

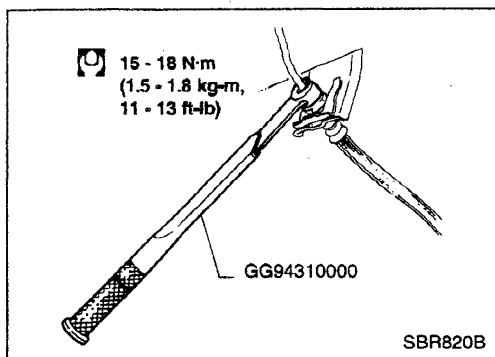
# REAR AXLE & REAR SUSPENSION

## SECTION **RA**

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## PRECAUTIONS AND PREPARATION



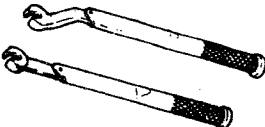
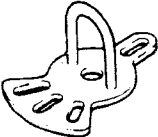
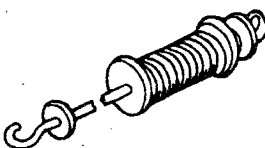
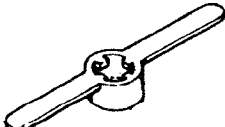
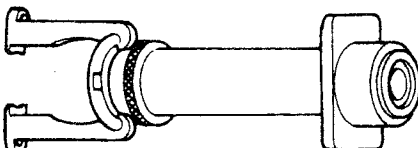
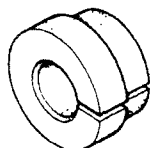
### Precautions

- 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.
- Use Tool when removing or installing brake tubes.
- If suspension or suspension parts are dismantled, check wheel alignment and adjust if necessary.
- Do not jack up vehicle at lower link.

### Preparation

#### SPECIAL SERVICE TOOLS

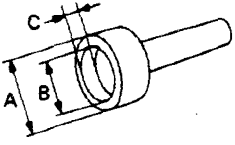
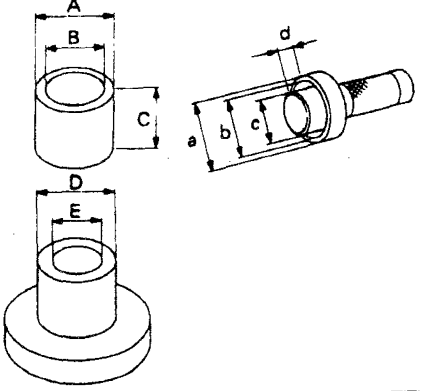
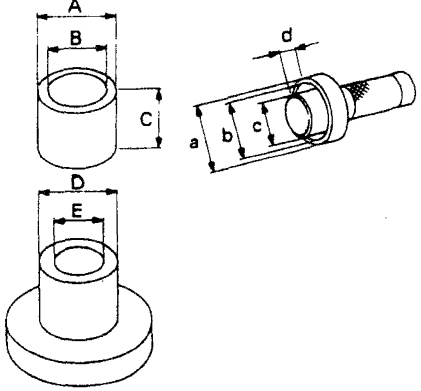
\*: Special tool or commercial equivalent

Tool number Tool name	Description
GG94310000* Flare nut torque wrench	 Removing or installing brake piping
KV40101000* Axle stand	 Removing rear axle shaft
ST36230000* Sliding hammer	 Removing rear axle shaft
ST38020000 Bearing lock nut wrench	 Removing wheel bearing lock nut
HT72480000 Rear axle shaft bearing puller	 Removing wheel bearing
ST37840000 Rear axle shaft guide	 Installing rear axle shaft

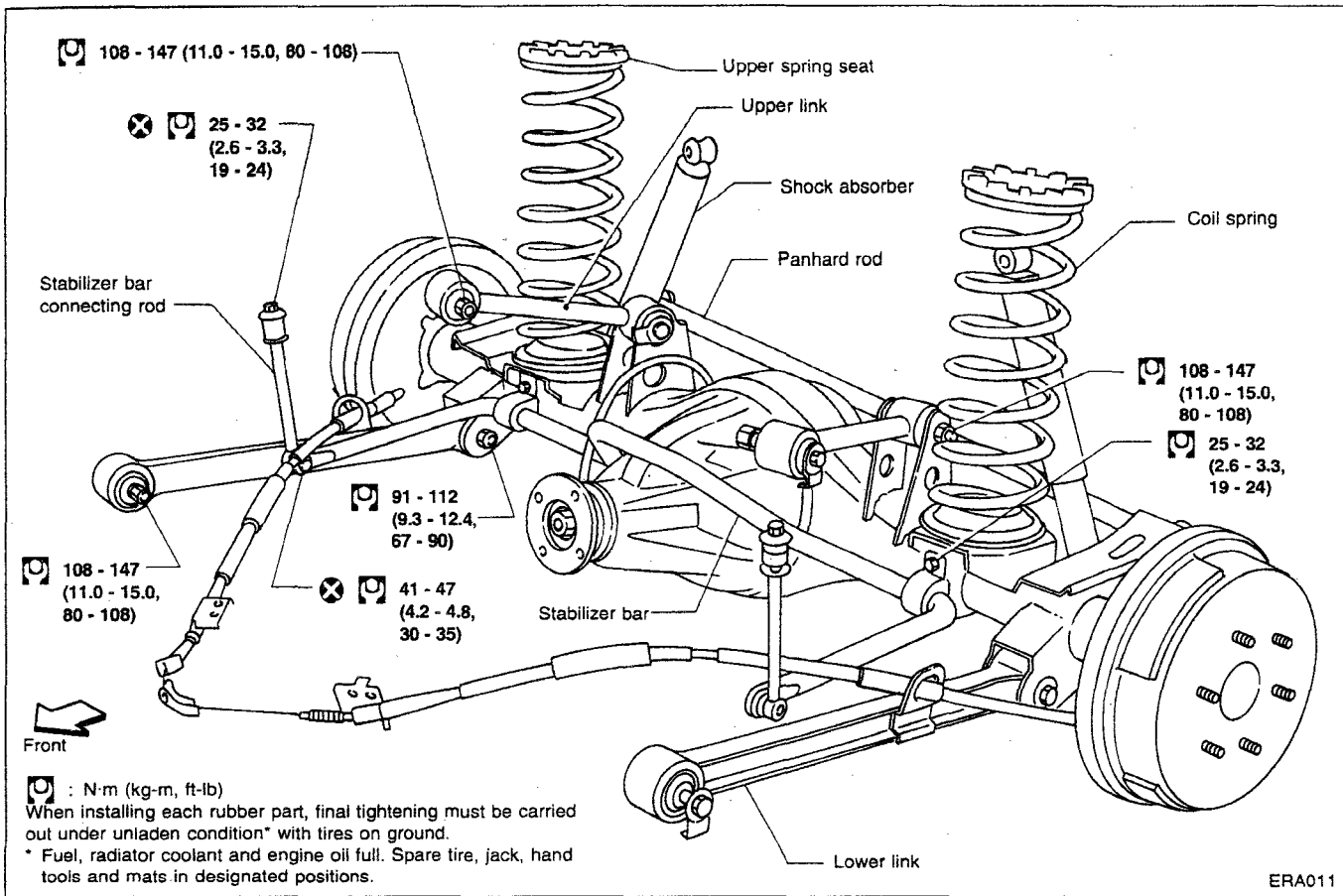
# PRECAUTIONS AND PREPARATION

## Preparation (Cont'd)

### COMMERCIAL SERVICE TOOLS

Tool name	Description
Rear axle oil seal drift	 <p>Installing oil seal  A: 74 mm (2.91 in) dia.  B: 68 mm (2.68 in) dia.  C: 10 mm (0.39 in)</p>
Drift-lower and upper links bushing	 <p>Removing or installing lower and upper link bushings  A: 64 (2.52) dia.  B: 52 (2.05) dia.  C: 65 (2.65)  D: 64 (2.52) dia.  E: 46 (1.81) dia.  a: 50 (1.97) dia.  b: 44 (1.73) dia.  c: 13 (0.51) dia.  d: 7 (0.28)  Unit: mm (in)</p>
Drift-panhard rod bushing	 <p>Removing or installing panhard rod bushing  A: 54 (2.13) dia.  B: 42 (1.65) dia.  C: 65 (2.65)  D: 54 (2.13) dia.  E: 36 (1.42) dia.  a: 40 (1.57) dia.  b: 36 (1.42) dia.  c: 13 (0.51) dia.  d: 6 (0.24)  Unit: mm (in)</p>

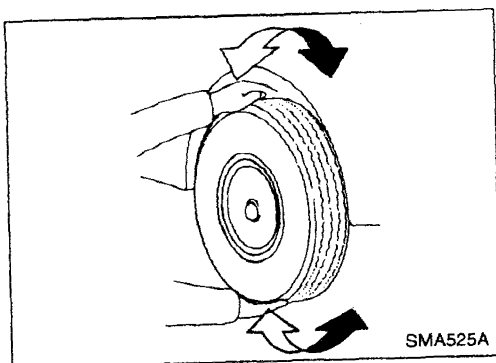
# REAR AXLE AND REAR SUSPENSION



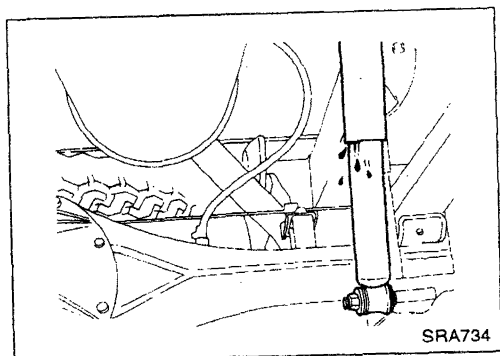
## Rear Axle and Rear Suspension Parts

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

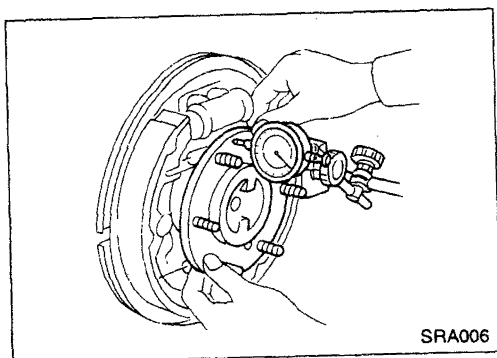
- Shake each rear wheel to check for excessive play.



- Retighten all nuts and bolts to the specified torque.  
**Tightening torque: refer to REAR AXLE AND REAR SUSPENSION.**



- Check shock absorber for oil leakage or other damage.



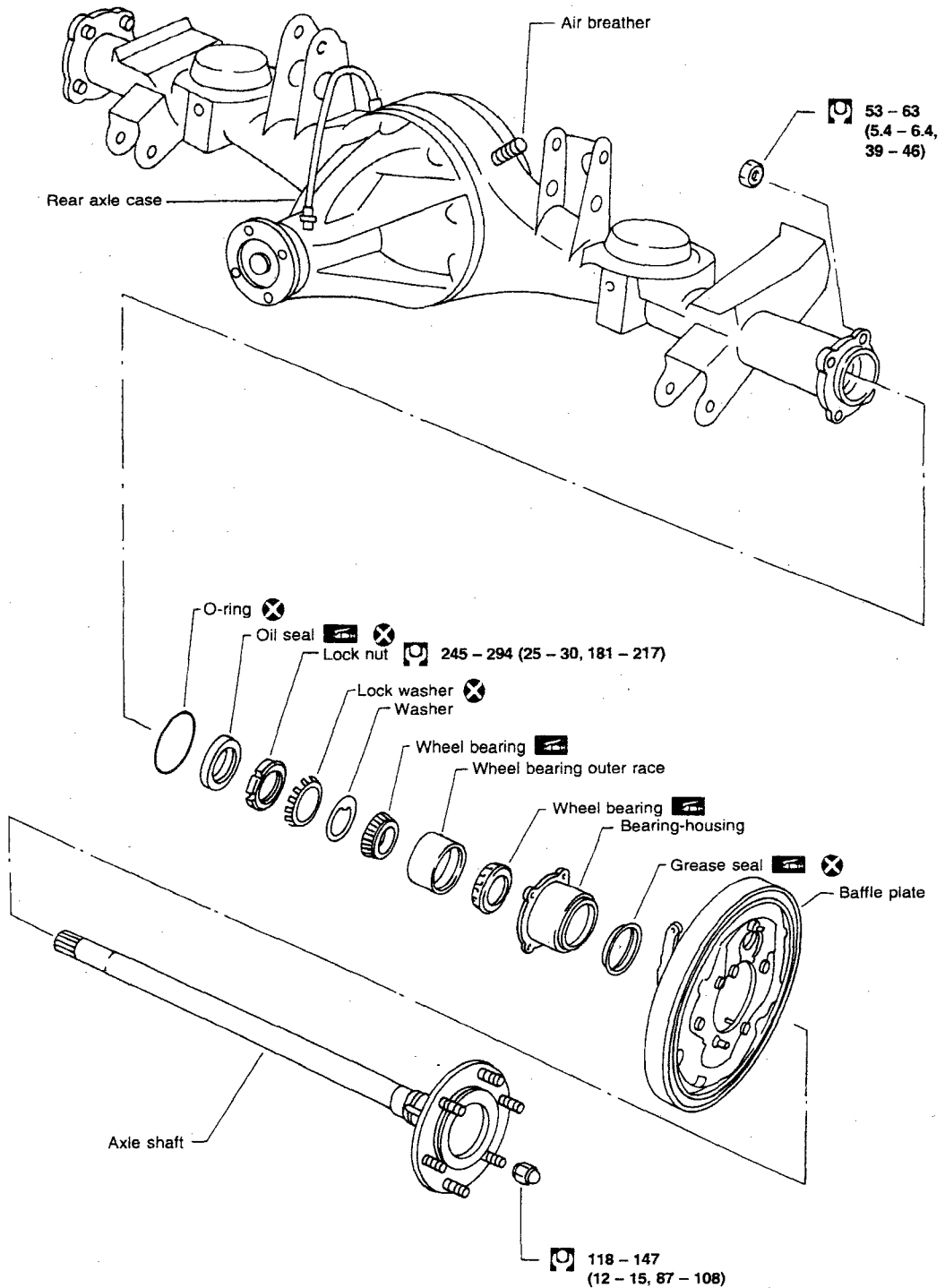
## Rear Wheel Bearing

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

**Axial end play:**  
**Refer to S.D.S.**

# REAR AXLE

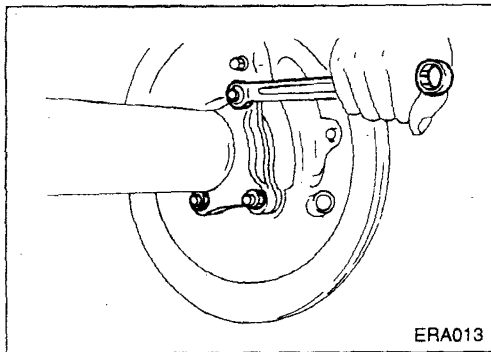
## Components



: N·m (kg·m, ft·lb)

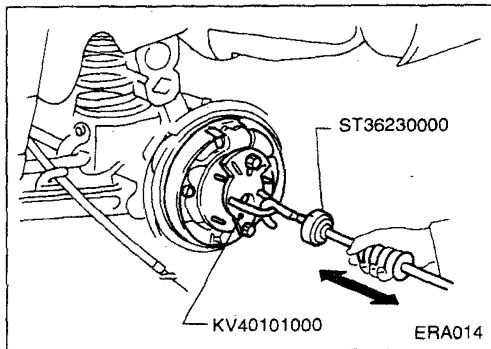
ERA012

## REAR AXLE

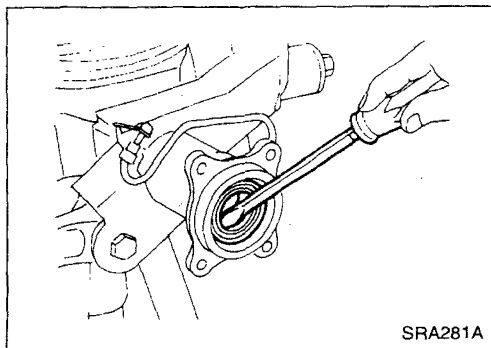


### Removal

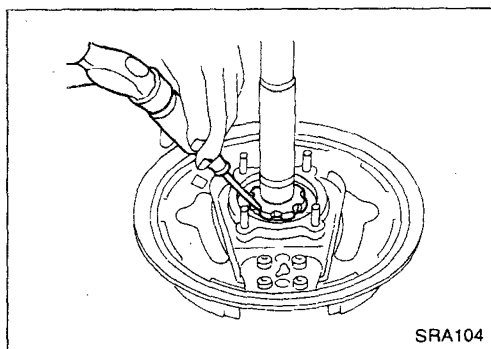
- Disconnect parking brake cable and brake tube.
- Remove nuts securing wheel bearing cage with baffle plate.



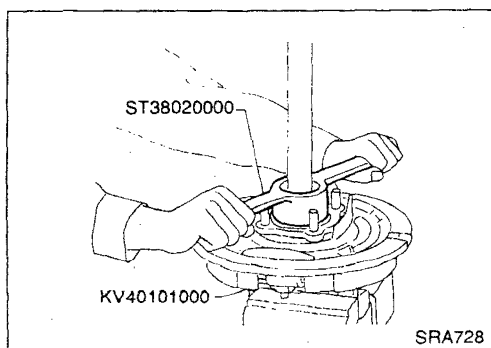
- Draw out axle shaft with Tool.
- When drawing out axle shaft, be careful not to damage oil seal.**



- Remove oil seal.
- Do not reuse oil seal once it is removed.**  
**Always install new one.**



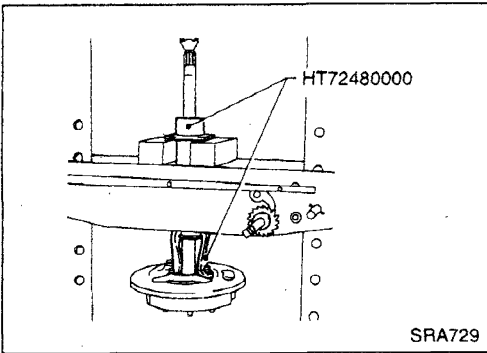
- Unbend lock washer with a screwdriver.
- Do not reuse lock washer once it is removed.**  
**Always install new one.**



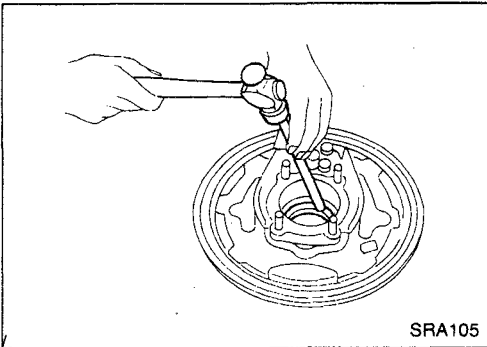
- Remove bearing lock nut with Tool.

## REAR AXLE

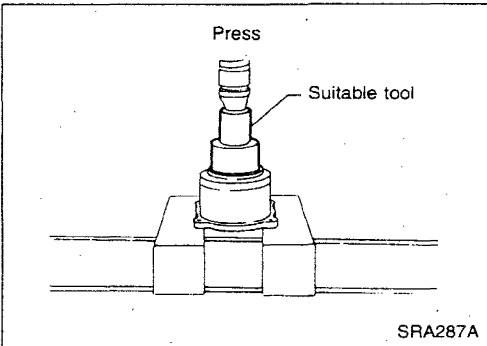
### Removal (Cont'd)



- Remove the outer ring of ball bearings from the holder.



- Remove grease seal in bearing cage with suitable bar.



- Remove wheel bearing outer race with a suitable tool.

### Inspection

#### AXLE SHAFT

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

#### BEARING HOUSING

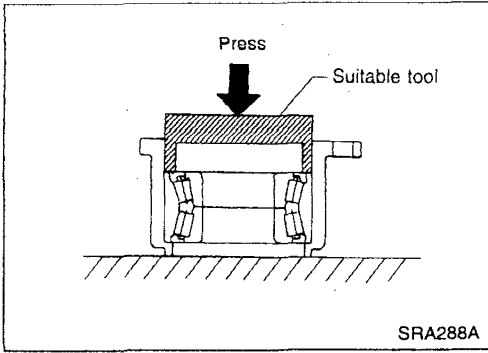
- Check bearing housing for deformation or cracks. Replace if necessary.

#### REAR AXLE HOUSING

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



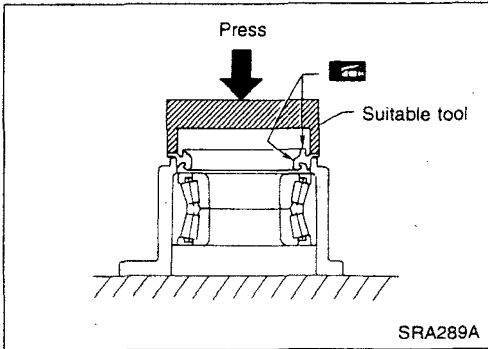
## REAR AXLE



### Installation

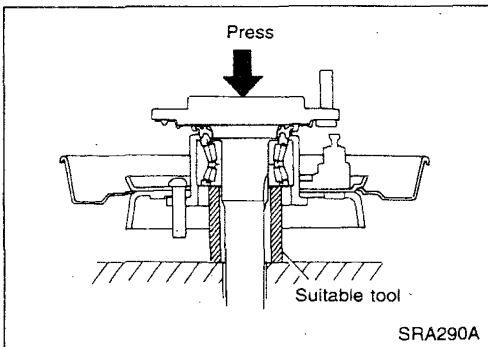
- Press new wheel bearing until it touches the bottom of the bearing housing.

**Always press outer race of wheel bearing during installation.**



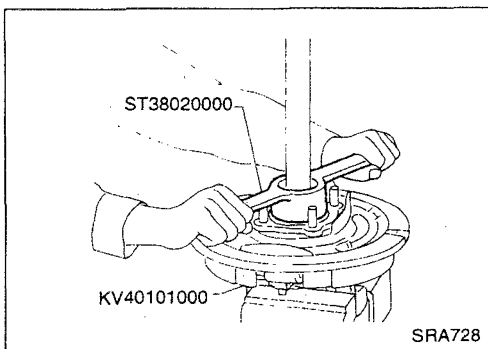
- Press new grease seal until it bottoms end face of bearing housing.

**After installing new grease seal, coat sealing lip with multipurpose grease.**



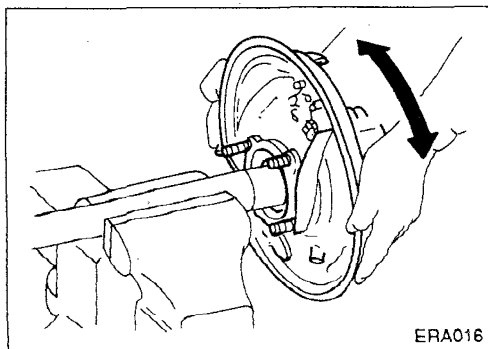
- Install baffle plate over bearing housing and press axle shaft into inner race of wheel bearing.

**Be careful not to damage or deform grease seal.**



- Install washer and lock washer.
- Before installing lock nut, apply a coat of wheel bearing grease to its seat. Tighten lock nut to specified torque.

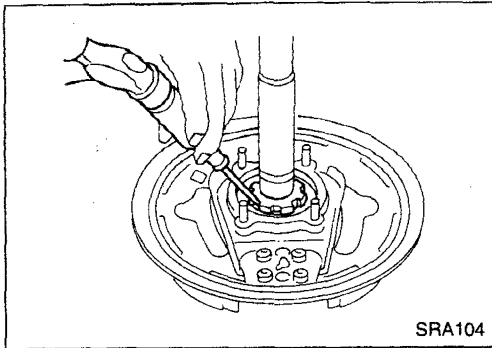
**Ⓜ: 245 - 294 N·m  
(25 - 30 kg·m, 181 - 217 ft·lb)**



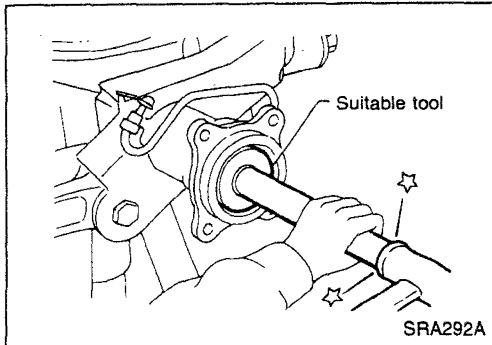
- Turn bearing housing (with respect to axle shaft) two or three times. It must turn smoothly.

## REAR AXLE

### Installation (Cont'd)



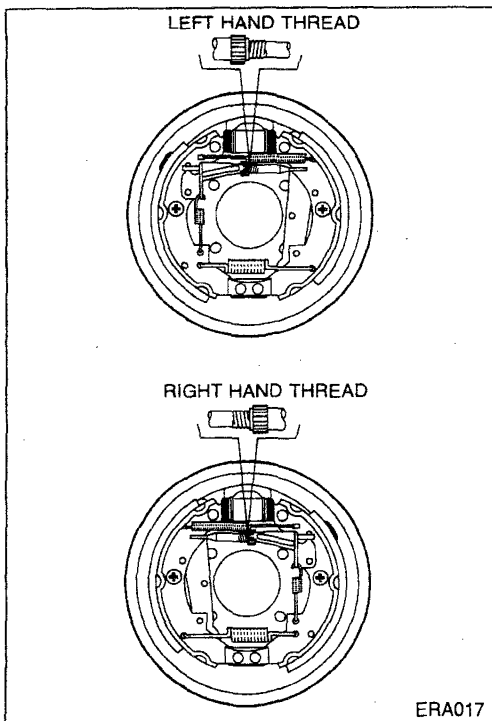
- Secure lock nut by bending one portion of lock washer.



- Install new oil seal to rear axle housing using a suitable tool.

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

- Position axle shafts in rear axle housing.  
**Be careful not to damage oil seal.**



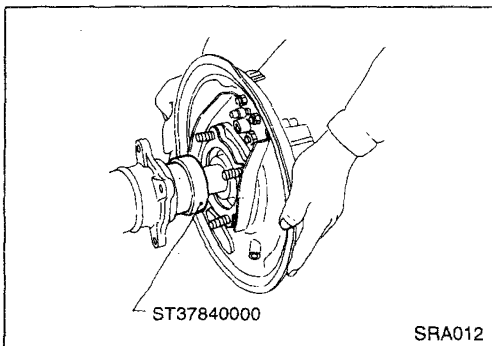
- When the ball-bearing holder and the brake are installed in the base of the axle, they need to be correctly positioned. A quick way to determine on which side the holder should be located, is to look at the brake adjustment screw.

**Left-hand thread:**

**Install the holder on the left side.**

**Right-hand thread (Normal)**

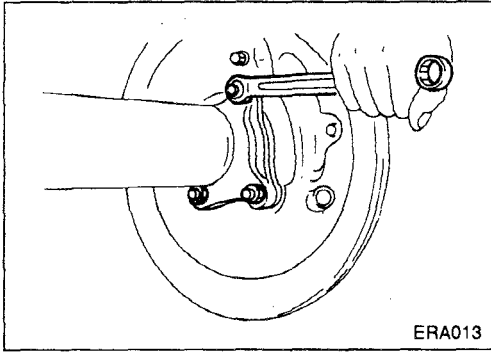
**Install the holder on the right side.**



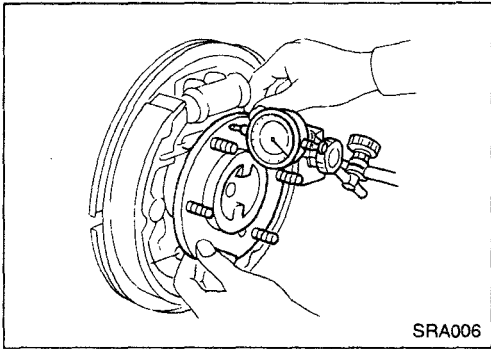
- Insert axle shaft with Tool as a guide.  
**When inserting axle shaft, be careful not to damage oil seal.**

## REAR AXLE

### Installation (Cont'd)



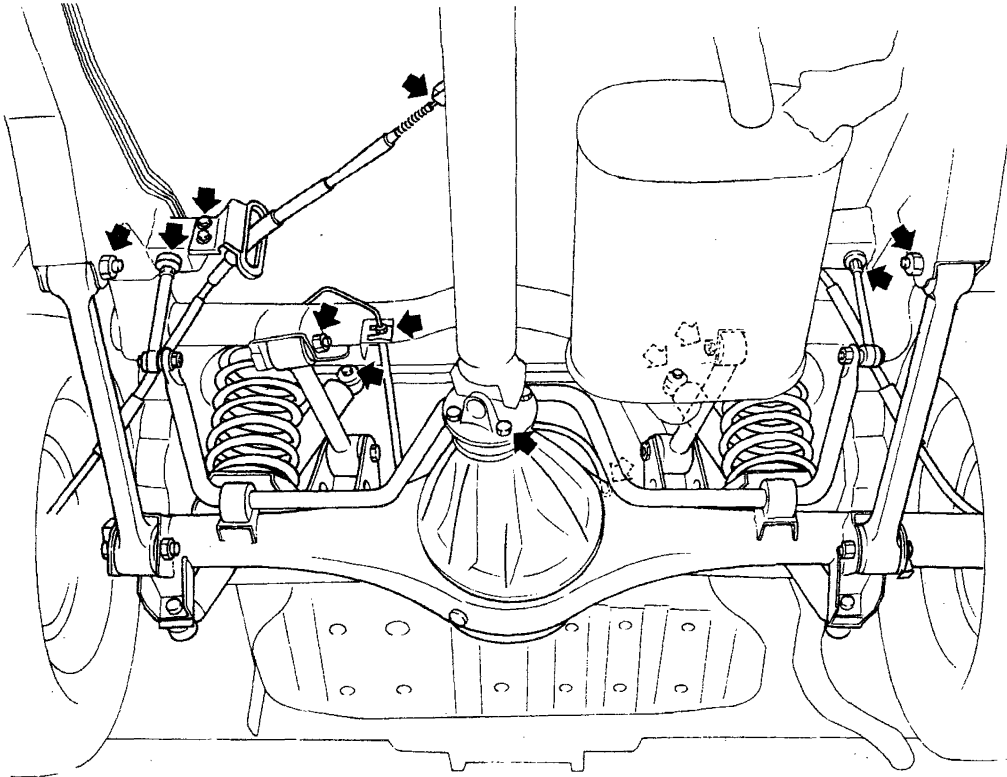
- Tighten nuts to the specified torque.  
**□: 53 - 63 N·m (5.4 - 6.4, 39 - 46)**



- Measure end play of axle shaft.  
**Axial end play:**  
**Refer to S.D.S.**

# REAR AXLE AND REAR SUSPENSION

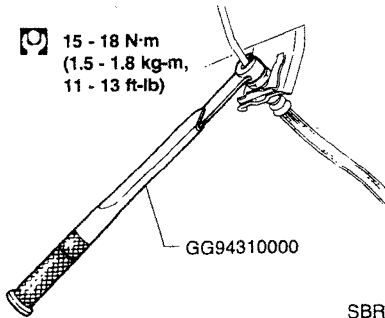
## Removal and Installation



SRA906



15 - 18 N·m  
(1.5 - 1.8 kg-m,  
11 - 13 ft-lb)



GG94310000

SBR820B

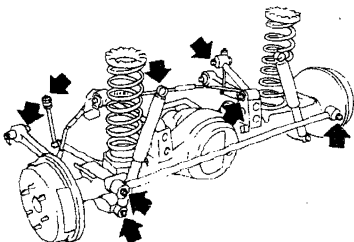
- Disconnect brake hydraulic line and parking brake cable.

### CAUTION:

**Use Tool when removing or installing brake tubes.**

- Remove stabilizer bar from body
- Remove upper links and lower links from body.
- Remove panhard rod from body.
- Disconnect propeller shaft.
- Remove upper end nuts of shock absorber.

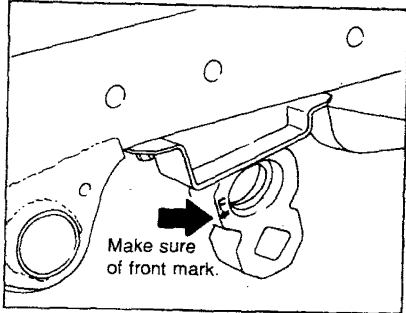
**Final tightening for rubber parts requires to be carried out under unladen condition with tires on ground.**



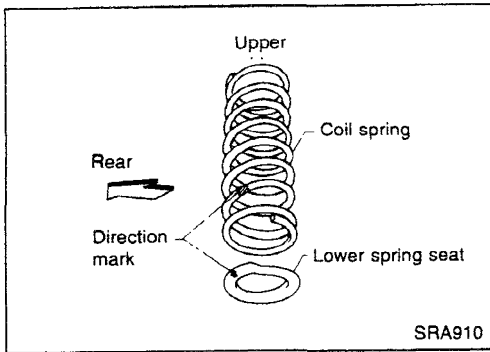
SRA935

## Components

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



SRA297A



## Coil Spring and Shock Absorber

### REMOVAL AND INSTALLATION

- Refer to Removal and Installation of REAR AXLE AND REAR SUSPENSION

**When installing coil spring and lower spring seat, pay attention to its direction.**

**Be sure spring rubber seat is not twisted and has not slipped off when installing coil spring.**

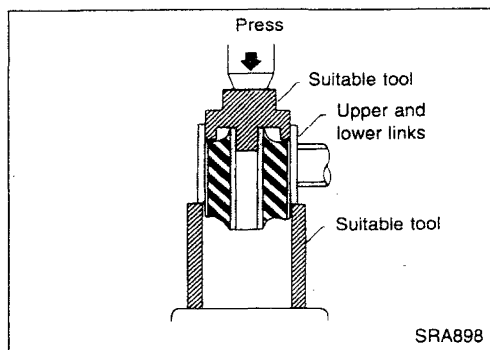
### INSPECTION

- Check coil spring for yield, deformation or cracks.
- Check coil spring specifications. Refer to S.D.S.
- Check shock absorber for oil leakage, cracks or deformation.
- Check shock absorber specifications. Refer to S.D.S.
- Check all rubber parts for wear, cracks or deformation. Replace if necessary.

## Upper Link, Lower Link and Panhard Rod

### INSPECTION

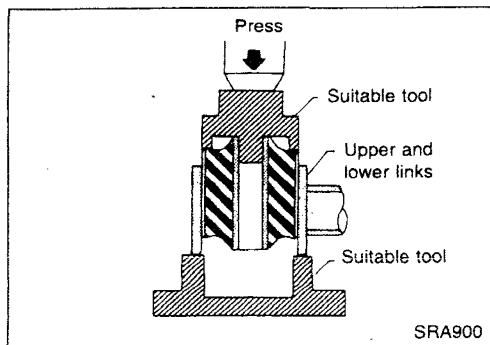
Check for cracks, distortion or other damage. Replace if necessary.



### BUSHING REPLACEMENT

Check for cracks or other damage. Replace with suitable tool if necessary.

- Remove bushing with suitable tool.



**When installing bushing, apply a coating of 1% soap water to outer wall of bushing.**

**Always install new bushing.**

**Do not tap end face of bushing directly with a hammer.**

## REAR SUSPENSION

### Upper Link, Lower Link and Panhard Rod (Cont'd)

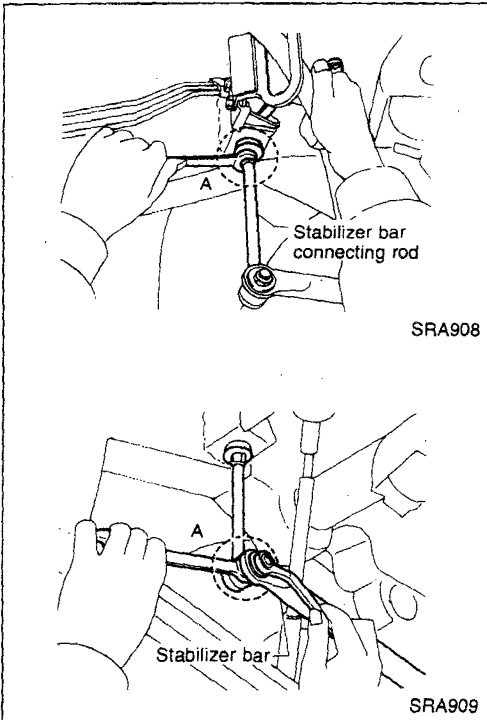
#### INSTALLATION

When installing each link, pay attention to direction of bolts and nuts. Refer to REAR SUSPENSION - Components. When installing each rubber part, final tightening must be carried out under unladen condition with tires on ground.

### Stabilizer Bar

#### REMOVAL AND INSTALLATION

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

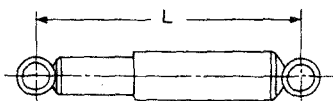


# SERVICE DATA AND SPECIFICATIONS (S.D.S.)

## General Specifications

### COIL SPRING AND SHOCK ABSORBER

Model	Hardtop	Wagon
Coil spring		
Wire diameter mm (in)	12.9 (0.508)	13.5 (0.532)
Free length mm (in)	390 (15.35)	389.5 (15.335)
Spring constant N-mm (kg-mm, lb-in)	26 (2.6, 146)	29 (3.0, 168)
Shock absorber		
Shock absorber type	Non-adjustable (hydraulic)	
Maximum length mm (in)	588 (23.15)	
Minimum length mm (in)	351 (13.82)	
Damping force [at 0.3 m (1.0 ft)/sec.] N (kg, lb)		
Expansion	993.3 - 1348.7 (101.3 - 137.5, 223.4 - 303.2)	1651.5 - 2280.5 (168.40 - 232.54, 371.3 - 512.7)
Compression	489.4 - 722.6 (49.9 - 73.7 , 110 - 162)	961.5 - 1374.5 (98.0 - 140.16 , 216 - 309)



RA260

### STABILIZER BAR

Model	Hardtop	Wagon
Diameter mm (in)	23 (0.91)	26 (1.02)
Spring constant N-mm (kg-mm, lb-in)	24.5 (2.5, 140)	38 (3.87, 217)

## Inspection and Adjustment

### WHEEL BEARING

Total end play mm (in)	0 (0)
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