

REAR AXLE & REAR SUSPENSION

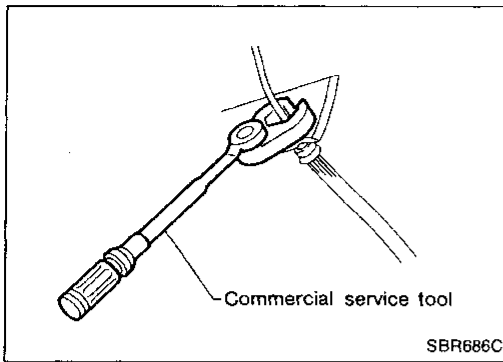
SECTION **RA**

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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.
- Do not jack up at the parallel links.
- Always torque brake lines when installing.

Special Service Tools

Tool number (Kent-Moore No.) Tool name	Description	
HT71780000 (—) Spring compressor	 NT144	Removing and installing coil spring
ST35652000 (—) Strut attachment	 NT145	Fixing strut assembly

Commercial Service Tools

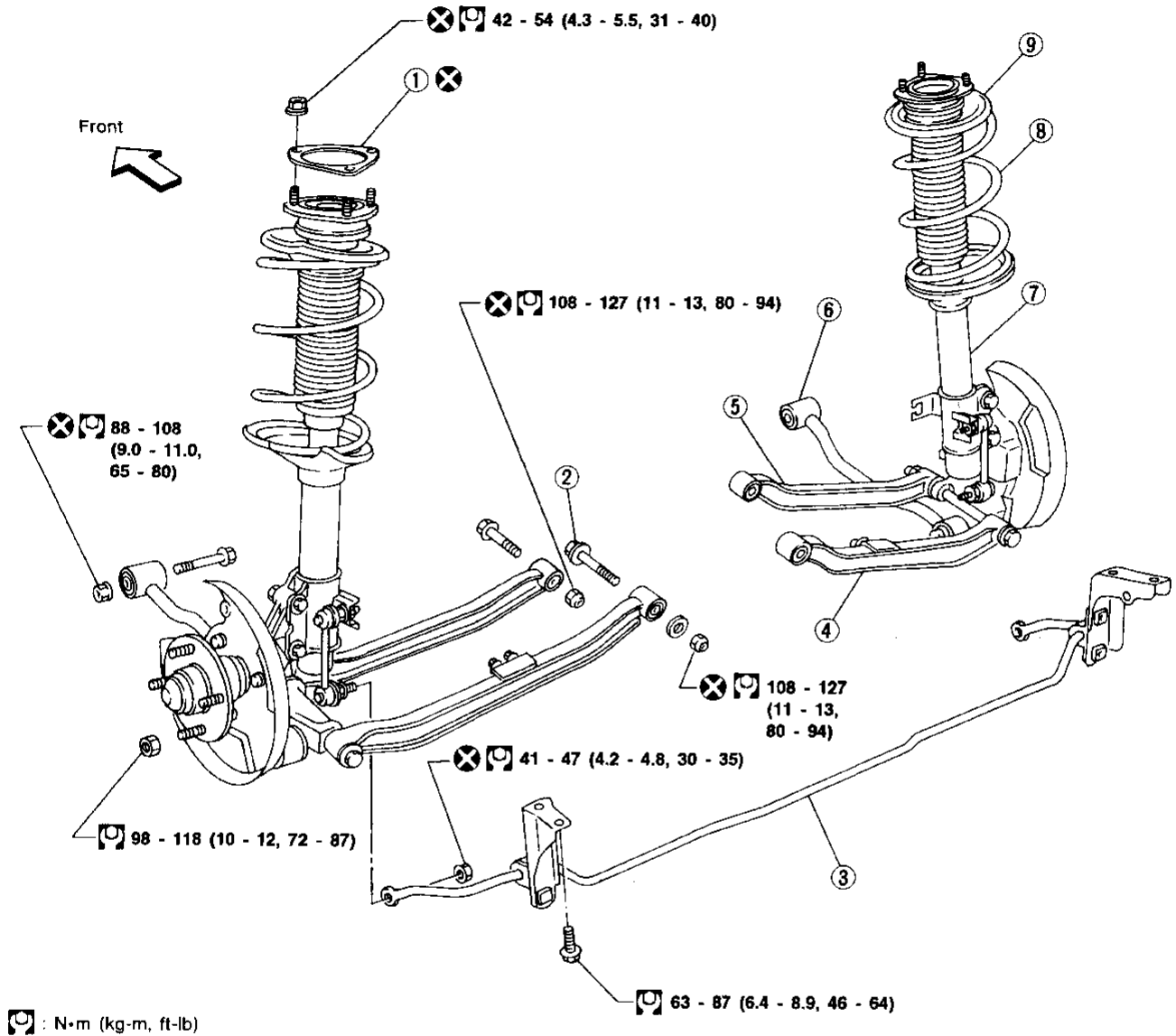
Tool name	Description	
① Flare nut crows foot ② Torque wrench	 NT360	Removing and installing each brake piping a: 10 mm (0.39 in)

REAR AXLE AND REAR SUSPENSION

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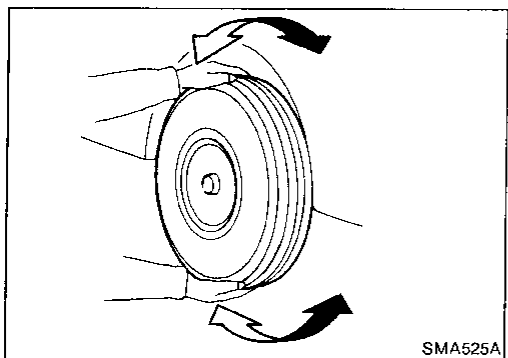
When installing each rubber part, final tightening must be carried out under unladen condition* with tires on ground.

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



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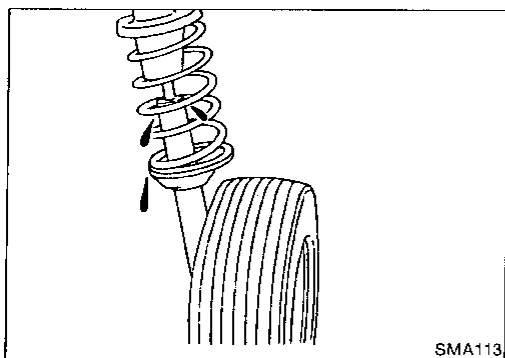
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| ① Gasket | ④ Rear parallel link | ⑦ Strut assembly |
| ② Adjusting bolt | ⑤ Front parallel link | ⑧ Coil spring |
| ③ Stabilizer bar | ⑥ Radius rod | ⑨ Strut mounting insulator assembly |



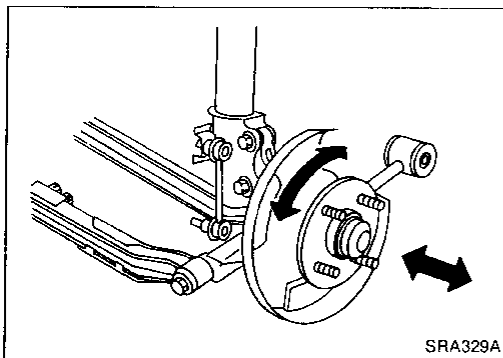
Rear Axle and Rear Suspension Parts

Check axle and suspension parts for excessive play, wear or damage.

- Shake each rear wheel to see excessive play.
- Retighten all nuts and bolts to the specified torque.
Tightening torque:
Refer to REAR SUSPENSION (RA-7).

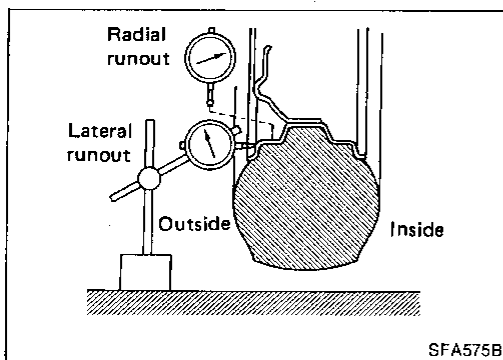


- Check strut (shock absorber) for oil leakage or other damage.
- Check wheelarch height. Refer to FA section ("Front Axle and Front Suspension Parts", "ON-VEHICLE SERVICE").



Rear Wheel Bearing

- Check axial end play.
Axial end play:
0.05 mm (0.0020 in) or less
- Check that wheel hub bearings operate smoothly.
- Check tightening torque of wheel bearing lock nut.
☞: 186 - 255 N·m
(19 - 26 kg-m, 137 - 188 ft-lb)
- Replace wheel bearing assembly if there is axial end play or wheel bearing does not turn smoothly. Refer to REAR AXLE — Wheel Hub (RA-6).



Rear Wheel Alignment

PRELIMINARY INSPECTION

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

- Check tires for wear and for proper inflation.
 - Check rear wheel bearings for excessive play.
 - Check wheel runout.
Wheel runout:
Refer to FA section ("Inspection and Adjustment", "SDS").
 - Check that rear strut (shock absorber) works properly.
 - Check rear axle and rear suspension parts for excessive play.
 - Check vehicle posture (Unladen*).
- *: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

CAMBER

Camber is preset at factory and cannot be adjusted.

Camber:

Refer to SDS (RA-10).

- If the camber is not within specification, inspect and replace any damaged or worn rear suspension parts.

RA-4

Rear Wheel Alignment (Cont'd)

TOE-IN

Measure toe-in using following procedure. If out of specification, inspect and replace any damaged or worn rear suspension parts.

WARNING:

- Always perform following procedure on a flat surface.
- Make sure that no person is in front of the vehicle before pushing it.

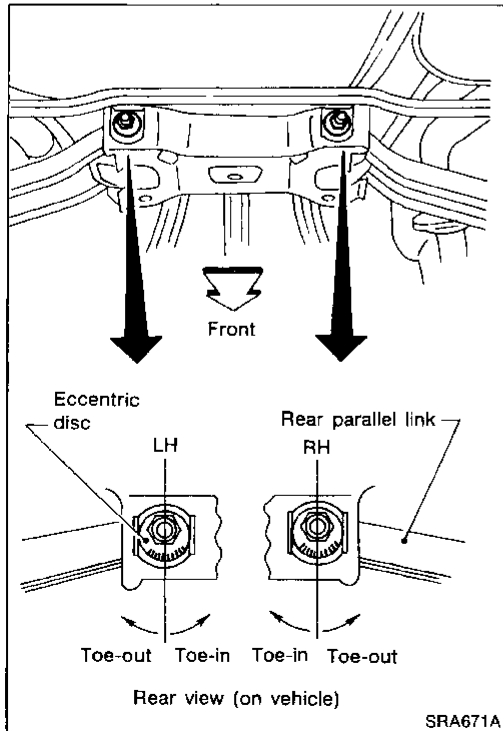
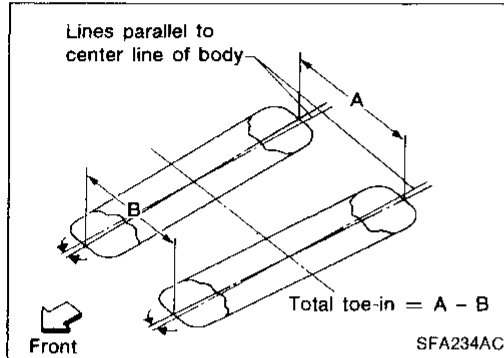
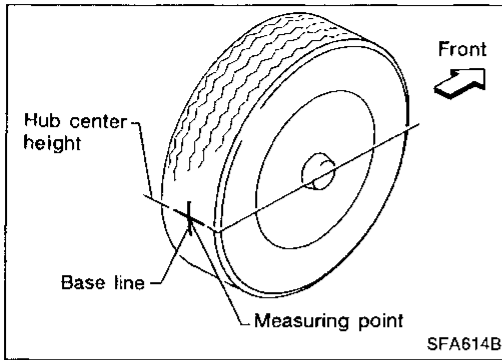
1. Bounce rear of vehicle up and down to stabilize the posture.
2. Push the vehicle straight ahead about 5 m (16 ft).
3. Put a mark on base line of the tread (rear side) of both tires at the same height of hub center. This mark is a measuring point.
4. Measure distance "A" (rear side).
5. Push the vehicle slowly ahead to rotate the wheels 180 degrees (1/2 turn).

If the wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Never push vehicle backward.

6. Measure distance "B" (front side).

Total toe-in:

Refer to SDS (RA-10).



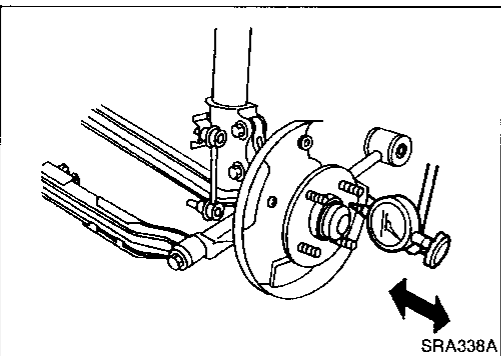
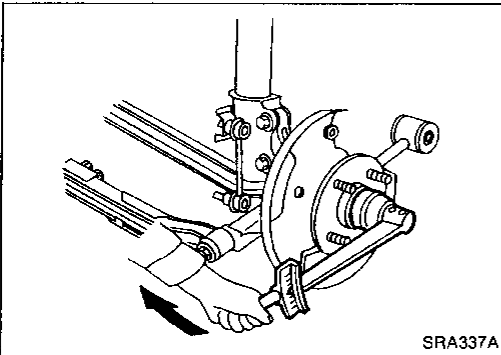
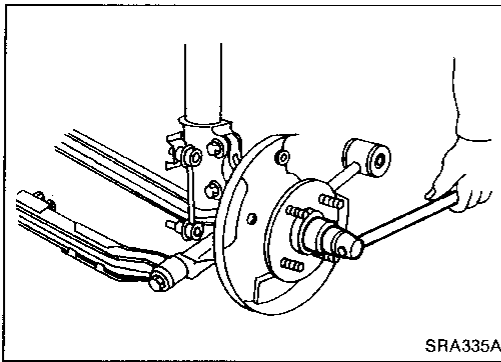
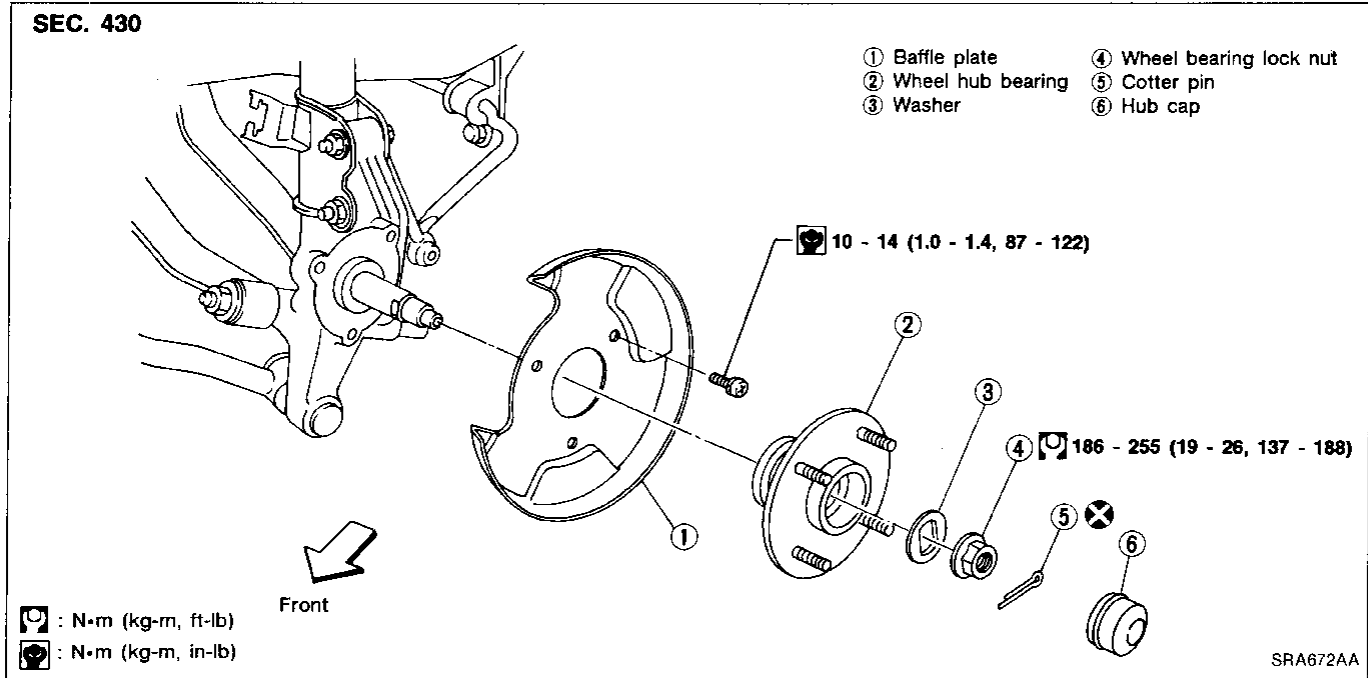
7. Loosen adjusting bolt fixing nuts.
8. Adjust toe-in by turning adjusting bolts.

Toe changes about 2.0 mm (0.079 in) [One side] with each graduation of the adjusting bolt.

9. Tighten adjusting bolt fixing nuts to the specified torque.

: 108 - 127 N·m
(11 - 13 kg-m, 80 - 94 ft-lb)

Wheel Hub



REMOVAL

CAUTION:

- Before removing the rear wheel hub assembly, disconnect the ABS wheel sensor from the assembly. Then move it away from the hub assembly. Failure to do so may result in damage to the sensor wires and the sensor becoming inoperative.
- Wheel hub bearing does not require maintenance. If any of the following symptoms are noted, replace wheel hub bearing assembly.
 - Growling noise is emitted from wheel hub 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.
- If the wheel hub bearing assembly is removed, it must be renewed. The old assembly must not be re-used.

1. Remove brake caliper assembly and rotor.

In this case, suspend caliper assembly with wire so as not to stretch brake hose.

Be careful not to depress brake pedal, or piston will pop out. Make sure brake hose is not twisted.

2. Remove wheel bearing lock nut.

INSTALLATION

1. Install wheel hub bearing.
2. Tighten wheel bearing lock nut.
Before tightening, apply oil to threaded portion of rear spindle and both sides of plain washer.
3. Check that wheel bearings operate smoothly.
4. Check wheel bearing axial end play.

Axial end play:

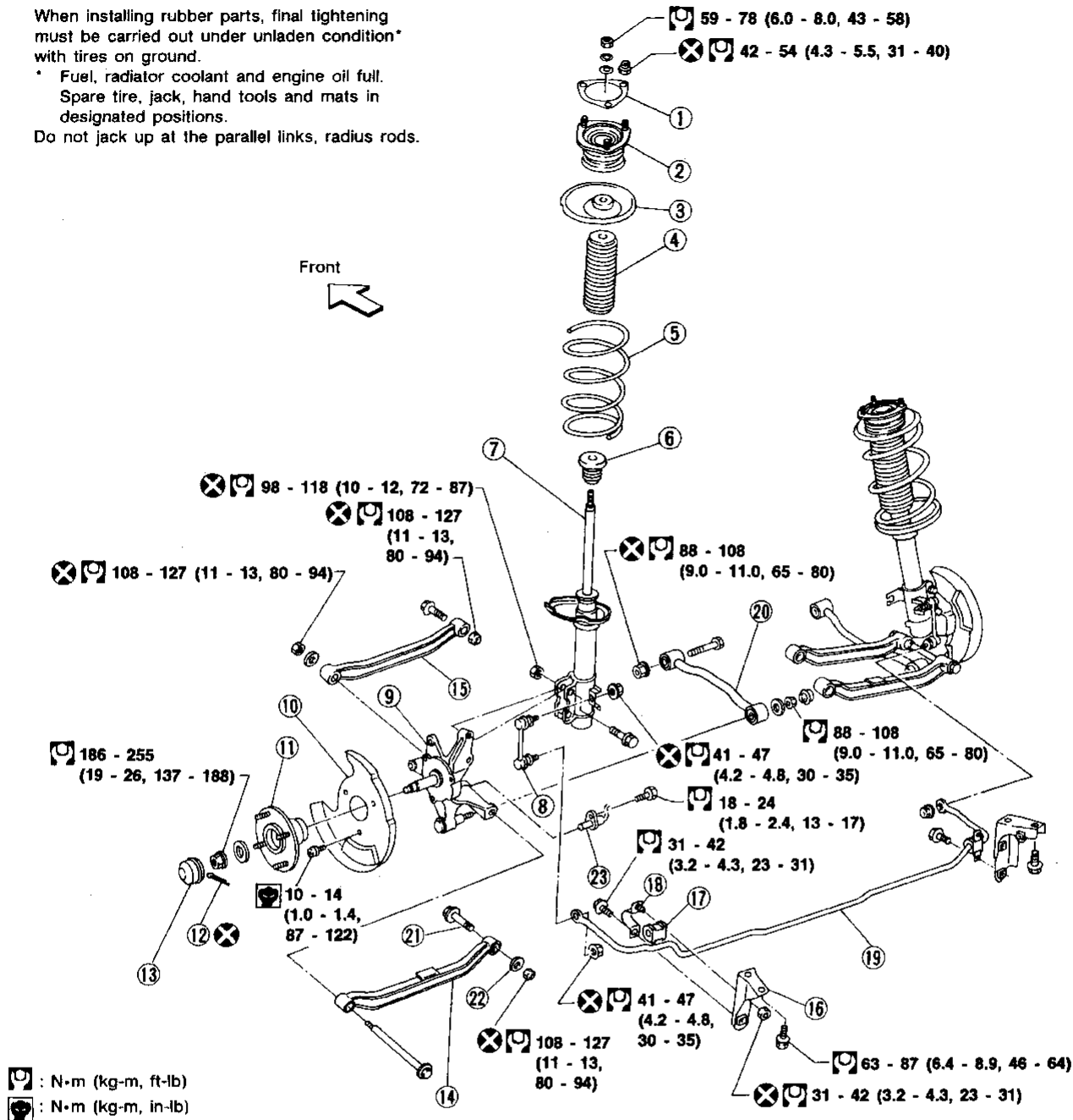
0.05 mm (0.0020 in) or less

REAR SUSPENSION

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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.
- Do not jack up at the parallel links, radius rods.



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| ① Gasket | ⑨ Knuckle assembly | ⑰ Bushing |
| ② Strut mounting insulator | ⑩ Baffle plate | ⑱ Clamp |
| ③ Upper spring seat | ⑪ Wheel hub bearing | ⑲ Stabilizer bar |
| ④ Dust cover | ⑫ Cotter pin | ⑳ Radius rod |
| ⑤ Coil spring | ⑬ Hub cap | ㉑ Adjusting bolt |
| ⑥ Bound bumper | ⑭ Rear parallel link | ㉒ Eccentric disc |
| ⑦ Strut assembly | ⑮ Front parallel link | ㉓ ABS sensor |
| ⑧ Connecting rod | ⑯ Mounting bracket | |

Removal and Installation

CAUTION:

Do not jack up at the parallel links or radius rods.

- Remove suspension assembly.
 1. Remove brake caliper assembly and rotor.
 2. Remove parallel link fixing bolt, radius rod fixing bolt, stabilizer fixing bolt and stabilizer connecting rod.
 3. Remove rear seat and finisher. Refer to BT section ("Rear Seat", "SEAT").
 4. Remove strut securing nuts (Upper side). Then pull out strut assembly.

Coil Spring and Strut Assembly

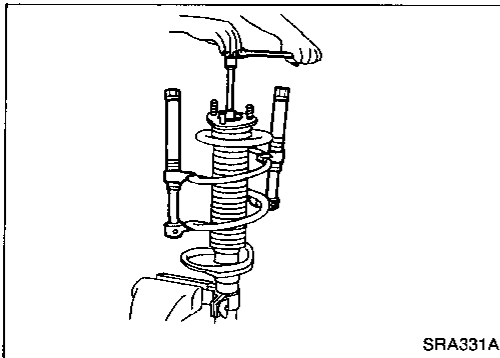
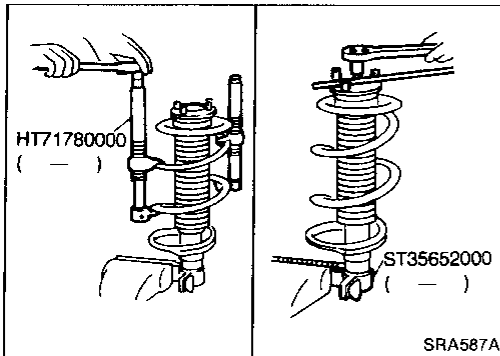
DISASSEMBLY

1. Set strut assembly in vise with attachment, then **loosen** piston rod lock nut.

Do not remove piston rod lock nut at this time.

2. Compress spring with Tool so that the strut mounting insulator can be turned by hand.

3. Remove piston rod lock nut.
4. Remove spring, complete with Tool.



INSPECTION

Strut assembly

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

Upper spring seat and dust cover

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

Strut mounting insulator

- Check cemented rubber-to-metal portion for melting or cracks.
- Check rubber parts for deterioration.

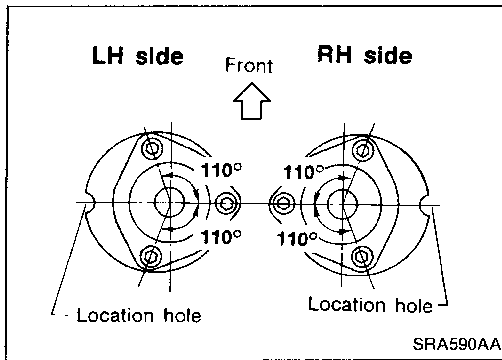
Coil spring

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

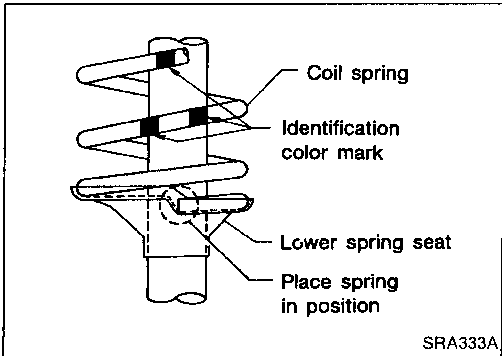
REAR SUSPENSION

Coil Spring and Strut Assembly (Cont'd)

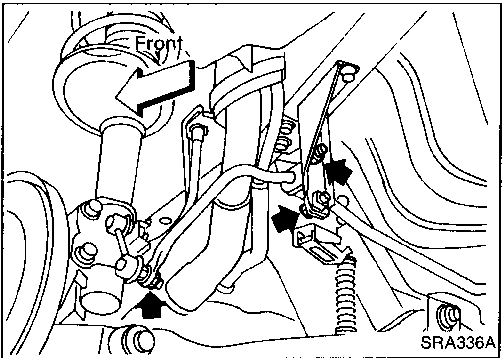
ASSEMBLY



1. Locate upper spring seat as shown.



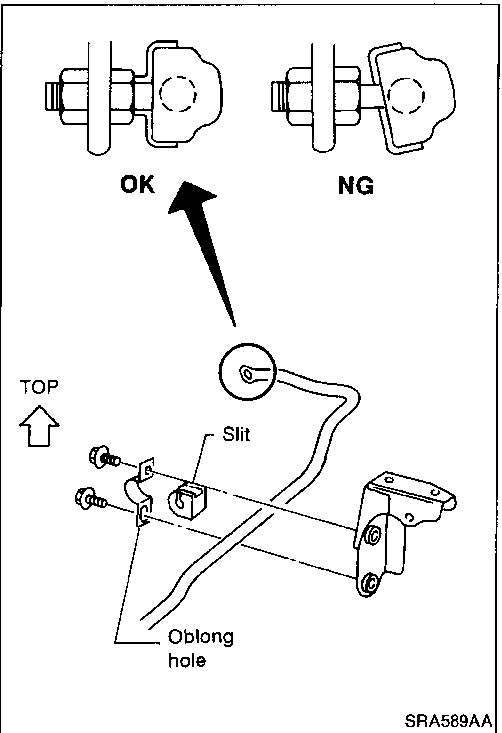
2. When installing coil spring on strut, there must be 2 identification color marks on the lower side.
3. After placing coil spring in position on lower spring seat, tighten lock nut. Then gradually release spring compressor.



Stabilizer Bar

REMOVAL AND INSTALLATION

- Remove stabilizer bar.



- When installing stabilizer bar, it must be positioned as shown.
- Install stabilizer bar with ball joint socket properly placed.

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SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

COIL SPRING

Wire diameter	mm (in)	12.3 (0.484)
Coil diameter (average)	mm (in)	150.3 (5.92)
Free length	mm (in)	310.0 (12.20)
Spring constant	N/mm (kg/mm, lb/in)	19.6 (2.0, 112)
Identification color		Yellow x 2, Light green x 1

SHOCK ABSORBER

Damping force [at 0.3 m (1.0 ft)/sec.]	N (kg, lb)	
Expansion		667 - 902 (68 - 92, 150 - 203)
Compression		265 - 422 (27 - 43, 60 - 95)
Piston rod diameter	mm (in)	22 (0.87)

REAR STABILIZER BAR

Applied model		All
Stabilizer bar diameter	mm (in)	17.0 (0.669)
Identification color		Light green

Inspection and Adjustment

WHEEL ALIGNMENT (Unladen*)

Camber	Minimum	-1°50' (-1.83°)
	Nominal	-1°05' (-1.08°)
	Maximum	-0°20' (-0.33°)
Total toe-in	Minimum	-1 (-0.04)
	Nominal	1 (0.04)
	Maximum	3 (0.12)
Angle (left plus right)	Minimum	-5' (-0.08°)
	Nominal	5' (0.08°)
	Maximum	15' (0.25°)

WHEEL BEARING

Applied model		All
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)	186 - 255 (19 - 26, 137 - 188)

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