

SECTION **RAX**
REAR AXLE

A
B
C

RAX

CONTENTS

E

PRECAUTIONS	2	WHEEL HUB	5	F
Caution	2	On-Vehicle Inspection	5	
Precautions for Brake System	2	REAR WHEEL BEARING	5	G
PREPARATION	3	Removal and Installation	5	
Special Service Tools	3	REMOVAL	5	H
Commercial Service Tools	3	INSPECTION AFTER REMOVAL	6	
NOISE, VIBRATION, AND HARSHNESS (NVH)		INSTALLATION	6	
TROUBLESHOOTING	4	SERVICE DATA AND SPECIFICATIONS (SDS)	8	
NVH Troubleshooting Chart	4	Wheel Bearing	8	I

H

I

J

K

L

M

PRECAUTIONS

PRECAUTIONS

PFP:00001

Caution

EDS000N2

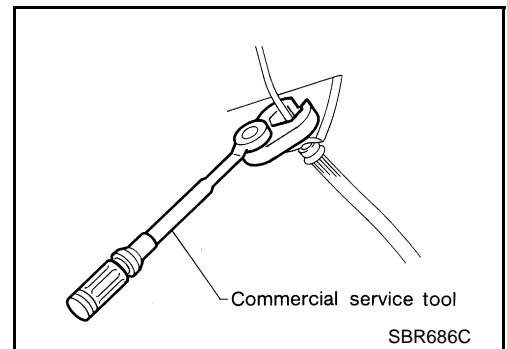
Observe the following precautions when disassembling and servicing drive shaft.

- 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

EDS000N3

- 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.



PREPARATION

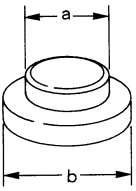
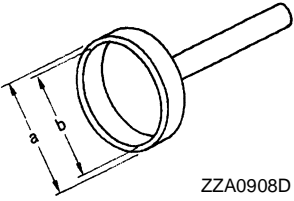
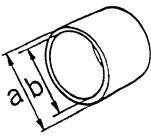
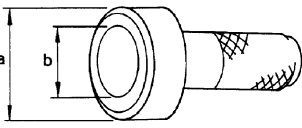
PREPARATION

PPF:00002

Special Service Tools

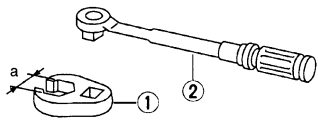
EDS000N4

A
B
C
RAX
E
F
G
H
I
J
K

Tool name Tool number	Description
Drift KV40100610 a: 54.3 mm (2.138 in) dia. b: 63 mm (2.48 in) dia.	 ZZA0881D Removing ABS sensor rotor
Drift ST15310000 a: 96 mm (3.78 in) dia. b: 84 mm (3.31 in) dia.	 ZZA0908D Installing ABS sensor rotor
Drift KV40105310 a: 89.1 mm (3.508 in) dia. b: 80.7 mm (3.177 in) dia.	 ZZA1003D Installing ABS sensor rotor
Drift KV38100500 a: 80 mm (3.15 in) dia. b: 60 mm (2.36 in) dia.	 ZZA0701D Installing hub cap

Commercial Service Tools

EDS000N5

Tool name	Description
1. Flare nut crowfoot 2. Torque wrench a: 10 mm (0.39 in)	 S-NT360 Removing and installing brake piping

L
M

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:00003

NVH Troubleshooting Chart

EDS000NS

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	—	Refer to RAX-5	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	
		Shake	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

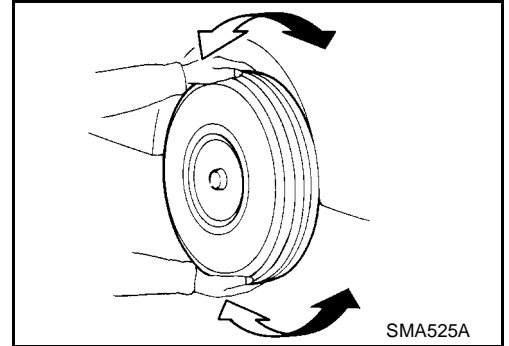
PPF:43202

On-Vehicle Inspection

EDS000N7

Inspect to check that there is no excessive play, cracking, wear, or other damage to rear axle.

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



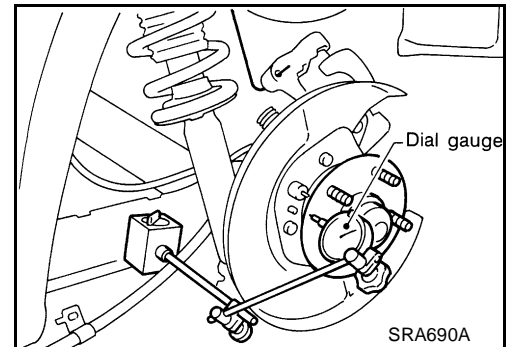
REAR WHEEL BEARING

With vehicle raised, inspect the following.

- Move wheel hub in the axial direction by hand. Check that there is no looseness of rear wheel bearings.

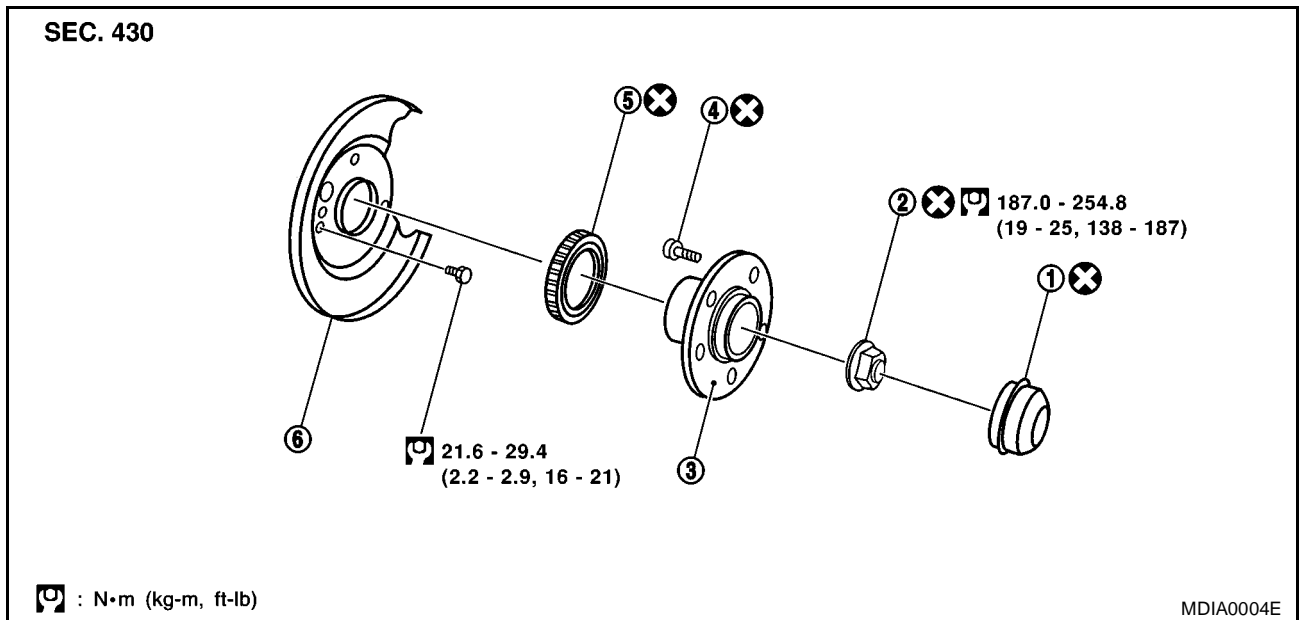
Axial end play : 0.05 mm (0.0020 in) or less

- Rotate wheel hub and check that there is no unusual noise or other irregular conditions. If there are any irregular conditions, replace wheel bearing.
- If any irregular conditions are found, replace ball bearings.



Removal and Installation

EDS000N8



- | | | |
|------------|--------------------|--------------|
| 1 Hub cap | 2 Lock nut | 3 Wheel hub |
| 4 Hub bolt | 5 ABS sensor rotor | 6 Back plate |

REMOVAL

1. Remove tire.

WHEEL HUB

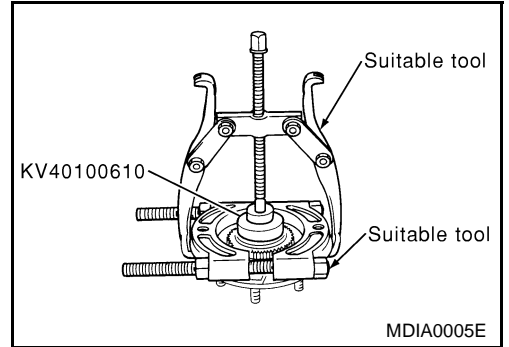
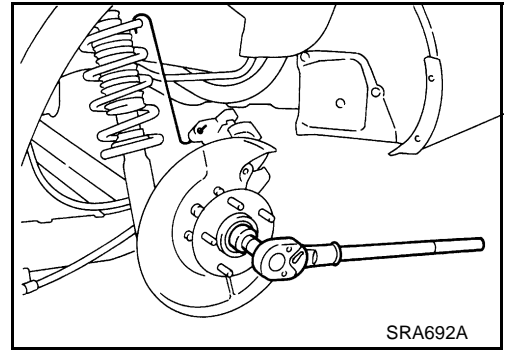
2. Remove brake caliper and brake rotor. Refer to [BR-28, "Caliper Removal and Installation"](#).

CAUTION:

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

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

3. Remove wheel lock nuts.
4. Remove wheel hub from spindle.
5. Remove ABS wheel speed sensor.
6. Remove back plate.
7. Remove the sensor rotor using suitable puller, drift and bearing replacer.



INSPECTION AFTER REMOVAL

Inspect wheel hub for deformation, cracks, and other damage. If any irregular conditions are found, replace wheel hub.

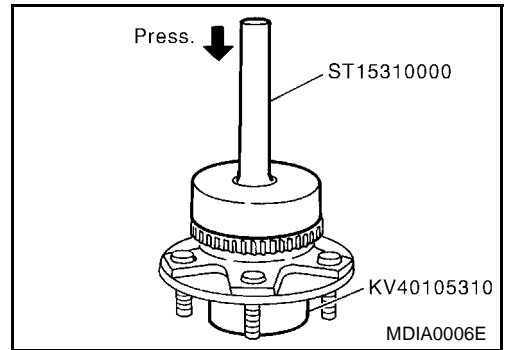
INSTALLATION

1. With vehicles equipped with ABS, press-fit ABS sensor rotor into wheel hub bearing using a drift.

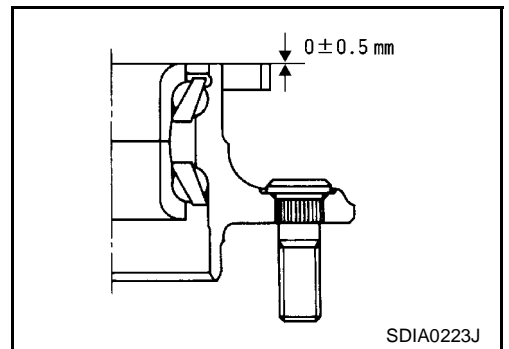
CAUTION:

Do not reuse ABS sensor rotor.

When installing, replace it with a new one.



Press-fit ABS sensor rotor as far as location shown in figure at right.



2. Install wheel hub.
3. Tighten wheel bearing lock nut. Before tightening, apply oil to threaded portion of rear spindle.

WHEEL HUB

CAUTION:

Do not reuse wheel bearing lock nut.

: 187.0 - 254.8 N·m (19 - 25 kg·m, 138 - 187 ft·lb)

4. Tighten wheel hub lock nuts to specified torque. Rotate in forward and reverse direction 10 times each to ensure a good fit.
5. Place a spring balance at the point where the hub bolt and measure rotation torque when spring is pulled at a speed of 8 to 12 rpm.

Rotation torque : 0.191 - 1.280 N·m (0.02 - 0.13 kg·m, 2 - 11 in·lb)

Spring balance reading : 3.3 - 22.4 N (0.34 - 2.28 kg, 0.74 - 5.04 lb)

6. Check wheel hub bearing axial end play.

Axial end play:

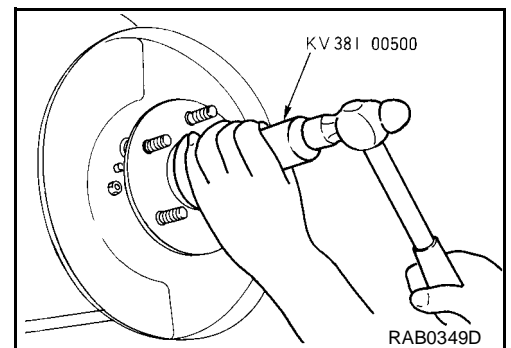
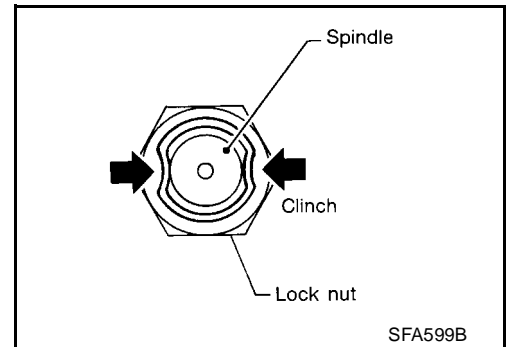
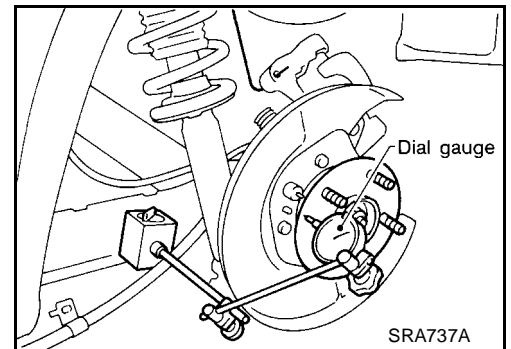
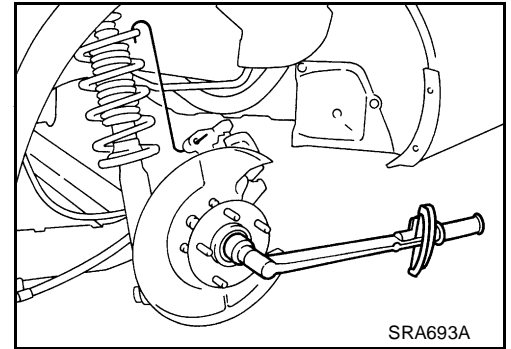
Less than 0.05 mm (0.0020 in)

7. Clinch two places of lock nut.

8. Install hub cap.

CAUTION:

Do not reuse hub cap. When installing, replace it with a new one.



A
B
C
RAX
E
F
G
H
I
J
K
L
M

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

PFP:00030

Wheel Bearing

EDS000N9

Drive type	2WD
Rotation torque	0.191 - 1.280 N·m (0.02 - 0.13 kg-m, 2 - 11 in-lb)
Spring balance reading	3.3 - 22.4 N (0.34 - 2.28 kg, 0.74 - 5.04 lb)
Installation location of spring balance	Hub bolt
Wheel hub lock nut tightening torque	187.0 - 254.8 N·m (19 - 25 kg-m, 138 - 187 ft-lb)
Axial end play	0.05 mm (0.0020 in) or less