

SECTION **RSU**
 REAR SUSPENSION

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RSU

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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000006749830

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.

General Precautions

INFOID:000000006749831

- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
* Fuel, radiator coolant, and engine oil are full. Spare tire, jack, hand tools, and mats are in their designated positions.

PREPARATION


< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:000000006749832

Tool name	Description
<p data-bbox="162 411 272 438">Power tool</p>  <p data-bbox="829 632 902 646">PIIB1407E</p>	<p data-bbox="1010 411 1349 443">Loosening nuts, screws and bolts</p>

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NOISE VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NOISE VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

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

Symptoms		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	PROPELLER SHAFT	REAR FINAL DRIVE	AXLE	TIRES		ROAD WHEEL	BRAKES	STEERING	
Symptoms	Noise	x	x	x	x	x	x	x	x	x	x	x	x	x	x	RSU-6
	Shake	x	x	x	x		x	x		x	x	x	x	x	x	RSU-7
	Vibration	x	x	x	x	x			x							RSU-6
	Shimmy	x	x	x	x							x	x	x	x	RSU-6
	Shudder	x	x	x								x	x	x	x	RSU-6
	Poor quality ride or handling	x	x	x	x	x	x					x	x	x		RSU-6
																DLN-5. "NVH Troubleshooting Chart" (3S1355), DLN-18. "NVH Troubleshooting Chart" (3S1415)
																DLN-31. "NVH Troubleshooting Chart"
																RAX-4. "NVH Troubleshooting Chart"
																FSU-5. "NVH Troubleshooting Chart"
																FSU-5. "NVH Troubleshooting Chart"
																BR-6. "NVH Troubleshooting Chart"
																ST-5. "NVH Troubleshooting Chart"

x: Applicable

REAR SUSPENSION ASSEMBLY

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

REAR SUSPENSION ASSEMBLY

On-Vehicle Inspection and Service

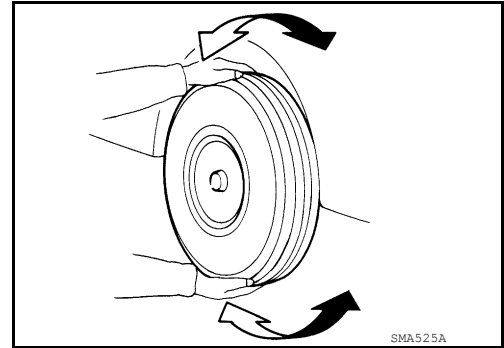
INFOID:000000006749834

- Check the rear suspension parts for any excessive play, cracks, wear, and other damage.
- Shake each rear wheel to check for any excessive play as shown.
- Tighten all of the nuts and bolts to the specified torque. Refer to [RSU-6, "Exploded View"](#).

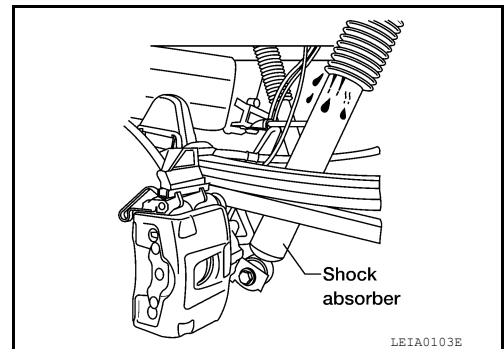
CAUTION:

When installing the components with rubber bushings, the final nut tightening must be carried out under unladen* conditions with the tires on level ground.

*** (Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.)**



- Check the shock absorbers for oil leaks, deformation, and other damage.
- Check the shock absorber bushings for excessive wear and other damage.



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REAR SUSPENSION ASSEMBLY

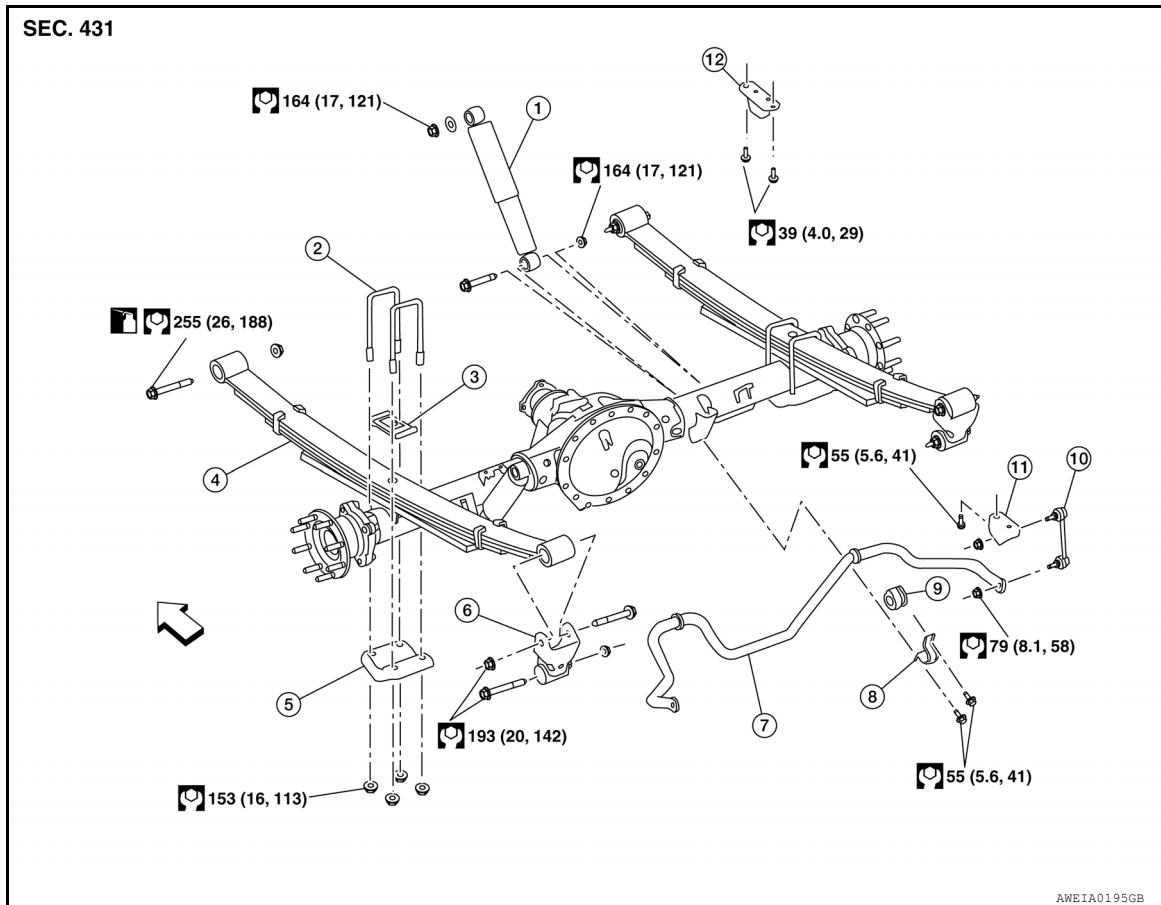
< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

REAR SUSPENSION ASSEMBLY

Exploded View

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- | | | |
|---------------------|----------------------------|---------------------------|
| 1. Shock absorber | 2. Rear spring U-bolts | 3. Rear spring upper seat |
| 4. Rear leaf spring | 5. Rear spring lower seat | 6. Shackle assembly |
| 7. Stabilizer bar | 8. Stabilizer bar clamp | 9. Stabilizer bar bushing |
| 10. Connecting rod | 11. Connecting rod bracket | 12. Bumper assembly |

⇐ Front

CAUTION:

When installing the components with rubber bushings, the final nut tightening must be carried out under unladen* conditions with the tires on level ground.

* (Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.)

SHOCK ABSORBER

< REMOVAL AND INSTALLATION >

SHOCK ABSORBER

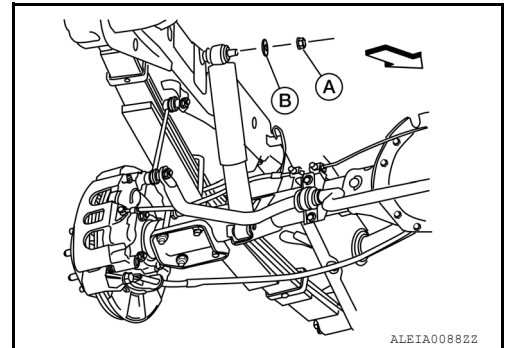
Removal and Installation

INFOID:000000006749837

REMOVAL

1. Remove the shock absorber upper nut (A) and washer (B) using power tool.

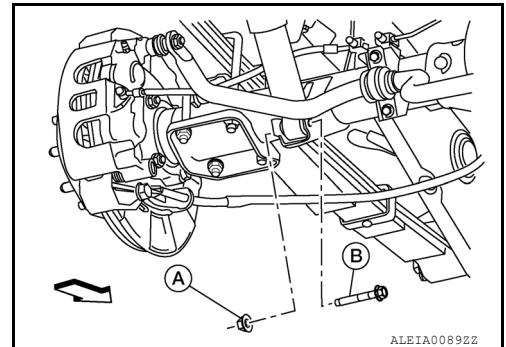
↶ : Vehicle front



2. Remove the shock absorber lower nut (A), and bolt (B) using power tool.

↶ : Vehicle front

3. Remove the shock absorber.



INSPECTION AFTER REMOVAL

Inspect the shock absorber for any oil leaks, cracks, or deformations. Replace the shock absorber as necessary.

INSTALLATION

Installation is in the reverse order of removal.

Shock absorber upper and lower nuts : Refer to [RSU-6, "Exploded View"](#).

Disposal

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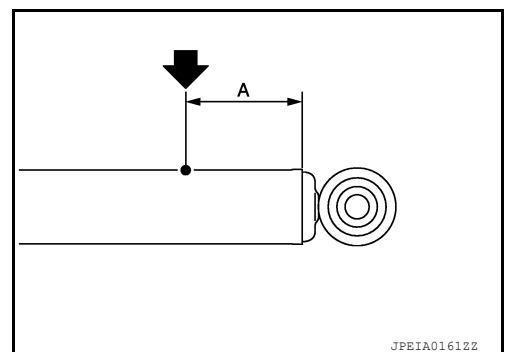
1. Set shock absorber horizontally with the piston rod fully extended.
2. Drill 2 – 3 mm (0.08 – 0.12 in) hole at the position (●) from top as shown in the figure to release gas gradually.

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.

STABILIZER BAR

< REMOVAL AND INSTALLATION >

STABILIZER BAR

Removal and Installation

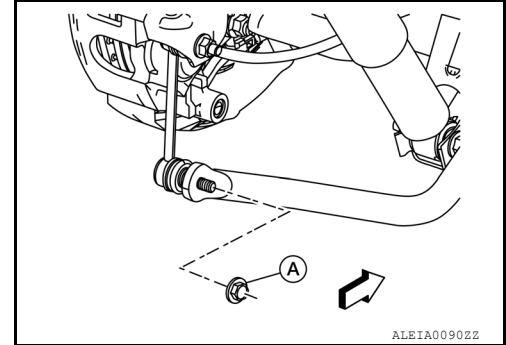
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STABILIZER BAR

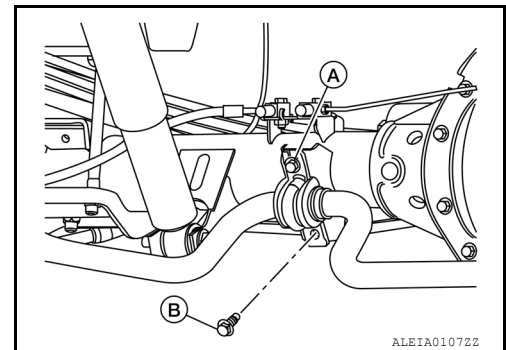
Removal

1. Remove each connecting rod lower nut (A) and disconnect the connecting rods from the ends of the stabilizer bar.

↔ : Vehicle front

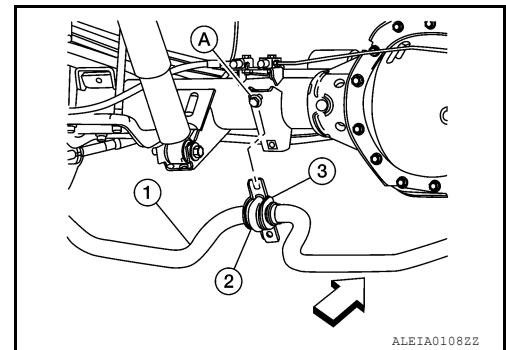


2. Loosen the upper stabilizer bar clamp bolts (A) and remove the lower stabilizer bar clamp bolts (B).



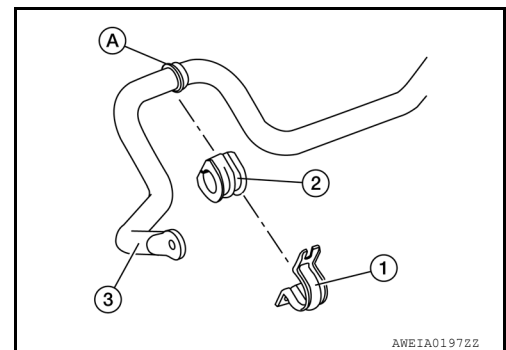
3. Lower the stabilizer bar (1), the stabilizer bar clamps (2) and the stabilizer bar bushings (3) as an assembly from the lower stabilizer bar clamp bolts (A) to remove it from the vehicle.

↔ : Vehicle front



4. Separate the stabilizer bar clamps (1) and the stabilizer bar bushings (2) from the stabilizer bar (3).

• Crimp ring (A)



Installation

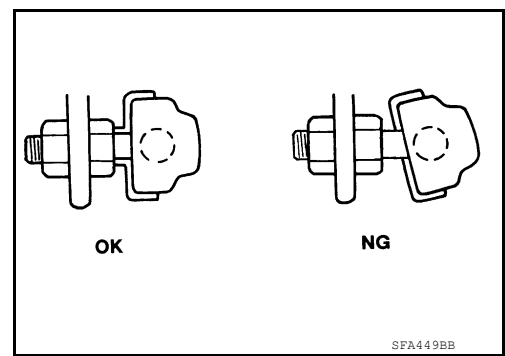
Installation is in the reverse order of removal.

- During installation, position the stabilizer bar clamp and stabilizer bushing on the outside of the crimp ring on the stabilizer bar.

STABILIZER BAR

< REMOVAL AND INSTALLATION >

- Install the stabilizer bar with the ball joint sockets properly aligned.

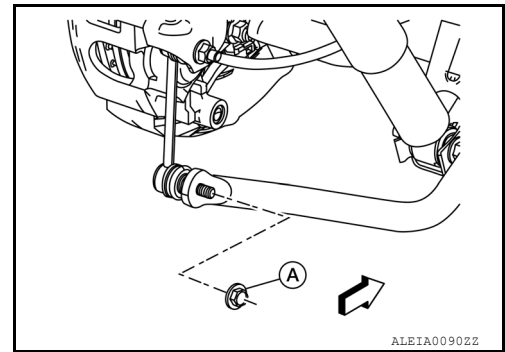


STABILIZER BAR CONNECTING ROD

Removal

1. Remove the connecting rod lower nut (A) from the end of the stabilizer bar.

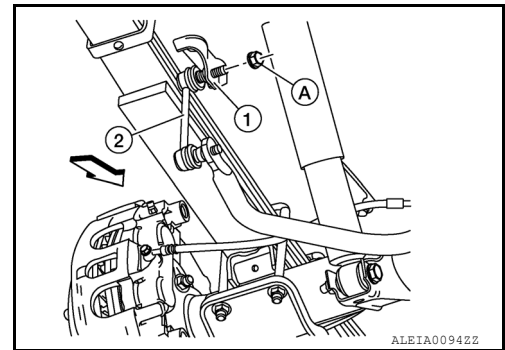
↔ : Vehicle front



2. Remove the connecting rod upper nut (A) from the connecting rod bracket (1).

↔ : Vehicle front

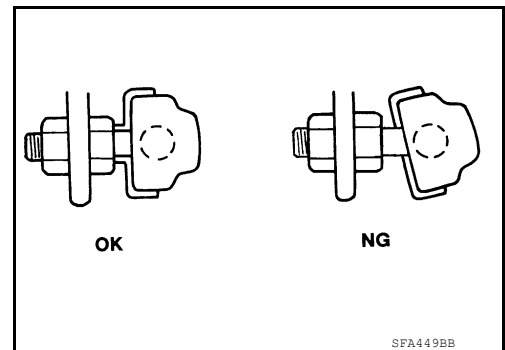
3. Remove the connecting rod (2).



Installation

Installation is in the reverse order of removal.

- Install the stabilizer bar with the ball joint sockets properly aligned.



LEAF SPRING

< REMOVAL AND INSTALLATION >

LEAF SPRING

Removal and Installation

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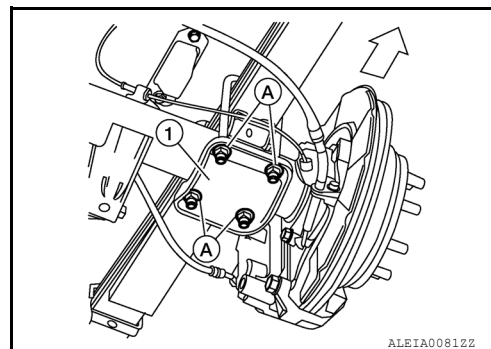
CAUTION:

When installing the components with rubber bushings, the final nut tightening must be carried out under unladen* conditions with the tires on level ground.

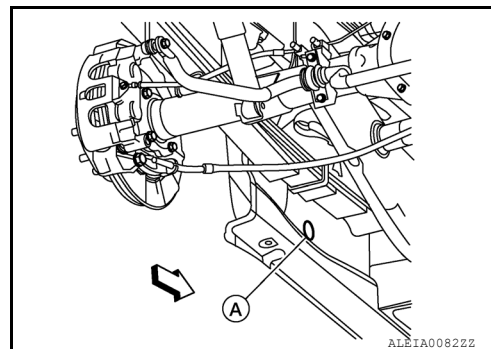
* (Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.)

REMOVAL

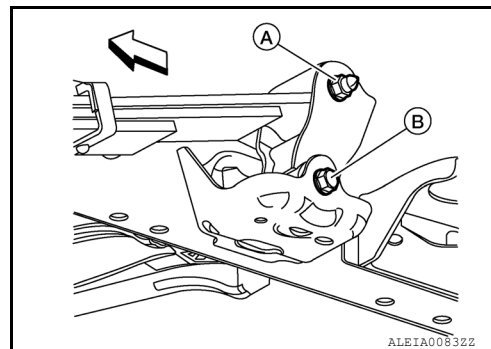
1. Remove the wheel and tire assembly using power tool.
2. Support the rear final drive assembly with a suitable jack to relieve the tension from the leaf spring.
 - The axle weight must be supported, but there should be no compression in the spring.
3. Remove the four rear spring U-bolt nuts (A) using power tool and remove the rear spring lower seat (1).
⇐ : Vehicle front
4. Remove the U-bolts and the rear spring upper seat.



5. Remove the body plug (A) to accommodate the removal of the rear leaf spring front bolt (LH side only).
⇐ : Vehicle front
6. Remove the rear leaf spring front nut and bolt using power tool.



7. Loosen the rear spring to shackle upper nut (A) and bolt.
⇐ : Vehicle front
8. Remove the shackle to frame lower nut and bolt (B).



9. Remove the rear leaf spring and shackle as an assembly from the vehicle.
10. Remove the rear spring shackle from the rear leaf spring as necessary, using power tool.

INSPECTION AFTER REMOVAL

- Check the rear leaf spring for any cracks or damage. Replace the rear leaf spring if necessary.
- Check the rear spring shackle, rear spring U-bolts, bumper and rear spring upper pad for excessive wear, cracks, straightness, and damage. Replace any components if necessary.
- Check all bushings for deformation and cracks. Replace the leaf spring assembly if necessary.

INSTALLATION

LEAF SPRING

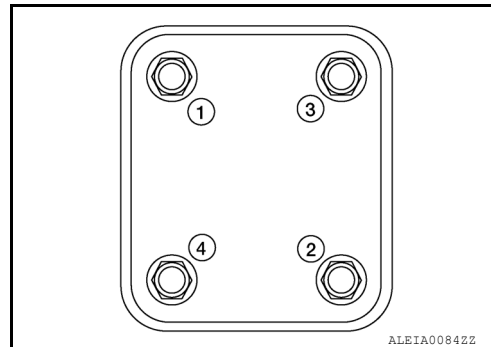
< REMOVAL AND INSTALLATION >

1. Apply soapsuds to all of the rubber bushings.
2. Install the rear spring shackle and rear leaf spring front nut and bolt. Finger-tighten the nuts.
3. Position the rear spring U-bolts and rear spring upper seat on top of the rear leaf spring.
4. Install the rear spring lower seat, and new rear spring U-bolt nuts under the rear final drive axle case.

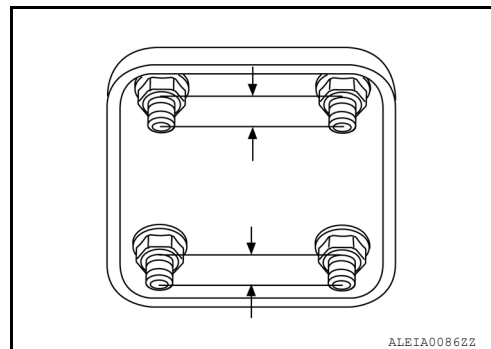
CAUTION:

Use new rear spring clip U-bolt nuts for installation.

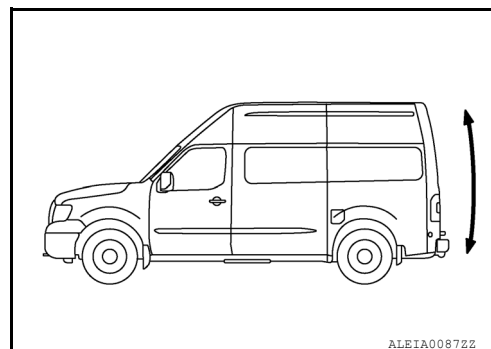
5. Tighten the rear spring U-bolt nuts diagonally and evenly using the following sequence:
 - a. Tighten the rear spring U-bolt nuts until the rear spring pad contacts the rear final drive axle case.
 - b. Tighten the rear spring clip U-bolt nuts diagonally and evenly to specification. Refer to [RSU-6, "Exploded View"](#).



- c. Tighten the rear spring clip U-bolt nuts to specification so the lengths of all the exposed rear spring clip U-bolt threads under the rear spring pad are equal in length as shown. Thread protrusion difference between front and rear must not be more than 3 mm (0.1 in).



6. Remove the jack supporting the rear final drive assembly and bounce the rear of the vehicle to stabilize the suspension. (unladen*)
* (Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.)



7. Tighten the rear spring front bolt, the rear spring to shackle nut, and the shackle to frame bolt to specification. Refer to [RSU-6, "Exploded View"](#).

CAUTION:

When installing the components with rubber bushings, the final nut tightening must be carried out under unladen* conditions with the tires on level ground.

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

8. Install the wheel and tire assembly to the vehicle. Tighten the wheel nuts to specification. Refer to [WT-63, "Adjustment"](#).

SERVICE DATA AND SPECIFICATIONS (SDS)

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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specification (Rear)

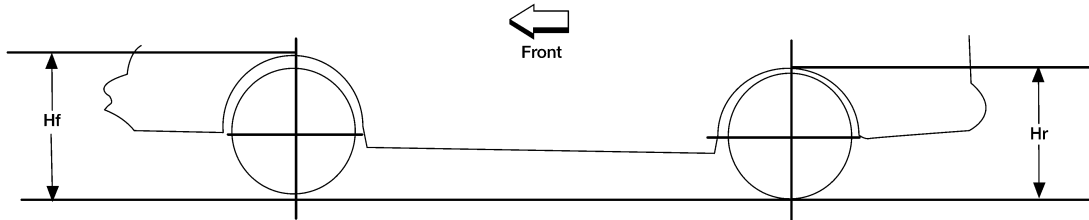
INFOID:000000006749839

Suspension type	Rigid axle with semi-elliptic leaf spring
Shock absorber type	Double-acting hydraulic

Wheelarch Height (Unladen*1)

INFOID:000000008017969

Unit: mm (in)



LEIA0085E

Vehicle type	NV1500/2500	NV3500	Passenger van
Tire Size	245/70R17	245/75R17	245/70R17
Front wheel arch height (Hf)	888 (35.0)	900 (35.4)	888 (35.0)
Rear wheel arch height (Hr)	922 (36.3)	947 (37.3)	922 (36.3)

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