

SECTION **RSU**  
 REAR SUSPENSION

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# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000006147369

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 SR 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 SR 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.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000006147370

#### **NOTE:**

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

# PRECAUTIONS

## < PRECAUTION >

5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

### Precaution for Rear Suspension

INFOID:000000006147371

- 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.

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**RSU**

# PREPARATION

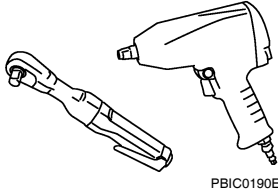
< PREPARATION >

## PREPARATION

### PREPARATION

Commercial Service Tool

INFOID:000000006147372

Tool name	Description
Power tool  <p>PBIC0190E</p>	Removing nuts and bolts

# NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

#### NVH Troubleshooting Chart

INFOID:000000006147373

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																
		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	SUSPENSION	AXLE	TIRES	ROAD WHEEL	DRIVE SHAFT	BRAKES	STEERING
Symptom	Noise	x	x	x	x	x	x			x	x	x		x	x	x	x	x
	Shake	x	x	x	x		x			x		x		x	x	x	x	x
	Vibration	x	x	x	x	x				x		x		x		x		x
	Shimmy	x	x	x	x			x				x		x	x		x	x
	Shudder	x	x	x								x		x	x		x	x
	Poor quality ride or handling	x	x	x	x	x		x	x			x		x	x			

x: Applicable

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RSU

# REAR SUSPENSION ASSEMBLY

< PERIODIC MAINTENANCE >

## PERIODIC MAINTENANCE

### REAR SUSPENSION ASSEMBLY

#### On-Vehicle Inspection and Service

INFOID:000000006147374

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.

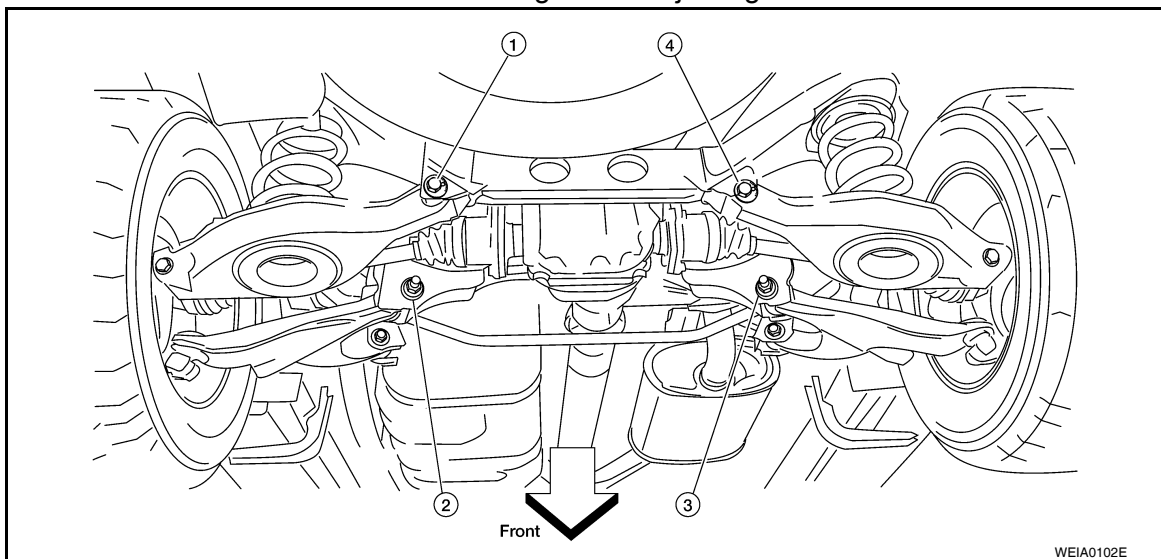
#### SHOCK ABSORBER INSPECTION (WITH AND WITHOUT THE AIR LEVELING SYSTEM)

- For vehicles without the rear load leveling air suspension system, check the shock absorbers for any oil leaks or damage, and replace as necessary.
- For vehicles with the rear load leveling air suspension system, check the shock absorbers for any air leaks or damage, and replace as necessary.
- For vehicles with the rear load leveling air suspension system, check the hoses for any air leaks or damage, and replace as necessary.

#### Wheel Alignment Inspection

INFOID:000000006147375

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.**
- **Always verify vehicle height before adjusting alignment.**

##### **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.
4. Check the wheel bearing axial end play.

**Axial end play** : Refer to [RAX-16. "Wheel Bearing"](#).

5. Check the shock absorbers. Refer to [RSU-6. "On-Vehicle Inspection and Service"](#)

# REAR SUSPENSION ASSEMBLY

## < PERIODIC MAINTENANCE >

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-30. "Wheelarch Height \(Unladen\\*<sup>1</sup>\)"](#).
  - For vehicles with the rear load leveling air suspension system, if vehicle height is not within  $\pm 10$  mm (0.39 in) of the specification, perform the control unit initialization procedure. Refer to [SCS-5. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

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

## THE ALIGNMENT PROCESS

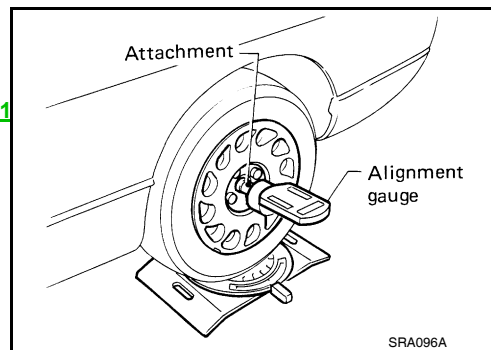
**IMPORTANT:** Use only the alignment specifications listed in this Service Manual. Refer to [RSU-29. "Wheel Alignment \(Unladen\\*<sup>1</sup>\)"](#).

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 [RSU-29. "Wheel Alignment \(Unladen\\*<sup>1</sup>\)"](#)



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

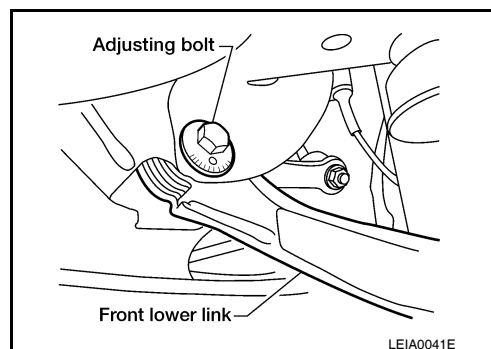
**CAUTION:**

**After adjusting the camber then check the toe-in.**

**NOTE:**

Camber changes about  $0^{\circ} 5'$  with each graduation of the adjusting bolt.

3. Tighten the adjusting bolt nuts to specification.



## TOE-IN

## REAR SUSPENSION ASSEMBLY

### < PERIODIC MAINTENANCE >

- Measure the toe-in of the rear wheels. If out of specification, inspect and replace any damaged or worn rear suspension parts before adjusting.

**Total toe-in** : Refer to [RSU-29, "Wheel Alignment \(Unladen\\*1\)"](#).

- Adjust toe-in by turning adjusting bolt on rear lower link.

**CAUTION:**

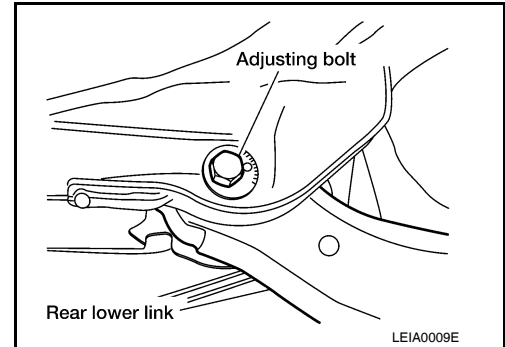
Be sure to adjust equally on RH and LH sides using the adjusting bolt.

**NOTE:**

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

- After adjusting, tighten the adjusting bolt nut to the specified torque.

**Adjusting bolt nut** : Refer to [RSU-9, "Component"](#).





# REAR SUSPENSION ASSEMBLY

< REMOVAL AND INSTALLATION >

## REMOVAL AND INSTALLATION

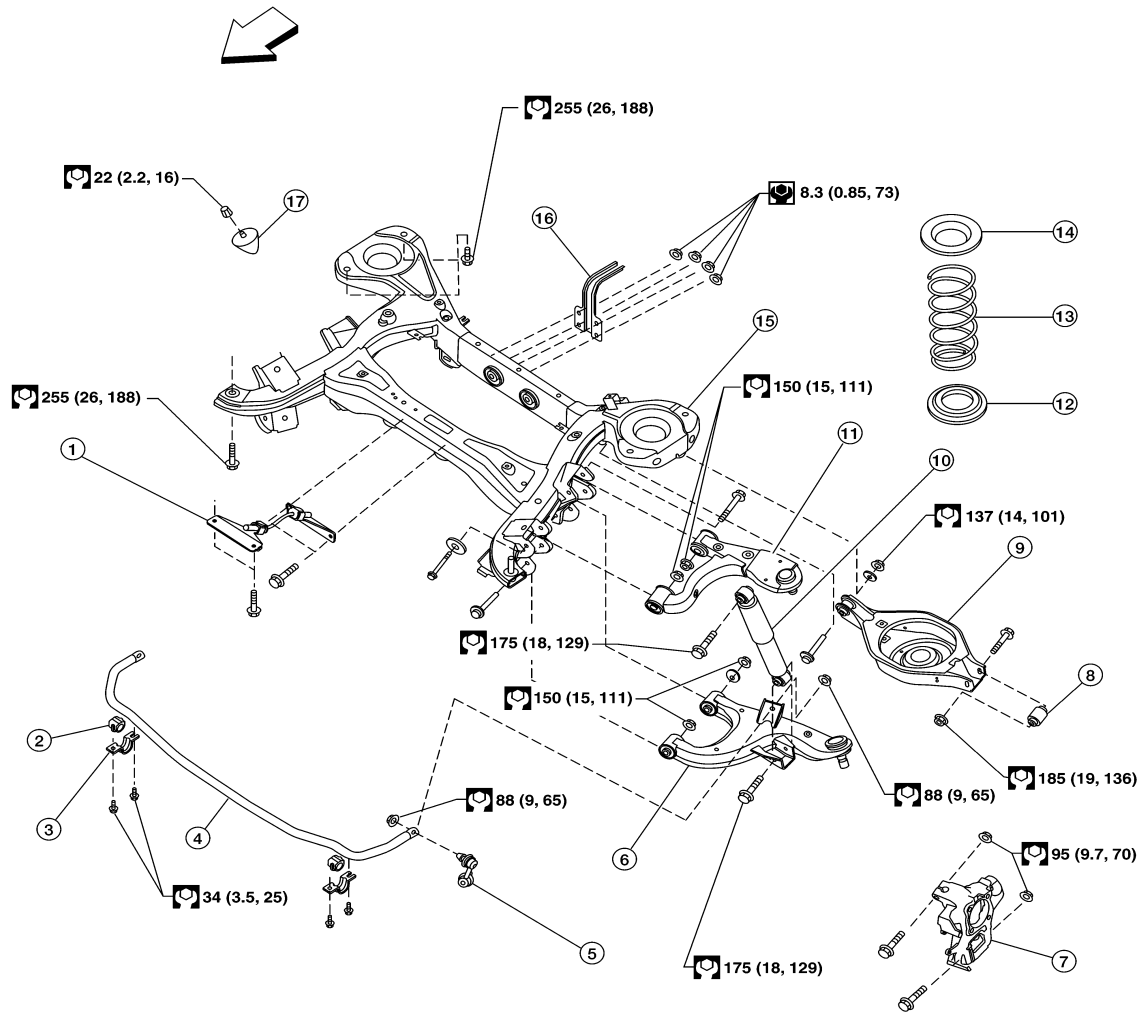
### REAR SUSPENSION ASSEMBLY

Component

INFOID:000000006147376

Rear Suspension Without Rear Load Leveling Air Suspension System

SEC. 431 • 432



- |                           |                           |                         |
|---------------------------|---------------------------|-------------------------|
| 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      |
| 10. Shock absorber        | 11. Suspension arm        | 12. Lower rubber seat   |

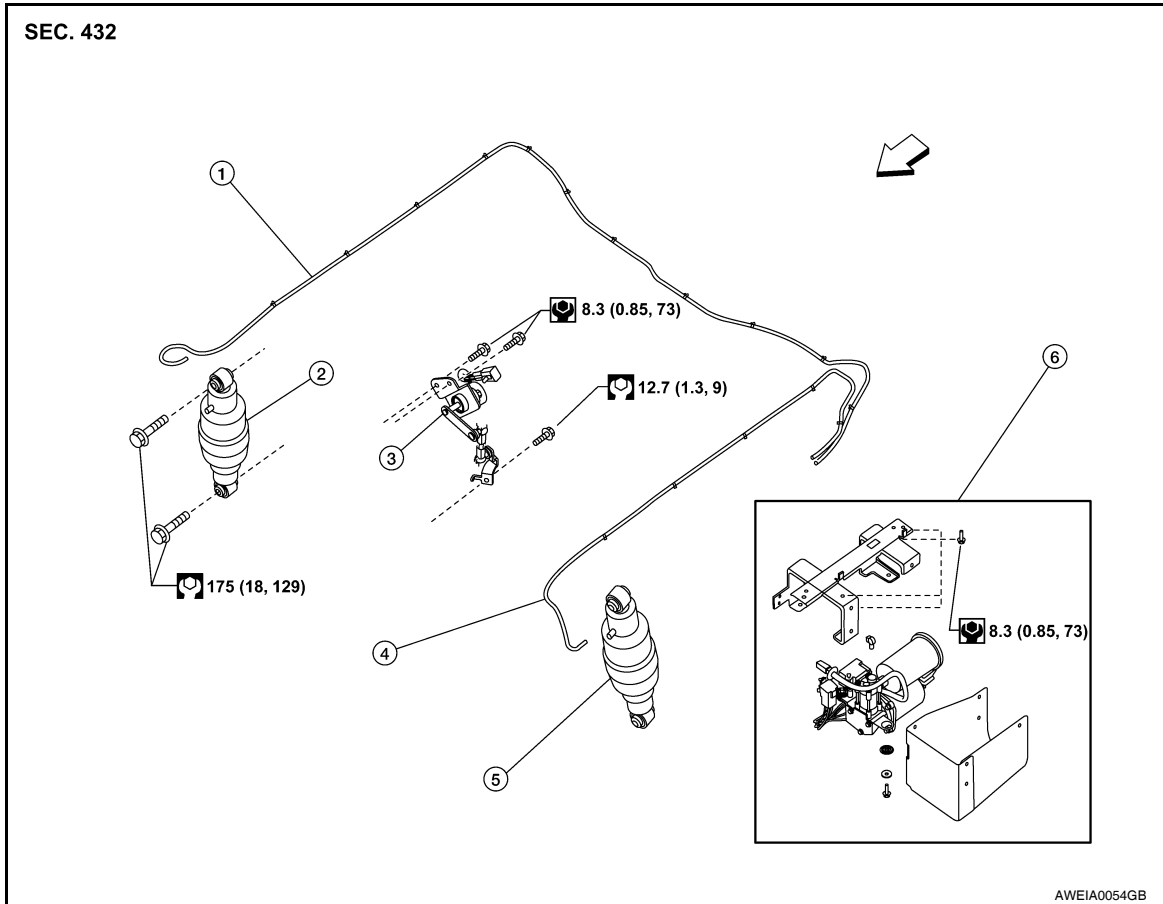
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# REAR SUSPENSION ASSEMBLY

## < REMOVAL AND INSTALLATION >

- |                        |                       |                            |
|------------------------|-----------------------|----------------------------|
| 13. Coil spring        | 14. Upper rubber seat | 15. Rear suspension member |
| 16. Spare tire bracket | 17. Bound bumper      | ⇐ Front                    |

### 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

# REAR SUSPENSION MEMBER

< UNIT REMOVAL AND INSTALLATION >

## UNIT REMOVAL AND INSTALLATION

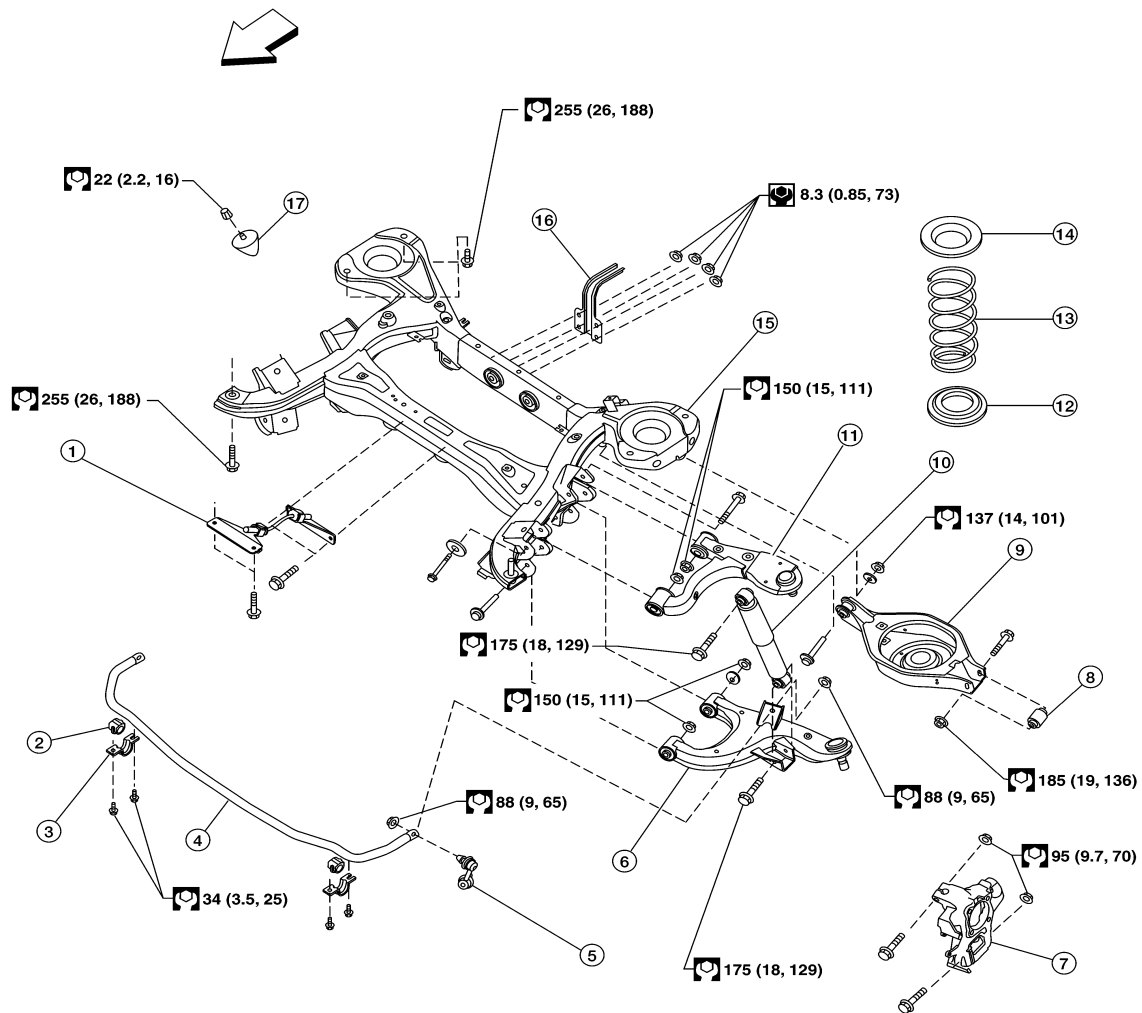
### REAR SUSPENSION MEMBER

#### Removal and Installation

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Rear Suspension Without Rear Load Leveling Air Suspension System

SEC. 431 • 432



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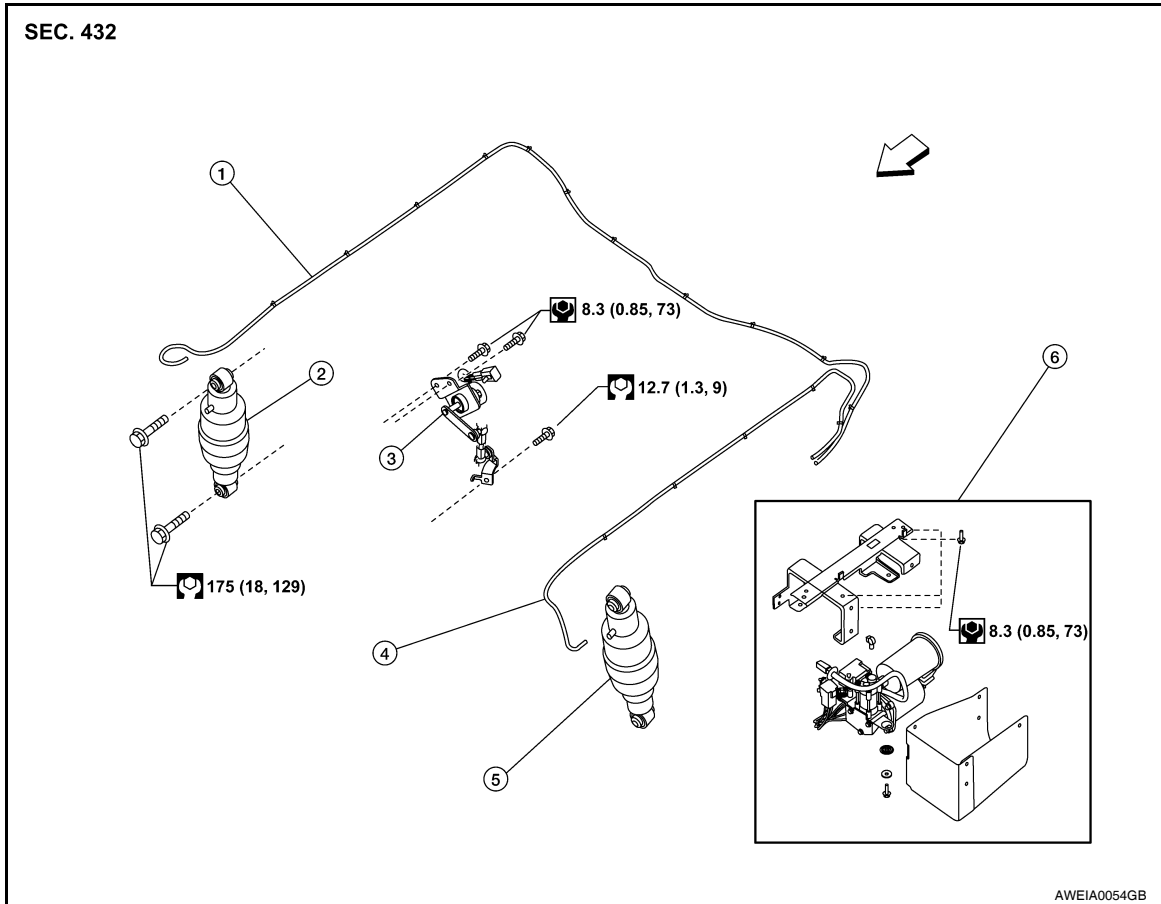
- |                           |                           |                         |
|---------------------------|---------------------------|-------------------------|
| 1. Seat belt latch anchor | 2. Stabilizer bar bushing | 3. Stabilizer bar clamp |
| 4. Stabilizer bar         | 5. Connecting rod         | 6. Front lower link     |
| 7. Knuckle                | 8. Bushing                | 9. Rear lower link      |
| 10. Shock absorber        | 11. Suspension arm        | 12. Lower rubber seat   |

# REAR SUSPENSION MEMBER

## < UNIT REMOVAL AND INSTALLATION >

- |                        |                       |                            |
|------------------------|-----------------------|----------------------------|
| 13. Coil spring        | 14. Upper rubber seat | 15. Rear suspension member |
| 16. Spare tire bracket | 17. Bound bumper      | ⇐ Front                    |

### Rear Load Leveling Air Suspension System

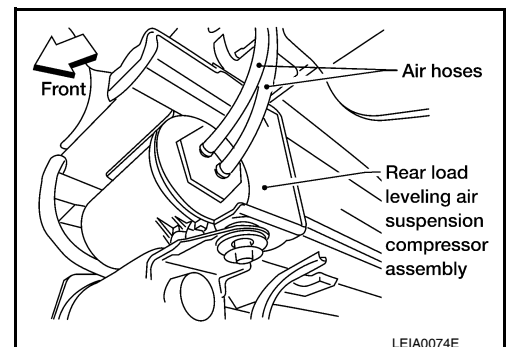


- |   |                       |  |
|---|-----------------------|--|
| 1. Rear load leveling air suspension hose, RH | 2. Shock absorber, RH | 3. Height sensor   |
| 4. Rear load leveling air suspension hose, LH | 5. Shock absorber, LH | 6. Rear load leveling air suspension compressor assembly (includes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

⇐ Front

## REMOVAL

- If equipped with rear load leveling air suspension system, use CONSULT-III "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
- If equipped with the rear load leveling air suspension system, disconnect the electrical connectors for the height sensor and the rear load leveling air suspension compressor assembly.
- If equipped with the rear load leveling air suspension system, unclip the rubber cover to access the rear load leveling air suspension compressor assembly.
- If equipped with the rear load leveling air suspension system, 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 rear brake rotor and caliper without disconnecting the brake hoses, using power tool. Reposition the brake caliper out of the way using a suitable wire. Refer to [BR-37, "Removal and Installation of Brake Caliper and Disc Rotor"](#).



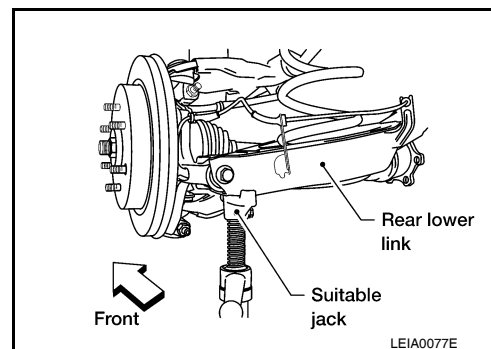
# REAR SUSPENSION MEMBER

## < UNIT REMOVAL AND INSTALLATION >

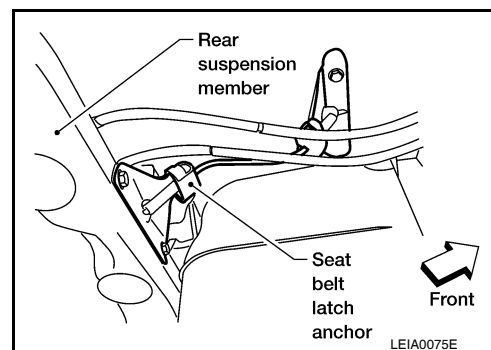
### CAUTION:

- 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. Remove both lower shock bolts.
9. Disconnect the two rear ABS sensor electrical connectors.
10. Remove the two rear drive shafts. Refer to [RAX-9, "Removal and Installation"](#).
11. Remove the rear final drive. Refer to [DLN-250, "Removal and Installation"](#).
12. Remove the EVAP canister bolt from the top of the rear suspension member.
13. Disconnect the parking brake cables from the brackets on the rear suspension member.
14. Disconnect the parking brake cables at the equalizer. Refer to [PB-7, "Removal and Installation"](#).
15. Set a suitable jack to support each of the rear lower links and the coil spring tension.



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



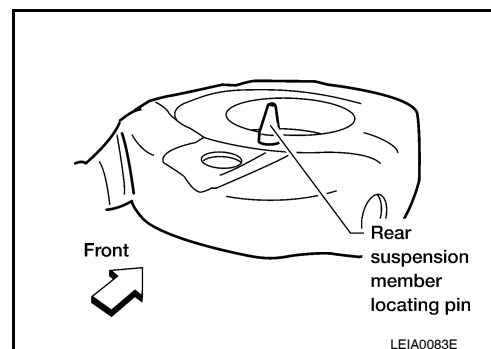
### INSPECTION AFTER REMOVAL

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

### INSTALLATION

Installation is in the reverse order of removal.

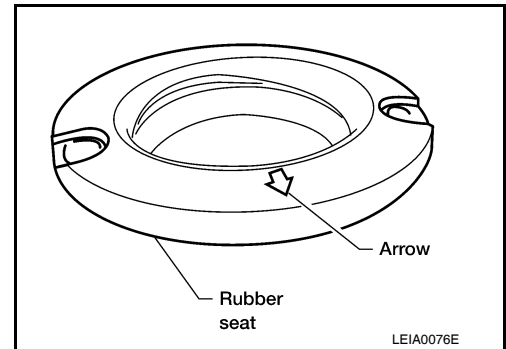
- When raising the rear suspension member assembly, use the locating pins to align the rear suspension member to the vehicle body.



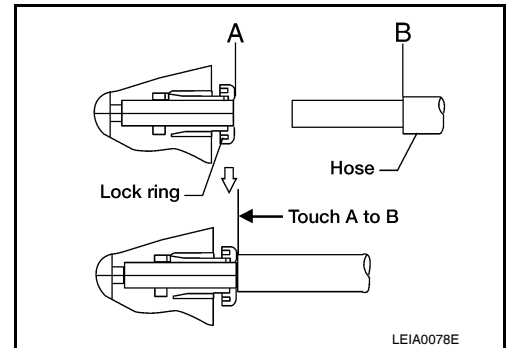
## REAR SUSPENSION MEMBER

### < UNIT REMOVAL AND INSTALLATION >

- 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 final tightening of 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-6. "Wheel Alignment Inspection"](#)

# SHOCK ABSORBER

< UNIT REMOVAL AND INSTALLATION >

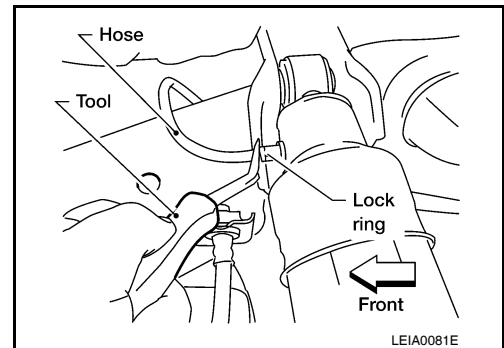
## SHOCK ABSORBER

### Removal and Installation

INFOID:000000006147378

#### REMOVAL

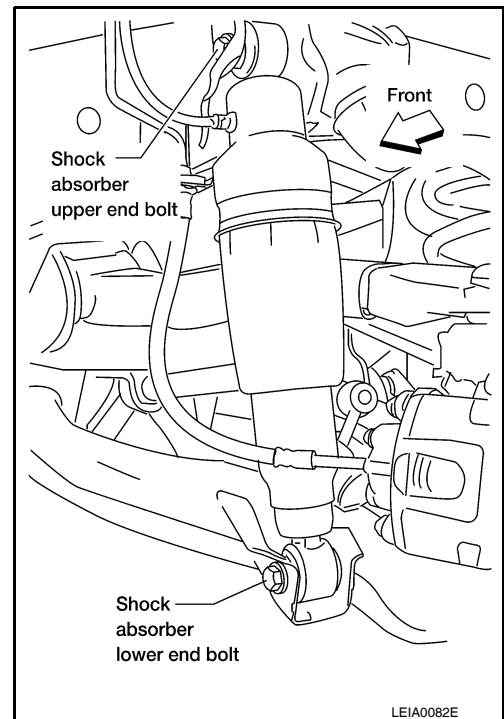
1. Remove the wheel and tire assembly using power tool. Refer to [WT-50. "Rotation"](#).
2. If equipped with the rear load leveling air suspension system, use CONSULT-III "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
3. If equipped with the rear load leveling air suspension system, perform the following.
  - Disconnect the rear load leveling air suspension hose from the shock absorber.
  - Disconnect the height sensor electrical connector.
  - To disconnect the hose, push in on the lock ring using a suitable tool and pull the air hose out.



4. Remove rear fender protector. Refer to [EXT-27. "Removal and Installation"](#).
5. Remove the shock absorber upper and lower end bolts using power tool.
6. Remove the shock absorber.

#### **CAUTION:**

**If equipped with the rear load leveling air suspension system, 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-9. "Component"](#).

#### Disposal

INFOID:000000006147379

1. Set shock absorber horizontally with the piston rod fully extended.

## SHOCK ABSORBER

### < UNIT REMOVAL AND INSTALLATION >

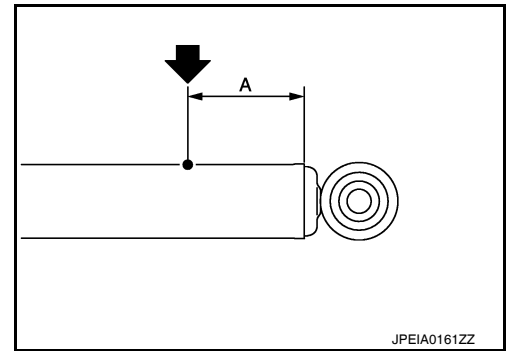
2. Drill 2 – 3 mm (0.08 – 0.12 in) hole at the position (●) from top as shown in the figure to release gas gradually.

**CAUTION:**

- Wear eye protection (safety glasses).
- Wear gloves.
- Be careful with metal chips or oil blown out by the compressed gas.

**NOTE:**

- Drill vertically in this direction (⬇).
- Directly to the outer tube avoiding brackets.
- The gas is clear, colorless, odorless, and harmless.



**A : 20 – 30 mm (0.79 – 1.18 in)**

3. Position the drilled hole downward and drain oil by moving the piston rod several times.

**CAUTION:**

**Dispose of drained oil according to the law and local regulations.**



# SUSPENSION ARM

< UNIT REMOVAL AND INSTALLATION >

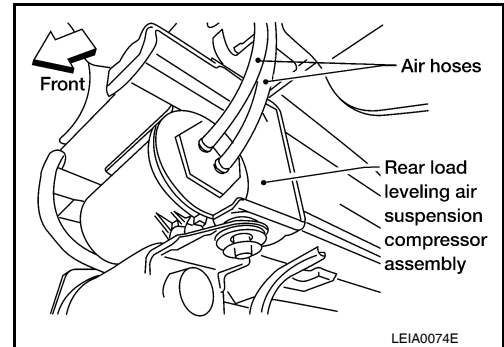
## SUSPENSION ARM

### Removal and Installation

INFOID:000000006147380

#### REMOVAL

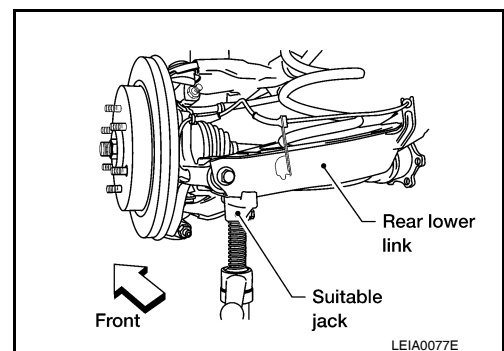
1. If equipped with rear load leveling air suspension system, use CONSULT-III "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
2. If equipped with the rear load leveling air suspension system, disconnect the electrical connectors for the height sensor and the rear load leveling air suspension compressor assembly.
3. If equipped with the rear load leveling air suspension system, unclip the rubber cover to access the rear load leveling air suspension compressor assembly.
4. If equipped with the rear load leveling air suspension system, 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.
5. Remove both of the rear wheel and tire assemblies using power tool.
6. 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-37. "Removal and Installation of Brake Caliper and Disc Rotor"](#).



#### CAUTION:

- 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. Remove both lower shock bolts.
9. Disconnect the two rear ABS sensor electrical connectors.
10. Remove the two rear drive shafts at the rear final drive and support drive shafts.
11. Remove the rear final drive. Refer to [DLN-250. "Removal and Installation"](#).
12. Remove the EVAP canister bolt from the top of the rear suspension member.
13. Disconnect the parking brake cables from the brackets on the rear suspension member.
14. Disconnect parking brake cables at equalizer. Refer to [PB-7. "Removal and Installation"](#).
15. Set a suitable jack to support each of the rear lower links and the coil spring tension.

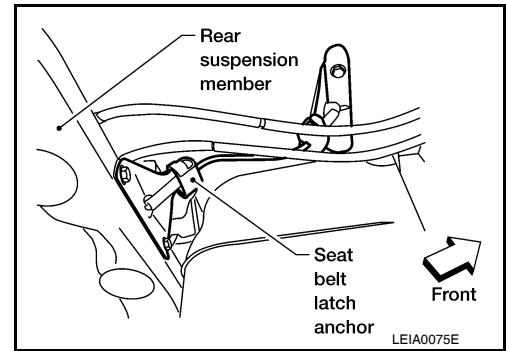


16. Remove both of the rear lower link outer bolts and lower the jack to remove the rear coil springs.
  - If equipped with the rear load leveling air suspension system remove the height sensor bracket bolt from the LH rear lower link.

# SUSPENSION ARM

## < UNIT REMOVAL AND INSTALLATION >

17. Remove the two bolts to disconnect the seat belt latch anchor from the rear suspension member.
18. Disconnect both of the connecting rods from the front lower link.
19. Set a suitable jack under the rear suspension member.
20. Remove the six rear suspension member bolts.
21. Slowly lower the jack to remove the rear suspension member assembly.
22. Remove suspension arm from rear suspension member.



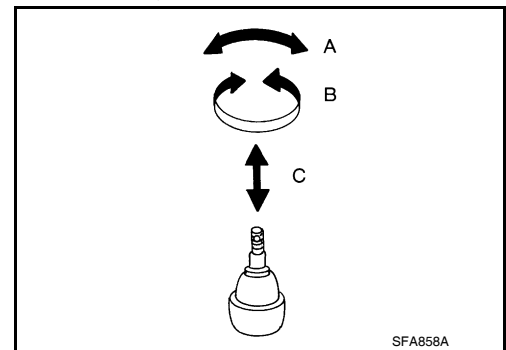
## INSPECTION AFTER REMOVAL

- Check suspension arm for damage, cracks, deformation and replace if necessary.
- Check rubber bushing for damage, cracks and deformation. Replace suspension arm assembly if necessary.
- Before checking, turn ball joint at least 10 revolutions so that ball joint is properly broken in.
- Check ball joint. Replace suspension arm assembly if any of the following exists:
  - Ball stud is worn.
  - Joint is hard to swing.
  - Play in axial direction is excessive.

**Swinging force (A)** : Refer to [RSU-29, "Ball Joint"](#).

**Turning force (B)** : Refer to [RSU-29, "Ball Joint"](#).

**Vertical end play (C)** : Refer to [RSU-29, "Ball Joint"](#).



## INSTALLATION

Installation is in the reverse order of removal.

- Tighten the nuts and bolts to specification. Refer to [RSU-9, "Component"](#).
- Perform final tightening of 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-6, "Wheel Alignment Inspection"](#).

# FRONT LOWER LINK

< UNIT REMOVAL AND INSTALLATION >

## FRONT LOWER LINK

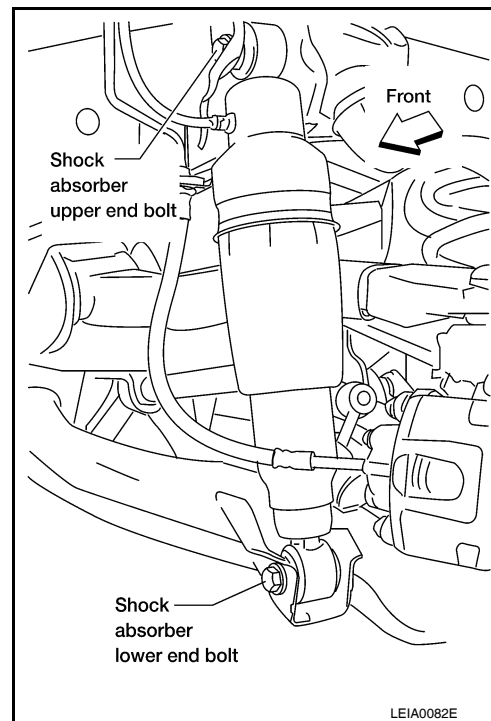
### Removal and Installation

INFOID:000000006147381

#### REMOVAL

1. Remove the wheel and tire assembly using power tool.
2. If equipped with rear load leveling air suspension system, use CONSULT-III "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
3. Set suitable jack to support rear lower link.
4. If equipped with the rear load leveling air suspension system, 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.

5. Remove the shock absorber lower end bolt.
6. Remove stabilizer bar connecting rod from front lower link.
7. Remove stabilizer bar clamps and place bar aside.
8. Remove the adjusting bolt and nut, and the bolt and nut, from the front lower link and rear suspension member using power tool.

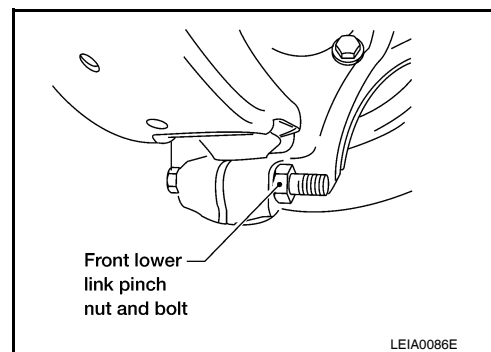


9. Remove the front lower link pinch bolt and nut on the knuckle side using power tool.
10. Disconnect the front lower link from the knuckle using a soft hammer.

**CAUTION:**

**Do not damage the ball joint or axle boot with the soft hammer.**

11. Remove the front lower link.



#### INSPECTION AFTER REMOVAL

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

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## FRONT LOWER LINK

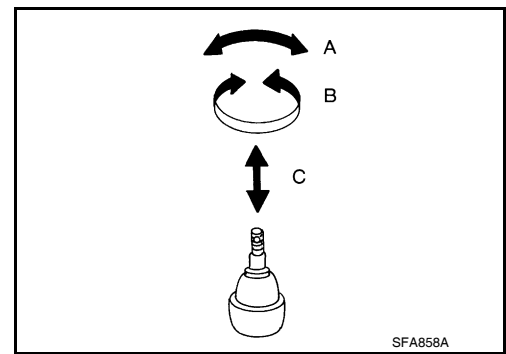
### < UNIT REMOVAL AND INSTALLATION >

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

**Swinging force (A)** : Refer to [RSU-29, "Ball Joint"](#).

**Turning force (B)** : Refer to [RSU-29, "Ball Joint"](#).

**Vertical end play (C)** : Refer to [RSU-29, "Ball Joint"](#).



### INSTALLATION

Installation is in the reverse order of removal.

- Tighten the nuts and bolts to specification. Refer to [RSU-9, "Component"](#).
- Perform final tightening of 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-6, "Wheel Alignment Inspection"](#).

# REAR LOWER LINK & COIL SPRING

< UNIT REMOVAL AND INSTALLATION >

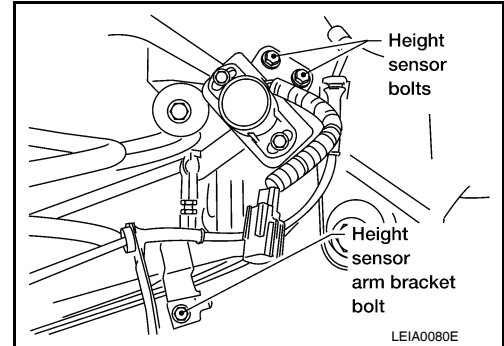
## REAR LOWER LINK & COIL SPRING

### Removal and Installation

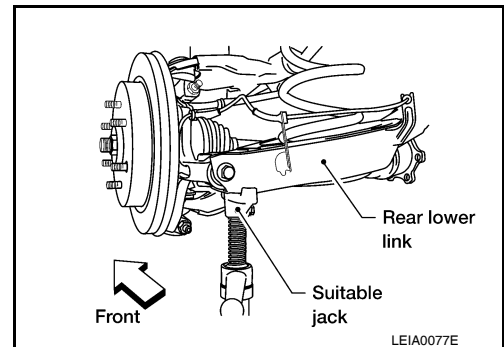
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#### REMOVAL

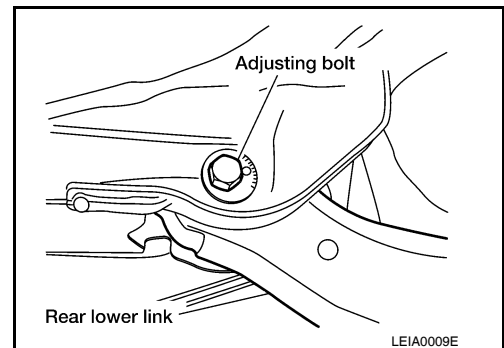
1. Remove the wheel and tire assembly using power tool. Refer to [WT-50. "Rotation"](#).
2. If equipped with rear load leveling air suspension system, use CONSULT-III "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
3. If equipped with the rear load leveling air suspension system, for removing the LH rear lower link and coil spring, remove the height sensor arm bracket bolt from the rear lower link.



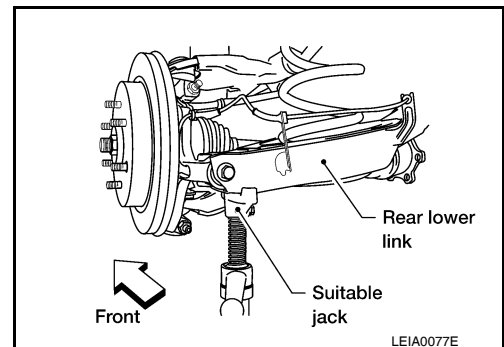
4. Remove the speed sensor harness from the rear lower link.
5. Set a suitable jack to relieve the coil spring tension and support the rear lower link.



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



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

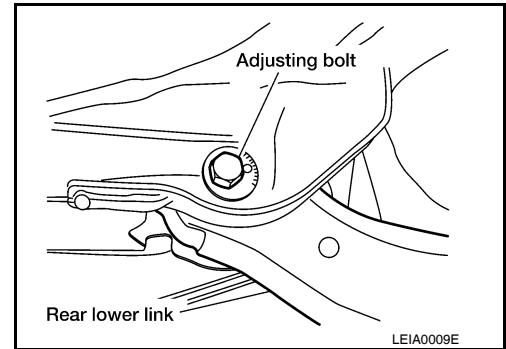


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## REAR LOWER LINK & COIL SPRING

### < UNIT REMOVAL AND INSTALLATION >

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



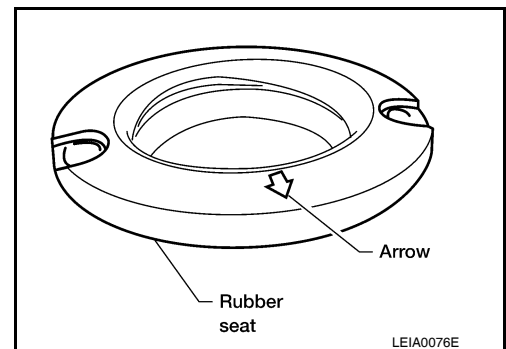
### INSPECTION AFTER REMOVAL

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-9, "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-6, "Wheel Alignment Inspection"](#).



# STABILIZER BAR

< UNIT REMOVAL AND INSTALLATION >

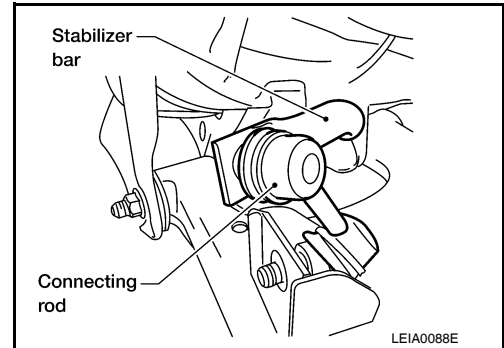
## STABILIZER BAR

### Removal and Installation

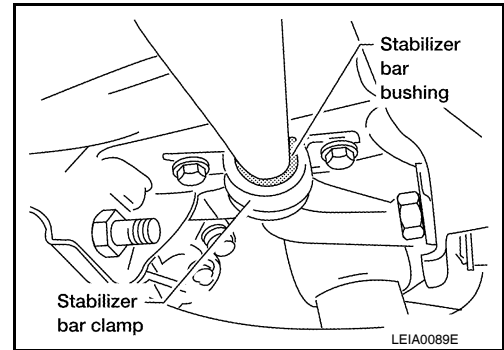
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#### REMOVAL

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.



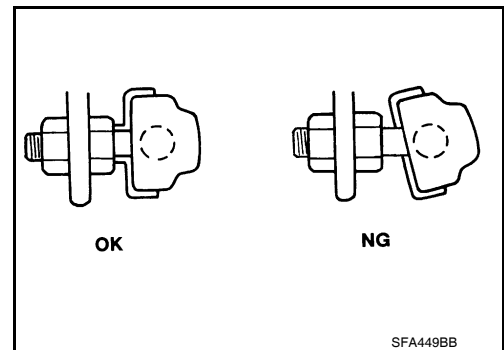
#### INSPECTION AFTER REMOVAL

- 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-9. "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

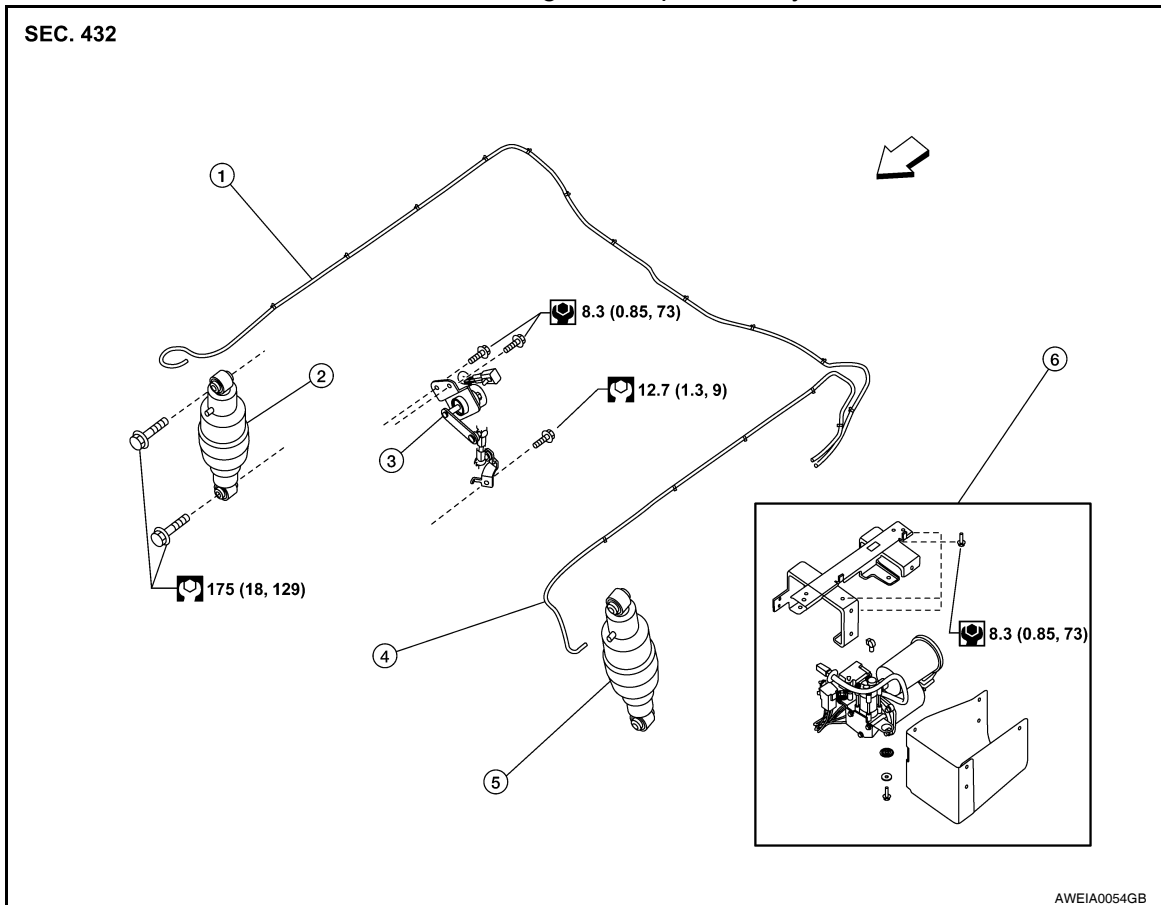
< UNIT REMOVAL AND INSTALLATION >

## REAR LOAD LEVELING AIR SUSPENSION COMPRESSOR ASSEMBLY

### Removal and Installation

INFOID:000000006147384

#### Rear Load Leveling Air Suspension System

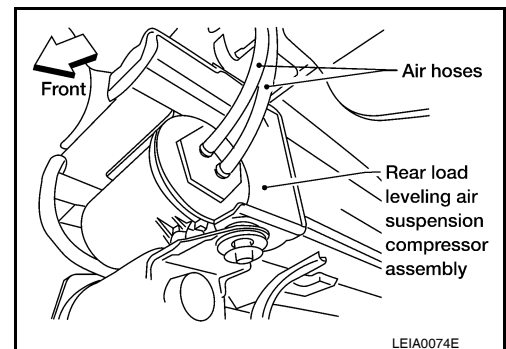


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|---|-----------------------|--|
| 1. Rear load leveling air suspension hose, RH | 2. Shock absorber, RH | 3. Height sensor   |
| 4. Rear load leveling air suspension hose, LH | 5. Shock absorber, LH | 6. Rear load leveling air suspension compressor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

↶ Front

### REMOVAL

- Use CONSULT-III "EXHAUST SOLENOID" active test to release the air pressure from the rear load leveling air suspension system.
- Disconnect the electrical connectors for 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.

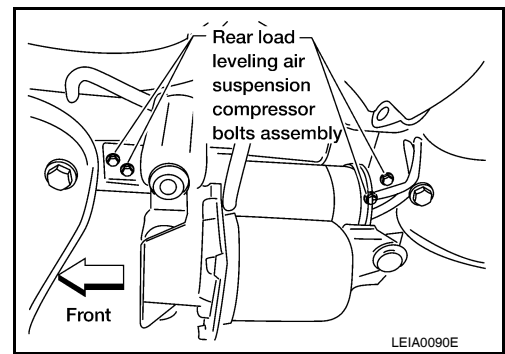




# REAR LOAD LEVELING AIR SUSPENSION COMPRESSOR ASSEMBLY

## < UNIT REMOVAL AND INSTALLATION >

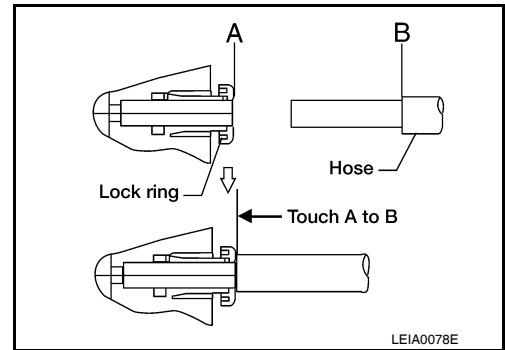
5. Remove the four bolts that mount the rear load leveling air suspension compressor assembly to the underbody.



## 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

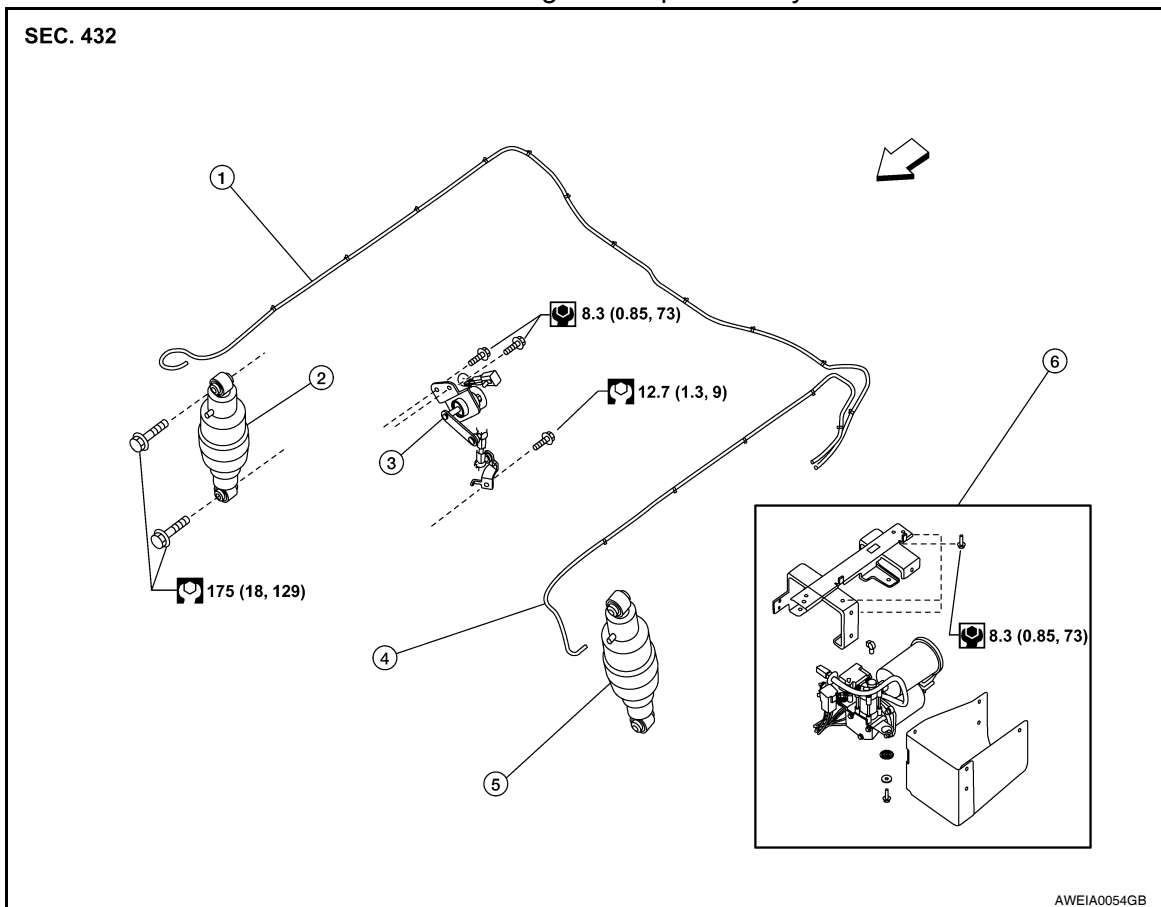
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## HEIGHT SENSOR

### Removal and Installation

INFOID:000000006147385

#### Rear Load Leveling Air Suspension System

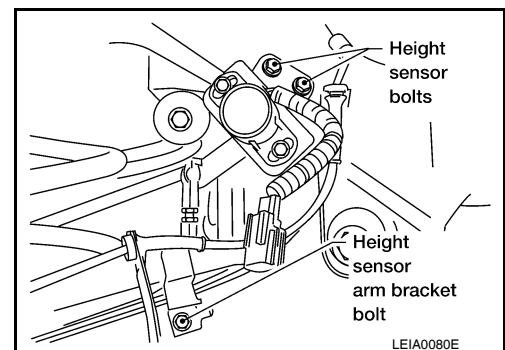


- |   |                       |  |
|---|-----------------------|--|
| 1. Rear load leveling air suspension hose, RH | 2. Shock absorber, RH | 3. Height sensor   |
| 4. Rear load leveling air suspension hose, LH | 5. Shock absorber, LH | 6. Rear load leveling air suspension compressor assembly |

↩ Front

### REMOVAL

1. Disconnect the electrical connector for the height sensor.
2. Remove the two height sensor bolts and height sensor arm bracket bolt.
3. Remove the height sensor.



### INSTALLATION

Installation is in the reverse order of removal.

1. Start the engine.
2. Use CONSULT-III to perform "STANDARD HEIGHT LEVEL" work support function.

## HEIGHT SENSOR

### < UNIT REMOVAL AND INSTALLATION >

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3. Using data monitor of CONSULT-III, verify "HEIGT CALC" is at 0 mm.
4. Check the vehicle height. Refer to [RSU-30. "Wheelarch Height \(Unladen\\*<sup>1</sup>\)"](#). If vehicle height is not within  $\pm 10$  mm (0.39 in) of the specification, perform the initialization procedure. Refer to [SCS-5. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

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# CONTROL UNIT

< UNIT REMOVAL AND INSTALLATION >

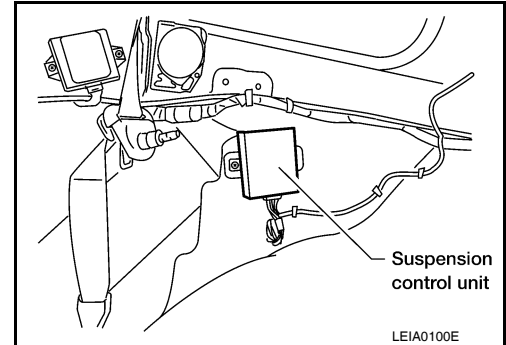
## CONTROL UNIT

### Removal and Installation

INFOID:000000006147386

#### REMOVAL

1. Remove the luggage side finisher lower and upper LH. Refer to [INT-14. "Removal and Installation"](#).
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.

- Tighten the suspension control bolts to the specified torque.

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

- Perform initialization procedure. Refer to [SCS-5. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

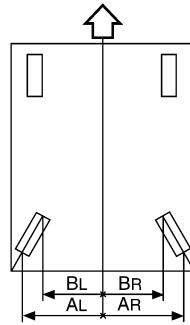
## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Wheel Alignment (Unladen \*1)

INFOID:000000006147388

Applied model			Without air leveling	With air leveling
Camber Degree minute (decimal degree)		Minimum	- 0° 25' (- 0.4°)	- 1° 0' (- 1°)
		Nominal	0° 5' (0.1°)	- 0° 30' (- 0.5°)
		Maximum	0° 35' (0.6°)	0° 0' (0°)
		Cross camber	0° 45' (0.75°) or less	



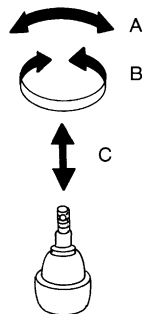
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Toe-in	Distance	Toe-in (left side or right side) AL - BL or AR - BR mm (in) ↔:Front	Minimum	- 2.4 mm (- 0.094 in)	0 mm (0 in)
			Nominal	0.9 mm (0.035 in)	3.3 mm (0.130 in)
			Maximum	4.2 mm (0.165 in)	6.6 mm (0.260 in)
	Cross toe (AL - BL) - (AR - BR) mm (in)		2 mm (0.079 in) or less		
	Angle	Toe angle (left side or right side) Degree minute (Decimal degree)	Minimum	- 0° 5' (- 0.08°)	0° 0' (0°)
			Nominal	0° 2' (0.03°)	0° 7' (0.11°)
Maximum			0° 9' (0.14°)	0° 14' (0.22°)	
Cross toe Degree minute (Decimal degree)		0° 8' (0.14°) or less			

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

#### Ball Joint

INFOID:000000006147389



SFA858A

Swinging force (measurement point at 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)

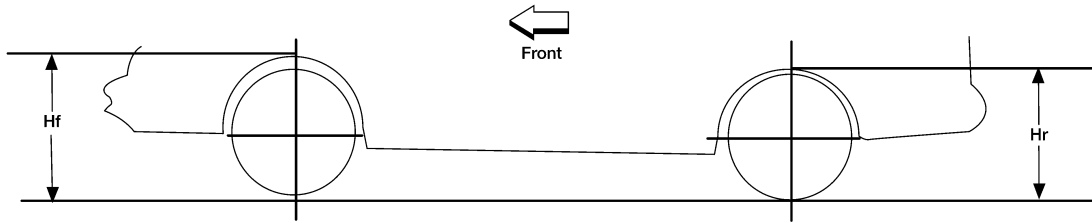
# SERVICE DATA AND SPECIFICATIONS (SDS)

## < SERVICE DATA AND SPECIFICATIONS (SDS)

### Wheelarch Height (Unladen\*<sup>1</sup>)

INFOID:000000006147390

Unit: mm (in)



LEIA0085E

Suspension type	With air leveling* <sup>2</sup>				Without air leveling			
Applied model	2WD		4WD		2WD		4WD	
Tire size	P265/ 70R18	P275/ 60R20	P265/ 70R18	P275/ 60R20	P265/ 70R18	P275/ 60R20	P265/ 70R18	P275/ 60R20
Front wheelarch height (Hf)	914 (35.98)	920 (36.22)	931 (36.65)	937 (36.89)	914 (35.98)	920 (36.22)	931 (36.65)	937 (36.89)
Rear wheelarch height (Hr)	911 (35.87)	917 (36.10)	931 (36.65)	937 (36.89)	931 (36.65)	937 (36.89)	951 (37.44)	957 (37.68)

\*1: Fuel, radiator 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  $\pm 10$  mm (0.39 in) of the specification, perform the control unit initialization procedure. Refer to [SCS-5. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).