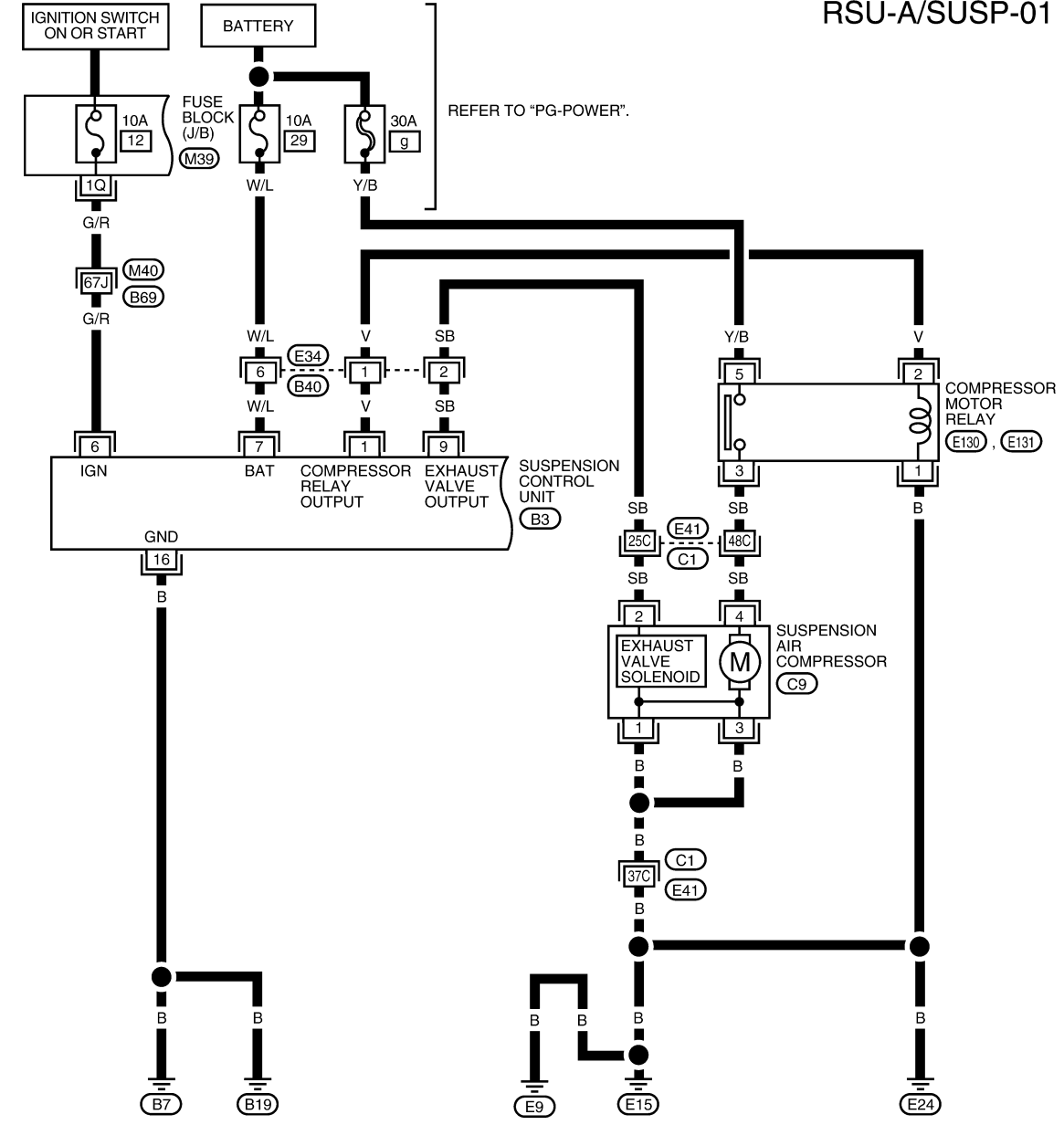
TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

Wiring Diagram - A/SUSP -

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RSU-A/SUSP-01

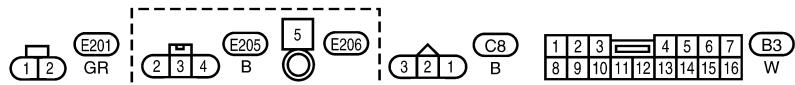
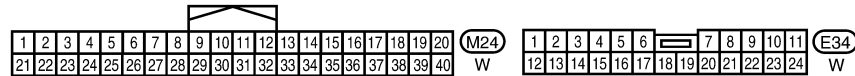
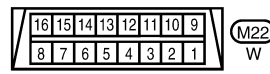
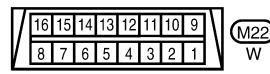
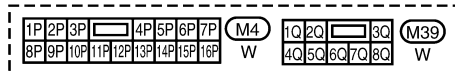
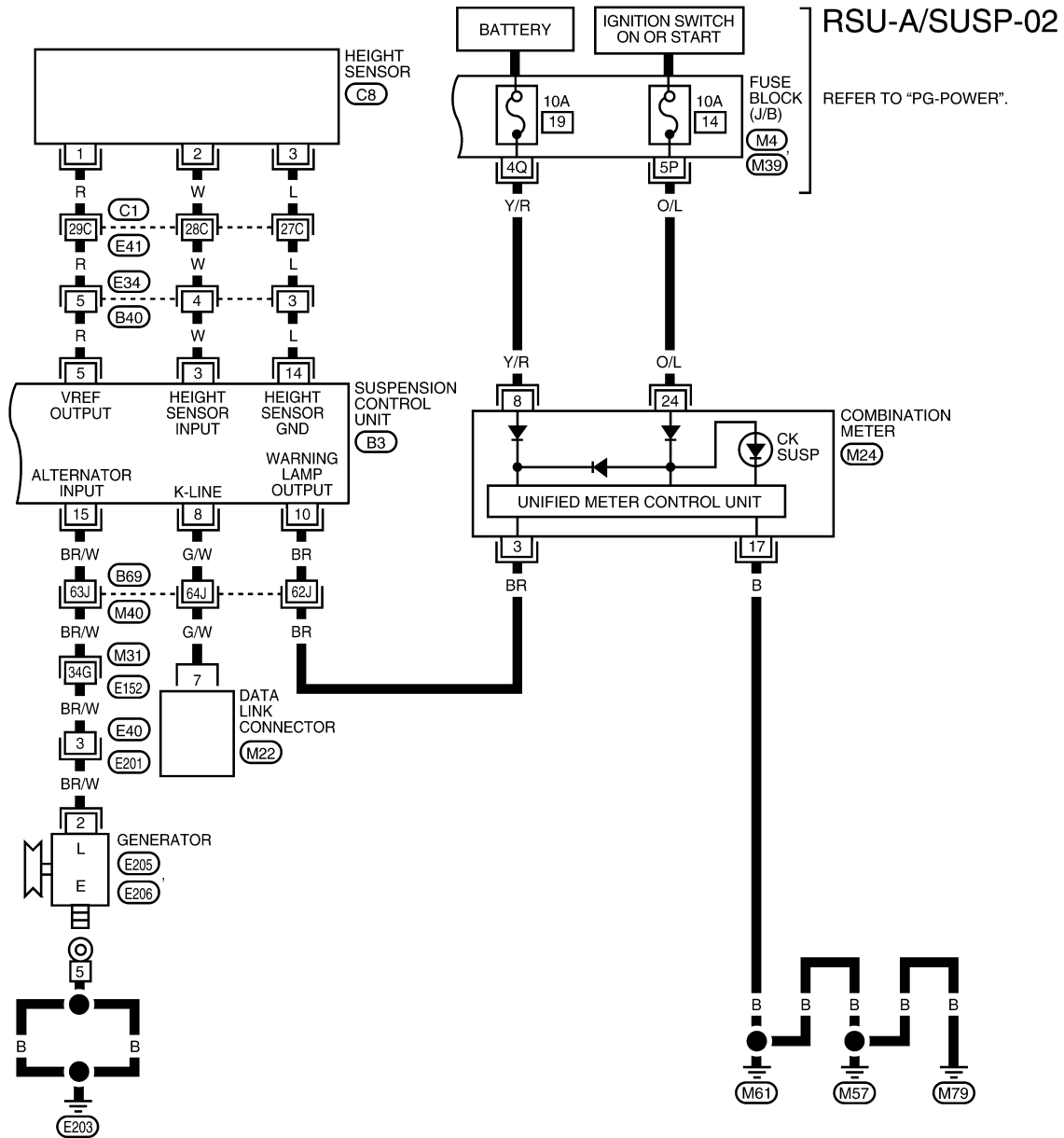


REFER TO THE FOLLOWING.
 (M40), (C1) - SUPER MULTIPLE JUNCTION (SMJ)

WEWA0049E

TROUBLE DIAGNOSIS

< SERVICE INFORMATION >



REFER TO THE FOLLOWING.
 (M31), (M40), (C1) - SUPER
 MULTIPLE JUNCTION (SMJ)

WEWA0070E

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Basic Inspection

AIR HOSES

1. Check for pinched or damaged air hoses between the suspension air reservoir and each load leveling rear air suspension shock absorber. Reposition, repair or replace hoses as necessary.
2. Check the air hose connections at the suspension air reservoir and at the shock absorbers for leaks. If connections are leaking, repair or replace hoses as necessary.

TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

POWER SYSTEM TERMINAL LOOSENESS AND BATTERY INSPECTION

Make sure the battery positive cable, negative cable and ground connection are not loose. In addition, make sure the battery is sufficiently charged.

CK SUSP INDICATOR LAMP INSPECTION

1. Make sure the CK SUSP indicator lamp turns on for approximately 2 seconds when the ignition switch is turned ON. If it does not, check the combination meter. Refer to [DI-5](#).
2. Make sure the lamp turns off approximately 2 seconds after the ignition switch is turned ON. If the lamp does not turn off, conduct self-diagnosis of the suspension control unit.
3. After conducting the self-diagnosis, be sure to erase the error memory. Refer to [RSU-11, "CONSULT-II Function \(AIR LEVELIZER\)"](#).

Chek Suspension Indicator Lamp Timing

INFOID:000000003532661

| Condition | CK SUSP indicator lamp | Remarks |
|---------------------|------------------------|--|
| Ignition switch OFF | — | — |
| Ignition switch ON | X | Turns off after approximately 2 seconds. |

X: ON

—: OFF

Control Unit Input/Output Signal Standard

INFOID:000000003532662

| Terminal No. | Wire color | Item | Condition | Voltage (V) (Approx.) |
|--------------|------------|--------------------------------|-----------------------------|-----------------------|
| 1 | V | Compressor relay output | Ignition switch ON or START | Battery voltage |
| 3 | W | Height sensor signal input | | 0.2V - 4.8V |
| 5 | R | Reference voltage | | 5V |
| 6 | G/R | Ignition power | | Battery voltage |
| 7 | W/L | Battery power | — | — |
| 8 | G/W | Diagnostic K-line | — | — |
| 9 | SB | Exhaust valve output | Ignition switch ON or START | Battery voltage |
| 10 | BR | Warning lamp output | — | — |
| 14 | L | Height sensor ground | — | — |
| 15 | BR/W | Generator L signal input | Engine running | — |
| 16 | B | Suspension control unit ground | — | 0V |

CONSULT-II Function (AIR LEVELIZER)

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CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

| AIR LEVELIZER diagnostic mode | Description |
|-------------------------------|--|
| WORK SUPPORT | Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed. |
| SELF-DIAG RESULTS | Displays suspension control unit self-diagnosis results. |
| DATA MONITOR | Displays suspension control unit input/output data in real time. |
| ACTIVE TEST | Operation of electrical loads can be checked by sending drive signal to them. |
| ECU PART NUMBER | Suspension control unit part number can be read. |

CONSULT-II START PROCEDURE

Refer to [GI-36, "CONSULT-II Start Procedure"](#).

TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

SELF-DIAGNOSIS

Display Item List

| Self-diagnostic item | Malfunction detecting condition | Check system |
|--|---|--|
| Vehicle height sensor [C1801] | Vehicle height sensor voltage is less than 0.2V or greater than 4.8V for more than 60 seconds. | Refer to RSU-14. "Height Sensor System Inspection" . |
| Compressor relay [C1802] | <ol style="list-style-type: none"> Driving transistor for compressor relay is off and monitor voltage continues high level for more than 10 seconds. Driving transistor for compressor relay is on and monitor voltage continues low level for more than 5 seconds. | Refer to RSU-17. "Compressor Motor, Compressor Motor Relay and Circuit Inspection" . |
| Exhaust solenoid [C1803] | <ol style="list-style-type: none"> Driving transistor for exhaust solenoid is off and monitor voltage continues high level for more than 10 seconds. Driving transistor for exhaust solenoid is on and monitor voltage continues low level for more than 5 seconds. | Refer to RSU-15. "Exhaust Valve Solenoid System Inspection" . |
| Vehicle height adjusting trouble (compressor) [C1804] | Continuous compressor relay ON time is more than 120 seconds. | Refer to RSU-17. "Compressor Motor, Compressor Motor Relay and Circuit Inspection" . |
| Vehicle height adjusting trouble (exhaust solenoid) [C1805] | Continuous exhaust solenoid ON time is more than 120 seconds. | Refer to RSU-15. "Exhaust Valve Solenoid System Inspection" . |
| Vehicle height sensor locking trouble [C1806] | Output sensor voltage variation $\pm 0.02V$ is more than 100 hour when vehicle height range is normal. | Refer to RSU-14. "Height Sensor System Inspection" . |
| Sensor 5V trouble [C1807] | Sensor reference voltage is less than 0.8V or more than 6V for 20 seconds. | Refer to RSU-14. "Height Sensor System Inspection" . |
| Integral time trouble by supplying air [C1808] | Integral discontinuous time on the compressor is more than 180 seconds. | Refer to RSU-17. "Compressor Motor, Compressor Motor Relay and Circuit Inspection" . |

WORK SUPPORT

Display Item List

| Item | Description | Condition |
|-----------------------|---|---|
| STANDARD HEIGHT LEVEL | Resets the vehicle height to the initialization flag setting stored in the suspension control unit. | Vehicle unladen RSU-44. "Wheelarch Height (Unladen*1)" , set in a horizontal position and not moving. NOTE: Do not take your eyes off the vehicle while CONSULT-II is processing. |
| ADJUST HEIGHT INI | Sets the height initialization flag in the suspension control unit when the control unit has been replaced or when the initialization flag has been cleared using the "CLEAR HEIGHT INI" procedure. | Vehicle unladen RSU-44. "Wheelarch Height (Unladen*1)" . Move vehicle forward and backward approx. 5 m (16.4 ft) and rock vehicle from side to side. NOTE: Do not move vehicle while CONSULT-II is processing. |
| CLEAR HEIGHT INI | Clears the initialization flag in the suspension control unit. | Vehicle unladen RSU-44. "Wheelarch Height (Unladen*1)" . |

DATA MONITOR

Display Item List

TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

| Test Item | Data monitor item selection | |
|---------------|-----------------------------|---------------------|
| | ALL SIGNALS | SELECTION FROM MENU |
| HEIGT SEN | X | X |
| HEIGT CALC | X | X |
| SEN FIX TIME | X | X |
| HEIGT INI VAL | X | X |
| COMPRESSOR | X | X |
| EXH SOLENOID | X | X |
| ACG L | X | X |

X: Applicable

–: Not applicable

ACTIVE TEST

CAUTION:

- Do not perform active test while driving.

Display Item List

| Test Item | Description |
|------------------|-------------|
| COMPRESSOR | OFF/ON |
| EXHAUST SOLENOID | OFF/ON |
| WARNING LAMP | OFF/ON |

CAUTION:

The "COMPRESSOR" active test will remain ON until it is turned off using CONSULT-II. Allowing the compressor to run for an extended period of time may cause damage to air suspension system components due to excessive pressure in the air suspension system.

NOTE:

- "TEST IS STOPPED" is displayed approximately 10 seconds after operation starts for all active test items except "COMPRESSOR".
- After "TEST IS STOPPED" is displayed, to perform test again, repeat Step 6.

A

B

C

D

RSU

F

G

H

I

J

K

L

M

N

O

P

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

< SERVICE INFORMATION >

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

Height Sensor System Inspection

INFOID:000000003532664

INSPECTION PROCEDURE

1.SELF-DIAGNOSIS RESULT CHECK

Check self-diagnosis results.

| Self-diagnosis results |
|------------------------|
| C1801 |
| C1806 |
| C1807 |

Is the above displayed in the self-diagnosis display items?

- YES >> GO TO 3.
- NO >> GO TO 2.

2.DATA MONITOR CHECK

Conduct data monitor of "HEIGT SEN" to check if the status is normal.

| | |
|-----------|-------------|
| HEIGT SEN | 0.2V - 4.8V |
|-----------|-------------|

OK or NG

- OK >> Inspection End.
- NG >> GO TO 3.

3.CONNECTOR INSPECTION

1. Disconnect suspension control unit connector B3 and height sensor C8.
2. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace as necessary.

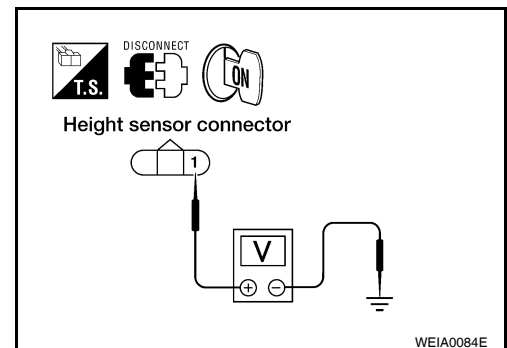
4.CHECK HEIGHT SENSOR POWER

1. Reconnect the suspension control unit connector.
2. Turn the ignition switch ON.
3. Check voltage between height sensor connector C8 terminal 1 and ground.

Voltage : **Approx. 5V**

OK or NG

- OK >> GO TO 5.
- NG >> Check harness or connector for open or short. If OK, replace suspension control unit. Refer to [RSU-42](#).



5.CHECK HEIGHT SENSOR GROUND

1. Turn ignition switch OFF.

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

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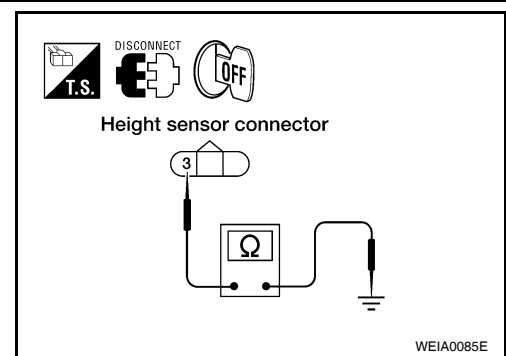
- Check continuity between height sensor connector C8 terminal 3 and ground.

3 - Ground

Continuity should exist.

OK or NG

- OK >> GO TO 6.
- NG >> Repair harness or connector.

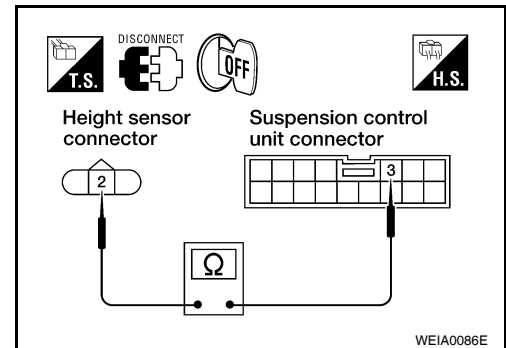


6. CHECK HEIGHT SENSOR SIGNAL CIRCUIT

- Disconnect suspension control unit connector.
- Check continuity between height sensor connector C8 terminal 2 and suspension control unit connector B3 terminal 3.

2 - 3

Continuity should exist.



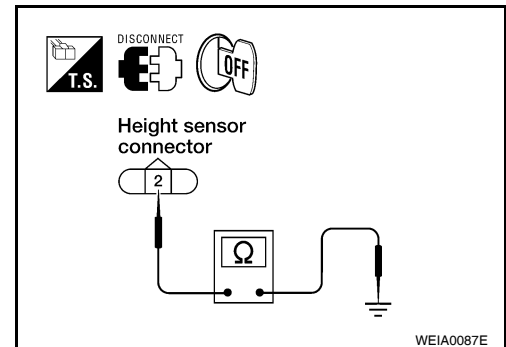
- Check continuity between height sensor connector C8 terminal 2 and ground.

2 - Ground

Continuity should not exist.

OK or NG

- OK >> Replace the height sensor. Refer to [RSU-40](#).
- NG >> Repair harness or connector.



Exhaust Valve Solenoid System Inspection

INFOID:000000003532665

INSPECTION PROCEDURE

1. SELF-DIAGNOSIS RESULT CHECK

Check self-diagnosis results.

| Self-diagnosis results |
|------------------------|
| C1803 |
| C1805 |

Is the above displayed in the self-diagnosis display items?

- YES >> If code C1803 was retrieved during self-diagnosis, GO TO 3. If code C1805 was retrieved during self-diagnosis, GO TO 2.
- NO >> Inspection End.

2. CHECK SYSTEM OPERATION

- Load vehicle to standard laden condition (with driver, front passenger, 2 passengers in second row seats and no cargo).
- Conduct active test of "COMPRESSOR" to raise vehicle ride height to +20mm.

CAUTION:

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

< SERVICE INFORMATION >

The "COMPRESSOR" active test will remain ON until it is turned off using CONSULT-II. Allowing the compressor to run for an extended period of time may cause damage to air suspension system components due to excessive pressure in the air suspension system.

- Return the rear load leveling air suspension system to normal operating mode.
- Check self-diagnostic results.

Is code C1805 displayed again?

- YES >> GO TO 3.
NO >> Inspection End.

3. CONNECTOR INSPECTION

- Disconnect suspension control unit connector B3 and suspension air compressor C9.
- Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

- OK >> If code C1805 was retrieved during self-diagnosis, GO TO 4. If code C1803 was retrieved during self-diagnosis, GO TO 6.
NG >> Repair or replace as necessary.

4. AIR HOSE INSPECTION

Inspect for pinched or damaged air hoses between the suspension air reservoir and each load leveling rear air suspension shock absorber.

OK or NG

- OK >> GO TO 5.
NG >> Repair or replace as necessary.

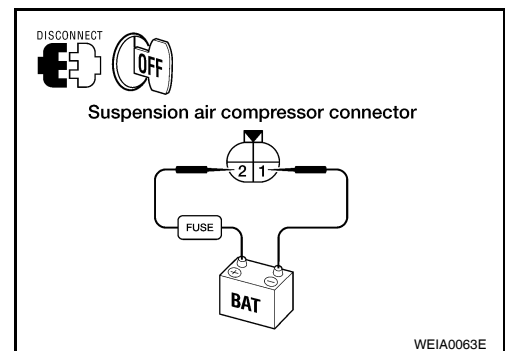
5. EXHAUST VALVE SOLENOID INSPECTION

Apply 12V to suspension air compressor terminal 2 and ground to suspension air compressor terminal 1.

System air pressure should vent.

OK or NG

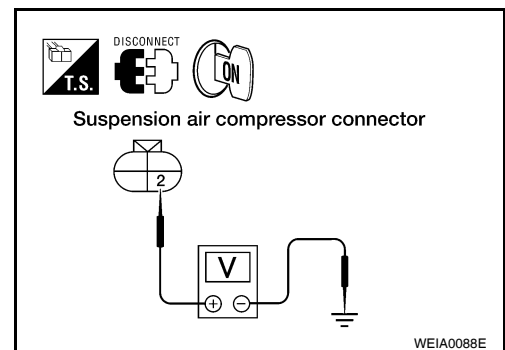
- OK >> GO TO 6.
NG >> Replace the suspension air compressor. Refer to [RSU-38](#).



6. CHECK EXHAUST VALVE SOLENOID POWER AND GROUND

- Reconnect the suspension control unit connector.
- Turn the ignition switch ON.
- Check voltage between suspension air compressor connector C9 terminal 2 and ground.

Voltage : Approx. 12V



- Turn ignition switch OFF.

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

< SERVICE INFORMATION >

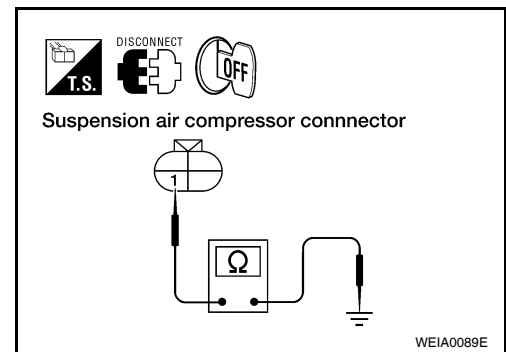
5. Check continuity between suspension air compressor connector C9 terminal 1 and ground.

1 - Ground

Continuity should exist.

OK or NG

- OK >> Replace the suspension control unit. Refer to [RSU-42](#).
NG >> Repair harness or connector.



Compressor Motor, Compressor Motor Relay and Circuit Inspection

INFOID:000000003532666

INSPECTION PROCEDURE

1. SELF-DIAGNOSIS RESULT CHECK

Check self-diagnosis results.

| Self-diagnosis results |
|------------------------|
| C1802 |
| C1804 |
| C1808 |

Is the above displayed in the self-diagnosis display items?

YES >> If code C1802 was retrieved during self-diagnosis, GO TO 3. If code C1804 or C1808 was retrieved during self-diagnosis, GO TO 2.

NO >> Inspection End.

2. CHECK SYSTEM OPERATION

1. Load vehicle to standard laden condition (with driver, front passenger, 2 passengers in second row seats and no cargo).
2. Conduct active test of "EXHAUST SOLENOID" to lower vehicle ride height to -20mm.
3. Return the rear load leveling air suspension system to normal operating mode.
4. Check self-diagnostic results.

Is code C1804 or C1808 displayed again?

YES >> GO TO 3.

NO >> Inspection End.

3. CONNECTOR INSPECTION

1. Disconnect suspension control unit connector B3 and suspension air compressor C9.
2. Check the terminals for deformation, disconnection, looseness or damage.

OK or NG

OK >> If code C1804 or C1808 was retrieved during self-diagnosis, GO TO 4. If code C1802 was retrieved during self-diagnosis, GO TO 6.

NG >> Repair or replace as necessary.

4. AIR HOSE INSPECTION

Inspect for pinched or damaged air hoses between the suspension air reservoir and each load leveling rear air suspension shock absorber.

OK or NG

OK >> GO TO 5.

NG >> Repair or replace as necessary.

5. SUSPENSION AIR COMPRESSOR INSPECTION

TROUBLE DIAGNOSIS FOR SELF-DIAGNOSTIC ITEMS

< SERVICE INFORMATION >

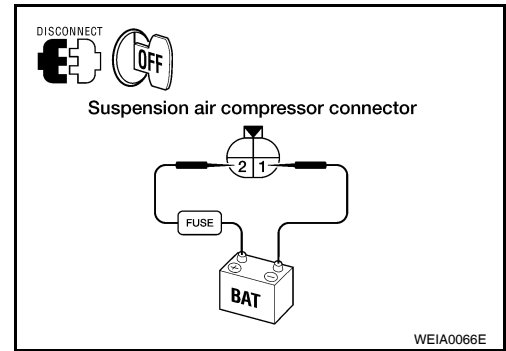
Apply 12V to suspension air compressor terminal 2 and ground to suspension air compressor terminal 1.

System air pressure should vent.

OK or NG

OK >> GO TO 6.

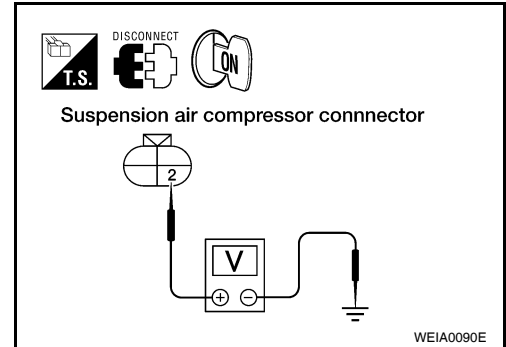
NG >> Replace the suspension air compressor. Refer to [RSU-38](#).



6. CHECK SUSPENSION AIR COMPRESSOR POWER AND GROUND

1. Connect suspension control unit connector B3.
2. Turn the ignition switch ON.
3. Check voltage between suspension air compressor connector C9 terminal 2 and ground.

Voltage : Approx. 12V



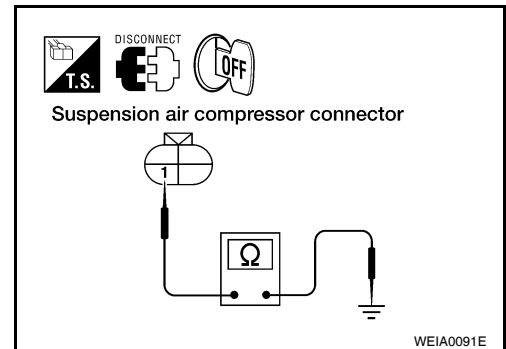
4. Turn ignition switch OFF.
5. Check continuity between suspension air compressor connector C9 terminal 1 and ground.

1 - Ground Continuity should exist.

OK or NG

OK >> Replace the suspension control unit. Refer to [RSU-42](#).

NG >> Repair harness or connector.



TROUBLE DIAGNOSES FOR SYMPTOMS

< SERVICE INFORMATION >

TROUBLE DIAGNOSES FOR SYMPTOMS

Load Leveling Rear Air Suspension System Does Not Operate

INFOID:000000003532667

1. CHECK WARNING LAMP ACTIVATION

Make sure warning lamp remains off while driving.

OK or NG

OK >> GO TO 2.

NG >> Carry out self-diagnosis. Refer to [RSU-11. "CONSULT-II Function \(AIR LEVELIZER\)"](#).

2. CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

| Unit | Terminals | Signal name | Fuse and fusible link No. |
|-------------------------|-----------|-----------------------------|---------------------------|
| Suspension control unit | 6 | Ignition switch ON or START | 12 (10A) |
| | 7 | Battery power | 29 (10A) |
| Compressor motor relay | 5 | | g (30A) |
| Combination meter | 24 | Ignition switch ON or START | 14 (10A) |
| | 8 | Battery power | 19 (10A) |

OK or NG

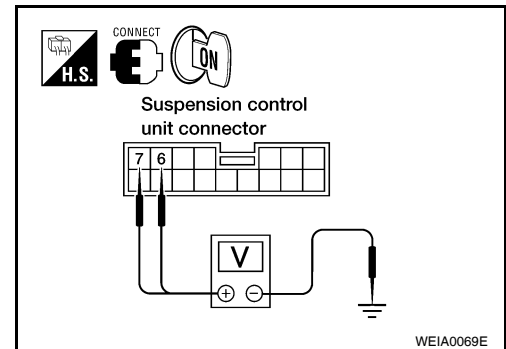
OK >> GO TO 3.

NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link.

3. CHECK SUSPENSION CONTROL UNIT POWER AND GROUND

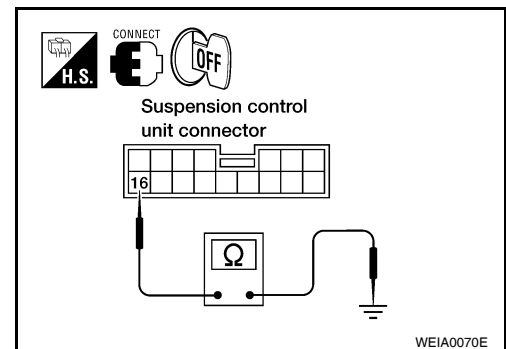
- Turn the ignition switch ON.
- Check voltage between suspension control unit connector B3 terminal 6 and ground and between suspension control unit connector B3 terminal 7 and ground.

Voltage : Approx. 12V



- Turn the ignition switch OFF.
- Check continuity between suspension control unit connector B3 terminal 16 and ground.

16 - Ground Continuity should exist.



OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.

4. CHECK GENERATOR SIGNAL INPUT

- Start the engine.

TROUBLE DIAGNOSES FOR SYMPTOMS

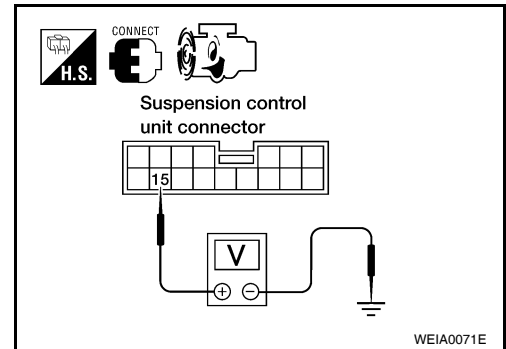
< SERVICE INFORMATION >

2. Check voltage between suspension control unit connector B3 terminal 15 and ground.

Voltage : **Approx. 12V**

OK or NG

- OK >> Replace the suspension control unit. Refer to [RSU-42](#).
NG >> Repair the circuit.



Check Suspension Indicator Lamp Stays On When Ignition Switch Is Turned On

INFOID:000000003532668

1. CARRY OUT SELF-DIAGNOSIS

Carry out self-diagnosis. Refer to [RSU-11, "CONSULT-II Function \(AIR LEVELIZER\)"](#).

Are malfunctions detected in self-diagnosis?

- YES >> Refer to [RSU-11, "CONSULT-II Function \(AIR LEVELIZER\)"](#).
NO >> Refer to [DI-26](#).

REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

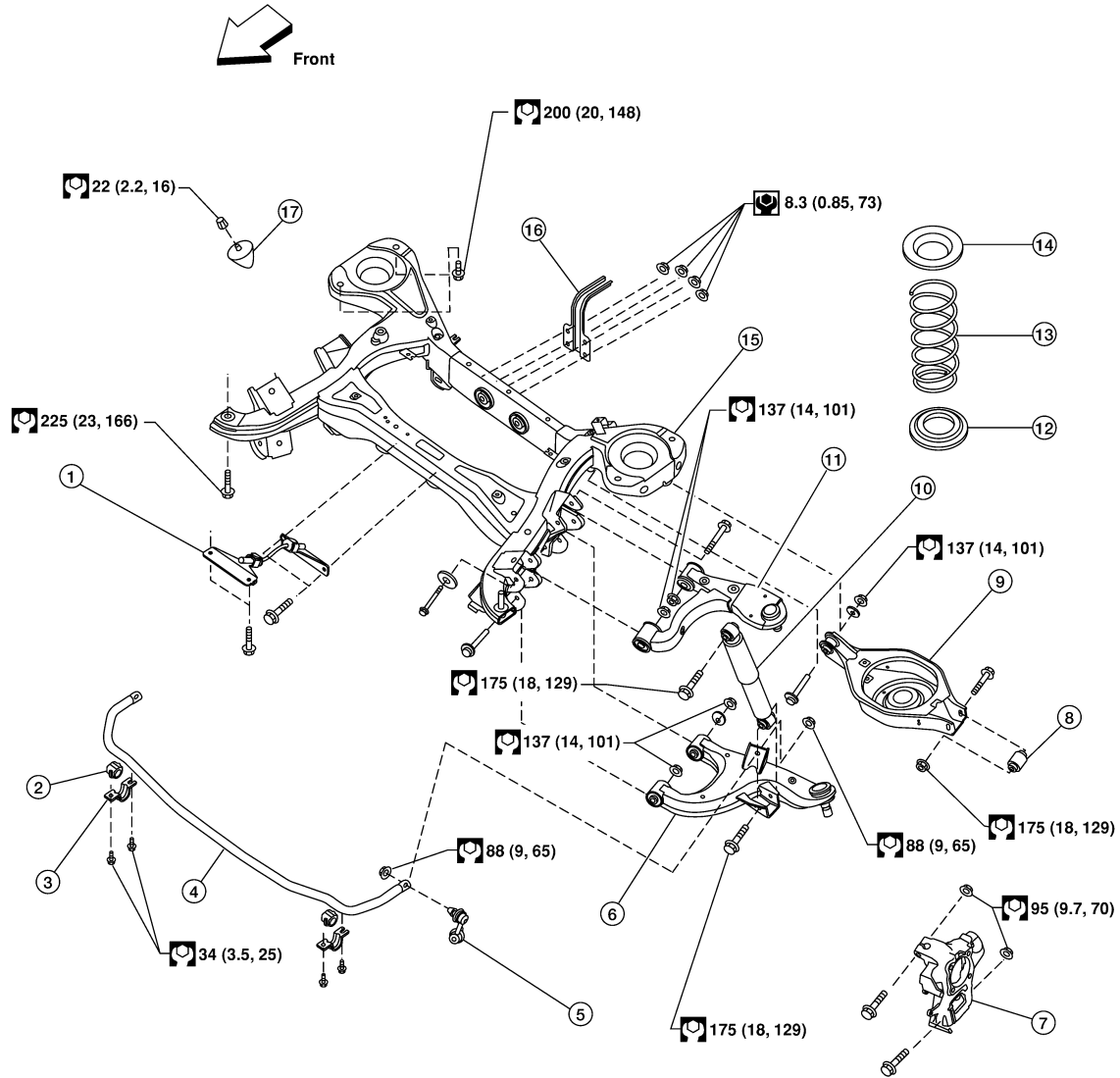
REAR SUSPENSION ASSEMBLY

Component

INFOID:000000003532669

Rear Suspension

SEC. 431 • 432



N-m (kg-m, in-lb)

N-m (kg-m, ft-lb)

- | | | |
|---------------------------|---------------------------|-------------------------|
| 1. Seat belt latch anchor | 2. Stabilizer bar bushing | 3. Stabilizer bar clamp |
| 4. Stabilizer bar | 5. Connecting rod | 6. Front lower link |
| 7. Knuckle | 8. Bushing | 9. Rear lower link |

RSU-21

WEIA0092E

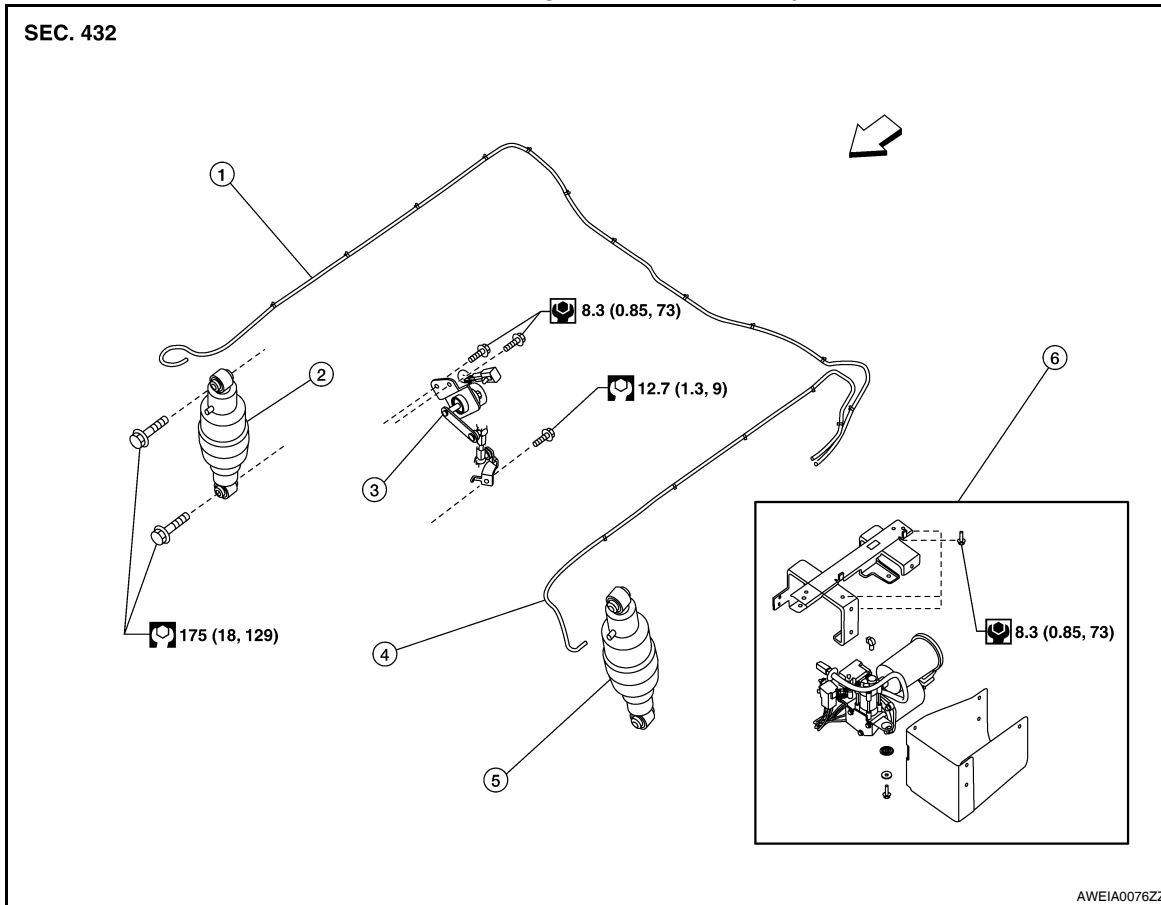
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REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

- | | | |
|------------------------|-----------------------|----------------------------|
| 10. Shock absorber | 11. Suspension arm | 12. Lower rubber seat |
| 13. Coil spring | 14. Upper rubber seat | 15. Rear suspension member |
| 16. Spare tire bracket | 17. Bound bumper | |

Rear Load Leveling Air Suspension System



- | | | |
|---|-----------------------|--|
| 1. Rear load leveling air suspension hose, RH | 2. Shock absorber, RH | 3. Height sensor |
| 4. Rear load leveling air suspension hose, LH | 5. Shock absorber, LH | 6. Rear load leveling air suspension compressor assembly |

← Front

On-Vehicle Inspection and Service

INFOID:000000003532670

Check all of the component mountings for any excessive looseness, or back lash. Check the components for any excessive wear, damage, or abnormal conditions. Repair or replace the components as necessary.

SHOCK ABSORBER INSPECTION

- Check the shock absorbers for any air leaks or damage, and replace as necessary.
- Check the hoses for any air leaks or damage, and replace as necessary.

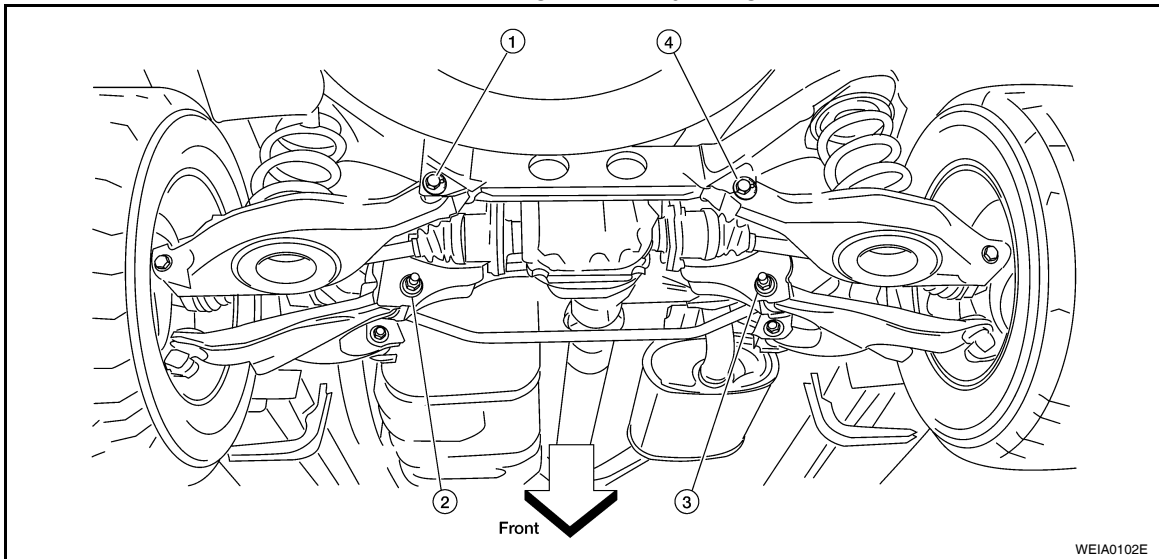
REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

Wheel Alignment Inspection

INFOID:000000003532671

Rear Wheel Alignment Adjusting Bolts



1. Rear lower link adjusting bolt, LH
2. Front lower link adjusting bolt, LH
3. Front lower link adjusting bolt, RH
4. Rear lower link adjusting bolt, RH

PRELIMINARY INSPECTION

WARNING:

Always adjust the alignment with the vehicle on a flat surface. Use CONSULT-II "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.

NOTE:

If alignment is out of specification, inspect and replace any damaged or worn rear suspension parts before making any adjustments.

1. Check and adjust the wheel alignment with the vehicle under unladen conditions. "Unladen conditions" means that the fuel, coolant, and lubricant are full; and that the spare tire, jack, hand tools and mats are in their designated positions.
2. Check the tires for incorrect air pressure and excessive wear.
3. Check the wheels for runout and damage. Refer to [WT-5, "Inspection"](#).
4. Check the wheel bearing axial end play.

Axial end play : 0 mm (0 in)

5. Check the shock absorbers. Refer to [RSU-30, "Removal and Installation"](#).
6. Check each mounting point of the suspension components for any excessive looseness or damage.
7. Check each link, arm, and the rear suspension member for any damage.
8. Check the vehicle height. Refer to [RSU-44, "Wheelarch Height \(Unladen*1\)"](#).
 - If vehicle height is not within ± 10 mm (0.39 in) of the specification, perform the control unit initialization procedure. Refer to [RSU-42, "Initialization Procedure"](#).

GENERAL INFORMATION AND RECOMMENDATIONS

1. A Four-Wheel Thrust Alignment should be performed.
 - This type of alignment is recommended for any NISSAN vehicle.
 - The four-wheel "thrust" process helps ensure that the vehicle is properly aligned and the steering wheel is centered.
 - The alignment machine itself should be capable of accepting any NISSAN vehicle.
 - The alignment machine should be checked to ensure that it is level.
2. Make sure the alignment machine is properly calibrated.
 - Your alignment machine should be regularly calibrated in order to give correct information.

REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

- Check with the manufacturer of your specific alignment machine for their recommended Service/Calibration Schedule.

THE ALIGNMENT PROCESS

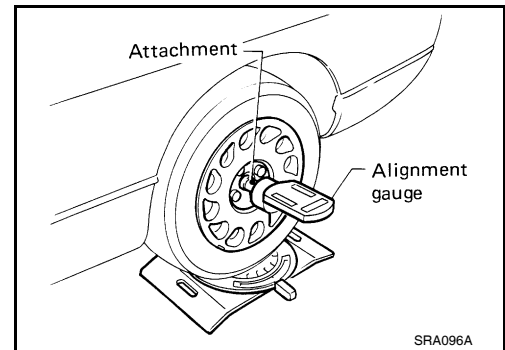
IMPORTANT: Use only the alignment specifications listed in this Service Manual. Refer to [FSU-19, "Wheel Alignment \(Unladen*1\) *6"](#).

1. When displaying the alignment settings, many alignment machines use "indicators": (Green/red, plus or minus, Go/No Go). **Do NOT use these indicators.**
 - The alignment specifications programmed into your alignment machine that operate these indicators may not be correct.
 - This may result in an ERROR.
2. Some newer alignment machines are equipped with an optional "Rolling Compensation" method to "compensate" the sensors (alignment targets or head units). **Do NOT use this "Rolling Compensation" method.**
 - Use the "Jacking Compensation" method. After installing the alignment targets or head units, raise the vehicle and rotate the wheels 1/2 turn both ways.
 - See Instructions in the alignment machine you are using for more information.

CAMBER

1. Measure camber of both the right and left wheels with a suitable alignment gauge and adjust as necessary to specification.

Camber : Refer to [FSU-19, "Wheel Alignment \(Unladen*1\) *6"](#).



2. If outside of the specified value, adjust the camber using the adjusting bolt in the front lower link.

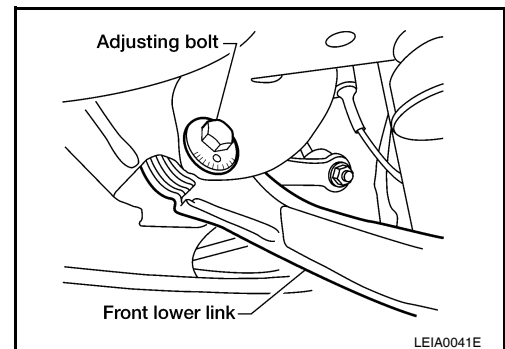
CAUTION:

After adjusting the camber then check the toe-in.

NOTE:

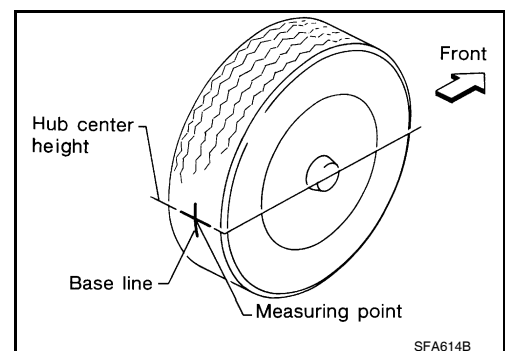
Camber changes about 0° 5' with each graduation of the adjusting bolt.

3. Tighten the adjusting bolt nuts to specification.



TOE-IN

1. Bounce the rear of the vehicle up and down two to three times to stabilize the vehicle height. Refer to [FSU-20, "Wheelarch Height \(Unladen*1\)"](#).
2. Push the vehicle straight ahead about 5 m (16 ft).
3. Put a mark on the base line of the tread (rear side) of both of the tires at the same height as the center of the hub. This will be the measuring points.
4. Measure the distance "A" (rear side) across from tire to tire.

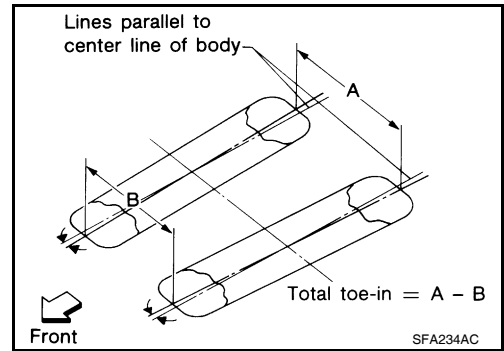


REAR SUSPENSION ASSEMBLY

< SERVICE INFORMATION >

5. Push the vehicle slowly ahead to rotate the wheels 180° (a half turn).
If the wheels are rotated more than 180° (a half turn), then repeat the above steps. Never push the vehicle backward.
6. Measure the distance "B" (front side) across from tire to tire.

Total toe-in : Refer to [FSU-19, "Wheel Alignment \(Unladen*1\) *6"](#) .



7. If the toe-in is outside the specified value, adjust the toe-in using the adjusting bolt in the rear lower link.

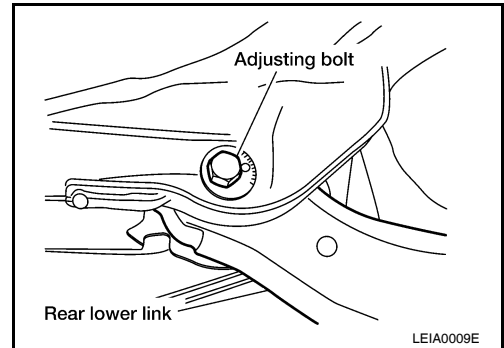
CAUTION:

Be sure to adjust equally on RH and LH sides using the adjusting bolt.

NOTE:

Toe changes about 1.5 mm (0.059 in) [one side] with each graduation of the adjusting bolt.

8. Tighten the adjusting bolt nuts to specification.



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REAR SUSPENSION MEMBER

< SERVICE INFORMATION >

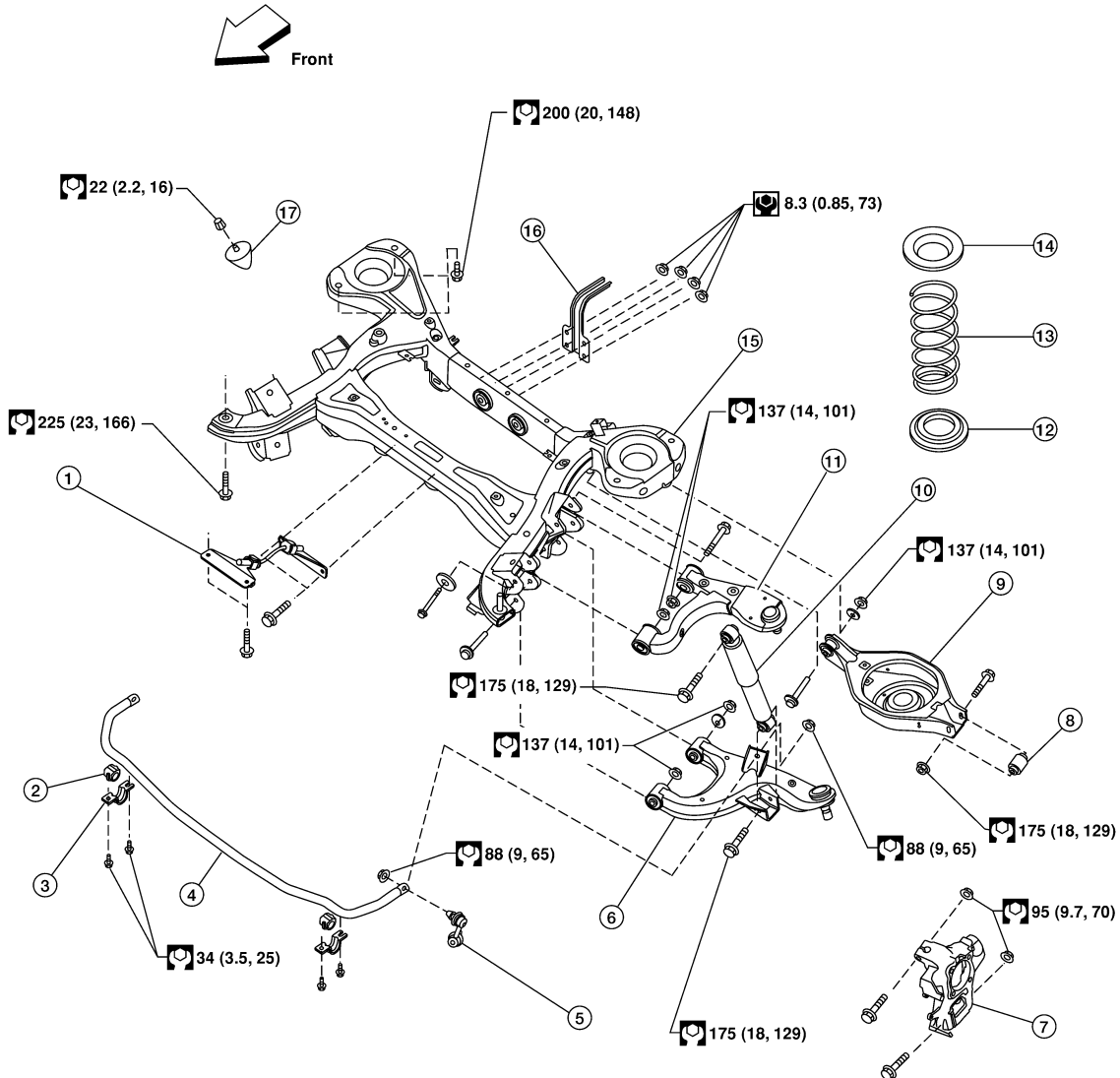
REAR SUSPENSION MEMBER

Removal and Installation

INFOID:000000003532672

Rear Suspension

SEC. 431 • 432



N·m (kg-m, in-lb)

N·m (kg-m, ft-lb)

WEIA0092E

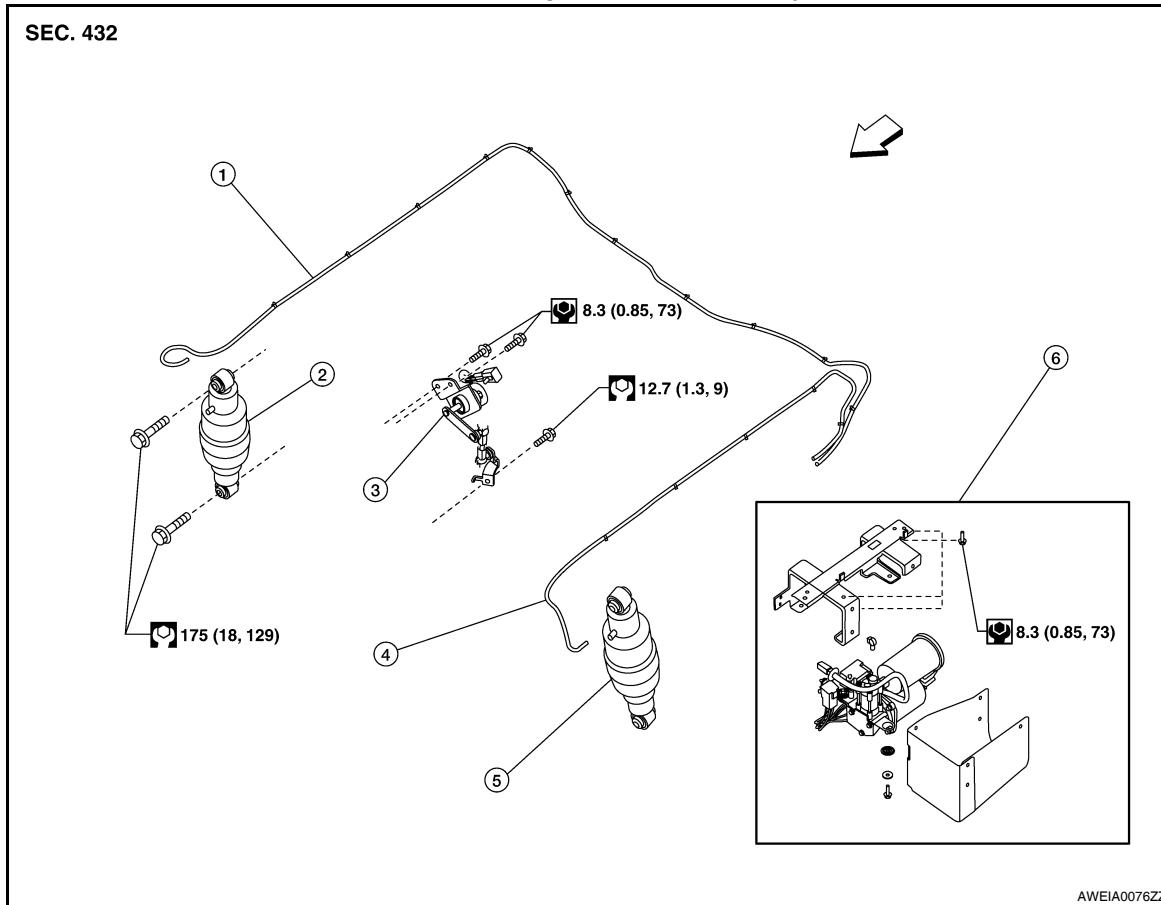
- | | | |
|---------------------------|---------------------------|-------------------------|
| 1. Seat belt latch anchor | 2. Stabilizer bar bushing | 3. Stabilizer bar clamp |
| 4. Stabilizer bar | 5. Connecting rod | 6. Front lower link |
| 7. Knuckle | 8. Bushing | 9. Rear lower link |

REAR SUSPENSION MEMBER

< SERVICE INFORMATION >

- | | | |
|------------------------|-----------------------|----------------------------|
| 10. Shock absorber | 11. Suspension arm | 12. Lower rubber seat |
| 13. Coil spring | 14. Upper rubber seat | 15. Rear suspension member |
| 16. Spare tire bracket | 17. Bound bumper | |

Rear Load Leveling Air Suspension System



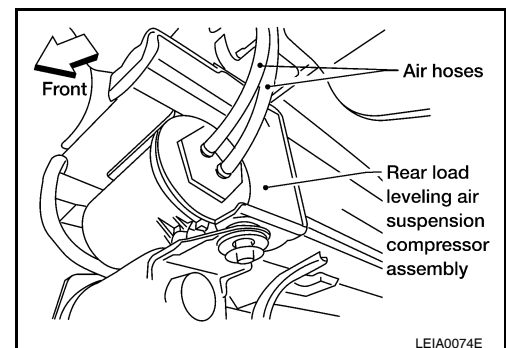
- | | | |
|---|-----------------------|--|
| 1. Rear load leveling air suspension hose, RH | 2. Shock absorber, RH | 3. Height sensor |
| 4. Rear load leveling air suspension hose, LH | 5. Shock absorber, LH | 6. Rear load leveling air suspension compressor assembly (includes the bracket and rubber cover) |

← Front

REMOVAL

- Use the CONSULT-II "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
- Disconnect the electrical connectors for the height sensor and the rear load leveling air suspension compressor assembly.
- Unclip the rubber cover to access the rear load leveling air suspension compressor assembly.
- Disconnect the rear load leveling air suspension hoses at the rear load leveling air suspension compressor assembly.
 - To disconnect the hoses, push in on the lock ring using a suitable tool and pull the hose out.
- Remove both of the rear wheel and tire assemblies using power tool.
- Remove the brake caliper without disconnecting the brake hoses, using power tool. Reposition the brake caliper out of the way using a suitable wire. Refer to [BR-25, "Removal and Installation of Brake Caliper and Disc Rotor"](#).

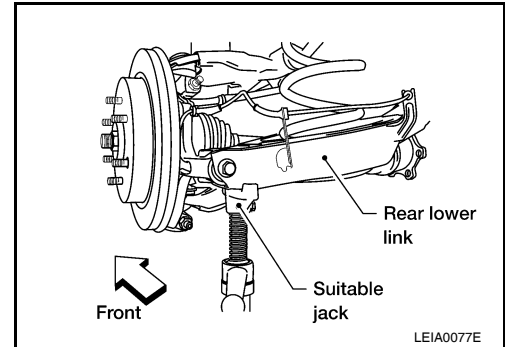
CAUTION:



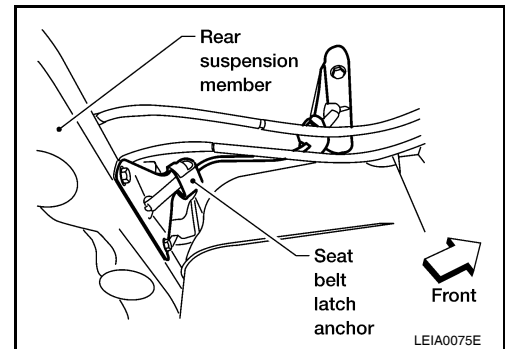
REAR SUSPENSION MEMBER

< SERVICE INFORMATION >

- Do not crimp or stretch the brake hose when repositioning the brake caliper out of the way.
 - Do not press brake pedal while the brake caliper is removed.
7. Remove the spare tire.
 8. Disconnect the two rear ABS sensor electrical connectors.
 9. Remove the two rear drive shafts. Refer to [RAX-7, "Removal and Installation"](#).
 10. Remove the rear final drive. Refer to [RFD-14](#).
 11. Remove the EVAP canister bolt from the top of the rear suspension member.
 12. Disconnect the parking brake cables from the brackets on the rear suspension member.
 13. Set a suitable jack to support each of the rear lower links and the coil spring tension.



14. Remove both of the rear lower link outer bolts and lower the jack to remove the rear coil springs.
15. Remove the two bolts to disconnect the seat belt latch anchor from the rear suspension member.
16. Disconnect both of the connecting rods from the rear stabilizer bar.
17. Set a suitable jack under the rear suspension member.
18. Remove the six rear suspension member bolts.
19. Slowly lower the jack to remove the rear suspension member, suspension arm, front and rear lower links and stabilizer bar as an assembly.
20. If necessary, remove the suspension arm, spare tire bracket, height sensor, rear load leveling air suspension hoses, stabilizer bar, knuckle, and front and rear lower links from the rear suspension member.



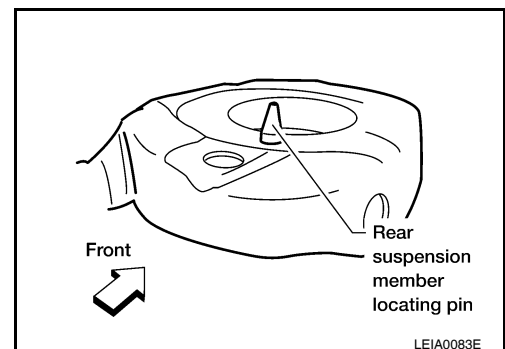
INSPECTION AFTER REMOVAL

Check the rear suspension member for deformation, cracks, and other damage and replace if necessary.

INSTALLATION

Installation is in the reverse order of removal.

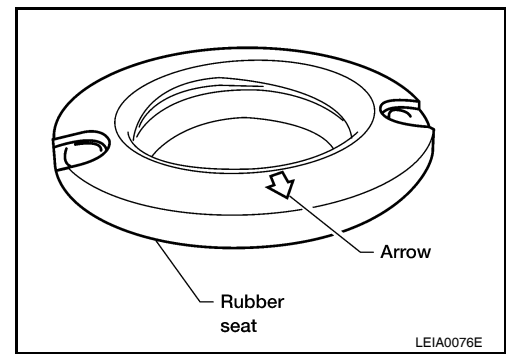
- When raising the rear suspension member assembly, use the locating pins to align the rear suspension member to the vehicle body.



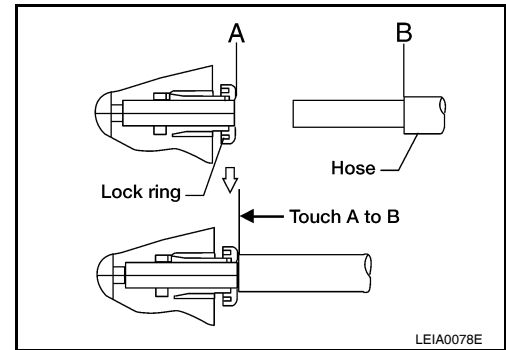
REAR SUSPENSION MEMBER

< SERVICE INFORMATION >

- When installing the upper and lower rubber seats for the rear coil springs, the arrow embossed on the rubber seats must point out toward the wheel and tire assembly.



- To connect the rear load leveling air suspension hoses, the lock ring must be fully seated in the fitting. Insert the hose "B" into the lock ring "A" until the lock ring "A" is touching the hose "B" as shown. Pull on the hose to check that it is securely inserted.



- Perform the final tightening of the nuts and bolts for the links (rubber bushing) under unladen condition (unladen condition means that the fuel tank, engine coolant and lubricants are at the full specification, and the spare tire, jack, hand tools, and mats are in their designated positions) with the tires on level ground.
- Check the wheel alignment. Refer to [FSU-19. "Wheel Alignment \(Unladen*1\) *6"](#) .

SHOCK ABSORBER

< SERVICE INFORMATION >

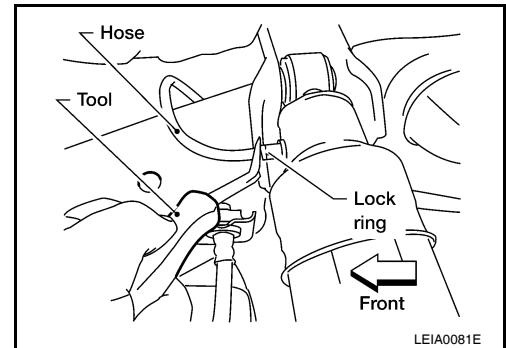
SHOCK ABSORBER

Removal and Installation

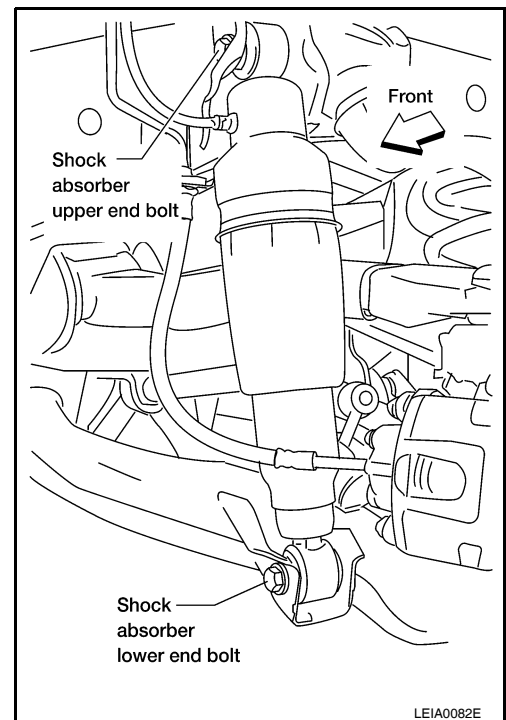
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REMOVAL

1. Remove the wheel and tire assembly using power tool. Refer to [WT-7. "Rotation"](#).
2. Use CONSULT-II "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
3. Remove the four clips and remove the rear fender protector, front.
4. Disconnect the rear load leveling air suspension hose from the shock absorber.
 - To disconnect the hose, push in on the lock ring using a suitable tool and pull the air hose out.



5. Remove the shock absorber upper and lower end bolts using power tool.
6. Remove the shock absorber.
CAUTION:
Do not damage the rubber boot on the shock absorber.



INSTALLATION

Installation is in the reverse order of removal.

- Tighten the shock absorber bolts to specification. Refer to [RSU-21. "Component"](#).

INSPECTION AFTER INSTALLATION

- Check the shock absorber for any air leaks or damage to the rubber boot.
- Check the shock absorber for smooth operation through a full stroke, both compression and extension.
- Check piston rod for cracks, deformation or other damage and replace if necessary.

SUSPENSION ARM

< SERVICE INFORMATION >

SUSPENSION ARM

Removal and Installation

INFOID:000000003532674

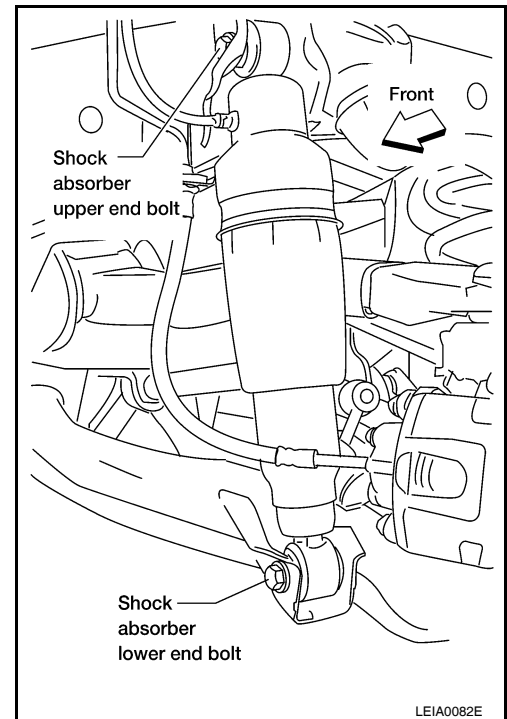
REMOVAL

1. Remove the rear suspension member assembly using power tool. Refer to [RSU-26, "Removal and Installation"](#).

NOTE:

It is necessary to remove the rear suspension member to remove the front upper bolt from the suspension arm.

2. Remove the shock absorber upper end bolt.
3. Remove the suspension arm upper nuts and bolts on the suspension member side using power tool.

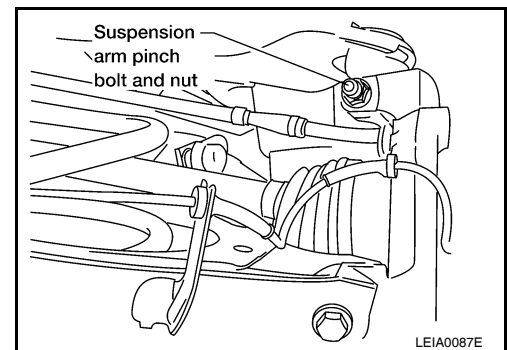


4. Remove the suspension arm pinch bolt and nut on the knuckle side using power tool.
5. Disconnect the suspension arm from the knuckle using a soft hammer.

CAUTION:

Do not damage the ball joint with the soft hammer.

6. Remove the suspension arm.



INSPECTION AFTER REMOVAL

- Check the suspension arm for damage, cracks, deformation and replace if necessary.
- Check the rubber bushing for damage, cracks and deformation. Replace suspension arm assembly if necessary.
- Before checking, turn the ball joint at least 10 revolutions so that the ball joint is properly broken in.

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SUSPENSION ARM

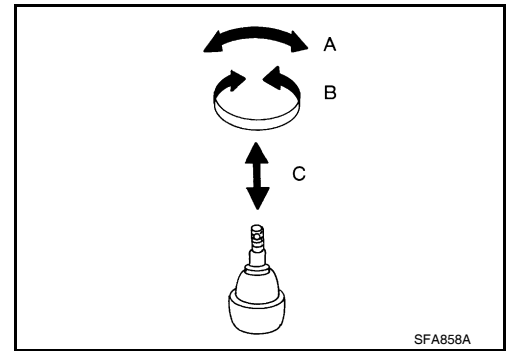
< SERVICE INFORMATION >

- Check the ball joint. Replace the suspension arm assembly if any of the following conditions exist:
 - Ball stud is worn.
 - Joint is hard to swing.
 - Play in axial direction is excessive.

Swinging force "A" : Refer to [RSU-43, "Ball Joint"](#) .

Turning force "B" : Refer to [RSU-43, "Ball Joint"](#) .

Vertical end play "C" : Refer to [RSU-43, "Ball Joint"](#) .



INSTALLATION

Installation is in the reverse order of removal.

- Tighten the nuts and bolts to specification. Refer to [RSU-21, "Component"](#) .
- Perform the final tightening of the nuts and bolts for the links (rubber bushing) under unladen condition (unladen condition means that the fuel tank, engine coolant and lubricants are at the full specification, and the spare tire, jack, hand tools, and mats are in their designated positions) with the tires on level ground.
- Check the wheel alignment. Refer to [RSU-23, "Wheel Alignment Inspection"](#) .

FRONT LOWER LINK

< SERVICE INFORMATION >

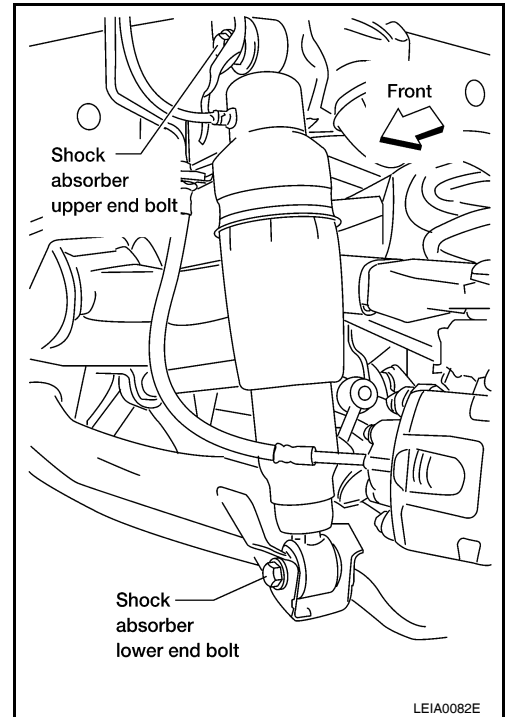
FRONT LOWER LINK

Removal and Installation

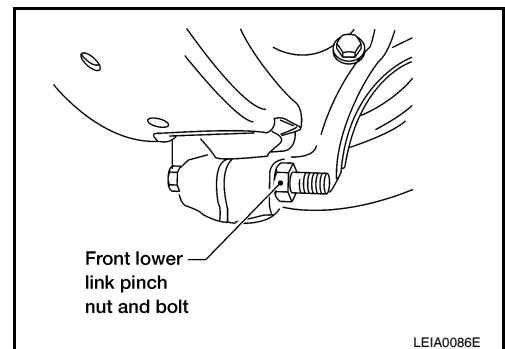
INFOID:000000003532675

REMOVAL

1. Remove the wheel and tire assembly using power tool.
2. Use CONSULT-II "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
3. Remove the shock absorber lower end bolt.
4. Remove the adjusting bolt and nut, and the bolt and nut, from the front lower link and rear suspension member using power tool.



5. Remove the front lower link pinch bolt and nut on the knuckle side using power tool.
6. Disconnect the front lower link from the knuckle using a soft hammer.
CAUTION:
Do not damage the ball joint with the soft hammer.
7. Remove the front lower link.



INSPECTION AFTER REMOVAL

- Check the front lower link and bushing for any deformation, crack, or damage. Replace if necessary.
- Check the rubber bushing for damage, cracks and deformation. Replace the front lower link and bushing if necessary.
- Before checking, turn the ball joint at least 10 revolutions so that the ball joint is properly broken in.

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FRONT LOWER LINK

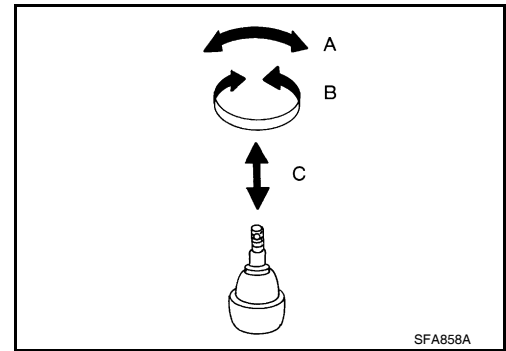
< SERVICE INFORMATION >

- Check the ball joint. Replace the front lower link if any of the following conditions exist:
 - Ball stud is worn.
 - Joint is hard to swing.
 - Play in axial direction is excessive.

Swinging force "A" : Refer to [RSU-43, "Ball Joint"](#) .

Turning force "B" : Refer to [RSU-43, "Ball Joint"](#) .

Vertical end play "C" : Refer to [RSU-43, "Ball Joint"](#) .



INSTALLATION

Installation is in the reverse order of removal.

- Tighten the nuts and bolts to specification. Refer to [RSU-21, "Component"](#) .
- Perform the final tightening of the nuts and bolts for the links (rubber bushing) under unladen condition (unladen condition means that the fuel tank, engine coolant and lubricants are at the full specification, and the spare tire, jack, hand tools, and mats are in their designated positions) with the tires on level ground.
- Check the wheel alignment. Refer to [RSU-23, "Wheel Alignment Inspection"](#)

REAR LOWER LINK & COIL SPRING

< SERVICE INFORMATION >

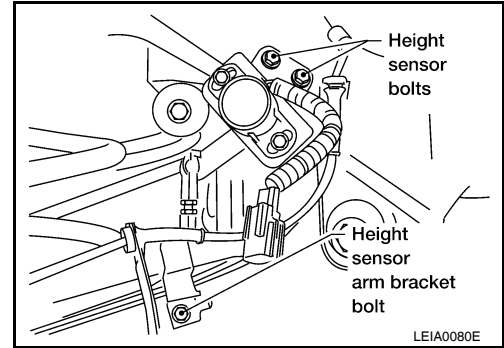
REAR LOWER LINK & COIL SPRING

Removal and Installation

INFOID:000000003532676

REMOVAL

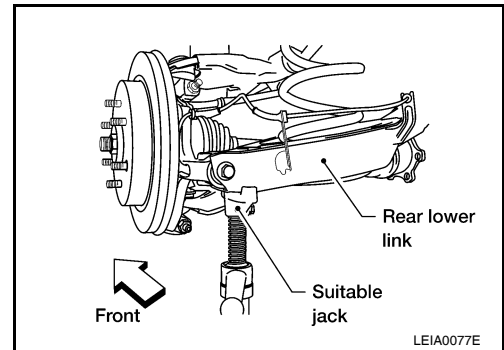
1. Remove the wheel and tire assembly using power tool. Refer to [WT-7. "Rotation"](#) .
2. Use CONSULT-II "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
3. For removing the LH rear lower link and coil spring, remove the height sensor arm bracket bolt from the LH rear lower link.



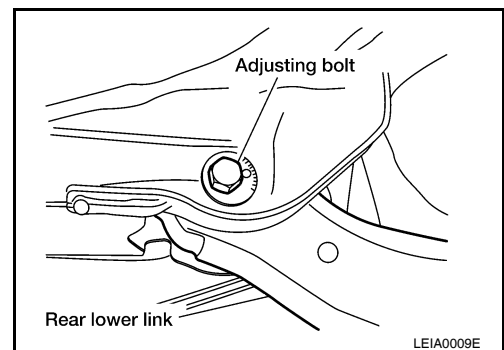
4. Set a suitable jack to relieve the coil spring tension from the rear lower link.

WARNING:

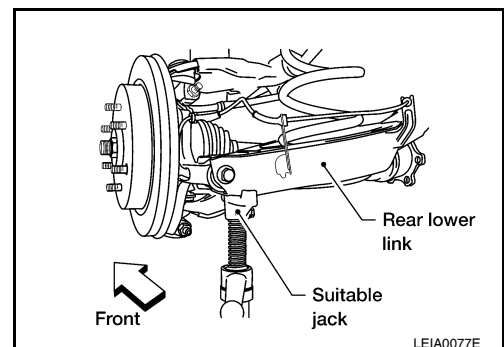
Do not compress the coil spring when setting the jack.



5. Loosen the rear lower link adjusting bolt and nut connected to the rear suspension member, using power tool.



6. Remove the rear lower link bolt and nut from the knuckle using power tool.



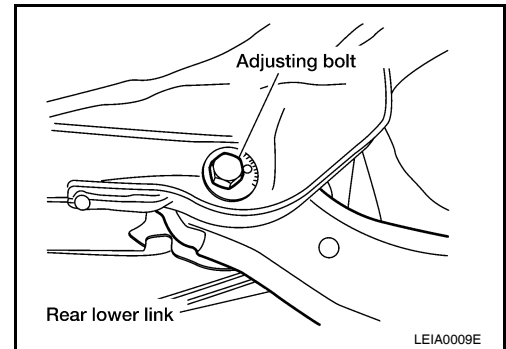
7. Slowly lower the suitable jack to release the coil spring tension. Then remove the upper rubber seat, coil spring, and lower rubber seat from the rear lower link.

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REAR LOWER LINK & COIL SPRING

< SERVICE INFORMATION >

8. Remove the rear lower link adjusting bolt and nut from the rear suspension member using power tool, then remove the rear lower link.



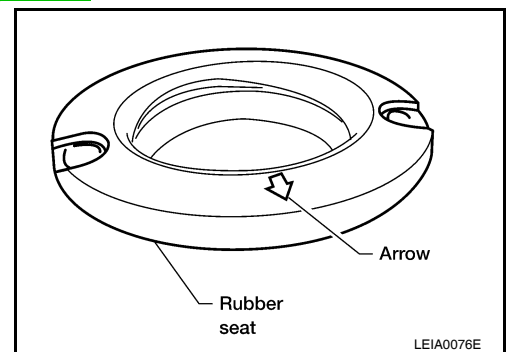
INSPECTION AFTER REMOVAL

Check the coil spring and rubber seats for deformation, cracks, or other damage and replace if necessary.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten the nuts and bolts to specification. Refer to [RSU-21, "Component"](#) .
- When installing the upper and lower rubber seats for the rear coil springs, the arrow embossed on the rubber seats must point out toward the wheel and tire assembly.
- After installing the rear lower link and coil spring, check the wheel alignment and adjust if necessary. Refer to [RSU-23, "Wheel Alignment Inspection"](#)



STABILIZER BAR

< SERVICE INFORMATION >

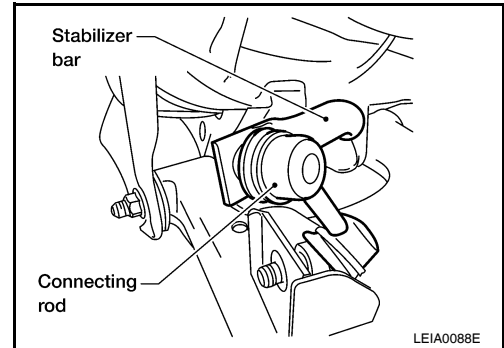
STABILIZER BAR

Removal and Installation

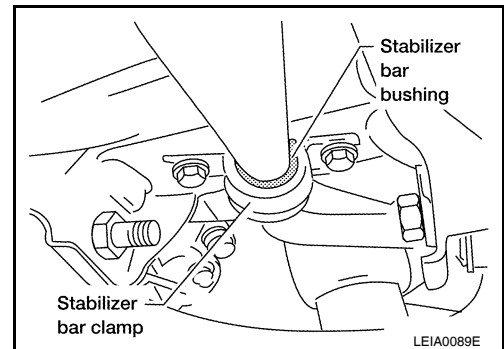
INFOID:000000003532677

REMOVAL

1. Disconnect the stabilizer bar ends from the connecting rods using power tool.



2. Remove the stabilizer bar clamps using power tool, and remove the stabilizer bar bushings.
3. Remove the stabilizer bar.



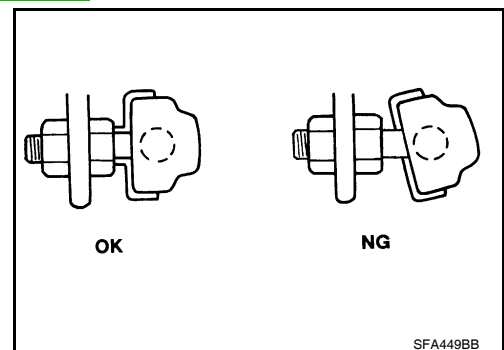
INSPECTION AFTER REMOVAL

- Check the stabilizer bar for any deformation, cracks, or damage and replace if necessary.
- Check the rubber bushings for deterioration, or cracks and replace if necessary.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten the nuts and bolts to specification. Refer to [RSU-21. "Component"](#).
- Install the stabilizer bar with the ball joint sockets properly aligned.
- Install the stabilizer bar bushing and clamp so they are positioned inside of the sideslip prevention clamp on the stabilizer bar.



REAR LOAD LEVELING AIR SUSPENSION COMPRESSOR ASSEMBLY

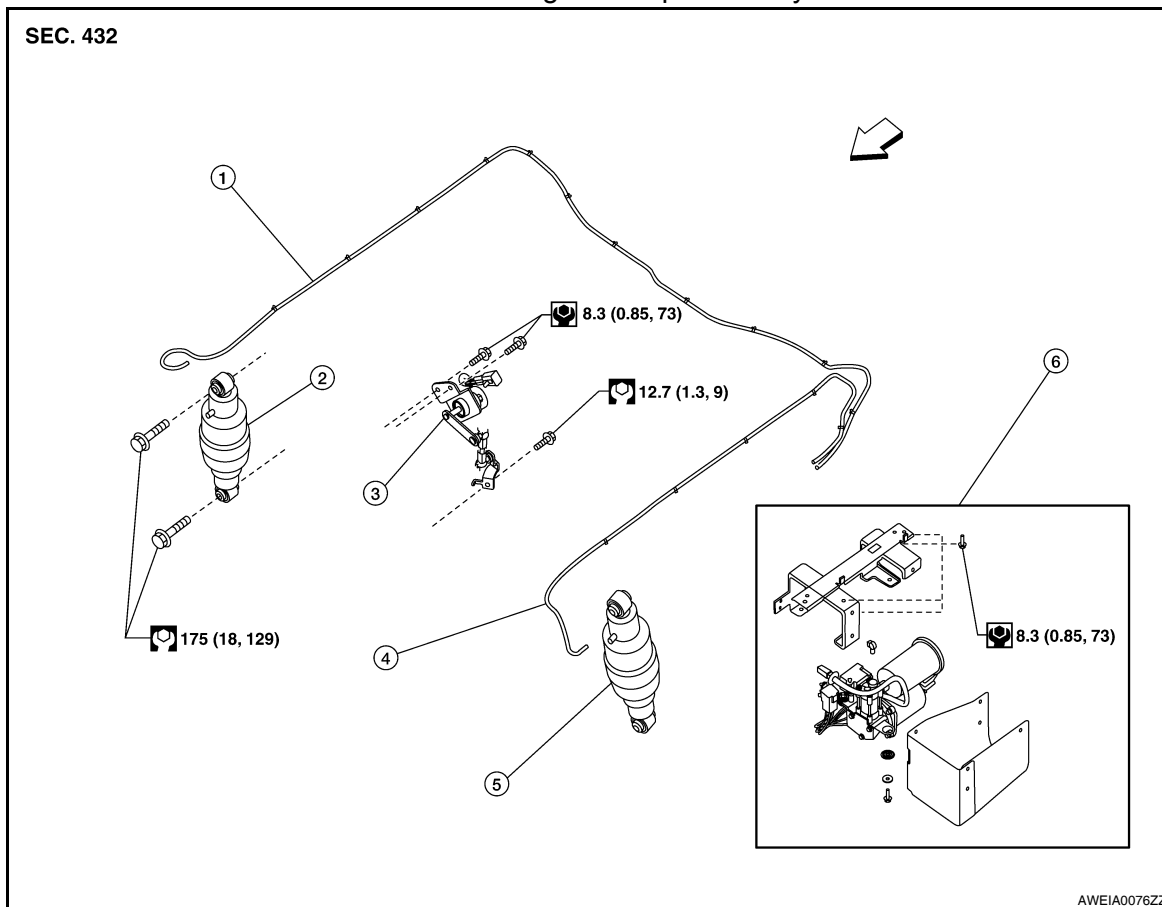
< SERVICE INFORMATION >

REAR LOAD LEVELING AIR SUSPENSION COMPRESSOR ASSEMBLY

Removal and Installation

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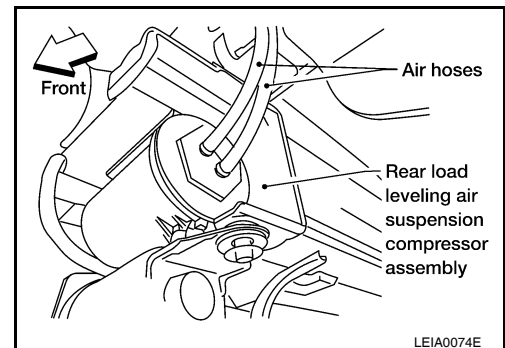
Rear Load Leveling Air Suspension System



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|---|-----------------------|--|
| 1. Rear load leveling air suspension hose, RH | 2. Shock absorber, RH | 3. Height sensor |
| 4. Rear load leveling air suspension hose, LH | 5. Shock absorber, LH | 6. Rear load leveling air suspension compressor assembly |
- ← Front

REMOVAL

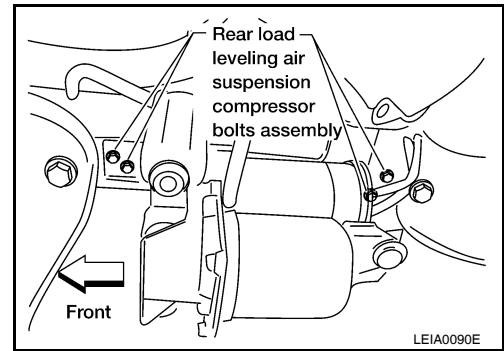
1. Use CONSULT-II "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
2. Disconnect the electrical connectors for the rear load leveling air suspension compressor assembly.
3. Unclip the rubber cover to access the rear load leveling air suspension compressor assembly.
4. Disconnect the rear load leveling air suspension hoses at the rear load leveling air suspension compressor assembly.
 - To disconnect the hoses, push in on the lock ring using a suitable tool and pull the hose out.



REAR LOAD LEVELING AIR SUSPENSION COMPRESSOR ASSEMBLY

< SERVICE INFORMATION >

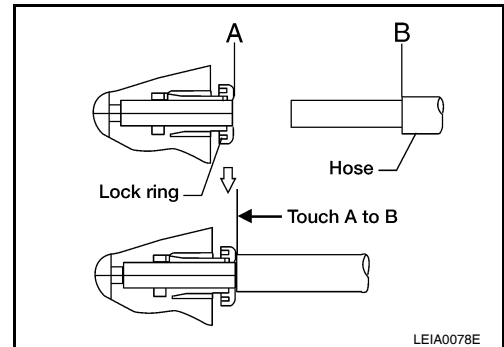
5. Remove the four bolts that mount the rear load leveling air suspension compressor assembly to the underbody.



INSTALLATION

Installation is in the reverse order of removal.

- To connect the rear load leveling air suspension hoses, the lock ring must be fully seated in the fitting. Insert the hose "B" into the lock ring "A" until the lock ring "A" is touching the hose "B" as shown. Pull on the hose to check that it is securely inserted.



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HEIGHT SENSOR

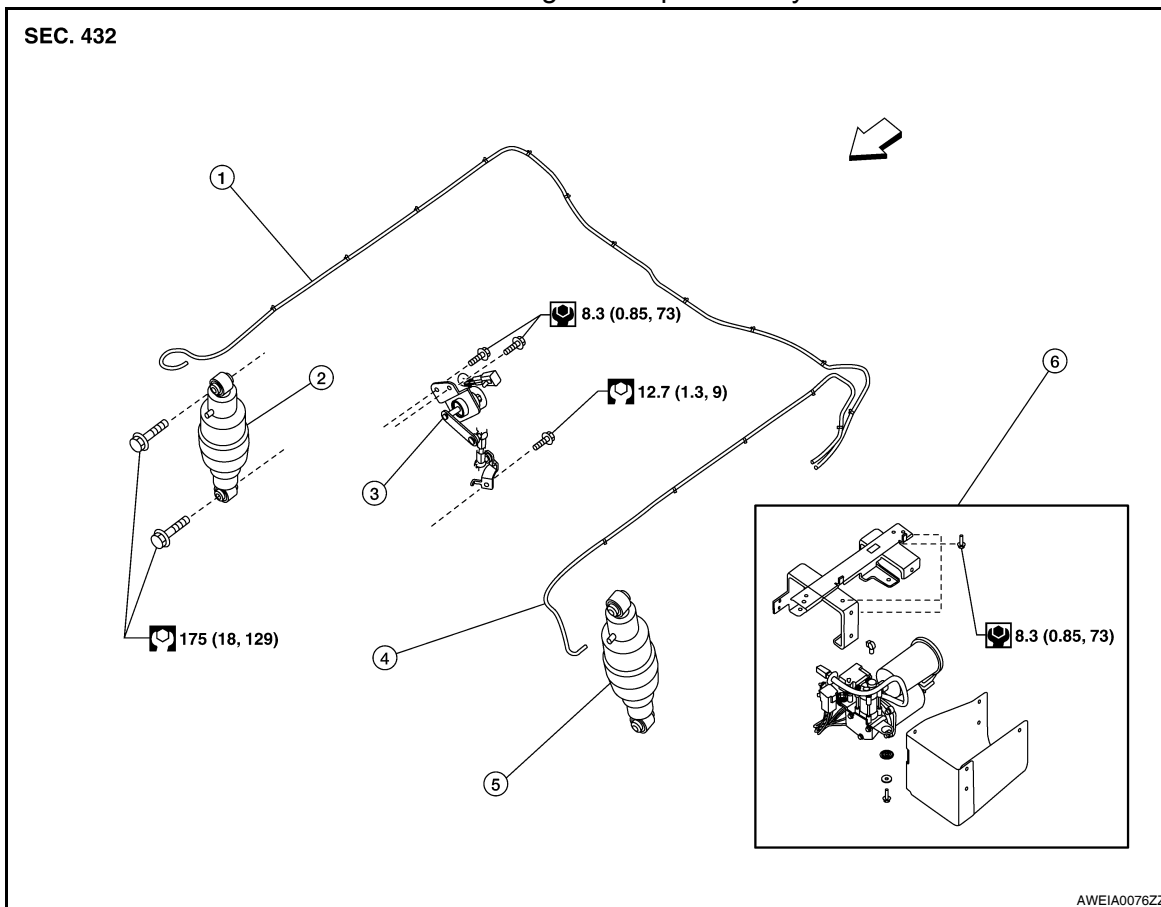
< SERVICE INFORMATION >

HEIGHT SENSOR

Removal and Installation

INFOID:000000003532679

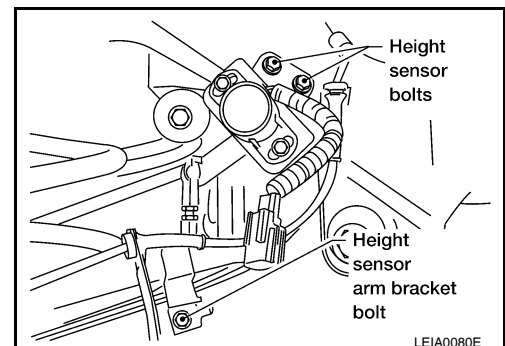
Rear Load Leveling Air Suspension System



- | | | |
|---|-----------------------|--|
| 1. Rear load leveling air suspension hose, RH | 2. Shock absorber, RH | 3. Height sensor |
| 4. Rear load leveling air suspension hose, LH | 5. Shock absorber, LH | 6. Rear load leveling air suspension compressor assembly |
- ← Front

REMOVAL

1. Use CONSULT-II "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
2. Disconnect the electrical connector for the height sensor.
3. Remove the two height sensor bolts and height sensor arm bracket bolt.
4. Remove the height sensor.



INSTALLATION

Installation is in the reverse order of removal.

HEIGHT SENSOR

< SERVICE INFORMATION >

1. Start the engine.
2. Use CONSULT-II to perform "STANDARD HEIGHT LEVEL" work support function.
3. Using data monitor of CONSULT-II, verify "HEIGT CALC" is at 0 mm.
4. Check the vehicle height. Refer to [RSU-44, "Wheelarch Height \(Unladen*¹\)"](#) . If vehicle height is not within ± 10 mm (0 ± 0.39 in) of the specification, perform the initialization procedure. Refer to [RSU-42, "Initialization Procedure"](#).

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CONTROL UNIT

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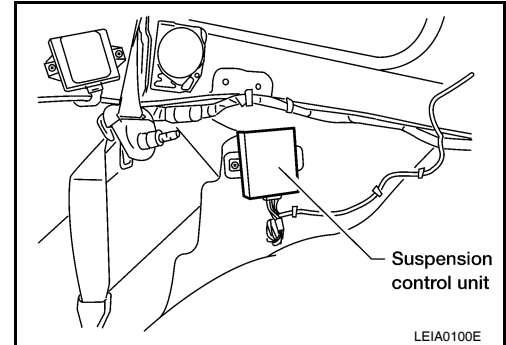
CONTROL UNIT

Removal and Installation

INFOID:000000003532680

REMOVAL

1. Remove the rear LH interior trim panel. Refer to [EI-34](#) .
2. Disconnect the battery negative terminal.
3. Disconnect the suspension control unit electrical connector.
4. Remove the two bolts and remove the suspension control unit.



INSTALLATION

Installation is in the reverse order of removal.

Suspension control unit bolts : 6 N·m (0.6 kg-m, 53 in-lb)

Initialization Procedure

INFOID:000000003532681

1. If control unit has been replaced, proceed to step 2. If control unit has not been replaced, use CONSULT-II "CLEAR HEIGHT INI" work support function to clear initialization flag and value. The CK SUSP warning lamp should illuminate. Using CONSULT-II "EXHAUST SOLENOID" active test, release the air pressure from the rear load leveling air suspension system.
2. Roll vehicle forward and backward.
3. Use CONSULT-II "ADJUST HEIGHT INI" work support function to set initialization condition.
4. Confirm that CK SUSP warning lamp is OFF.

SERVICE DATA AND SPECIFICATIONS (SDS)

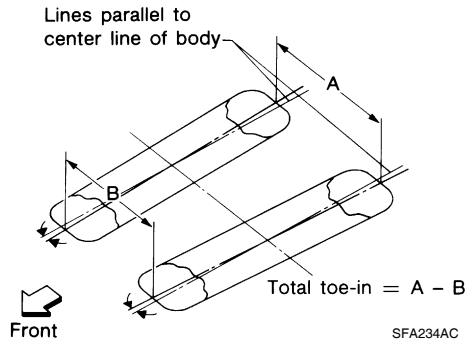
< SERVICE INFORMATION >

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Alignment

INFOID:000000003532682

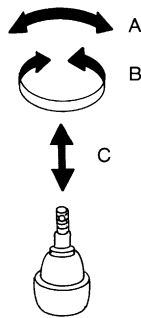
| | | |
|--|--------------|------------------|
| Camber Degree minute (decimal degree) | Minimum | 0° 0' (0°) |
| | Nominal | - 0° 30' (-0.5°) |
| | Maximum | - 1° 0' (-1.0°) |
| | Cross camber | 0° 45' (0.75°) |



| | | | |
|--------|---|-----------|-------------------|
| Toe-in | Distance (A - B) | Minimum | 0 mm (0 in) |
| | | Nominal | 3.3 mm (0.130 in) |
| | | Maximum | 6.6 mm (0.260 in) |
| | | Cross toe | 2 mm (0.079 in) |
| | Angle (left, right) Degree minute (decimal degree) | Minimum | 0° 0' (0°) |
| | | Nominal | 0° 7' (0.11°) |
| | | Maximum | 0° 14' (0.22°) |
| | | Cross toe | 0° 8' (0.14°) |

Ball Joint

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| | |
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| Swinging force (measurement point: cotter pin hole of ball stud) "A" | 11.4 - 145.5 N (1.16 - 14.8 kg, 2.56 - 32.7 lb) |
| Turning torque "B" | 0.5 - 6.4 N·m (0.06 - 0.65 kg-m, 5 - 56 in-lb) |
| Vertical end play "C" | 0 mm (0 in) |

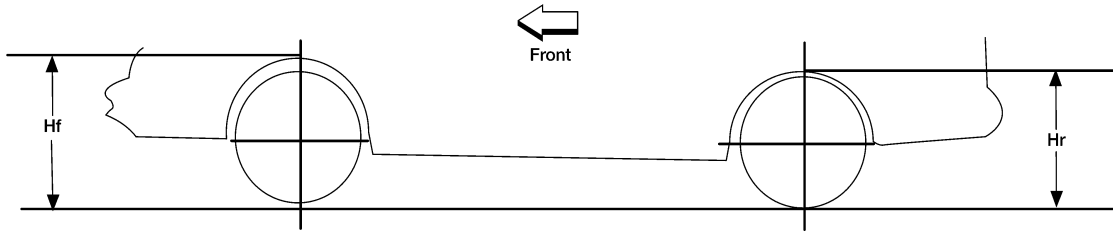
SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE INFORMATION >

Wheelarch Height (Unladen*¹)

INFOID:000000003532684

Unit: mm (in)



LEIA0085E

| Suspension type | Air leveling* ² | |
|--|----------------------------|----------------|
| | 2WD | 4WD |
| Applied model | | |
| Front wheelarch height (H _f) | 913 (35.94) | 931 (36.65) |
| Rear wheelarch height (H _r) | 912 (35.91) | 932 (36.69) |

*1: Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

*2: Verify the vehicle height. If vehicle height is not within ± 10 mm (0.39 in) of the specification, perform the control unit initialization procedure. Refer to [RSU-42. "Initialization Procedure"](#).