

REAR AXLE & REAR SUSPENSION

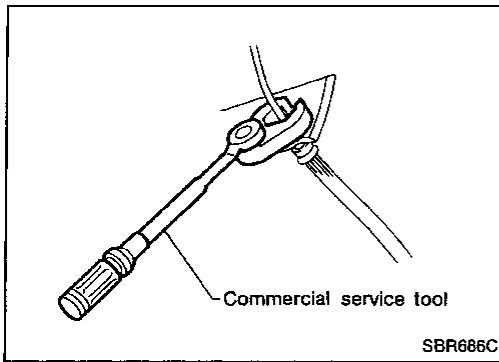
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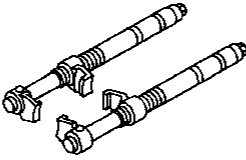
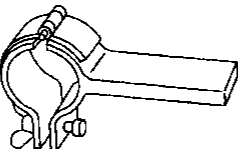
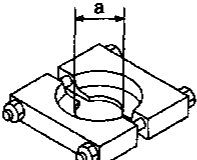
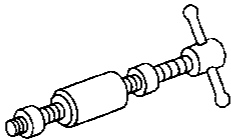
PRECAUTIONS AND PREPARATION



Precautions

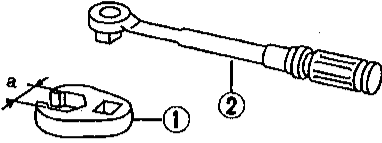
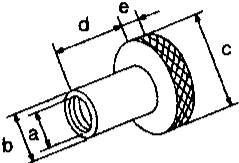
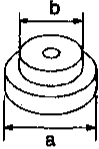
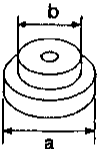
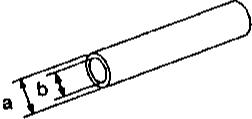
- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
*: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- Use flare nut wrench when removing or installing brake tubes.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Always torque brake lines when installing.
- Do not jack up at the lower arm.

Special Service Tools

Tool number (Kent-Moore No.) Tool name	Description
HT71780000 (—) Spring compressor	<div style="text-align: right;">Removing and installing coil spring</div>  <div style="text-align: left;">NT144</div>
ST35652000 (—) Strut attachment	<div style="text-align: right;">Fixing strut assembly</div>  <div style="text-align: left;">NT145</div>
ST30031000 (J22912-01) Bearing puller	<div style="text-align: right;">Removing inner race of wheel bearing</div>  <div style="text-align: left;">NT412</div> <div style="text-align: right;">a: 50 mm (1.97 in) dia.</div>
ST38280000 (—) Arm bushing remover	<div style="text-align: right;">Removing and installing bushing of rear axle housing</div>  <div style="text-align: left;">NT157</div>

PRECAUTIONS AND PREPARATION

Commercial Service Tools

Tool name	Description	GI
① Flare nut crows foot ② Torque wrench	Removing and installing brake piping  NT360 a: 10 mm (0.39 in)	MA
Attachment Wheel alignment	Measure rear wheel alignment  NT148 a: Screw M24 x 1.5 b: 35 mm (1.38 in) dia. c: 65 mm (2.56 in) dia. d: 56 mm (2.20 in) e: 12 mm (0.47 in)	EM
Rear wheel hub drift	Installing wheel bearing  NT073 a: 49 mm (1.93 in) dia. b: 41 mm (1.61 in) dia.	EC
Wheel bearing drift	Removing rear wheel hub  NT073 a: 40 mm (1.57 in) dia. b: 26 mm (1.02 in) dia.	FE
Rear drive shaft plug seal drift	Installing rear drive shaft plug seal  NT065 a: 85 mm (3.35 in) dia. b: 67 mm (2.64 in) dia.	CL

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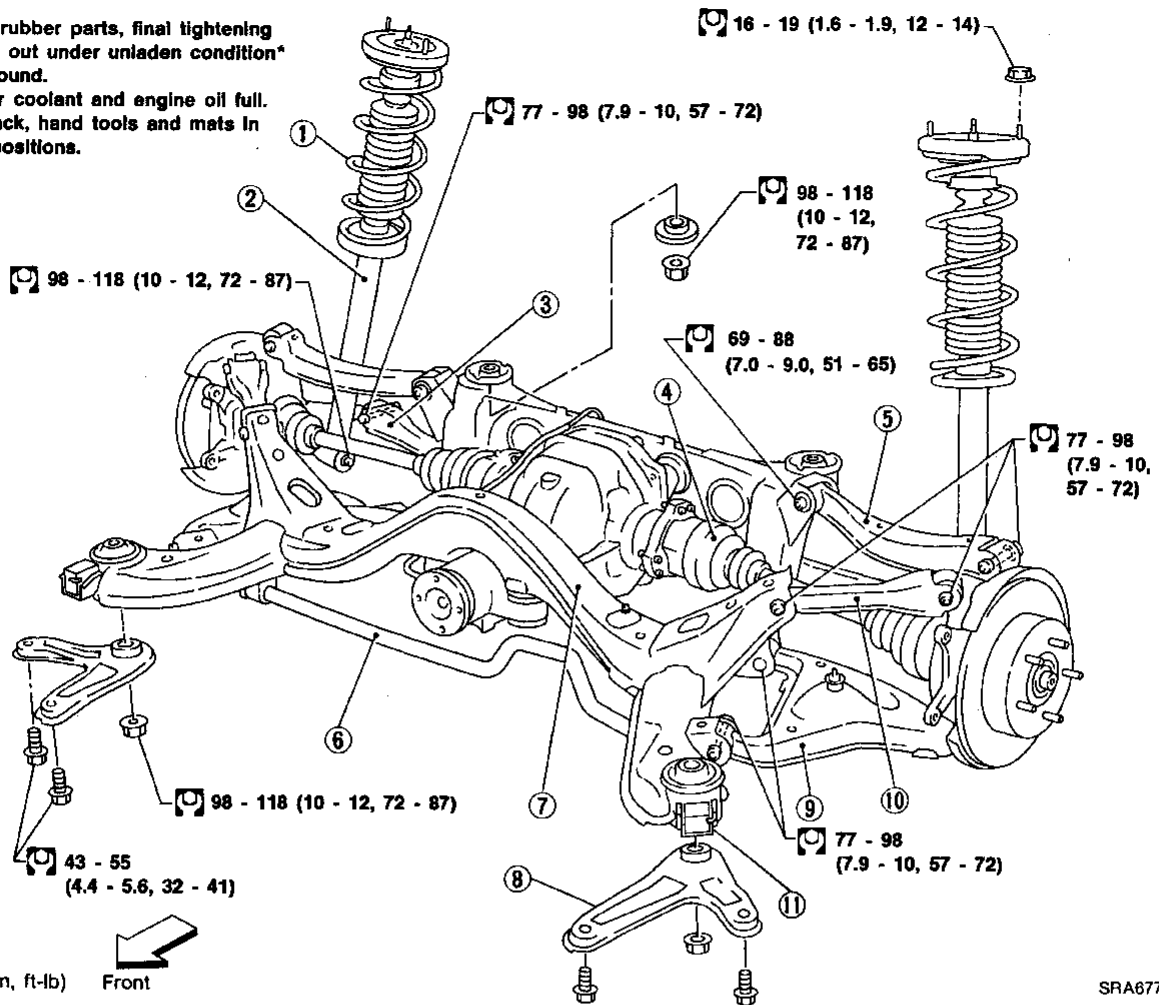
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REAR SUSPENSION SYSTEM

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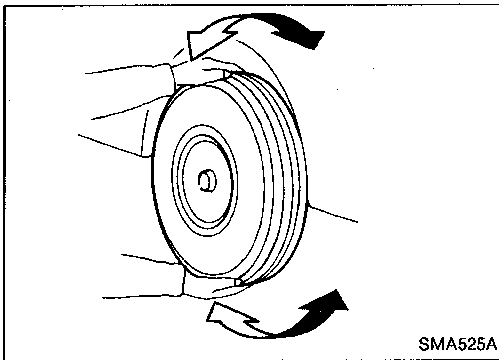
When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.

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



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|-------------------|---------------------------|
| ① Coil spring | ⑦ Suspension member |
| ② Shock absorber | ⑧ Member stay |
| ③ Lateral link | ⑨ Lower arm |
| ④ Drive shaft | ⑩ Front upper link |
| ⑤ Rear upper link | ⑪ Dynamic damper assembly |
| ⑥ Stabilizer bar | |



Rear Axle and Rear Suspension Parts

Check axle and suspension parts for looseness, wear or damage.

- Shake each rear wheel.
- Retighten all axle and suspension nuts and bolts to the specified torque.

Tightening torque:

Refer to REAR SUSPENSION (RA-17).

- Make sure that cotter pins are inserted.

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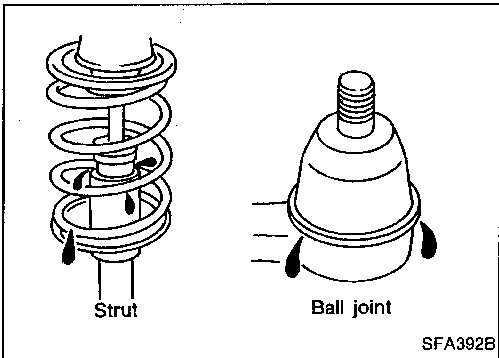
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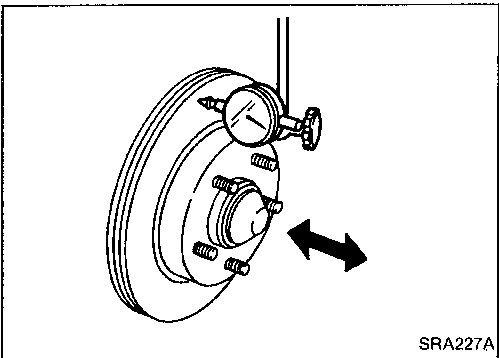
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- Check shock absorber for oil leakage or other damage.
- Check wheelarch height. Refer to FA section.
- Check suspension lower ball joint for excessive play.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks or other damage.



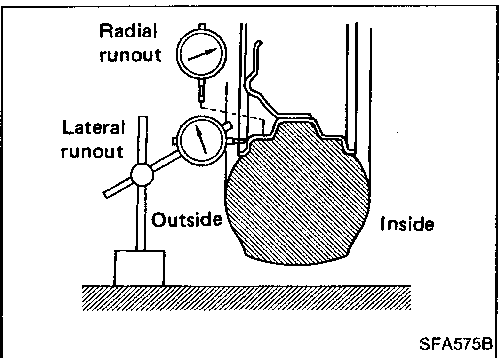
Rear Wheel Bearing

- Check wheel bearings smooth operation.
- Check axial end play.

Axial end play:

0.05 mm (0.0020 in) or less

- If out of specification or wheel bearing does not turn smoothly, replace wheel bearing assembly. Refer to REAR AXLE — Wheel Hub and Axle Housing (RA-7).



Rear Wheel Alignment

Before checking rear wheel alignment, be sure to make a preliminary inspection.

PRELIMINARY INSPECTION

Make following checks. Adjust, repair or replace if necessary.

- Check tires for wear and for improper inflation.
- Check rear wheel bearings for looseness.
- Check wheel runout. Refer to SDS in FA section.
- Check that rear shock absorber works properly.
- Check rear axle and rear suspension parts for looseness.
- Check vehicle posture (Unladen). ("Unladen": Fuel tank, radiator and engine oil full. Spare tire, jack, hand tools and mats in designated positions.)

ON-VEHICLE SERVICE

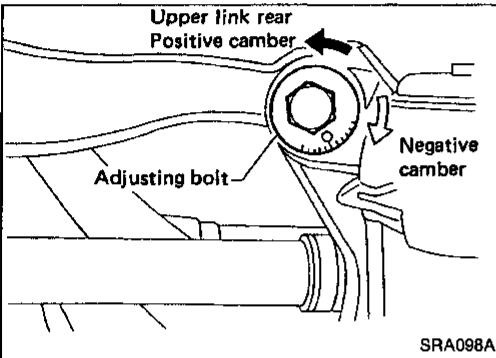
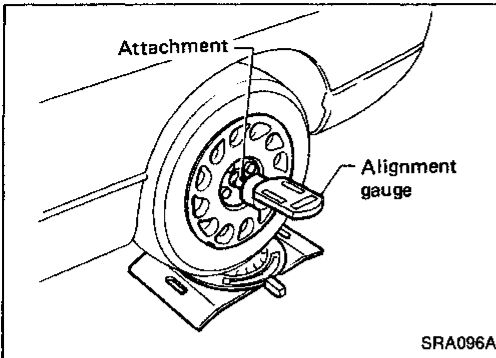
Rear Wheel Alignment (Cont'd)

CAMBER

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

Camber:

Refer to SDS (RA-23).



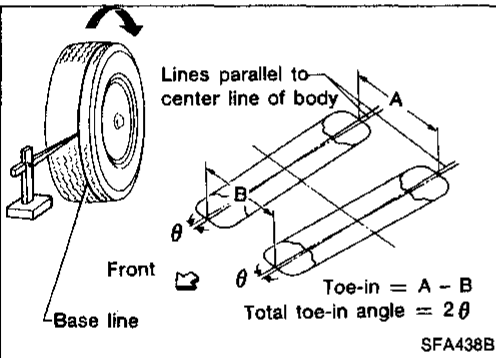
- If camber is not within specification, adjust by turning the adjusting bolt.

(1) Turn the adjusting bolt to adjust.

Camber changes about 4' with each graduation of the adjusting bolt.

(2) Tighten to the specified torque.

\square : 69 - 88 N·m
(7.0 - 9.0 kg-m, 51 - 65 ft-lb)



TOE-IN

1. Draw a base line across the tread.

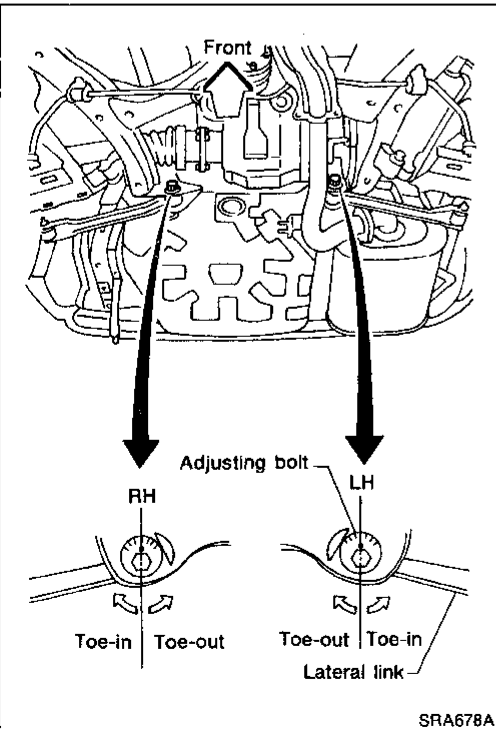
After lowering rear of vehicle, move it up and down to eliminate friction.

2. Measure toe-in.

Measure distance "A" and "B" at the same height as hub center.

Toe-in (Total):

Refer to SDS (RA-23).



3. Adjust toe-in by turning adjusting bolts.

Toe changes about 1.3 mm (0.051 in) [One side] with each graduation of the adjusting bolt.

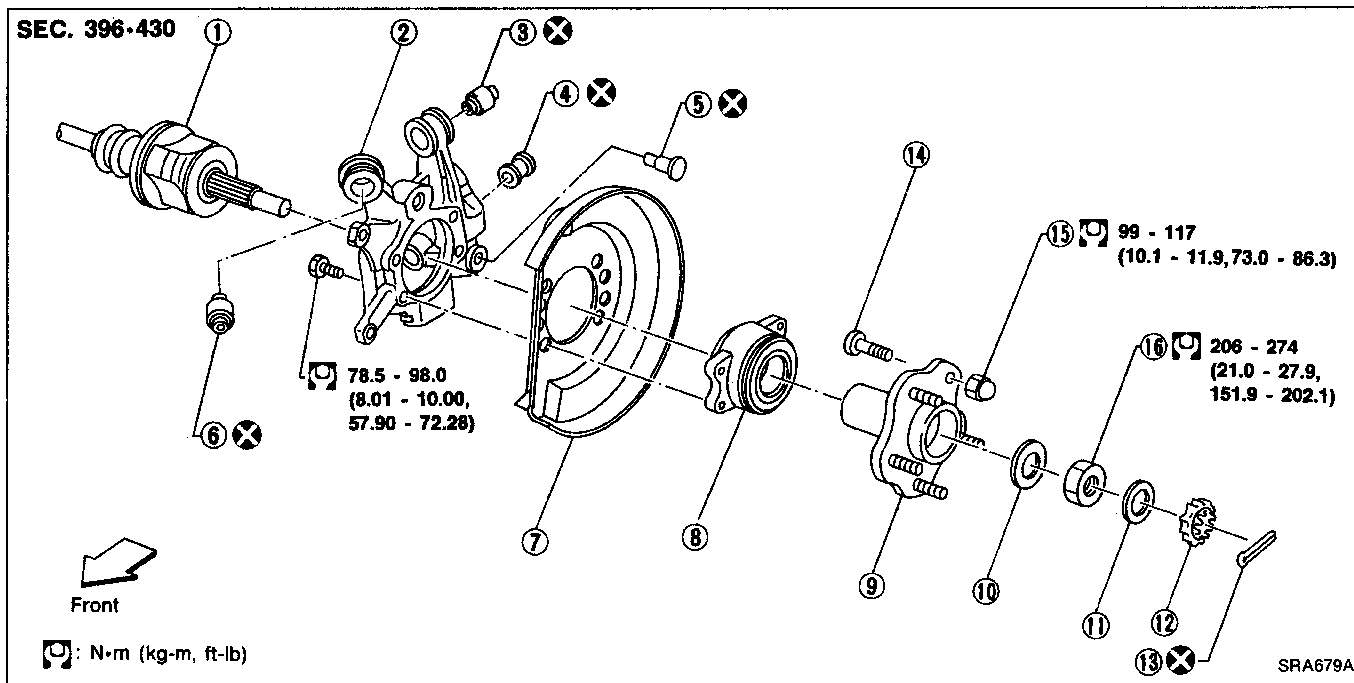
4. Tighten to the specified torque.

\square : 69 - 88 N·m
(7.0 - 9.0 kg-m, 51 - 65 ft-lb)

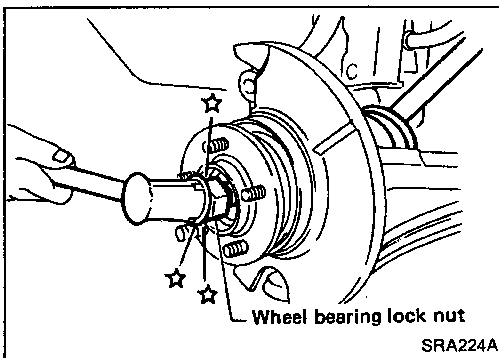
Drive Shaft

Check boot and drive shaft for cracks, wear, damage or grease leakage.

Wheel Hub and Axle Housing



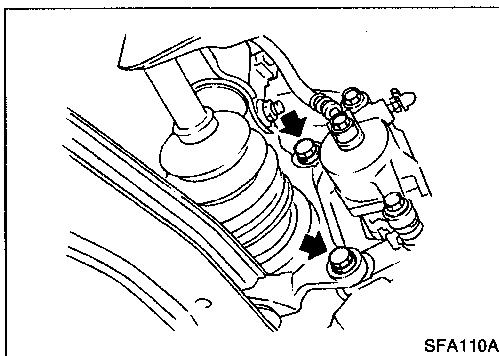
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|----------------------|-----------------------------|--------------------------|
| ① Drive shaft | ⑦ Baffle plate | ⑫ Adjusting cap |
| ② Axle housing | ⑧ Wheel bearing with flange | ⑬ Cotter pin |
| ③ Bushing | ⑨ Wheel hub | ⑭ Hub bolt |
| ④ Bushing | ⑩ Plain washer | ⑮ Wheel nut |
| ⑤ Shock absorber pin | ⑪ Insulator | ⑯ Wheel bearing lock nut |
| ⑥ Bushing | | |



REMOVAL

- Remove wheel bearing lock nut.
- Separate drive shaft from axle housing by lightly tapping it. If it is hard to remove use puller.

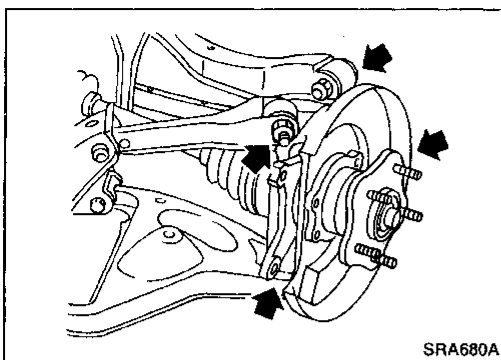
When removing drive shaft, cover boots with shop towel to prevent them from being damaged.



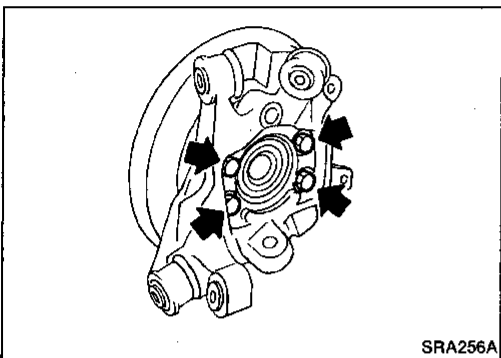
- Remove brake caliper assembly and rotor. **Suspend caliper assembly with wire so as not to stretch brake hose. Be careful not to depress brake pedal or piston will pop out.**

REAR AXLE

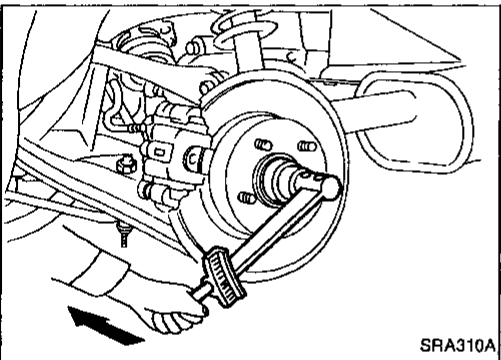
Wheel Hub and Axle Housing (Cont'd)



- Remove axle housing.




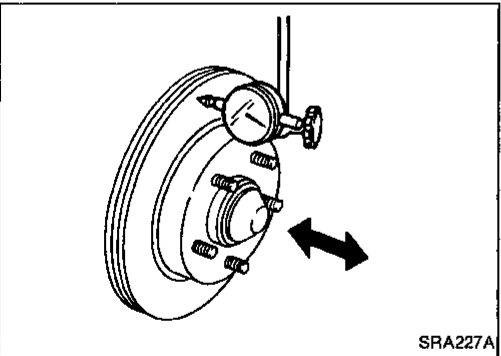
- Remove wheel bearing with flange, and wheel hub from axle housing.



INSTALLATION

- Install axle housing with wheel hub.
- Tighten wheel bearing lock nut.
Before tightening, apply oil to threaded portion of rear spindle and both sides of plain washer.

: 206 - 274 N·m
(21.0 - 27.9 kg-m, 151.9 - 202.1 ft-lb)



- Check wheel bearing axial end play.
Axial end play: 0.05 mm (0.0020 in) or less
- Make sure that wheel bearings operate smoothly.
- Check toe-in — Refer to ON-VEHICLE SERVICE (RA-6).

REAR AXLE

Wheel Hub and Axle Housing (Cont'd)

DISASSEMBLY

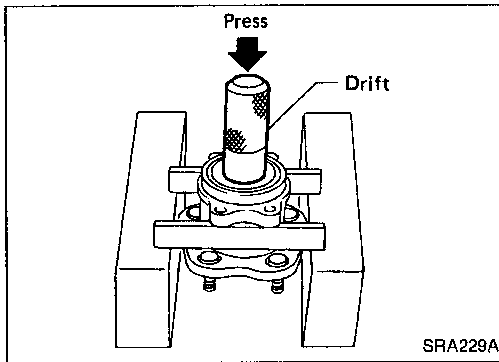
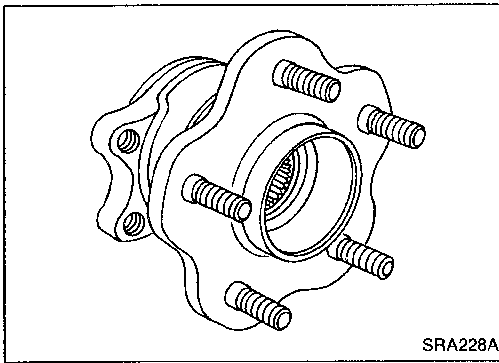
CAUTION:

Wheel bearing with flange usually does not require maintenance. If any of the following symptoms are noted, replace wheel bearing assembly (including flange, and inner and outer seals).

- Growling noise is emitted from wheel bearing during operation.
- Wheel hub bearing drags or turns roughly. This occurs when turning hub by hand after bearing lock nut is tightened to specified torque.
- After wheel bearing is removed from hub.

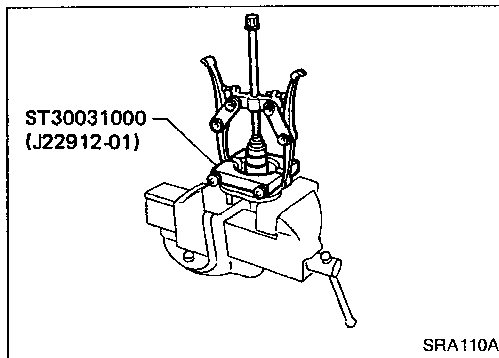
Wheel hub

Remove wheel bearing (with flange) and wheel hub as one unit from axle housing before disassembling.



Wheel bearing

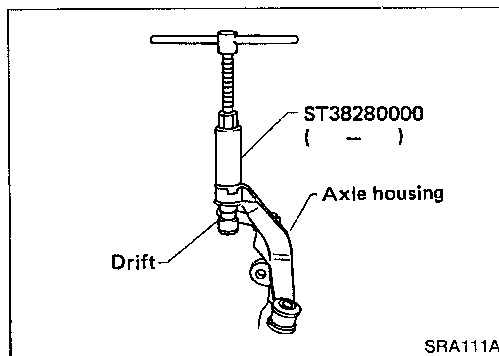
- Using a press and drift as shown in figure at left, press wheel bearing out.
- Discard old wheel bearing assembly. Replace with a new one.



- Remove inner race from hub using a bearing replacer/puller.

CAUTION:

- Do not reuse old inner race although it is of the same brand as the bearing assembly.
- Do not replace grease seals as single parts.



Axle housing

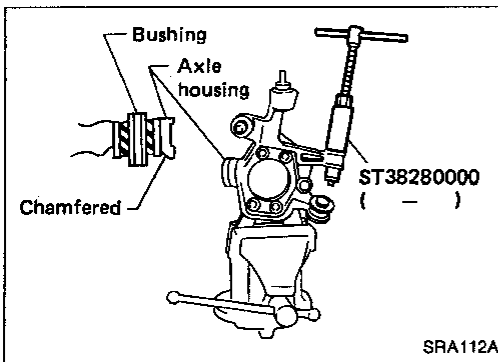
- Attach a drift on outer shell of bushing as shown in figure at left. Remove bushing using arm bushing remover.

When placing axle housing in a vise, use wooden blocks or copper plates as pads.

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REAR AXLE

Wheel Hub and Axle Housing (Cont'd)



- Ensure axle housing bore is free from scratches or deformities before pressing bushing into it.
- Attach bushing to chamfered bore end of axle housing. Then press it until it is flush with end face of axle housing.

INSPECTION

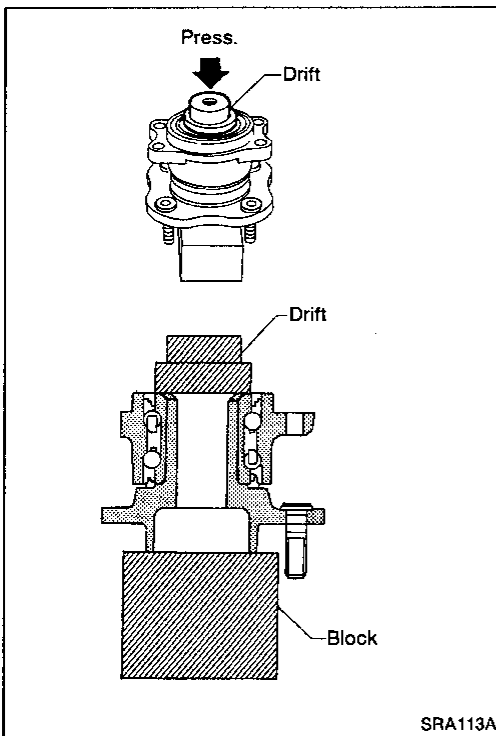
Wheel hub and axle housing

- Check wheel hub and axle housing for cracks by using a magnetic exploration or dyeing test.
- Check wheel bearing for damage, seizure, rust or rough operation.
- Check rubber bushing for wear or other damage. Replace if necessary.

ASSEMBLY

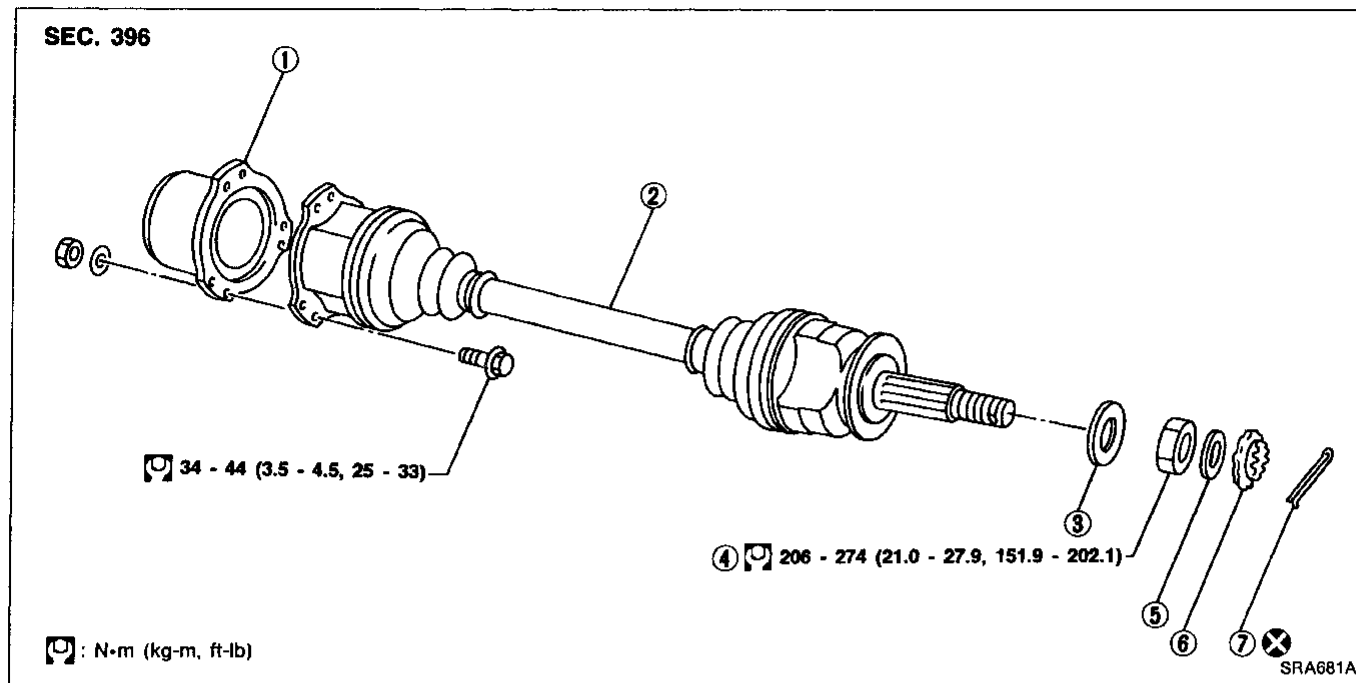
Place hub on a block. Attach a drift to inner race of wheel bearing and press it into hub as shown.

Be careful not to damage grease seal.



REAR AXLE

Drive Shaft



- ① Side flange
- ② Drive shaft
- ③ Plain washer
- ④ Wheel bearing lock nut

- ⑤ Insulator
- ⑥ Adjusting cap
- ⑦ Cotter pin

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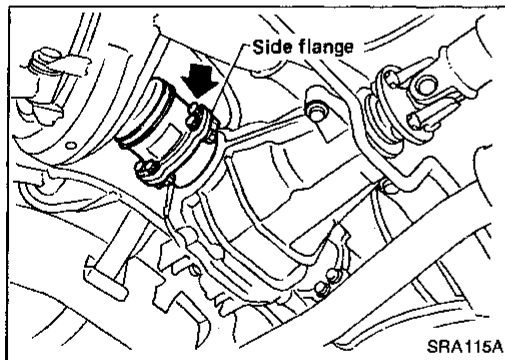
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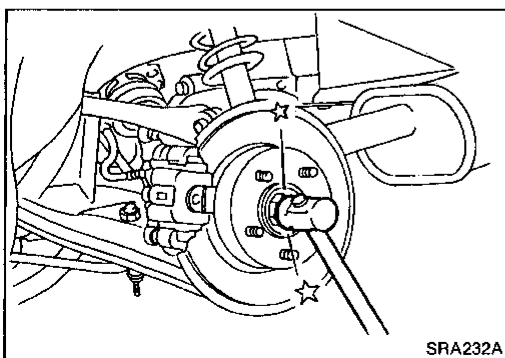


REMOVAL

When removing drive shaft, cover boots with shop towel to prevent damage to them.

Final drive side

Remove side flange mounting bolt and separate shaft.



Wheel side

Remove drive shaft by lightly tapping it with a copper hammer. If it is hard to remove, use puller.

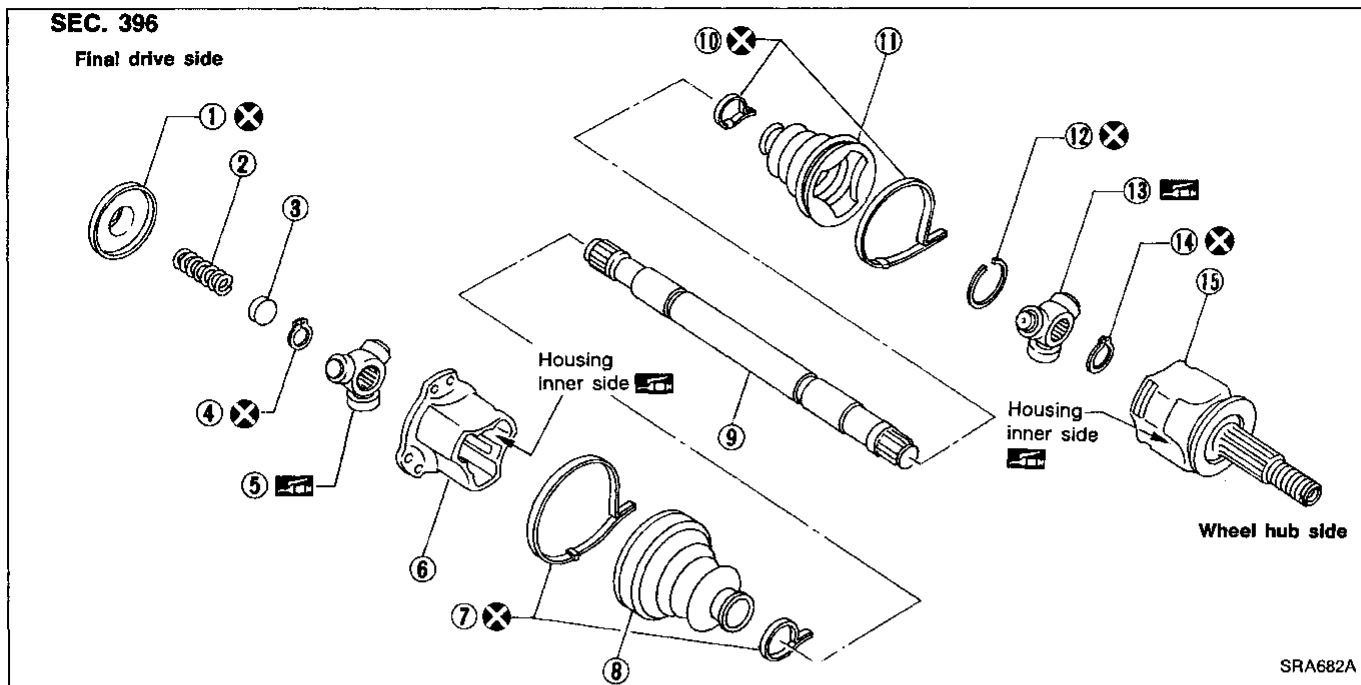
To avoid damaging threads of drive shaft, install a nut while removing drive shaft.

INSTALLATION

- Insert drive shaft from wheel hub and temporarily tighten wheel bearing lock nut.
- Tighten side flange mounting bolts to specified torque.
- Tighten wheel bearing lock nut to specified torque.

REAR AXLE

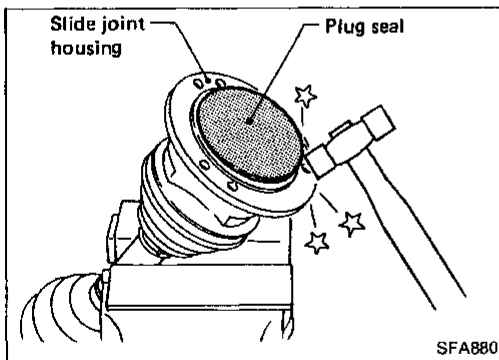
Drive Shaft (Cont'd) COMPONENTS



- ① Plug seal
- ② Spring
- ③ Spring cap
- ④ Snap ring
- ⑤ Spider assembly

- ⑥ Slide joint housing
- ⑦ Boot band
- ⑧ Boot
- ⑨ Drive shaft
- ⑩ Boot band

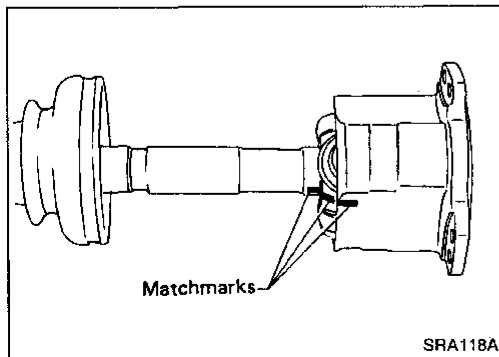
- ⑪ Boot
- ⑫ Snap ring
- ⑬ Spider assembly
- ⑭ Snap ring
- ⑮ Housing with shaft



DISASSEMBLY

Final drive side

1. Remove plug seal from slide joint housing by lightly tapping around slide joint housing.



2. Remove boot bands.
3. Put matchmarks on slide joint housing and drive shaft before separating joint assembly.
4. Put matchmarks on spider assembly and drive shaft.

REAR AXLE

Drive Shaft (Cont'd)

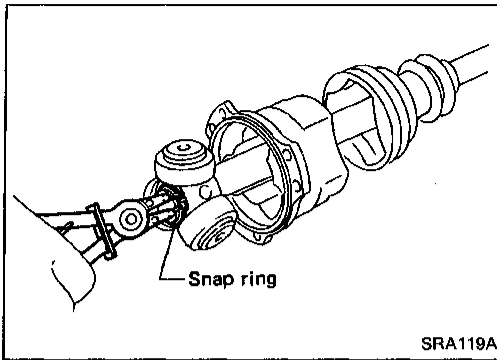
5. Pry off snap ring, then remove spider assembly.

CAUTION:

Do not disassemble spider assembly.

6. Draw out slide joint housing.
7. Draw out boot.

Cover drive shaft serration with tape to prevent damage to the boot.



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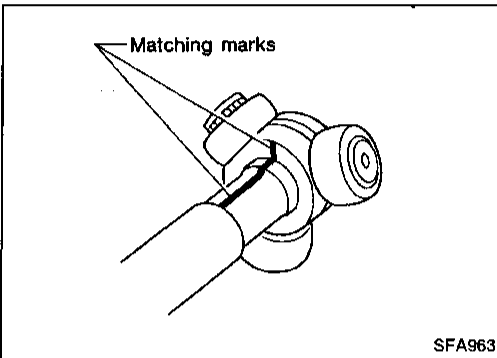
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Wheel side

1. Remove boot bands.
2. Put matchmarks on housing together with shaft and drive shaft before separating joint assembly.
3. Put matchmarks on spider assembly and drive shaft.



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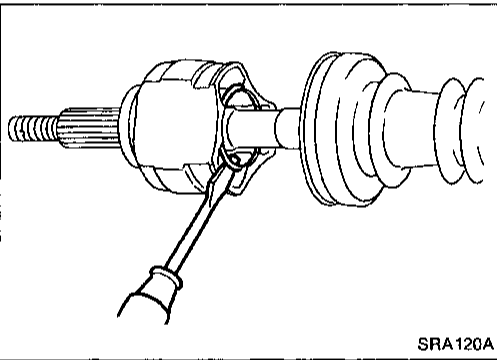
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4. Pry off snap ring with a screwdriver, and pull out slide joint housing.



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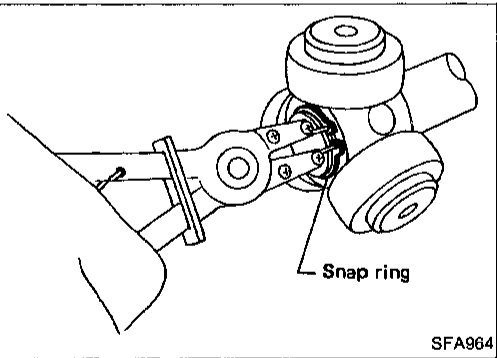
5. Pry off snap ring, then remove spider assembly.

CAUTION:

Do not disassemble spider assembly.

6. Draw out boot.

Cover drive shaft serration with tape to prevent damage to the boot.



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INSPECTION

Thoroughly clean all parts in cleaning solvent, and dry with compressed air. Check parts for deformation or other damage.

Drive shaft

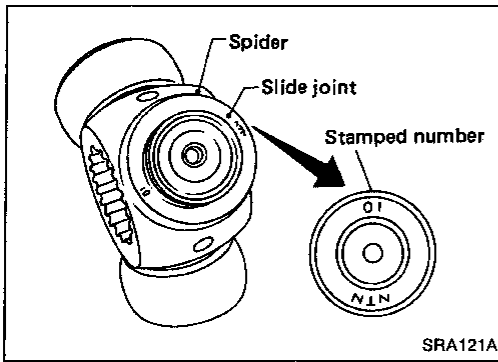
Replace drive shaft if it is twisted or cracked.

Boot

Check boot for fatigue, cracks, or wear. Replace boot with new boot bands.

REAR AXLE

Drive Shaft (Cont'd)



Joint assembly

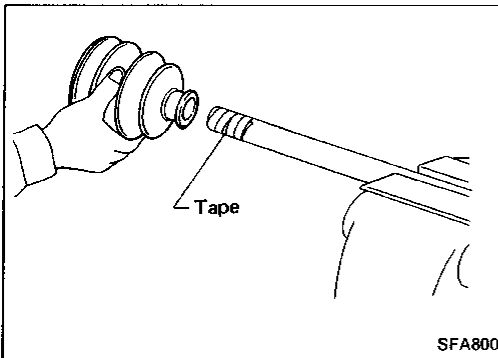
- Check spider assembly for bearing, roller and washer damage. Replace spider assembly if necessary.
- Check housing for any damage. Replace housing set and spider assembly, if necessary.
- When replacing only spider assembly, select a new spider assembly from among those listed in table below. Ensure the number stamped on sliding joint is the same as that stamped on new part.

Housing alone cannot be replaced. It must be replaced together with spider assembly.

Stamped number	Part No.
00	39720 10V10
01	39720 10V11
02	39720 10V12

ASSEMBLY

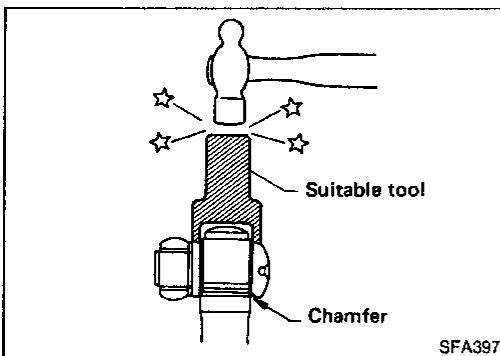
- After drive shaft has been assembled, ensure it moves smoothly over its entire range without binding.
- Use **NISSAN GENUINE GREASE** or equivalent after every overhaul.



Wheel side

1. Install new small boot band and boot on drive shaft.

Cover drive shaft serration with tape to prevent damage to boot during installation.



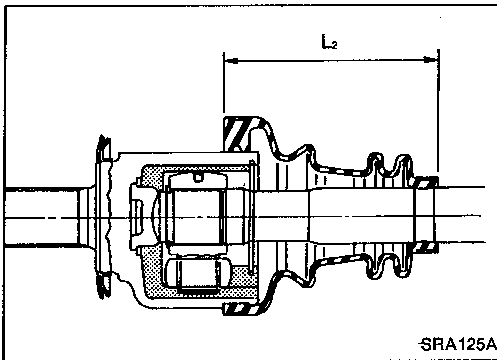
2. Install spider assembly securely, making sure marks are properly aligned.

Press-fit with spider assembly serration chamfer facing shaft.

3. Install new snap ring.

REAR AXLE

Drive Shaft (Cont'd)



4. Pack drive shaft with specified amount of grease.

Specified amount of grease:

135 - 145 g (4.76 - 5.11 oz)

5. Install slide joint housing, then install new snap ring.
6. Set boot so that it does not swell and deform when its length is " L_2 ".

Length " L_2 ":

95 - 97 mm (3.74 - 3.82 in)

Make sure that boot is properly installed on the drive shaft groove.

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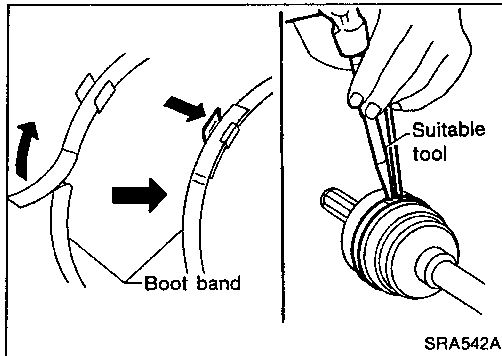
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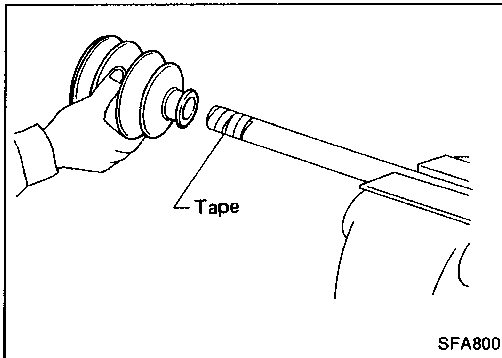
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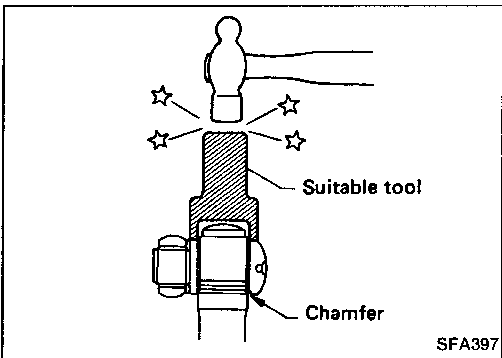
7. Lock new larger and smaller boot bands securely with a suitable tool.



Final drive side

1. Install new small boot band, boot and slide joint housing to drive shaft.

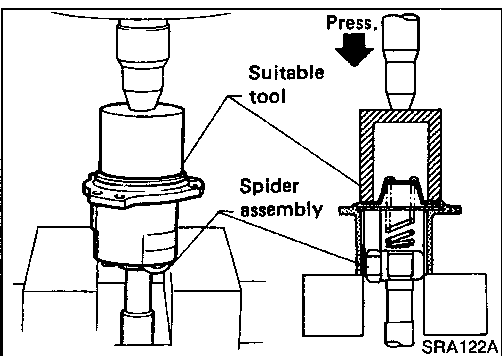
Cover drive shaft serration with tape to prevent damage to boot during installation.



2. Install spider assembly securely, making sure marks are properly aligned.

Press-fit with spider assembly serration chamfer facing shaft.

3. Install new snap ring.



4. Install coil spring, spring cap and new plug seal to slide joint housing. Press plug seal.

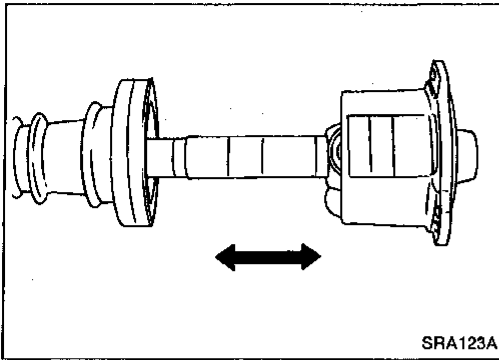
Apply sealant to mating surface of plug seal.

CAUTION:

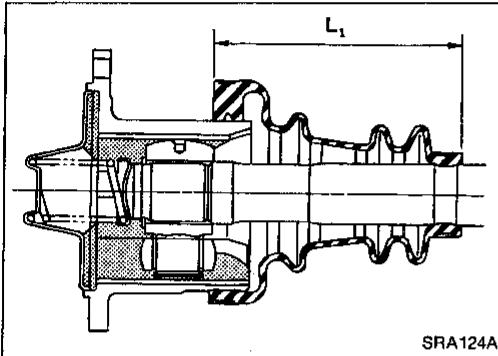
- a. When pressing plug seal into place, hold it horizontally. This prevents spring inside it from tilting or falling down.

REAR AXLE

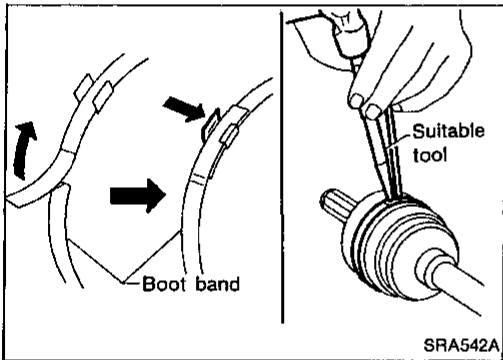
Drive Shaft (Cont'd)



- b. Move shaft in axial direction to ensure that spring is installed properly. If shaft drags or if spring is not properly installed, replace plug seal with a new one.



5. Pack drive shaft with specified amount of grease.
Specified amount of grease:
155 - 165 g (5.47 - 5.82 oz)
 6. Set boot so that it does not swell and deform when its length is " L_1 ".
Length " L_1 ":
95 - 97 mm (3.74 - 3.82 in)
- Make sure that boot is properly installed on the drive shaft groove.**



7. Lock new larger boot band securely with a suitable tool, then lock new smaller boot band.

REAR SUSPENSION

SEC. 380-396-431

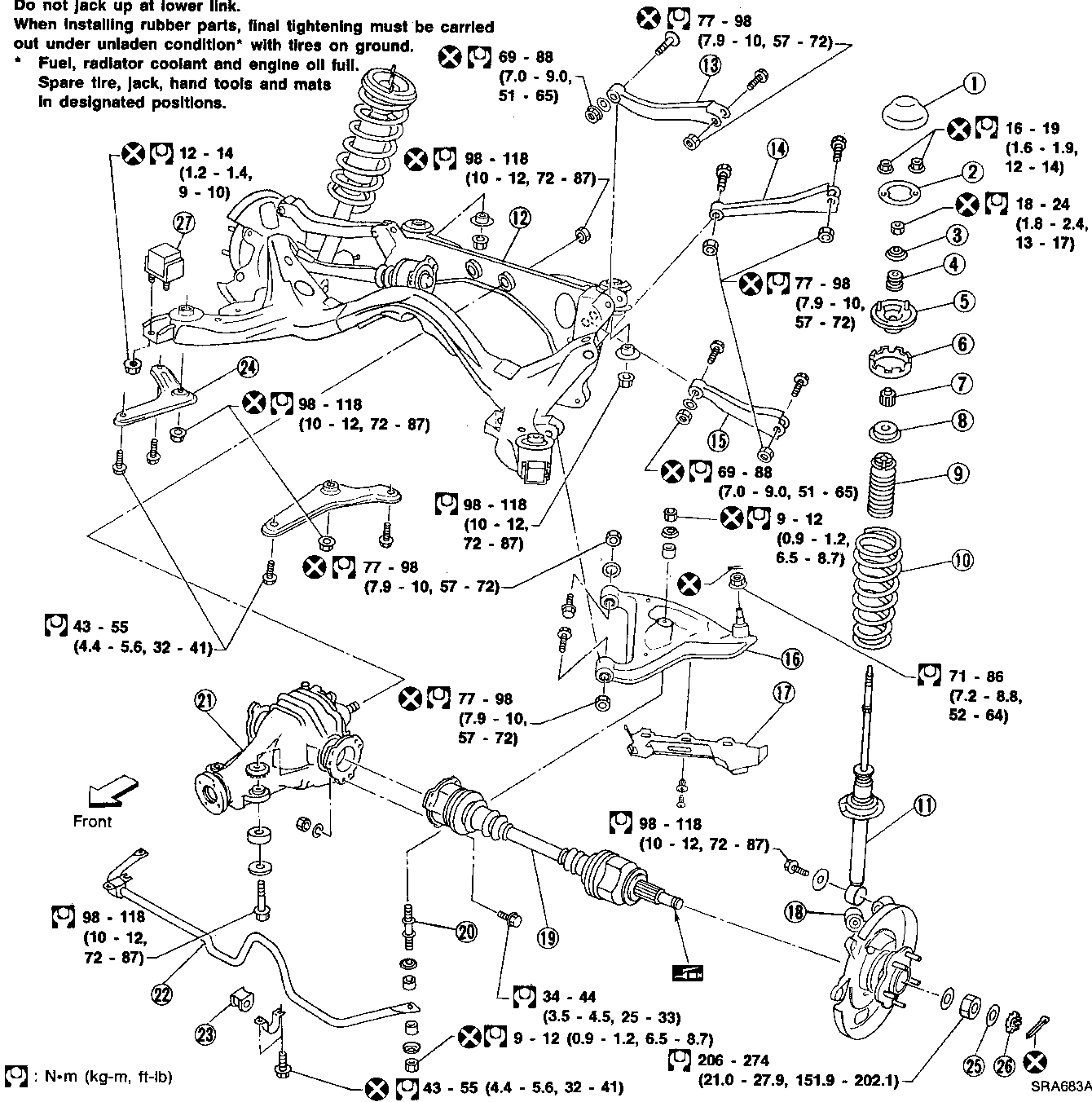
CAUTION:

Do not jack up at lower link.

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.

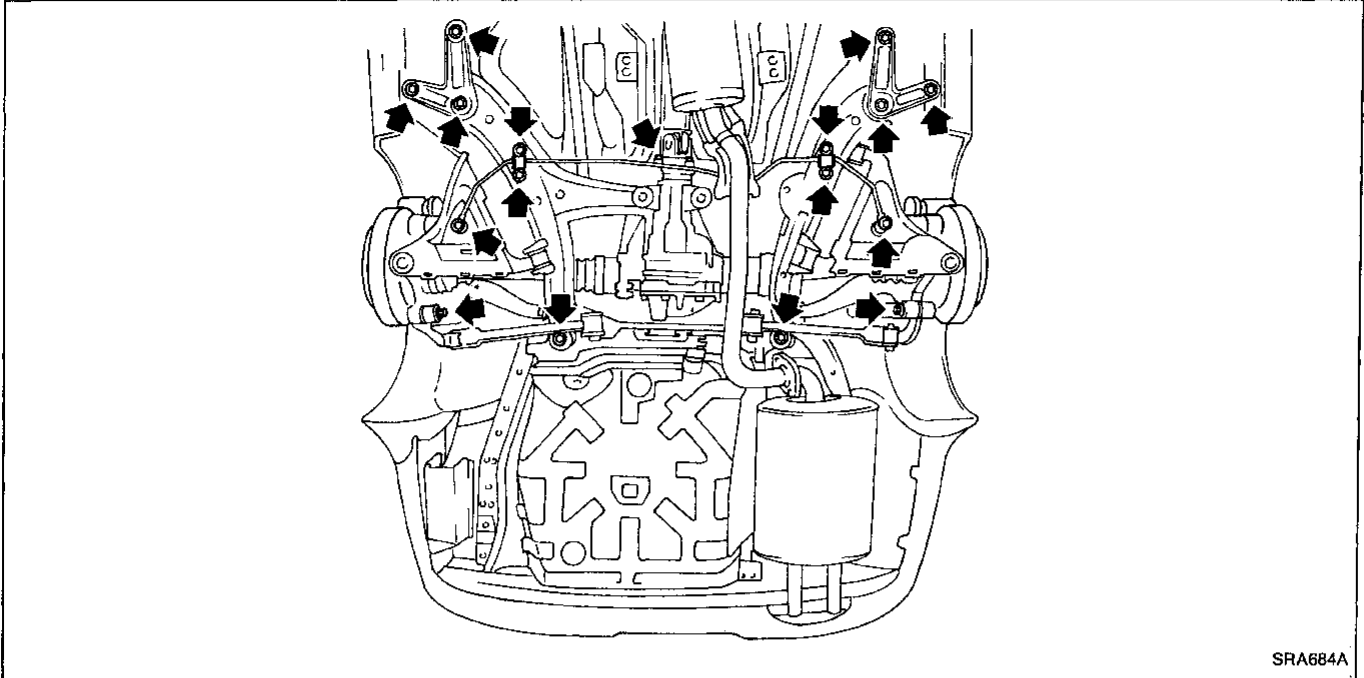


- | | | |
|---------------------------------|---------------------|---------------------------|
| ① Cap | ⑩ Coil spring | ⑲ Drive shaft |
| ② Gasket | ⑪ Shock absorber | ⑳ Connecting rod |
| ③ Upper plate | ⑫ Suspension member | ㉑ Final drive |
| ④ Bushing | ⑬ Rear upper link | ㉒ Stabilizer bar |
| ⑤ Upper spring seat | ⑭ Front upper link | ㉓ Bushing |
| ⑥ Upper rubber seat | ⑮ Lateral link | ㉔ Member stay |
| ⑦ Bushing | ⑯ Lower arm | ㉕ Insulator |
| ⑧ Plate | ⑰ Protector | ㉖ Adjusting cap |
| ⑨ Bumper rubber with dust cover | ⑱ Axle housing | ㉗ Dynamic damper assembly |

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REAR SUSPENSION

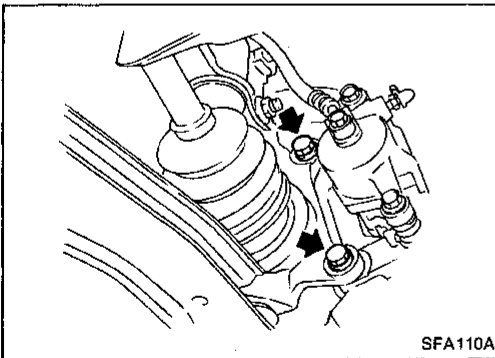
Removal and Installation



CAUTION:

Before removing the rear suspension assembly, disconnect the ABS sensor from the assembly. Then move it away from the rear suspension assembly. Failure to do so may result in damages to the sensor wires, making the sensor inoperative.

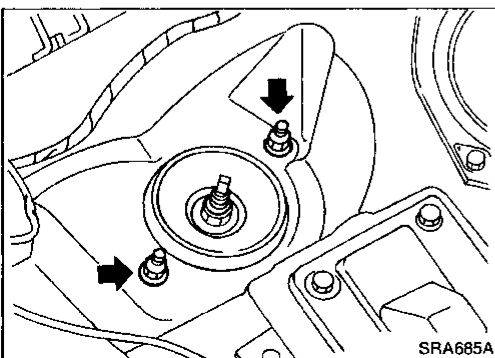
- Remove exhaust tube.
- Disconnect propeller shaft rear end.
- Disconnect hand brake wire front end.



- Remove brake caliper assembly.

Suspend caliper assembly with wire so as not to stretch brake hose.

Be careful not to depress brake pedal, or piston will pop out.



- Remove rear parcel shelf. Refer to BF section.
- Remove upper end nuts of shock absorber.

Do not remove piston rod lock nut.

- Remove suspension member fixing nuts. Then draw out rear axle and rear suspension assembly.

REAR SUSPENSION

Coil Spring and Shock Absorber

REMOVAL

Remove shock absorber upper and lower fixing nuts.

Do not remove piston rod lock nut on vehicle.

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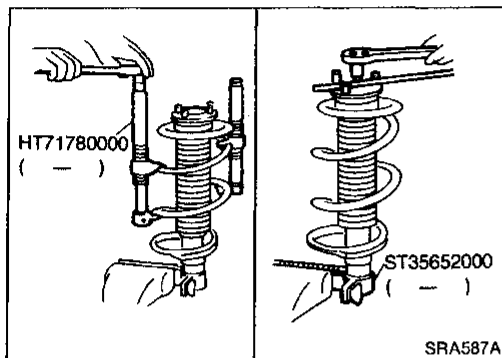
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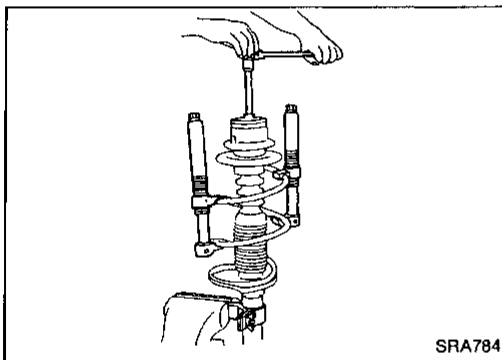


DISASSEMBLY

1. Set shock absorber on vise with attachment, then loosen piston rod lock nut.

Do not remove piston rod lock nut.

2. Compress spring with Tool so that the strut upper spring seat can be turned by hand.



3. Remove piston rod lock nut.

INSPECTION

Shock absorber assembly

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

Upper rubber seat and bushing

Check rubber parts for deterioration or cracks. Replace if necessary.

Coil spring

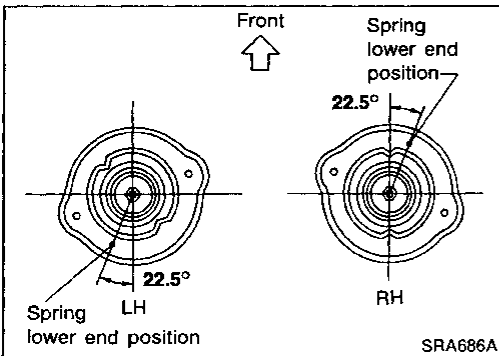
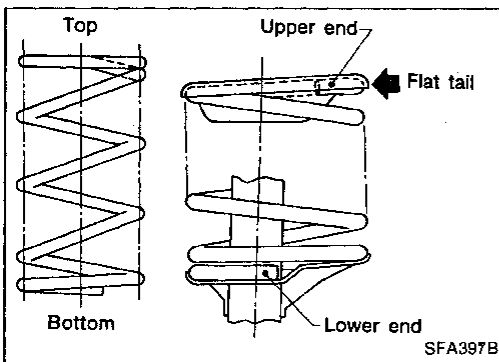
Check for cracks, deformation or other damage. Replace if necessary.

REAR SUSPENSION

Coil Spring and Shock Absorber (Cont'd)

ASSEMBLY

- When installing coil spring, be careful not to reverse top and bottom direction. (Top end is flat.)
- When installing coil spring on strut, it must be positioned as shown in figure at left.



- When installing upper spring seat, make sure that it is positioned as shown.

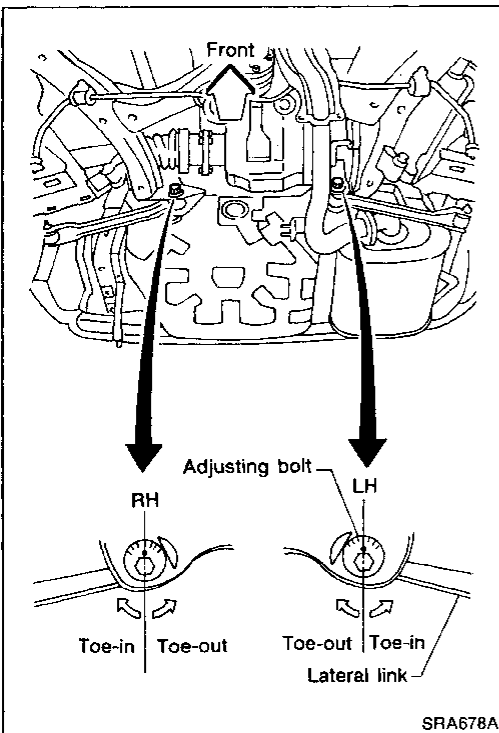
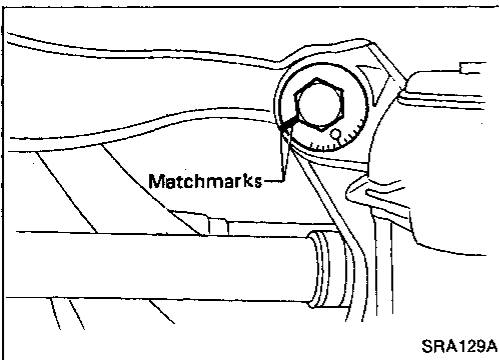
Multi-link and Lower Ball Joint

REMOVAL AND INSTALLATION

- Refer to "Removal and Installation" of REAR SUSPENSION (RA-18).

Before removing, put matchmarks on adjusting pin.

- When installing, final tightening must be carried out at curb weight with tires on ground.
- After installation, check wheel alignment. Refer to "Rear Wheel Alignment" of ON-VEHICLE SERVICE (RA-5).



REAR SUSPENSION

Multi-link and Lower Ball Joint (Cont'd)

INSPECTION

Rear suspension member

Replace suspension member assembly if cracked or deformed or if any part (insulator, for example) is damaged.

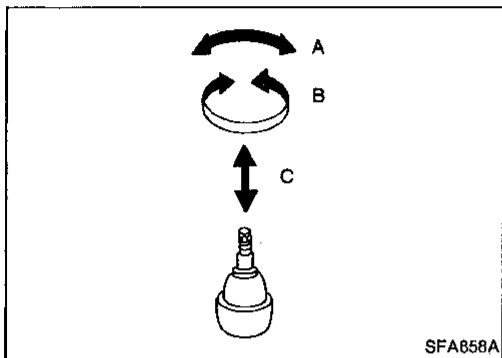
GI

Upper and lower links

Replace upper or lower link as required if cracked or deformed or if bushing is damaged.

MA

EM



Lower ball joint

- Check ball joint for play. Replace transverse link assembly if any of the following cases occur. Ball stud is worn, play in axial direction is excessive or joint is hard to swing.

LC

EC

Swing force and turning torque

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

FE

Swing force "A":

(measuring point: cotter pin hole of ball stud)

7.8 - 54.9 N (0.8 - 5.6 kg, 1.8 - 12.3 lb)

CL

Turning torque "B":

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

MT

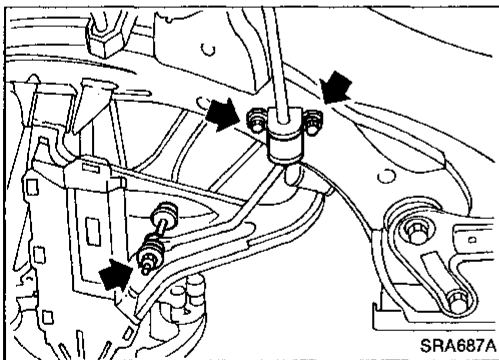
Vertical end play "C":

0 mm (0 in)

AT

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FA



Stabilizer Bar

REMOVAL

- Remove connecting rod and clamp.

INSPECTION

- Check stabilizer bar for deformation or cracks. Replace if necessary.
- Check rubber bushings for deterioration or cracks. Replace if necessary.

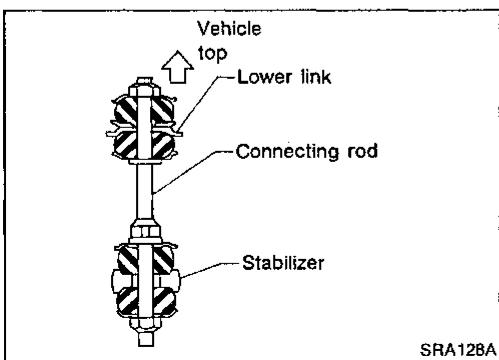
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INSTALLATION

When installing connecting rod, make sure direction is correct (as shown at left).

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IDX

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

COIL SPRING

Unit: mm (in)

Applied model	All
Wire diameter	11.8 (0.465)
Coil outer diameter	114.4 - 125.6 (4.50 - 4.94)
Free length	350 (13.78)
Identification color	Purple x 1

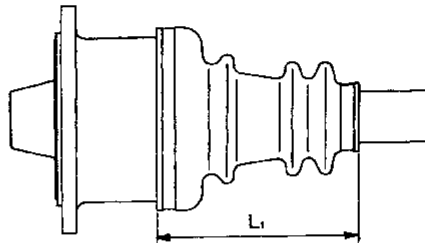
SHOCK ABSORBER

Applied model	All
Piston rod diameter mm (in)	12.5 (0.492)

DRIVE SHAFT

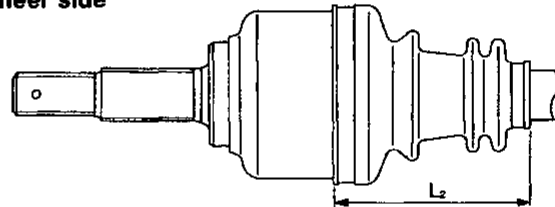
Joint type	
Final drive side	TS82F
Wheel side	TS82C
Grease name	
Final drive side	Nissan genuine grease or equivalent
Wheel side	Nissan genuine grease or equivalent
Specified amount of grease g (oz)	
Final drive side	155 - 165 (5.47 - 5.82)
Wheel side	135 - 145 (4.76 - 5.11)
Boot length mm (in)	
Final drive side (L ₁)	95 - 97 (3.74 - 3.82)
Wheel side (L ₂)	

Final drive side



SRA133A

Wheel side



SRA543A

REAR STABILIZER BAR

Model	195/60 R15 tire	205/55 R16 tire
Stabilizer diameter mm (in)	—	15.9 (0.626)
Identification color	—	Blue

SERVICE DATA AND SPECIFICATIONS (SDS)

Inspection and Adjustment

WHEEL ALIGNMENT (Unladen*1)

Camber	degree	-1°40' to -0°40'
Toe-in		
A - B	mm (in)	0 - 5.0 (0 - 0.197)
Total angle 2θ	degree	0' - 28'

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

LOWER BALL JOINT

Swing force (Measuring point: cotter pin hole of ball stud)	N (kg, lb)	7.8 - 54.9 (0.8 - 5.6, 1.8 - 12.3)
Turning torque	N·m (kg-cm, in-lb)	0.5 - 3.4 (5 - 35, 4.3 - 30.4)
Vertical end play	mm (in)	0 (0)

WHEEL BEARING

Wheel bearing axial end play	mm (in)	0.05 (0.0020) or less
Wheel bearing lock nut		
Tightening torque	N·m (kg-m, ft-lb)	206 - 274 (21.0 - 27.9, 151.9 - 202.1)

WHEEL RUNOUT (Radial and lateral)

Wheel type		Radial runout	Lateral runout
Aluminum wheel	mm (in)	0.3 (0.012) or less	
Steel wheel	mm (in)	0.5 (0.020) or less	

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