

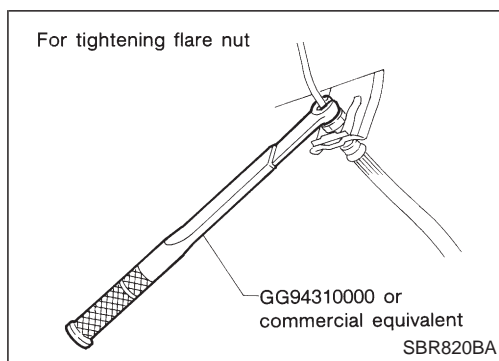
FRONT AXLE & FRONT SUSPENSION

SECTION **FA**

CONTENTS

PRECAUTIONS AND PREPARATION1	FRONT AXLE — Wheel Hub and Rotor Disc 14
Precautions1	Removal and Installation 14
Special Service Tools1	Inspection.....15
Commercial Service Tools2	Assembly15
NOISE, VIBRATION AND HARSHNESS (NVH)	FRONT AXLE — Knuckle Flange17
TROUBLESHOOTING3	Removal.....17
NVH Troubleshooting Chart.....3	Inspection.....19
FRONT AXLE AND FRONT SUSPENSION4	Installation.....19
ON-VEHICLE SERVICE5	Knuckle Flange Grease Seal.....21
Front Axle and Front Suspension Parts5	FRONT AXLE — Drive Shaft23
Front Wheel Bearing.....5	Inspection.....23
Front Wheel Alignment8	Installation.....23
FRONT AXLE — Drive flange and Free-running	FRONT SUSPENSION24
Hub10	Shock Absorber25
FRONT AXLE — Manual-lock Free-running Hub 11	Stabilizer Bar25
Removal.....11	Coil Spring25
Installation.....12	Leading Arm.....26
Inspection.....12	Panhard Rod.....26
FRONT AXLE — Auto-lock Free-running Hub 13	SERVICE DATA AND SPECIFICATIONS (SDS)27
Removal.....13	General Specifications.....27
Installation.....13	Inspection and Adjustment27

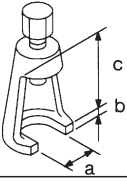
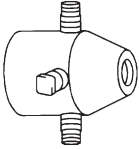
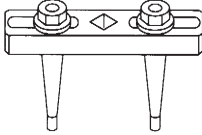
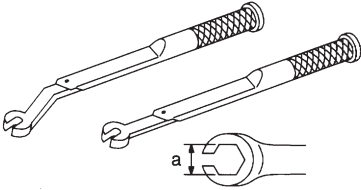
PRECAUTIONS AND PREPARATION



Precautions

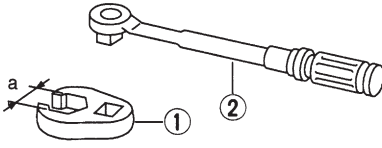
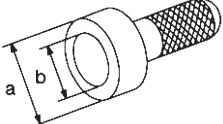
- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
- * Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- Use flare nut wrench when removing and installing brake tubes.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Always torque brake lines when installing.

Special Service Tools

Tool number Tool name	Description
ST29020001 Gear arm puller	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Removing tie-rod and drag link</p> <p>a: 34 mm (1.34 in) b: 6.5 mm (0.256 in) c: 61.5 mm (2.421 in)</p> </div> </div> <p style="text-align: center;">NT551</p>
KV401021S0 Bearing race drift	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Installing wheel bearing outer race</p> </div> </div> <p style="text-align: center;">NT153</p>
KV40105400 Wheel bearing lock nut wrench	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Removing and installing wheel bearing lock nut</p> </div> </div> <p style="text-align: center;">NT154</p>
GG94310000 Flare nut torque wrench	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Removing and installing brake piping</p> <p>a: 10 mm (0.39 in)</p> </div> </div> <p style="text-align: center;">NT406</p>

PRECAUTIONS AND PREPARATION

Commercial Service Tools

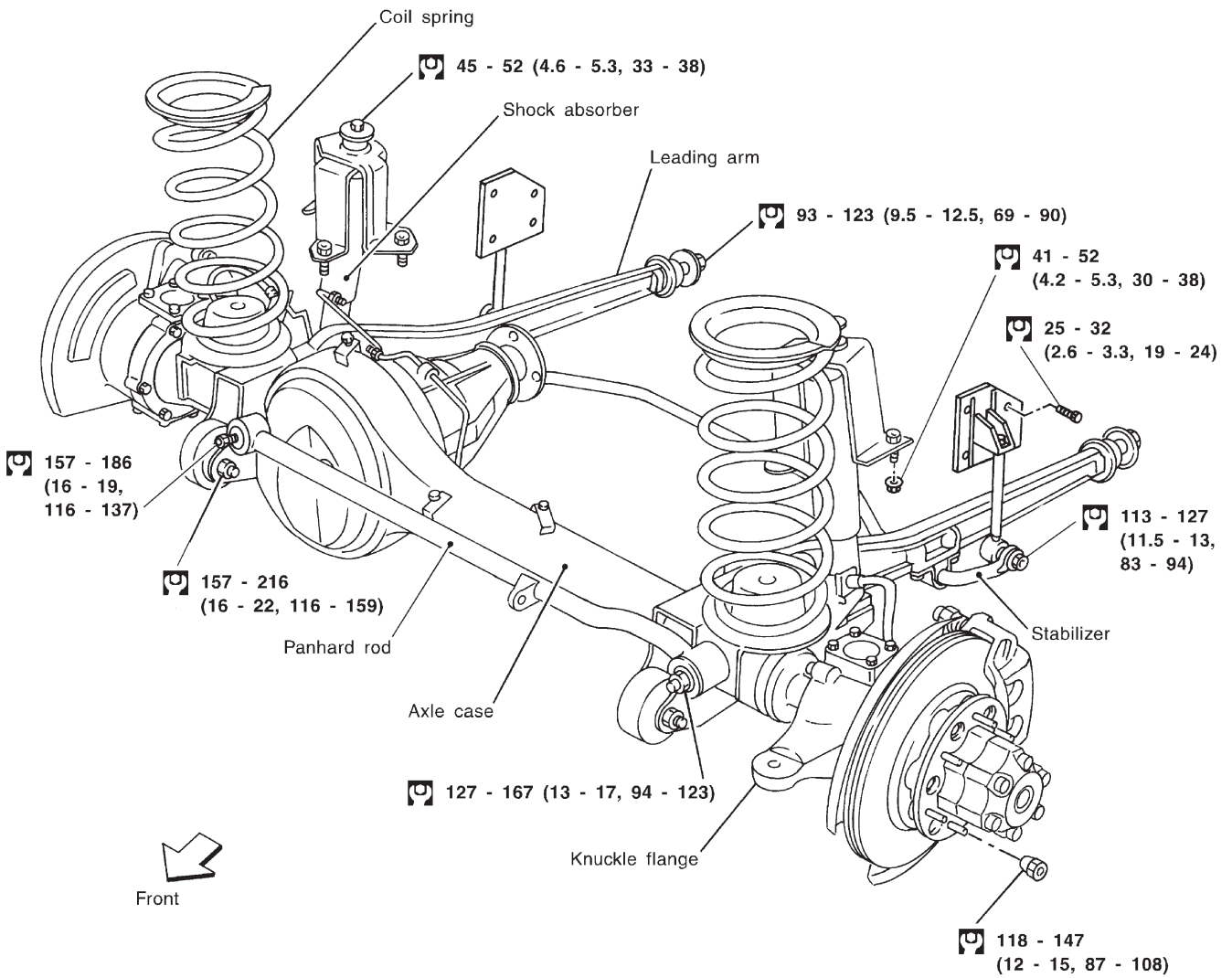
Tool name	Description
Equivalent to GG94310000 ① Flare nut crowfoot ② Torque wrench	 <p data-bbox="427 459 486 483">NT360</p> <p data-bbox="997 459 1189 483">a: 10 mm (0.39 in)</p>
Hub cap drift	 <p data-bbox="427 604 486 629">NT115</p> <p data-bbox="997 571 1236 629">a: 57 mm (2.24 in) dia. b: 46 mm (1.81 in) dia.</p>

FRONT AXLE AND FRONT SUSPENSION

SEC. 391•400•401

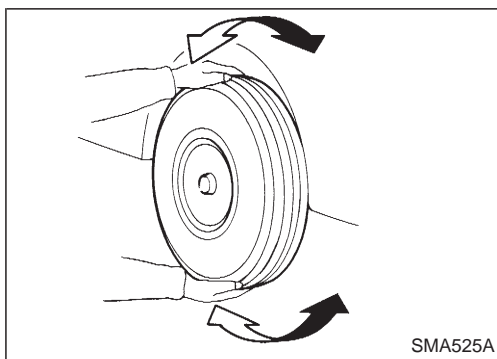
When installing each rubber part, final tightening must be carried out under unladen condition* with tires on ground.

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



: N•m (kg-m, ft-lb)

ON-VEHICLE SERVICE



Front Axle and Front Suspension Parts

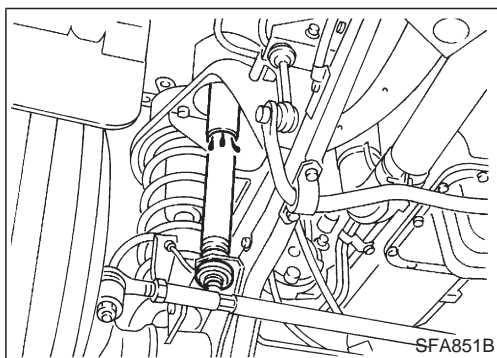
Check front axle and front suspension parts for excessive play, cracks, wear and other damage.

- Shake each front wheel to check for excessive play.
- Make sure that cotter pin is inserted.
- Retighten all axle and suspensions nuts and bolts to the specified torque.

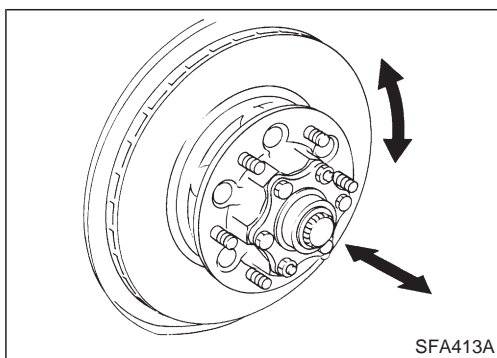
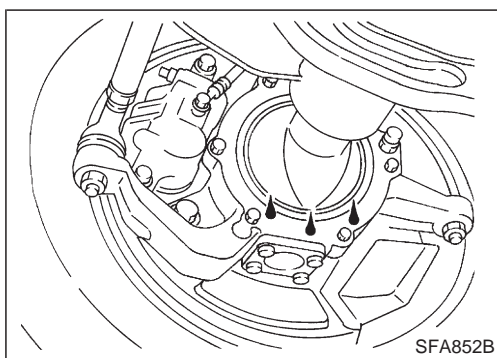
Tightening torque:

Refer to FRONT SUSPENSION (FA-24).

- Check front axle and front suspension parts for wear, cracks and other damage.
- Check shock absorber for oil leakage and other damage.



- Check knuckle flange for grease leakage and knuckle flange grease seal for cracks and other damage.



Front Wheel Bearing

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

Axial end play:

0 mm (0 in)

- Adjust wheel bearing preload if there is any axial end play or wheel bearing does not turn smoothly.

ON-VEHICLE SERVICE

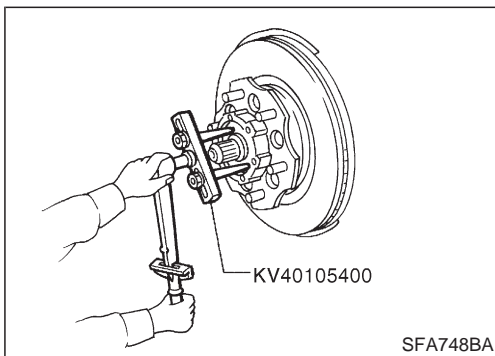
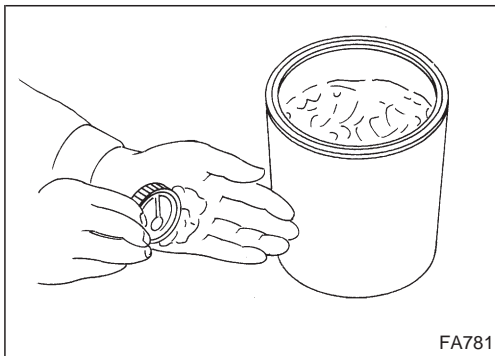
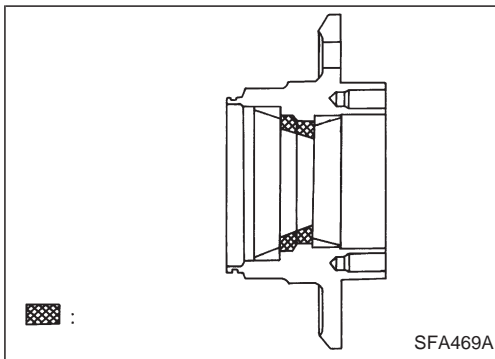
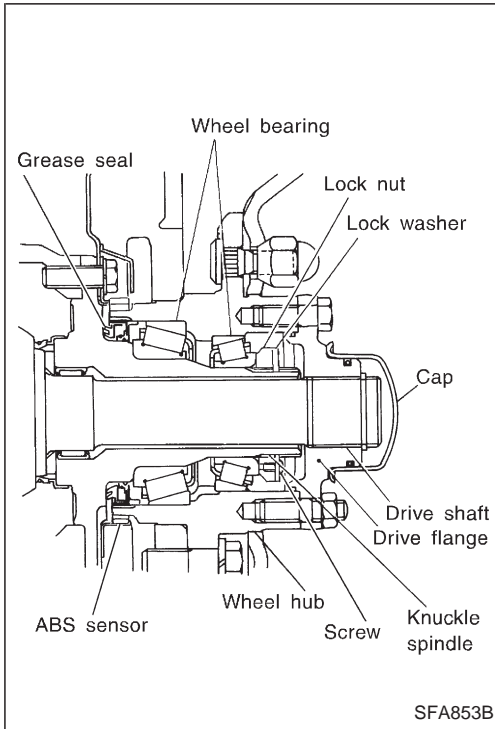
Front Wheel Bearing (Cont'd)

PRELOAD ADJUSTMENT

Adjust wheel bearing preload after wheel bearing has been replaced or front axle has been reassembled.

Adjust wheel bearing preload as follows:

1. Before adjustment, thoroughly clean all parts to prevent dirt entry.



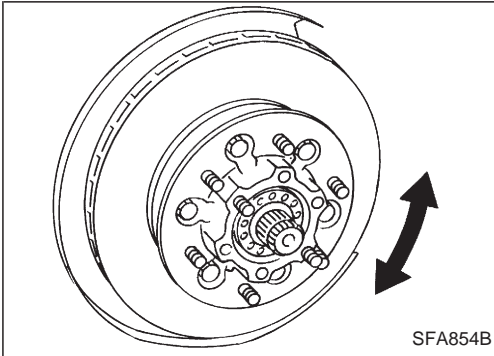
2. Apply multi-purpose grease sparingly to the following parts:
 - Wheel hub (as shown at left)

- Wheel bearing
- Grease seal lip
- Contact surface between wheel bearing lock washer (chamfered side) and outer wheel bearing

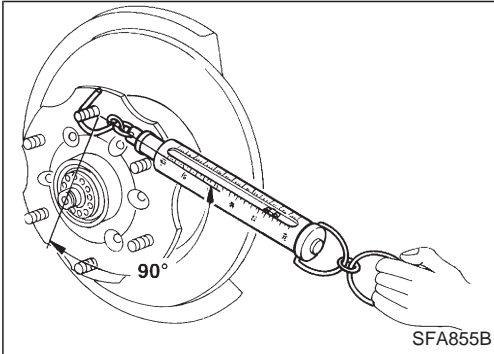
3. Tighten wheel bearing lock nut with Tool.
⚙️: **167 - 196 N·m (17 - 20 kg-m, 123 - 145 ft-lb)**
4. Turn wheel hub several times in both directions.
5. Loosen wheel bearing lock nut so that torque becomes **0 N·m (0 kg-m, 0 ft-lb)**.
6. Retighten wheel bearing lock nut with Tool.
⚙️: **3 - 5 N·m (0.3 - 0.5 kg-m, 26 - 43 in-lb)**

ON-VEHICLE SERVICE

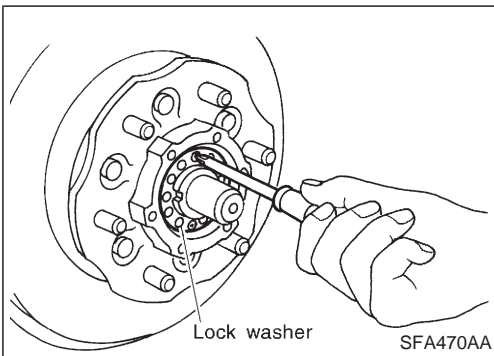
Front Wheel Bearing (Cont'd)



7. Turn wheel hub several times in both directions.
8. Retighten wheel bearing lock nut with Tool.
 \bullet : 3 - 5 N·m (0.3 - 0.5 kg-m, 26 - 43 in-lb)
9. Again turn wheel hub several times in both directions.



10. Measure starting force "A" at wheel hub bolt.



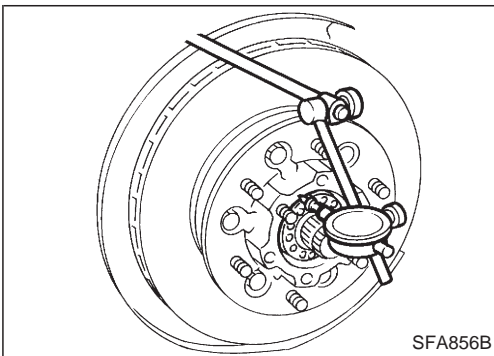
11. Tighten lock nut until screw hole is aligned with screw hole in lock washer. Lock washer may be used with either side up. Temporarily tighten lock washer using screw.
12. Turn wheel hub several times in both directions.
13. Measure starting force "B" at wheel hub bolt. Refer to procedure 10.
14. Wheel bearing preload "C" can be calculated as shown below.

$$C = B - A$$

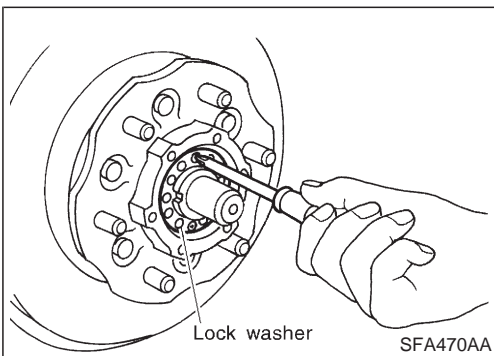
Wheel bearing preload "C":
0 - 18.6 N (0 - 1.9 kg, 0 - 4.2 lb)

15. If wheel bearing preload "C" is outside specifications, loosen lock nut and adjust wheel bearing preload "C" to 0 to 18.6 N (0 to 1.9 kg, 0 to 4.2 lb) range.
16. Measure wheel bearing axial end play.

Axial end play:
0 mm (0 in)

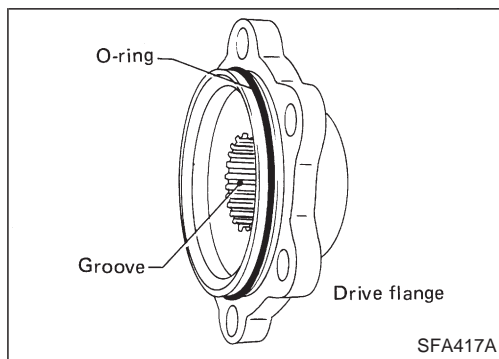


17. Tighten screw.
 \bullet : 1.2 - 1.8 N·m (0.12 - 0.18 kg-m, 10.4 - 15.6 in-lb)
18. Recheck to ensure that wheel bearing preload and axial end play are within specified ranges.

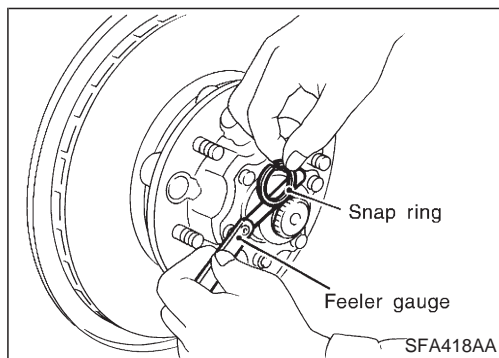


ON-VEHICLE SERVICE

Front Wheel Bearing (Cont'd)

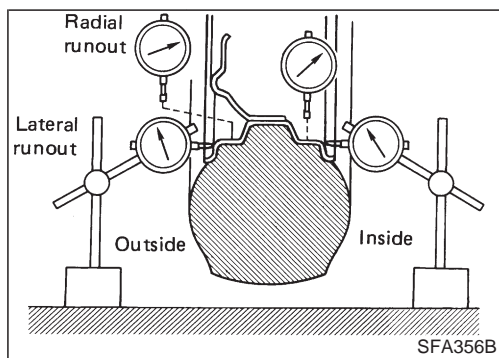


19. Pack drive flange groove with grease, apply grease to O-ring and mating surface of drive flange, and install flange.



20. Place snap ring in drive shaft groove. Choose snap ring so that the gap between groove and snap ring is 0.4 mm (0.016 in) or less.

Refer to SDS for selection of snap ring.



Front Wheel Alignment

Before checking front wheel alignment, be sure to make a preliminary inspection (Unladen*).

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

PRELIMINARY INSPECTION

1. Check tires for wear and improper inflation.
2. Check wheel runout on outside and inside.

Wheel runout average

[(Outside runout value + Inside runout value) x 0.5]:

Refer to SDS (FA-27).

3. Check front wheel bearings for looseness.
4. Check front suspension for looseness.
5. Check steering linkage for looseness.
6. Check that shock absorbers work properly.
7. Check vehicle posture (Unladen).

CAMBER, CASTER AND KINGPIN INCLINATION

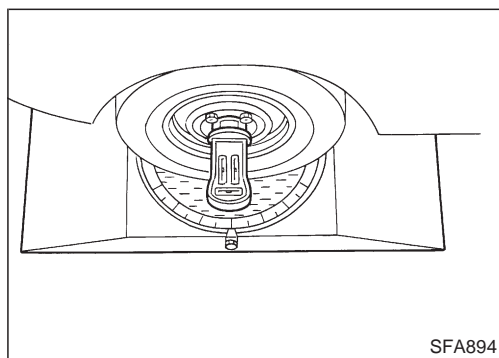
Camber, caster and kingpin inclination are preset at factory and cannot be adjusted.

1. Measure camber, caster and kingpin inclination of both right and left wheels with a suitable alignment gauge.

Camber, Caster and Kingpin inclination:

Refer to SDS (FA-27).

2. If camber, caster or kingpin inclination is not within specification, inspect front suspension parts. Replace damaged or worn out parts.



ON-VEHICLE SERVICE

Front Wheel Alignment (Cont'd)

TOE-IN

Measure toe-in using the following procedure.

WARNING:

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

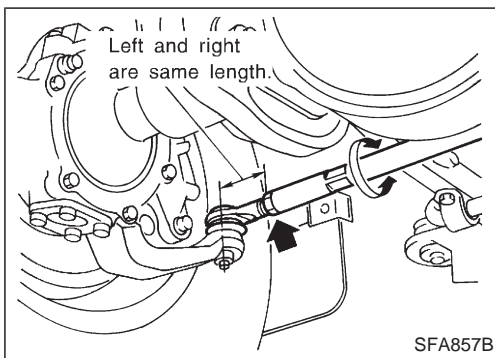
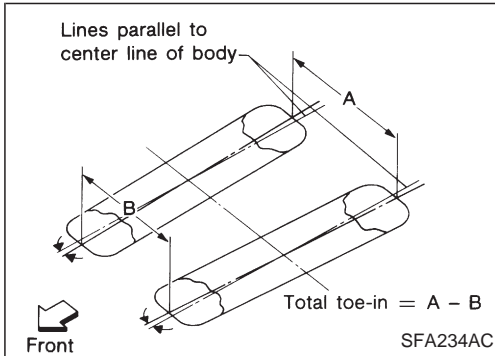
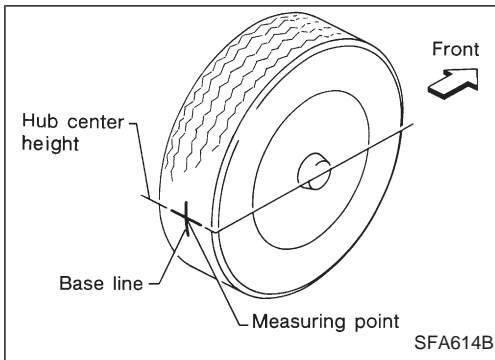
1. Bounce front of vehicle up and down to stabilize the posture.
2. Push the vehicle straight ahead about 5 m (16 ft).
3. Put a mark on base line of the tread (rear side) of both tires at the same height of hub center. This mark is a measuring point.
4. Measure distance "A" (rear side).
5. Push the vehicle 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 (FA-27).

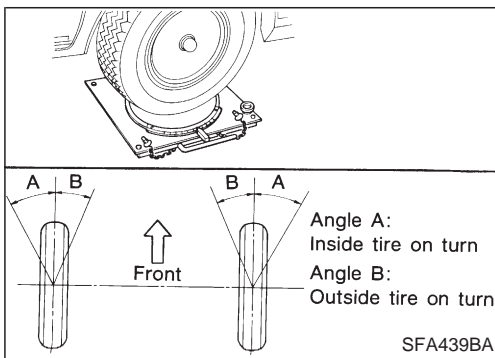


7. Adjust toe-in by varying the length of steering tie-rod.

- (1) Loosen lock nuts.
- (2) Adjust toe-in by screwing tie-rod in and out. Make sure both tie-rods are the same length.
- (3) Tighten lock nuts to specified torque.

Lock nut tightening torque:

Refer to ST section ("POWER STEERING GEAR AND LINKAGE").



FRONT WHEEL TURNING ANGLE

Turning angle is set by stroke length of steering gear rack and cannot be adjusted.

1. Set wheels in straight-ahead position. Then move vehicle forward until front wheels rest on turning radius gauge properly.
2. Rotate steering wheel all the way right and left; measure turning angle.

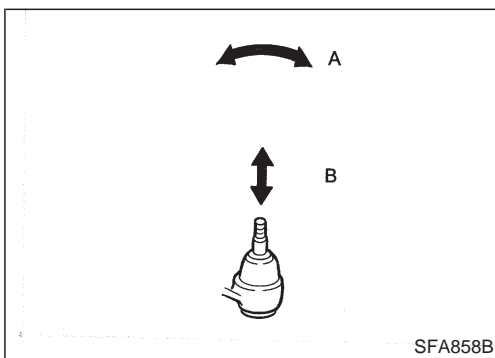
Do not hold the steering wheel on full lock for more than 15 seconds.

Wheel turning angle (Full turn):

Refer to SDS (FA-27).

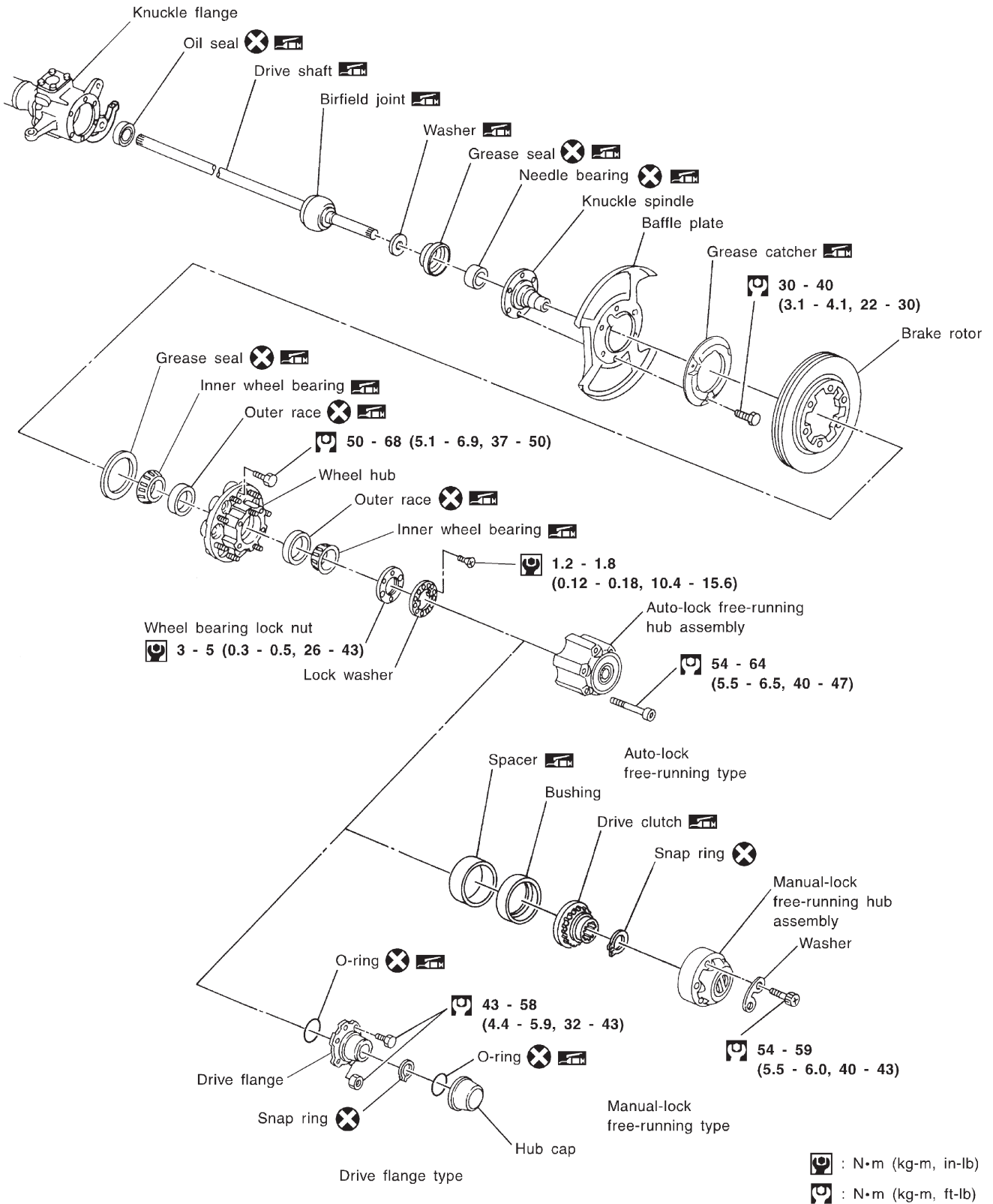
3. Adjust by stopper bolt if necessary.

⚙️: 30 - 40 N·m (3.1 - 4.1 kg·m, 22 - 30 ft·lb)



FRONT AXLE — Drive flange and Free-running Hub

SEC. 391•400




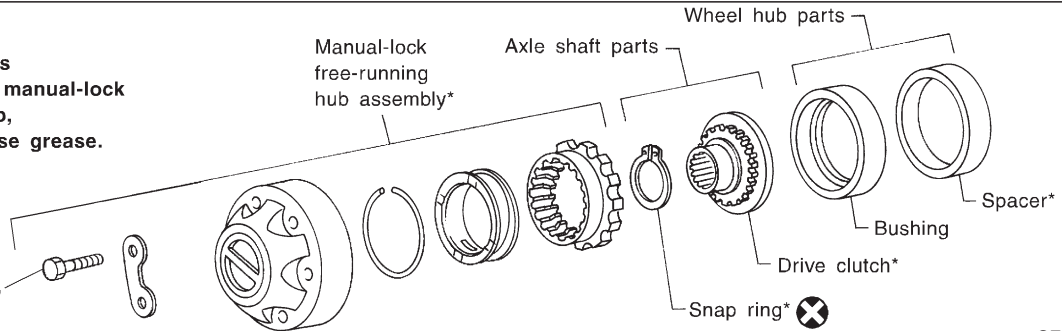
SFA859B

FRONT AXLE — Manual-lock Free-running Hub

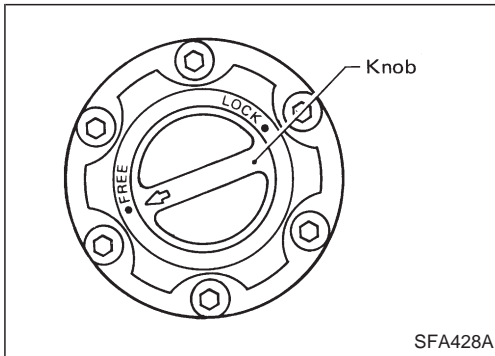
SEC. 400

* : Lubricating parts
When installing manual-lock free-running hub, use multi-purpose grease.

 54 - 64 N•m
(5.5 - 6.5 kg-m,
40 - 47 ft-lb)

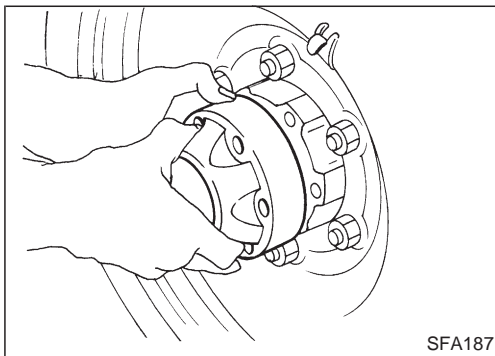


SFA427AA

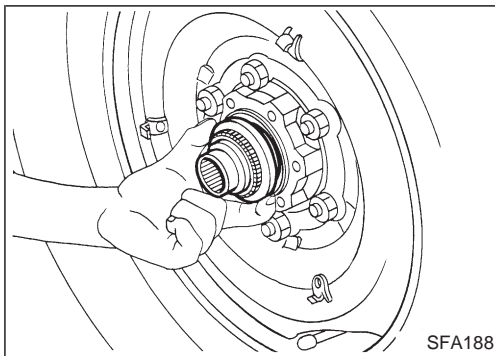


Removal

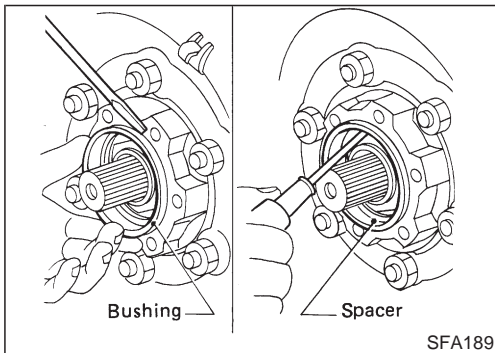
1. Set knob of manual-lock free-running hub to the "FREE" position.



2. Loosen bolts and remove free-running hub assembly.

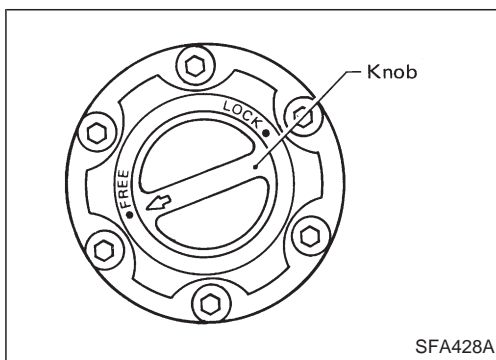
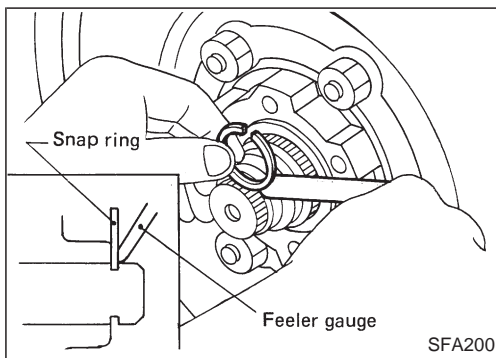
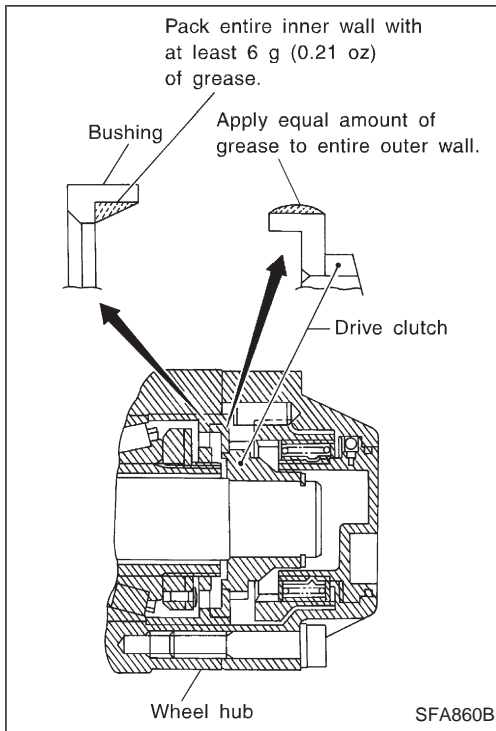


3. Remove snap ring and take off drive clutch.



4. Take out bushing and spacer from wheel hub.

FRONT AXLE — Manual-lock Free-running Hub



Installation

Install free-running hub in the reverse order of removal.

Apply multi-purpose grease to bushing and drive clutch before installing on wheel hub and axle shaft, respectively.

- Install drive clutch.
- Place snap ring in drive shaft groove.

Axial end play:

0.4 mm (0.016 in) or less

Snap ring size:

Refer to SDS.

- When installing manual-lock free-running hub, make sure the position "FREE".

Apply multi-purpose grease to drive shaft end.

- Check operation of manual-lock free-running hub after installing it.

Inspection


- Check that hub moves smoothly and freely.
- Check that clutch moves smoothly in the body.

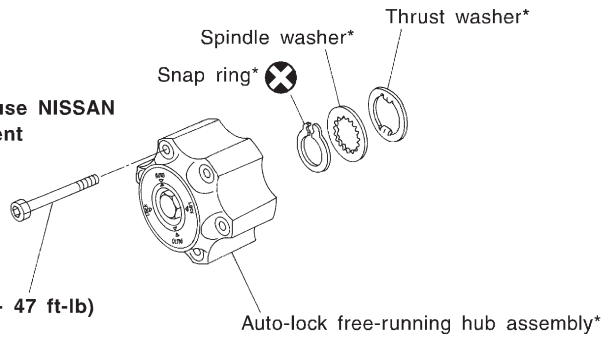
FRONT AXLE — Auto-lock Free-running Hub

SEC. 400

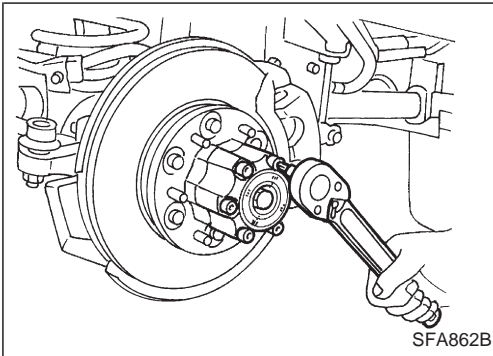
* : Lubricating parts

When installing auto-lock free-running hub, use **NISSAN GENUINE GREASE (KRC19-00025)** or equivalent grease.

 **54 - 64 N•m**
(5.5 - 6.5 kg-m, 40 - 47 ft-lb)



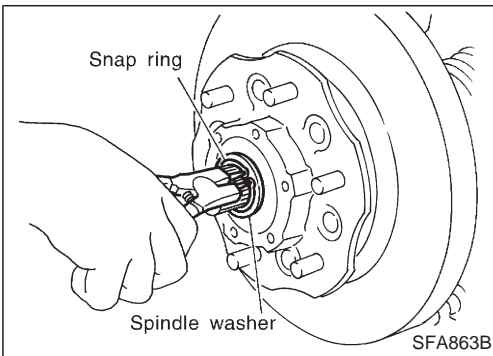
SFA861B



SFA862B

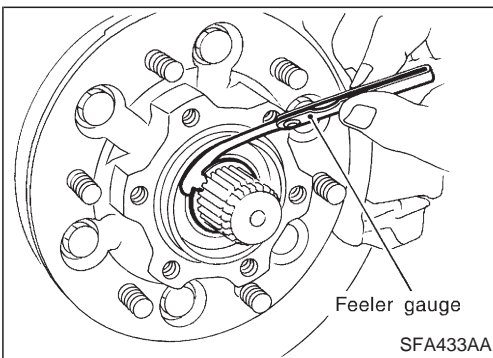
Removal

1. Set the auto-lock free-running hub at the condition "LOCK".
2. Remove auto-lock free-running hub assembly.



SFA863B

3. Remove snap ring.
 4. Remove spindle washer and thrust washer.
 5. After installing auto-lock free-running hub, check operation of it.
- When installing it, apply recommended grease to drive shaft end.**



SFA433AA

Installation

1. When installing hub's mating parts (such as thrust washer and spindle washer) on drive shaft, select suitable snap ring so that end play between drive shaft and its mating parts is within specifications.

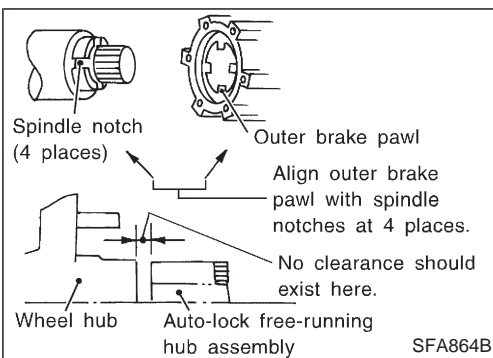
Axial end play:

0.4 mm (0.016 in) or less

Snap ring size:

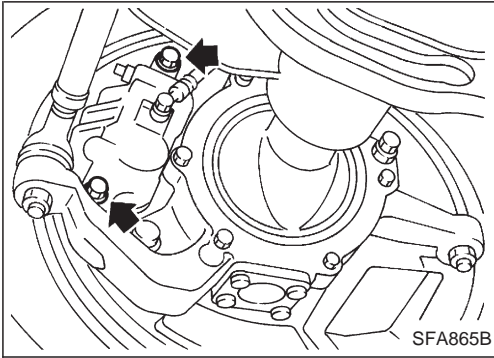
Refer to SDS.

2. Install auto-lock free-running hub assembly to wheel hub.
 - When installing auto-lock free-running hub assembly, be sure to align outer brake pawl with notch in spindle.
 - After inserting auto-lock free-running hub assembly into bore in wheel hub, make sure there is no clearance between hub assembly and wheel hub. If clearance exists, the cause may be one of the following:
 - (1) Hub assembly is set in "LOCK" position.
 - (2) Outer brake pawl is not aligned with notch in spindle.



SFA864B

FRONT AXLE — Wheel Hub and Rotor Disc



Removal and Installation

CAUTION:

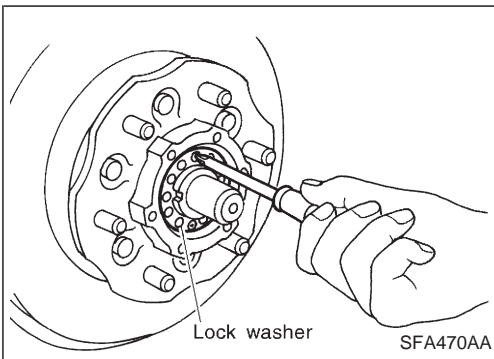
Before removing the front axle assembly, disconnect the ABS wheel sensor from the assembly. Then move it away from the front axle assembly area. Failure to do so may result in damage to the sensor wires and the sensor becoming inoperative.

1. Remove free-running hub assembly.
Refer to FRONT AXLE — Auto-lock or Manual-lock Free-running Hub.
2. Remove brake caliper assembly.

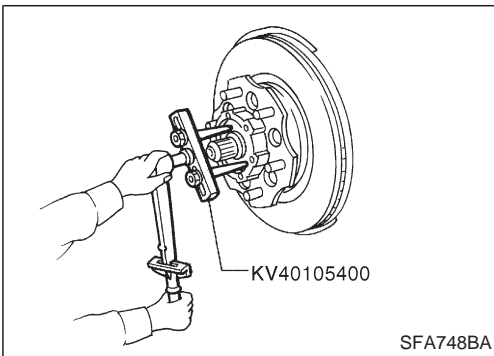
Brake hose need not be disconnected from brake caliper. In this case, suspend caliper assembly with wire so as not to stretch brake hose.

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

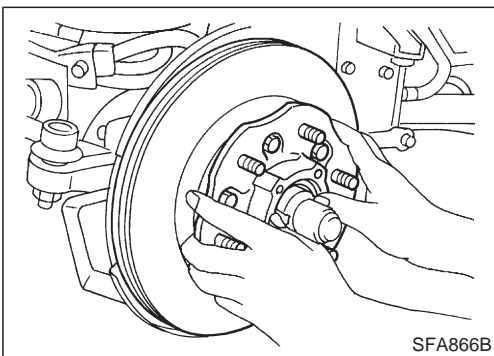
3. Remove ABS sensor.



4. Remove lock washer.



5. Remove wheel bearing lock nut with Tool.



6. Remove wheel hub and wheel bearing.

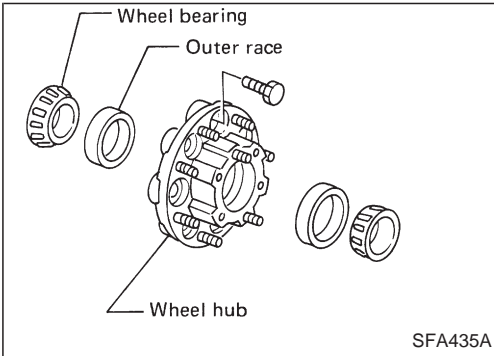
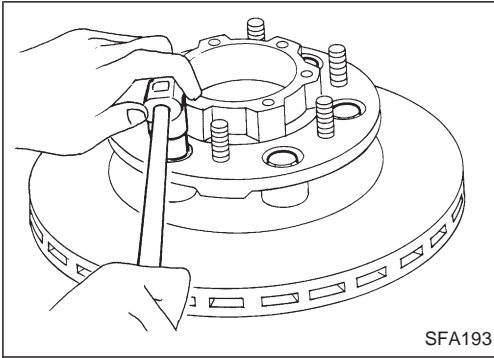
Be careful not to drop outer bearing.

7. After installing wheel hub and wheel bearing, adjust wheel bearing preload.
Refer to "Front Wheel Bearing", "ON-VEHICLE SERVICE", FA-5.

FRONT AXLE — Wheel Hub and Rotor Disc

Removal and Installation (Cont'd)

8. Separate brake disc to hub.



Inspection

Thoroughly clean wheel bearings and wheel hub.

WHEEL BEARING

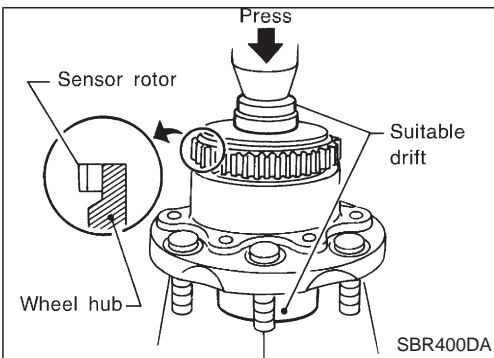
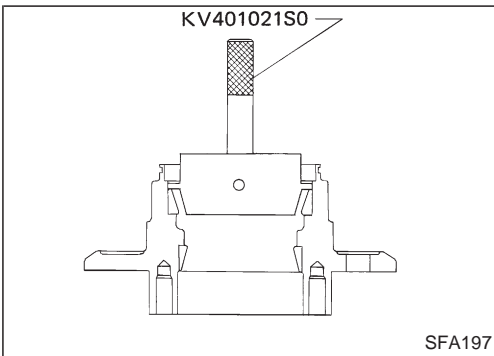
- Make sure wheel bearing rolls freely and is free from noise, crack, pitting or wear.

WHEEL HUB

- Check wheel hub for crack by using a magnetic exploration or dyeing test.

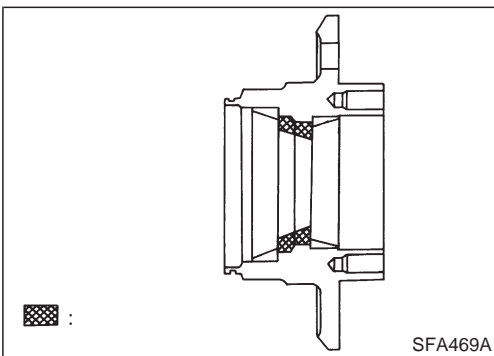
Assembly

1. Install bearing outer race with Tool until it seats in hub.



2. Install the sensor rotor using suitable drift and press. (Models with ABS)
Always replace sensor rotor with new one.
Pay attention to the direction of front sensor rotor as shown in figure.

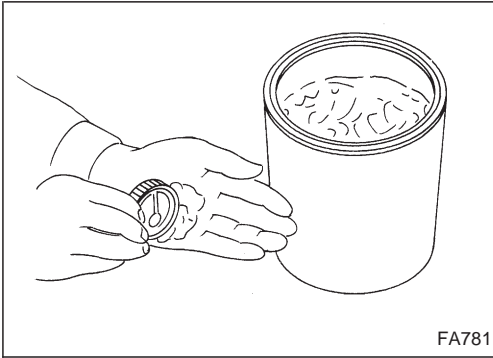
3. Pack multi-purpose grease to hub and hub cap.



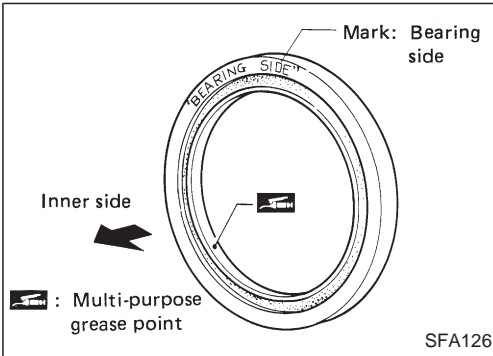
FRONT AXLE — Wheel Hub and Rotor Disc

Assembly (Cont'd)


4. Apply multi-purpose grease to each bearing cone.

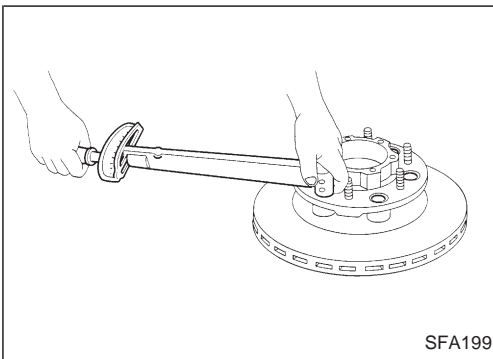


5. Pack grease seal lip with multi-purpose grease, then install it into wheel hub with suitable drift.



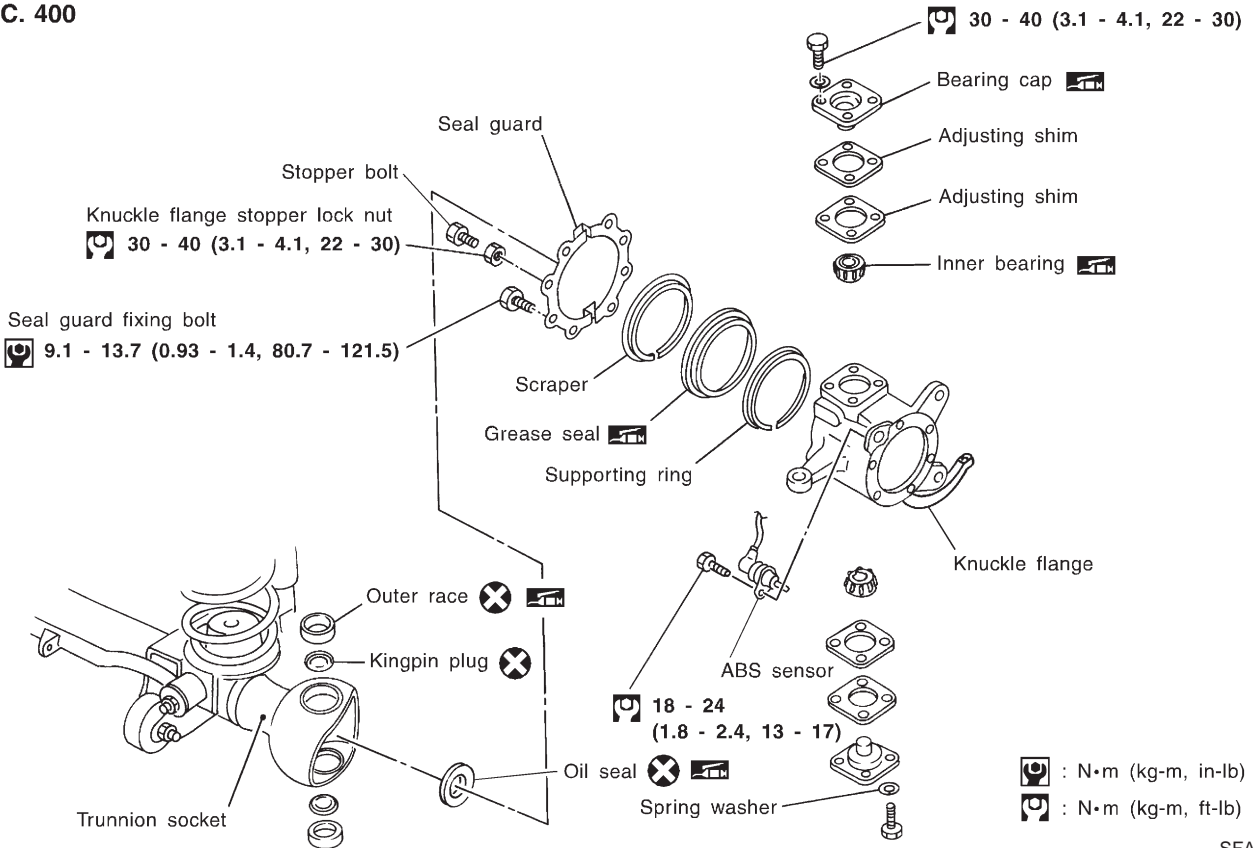
6. Install hub to brake rotor.

: 50 - 68 N·m (5.1 - 6.9 kg-m, 37 - 50 ft-lb)

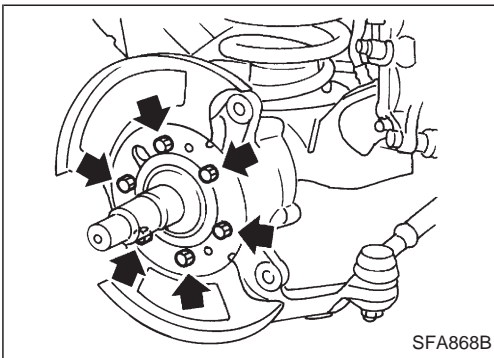


FRONT AXLE — Knuckle Flange

SEC. 400



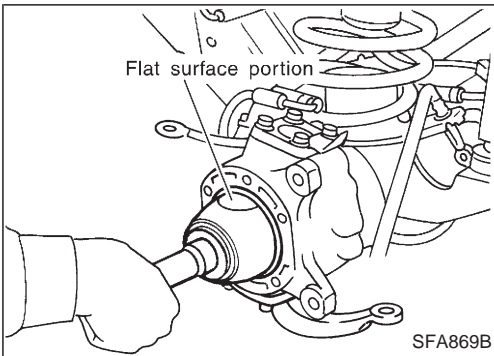
SFA867B



Removal

Drain differential oil completely prior to removal.

1. Remove baffle plate and knuckle spindle.



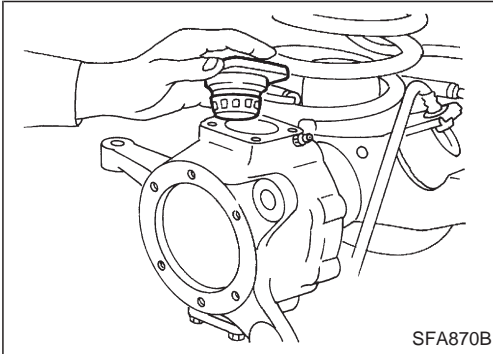
2. Draw out drive shaft.

Draw out to remove the drive shaft in the axial direction with the flat surface facing up.

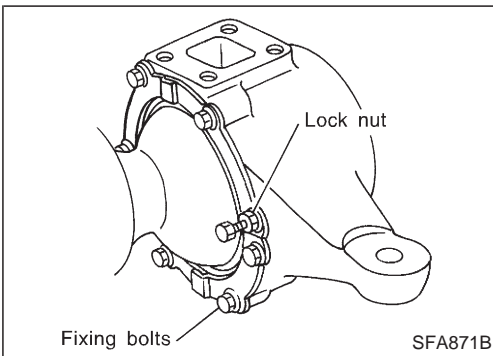
FRONT AXLE — Knuckle Flange

Removal (Cont'd)

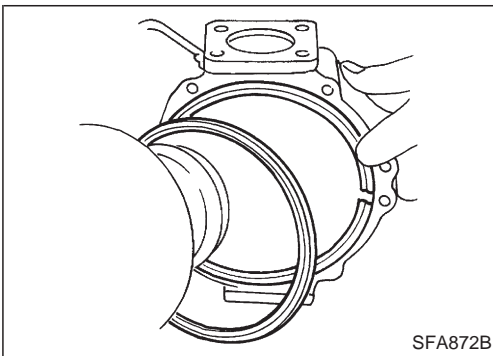
3. Disconnect tie-rod ends.
Refer to ST section.



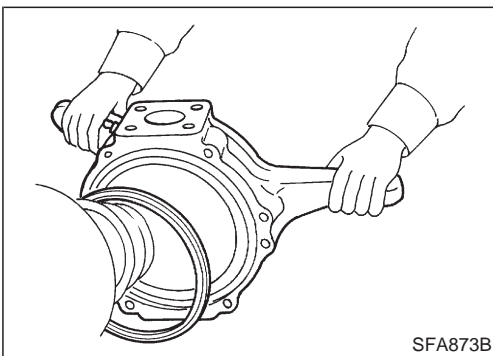
4. Remove upper and lower bearing caps with inner bearing and O-ring.



5. Remove seal guard fixing bolts.



6. Remove seal guard.
Separate scraper, grease seal and supporting ring from knuckle flange.

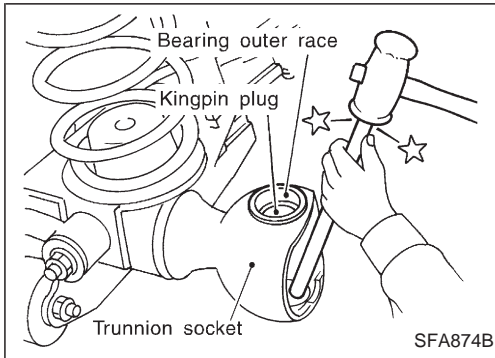


7. Remove knuckle flange, supporting ring, grease seal and scraper from axle case.

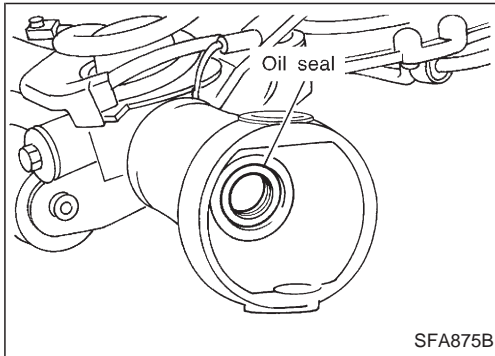
FRONT AXLE — Knuckle Flange

Removal (Cont'd)

8. Remove bearing outer race and kingpin plug.



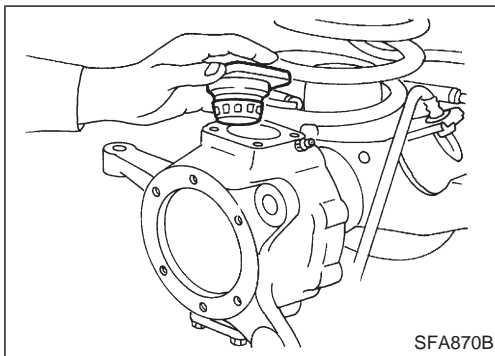
9. Remove oil seal from axle shaft.



Inspection

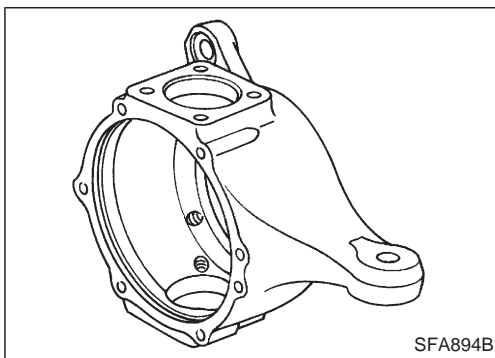
KNUCKLE FLANGE BEARING CAP

Replace knuckle flange bearing if it is worn, pitted or corroded.



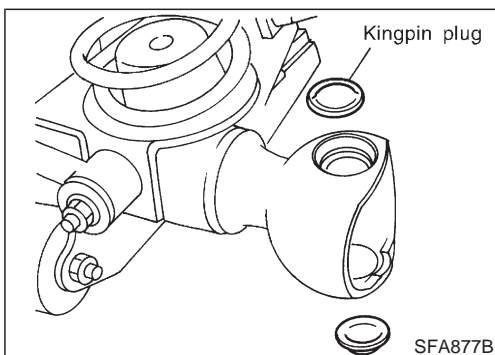
KNUCKLE FLANGE

Replace knuckle flange if it is cracked.



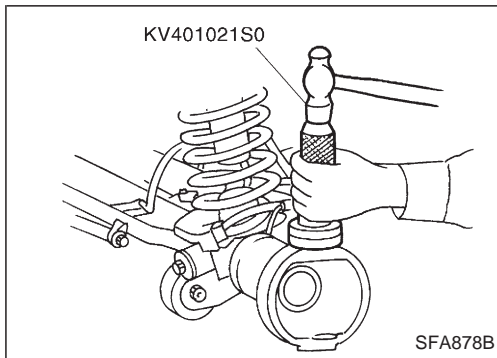
Installation

1. Check kingpin plug for damage before installing. If damaged, use a new one.

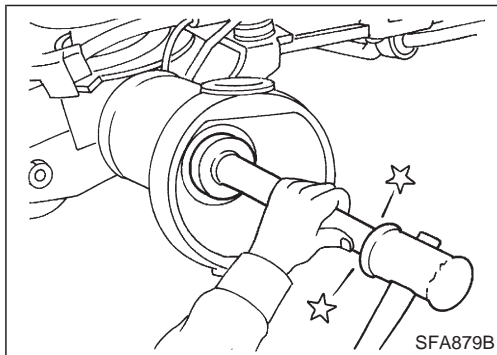


FRONT AXLE — Knuckle Flange

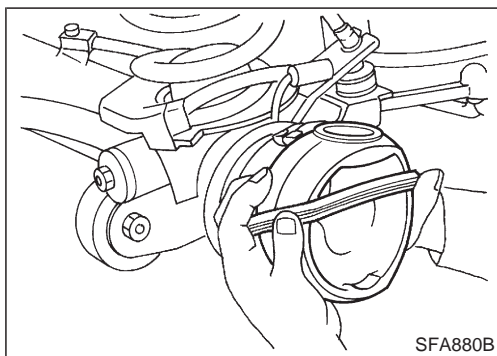
Installation (Cont'd)



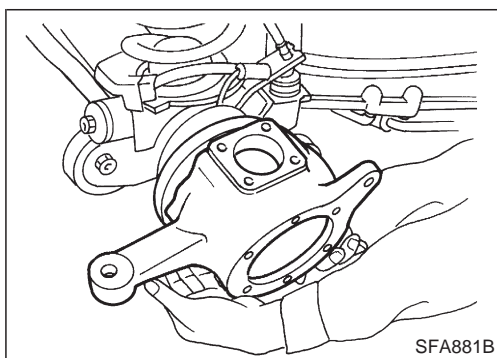
- Using Tool, place bearing outer race in trunnion socket.



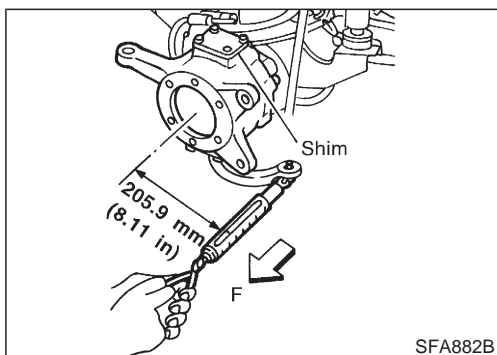
- Install oil seal with tool.



- Place scraper, grease seal and supporting ring in axle case. Grease lip and circumference seals in axle case.



- Apply recommended grease around trunnion socket spherical area, then place knuckle flange in trunnion socket.

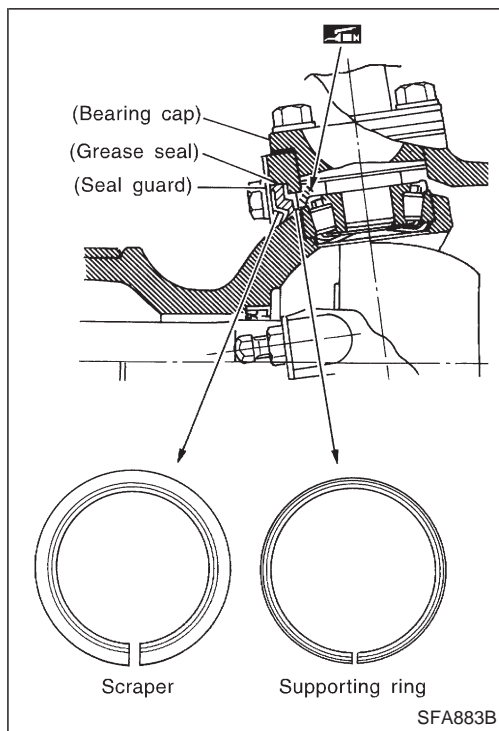


- Adjust rotating force of knuckle flange (at hinge pin) to 4.9 to 14.7 N (0.5 to 1.5 kg, 1.1 to 3.3 lb) range by adding or removing upper and lower shims of same thickness. This adjustment must be made without installing grease seal and axle shaft.

Shim thicknesses: Refer to SDS.

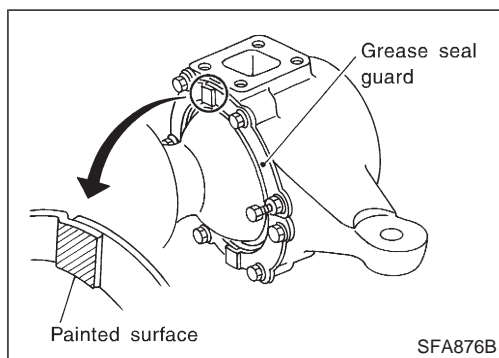
FRONT AXLE — Knuckle Flange

Installation (Cont'd)

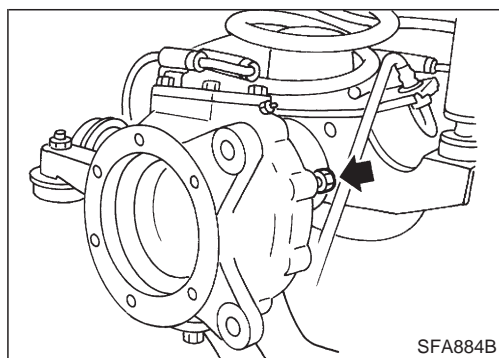


7. Install bearing cap with inner bearing and adjusting shim. Before installing seal guard, scraper, grease seal and supporting ring (as a unit), apply approx. 50 g (1.76 oz) of wheel bearing grease to perimeters shown in figure at left.

Slits located in scraper and supporting ring should point straight downward when installed.

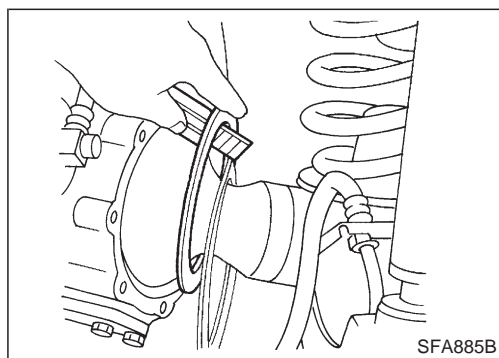


8. When installing grease seal guard, adjust so painted surface is visible.



Install knuckle flange stopper bolt and nut on stopper side of axle case.

After installing tie rod, adjust it to specified steering angle using turning radius gauge, then tighten with lock nut.



Knuckle Flange Grease Seal

To replace only knuckle flange grease seal, proceed as follows.

REMOVAL

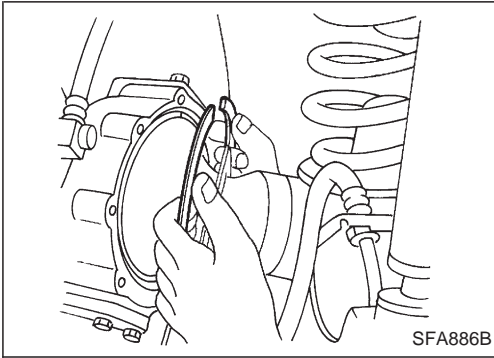
1. Turn steering wheel to both the extreme right and left, and remove grease seal guard and scraper from knuckle flange.
2. Extract grease seal and remove it by cutting it from axle case.

FRONT AXLE — Knuckle Flange

Knuckle Flange Grease Seal (Cont'd)

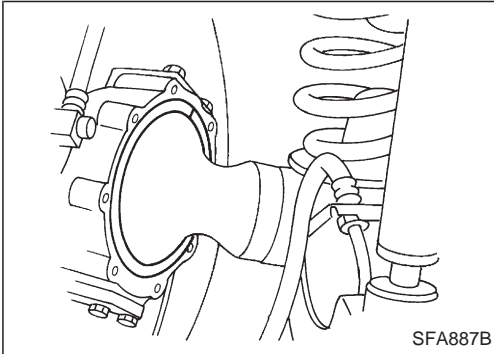
INSTALLATION

1. Cut off a part of new grease seal and fill lip portion with grease. Then insert grease seal into axle case.
Cut grease seal so that cut surface is straight.



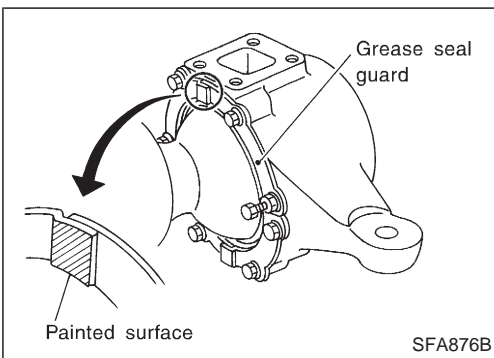
2. Apply adhesive to cut surface of grease seal. Install grease seal so that its cut surface is above knuckle flange.

Be sure not to allow adhesive to protrude beyond cut surface of grease seal.

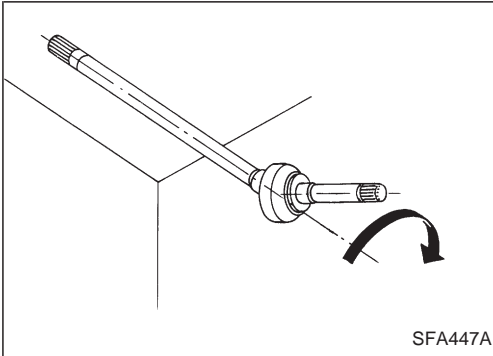


3. Install scraper and grease seal guard on knuckle flange.
After replacing grease seal, adjust steering wheel to specified turning angle with a turning radius gauge. Then tighten lock nut.

4. When installing grease seal guard, adjust so painted surface is visible.

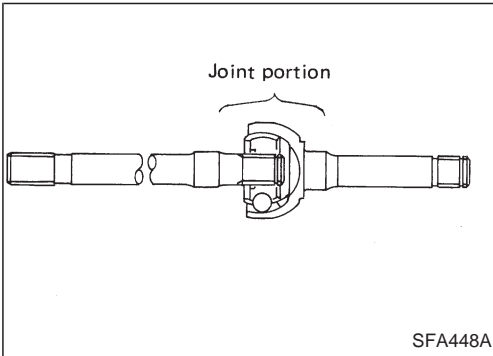


FRONT AXLE — Drive Shaft



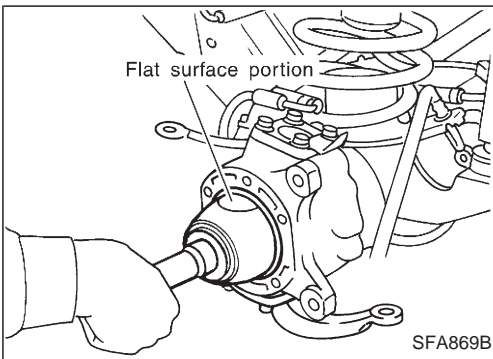
Inspection

Check wheel shaft for signs of binding when turned in a twisting motion. Also check for cracks or damage.



Installation

- Before positioning drive shaft in axle case, pack shaft joint with recommended grease. Refer to MA section (“Fluids and Lubricants”, “RECOMMENDED FLUIDS AND LUBRICANTS”).

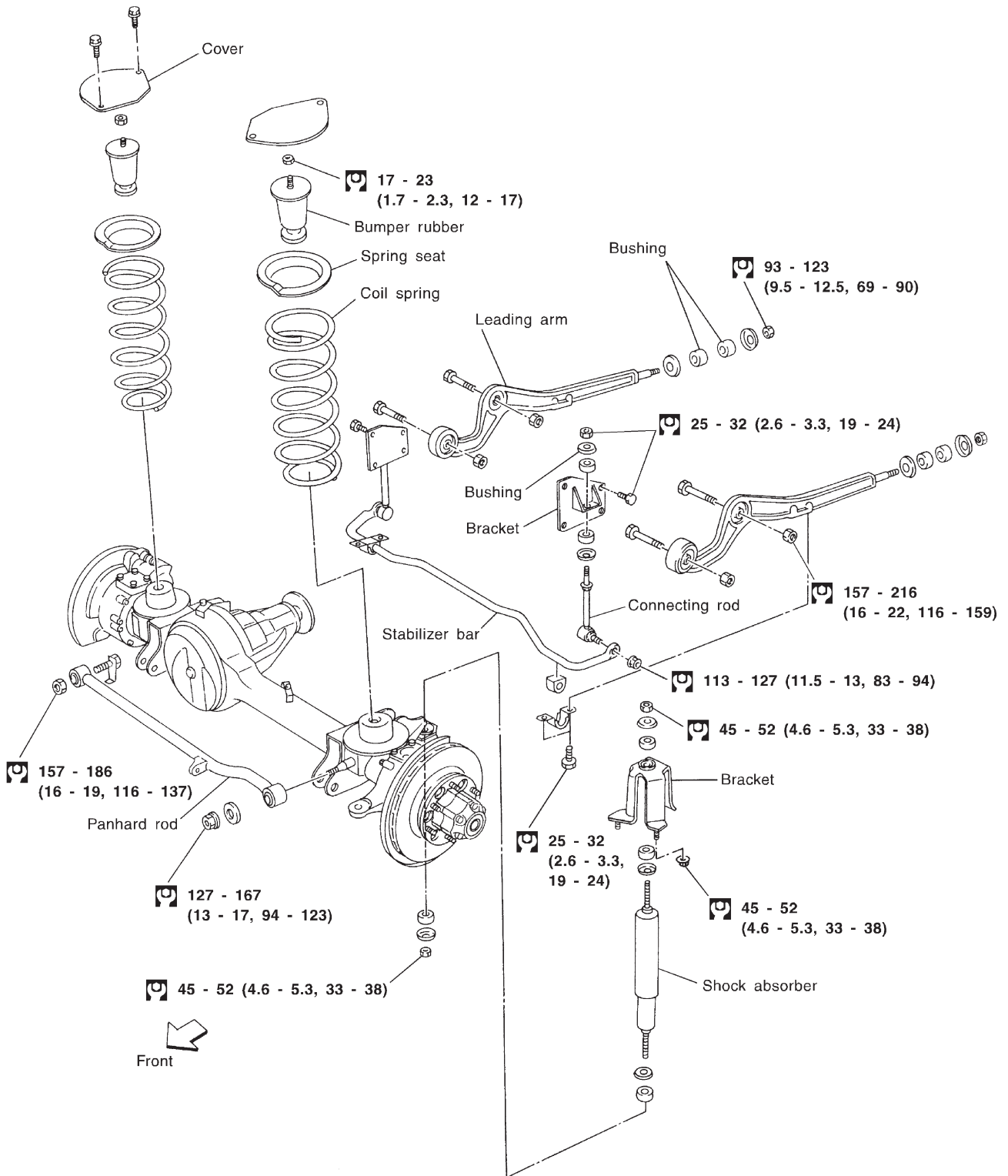


- Install drive shaft.

Insert the drive shaft with the flat surface facing up.

FRONT SUSPENSION

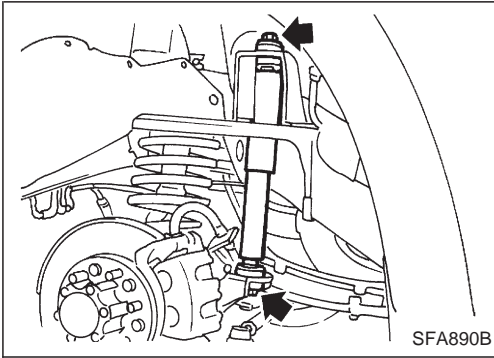
SEC. 401



: N·m (kg-m, ft-lb)

CAUTION: Always tighten bolts and nuts under no-load condition.

FRONT SUSPENSION



Shock Absorber

REMOVAL AND INSTALLATION

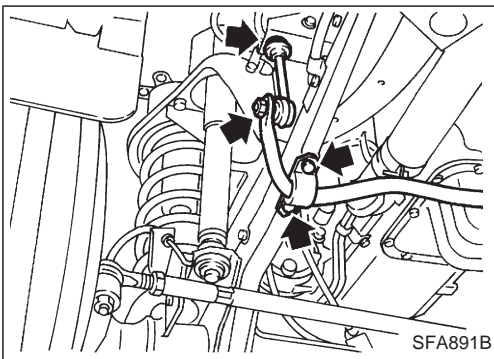
1. Support front axle case with jack.
2. Remove both upper and lower sides fixing nuts.

INSPECTION

Except for nonmetallic parts, clean all parts with suitable solvent and dry with compressed air.

Use compressed air to blow dirt and dust off of nonmetallic parts.

- Check for oil leakage and cracks. Replace if necessary.
- Check piston rod for cracks, deformation and other damage. Replace if necessary.
- Check rubber parts for wear, cracks, damage and deformation. Replace if necessary.



Stabilizer Bar

REMOVAL

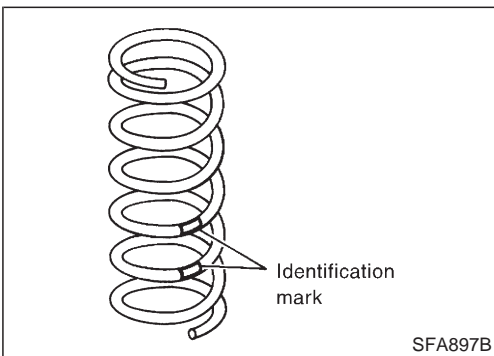
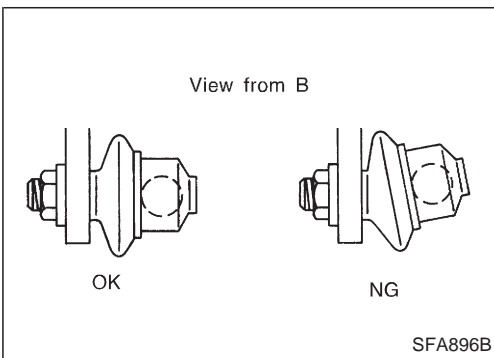
- Remove stabilizer bar connecting bolts and clamp bolts.

INSPECTION

- Check stabilizer bar for twist and deformation. Replace if necessary.
- Check rubber bushing for cracks, wear and deterioration. Replace if necessary.

INSTALLATION

- Install stabilizer bar with ball joint socket properly placed.



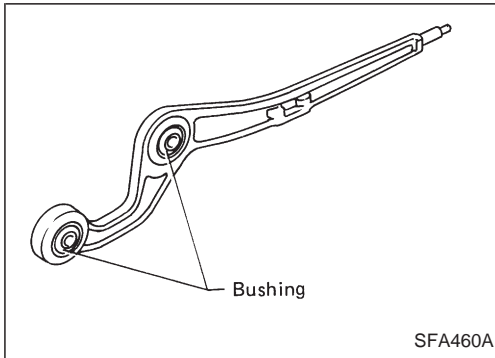
Coil Spring

INSPECTION

Visually check for cracks or damage. If faulty, replace.

Ensure that springs are installed correctly. Incorrect installation will cause vehicle not set in horizontal posture.

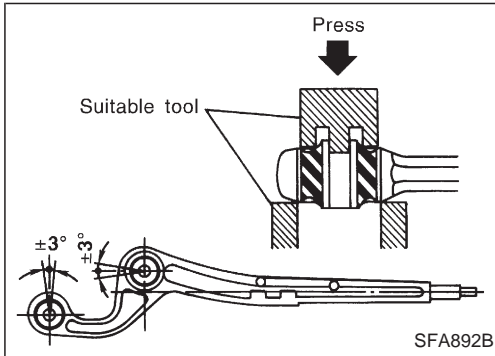
FRONT SUSPENSION



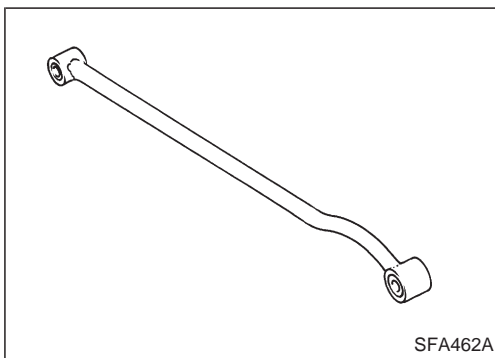
Leading Arm

INSPECTION

Check for cracks, bends or damage. Also check bushing.



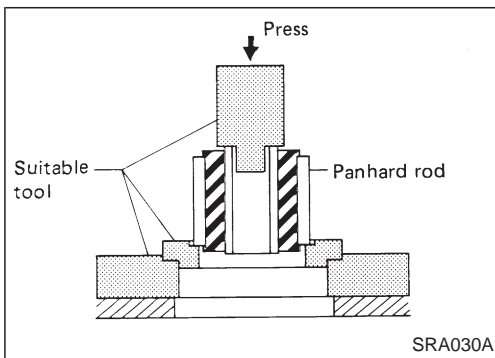
If bushing is faulty, replace it using suitable tool.
When installing bushing, make sure that it is positioned as shown.



Panhard Rod

INSPECTION

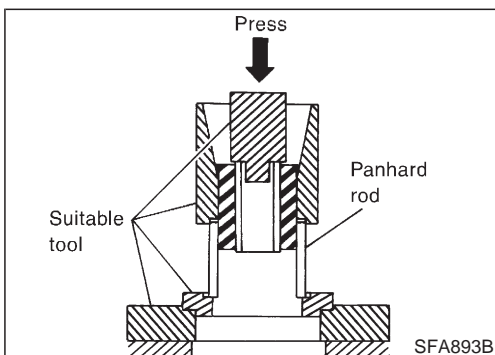
- Check for cracks or other damage. Replace if necessary.



Panhard rod bushing

Removal

- Using a press and suitable tool as shown in figure at left, remove bushing from vehicle side.
- Using a flat-bladed screwdriver, pry bushing out of axle case.



Installation

- Using suitable tool shown in figure at left, gradually press bushing into place.

Always install new bushing. Do not tap end face of bushing directly with a hammer. Apply soap water to outer wall of bushing before installation.

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

Suspension type	Rigid axle, leading arm and panhard rod with coil spring
Strut type	Double-acting hydraulic
Stabilizer bar	Standard equipment

Inspection and Adjustment

WHEEL ALIGNMENT (Unladen*1)

Applied model		Wagon	Hardtop			
Camber	Degree minute (Decimal degree)	Minimum	0° (0.00°)			
		Nominal	0°30' (0.50°)			
		Maximum	1°00' (1.00°)			
		Left and right difference	45' (0.75°) or less			
Caster	Degree minute (Decimal degree)	Minimum	3°00' (3.00°)	3°20' (3.33°)		
		Nominal	3°30' (3.50°)	3°50' (3.83°)		
		Maximum	4°00' (4.00°)	4°20' (4.33°)		
		Left and right difference	45' (0.75°) or less			
Kingpin inclination	Degree minute (Decimal degree)	Minimum	13°45' (13.75°)			
		Nominal	14°30' (14.50°)			
		Maximum	15°15' (15.25°)			
Total toe-in	Distance (A – B) mm (in)	Minimum	0 (0)			
		Nominal	1 (0.04)			
		Maximum	2 (0.08)			
	Angle (left plus right)	Degree minute (Decimal degree)	Minimum	0' (0.00°)		
			Nominal	5' (0.08°)		
			Maximum	10' (0.17°)		
Wheel turning angle	Inside	Degree minute (Decimal degree)	Minimum	33°00' (33.00°)		
			Nominal	35°00' (35.00°)		
			Maximum	35°00' (35.00°)		
	Full turn*2	Outside	Degree minute (Decimal degree)	Minimum	29°00' (29.00°)	
				Nominal	31°00' (31.00°)	
				Maximum	31°00' (31.00°)	

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

*2: On power steering models, wheel turning force (at circumference of steering wheel) of 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine idle.

WHEEL RUNOUT AVERAGE*

Wheel type	Steel		Aluminum	
	6JJ-16	8JJ-16	6JJ-16	8JJ-16
Radial runout limit mm (in)	1.2 (0.047)	0.8 (0.031)	0.3 (0.012)	0.3 (0.012)
Lateral runout limit mm (in)	1.2 (0.047)	0.8 (0.031)	0.3 (0.012)	0.3 (0.012)

*: Wheel runout average = (Outside runout value + Inside runout value) x 0.5

SERVICE DATA AND SPECIFICATIONS (SDS)

Inspection and Adjustment (Cont'd)

WHEEL BEARING

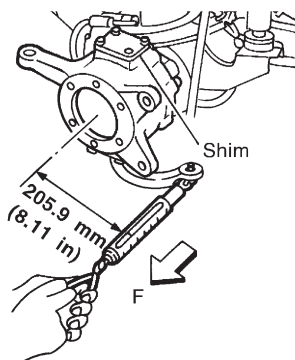
Wheel bearing axial end play mm (in)	0 (0)
Wheel bearing lock nuts	
Tightening torque N-m (kg-m, ft-lb)	167 - 196 (17 - 20, 123 - 145)
Retightening torque after untightened N-m (kg-m, in-lb)	3 - 5 (0.3 - 0.5, 26 - 43)
Measured starting force	
At wheel hub bolt N (kg, lb)	A
Turning adjusting nut in tightening direction and measuring starting force	
At wheel hub bolt N (kg, lb)	B
Calculated wheel bearing preload; B - A	
At wheel hub bolt N (kg, lb)	0 - 18.6 (0 - 1.9, 0 - 4.2)

DRIVE SHAFT

Birfield joint axial end play mm (in)	0 (0)	
Grease	Multi-purpose grease	
Type	Multi-purpose grease	
Capacity g (oz)	50 - 60 (1.76 - 2.12)	
Drive shaft axial end play mm (in)	0.4 (0.016) or less	
Adjusting snap rings mm (in)	Thickness	Part number
	1.1 (0.043)	39253-01J00
	1.3 (0.051)	39253-01J01
	1.5 (0.059)	39253-01J02
	1.7 (0.067)	39253-01J03
	1.9 (0.075)	39253-01J04
2.1 (0.083)	39253-01J05	

KNUCKLE FLANGE BEARING

Flange turning torque		
Without trunion seal and drive shaft N-m (kg-m, ft-lb)	1 - 3 (0.1 - 0.3, 0.7 - 2.2)	
At knuckle arm "F" N (kg, lb)	4.9 - 14.7 (0.5 - 1.5, 1.1 - 3.3)	
Adjusting shims mm (in)	Thickness	Part number
	0.075 (0.0030)	40606-44000
	0.127 (0.0050)	40605-44000
	0.254 (0.0100)	40604-44000
	0.500 (0.0197)	40571-01J00
	0.762 (0.0300)	40603-44000



SFA882B