

REAR AXLE & REAR SUSPENSION

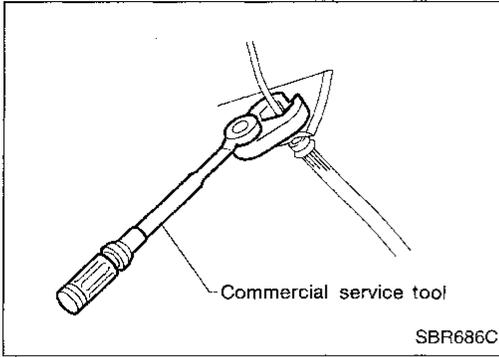
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SECTION RA

CONTENTS

PRECAUTIONS AND PREPARATION	2	REAR AXLE	5
Precautions.....	2	Components.....	5
Special Service Tools.....	2	Removal.....	5
Commercial Service Tools.....	2	Inspection.....	7
REAR AXLE AND REAR SUSPENSION	3	Installation.....	7
ON-VEHICLE SERVICE	4	REAR SUSPENSION	9
Rear Axle and Rear Suspension Parts.....	4	Shock Absorber.....	10
Rear Wheel Bearing.....	4	Leaf Spring.....	10
		SERVICE DATA AND SPECIFICATIONS (SDS)	12
		General Specifications.....	12
		Inspection and Adjustment.....	12

PRECAUTIONS AND PREPARATION



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.
- Use flare nut wrench when removing or installing brake tubes.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Always torque brake lines when installing.

Special Service Tools

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

Tool number (Kent-Moore No.) Tool name	Description
KV40101000 (J25604-01) Axle stand	 NT159 Removing rear axle shaft
ST36230000 (J25840-A) Sliding hammer	 NT126 Removing rear axle shaft
ST38020000 (—) Bearing lock nut wrench	 NT160 Removing wheel bearing lock nut
HT72480000 (J25852-B) Rear axle shaft bearing puller	 NT161 Removing wheel bearing
ST37840000 (—) Rear axle shaft guide	 NT162 Installing rear axle shaft

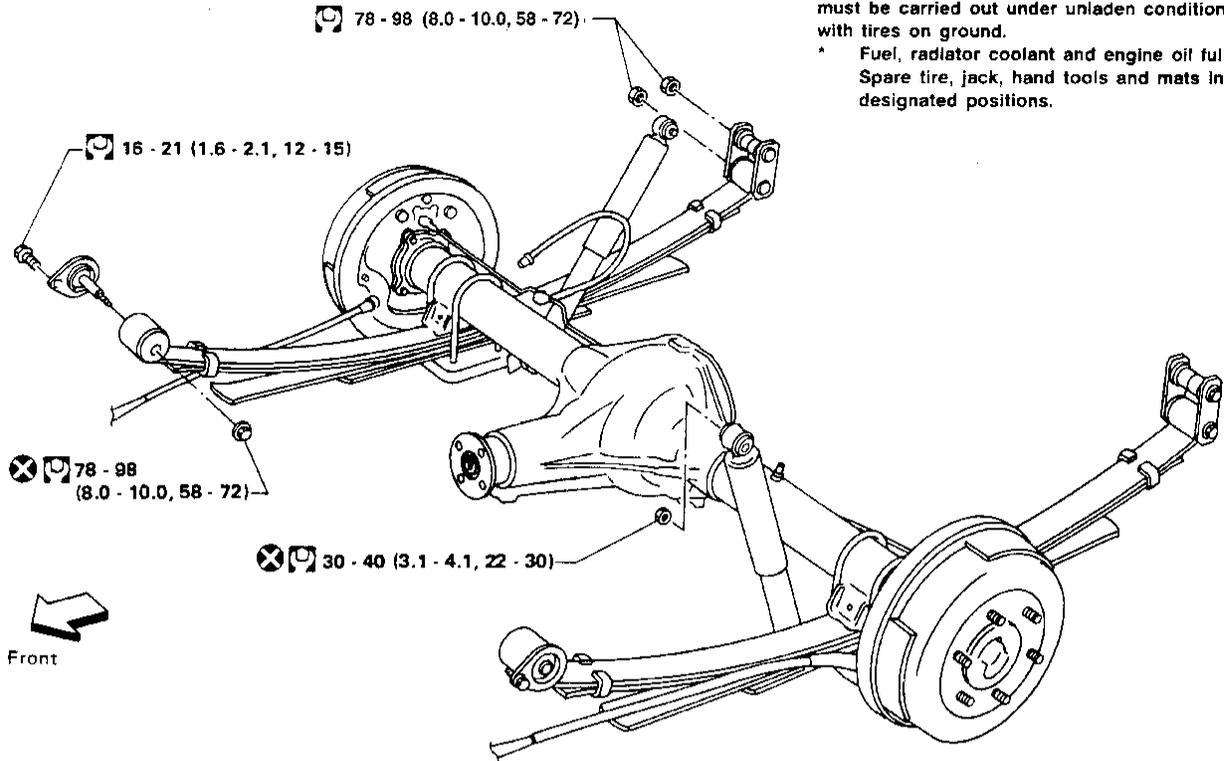
Commercial Service Tools

Tool name	Description
① Flare nut crowfoot ② Torque wrench	 NT360 Removing and installing each brake piping a: 10 mm (0.39 in)
Rear axle oil seal drift	 NT163 Installing oil seal a: 74 mm (2.91 in) dia. b: 68 mm (2.68 in) dia. c: 10 mm (0.39 in)

REAR AXLE AND REAR SUSPENSION

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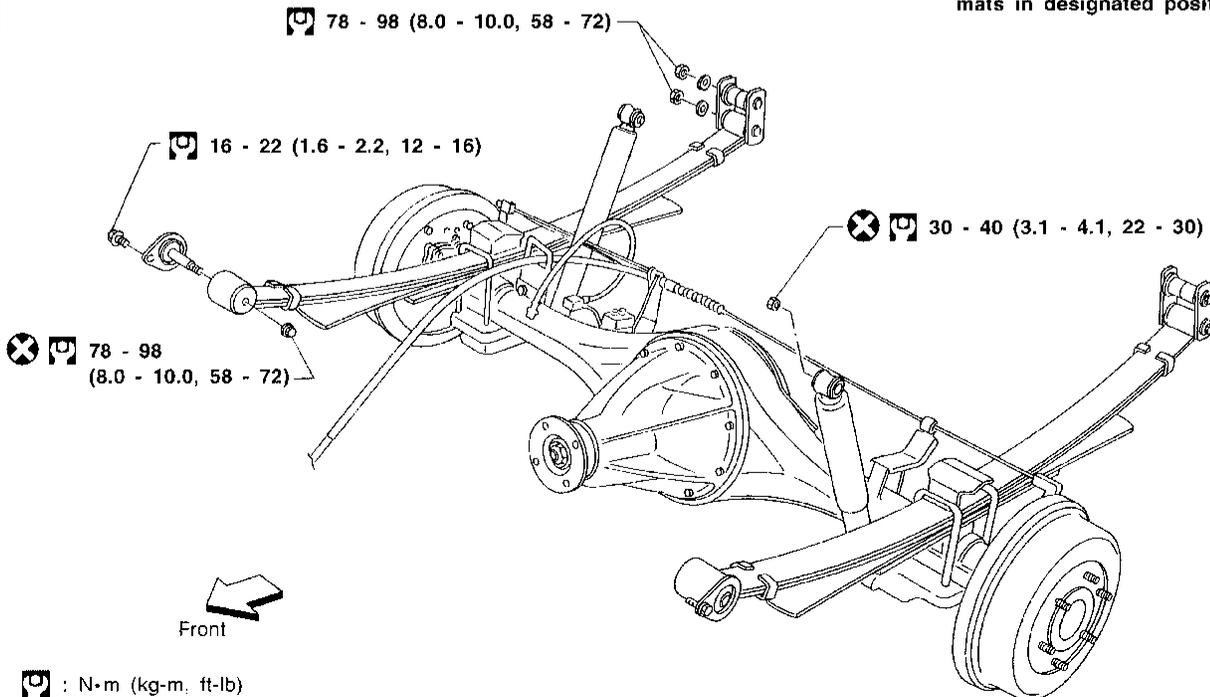
When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.

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

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When installing each rubber part, 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.

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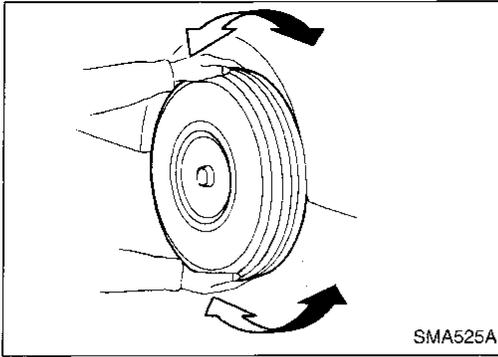
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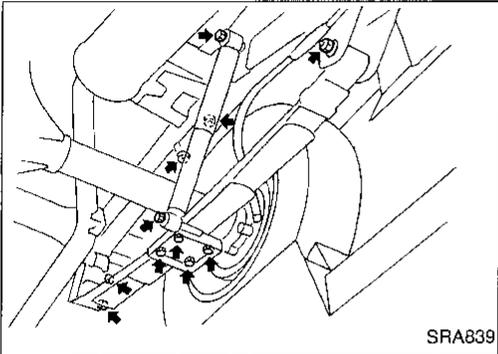
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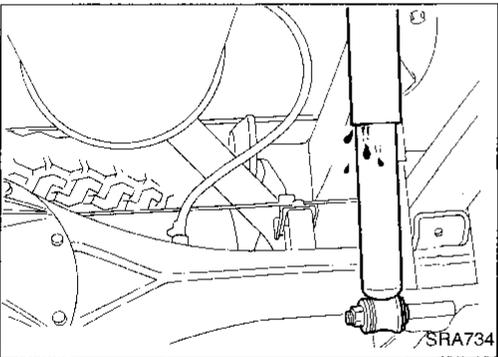
Rear Axle and Rear Suspension Parts

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

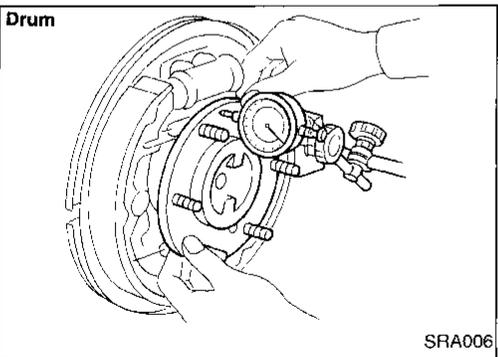
- Shake each rear wheel to check for excessive play.



- Retighten all nuts and bolts to the specified torque.
☞: Refer to **REAR SUSPENSION, RA-9.**



- Check shock absorber for oil leakage or other damage.
- Check shock absorber bushing for excessive wear or other damage.



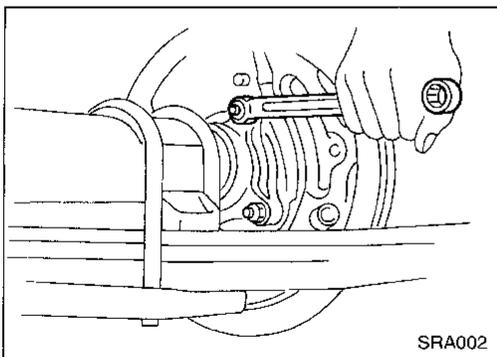
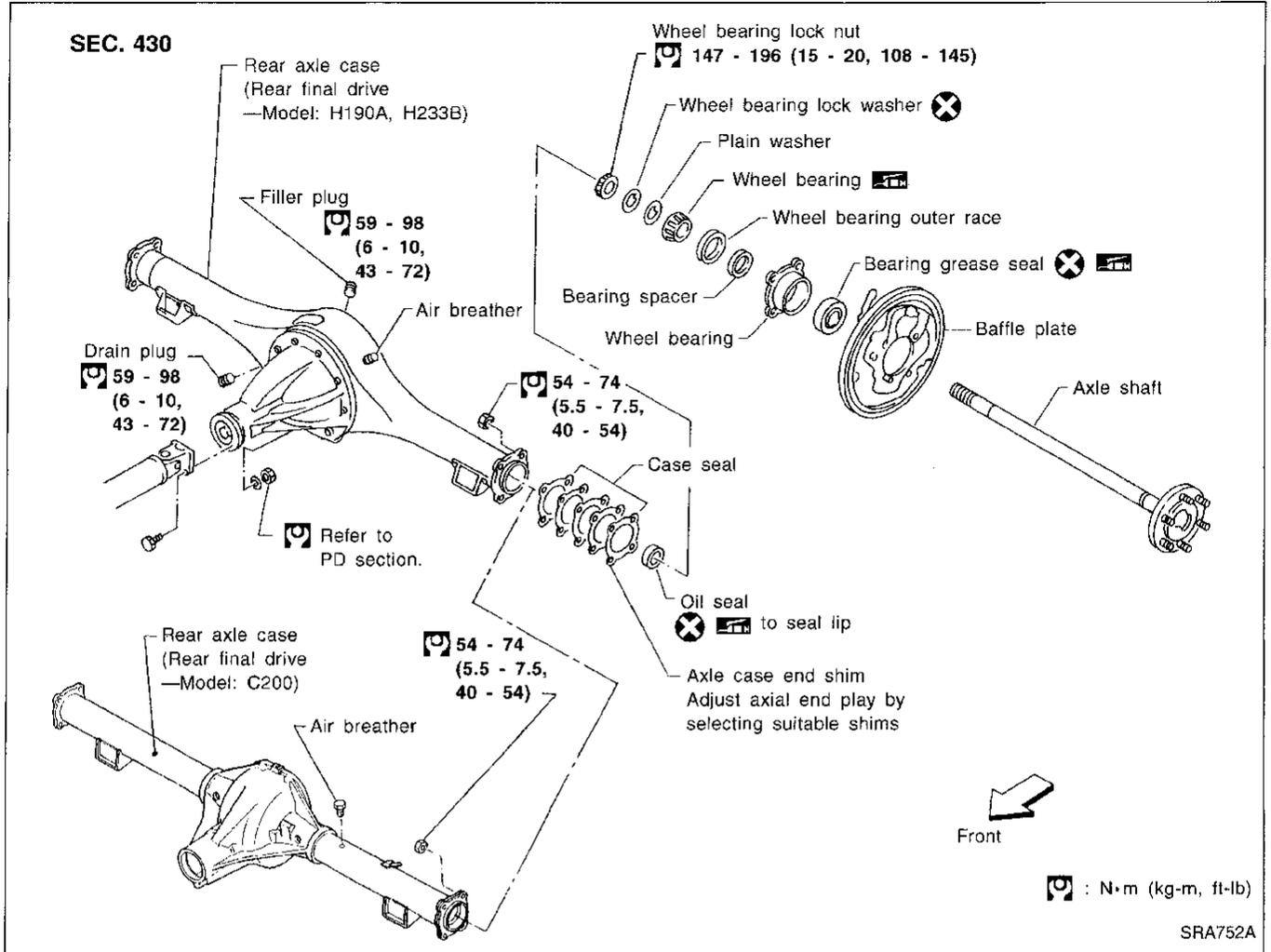
Rear Wheel Bearing

- Check that wheel bearings operate smoothly.
- Check axial end play.

Axial end play:
Refer to **SDS, RA-12.**

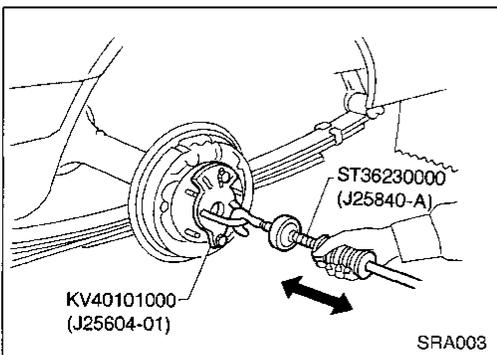
REAR AXLE

Components



Removal

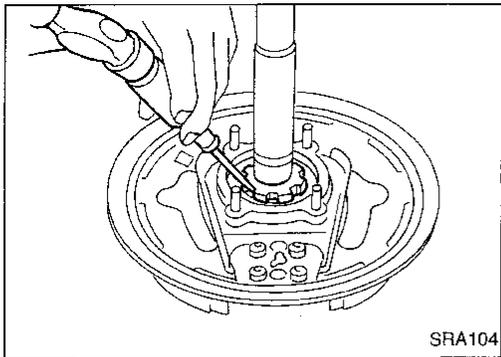
- Disconnect parking brake cable and brake tube.
- Remove nuts securing wheel bearing cage with baffle plate.



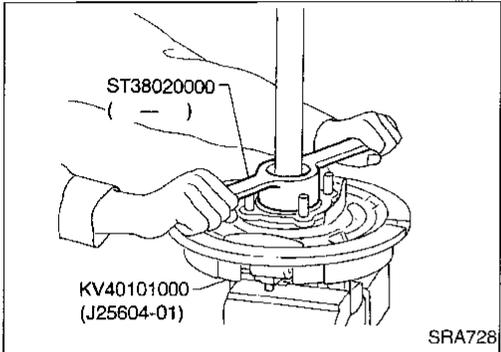
- Draw out axle shaft with Tool.
- When drawing out axle shaft, be careful not to damage oil seal.**
- Remove oil seal.
- Do not reuse oil seal once it is removed. Always install new one.**

REAR AXLE

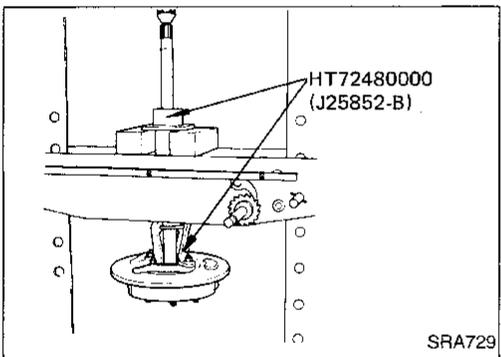
Removal (Cont'd)



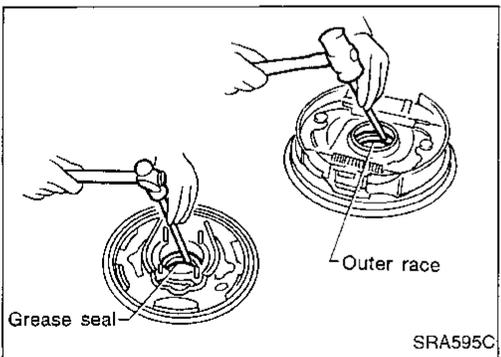
- Unbend lock washer with a screwdriver.



- Remove bearing lock nut with Tool.

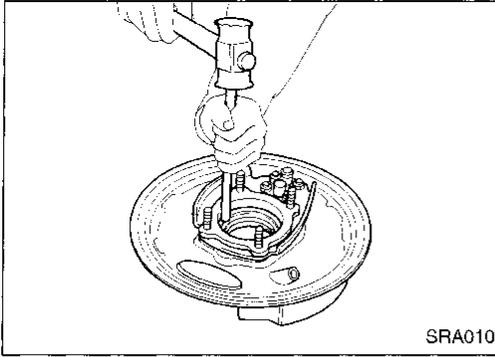


- Remove wheel bearing together with bearing cage and baffle plate from axle shaft.



- Remove grease seal in bearing cage with suitable bar.
- Remove wheel bearing outer race with a brass drift.

REAR AXLE



Inspection

AXLE SHAFT

- Check axle shaft for straightness, cracks, damage, wear or distortion. Replace if necessary.

WHEEL BEARING

- Make sure wheel bearing rolls freely and is free from noise, cracks, pitting or wear.

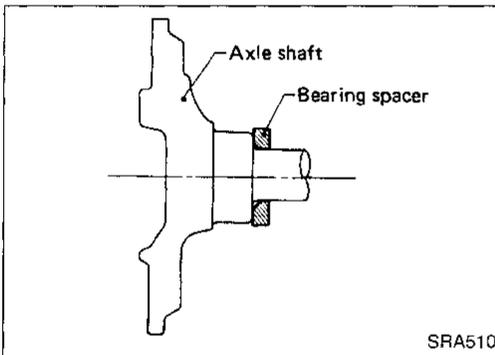
AXLE CASE

- Check axle case for yield, deformation or cracks. Replace if necessary.

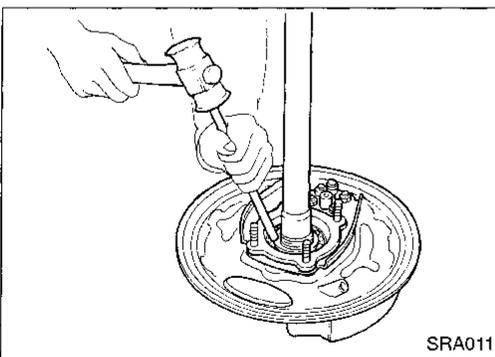
Installation

- Install wheel bearing outer race with a brass drift.
- Install a new grease seal in bearing cage.

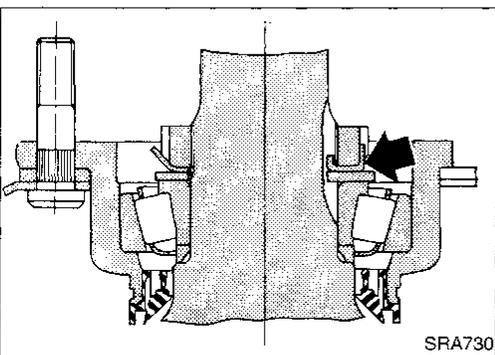
After installing new grease seal, coat sealing lip with multi-purpose grease.



- Install bearing spacer with chamfer side facing axle shaft flange.



- Install wheel bearing inner race with a brass drift.
- Coat each bearing cone with multi-purpose grease.
**Specified amount of grease:
8 - 12 g (0.28 - 0.42 oz)**



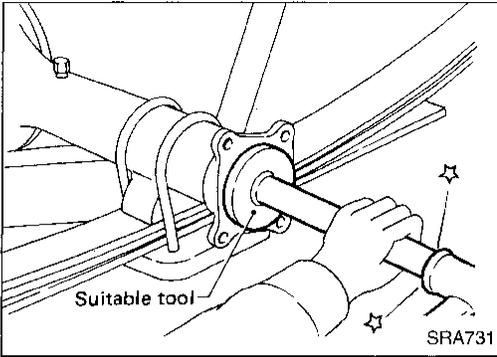
- Install plain washer and a new wheel bearing lock washer.
- Tighten wheel bearing lock nut.

Fit wheel bearing lock washer lip in wheel bearing lock nut groove correctly by tightening lock nut. Be sure to bend it up.

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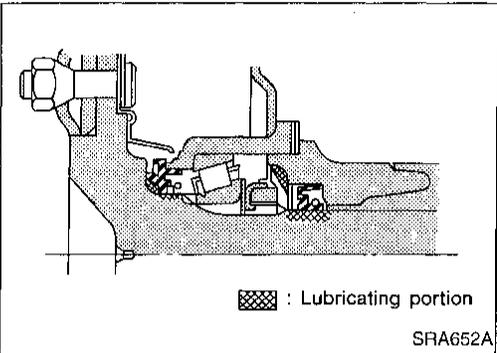
REAR AXLE

Installation (Cont'd)

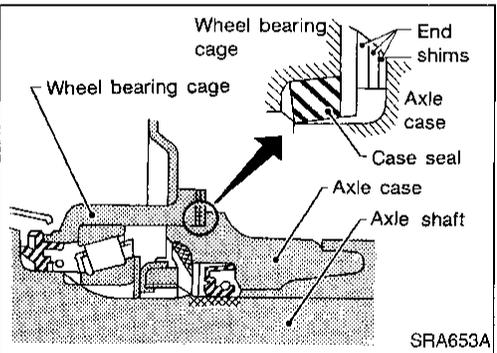


- Install a new oil seal with suitable tool.

After installing new oil seal, coat sealing lip with multi-purpose grease.



- Apply recess of axle case end with multi-purpose grease.
- Apply gear oil to the spline of axle shaft. Coat seal surface of axle shaft with multi-purpose grease (as shown left).



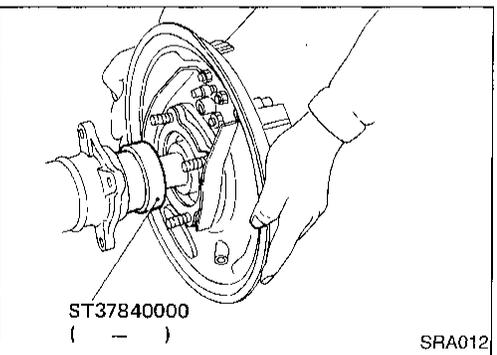
- Adjust axial end play.

- Select end shims.

Standard thickness: 1.5 mm (0.059 in)

Axle case end shim: Refer to SDS, RA-12.

Do not insert end shims between case seal and bearing cage.



- Insert axle shaft with Tool as a guide.

When inserting axle shaft, be careful not to damage oil seal.

- Measure end play of axle shaft.

Axial end play:

Servicing one side axle

0.02 - 0.15 mm (0.0008 - 0.0059 in)

Servicing both side axles

On first axle (right or left)

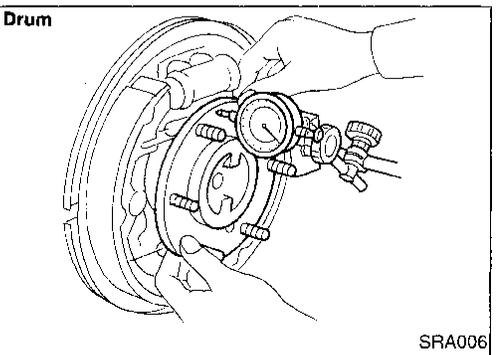
0.30 - 0.90 mm (0.0118 - 0.0354 in)

On second axle

0.02 - 0.15 mm (0.0008 - 0.0059 in)

- If axial end play is not within the specified limit, reselect axle case end shims.

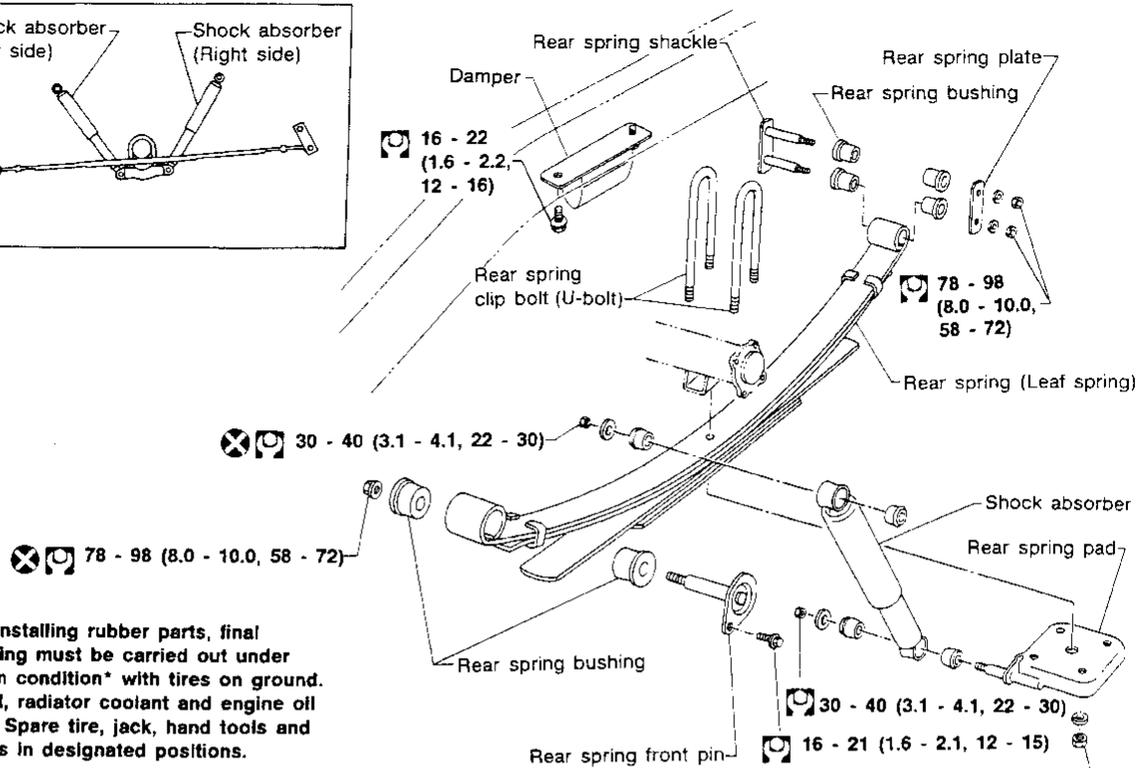
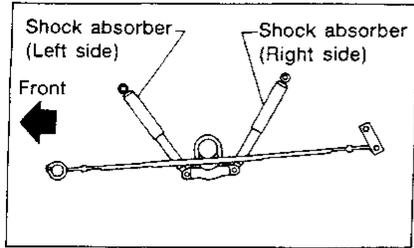
While adjusting axial end play, be careful not to damage oil seal.



REAR SUSPENSION

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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)

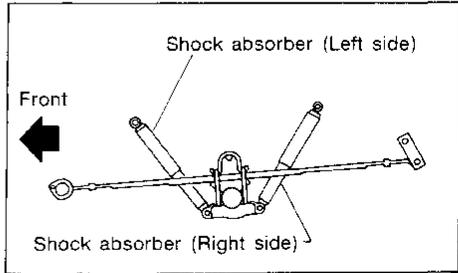
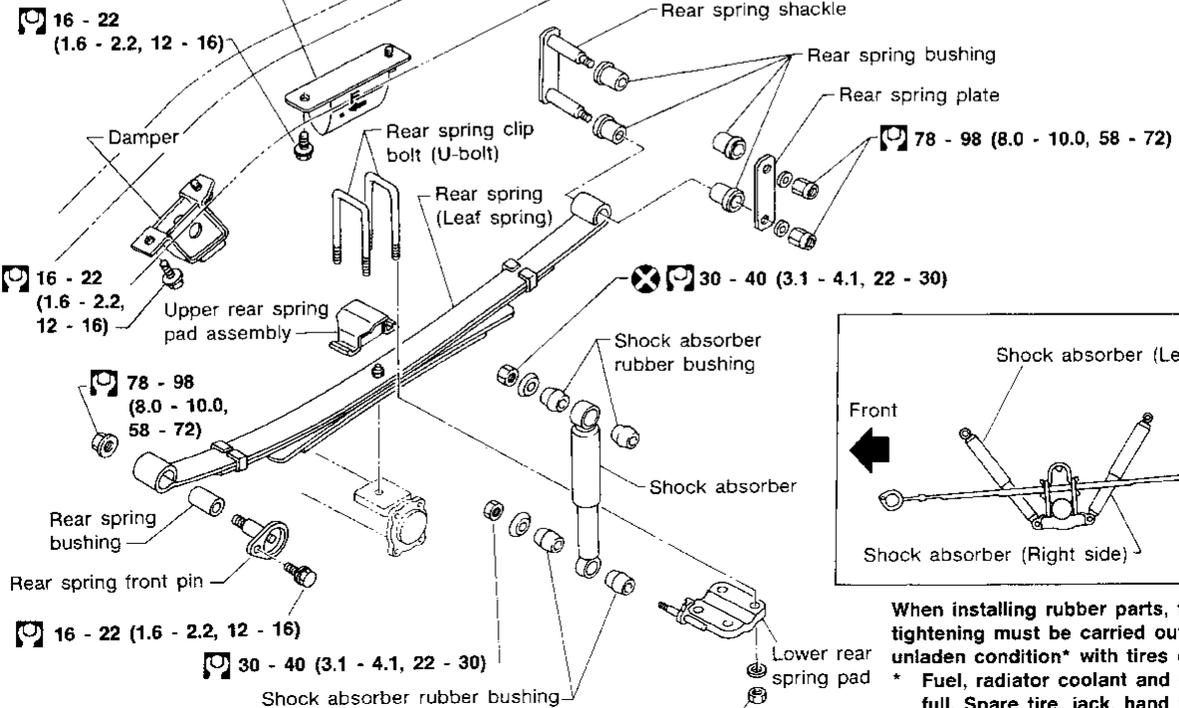
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Damper

* Make sure of front mark.



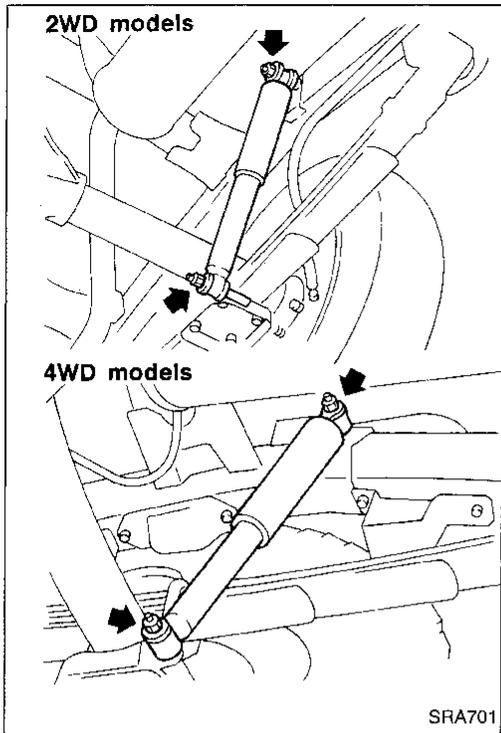
When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
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: N·m (kg-m, ft-lb)

88 - 98 (9.0 - 10.0, 65 - 72)

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REAR SUSPENSION



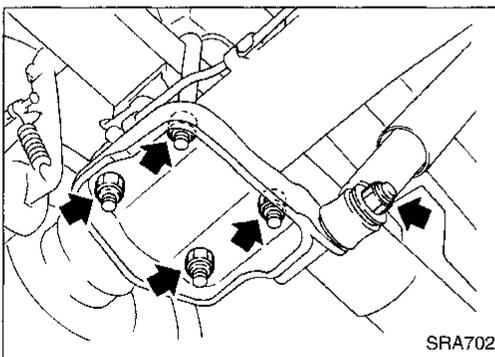
Shock Absorber

REMOVAL AND INSTALLATION

- Remove shock absorber by disconnecting upper and lower end.

INSPECTION

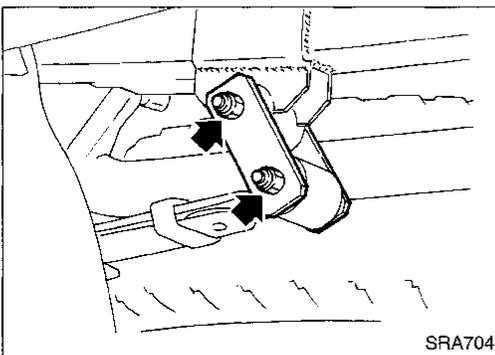
- If oil leakage, cracks or deformation occurs, replace shock absorber assembly.
- If rubber bushings are cracked or deformed, replace rubber bushings.



Leaf Spring

REMOVAL AND INSTALLATION

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

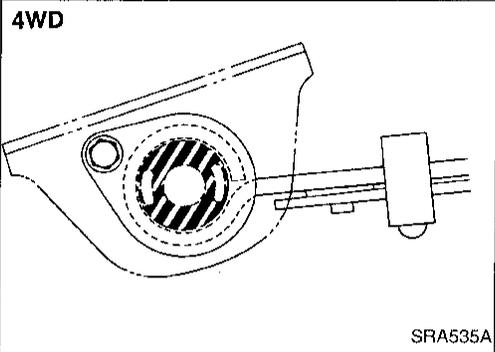
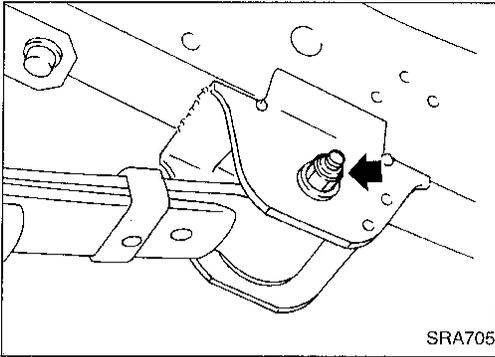


- Disconnect spring shackle.

REAR SUSPENSION

Leaf Spring (Cont'd)

- Disconnect front pin.

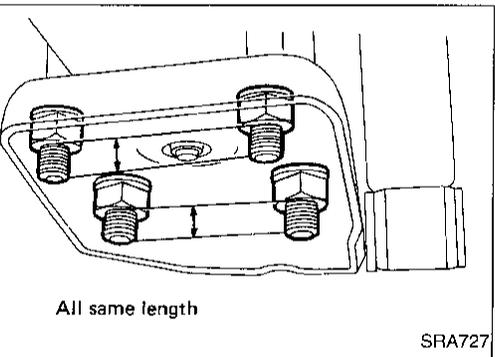


INSPECTION

- Check leaf spring for cracks. Replace if necessary.
- Check front bracket and pin, shackle, U-bolts and spring pad for wear, cracks, straightness or damaged threads. Replace if necessary.
- Check all bushings for deformation or cracks. Replace if necessary.

[4WD: Rear spring front bushing]

Make sure that front bushing is properly installed.

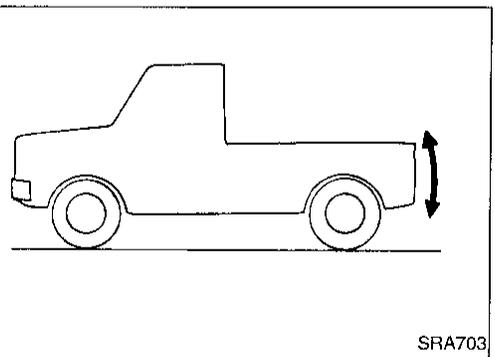


INSTALLATION

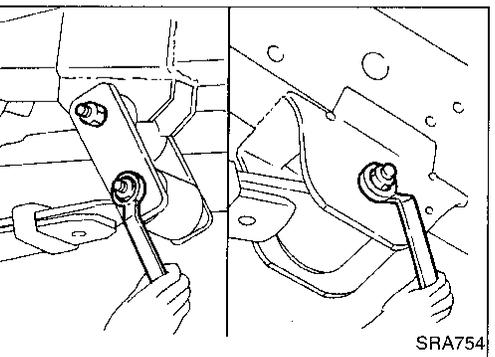
- Apply soapsuds to rubber bushing.
- Install spring shackle and front pin, and finger tighten the nuts.
- Install spring pad and nuts under leaf spring or axle case.
- Tighten U-bolt mounting nuts diagonally.

Tighten U-bolts so that the lengths of all U-bolts under spring pad are the same.

- Install shock absorber, and finger tighten the nuts.



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



- Tighten spring shackle nuts, front pin nuts and shock absorber nuts.

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

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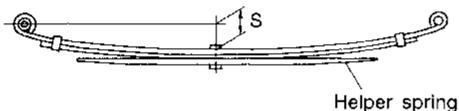
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SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

LEAF SPRING AND SHOCK ABSORBER

Applied model	2WD				4WD
	U.S.A.	Canada			
		Regular Cab	King Cab	Option	
Leaf spring	1,200 x 60 (47.24 x 2.36)				
Spring length x width mm (in)	1,200 x 60 (47.24 x 2.36)				
Spring thickness - number of leaves mm (in)	7 (0.28) - 2 13 (0.51) - 1	7 (0.28) - 2 12 (0.47) - 2	7 (0.28) - 2 13 (0.51) - 1	7 (0.28) - 1 8 (0.31) - 1 12 (0.47) - 1 13 (0.51) - 1	
Free camber "S" mm (in)	171.0 (6.73)	183.0 (7.20)	164.5 (6.48)	171.0 (6.73)	106.0 (4.17)
Shock absorber	Non-adjustable				
Shock absorber type	Non-adjustable				
Maximum length mm (in)	508 (20.00)				528 (20.79)
Compression N (kg, lb)	157 - 275 (16 - 28, 35 - 62)				265 - 422 (27 - 43, 60 - 95)



Helper spring



SRA657A

SRA658A

Inspection and Adjustment

WHEEL BEARING

Total end play	mm (in)	0.02 - 0.15 (0.0008 - 0.0059)	
Available rear axle case end shims	Thickness	Part number	
	mm (in)		
	0.05 (0.0020)	43086-P0110	
	0.07 (0.0028)	43087-P0110	
	0.10 (0.0039)	43088-P0110	
	0.15 (0.0059)	43086-B9500	
	0.20 (0.0079)	43089-P0110	
0.50 (0.0197)	43090-P0110		
1.00 (0.0394)	43036-01G00		