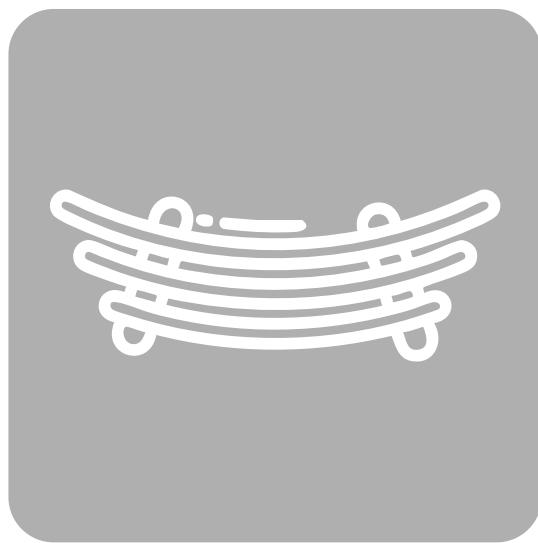


REAR AXLE & REAR SUSPENSION



REAR AXLE & REAR SUSPENSION

SECTION **RA**

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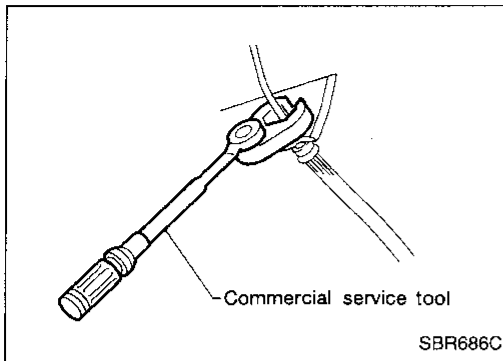
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PRECAUTIONS AND PREPARATION


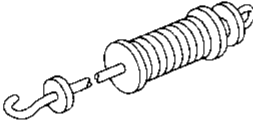
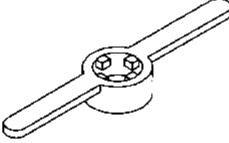
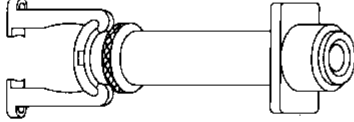
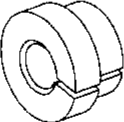


Precautions

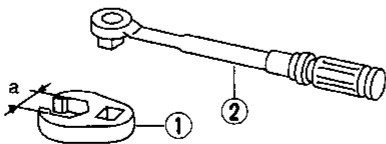
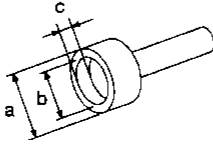
- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
- *: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- Use flare nut wrench when removing or installing brake tubes.
- After installing 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		Removing rear axle shaft
ST36230000 (J25840-A) Sliding hammer		Removing rear axle shaft
ST38020000 (—) Bearing lock nut wrench		Removing wheel bearing lock nut
HT72480000 (J25852-B) Rear axle shaft bearing puller		Removing wheel bearing
ST37840000 (—) Rear axle shaft guide		Installing rear axle shaft

Commercial Service Tools

Tool name	Description	
① Flare nut crowfoot ② Torque wrench		Removing and installing each brake piping
Rear axle oil seal drift		Installing oil seal

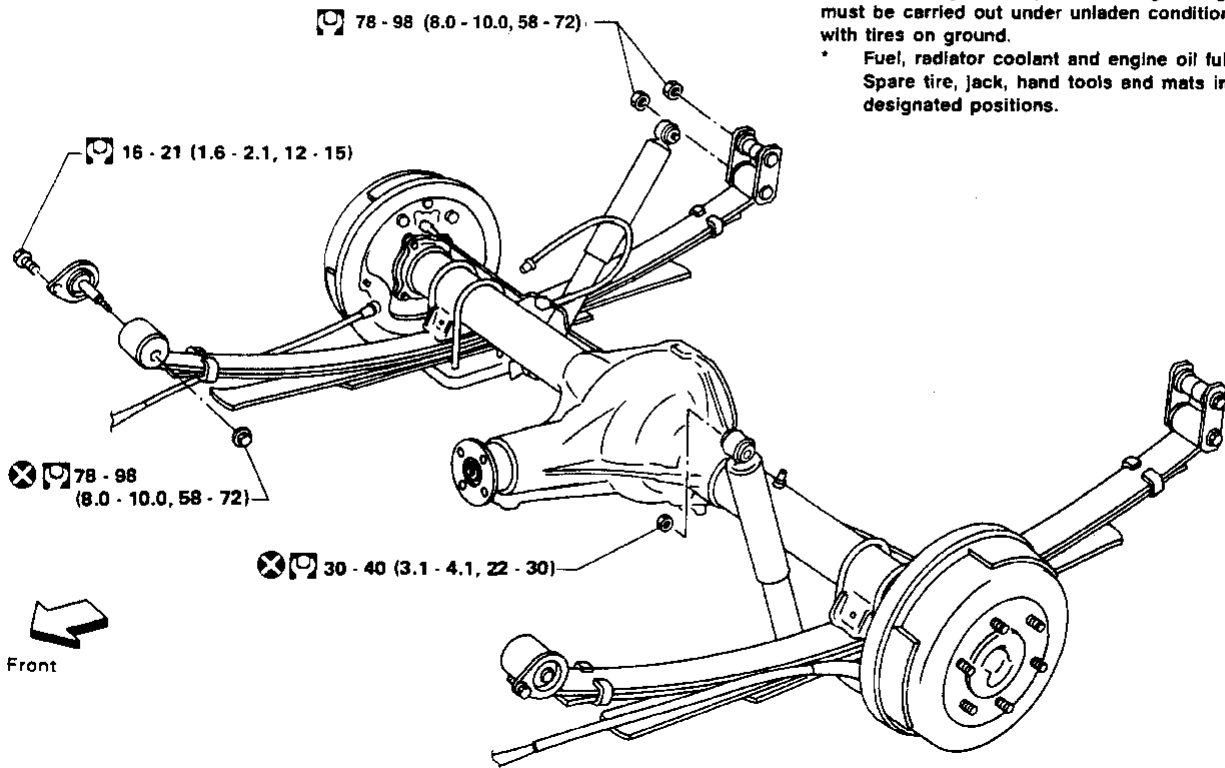
a: 10 mm (0.39 in)

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

2WD

SEC. 380•430•431



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

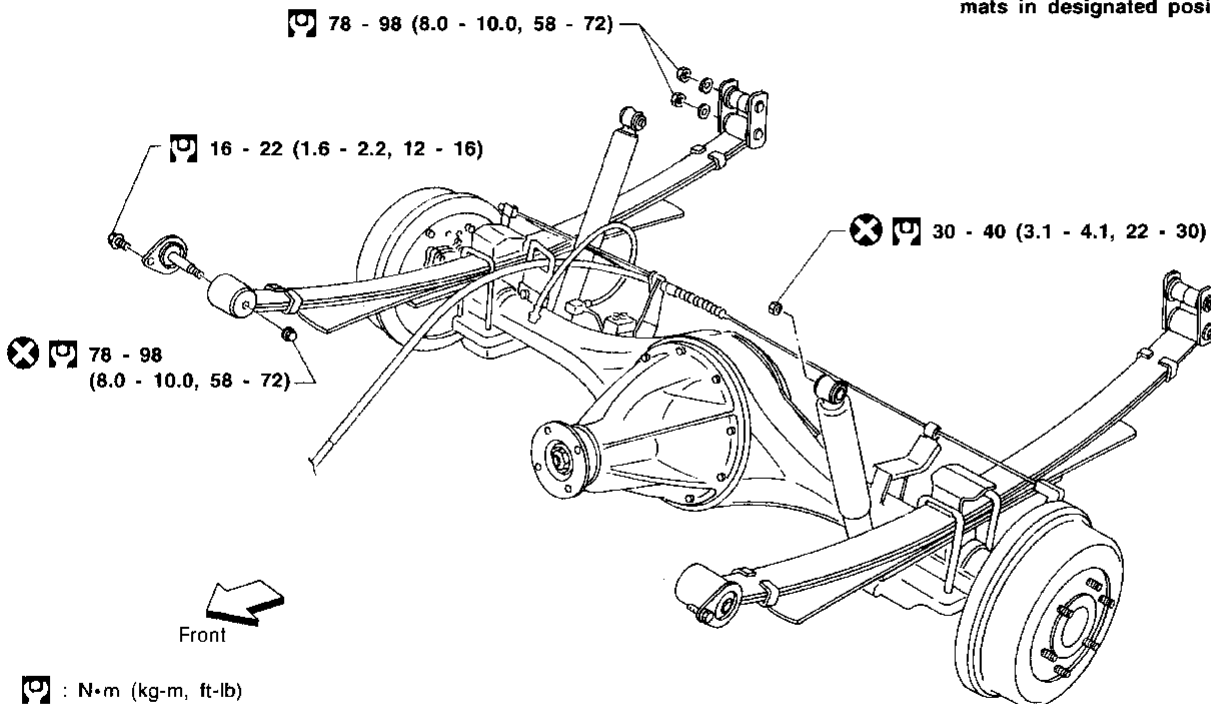
* Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

: N·m (kg-m, ft-lb)

ARA068

4WD

SEC. 380•430•431



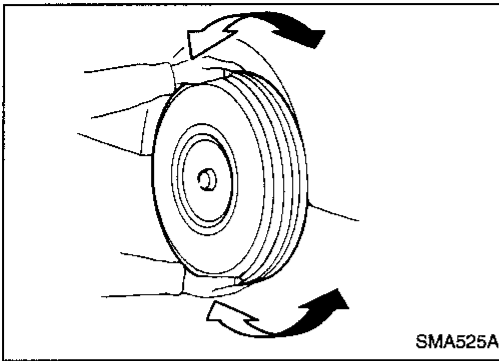
When installing each rubber part, final tightening must be carried out under unladen condition* with tires on ground.

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

: N·m (kg-m, ft-lb)

SRA751A

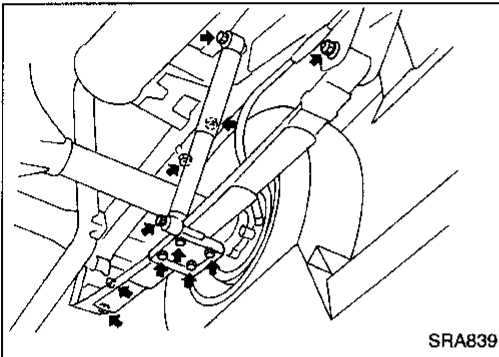
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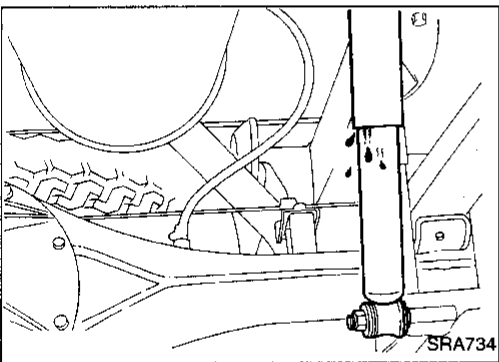
Rear Axle and Rear Suspension Parts

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

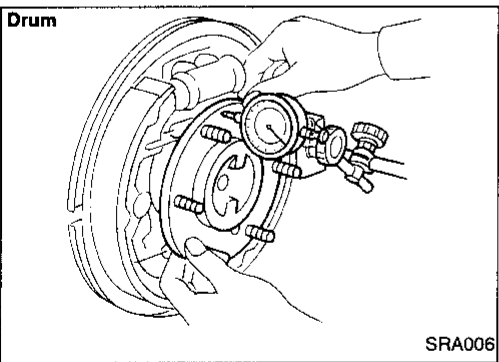
- Shake each rear wheel to check for excessive play.



- 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

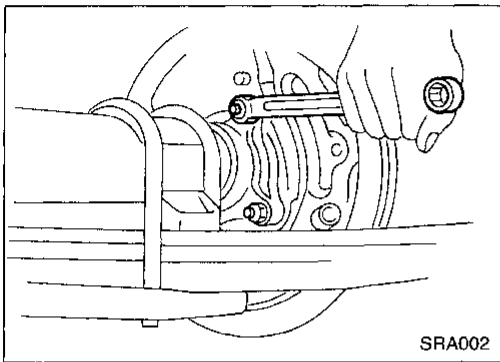
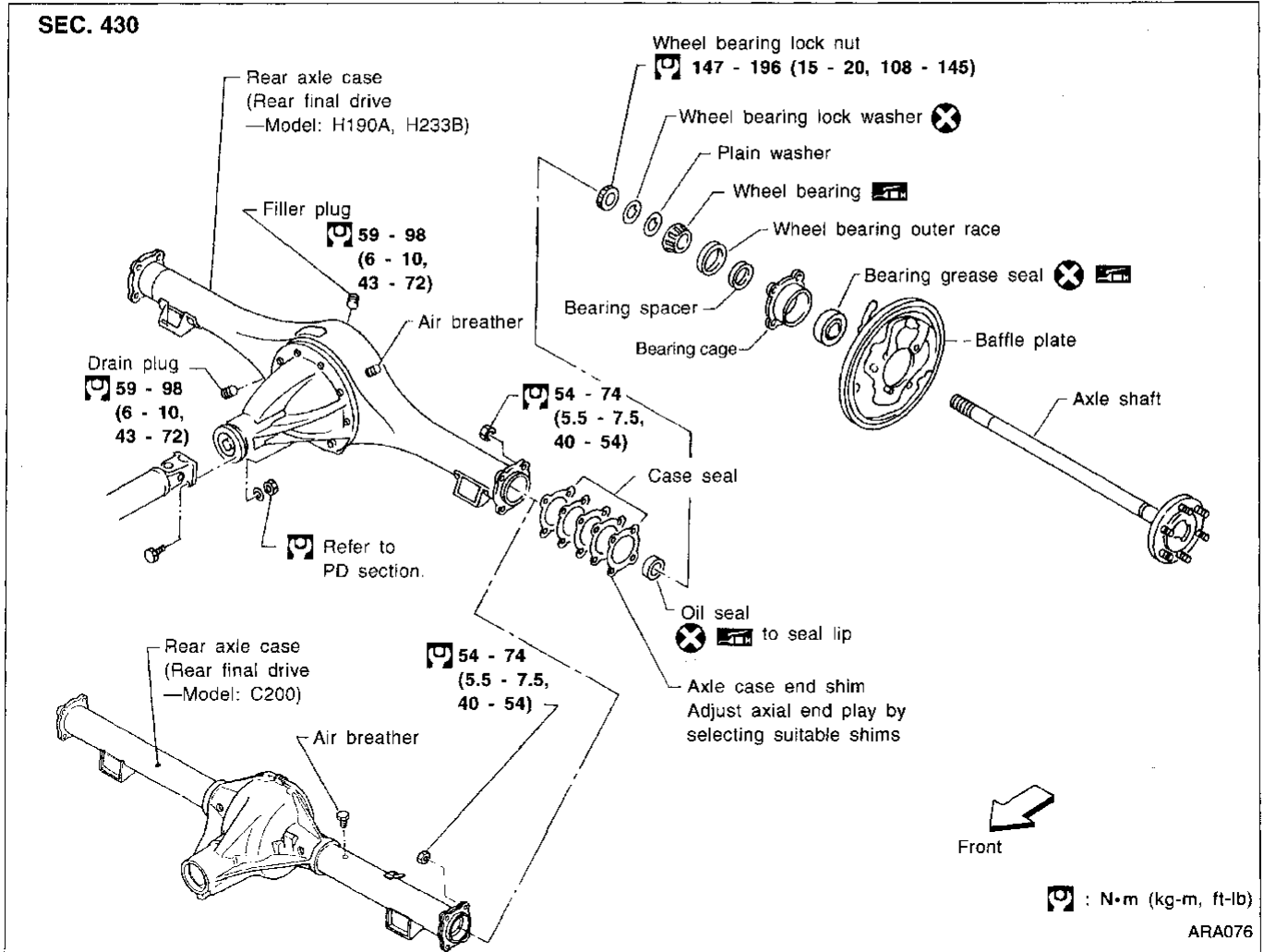
- Check that wheel bearings operate smoothly.
- Check axial end play.

Axial end play:

Refer to SDS, RA-12.

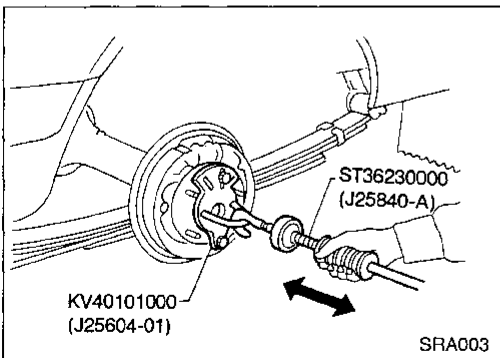
REAR AXLE

Components



Removal

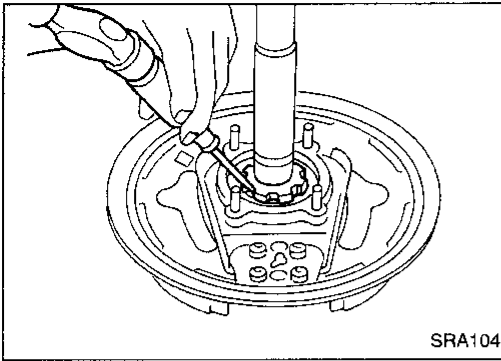
- Disconnect parking brake cable and brake tube.
- Remove nuts securing wheel bearing cage with baffle plate.



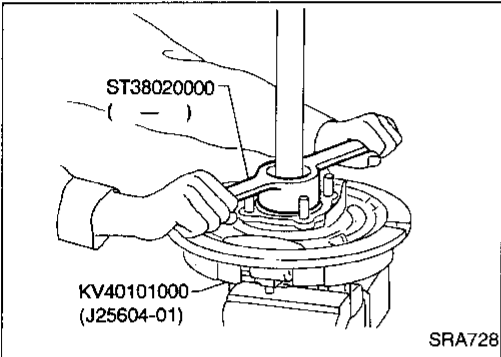
- Draw out axle shaft with Tool.
- When drawing out axle shaft, be careful not to damage oil seal.**
- Remove oil seal.
- Do not reuse oil seal once it is removed. Always install new one.**

REAR AXLE

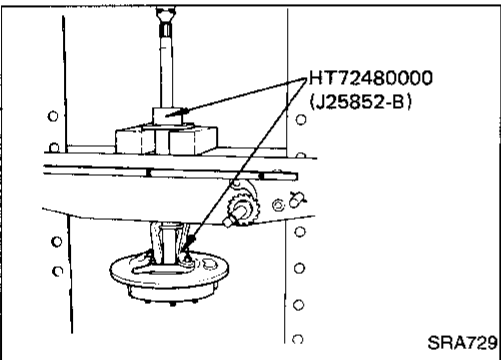
Removal (Cont'd)



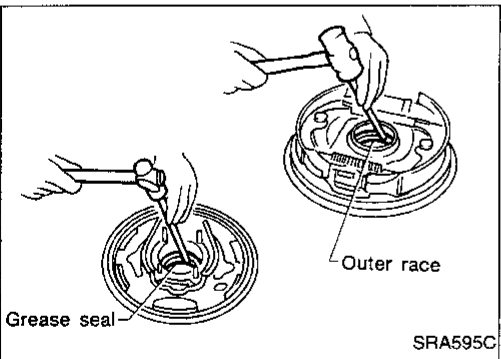
- Unbend lock washer with a screwdriver.



- Remove bearing lock nut with Tool.

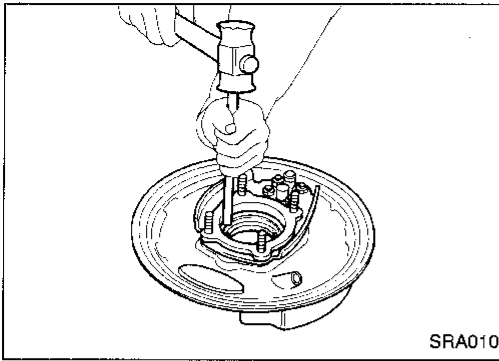


- Remove wheel bearing together with bearing cage and baffle plate from axle shaft.



- 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.

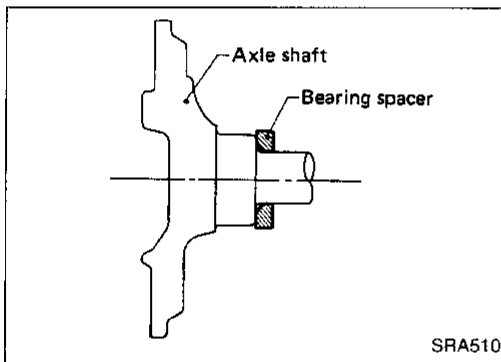
AXLE CASE

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

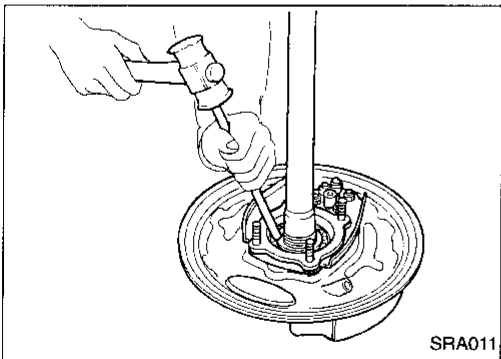
Installation

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

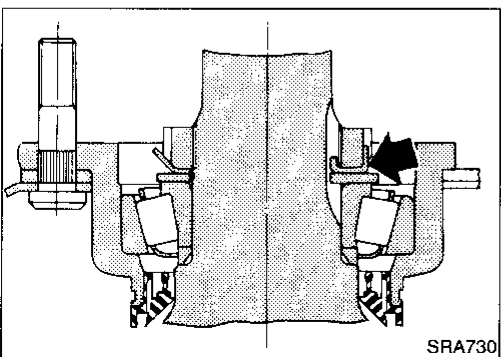
After installing new grease seal, coat sealing lip with multi-purpose grease.



- 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)



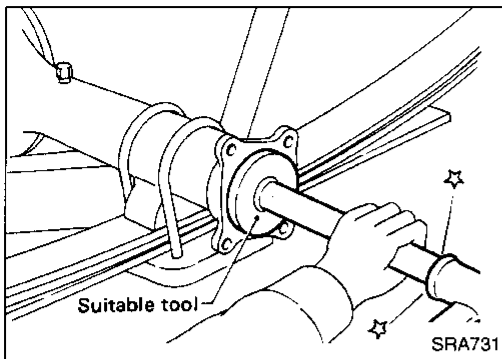
- Install plain washer and a new wheel bearing lock washer.
- Tighten wheel bearing lock nut.

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

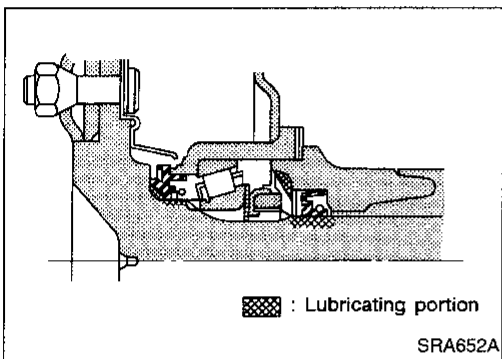
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REAR AXLE

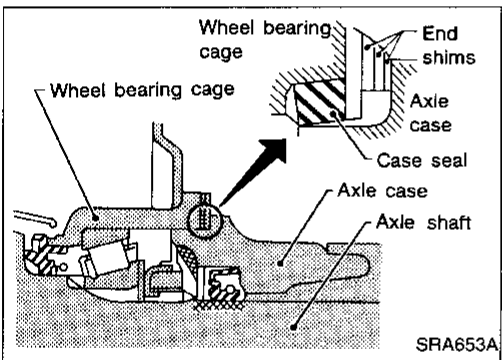
Installation (Cont'd)



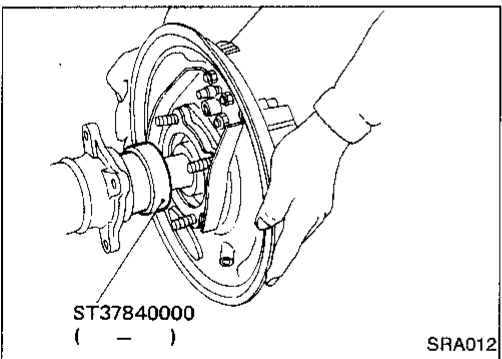
- Install a new oil seal with suitable tool.
- After installing new oil seal, coat sealing lip with multi-purpose grease.**



- 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)

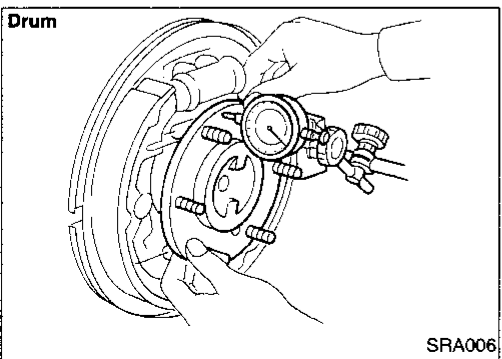
0.30 - 0.90 mm (0.0118 - 0.0354 in)

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.

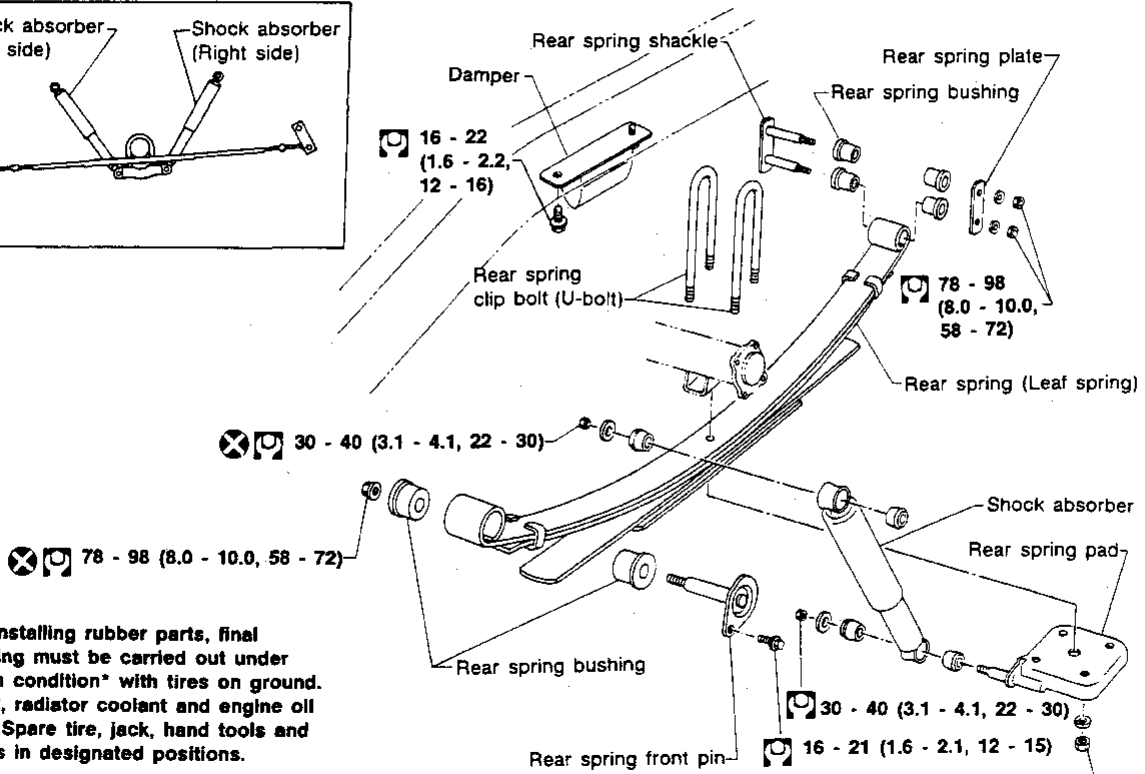
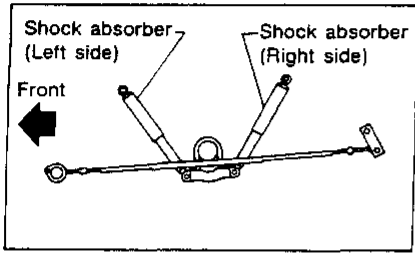


REAR SUSPENSION

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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)

88 - 98 (9.0 - 10.0, 65 - 72) SRA593CA

4WD

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SEC. 431

Damper

* Make sure of front mark.

16 - 22 (1.6 - 2.2, 12 - 16)

16 - 22 (1.6 - 2.2, 12 - 16)

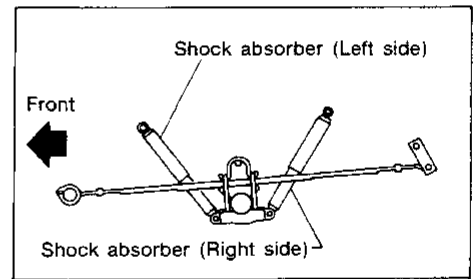
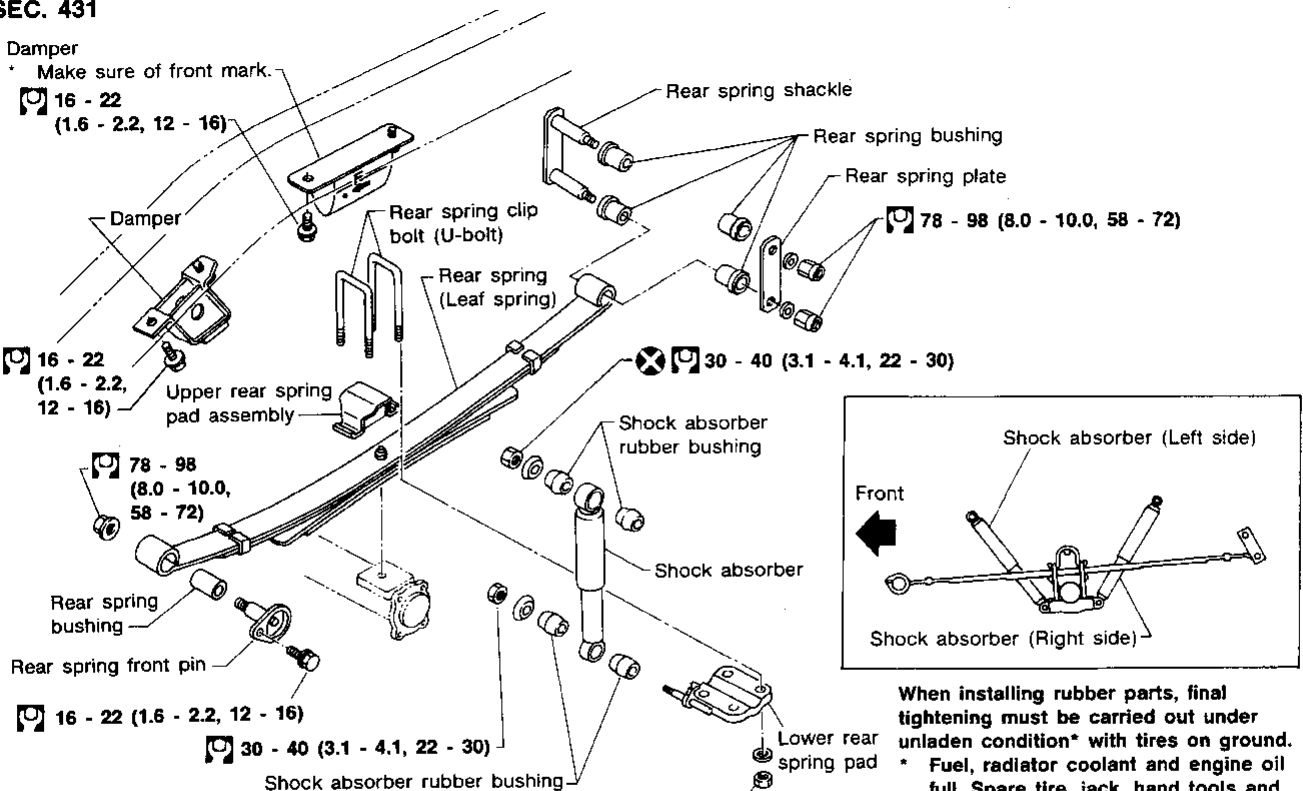
78 - 98 (8.0 - 10.0, 58 - 72)

16 - 22 (1.6 - 2.2, 12 - 16)

30 - 40 (3.1 - 4.1, 22 - 30)

: N·m (kg·m, ft·lb)

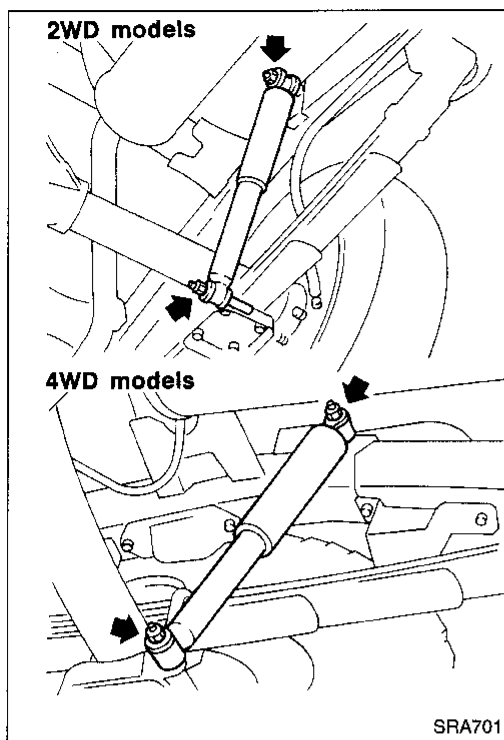
88 - 98 (9.0 - 10.0, 65 - 72)



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.

SRA594CA

REAR SUSPENSION



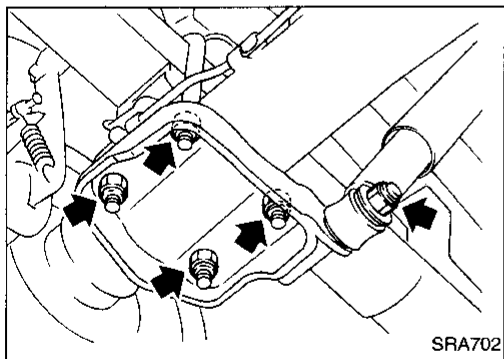
Shock Absorber

REMOVAL AND INSTALLATION

- Remove shock absorber by disconnecting upper and lower end.

INSPECTION

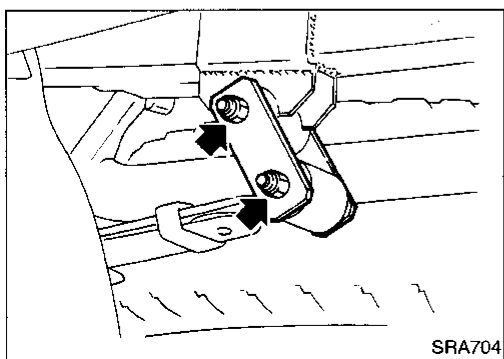
- If oil leakage, cracks or deformation occurs, replace shock absorber assembly.
- If rubber bushings are cracked or deformed, replace rubber bushings.



Leaf Spring

REMOVAL AND INSTALLATION

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

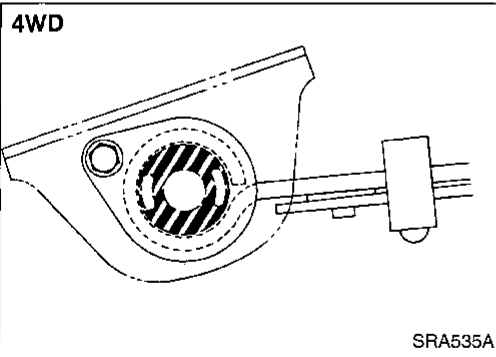
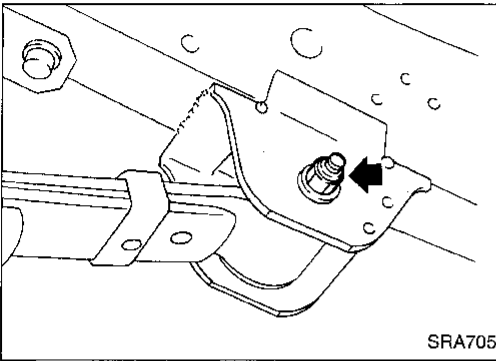


- Disconnect spring shackle.

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]

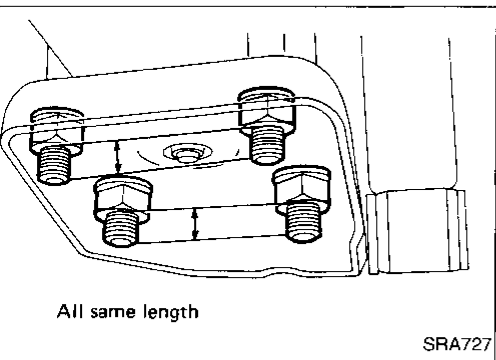
Make sure that front bushing is properly installed.

INSTALLATION

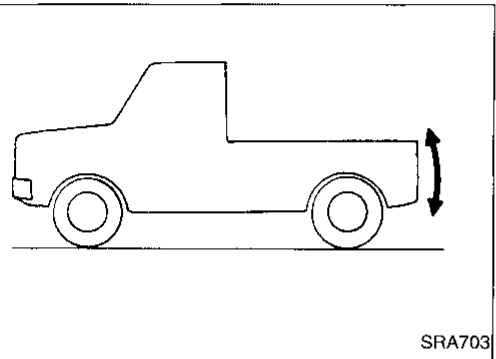
- Apply soapsuds to rubber bushing.
- Install spring shackle and front pin, and finger tighten the nuts.
- Install spring pad and nuts under leaf spring or axle case.
- Tighten U-bolt mounting nuts diagonally.

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.



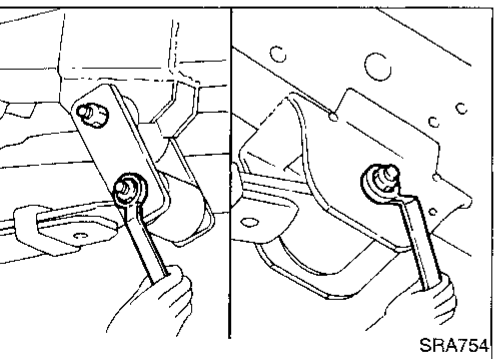
- Remove stands and bounce the vehicle to stabilize suspension. (Unladen)



- 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.

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



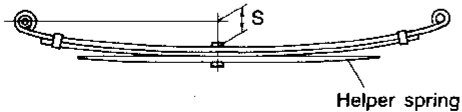
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SERVICE DATA AND SPECIFICATIONS (SDS)

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 mm (in)	Part number
	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