

# FRONT & REAR SUSPENSION

# SECTION SU

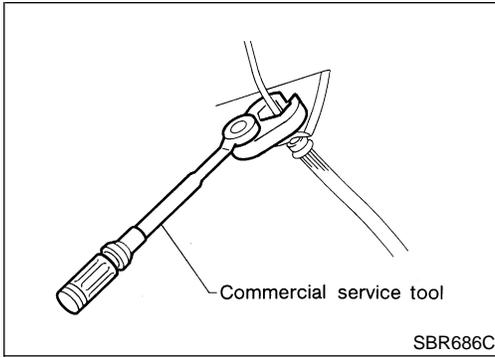
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# FRONT SUSPENSION

## Precautions



## Precautions PRECAUTIONS

- When installing rubber parts, final tightening must be carried out under unladen condition\* with tires on ground.  
\*:Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Use flare nut wrench when removing or installing brake tubes.
- Always torque brake lines when installing.

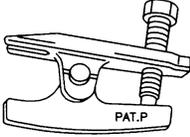
NDSU0001

## Preparation

## SPECIAL SERVICE TOOL

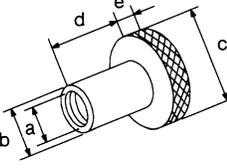
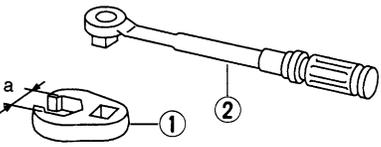
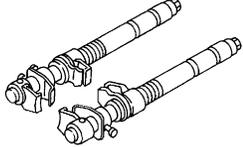
The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

NDSU0002

Tool number (Kent-Moore No.) Tool name	Description
HT72520000 (J25730-B) Ball joint remover	 <p>Removing tie-rod outer end and lower ball joint</p> <p>NT146</p>

## COMMERCIAL SERVICE TOOL

NDSU0003

Tool name	Description
Attachment Wheel alignment	 <p>Measuring wheel alignment  <b>a: Screw M22 x 1.5</b>  <b>b: 35 (1.38) dia.</b>  <b>c: 65 (2.56) dia.</b>  <b>d: 56 (2.20)</b>  <b>e: 12 (0.47)</b>                      Unit: mm (in)</p> <p>NT148</p>
1 Flare nut crowfoot 2 Torque wrench	 <p>Removing and installing brake piping  <b>a: 10 mm (0.39 in)</b></p> <p>NT360</p>
Spring compressor	 <p>Removing and installing coil spring</p> <p>NT717</p>

# FRONT SUSPENSION

Noise, Vibration and Harshness (NVH) Troubleshooting

## Noise, Vibration and Harshness (NVH) Troubleshooting

=NDSU0004

NDSU0004S01

### NVH TROUBLESHOOTING CHART

Use the 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																					
			SU-4, 16	SU-8, 23	—	—	—	SU-8, 20	SU-6	SU-10, 23	SU-6	—	—	—	—	—	NVH in AX-3 and AX-18	NVH in AX-3 and AX-18	Refer to SUSPENSION in this chart.	Refer to TIRES in this chart.	Refer to ROAD WHEEL in this chart.	NVH in BR-5	NVH in ST-5	
SUSPENSION	Noise	Improper installation, looseness	x	x	x	x	x	x										x	x		x	x	x	x
	Shake	Strut or shock absorber deformation, damage or deflection	x	x	x	x		x										x	x		x	x	x	x
	Vibration	Bushing or mounting deterioration	x	x	x	x	x											x	x		x			x
	Shimmy	Parts interference	x	x	x	x															x			
	Judder	Spring fatigue	x	x	x					x											x		x	x
	Poor quality ride or handling	Suspension looseness	x	x	x	x																		
	TIRES	Noise	Incorrect wheel alignment																					
		Shake	Stabilizer bar fatigue																					
		Vibration	Out-of-round																					
		Shimmy	Imbalance																					
		Judder	Incorrect air pressure																					
		Poor quality ride or handling	Uneven tire wear																					
ROAD WHEEL	Noise	Deformation or damage																						
	Shake	Non-uniformity																						
	Shimmy, Judder	Incorrect tire size																						
	Poor quality ride or handling	DRIVE SHAFT																						

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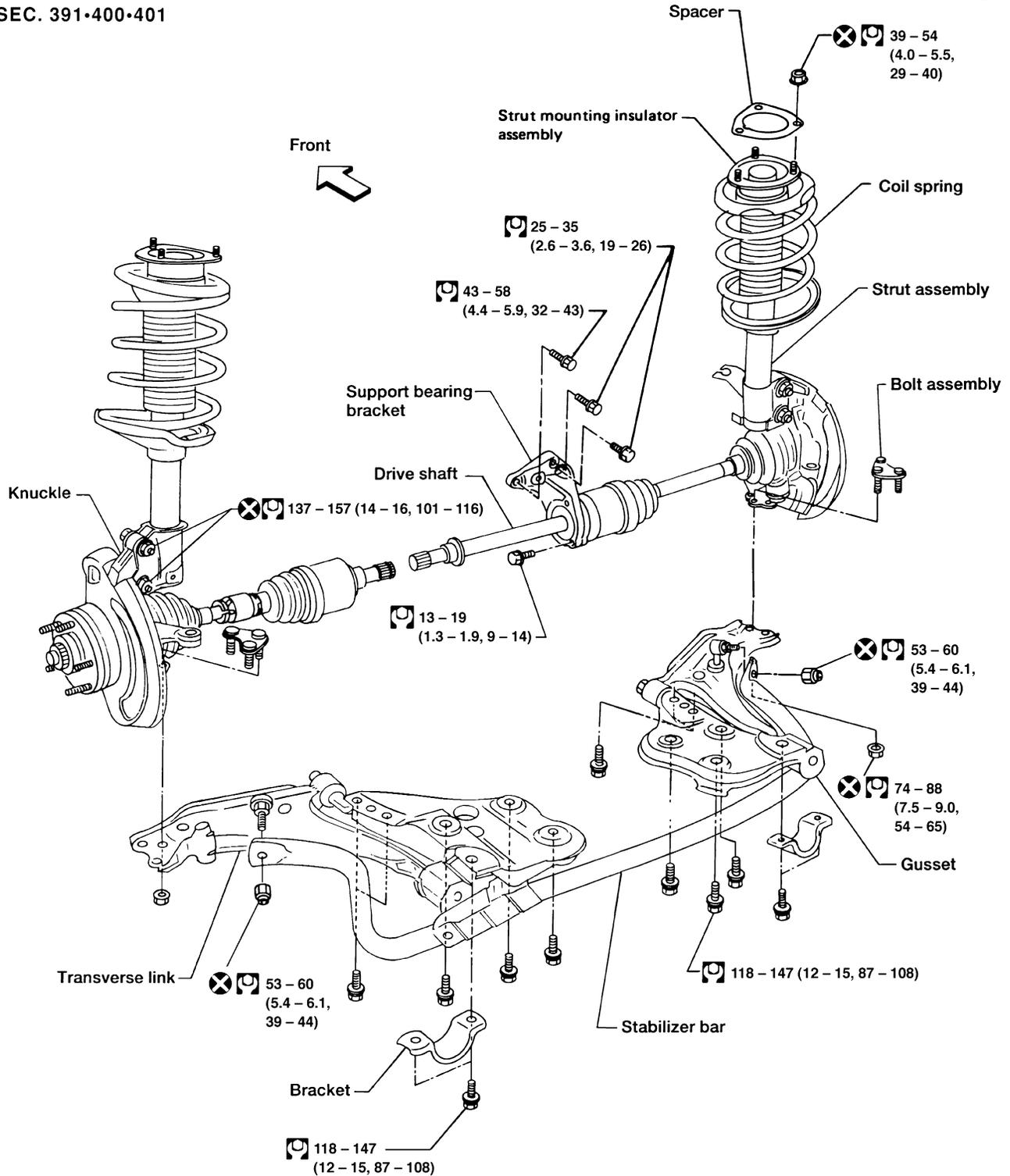
# FRONT SUSPENSION

Components

## Components

NDSU0005

SEC. 391•400•401



When installing rubber parts, final tightening must be carried out under unladen condition\* with tires on ground.

\*: Fuel, radiator coolant and engine oil full.

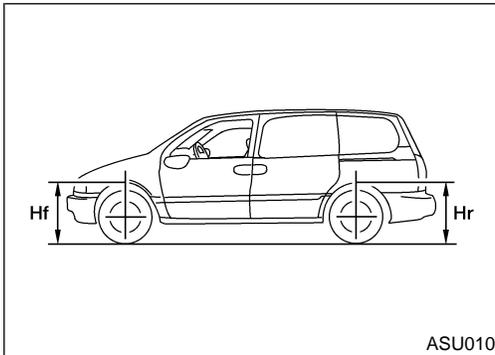
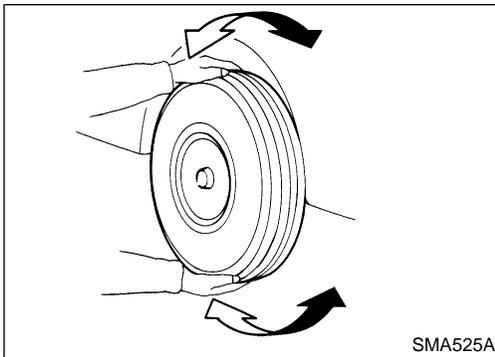
Spare tire, jack, hand tools and mats in designated positions.

: N·m (kg·m, ft·lb)

ASU016

# FRONT SUSPENSION

On-vehicle Service



## On-vehicle Service FRONT SUSPENSION PARTS

NDSU0006

Check front axle and front suspension parts for excessive play, cracks, wear and other damage.

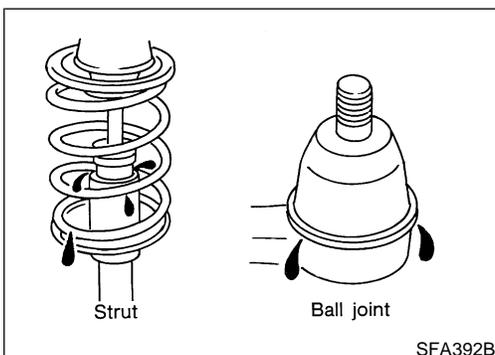
- Shake each front wheel to check for excessive play.
- Make sure that the cotter pin is inserted.
- Retighten all nuts and bolts to the specified torque.

### Tightening torque:

Refer to “Components”, SU-8.

- Check spring height from top of wheelarch to ground using the following procedure.
  - a) Park vehicle on a level surface with vehicle unladen\*.  
\*:Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
  - b) Check tires for proper inflation and wear (tread wear indicator must not be showing).
  - c) Bounce vehicle up and down several times and measure dimensions Hf and Hr. Refer to “WHEELARCH HEIGHT”, SU-14.

Spring height is not adjustable. If out of specification, check for worn springs or suspension parts.



- Check strut for oil leakage and other damage.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks and other damage.  
If ball joint dust cover is cracked or damaged, replace ball joint assembly.

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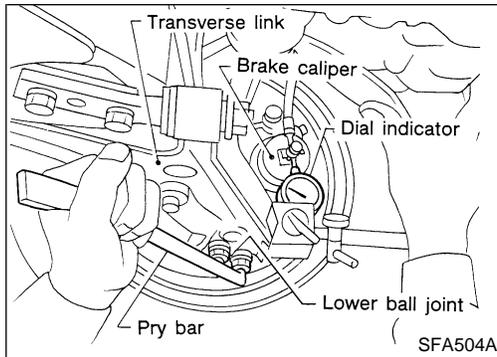
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# FRONT SUSPENSION

On-vehicle Service (Cont'd)



- Check suspension ball joint end play.
- a) Jack up front of vehicle and set the stands.
- b) Clamp dial indicator onto transverse link and place indicator tip on lower edge of brake caliper.
- c) Make sure front wheels are straight and brake pedal is depressed.
- d) Place a pry bar between transverse link and inner rim of road wheel.
- e) While raising and releasing pry bar, observe maximum dial indicator value.

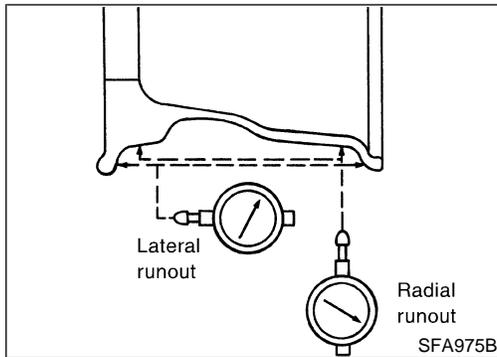
**Vertical end play:**  
**0 mm (0 in)**

If ball joint vertical end play exists, replace ball joint and recheck vertical end play.

## FRONT WHEEL ALIGNMENT

Before checking front wheel alignment, be sure to make a preliminary inspection (Unladen\*). NDSU0007

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

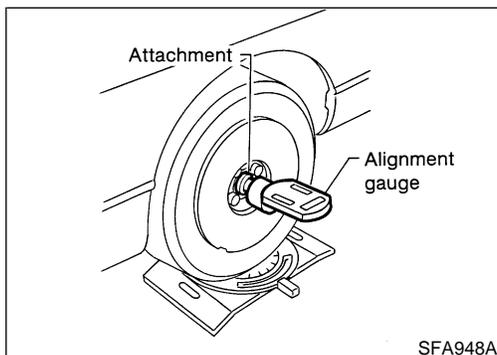


## Preliminary Inspection

1. Check tires for wear and improper inflation. NDSU0007S01
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.
- a. Remove tire from wheel and mount wheel on a tire balance machine.
- b. Set dial indicator as shown in the illustration.

**Wheel runout (Dial indicator value):**  
**Refer to "Wheel Runout", SU-14.**

3. Check front wheel bearings for looseness.
4. Check front suspension for looseness.
5. Check steering linkage for looseness.
6. Check that front struts work properly.
7. Check vehicle posture (Unladen).



## Camber, Caster and Kingpin Inclination

**Camber, caster and kingpin inclination are preset at factory and cannot be adjusted.** NDSU0007S02

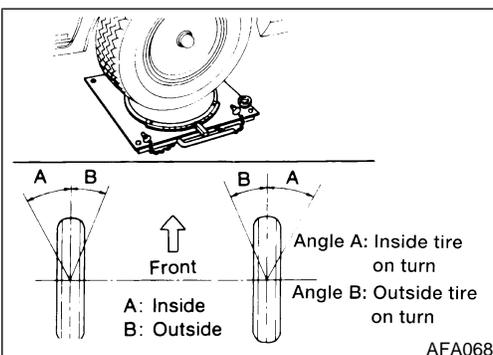
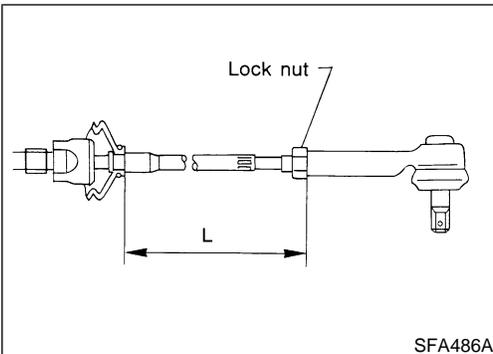
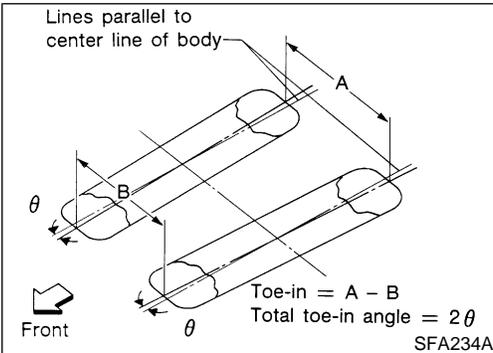
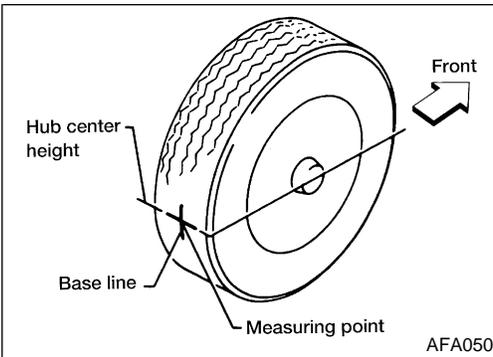
1. Measure camber, caster and kingpin inclination of both right and left wheels with a suitable alignment gauge.

**Camber, caster and kingpin inclination:**  
**Refer to "FRONT WHEEL ALIGNMENT (UNLADEN\*1)", SU-13.**

2. If camber, caster and kingpin inclination are not within specification, inspect front suspension parts. Replace any damaged or worn out parts.

# FRONT SUSPENSION

On-vehicle Service (Cont'd)



## Toe-in

NDSU0007S03

Measure toe-in using the following procedure.

### WARNING:

- Always perform the following procedure on a flat surface.
- Make sure that no one is in front of the vehicle before pushing it.

1. Bounce front of vehicle up and down to stabilize the posture.
2. Push the vehicle straight ahead about 5 m (16 ft).
3. Put a mark on base line of tread (rear side) of both front tires at the same height as hub center. These are measuring points.

4. Measure 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), try the above procedure again from the beginning. Never push vehicle backward.

6. Measure distance "B" (front side).

Toe-in (A - B):

Refer to "FRONT WHEEL ALIGNMENT (UNLADEN\*1)", SU-13.

7. Adjust toe-in by varying the length of steering tie-rods.

- a. Loosen lock nuts.

- b. Adjust toe-in by screwing tie-rods in or out.

Standard length "L":

Refer to "General Specifications", ST-24.

- c. Tighten lock nuts to specified torque.

: 41 - 81 N·m (4.2 - 8.3 kg·m, 30 - 60 ft·lb)

## Front Wheel Turning Angle

NDSU0007S04

1. Set wheels in straight-ahead position. Then move vehicle forward until front wheels rest on turning radius gauge properly.
2. Rotate steering wheel all the way right and left; measure turning angle.

Wheel turning angle (Full turn):

Refer to "FRONT WHEEL ALIGNMENT (UNLADEN\*1)", SU-13.

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# FRONT SUSPENSION

Coil Spring and Strut Assembly

## Coil Spring and Strut Assembly

NDSU0008

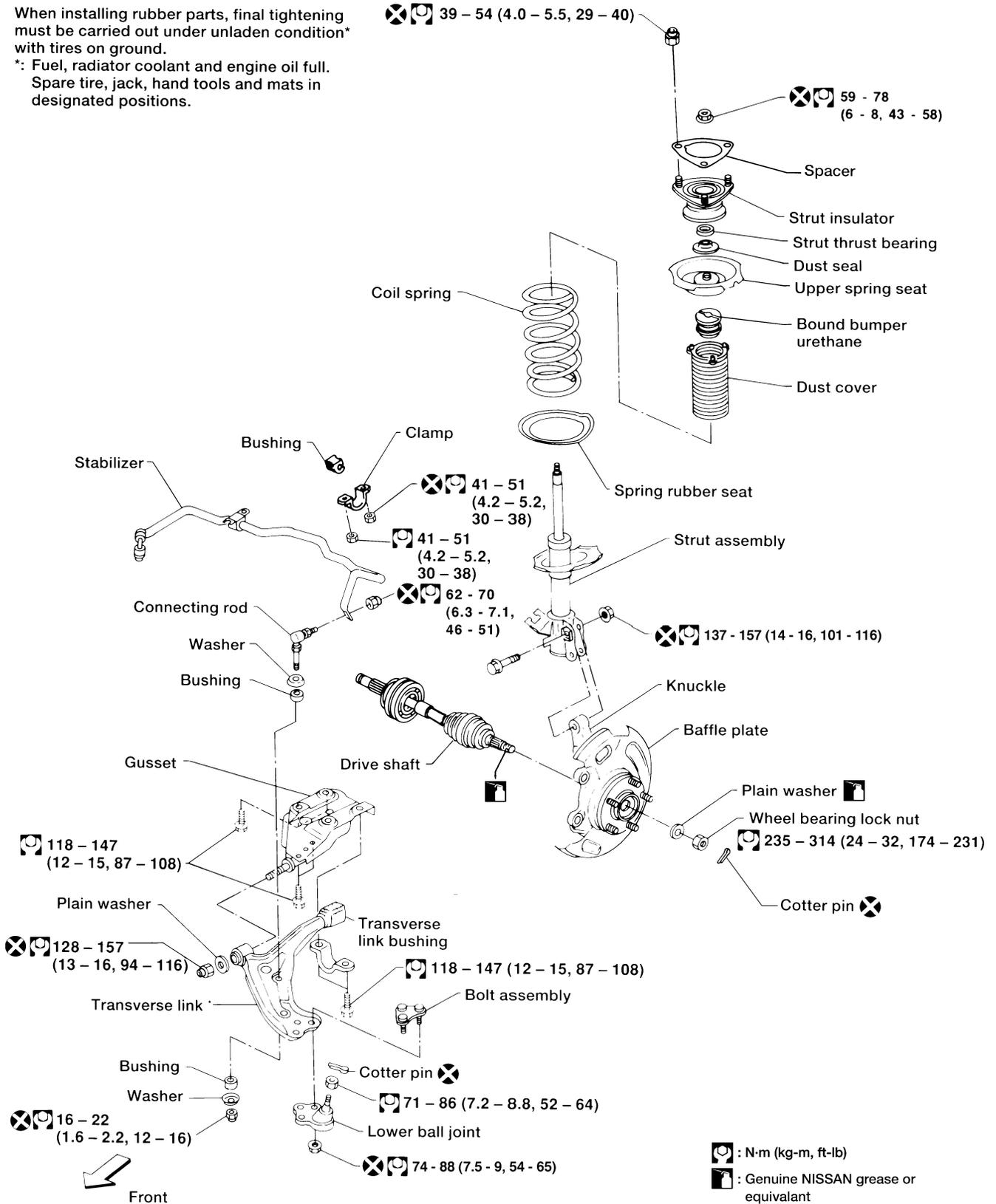
### COMPONENTS

#### SEC. 391-400-401

When installing rubber parts, final tightening must be carried out under unladen condition\* with tires on ground.

\*: Fuel, radiator coolant and engine oil full.

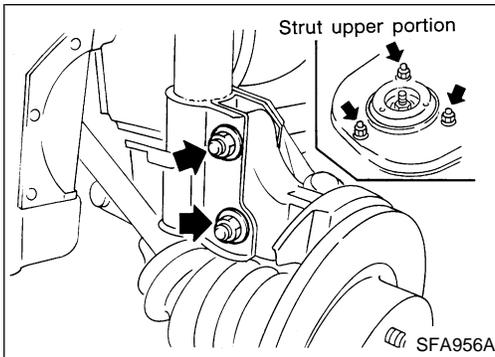
Spare tire, jack, hand tools and mats in designated positions.



WSU012

# FRONT SUSPENSION

Coil Spring and Strut Assembly (Cont'd)



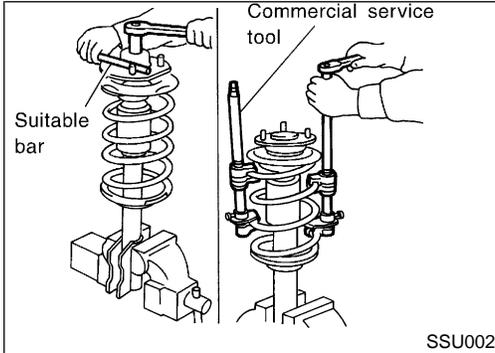
## REMOVAL AND INSTALLATION

NDSU0009

- Remove strut assembly fixing bolts and nuts (to hood ledge).

### WARNING:

Do not remove piston rod lock nut on vehicle.



## DISASSEMBLY

NDSU0010

1. Set strut assembly on vise, then **loosen** piston rod lock nut.

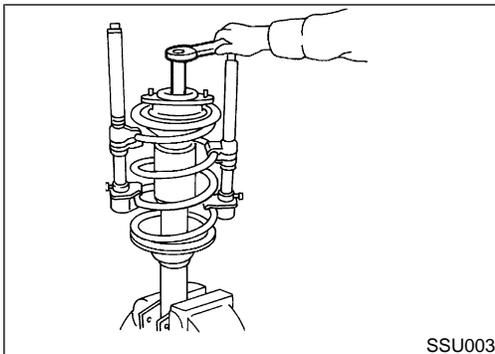
### WARNING:

Do not remove piston rod lock nut at this time.

2. Compress spring with Tool so that the strut mounting insulator can be turned by hand.

### WARNING:

Make sure that the pawls of the two spring compressors are firmly hooked on the spring. The spring compressors must be tightened alternately so as not to tilt the spring.



3. Remove piston rod lock nut.

## INSPECTION

NDSU0011

### Strut Assembly

NDSU0011S01

- Check both compression and extension for smooth operation through a full stroke.
- Check for oil leakage occurring on welded or gland packing portion.
- Check piston rod for cracks, deformation and other damage.
- Replace if necessary.

### Strut Mounting Insulator

NDSU0011S02

- Check cemented rubber-to-metal portion for separation and cracks.
- Check rubber parts for deterioration.

### Thrust Bearing

NDSU0011S03

- Check thrust bearing parts for abnormal noise or excessive rattle in axial direction.
- Replace if necessary.

### Coil Spring and Insulator

NDSU0011S04

- Check for cracks, deformation and other damage. Replace if necessary.

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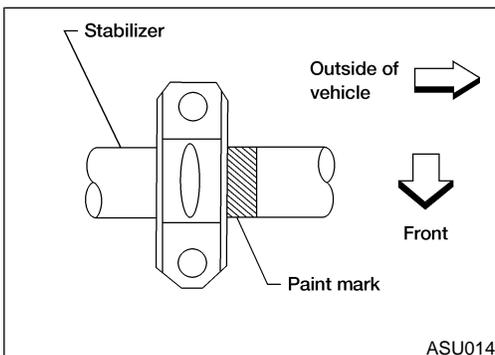
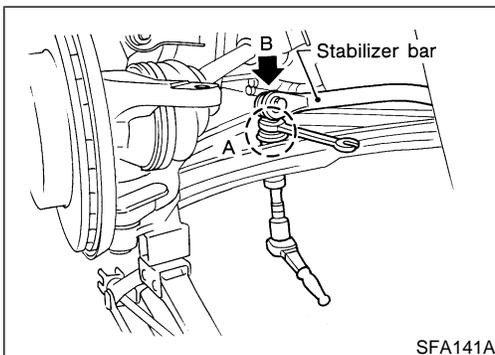
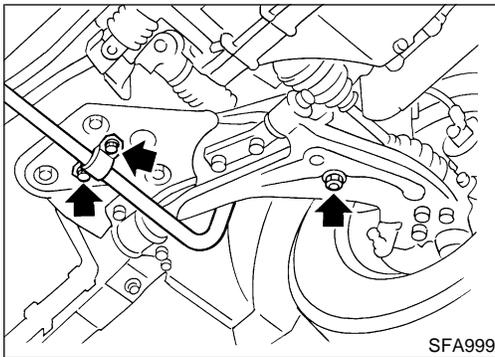
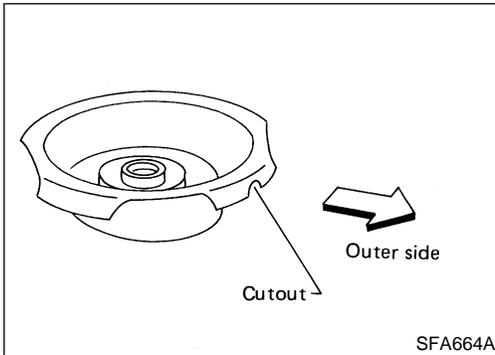
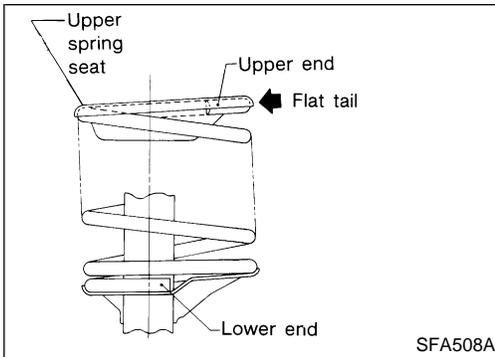
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# FRONT SUSPENSION

## Coil Spring and Strut Assembly (Cont'd)



## ASSEMBLY

NDSU0012

- When installing coil spring on strut, it must be positioned as shown in the figure at left.

- Install upper spring seat with alignment mark facing outside of vehicle, in line with strut-to-knuckle attachment points ( $\pm 3^\circ$ ).
- Replace strut lower mounting nuts.
- When installing strut to knuckle, be sure to hold bolts and tighten nuts.**

 : 137 - 157 N-m (14.0 - 16.0 kg-m, 101 - 116 ft-lb)

## Stabilizer Bar

### REMOVAL AND INSTALLATION

NDSU0013

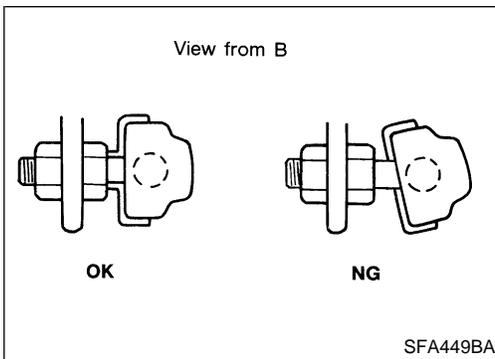
- Remove stabilizer bar.

- When removing or installing stabilizer bar, secure portion A with wrench as shown.

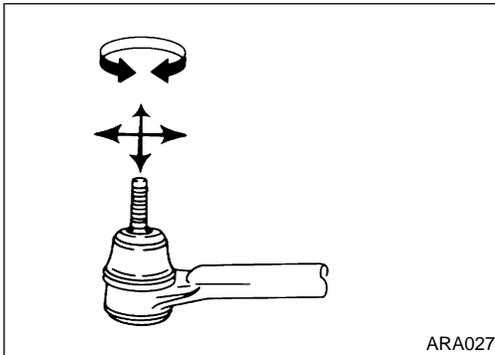
- When installing stabilizer, make sure that paint mark and clamp are in the correct positions.

# FRONT SUSPENSION

Stabilizer Bar (Cont'd)

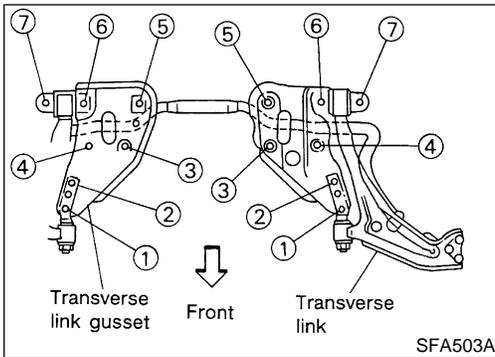


- Install stabilizer bar with ball joint socket properly placed.



## INSPECTION

- Check stabilizer for deformation and cracks. Replace if necessary. NDSU0014
- Check rubber bushings for deterioration and cracks. Replace if necessary.
- Check that ball joint can rotate in all directions. If movement is not smooth and free, replace stabilizer bar link.

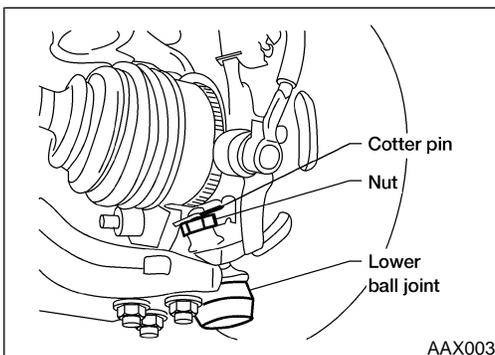


## Transverse Link and Transverse Link Gusset REMOVAL AND INSTALLATION

1. Remove stabilizer bar.
  2. Remove attaching bolts.
  3. Install bolts in numerical order as shown at left.
- **During installation, final tightening must be carried out at curb weight with wheels on the ground.**
-  : Refer to "Components", SU-8.
4. After installation, check wheel alignment. Refer to "FRONT WHEEL ALIGNMENT", SU-6.

## INSPECTION

- Check transverse link for damage, cracks and deformation. Replace if necessary. NDSU0016
- Check rubber bushing for damage, cracks and deformation. Replace transverse link if necessary. HA
- Check transverse link gusset for damage, cracks and deformation. Replace if necessary. SC



## Lower Ball Joint

### REMOVAL AND INSTALLATION

1. Remove cotter pin and nut securing lower ball joint to knuckle. NDSU0017
2. Strike knuckle with a hammer and pull down control arm to separate lower ball joint from knuckle.

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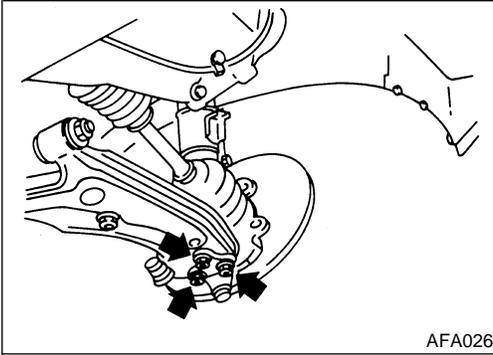
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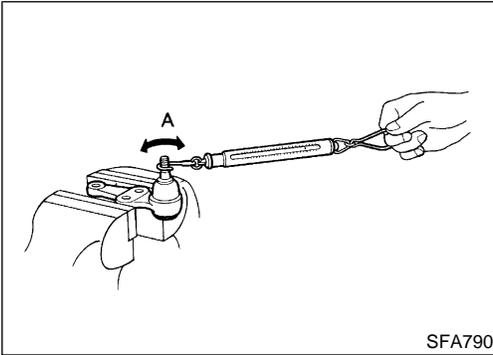
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# FRONT SUSPENSION

## Lower Ball Joint (Cont'd)



- Remove nuts shown at left.



### INSPECTION

- Check ball joint for excessive play. Replace lower ball joint if any of the following exists:
    - Ball stud is worn.
    - Joint is hard to swing.
    - Play in axial direction is excessive.
- Before checking, turn ball joint at least 10 revolutions so that ball joint is properly broken in.

**Swinging force "A":**

**(measuring point: cotter pin hole of ball stud)**

**7.8 - 51.0 N (0.8 - 5.2 kg, 1.8 - 11.5 lb)**

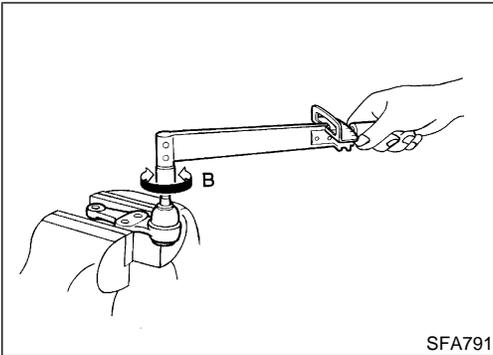
**Turning torque "B":**

**0.5 - 3.4 N·m (5 - 35 kg·cm, 4.3 - 30.4 in·lb)**

**Vertical end play:**

**0 mm (0 in)**

- Check dust cover for damage. Replace dust cover and cover clamp if necessary.



## Service Data and Specifications (SDS)

### GENERAL SPECIFICATIONS (FRONT)

NDSU0019

Suspension type	Independent macpherson strut with coil spring
Strut type	Double-acting hydraulic
Stabilizer bar	Standard equipment

# FRONT SUSPENSION

Service Data and Specifications (SDS) (Cont'd)

## FRONT WHEEL ALIGNMENT (UNLADEN\*1)

NDSU0022

Unit: Degree minute (Decimal degree)

Applied model			All	
Camber	Minimum		-27' (-0.45°)	
	Nominal		18' (0.3°)	
	Maximum		1°3' (1.05°)	
	Left and right difference		45' (0.75°)	
Caster	Minimum		3' (0.05°)	
	Nominal		48' (0.8°)	
	Maximum		1°33' (1.55°)	
	Left and right difference		45' (0.75°)	
Kingpin inclination	Minimum		12°50' (12.83°)	
	Nominal		13°35' (13.58°)	
	Maximum		14°20' (14.33°)	
Total toe-in	Distance (A - B)	Minimum	2 mm (0.08 in)	
		Nominal	3 mm (0.12 in)	
		Maximum	4 mm (0.16 in)	
	Angle (left plus right)	Minimum	11' (0.28°)	
		Nominal	16°30' (0.28°)	
		Maximum	22' (0.37°)	
Wheel turning angle	Full turn*2	Inside	Minimum	36° (36.00°)
			Nominal	38° (38.00°)
			Maximum	40° (40.00°)
		Outside	Minimum	28° (28.00°)
			Nominal	30° (30.00°)
			Maximum	32° (32.00°)

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

\*2: Wheel turning force (at circumference of steering wheel) of 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine idle.

## LOWER BALL JOINT

NDSU0023

Swinging force (Measured at cotter pin hole)	7.8 - 51.0 N (0.8 - 5.2 kg, 1.8 - 11.5 lb)
Turning torque	0.5 - 3.4 N-m (5 - 35 kg-cm, 4.3 - 30.4 in-lb)
Vertical end play limit	0 mm (0 in)

# FRONT SUSPENSION

Service Data and Specifications (SDS) (Cont'd)

## WHEELARCH HEIGHT (UNLADEN\*)

NDSU0024  
Unit: mm (in)

<p>ASU010</p>	Applied model		All
	Front (Hf)	Standard/Optional suspension	772 ± 10 (30.39 ± 0.39)
	Rear (Hr)	Standard/Optional suspension	793 ± 10 (31.22 ± 0.39)

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

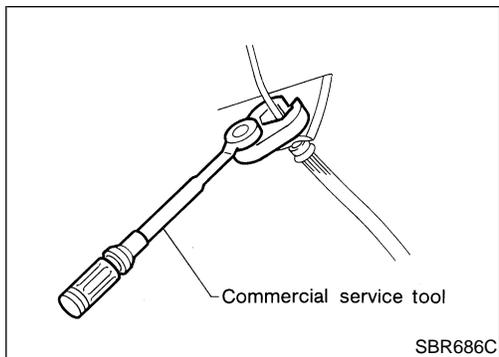
## WHEEL RUNOUT

NDSU0025  
Unit: mm (in)

Wheel type	Aluminum wheel	Steel wheel	
		Inside	Outside
Maximum radial runout limit	0.3 (0.012) or less	0.8 (0.031) or less	0.4 (0.016) or less
Maximum lateral runout limit	0.3 (0.012) or less	1.0 (0.04) or less	0.9 (0.035) or less

# REAR SUSPENSION

Precautions



## Precautions PRECAUTIONS

- When installing rubber parts, final tightening must be carried out under unladen condition\* with tires on ground.  
\*:Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Use flare nut wrench when removing or installing brake tubes.
- Always torque brake lines when installing.

NDSU0026

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## COMMERCIAL SERVICE TOOL

NDSU0027

Tool name	Description
1 Flare nut crowfoot 2 Torque wrench	<p>Removing and installing brake piping a: 10 mm (0.39 in)</p> <p>NT360</p>

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## Noise, Vibration and Harshness (NVH) Troubleshooting

Refer to "NVH TROUBLESHOOTING CHART", SU-3.

NDSU0028

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# REAR SUSPENSION

Components

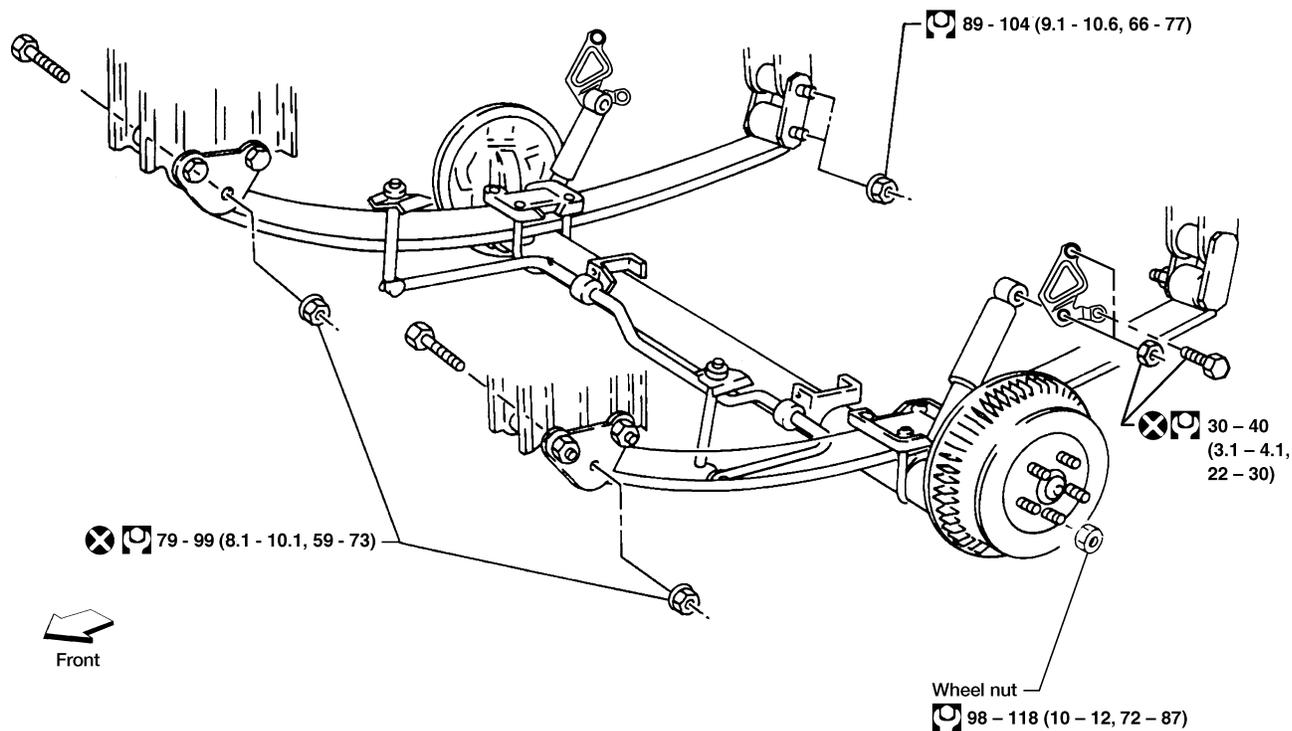
## Components

NDSU0029

SEC. 431

When installing rubber parts, final tightening must be carried out under unladen condition\* with tires on ground.

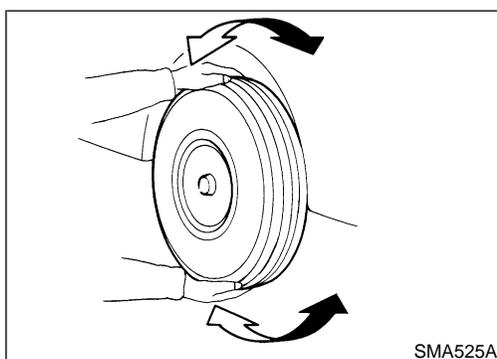
\* Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.



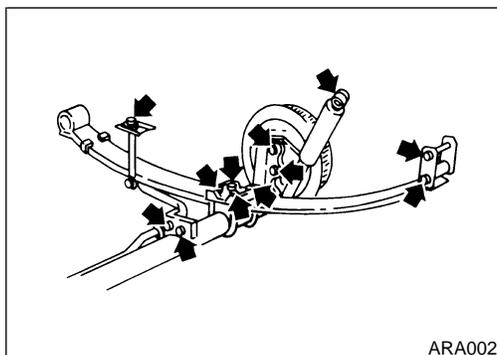
: N·m (kg-m, ft-lb)

: Always replace

ASU003



SMA525A



ARA002

## On-vehicle Service

### REAR SUSPENSION PARTS

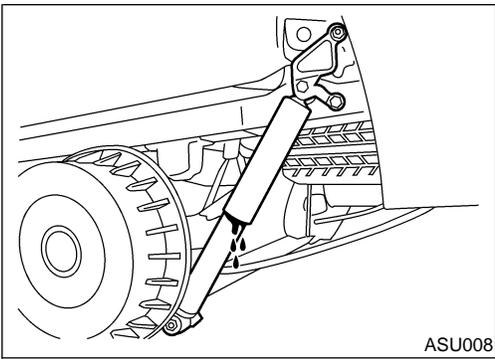
NDSU0030

Check axle and suspension parts for excessive play, wear or damage.

- Shake each rear wheel to check for excessive play.
- Retighten all nuts and bolts to the specified torque.  
**Tightening torque:**  
**Refer to "Components", SU-20.**
- Make sure that all cotter pins are inserted.

# REAR SUSPENSION

On-vehicle Service (Cont'd)



- Check shock absorber for oil leakage and damage.
- Check shock absorber bushing for damage and excessive wear.
- Check wheelarch height. Refer to "Front Suspension Parts", SU-5.

## REAR WHEEL ALIGNMENT

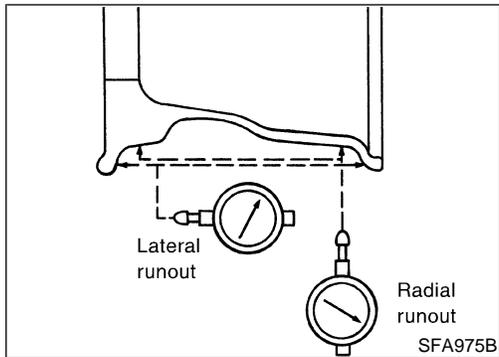
### Preliminary Inspection

Before checking rear wheel alignment, be sure to make a preliminary inspection (Unladen\*).

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

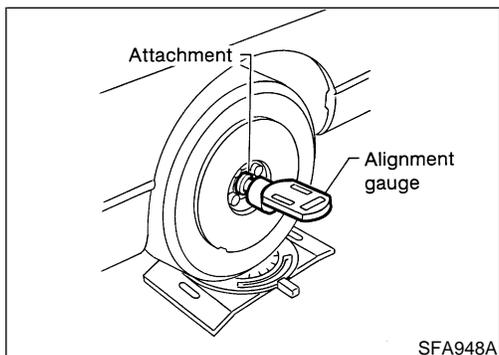
NDSU0031

NDSU0031S01



1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check runout.
  - a. Remove tire from wheel and mount wheel on a tire balance machine.
  - b. Set dial indicator as shown in the illustration.

**Wheel runout (Dial indicator value):**  
**Refer to "Wheel Runout", SU-25.**
3. Check rear wheel bearings for looseness.
4. Check rear suspension for looseness.
5. Check that rear shocks work properly.
6. Check vehicle posture (Unladen).



### Camber

Camber is preset at factory and cannot be adjusted.

#### Camber:

**Refer to "REAR WHEEL ALIGNMENT (UNLADEN\*1)", SU-25.**

- If the camber is not within specification, inspect and replace any damaged or worn rear suspension parts.

NDSU0031S02

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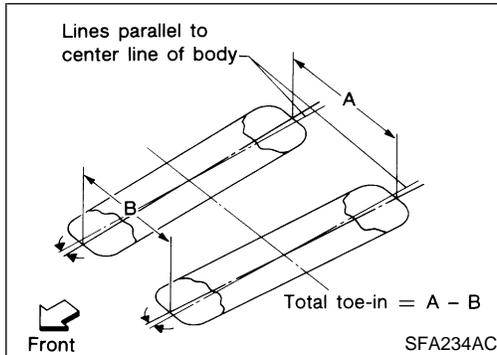
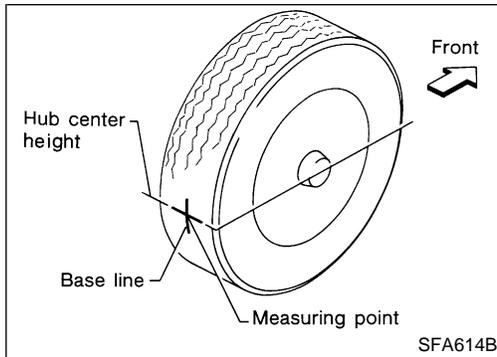
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# REAR SUSPENSION

On-vehicle Service (Cont'd)



## Toe-in

NDSU0031S03

Toe-in is preset at factory and cannot be adjusted. Measure toe-in using the following procedure. If out of specification, inspect and replace any damaged or worn rear suspension parts.

### WARNING:

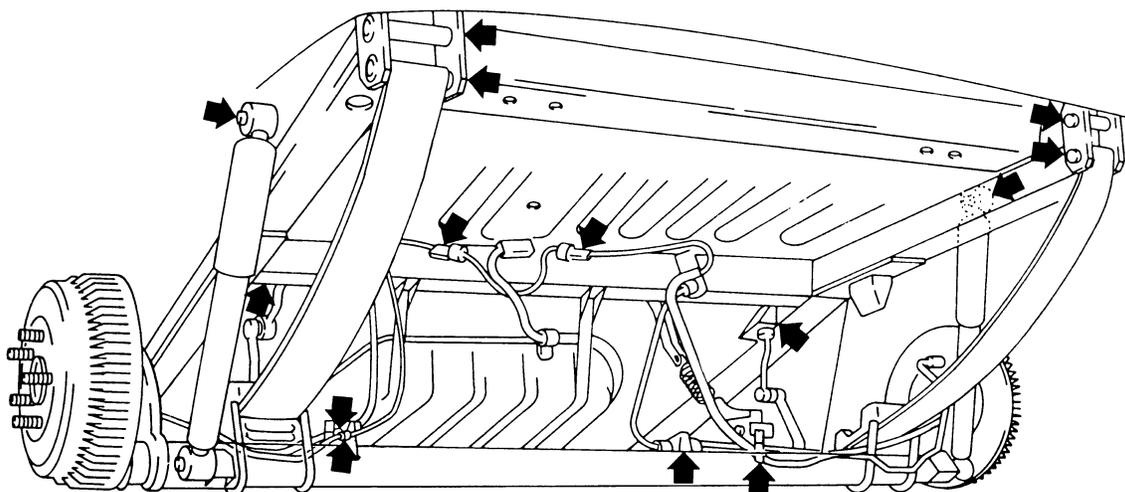
- Always perform the following procedure on a flat surface.
  - Make sure that no one is in front of the vehicle before pushing it.
1. Bounce rear of vehicle up and down to stabilize the posture.
  2. Push the vehicle straight ahead about 5 m (16 ft).
  3. Put a mark on base line of the tread (rear side) of both rear tires at the same height as hub center. This mark is a measuring point.
  4. Measure 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), try the above procedure again from the beginning. Never push vehicle backward.
6. Measure distance "B" (front side).

**Total toe-in: Refer to "REAR WHEEL ALIGNMENT (UNLADEN\*1)", SU-25.**

## Removal and Installation

=NDSU0032

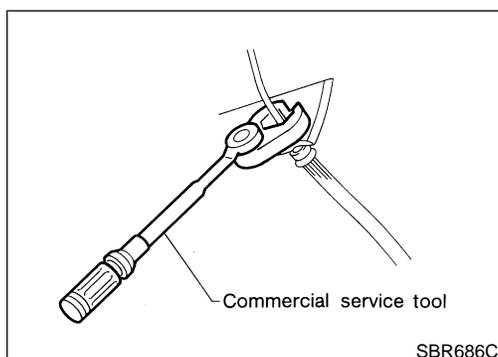
SEC. 431



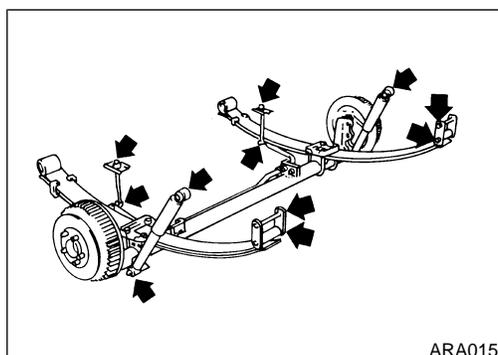
ASU013

### CAUTION:

- Before removing the rear suspension assembly, disconnect the ABS wheel sensors from the assembly. Failure to do so may result in damaged sensor wires and the sensor becoming inoperative.
- Drain brake fluid before disconnecting brake lines.



1. Support axle and suspension components with a suitable jack and block.
2. Disconnect brake hydraulic lines at axle and parking brake cables at back plates.
3. Disconnect ABS wheel sensors from the assembly.
4. Remove LSV spring bracket.
5. Remove upper end nuts and bolt of shock absorbers.
6. Remove stabilizer bar from body.
7. Remove leaf spring from body.



- Final tightening for rubber parts must be carried out under unladen condition\* with tires on ground.

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

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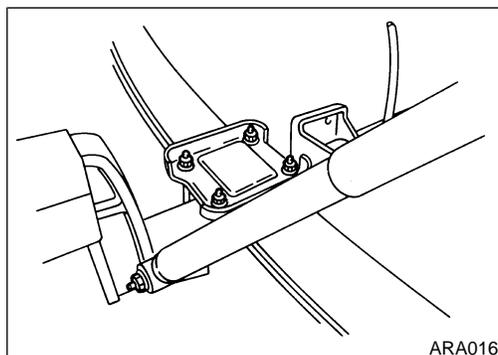
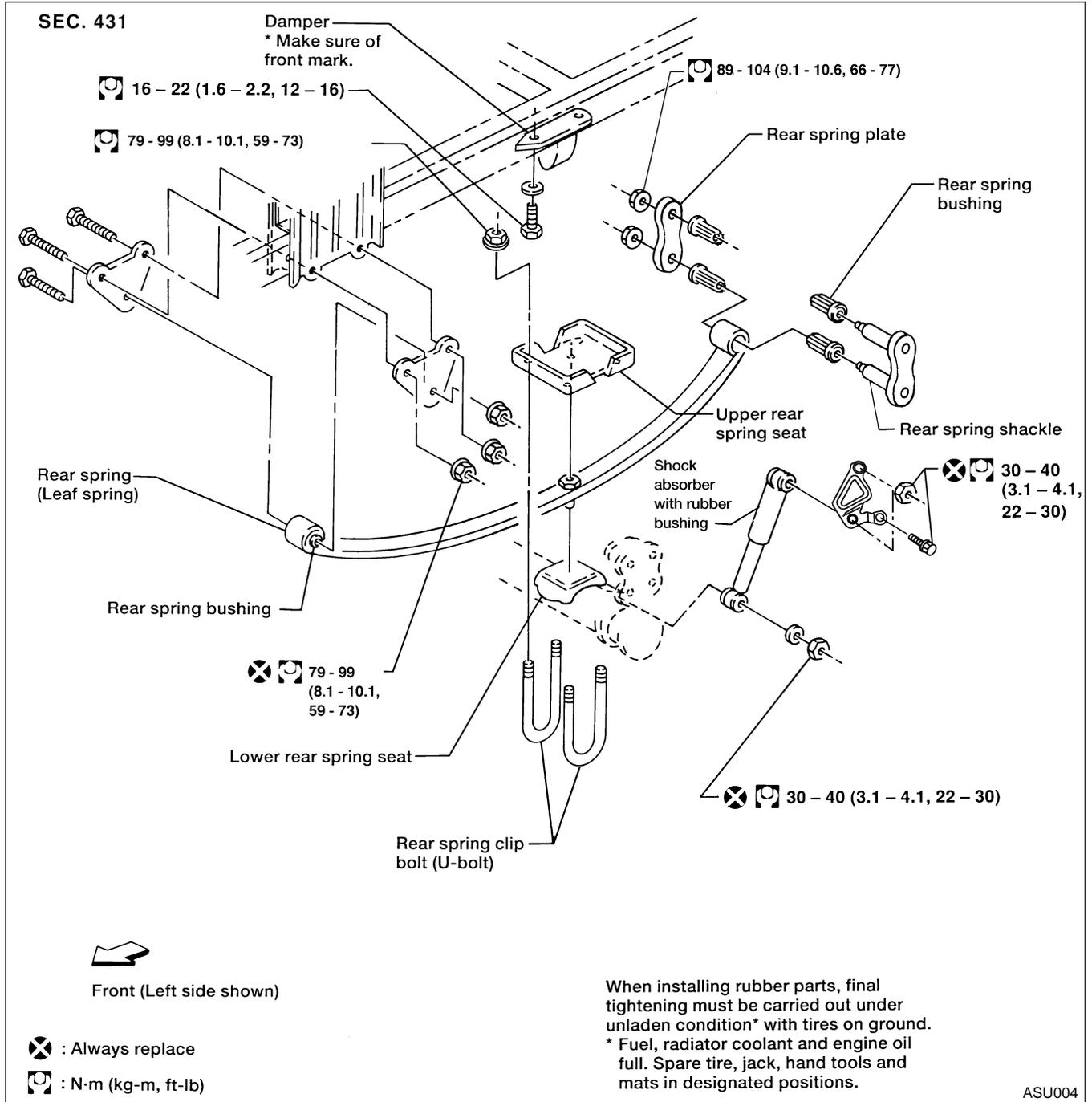
# REAR SUSPENSION

Leaf Spring

## Leaf Spring

### COMPONENTS

NDSU0033



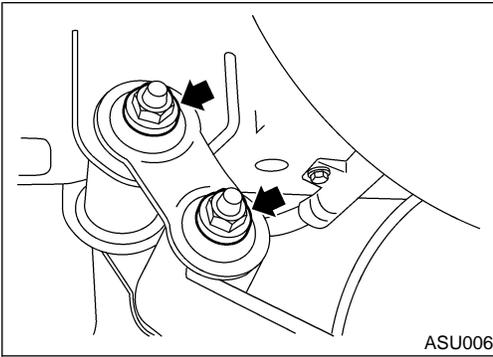
### REMOVAL

NDSU0034

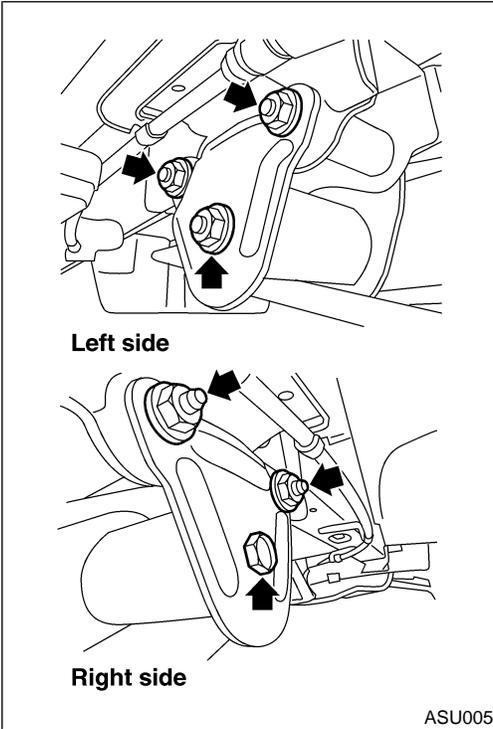
1. Disconnect shock absorber lower end, and remove U-bolts.

# REAR SUSPENSION

Leaf Spring (Cont'd)

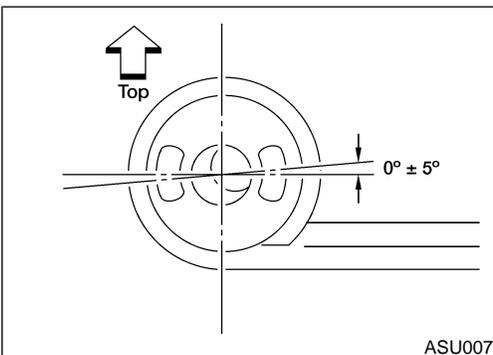


2. Disconnect spring shackle.



3. Loosen upper pin nuts.

4. Disconnect front eye bolt.



## INSPECTION

NDSU0035

- Check leaf spring for cracks. Replace if necessary.
- Check front spring plates, front eye bolt, upper pins, shackle, U-bolts and spring seat for wear, cracks, straightness and damage. Replace if necessary.
- Check rubber bushings for deformation and cracks. Replace if necessary.
- When installing front eye bushing, make sure that it is positioned as shown at left.

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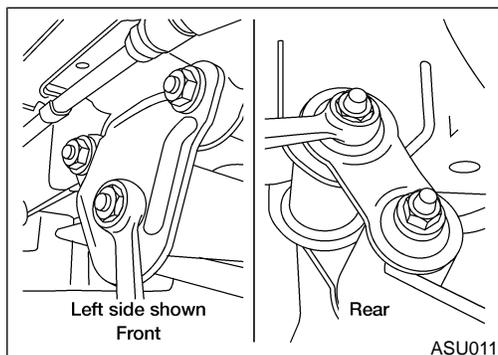
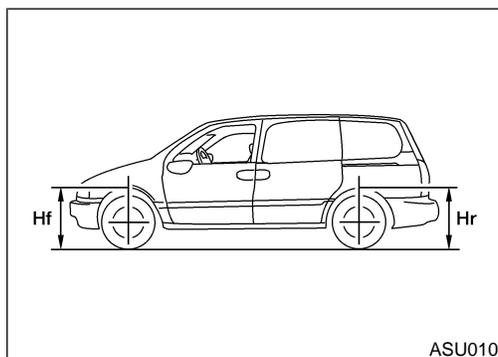
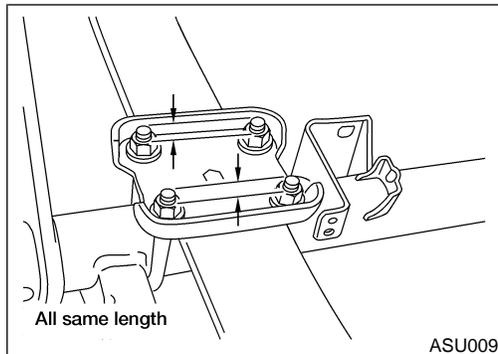
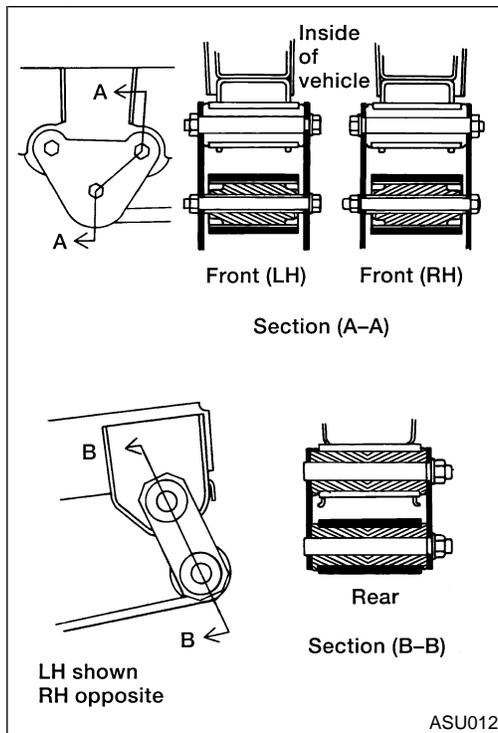
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# REAR SUSPENSION

## Leaf Spring (Cont'd)



## INSTALLATION

NDSU0036

1. Apply soapsuds to rubber bushing.
2. Install rubber bushing, spring shackle and front eye bolt, and finger tighten the nuts.
  - When installing the nuts on the front shackle, they must be positioned as shown.
  - Rear shackles may be installed from either direction.

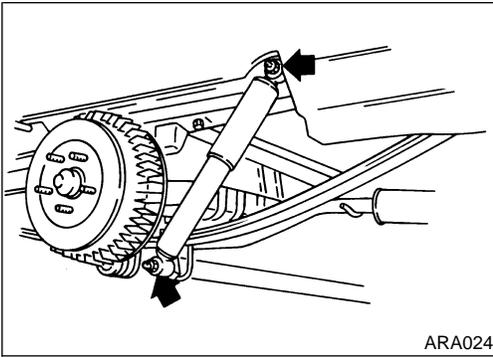
3. Install leaf spring assembly aligning spring center bolt with the hole in lower seat.
4. Install upper seat on top of leaf spring assembly aligning the hole in upper seat with spring center bolt.
5. Tighten U-bolt mounting nuts diagonally.
6. Install shock absorber, and finger tighten the nut.
  - Tighten U-bolts so that the lengths of all U-bolts on upper spring seat are the same.

 : 79 - 99 N-m (8.1 - 10.1 kg-m, 59 - 73 ft-lb)

7. Remove stands and bounce the vehicle to stabilize suspension. (Unladen)

8. Tighten spring shackle nuts, front eye bolt nuts and upper pin nuts and shock absorber nuts. Refer to "Components", SU-20.
  - When installing rubber parts, final tightening must be carried out under unladen condition\* with tires on ground.

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



## Shock Absorber

### REMOVAL AND INSTALLATION

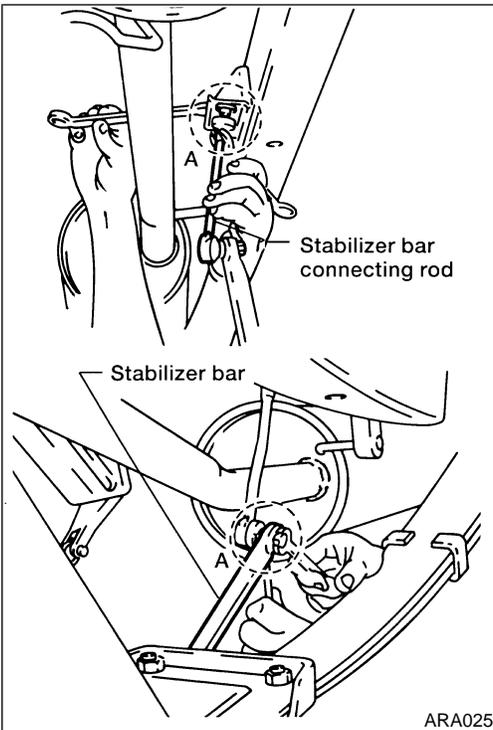
- Remove shock absorber by disconnecting upper support bracket fastener and lower nut. NDSU0037

**WARNING:**

Do not heat. Shock absorbers are gas charged.

### INSPECTION

- Check both compression and extension for smooth operation through a full stroke. NDSU0038
- If oil leakage, cracks or deformation occurs, replace shock absorber assembly.
- If rubber bushings are cracked or deformed, replace rubber bushings.



## Stabilizer Bar

### REMOVAL AND INSTALLATION

- When removing and installing stabilizer bar, fix portion A. NDSU0039

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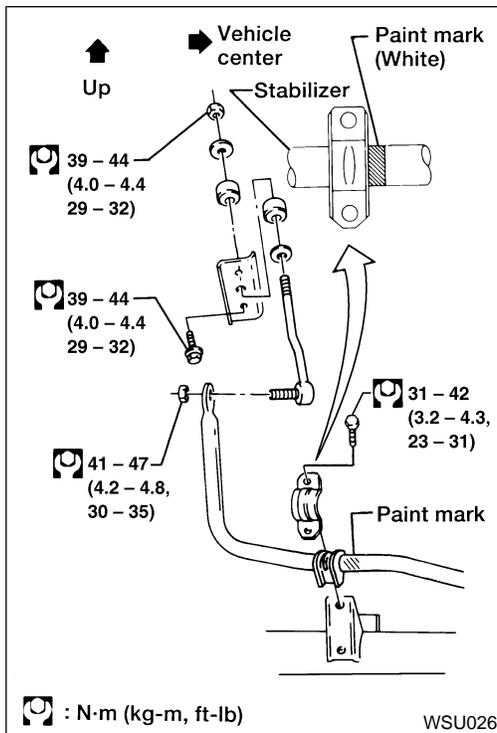
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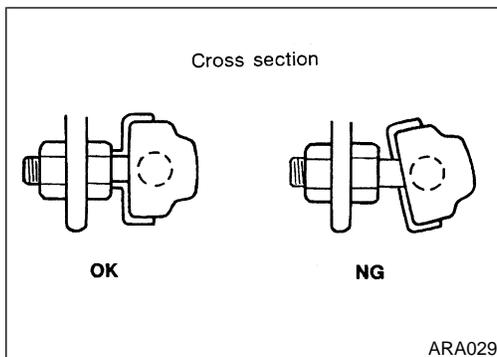
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# REAR SUSPENSION

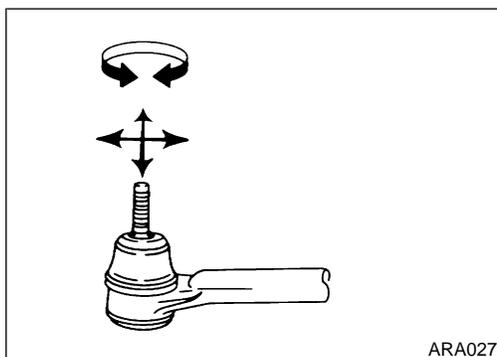
## Stabilizer Bar (Cont'd)



- When installing stabilizer, it must be positioned as shown.



- Install stabilizer bar with ball joint socket properly placed.



## INSPECTION

- Check stabilizer bar and stabilizer connecting rod for deformation and cracks. Replace if necessary.
- Check rubber bushings for deterioration and cracks. Replace if necessary.
- Check that ball joint can rotate in all directions. If movement is not smooth and free, replace stabilizer connecting rod.
- Check ball joint dust boot for damage. Replace stabilizer connecting rod if necessary.
- Use care not to damage ball joint dust boot.

## Service Data and Specifications (SDS)

### GENERAL SPECIFICATIONS (REAR)

NDSU0041

	Standard suspension	Handling suspension
Suspension type	Rigid axle with semi-elliptic leaf spring	
Shock absorber type	Double-acting hydraulic	
Stabilizer diameter mm (in)	N/A	24 (0.94)

# REAR SUSPENSION

Service Data and Specifications (SDS) (Cont'd)

## REAR WHEEL ALIGNMENT (UNLADEN\*1)

NDSU0043

Degree minute (Decimal degree)

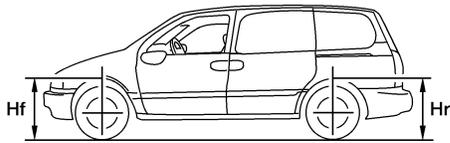
Applied model		All	
Camber	Minimum		-15' (-0.25°)
	Nominal		0° (0°)
	Maximum		15' (0.25°)
Total toe-in	Distance (A - B)	Minimum	-4 mm (-0.16 in)
		Nominal	0 mm (0 in)
		Maximum	4 mm (0.16 in)
	Angle (left plus right)	Minimum	-22' (-0.37°)
		Nominal	0° (0°)
		Maximum	22' (0.37°)

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

## WHEELARCH HEIGHT (UNLADEN\*)

NDSU0044

Unit: mm (in)



ASU010

Applied model		All	
Front (Hf)	Standard/Optional suspension	772 ± 10 (30.39 ± 0.39)	
Rear (Hr)	Standard/Optional suspension	793 ± 10 (31.22 ± 0.39)	

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

## WHEEL RUNOUT

NDSU0045

Unit: mm (in)

Wheel type	Aluminum wheel	Steel wheel	
		Inside	Outside
Maximum radial runout limit	0.3 (0.012) or less	0.8 (0.031) or less	0.4 (0.016) or less
Maximum lateral runout limit	0.3 (0.012) or less	1.0 (0.04) or less	0.9 (0.035) or less

## NOTES