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SECTION

RAX

REAR AXLE

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# PRECAUTIONS

## PRECAUTIONS

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### Caution

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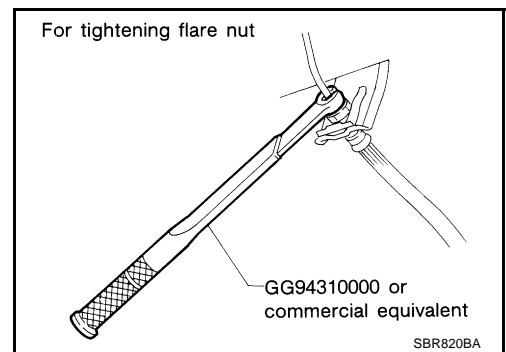
Observe the following precautions when disassembling and servicing drive shaft.

- Perform work in a location which is as dust-free and dirt-free as possible.
- Before disassembling and servicing, clean the outside of parts.
- The disassembly and service location must be clean. Care must be taken to prevent parts from becoming dirty and to prevent the entry of foreign objects.
- Disassembled parts must be carefully reassembled in the correct order. If work is interrupted, a clean cover must be placed over parts.
- Paper shop cloths must be used. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Disassembled parts (except for rubber parts) should be cleaned with kerosene which shall be removed by blowing with air or wiping with paper shop cloths.

### Precautions for Brake 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.
- Use flare nut wrench when removing or installing brake tubes.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Always tighten brake lines to the specified torque when installing.



# PREPARATION

## PREPARATION

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## Special Service Tools

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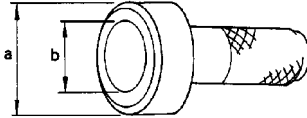
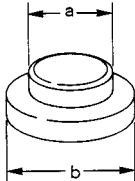
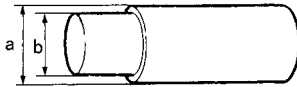
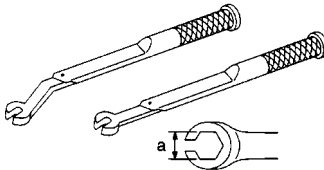
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Description	Application
<p>Drift ST30720000 a: 77 mm (3.03 in) dia. b: 55 mm (2.17 in) dia.</p>  <p>ZZA0701D</p>	Installing hub cap
<p>Drift ST33022000 a: 56 mm (2.20 in) dia. b: 110 mm (4.33 in) dia.</p>  <p>ZZA0881D</p>	<ul style="list-style-type: none"> <li>● Installing wheel bearing</li> <li>● Installing ABS sensor rotor</li> </ul>
<p>Drift ST33710000 a: 30 mm (1.18 in) dia. b: 23 mm (0.91 in) dia.</p>  <p>ZZA1234D</p>	Removing wheel bearing
<p>Flare nut torque wrench GG94310000 a: 10 mm (0.39 in)</p>  <p>NT406</p>	Removing and installing brake lines

# NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

## NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

### NVH Troubleshooting Chart

EDS0012B

Use the chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

Reference page			Refer to RAX-5. "REAR WHEEL BEARING"	—	Refer to RAX-5. "REAR WHEEL BEARING"	NVH in FAX and FSU sections.	NVH in WT section.	NVH in WT section.	NVH in FAX section.	NVH in BR section.	NVH in PS section.
Possible cause and SUSPECTED PARTS			Improper installation, looseness	Parts interference	Wheel bearing damage	FRONT AXLE AND FRONT SUSPENSION	TIRES	ROAD WHEEL	DRIVE SHAFT	BRAKES	STEERING
Symptom	REAR AXLE	Noise	x	x		x	x	x	x	x	x
		Shake	x	x		x	x	x	x	x	x
		Vibration	x	x		x	x		x		x
		Shimmy	x	x		x	x	x		x	x
		Judder	x			x	x	x		x	x
		Poor quality ride or handling	x	x	x	x	x	x			

x: Applicable

# WHEEL HUB

## WHEEL HUB

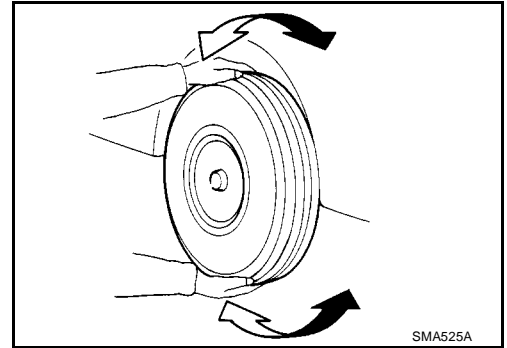
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### On-Vehicle Inspection

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Check rear axle for unusual play, cracking, excessive wear, or other damage.

- Turn rear wheels (left/right) and check the play.



### REAR WHEEL BEARING

With the vehicle raised, inspect the following:

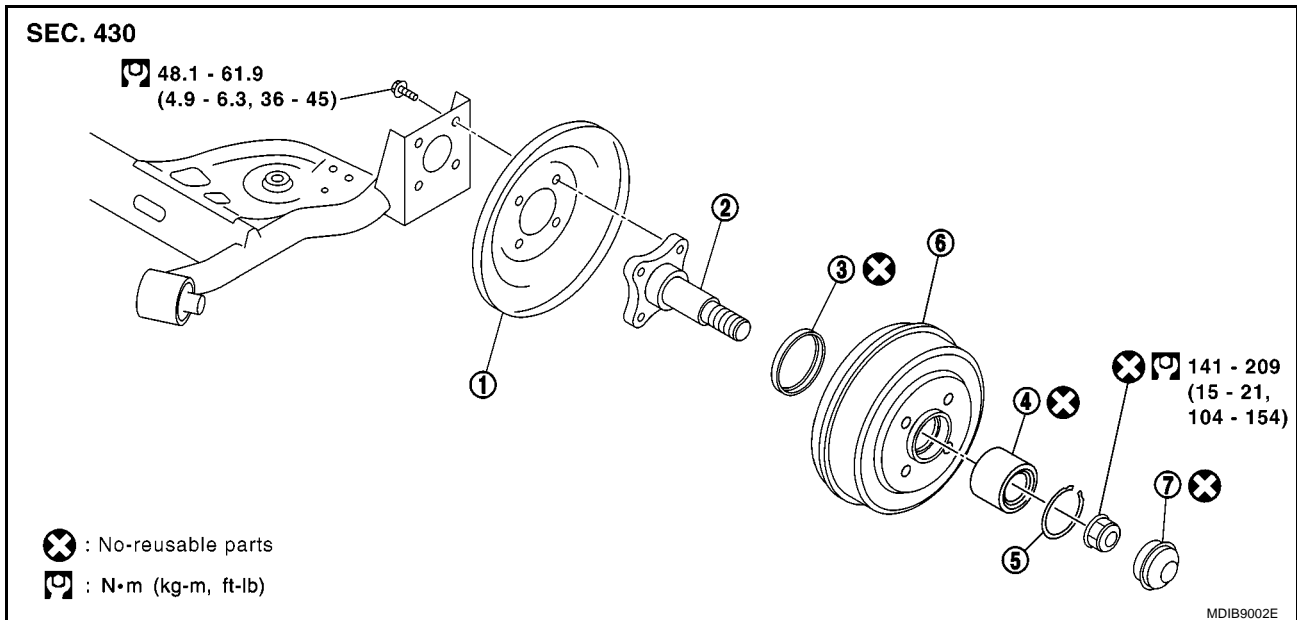
- Manually move the wheel hub in axial direction to check wheel bearing for excessive play.

**Axial end play : 0.05 mm (0.0020 in)**

- Check for unusual noise by rotating wheel. If there are any non-standard conditions, replace the wheel bearing.
- If outside the standard or any other non-standard condition is found, replace wheel bearing assembly.

### Removal and Installation

EDS0012D



- |                  |               |                     |
|------------------|---------------|---------------------|
| 1. Back plate    | 2. Spindle    | 3. ABS sensor rotor |
| 4. Wheel bearing | 5. Snap rings | 6. Brake drum       |
| 7. Hub cap       |               |                     |

### REMOVAL

1. Lift up the vehicle and remove tire from the vehicle. Release parking brake.
2. With hub cap pliers (commercial service tool), remove hub cap from brake drum (wheel hub)
3. Remove lock nut and separate brake drum from spindle.
4. Remove ABS sensor rotor from back plate part. Refer to [BRC-45, "WHEEL SENSORS"](#).
5. Loosen self-locking nut and separate parking brake rear cable from rear brake. Refer to [PB-3, "PARKING BRAKE SYSTEM"](#).

# WHEEL HUB

6. Separate brake tube from wheel cylinder. Refer to [BR-11, "Removal and Installation of Front Brake Piping and Brake Hose"](#).  
**CAUTION:**
  - Avoid smearing brake fluid on coated surfaces while removing brake tube.
  - Never depress brake pedal while removing brake tube and brake drum.
7. Remove spindle mounting bolt. Separate back plate assembly and spindle from rear suspension trailing arm.

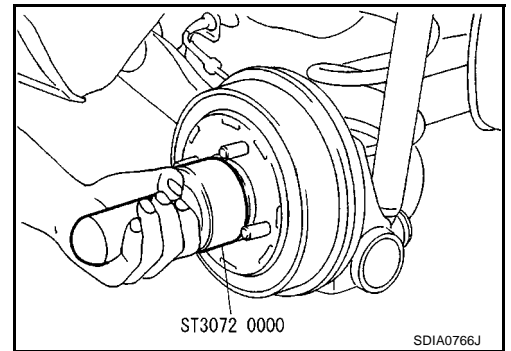
## INSTALLATION

- For each tightening torque, refer to [RAX-5, "REAR WHEEL BEARING"](#) and tighten in the reverse order of removal.
- For mounting of brake tube and tightening torque, refer to [BR-11, "Removal and Installation of Front Brake Piping and Brake Hose"](#).
- For mounting parking brake and tightening torque, refer to [PB-3, "PARKING BRAKE SYSTEM"](#).
- For mounting ABS wheel sensor and tightening torque, refer to [BRC-45, "WHEEL SENSORS"](#).
- Using a drift (SST), mount hub cap on brake drum (wheel hub).

### CAUTION:

**Do not reuse hub cap.**

- Refill with new brake fluid and bleed air. Refer to [BR-9, "BRAKE FLUID"](#).

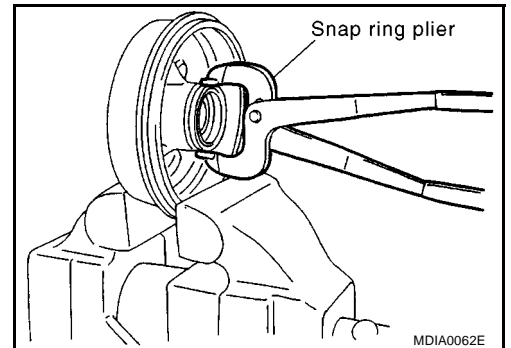


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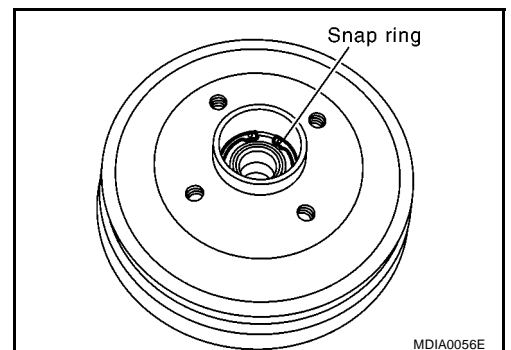
## Disassembly and Assembly

### DISASSEMBLY

1. Using snap ring pliers (commercial service tool), remove sensor rotor

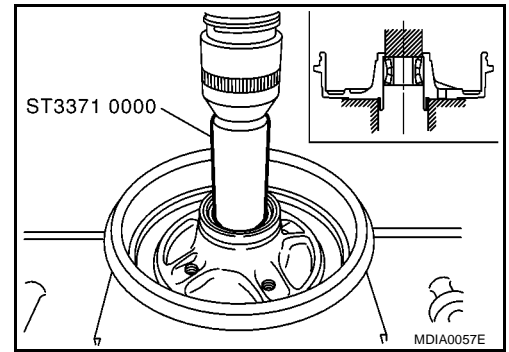


2. Remove snap ring.



# WHEEL HUB

- Press the wheel bearing out with a drift (SST) to remove.



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## INSPECTION AFTER DISASSEMBLY

- Check trailing arm for deformed parts, cracks, or any other damage. Replace if necessary.
- Check snap ring for wear or cracks. Replace if necessary.

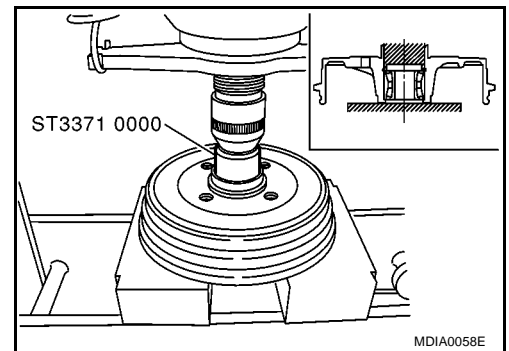
## ASSEMBLY

- Press-fit the wheel hub with a drift (SST).

### NOTE:

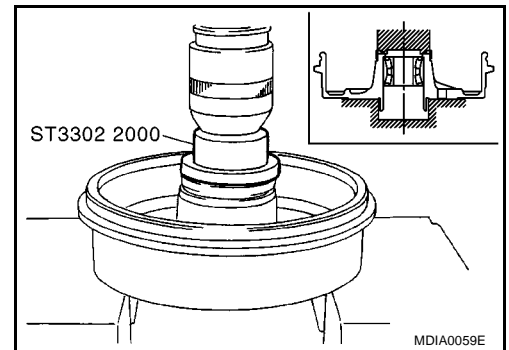
Final press-loading guideline [50,000 N (5,100 kg, 11,240 lb)]

- Install snap ring.



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- Press-fit the sensor rotor on the brake drum with a drift (SST).



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## INSPECTION AFTER ASSEMBLY

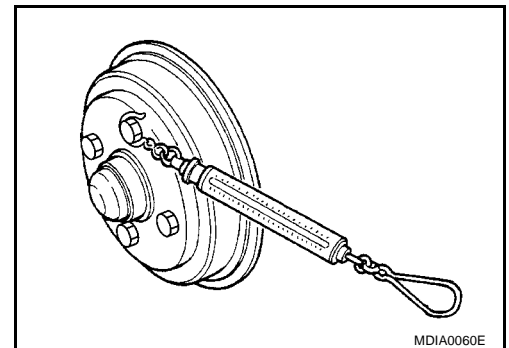
- After installing brake drum on spindle, tighten lock nut to the standard torque.

**Tightening torque** : 141 - 209 N·m (15 - 21 kg-m, 104 - 154 ft-lb)

- Rotate the wheel hub in both directions ten times each to check for smooth movement.
- At a rotating speed of  $10 \pm 2$  rpm, place a spring balance on hub bolt to measure torque.

**Rotating torque** : 0.20 - 0.95 N·m (0.02 - 0.09 kg-m)

**Spring balance measurement** : 4 - 19 N (0.41 - 1.94 kg)



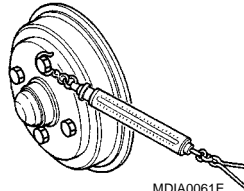
## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

#### Wheel Bearing

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Axial end play	0.05 mm (0.0020 in)	
Rotating torque	0.20 - 0.95 N·m (0.02 - 0.09 kg-m)	
Spring balance measurement	4 - 19 N (0.41 - 1.94 kg)	
Installation location of spring scale	Hub bolt position	

#### Tightening Torque

EDS0012G

Hub lock nut	141 - 209 N·m (15 - 21 kg-m, 104 - 154 ft-lb)
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