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SECTION **RSU**  
REAR SUSPENSION

CONTENTS

RSU

<b>PRECAUTIONS</b> .....	2	RADIUS ROD .....	9	F
Precautions .....	2	FRONT LOWER LINK .....	9	
<b>PREPARATION</b> .....	3	REAR LOWER LINK AND COIL SPRING .....	9	
Commercial Service Tools .....	3	STABILIZER BAR .....	10	G
<b>NOISE, VIBRATION, AND HARSHNESS (NVH)</b>		Inspection .....	10	
<b>TROUBLESHOOTING</b> .....	4	SHOCK ABSORBER ASSEMBLY .....	10	
NVH Troubleshooting Chart .....	4	SUSPENSION ARM .....	10	H
<b>REAR SUSPENSION ASSEMBLY</b> .....	5	RADIUS ROD .....	11	
Components .....	5	FRONT LOWER LINK .....	11	
On-vehicle Service .....	6	UPPER RUBBER SEAT AND BUSHING .....	11	
Rear Wheel Alignment .....	6	REAR LOWER LINK AND COIL SPRING .....	11	I
PRELIMINARY INSPECTION .....	6	STABILIZER BAR .....	11	
CAMBER .....	6	<b>SERVICE DATA AND SPECIFICATIONS (SDS)</b> .....	12	
TOE-IN .....	7	General Specifications (Rear) .....	12	J
Removal and Installation .....	8	Rear Wheel Alignment (Unladen*) .....	12	
REAR SUSPENSION ASSEMBLY .....	8	Ball Joint .....	12	
SHOCK ABSORBER .....	9	Wheelarch Height (Unladen*) .....	13	K
SUSPENSION ARM .....	9			

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# PRECAUTIONS

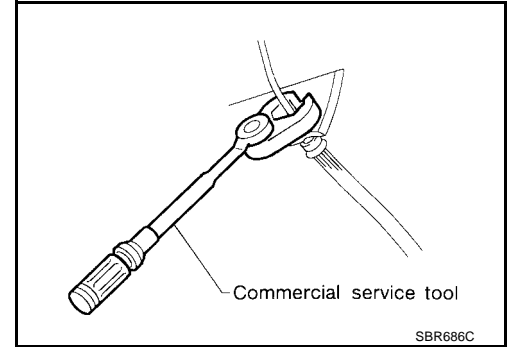
## PRECAUTIONS

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### Precautions

EES000WE

- When installing each rubber part, final tightening must be carried out under unladen condition\* with tires on ground. Oil will shorten the life of rubber bushings. Be sure to wipe off any spilled oil.  
\*: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- Use flare nut wrench when removing or installing brake tubes.
- After installing removed suspension parts, check wheel alignment.
- Do not jack up at the trailing arm and lateral link.
- Always torque brake lines when installing.
- Lock nuts are unreusable parts; always use new ones.  
When replacing, do not wipe the oil off of the new lock nut before tightening.



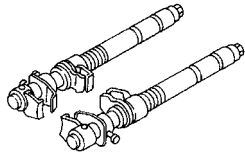
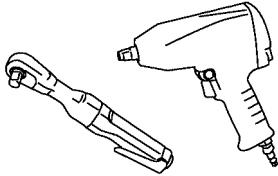
# PREPARATION

## PREPARATION

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## Commercial Service Tools

EES000N8

Tool name	Description
<p>Spring compressor</p>  <p>NT717</p>	<p>Removing and installing coil spring</p>
<p>Power tool</p>  <p>PBIC0190E</p>	<p>Loosening bolts and nuts</p>

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# NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

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

PFP:00003

### NVH Troubleshooting Chart

EES000N9

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

Symptom		Possible Cause and SUSPECTED PARTS		Reference page	
Symptom	SUSPENSION	Noise	x	x	RSU-5
		Shake	x	x	RSU-10
		Vibration	x	x	RSU-11
		Shimmy	x	x	—
		Shudder	x	x	RSU-11
		Poor quality ride or handling	x	x	RSU-5
	TIRES	Noise	x	x	RSU-6
		Shake	x	x	RSU-11
		Vibration	x	x	WT-3
		Shimmy	x	x	WT-4
		Shudder	x	x	WT-6
		Poor quality ride or handling	x	x	WT-2
	ROAD WHEEL	Noise	x	x	WT-2
		Shake	x	x	WT-2
		Shimmy, shudder	x	x	WT-2
		Poor quality ride or handling	x	x	WT-2

x: Applicable

## Components

**SEC. 430 - 431**

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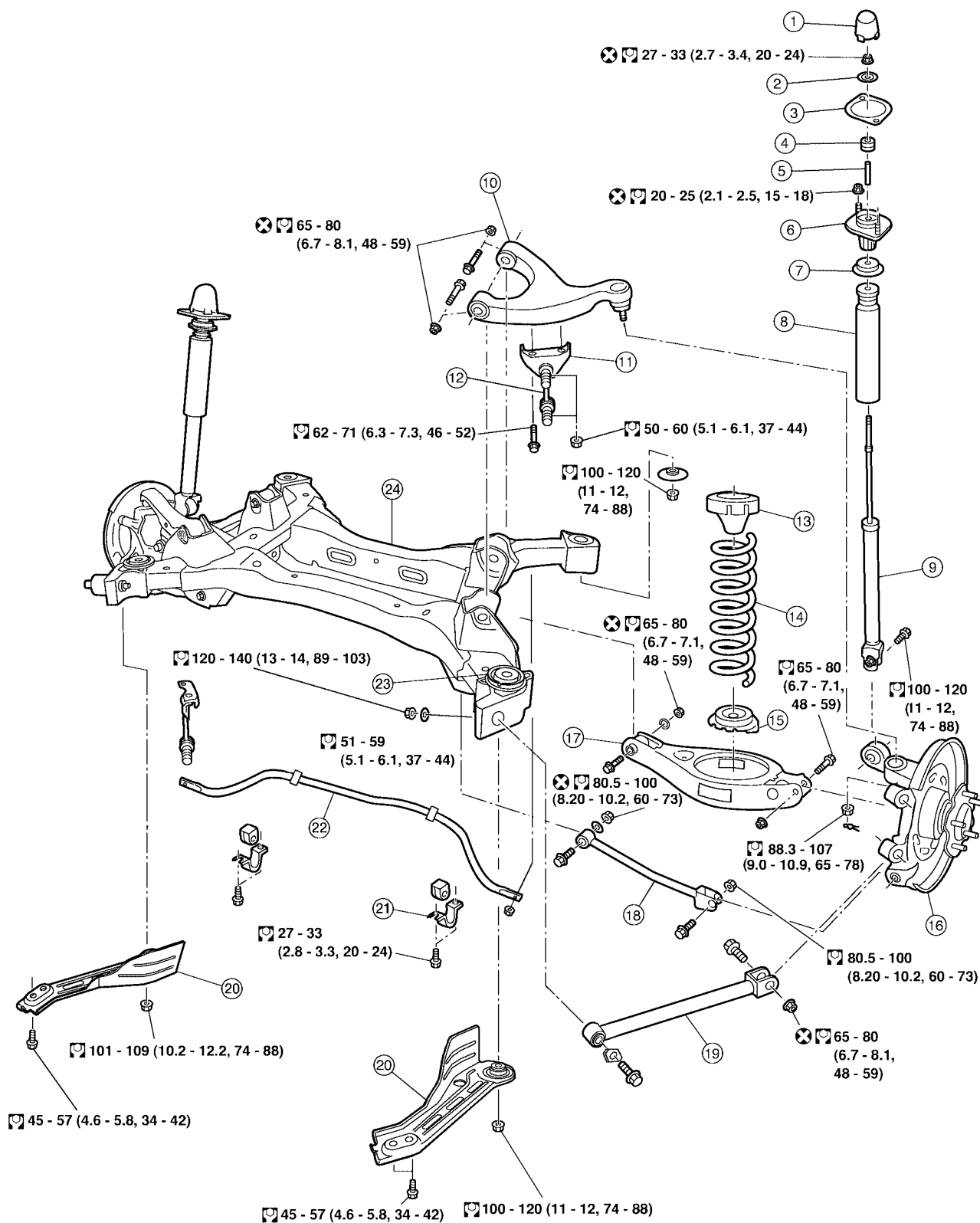
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**⊗**: Always replace after every disassembly.

 : N·m (kg-m, ft-lb)

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## RSU-5

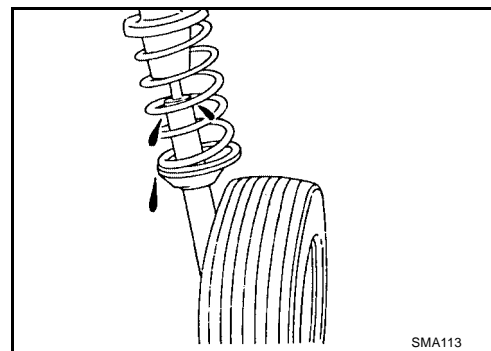
# REAR SUSPENSION ASSEMBLY

- |                                    |                                  |                                 |
|------------------------------------|----------------------------------|---------------------------------|
| 1. Cap                             | 2. Washer                        | 3. Gasket                       |
| 4. Bushing                         | 5. Distance tube                 | 6. Shock absorber mount bracket |
| 7. Bound bumper cover              | 8. Bound bumper                  | 9. Shock absorber               |
| 10. Suspension arm                 | 11. Connecting rod mount bracket | 12. Connecting rod              |
| 13. Upper rubber seat              | 14. Coil spring                  | 15. Lower rubber seat           |
| 16. Wheel hub and spindle assembly | 17. Rear lower link              | 18. Front lower link            |
| 19. Radius rod                     | 20. Member stay                  | 21. Stabilizer bar clamp        |
| 22. Stabilizer bar                 | 23. Member stopper               | 24. Rear suspension member      |

## On-vehicle Service

EES000NB

- Check the suspension parts for excessive play, cracks, wear or damage. Shake each rear wheel to check for excessive play.
- Retighten all nuts and bolts to specification.
- Check that the cotter pin is inserted securely.
- Check the shock absorber for oil leaks or other damage.
- Check the wheelarch height. Refer to [RSU-13, "Wheelarch Height \(Unladen\\*\)"](#).
- Check the suspension ball joint for grease leaks and the ball joint dust cover for cracks or other damage.



## Rear Wheel Alignment

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Before checking the rear wheel alignment, make a preliminary inspection.

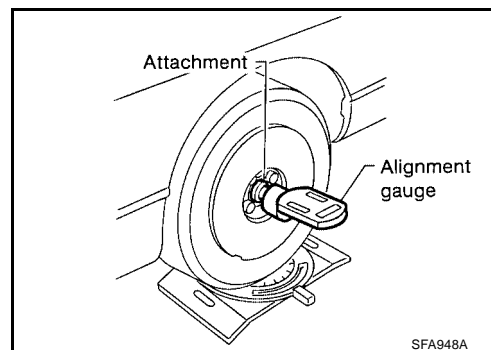
### PRELIMINARY INSPECTION

- Check the tires for wear or improper inflation pressure.
- Check the wheels for deformation, cracks or other damage. If deformed, remove the wheel and check the wheel runout. Refer to [WT-3, "Inspection"](#).
- Check the rear wheel hub assemblies for looseness.
- Check the rear suspension for looseness.
- Check that the rear shock absorber works properly.
- Check the wheelarch height (Unladen\*). Refer to [RSU-13, "Wheelarch Height \(Unladen\\*\)"](#).

### CAMBER

- Measure camber of both the right and left wheels with a suitable alignment gauge and adjust in accordance with the following procedure.

**Camber** : Refer to [RSU-12, "Rear Wheel Alignment \(Unladen\\*\)"](#).



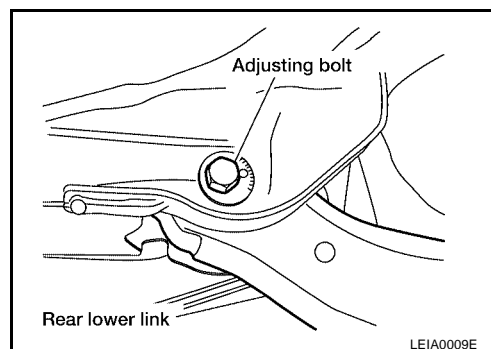
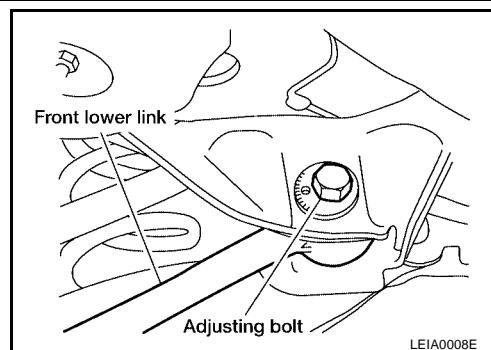
- If camber is not within specification, adjust by turning the adjusting bolts in the same direction.

## REAR SUSPENSION ASSEMBLY

1. Turn the adjusting bolts in the same direction to calibrate.

**NOTE:**

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



2. Tighten the adjusting bolts to specification.

**Front lower link adjusting bolt** : 65 – 80 N·m (6.7 – 7.1 kg·m, 48 – 59 ft·lb)

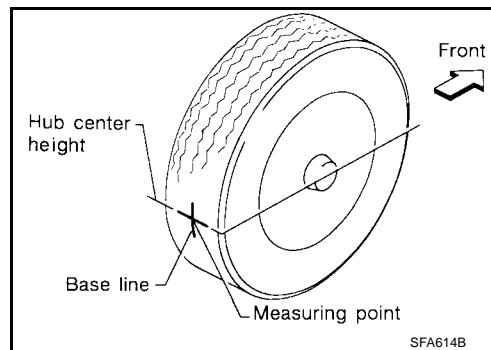
**Rear lower link adjusting bolt** : 80.5 – 100 N·m (8.20 – 10.2 kg·m, 60 – 73 ft·lb)

### TOE-IN

Measure toe-in using the following procedure. If out of specification, inspect and replace any damaged or worn rear suspension components.

**WARNING:**

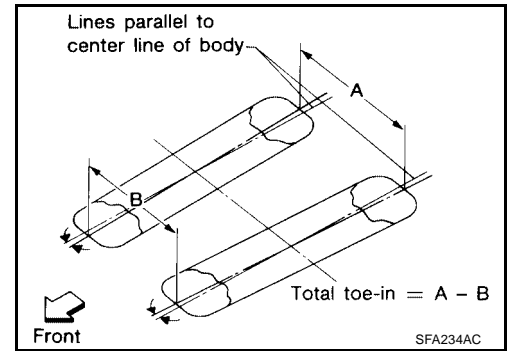
- Always perform the following procedure on a flat surface.
  - Make sure that no person is in front of the vehicle before pushing it.
1. Bounce the rear of the vehicle up and down to stabilize the wheelarch height.
  2. Push the vehicle straight ahead about 5 m (16 ft).
  3. Put a mark on the base line of the tread (rear side) of both tires at the same height as the hub center as shown. These marks are the measuring points.



## REAR SUSPENSION ASSEMBLY

4. Measure the distance "A" (rear side).
5. Push the vehicle slowly ahead to rotate the wheels 180° degrees (1/2 turn).  
If the wheels have rotated more than 180° degrees (1/2 turn), start the above procedure again from the beginning. Never push the vehicle backward.
6. Measure the distance "B" (front side).

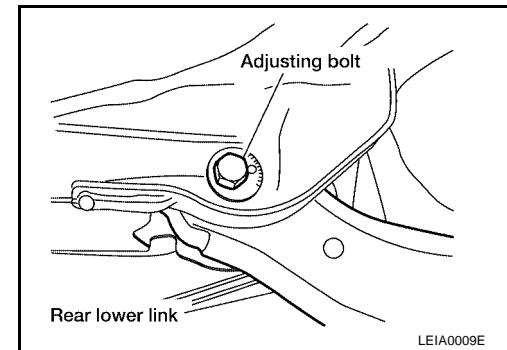
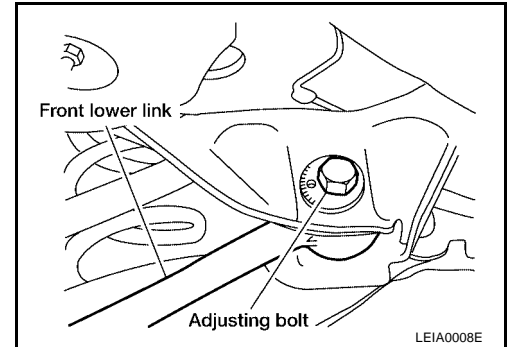
**Total toe-in** : Refer to [RSU-12, "Rear Wheel Alignment \(Unladen\\*\)"](#) .



7. Adjust the toe-in by turning the adjusting bolts.

**NOTE:**

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



8. Tighten the adjusting bolts to specification.

**Front lower link adjusting bolt** : 65 – 80 N·m (6.7 – 7.1 kg-m, 48 – 59 ft-lb)

**Rear lower link adjusting bolt** : 80.5 – 100 N·m (8.20 – 10.2 kg-m, 60 – 73 ft-lb)

### Removal and Installation REAR SUSPENSION ASSEMBLY

EES000ND

**CAUTION:**

**Before removing the rear suspension assembly, disconnect the ABS wheel sensor from the assembly. Failure to do so may result in damage to the sensor wires and the sensor becoming inoperative.**

1. Remove the center exhaust tube with mufflers. Refer to [EX-3, "Removal and Installation"](#) .
2. Disconnect the parking brake cable assemblies from the front cable. Refer to [PB-2, "Removal and Installation"](#) .
3. Remove the brake caliper assembly using power tools. Refer to [BR-30, "Removal and Installation of Caliper Assembly and Disc Rotor"](#) .
  - Leave the brake line connected to the brake caliper.
  - Do not depress the brake pedal, or the caliper piston will pop out.
  - Do not pull or twist the brake hose.
4. Remove the shock absorber upper end nuts.
5. Remove the suspension member nuts, then remove the rear suspension member assembly.
6. Installation is in the reverse order of removal.



## REAR SUSPENSION ASSEMBLY

### SHOCK ABSORBER

1. Set the transmission jack on the rear lower link to remove the lower shock absorber nut and bolt using power tool. A
2. Remove the transmission jack from rear lower link.
3. Remove the upper shock absorber nuts using power tool. B
4. Installation is in the reverse order of removal.

### SUSPENSION ARM

1. Remove the connecting rod mounting bracket from suspension arm using power tool. C
2. Remove the suspension arm nuts and bolts from the suspension member using power tool.
3. Remove the cotter pin and lock nut. D
4. Remove the suspension arm from the wheel hub and spindle assembly using a suitable puller.

#### CAUTION:

- Do not damage ball joint with puller.
- While using puller, temporarily tighten the nut so as not to damage screw part.

5. Installation is in the reverse order of removal.

### RADIUS ROD

1. Place a suitable jack to support the radius rod. F
2. Remove the radius rod using power tool. G
3. Installation is in the reverse order of removal.

### FRONT LOWER LINK

1. Place a suitable jack to support the front lower link. H
2. Remove the front lower link using power tool.
3. Installation is in the reverse order of removal. I
- After installing front lower link, check the wheel alignment and adjust if necessary.

### REAR LOWER LINK AND COIL SPRING

#### Removal

1. Place a suitable jack to support the rear lower link. J
2. Loosen the rear lower link nut and bolt on the suspension member using power tool.
3. Remove the rear lower link bolt and nut from the suspension member. K
4. Slowly lower the jack, then remove the upper rubber seat, coil spring and lower rubber seat from the rear lower link. L
5. Remove the rear lower link bolt and nut from the wheel hub and spindle assembly, then remove the rear lower link. M

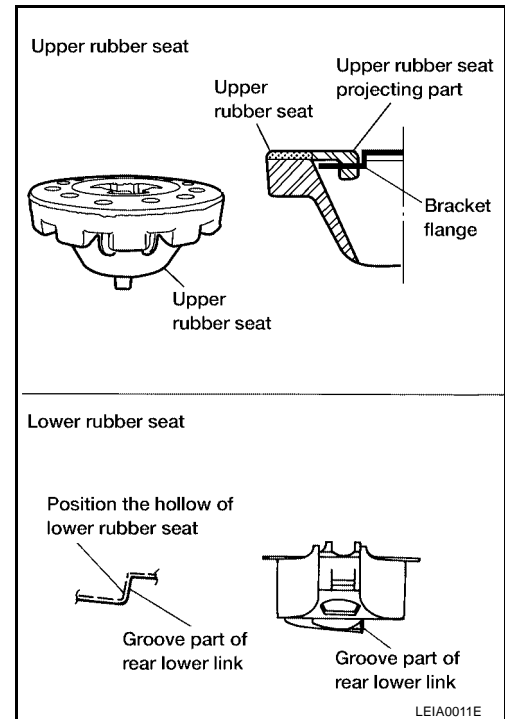
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# REAR SUSPENSION ASSEMBLY

## Installation

Installation is in the reverse order of removal.

- Check that the projecting part inside the upper seat and the flange part of bracket are attached as shown.
- Check that the projection part outside the upper seat directs to vehicle front.
- Position the hollow of the rubber seat with the groove part of the rear lower link for installation.
- Install the coil spring with the side with the two paint markers directed to the lower side.
- After installing the rear lower link and coil spring, check the wheel alignment and adjust if necessary.



## STABILIZER BAR

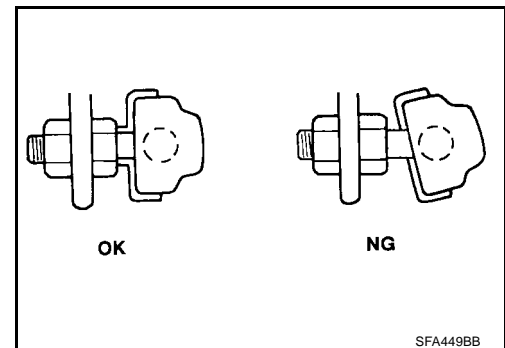
### Removal

1. Disconnect the stabilizer bar ends from the connecting rods using power tool.
2. Remove the stabilizer bar clamps and bushings using power tool.
3. Remove the stabilizer bar.

### Installation

Installation is in the reverse order of removal.

- Install the stabilizer bar with the ball joint socket properly aligned as shown.
- When the bushing and clamp are installed on the stabilizer bar, position the bushing and clamp inside of the sideslip to prevent the stabilizer bar from sliding out of position.



## Inspection

### SHOCK ABSORBER ASSEMBLY

- Check for smooth operation through a full stroke of both compression and extension.
- Check for oil leaks on the welded or gland packing portions.
- Check the piston rod for cracks, deformation, or other damage and replace if necessary.

### SUSPENSION ARM

- Check the suspension arm for damage, cracks, deformation and replace if necessary.
- Check the rubber bushing for damage, cracks, deformation and replace if necessary.

## REAR SUSPENSION ASSEMBLY

- 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.
  - Check if the swinging force “A”, turning force “B”, or vertical end play “C” is out of specification.

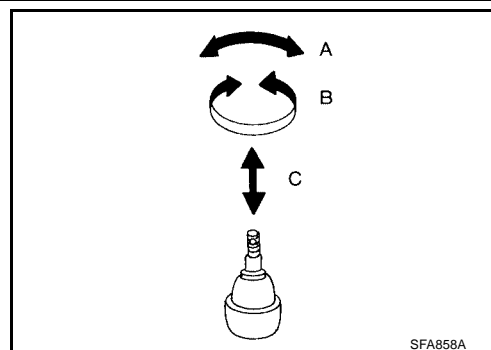
### NOTE:

Before checking specifications, turn the ball joint at least 10 revolutions so the ball joint is properly broken in.

Swinging force “A” : Refer to [RSU-12, "Ball Joint"](#) .

Turning force “B” : Refer to [RSU-12, "Ball Joint"](#) .

Vertical end play “C” : Refer to [RSU-12, "Ball Joint"](#) .



### RADIUS ROD

- Check the radius rod for any deformation, cracks, or damage and replace if necessary.
- After installing the radius rod, check the wheel alignment and adjust if necessary.

### FRONT LOWER LINK

Check the front lower link for any deformation, cracks, or damage and replace if necessary.

### UPPER RUBBER SEAT AND BUSHING

Check the rubber parts for deterioration, or cracks and replace if necessary.

### REAR LOWER LINK AND COIL SPRING

Check the rear lower link and coil spring for deformation, cracks, or other damage and replace if necessary.

### STABILIZER BAR

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

# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

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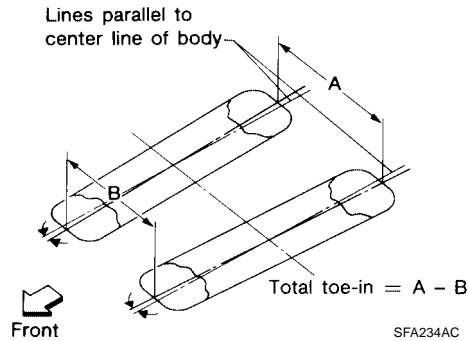
### General Specifications (Rear)

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Suspension type	Multi-link independent suspension
Shock absorber type	Double-acting hydraulic

### Rear Wheel Alignment (Unladen\*)

EES000NG

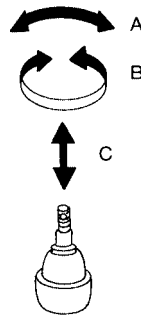


Camber Degree minute (Decimal degree)		Minimum	-0°10' (-0.17°)
		Nominal	-0°40' (-0.67°)
		Maximum	-0°70' (-1.17°)
Total toe-in	Distance (A - B) mm (in)	Minimum	2.5 (0.10)
		Nominal	4.0 (0.16)
		Maximum	5.5 (0.22)
	Angle (left plus right) Degree minute (Decimal degree)	Minimum	0° 6' (0.1°)
		Nominal	0° 10' (0.167°)
		Maximum	0° 14' (0.233°)

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

### Ball Joint

EES000NH

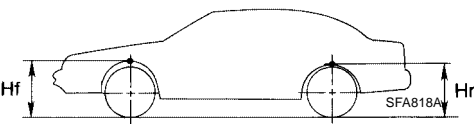


Swinging force "A" (measuring point at the cotter pin hole of the ball stud) N (kg-f, lb-f)	7.8 - 54.9 (0.8 - 5.6, 1.8 - 12.3)
Turning torque "B" N·m (kg-cm, in-lb)	0.49 - 3.43 (5.0 - 35.0, 4.3 - 30.4)
Vertical end play "C" mm (in)	0 (0)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheelarch Height (Unladen\*)

EES000NI  
Unit: mm (in)



Tire	245/45R18	225/55R17
Front (Hf)	737 (29.02)	739 (29.09)
Rear (Hr)	705 (27.76)	705 (27.76)

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

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## SERVICE DATA AND SPECIFICATIONS (SDS)

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