SECTION RAX
REAR AXLE

CONTENTS

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000007774165

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precautions for Wheel Hub

INFOID:0000000007678472

Observe the following precautions when assembling wheel hub.

- Perform work in a location that is free from dust, dirt and debris.
- Use paper shop towels while performing repairs. Fabric shop cloths must not be used because of the danger of lint adhering to parts.
- Do not drop any of the components such as the brake drum, wheel bearing, spindle, or wheel hub lock nut. If any of these parts have been dropped, they must be replaced.
- Always check that the tools used to press-fit the wheel bearing to the brake drum have no wear and deformation. Damaged tools will not guarantee that pressure can be applied vertically and damage parts.

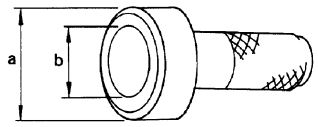
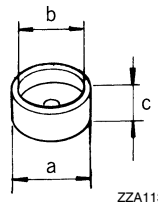
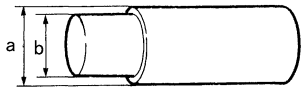
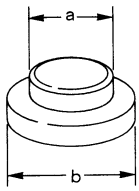
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000007678473

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

Tool number (Kent-Moore No.) Tool name	Description
ST30720000 (—) Drift  ZZA0701D	Installing hub cap **a: 77 mm (3.03 in) dia.** **b: 55 mm (2.17 in) dia.**
KV40104730 (—) Drift  ZZA1133D	Installing wheel bearing **a: 53.7 mm (2.114 in) dia.** **b: 47 mm (1.85 in) dia.** **c: 15 mm (0.59 in).**
ST33710000 (—) Drift  ZZA1234D	Removing wheel bearing **a: 30 mm (1.18 in) dia.** **b: 23 mm (0.91 in) dia.**
ST30032000 (—) Drift  ZZA0881D	Installing sensor rotor **a: 38 mm (1.50 in) dia.** **b: 80 mm (3.15 in) dia.**

Commercial Service Tool

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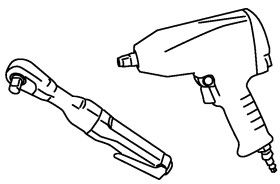
The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

(Kent-Moore No.) Tool name		Description
Power tool	 PBIC0190E	Loosening bolts and nuts

SYMPTOM DIAGNOSIS

NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NVH Troubleshooting Chart

INFOID:0000000007678474

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

Reference page		RAX-6, "Exploded View"	—	RAX-5, "Inspection"	RSU-3, "NVH Troubleshooting Chart"	WT-36, "NVH Troubleshooting Chart"	WT-36, "NVH Troubleshooting Chart"	BR-7, "NVH Troubleshooting Chart"
Possible cause and SUSPECTED PARTS		Improper installation, looseness	Parts interference	Wheel bearing damage	REAR AXLE AND REAR SUSPENSION	TIRE	ROAD WHEEL	BRAKE
Symptom	Noise	×	×	×	×	×	×	×
	Shake	×	×	×	×	×	×	×
	Vibration	×	×	×	×	×		
	Shimmy	×	×		×	×	×	×
	Shudder	×			×	×	×	×
	Poor quality ride or handling	×	×		×	×	×	

×: Applicable

PERIODIC MAINTENANCE

REAR WHEEL HUB

Inspection

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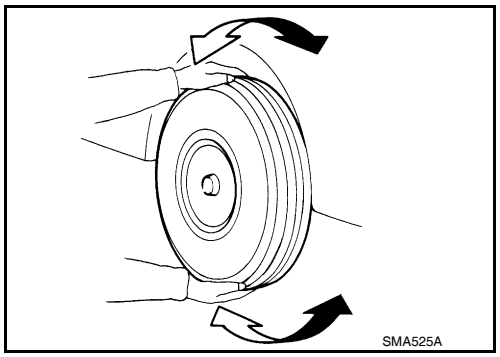
- Check the axle and suspension parts for excessive play, wear, or damage.
- Shake each rear wheel to check for excessive play as shown.



REAR WHEEL BEARING INSPECTION

- Move wheel hub and bearing assembly in the axial direction by hand. Make sure the axial end play is within specification.

Axial end play : Refer to RAX-10, "Wheel Bearing".

- Check that the wheel hub bearing operates smoothly.
- Replace the wheel hub assembly if the axial end play exceeds specification, or if the wheel bearing does not turn smoothly. Refer to RAX-6, "Removal and Installation".

CAUTION:

The wheel hub assembly does not require maintenance. If any of the following symptoms are noted, replace the wheel hub assembly.

- **Growling noise is emitted from the wheel hub bearing during operation.**
- **Wheel hub bearing drags or turns roughly.**

REMOVAL AND INSTALLATION

REAR WHEEL HUB

Exploded View

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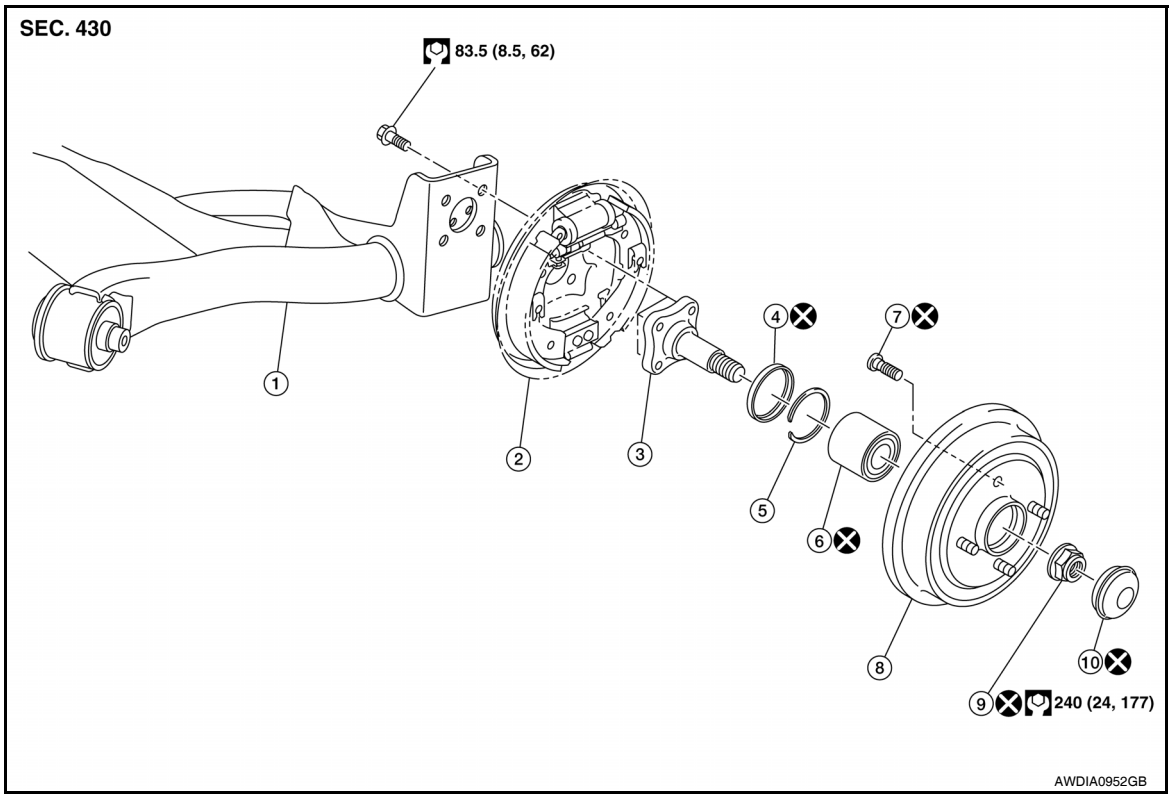

1. Rear suspension beam
2. Rear brake assembly
3. Spindle
4. Sensor rotor
5. Snap ring
6. Wheel bearing
7. Wheel stud
8. Brake drum
9. Wheel hub lock nut
10. Hub cap

Removal and Installation

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REMOVAL

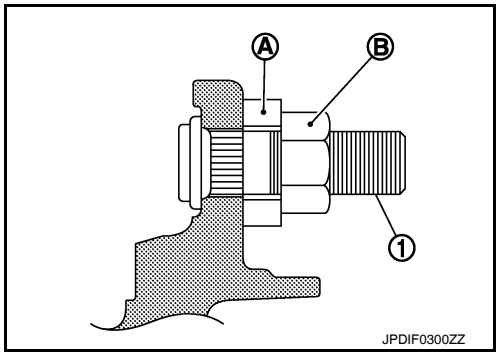
1. Remove the wheel and tire assembly using power tool.
2. Remove hub cap from brake drum, using a suitable tool.
3. Remove wheel hub lock nut and brake drum.
   CAUTION:
   Do not apply force to the brake drum to avoid damage to the wheel bearing. If the wheel bearing inner race is separated due to force, replace the wheel bearing with a new one.
4. Remove wheel sensor. Refer to BRC-104, "REAR WHEEL SENSOR : Removal and Installation".
5. Remove brake shoe assembly. Refer to BR-41, "Removal and Installation".
6. Remove spindle bolts. Separate back plate and spindle from rear suspension beam.
7. Remove the wheel studs from brake drum using a suitable press.
   CAUTION:
   - **Remove studs only when necessary.**
   - **Do not hammer the stud and avoid impact to the brake drum.**
   - **Pull the stud straight out to avoid damage to the stud.**

INSTALLATION

Note the following, and install in the reverse order of removal.

CAUTION:
- **During the installation, do not damage the wheel bearing seal. If damaged, replace wheel bearing with a new one.**
- **Do not allow paint to adhere to the wheel bearing seal.**
- **Check each mating surface for water and foreign matter. If there is any water or foreign matter, clean the mating surface.**
- Position the stud (1) to the brake drum. Place a washer (A) on the opposite end of the stud and by use of a nut (B), tighten to press the stud into the brake drum.

  CAUTION:
  - **Check that no clearance exists between brake drum, and stud after installation.**
  - **Do not reuse stud.**

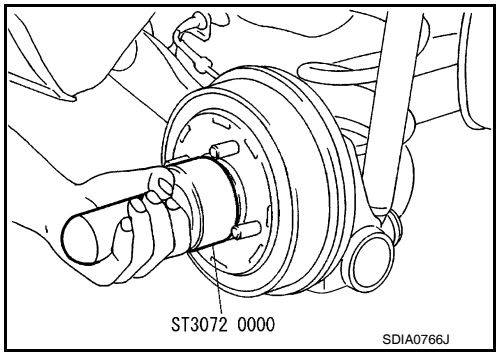


- Insert brake drum to the spindle with the spindle axis arranged in a straight line. (Brake drum may be stuck at the axis if not installed in a straight line.)

  CAUTION:
  - **If the brake drum becomes stuck and must be pulled out, do not use tools. Replace the wheel bearing with a new one if the brake drum cannot be pulled out without use of tools.**
  - **If the brake drum becomes stuck and the wheel bearing inner race is damaged, replace the wheel bearing with a new one.**
- Using the Tool, install hub cap on brake drum.

  Tool number : ST30720000 (—)

  CAUTION:
  - **Do not reuse hub cap.**
  - **Do not reuse wheel lock nut.**
  - **Tighten the wheel lock nut to the specified torque.**



Disassembly and Assembly

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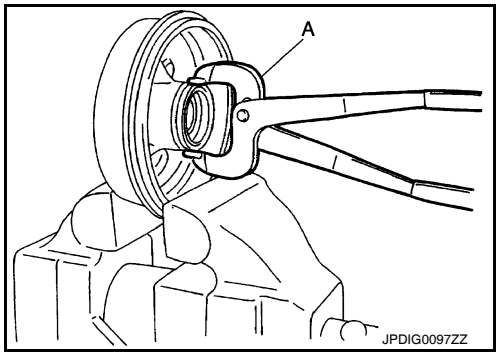
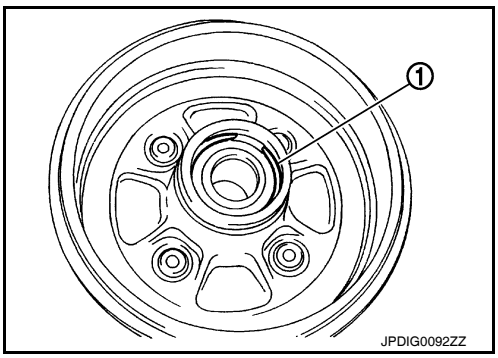
DISASSEMBLY

1. Remove sensor rotor, using a suitable tool (A).

   CAUTION:
   Do not damage the brake drum.

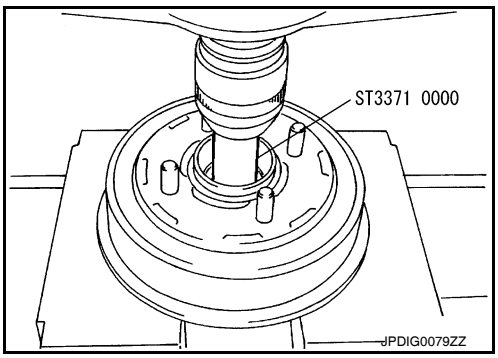


2. Remove snap ring (1).



3. Remove wheel bearing, using the Tool.

Tool number : ST33710000 (—)

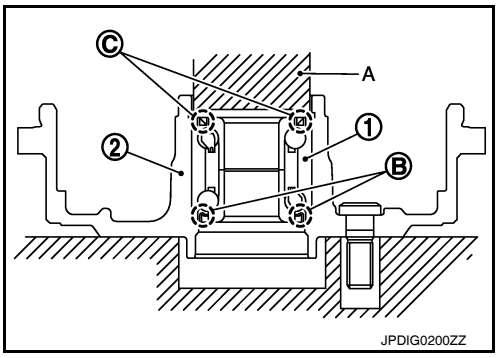


ASSEMBLY

1. Install wheel bearing (1) to brake drum (2), using the Tool (A).

Tool number : KV40104730 (—)

CAUTION:
- **Do not reuse wheel bearing.**
- **Do not apply lubricating oil to the press-fit surface of the wheel hub bearing.**
- **Install wheel bearing with the seal rubber part (B) faced to the brake drum side.**
- **Set brake drum and wheel bearing horizontally and insert them vertically.**
- **The press-fit load must be applied to the wheel bearing outer race and the brake drum.**
- **Do not apply press-fit load to the wheel bearing inner race, the seal (B) on the rubber surface side, and the seal (C) on the metallic surface side. If a press-fit load is applied, the wheel bearing must be replaced with a new one.**
- **Wheel bearing press-fit load must be 49 kN (5,000 kg, 11,015 lb).**



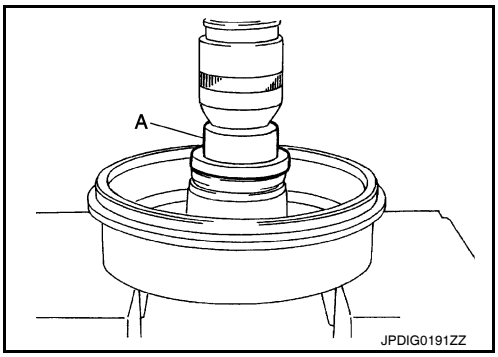
2. Install snap ring to brake drum.

CAUTION:
- **Do not damage the wheel bearing seal.**
- **The snap ring must be installed evenly into the groove.**

3. Install sensor rotor, using the Tool (A).

Tool number : ST30032000 (—)

CAUTION:
Do not reuse sensor rotor.



Inspection

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INSPECTION AFTER REMOVAL

Check the brake drum assembly and spindle for wear, cracks, and damage. Replace if necessary.

INSPECTION AFTER DISASSEMBLY

- Check brake drum for wear, cracks, or any other damage. Replace if necessary.
- Check snap ring for wear or cracks. Replace if necessary.

INSPECTION AFTER INSTALLATION

1. Check wheel bearing rotating torque per the following instructions.
   NOTE:
   The adequacy of turning torque can be judged from a measurement value by a suitable tool.

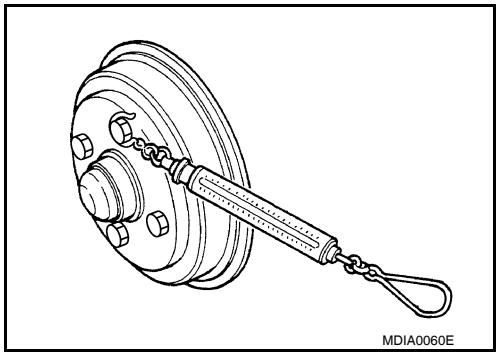
a. Check the contact surface of the brake drum and spindle for foreign matter. If there is any foreign matter, clean the contact surface.

b. Check that the wheel hub lock nut is tightened to the specified torque.

c. Turn the brake drum 10 times or more both clockwise and counterclockwise for proper fit.

d. Set a suitable tool to the hub bolt and measure turning torque at turning speeds of 8 to 12 rpm.

Rotating torque, and spring balance measurement : **Refer to RAX-10, "Wheel Bearing".**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2. Check wheel sensor harness for proper connection. Refer to BRC-104, "REAR WHEEL SENSOR : Exploded View".
3. Adjust parking brake operation (stroke). Refer to PB-4, "Inspection and Adjustment".

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Wheel Bearing

INFOID:0000000007678480

Item	Standard
Axial end play	0.05 mm (0.002 in) or less
Rotating torque	1.71 N·m (0.17 kg-m, 15 in-lb) or less
Spring balance measurement	12.3 N (1.25 kg, 2.77 lb) or less