

FRONT AXLE & FRONT SUSPENSION

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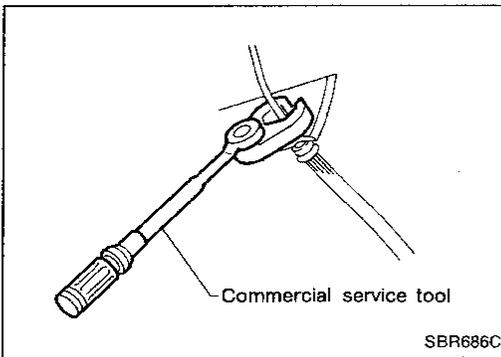
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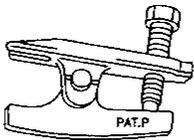
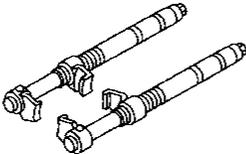
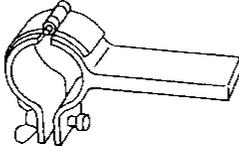
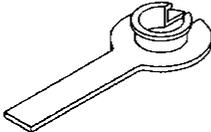
PRECAUTIONS AND PREPARATION



Precautions

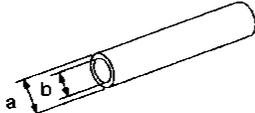
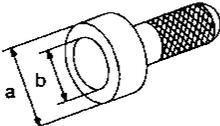
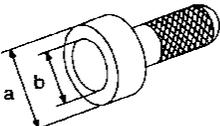
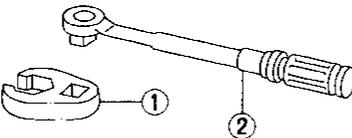
- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
- *: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- When removing each suspension part, check wheel alignment and adjust if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

Special Service Tools

Tool number (Kent-Moore No.) Tool name	Description	
HT72520000 (J25730-A) Ball joint remover	 NT146	Removing tie-rod outer end and lower ball joint
HT71780000 (—) Spring compressor	 NT144	Removing and installing coil spring
ST35652000 (—) Strut attachment	 NT145	Fixing strut assembly
KV38106700 (J34296) KV38106800 (J34297) Differential side oil seal protector	 NT147	Installing drive shaft LH: KV38106700 RH: KV38106800

PRECAUTIONS AND PREPARATION

Commercial Service Tools

Tool name	Description
Front wheel hub drift NT065	 <p data-bbox="1045 254 1273 279">Removing wheel hub</p> <p data-bbox="1045 365 1263 390">a: 42 mm (1.65 in) dia.</p> <p data-bbox="1045 394 1263 420">b: 33 mm (1.30 in) dia.</p>
Front wheel bearing outer race drift NT115	 <p data-bbox="1045 451 1468 506">Removing and installing wheel bearing outer race</p> <p data-bbox="1045 569 1263 594">a: 76 mm (2.99 in) dia.</p> <p data-bbox="1045 598 1263 623">b: 72 mm (2.83 in) dia.</p>
Grease seal drift NT115	 <p data-bbox="1045 644 1338 669">Installing outer grease seal</p> <p data-bbox="1045 753 1263 779">a: 81 mm (3.19 in) dia.</p> <p data-bbox="1045 783 1263 808">b: 76 mm (2.99 in) dia.</p>
① Flare nut crows foot ② Torque wrench NT223	 <p data-bbox="1045 840 1446 865">Removing and installing brake piping</p>

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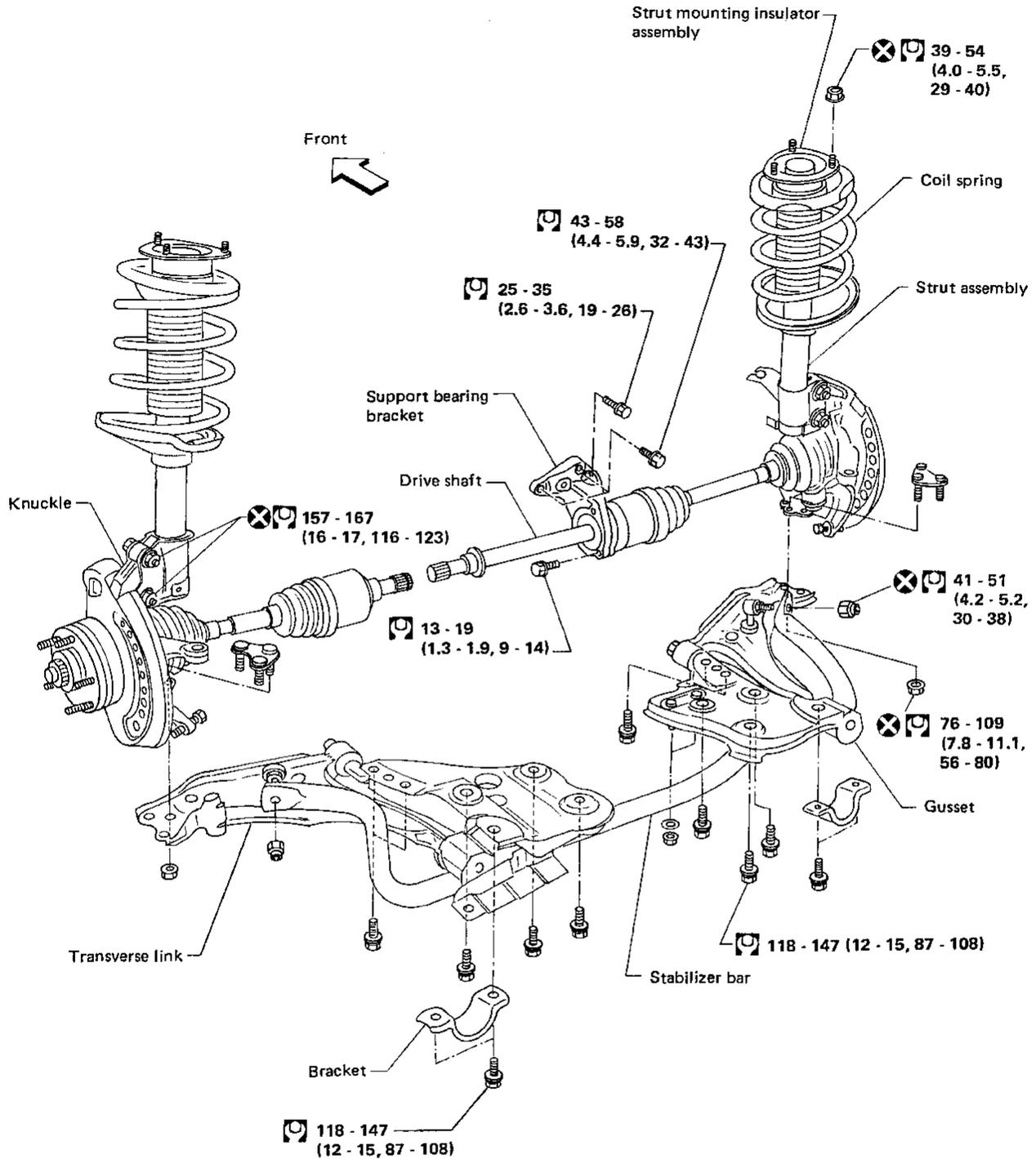
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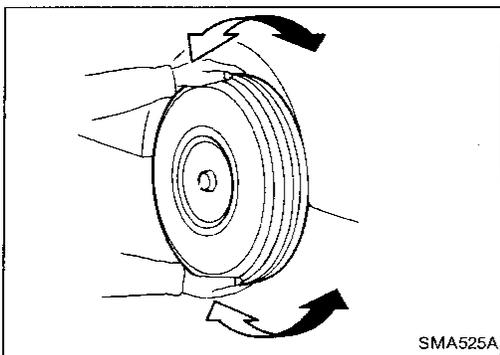
FRONT AXLE AND FRONT SUSPENSION



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.

: N-m (kg-m, ft-lb)



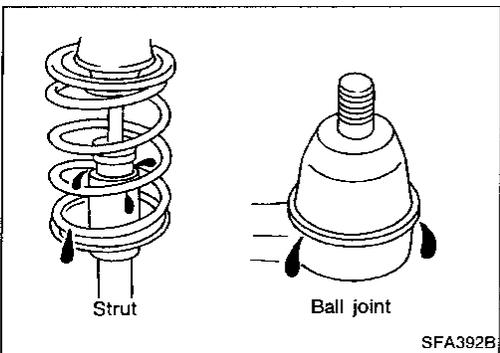
Front Axle and Front Suspension Parts

Check front axle and front suspension parts for looseness, cracks, wear or other damage.

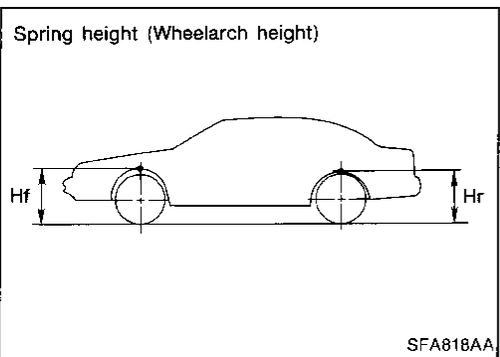
- Shake each front wheel to check for excessive play.
- Make sure that cotter pins are inserted.
- Retighten all axle and suspension nuts and bolts to the specified torque.

Tightening torque:

Refer to FRONT SUSPENSION. (FA-19)



- Check strut (shock absorber) for oil leakage or other damage.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks or other damage.



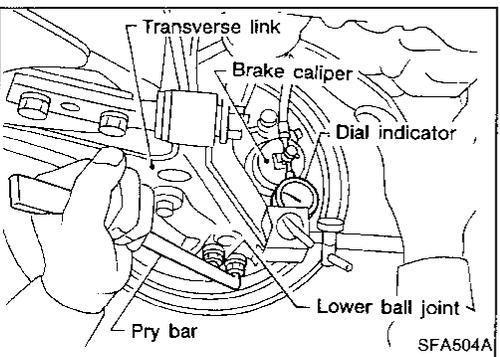
- Check spring height from top of wheelarch to ground.
- (1) Vehicle must be unladen*, parked on a level surface, and tires checked for proper inflation and wear (tread wear indicator must not be showing).

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

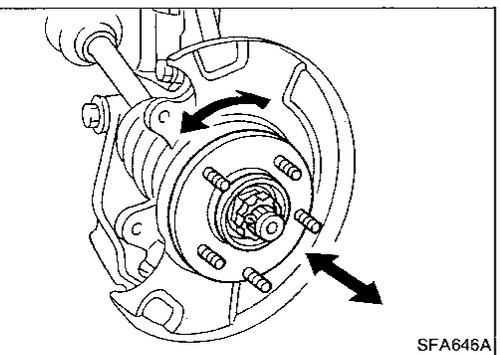
- (2) Bounce vehicle up and down several times before measuring.

Standard height: Refer to SDS. (FA-24)

- (3) Spring height is not adjustable. If out of specification, check for worn springs or suspension parts.



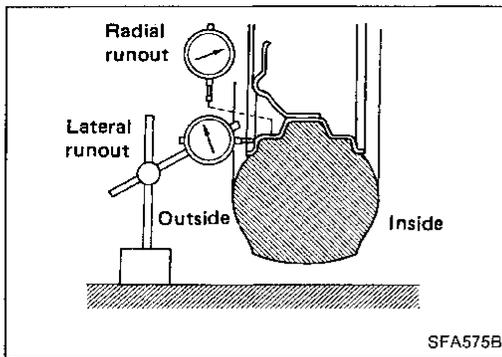
- Check suspension ball joint end play.
- (1) Jack up front of vehicle and set the stands.
- (2) Clamp dial indicator onto transverse link and place indicator tip on lower edge of brake caliper.
- (3) Make sure front wheels are straight and brake pedal is depressed.
- (4) Place a pry bar between transverse link and inner rim of road wheel.
- (5) While raising and releasing pry bar, observe maximum dial indicator value. **Vertical end play: 0 mm (0 in)**
- (6) If ball joint movement is beyond specifications, replace it.



Front Wheel Bearing

- Check that wheel bearings operate smoothly.
- Check axial end play.
- Axial end play: 0.05 mm (0.0020 in) or less**
- If axial end play is not within specification or wheel bearing does not turn smoothly, replace wheel bearing assembly.

Refer to FRONT AXLE — Wheel Hub and Knuckle. (FA-8)



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.

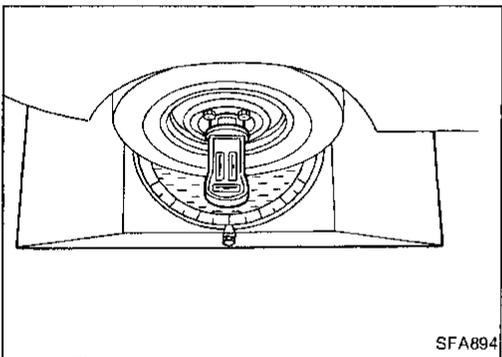
PRELIMINARY INSPECTION

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

Wheel runout:

Refer to SDS. (FA-25)

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



CAMBER, CASTER AND KINGPIN INCLINATION

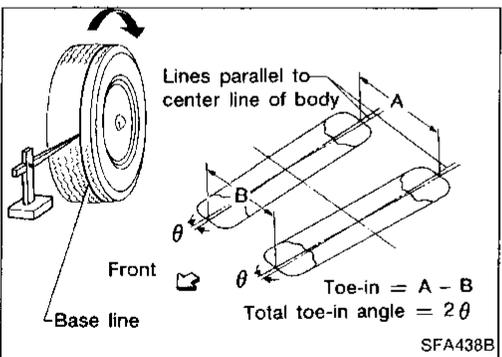
Camber, caster and kingpin inclination are preset at factory and cannot be adjusted.

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-25)

2. If camber, caster and kingpin inclination are not within specification, inspect and replace any damaged or worn front suspension parts.

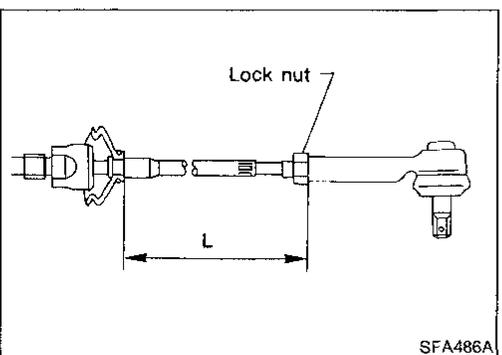


TOE-IN

1. Draw a base line across the tread.
 - After lowering front of vehicle, move it up and down to eliminate friction, and set steering wheel in straight-ahead position.
2. Measure toe-in.
 - Measure distance "A" and "B" at the same height as hub center.

Toe-in:

Refer to SDS. (FA-25)



3. Adjust toe-in by varying the length of steering tie-rods.

- (1) Loosen lock nuts.
- (2) Adjust toe-in by screwing tie-rods in and out.

Standard length "L":

Refer to ST section.

- (3) Tighten lock nuts to specified torque.

Lock nut tightening torque:

Refer to ST section.

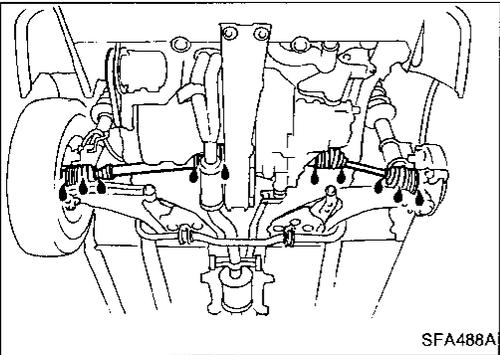
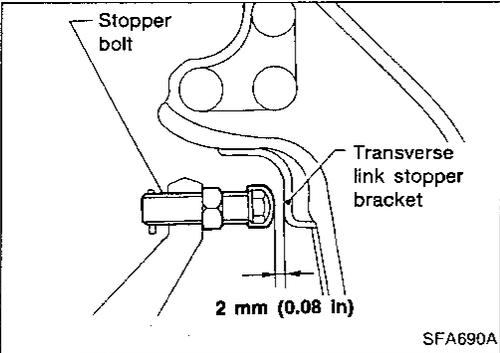
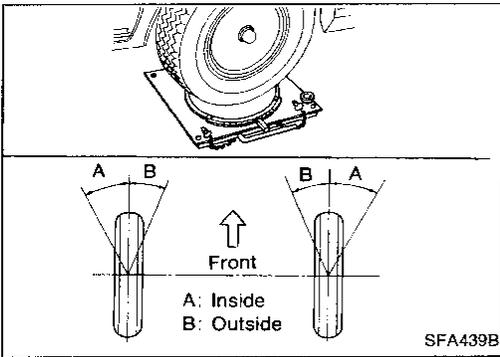
ON-VEHICLE SERVICE

Front Wheel Alignment (Cont'd)

FRONT WHEEL TURNING ANGLE

1. Set wheels in straight-ahead position and 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.

Wheel turning angle (Full turn): Refer to SDS. (FA-25)



3. Adjust with stopper bolt if necessary.

Stopper bolt lock nut tightening torque:

54 - 72 N·m (5.5 - 7.3 kg-m, 40 - 53 ft-lb)

Drive Shaft

- Check for grease leakage or other damage.

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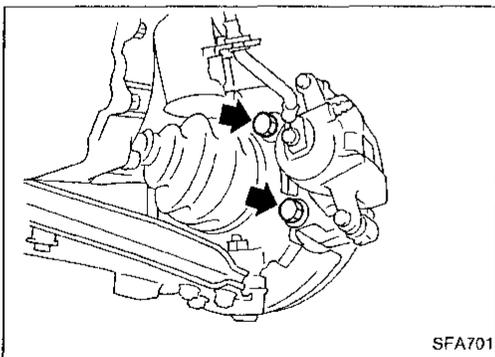
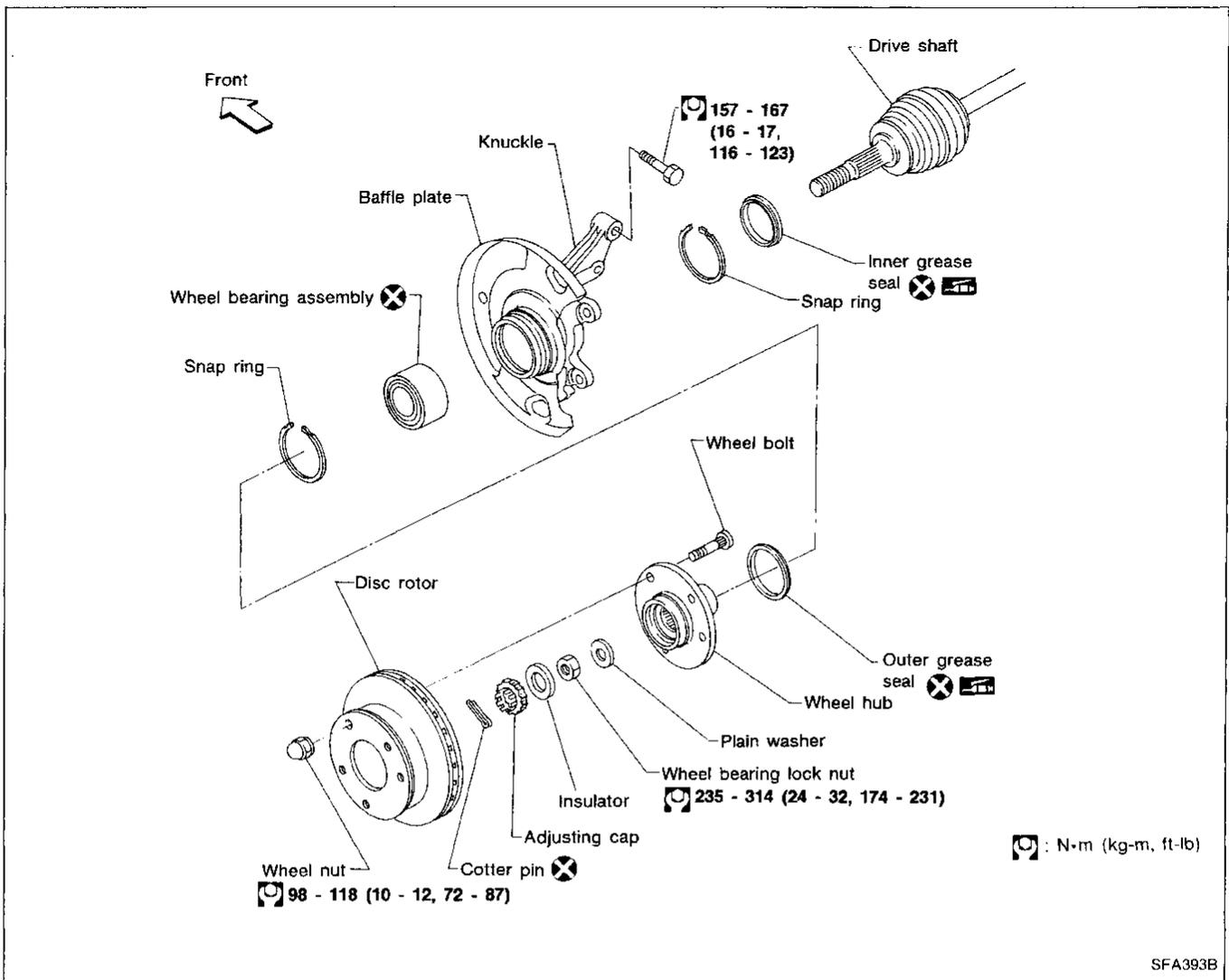
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FRONT AXLE



Wheel Hub and Knuckle

REMOVAL

CAUTION:

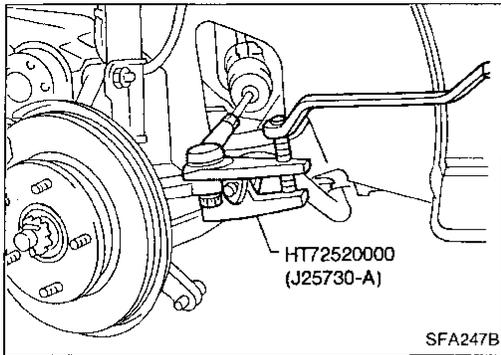
Before removing the front wheel hub assembly, disconnect the ABS wheel sensor from the assembly and move it away from the hub assembly. Failure to do so may result in damage to the sensor wires and the sensor becoming inoperative.

- Remove wheel bearing lock nut.
- Remove brake caliper assembly.

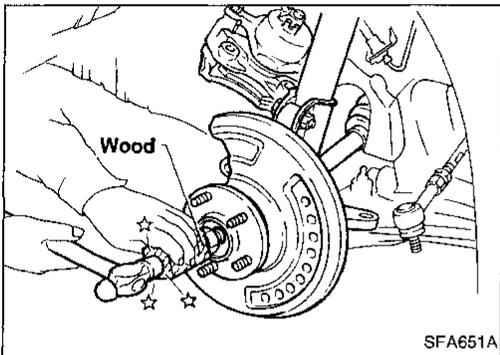
Brake hose need not be disconnected from brake caliper. Be careful not to depress brake pedal, or piston will pop out. Make sure brake hose is not twisted. Refer to BR section.

FRONT AXLE

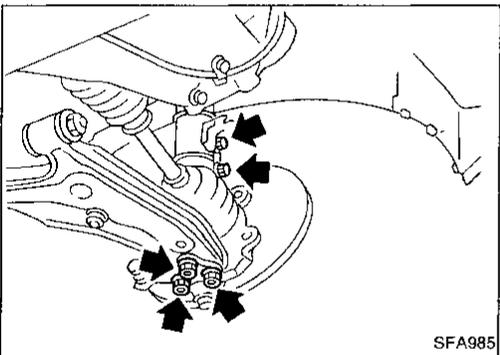
Wheel Hub and Knuckle (Cont'd)



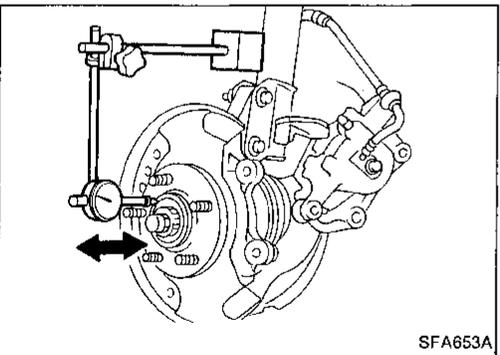
- Separate tie-rod from knuckle with Tool.
- Install stud nut conversely on stud bolt to prevent damage to stud bolt.



- Separate drive shaft from knuckle with Tool.
- When removing drive shaft, cover boots with shop towel to prevent damage to them.

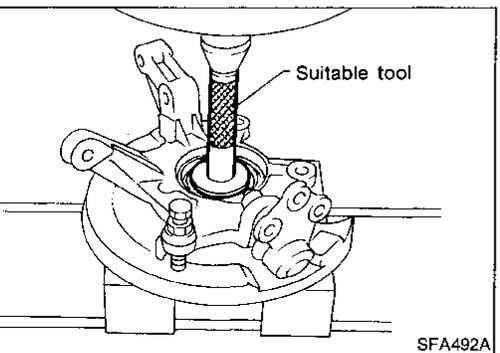


- Remove bolts and nuts as shown at left.



INSTALLATION

- Install knuckle with wheel hub.
- Tighten wheel bearing lock nut.
Ⓜ: 235 - 314 N·m (24 - 32 kg-m, 174 - 231 ft-lb)
- Check wheel bearing axial end play.
Axial end play:
0.05 mm (0.0020 in) or less.



DISASSEMBLY

CAUTION:

When removing wheel hub or wheel bearing from knuckle, replace wheel bearing assembly (outer race, inner races and grease seals) with a new one.

Wheel hub

Drive out hub with inner race (outside) from knuckle with a suitable tool.

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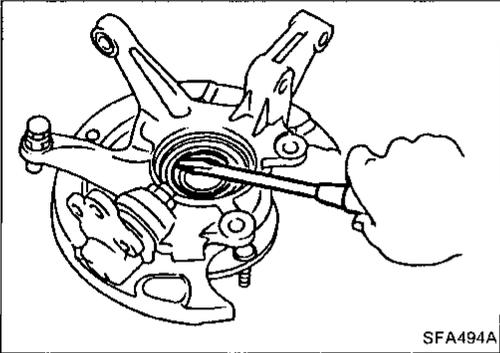
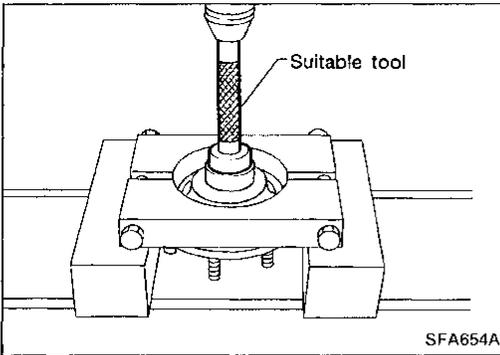
FRONT AXLE

Wheel Hub and Knuckle (Cont'd)

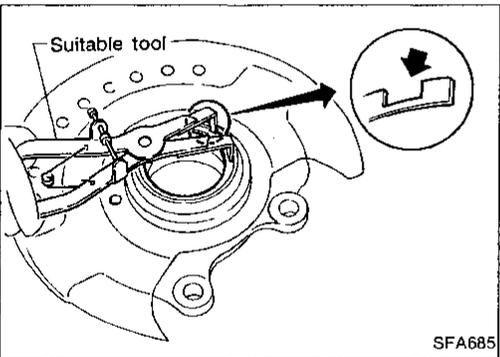
Wheel bearing

When replacing wheel bearing, replace wheel bearing assembly (inner races and outer race).

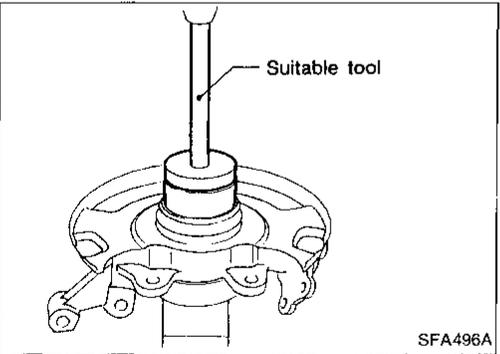
- Remove bearing inner race (outside), then remove outer grease seal.



- Remove inner grease seal from knuckle.



- Remove inner and outer snap rings.



- Press out bearing outer race.

INSPECTION

Wheel hub and knuckle

Check wheel hub and knuckle for cracks by using a magnetic exploration or dyeing test.

Snap ring

Check snap ring for wear or cracks. Replace if necessary.

FRONT AXLE

Wheel Hub and Knuckle (Cont'd)

ASSEMBLY

1. Install inner snap ring into groove of knuckle.
2. Press new wheel bearing assembly into knuckle.

Maximum load P:

29 kN (3 ton, 3.3 US ton, 3.0 Imp ton)

CAUTION:

- Do not press inner race of wheel bearing assembly.
 - Do not apply oil or grease to mating surfaces of wheel bearing outer race and knuckle.
3. Install outer snap ring into groove of knuckle.
 4. Pack grease seal lip with multi-purpose grease.

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5. Install outer grease seal.

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6. Install inner grease seal.

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7. Press wheel hub into knuckle.

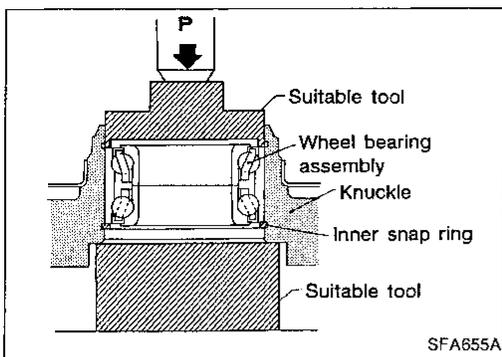
Maximum load P:

29 kN (3 ton, 3.3 US ton, 3.0 Imp ton)

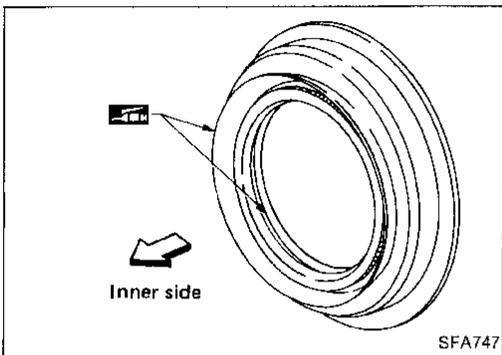
Be careful not to damage grease seal.

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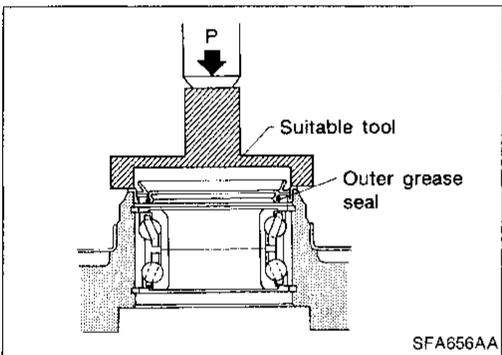
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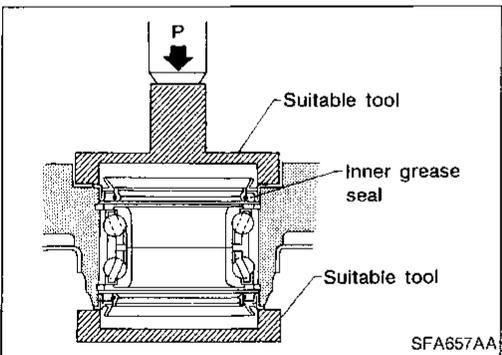
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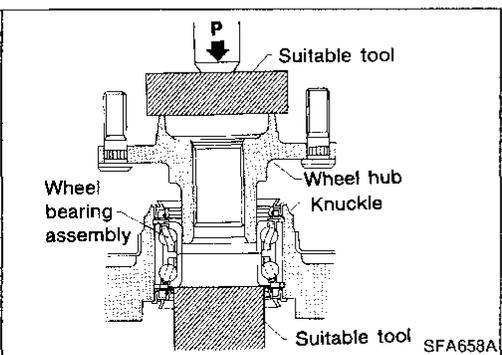
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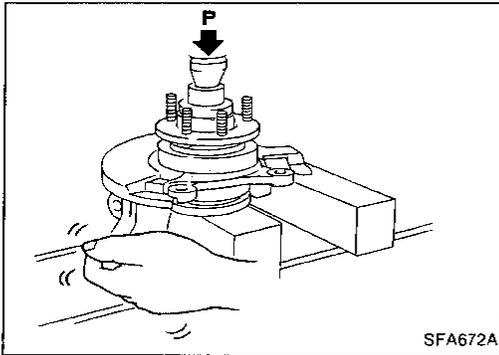
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FRONT AXLE

Wheel Hub and Knuckle (Cont'd)



8. Check bearing operation.

(1) Add load P with press.

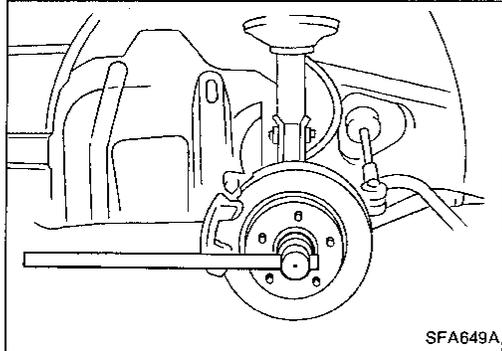
Load P:

34.3 - 49.0 kN

(3.5 - 5.0 ton, 3.9 - 5.5 US ton, 3.44 - 4.92 Imp ton)

(2) Spin knuckle several turns in both directions.

(3) Make sure that wheel bearings operate smoothly.



Drive Shaft

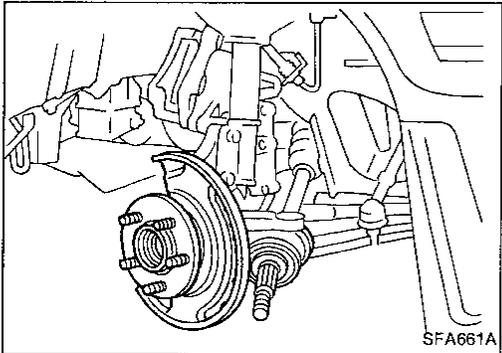
REMOVAL

- Remove wheel bearing lock nut.

Brake caliper need not be disconnected.

Do not twist or stretch brake hose when moving components.

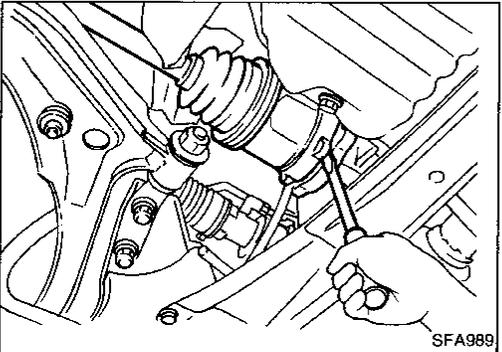
- Remove cotter pin and nut securing lower ball joint to knuckle.
- Strike knuckle with a hammer and pull down transverse link to separate lower ball joint from knuckle.



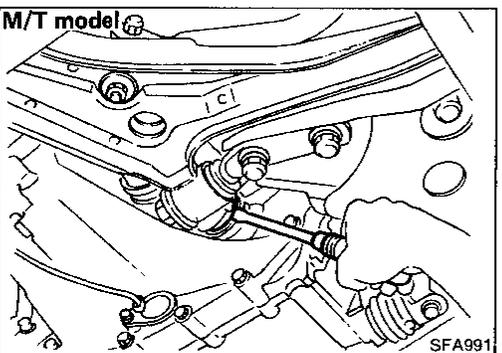
- Remove tie-rod ball joint.
- Separate drive shaft from knuckle by slightly tapping it. If it is hard to remove, use a puller.

When removing drive shaft, cover boots with shop towel to prevent damage to them.

Refer to FRONT AXLE — Wheel Hub and Knuckle. (FA-8)



1. Remove right drive shaft from transaxle.



2. Remove left drive shaft from transaxle.

—For M/T models—

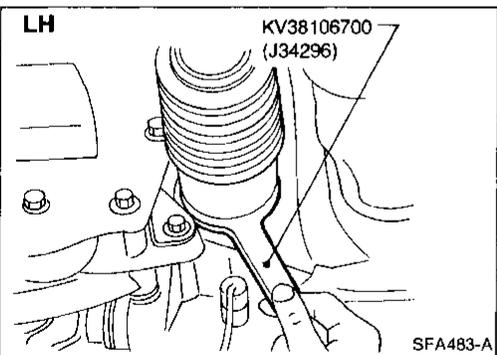
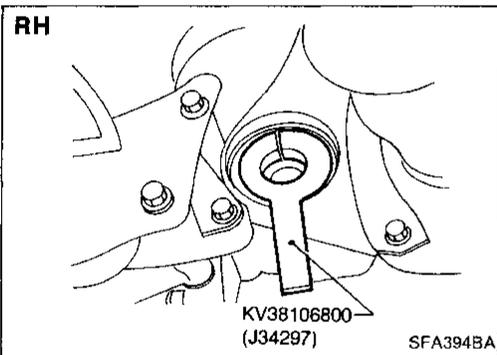
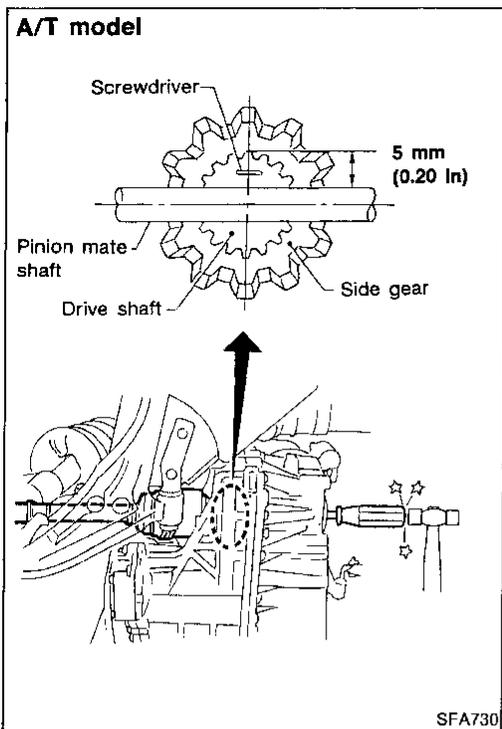
- Pry off drive shaft from transaxle as shown at left.

FRONT AXLE

Drive Shaft (Cont'd)

—For A/T models—

- Remove left drive shaft with a suitable tool.
- Be careful not to damage pinion mate shaft and side gear.**



INSTALLATION

Transaxle side

1. Drive a new oil seal to transaxle. Refer to MT or AT section.
2. Set Tool along the inner circumference of oil seal (transaxle side).

3. Insert drive shaft into transaxle. Be sure to properly align the serrations and then withdraw Tool.
4. Push drive shaft, then press-fit circular clip on the drive shaft into circular clip groove of side gear.
5. After its insertion, try to pull the flange out of the slide joint by hand. If it pulls out, the circular clip is not properly meshed with the side gear.

Wheel side

- Install drive shaft into knuckle.
- Tighten wheel bearing lock nut.

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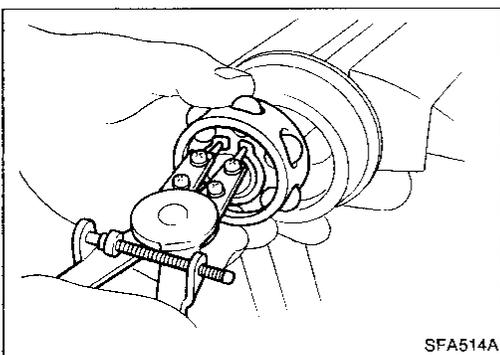
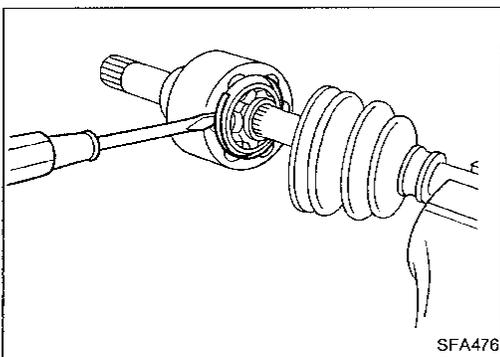
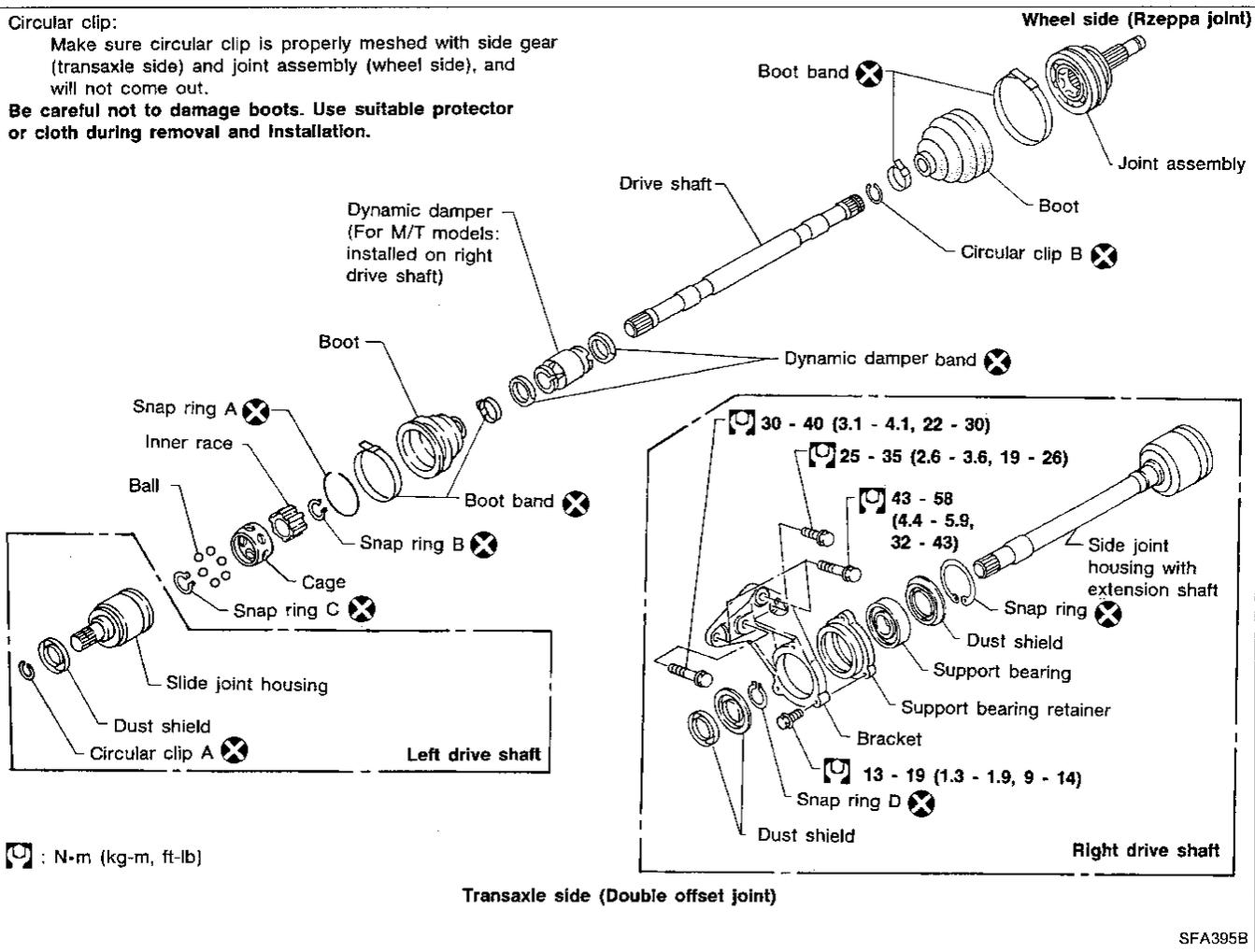
Drive Shaft (Cont'd)

COMPONENTS

Circular clip:

Make sure circular clip is properly meshed with side gear (transaxle side) and joint assembly (wheel side), and will not come out.

Be careful not to damage boots. Use suitable protector or cloth during removal and installation.



DISASSEMBLY

Transaxle side

1. Remove boot bands.
2. Put matching marks on slide joint housing and inner race, before separating joint assembly.
3. Pry off snap ring "A" with a screwdriver, and pull out slide joint housing.

4. Put matching marks on inner race and drive shaft.
5. Pry off snap ring "C", then remove ball cage, inner race and balls as a unit.
6. Pry off snap ring "B".
7. Draw out boot.

Cover drive shaft serrations with tape so as not to damage the boot.

FRONT AXLE

Drive Shaft (Cont'd)

Wheel side

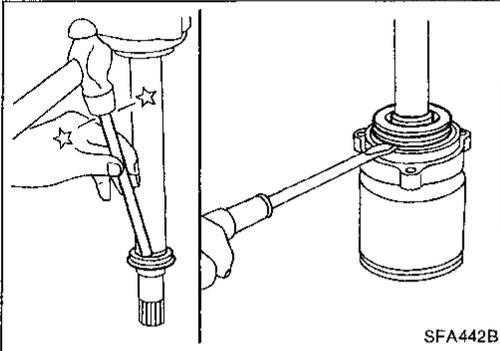
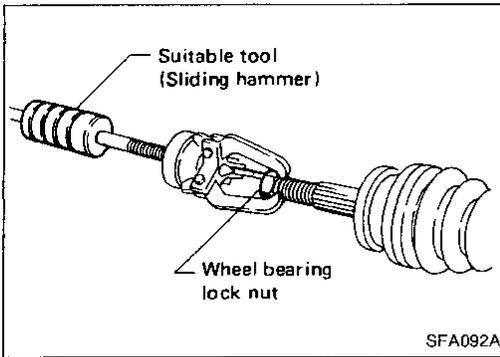
CAUTION:

The joint on the wheel side cannot be disassembled.

- Before separating joint assembly, put matching marks on drive shaft and joint assembly.
- Separate joint assembly with a suitable tool.

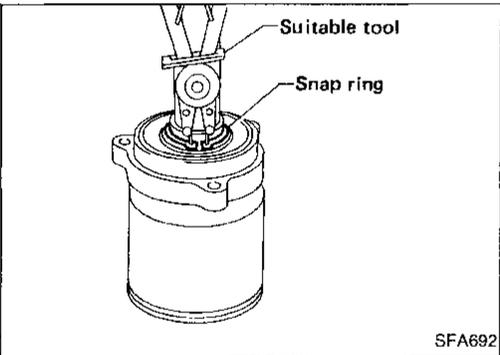
Be careful not to damage threads on drive shaft.

- Remove boot bands.

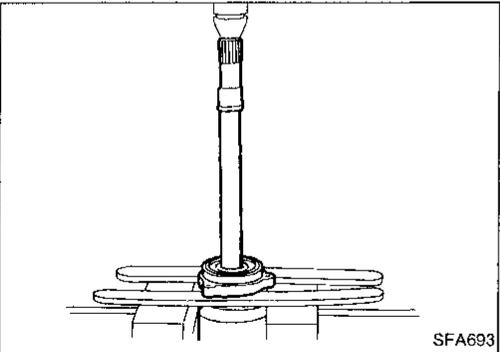


Support bearing

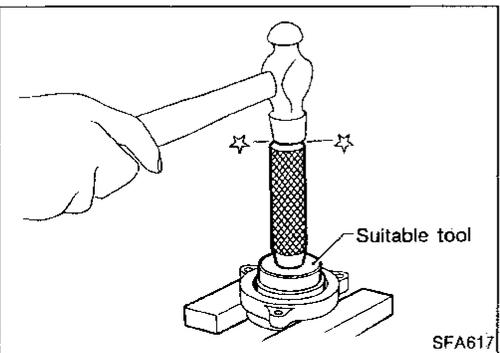
- Remove dust shield.



- Pry off snap ring.



- Press support bearing assembly out of drive shaft.



- Press support bearing out of retainer.

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FRONT AXLE

Drive Shaft (Cont'd)

INSPECTION

Thoroughly clean all parts in cleaning solvent, and dry with compressed air. Check parts for evidence of deformation or other damage.

Drive shaft

Replace drive shaft if it is twisted or cracked.

Boot

Check boot for fatigue, cracks, or wear. Replace boot with new boot bands.

Joint assembly (Transaxle side)

- Replace any parts of double offset joint which show signs of scorching, rust, wear or excessive play.
- Check serration for deformation. Replace if necessary.
- Check slide joint housing for any damage. Replace if necessary.

Joint assembly (Wheel side)

Replace joint assembly if it is deformed or damaged.

Support bearing

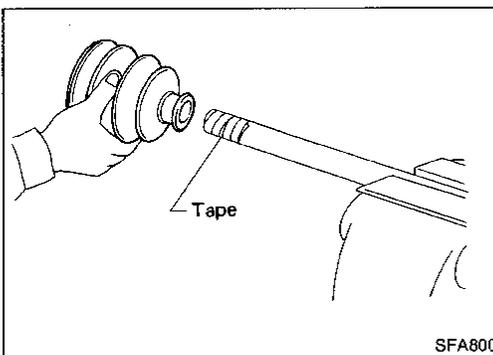
Make sure wheel bearing rolls freely and is free from noise, cracks, pitting or wear.

Support bearing bracket

Check support bearing bracket for cracks with a magnetic exploration or dyeing test.

ASSEMBLY

- After drive shaft has been assembled, ensure that it moves smoothly over its entire range without binding.
- Use **NISSAN GENUINE GREASE** or equivalent after every overhaul.



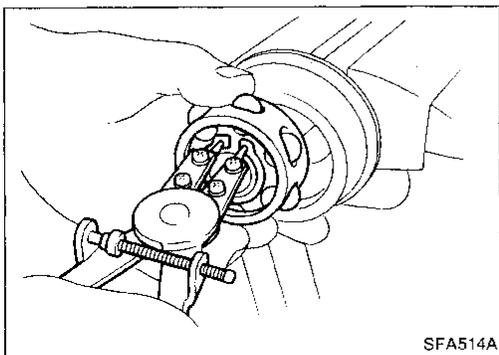
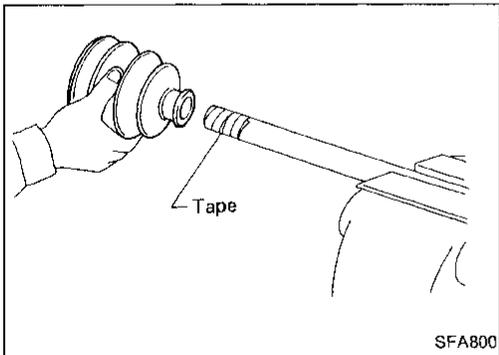
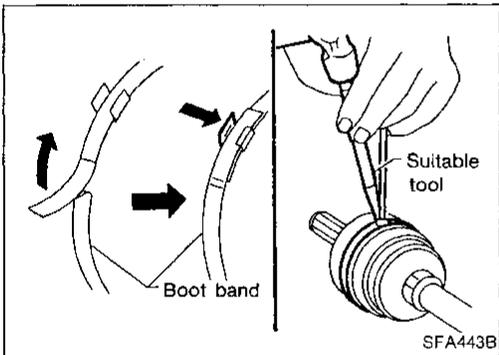
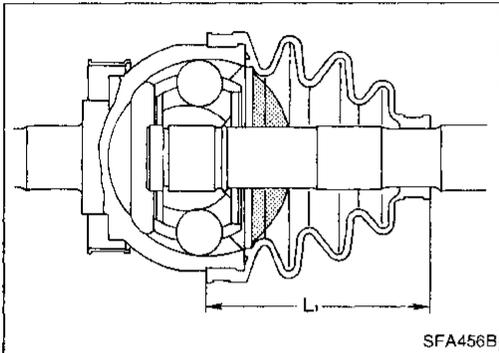
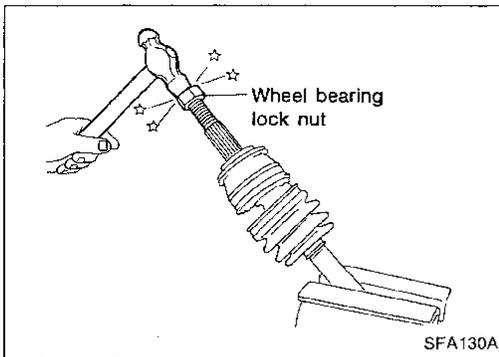
Wheel side

1. Install boot and new small boot band on drive shaft.

Cover drive shaft serration with tape so as not to damage boot during installation.

FRONT AXLE

Drive Shaft (Cont'd)



2. Set joint assembly onto drive shaft by lightly tapping it. Install joint assembly securely, ensuring marks which were made during disassembly are properly aligned.

3. Pack drive shaft with specified amount of grease.

Specified amount of grease:

205 - 225 g (7.23 - 7.94 oz)

4. Make sure that boot is properly installed on the drive shaft groove.

Set boot so that it does not swell and deform when its length is "L₁".

Length "L₁":

96 - 98 mm (3.78 - 3.86 in)

5. Lock new larger and smaller boot bands securely with a suitable tool.

Transaxle side

1. Install boot and new small boot band on drive shaft.

Cover drive shaft serration with tape so as not to damage boot during installation.

2. Install new snap ring "B", then securely install ball cage, inner race and balls as a unit, making sure the marks which were made during disassembly are properly aligned.

3. Install new snap ring "C".

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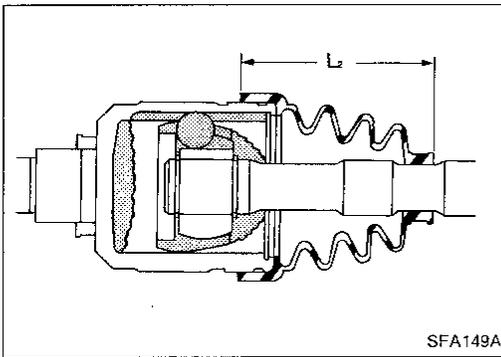
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FRONT AXLE

Drive Shaft (Cont'd)



- Pack drive shaft with specified amount of grease.

Specified amount of grease:

160 - 180 g (5.64 - 6.35 oz)

- Install slide joint housing, then install new snap ring "A".
- Make sure that boot is properly installed on the drive shaft groove.

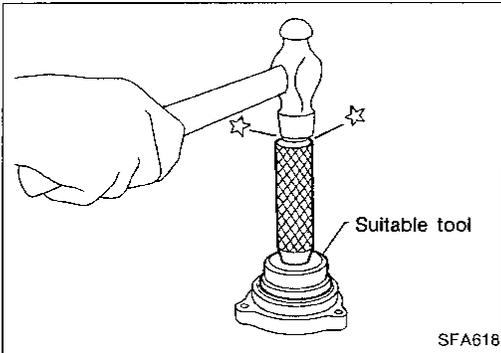
Set boot so that it does not swell and deform when its length is "L₂".

Length "L₂": 97 - 99 mm (3.82 - 3.90 in)

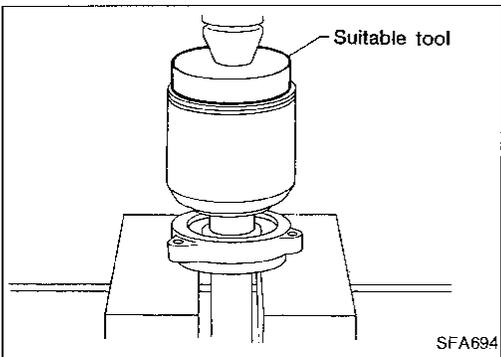
- Lock new larger and smaller boot bands securely with a suitable tool.

Support bearing

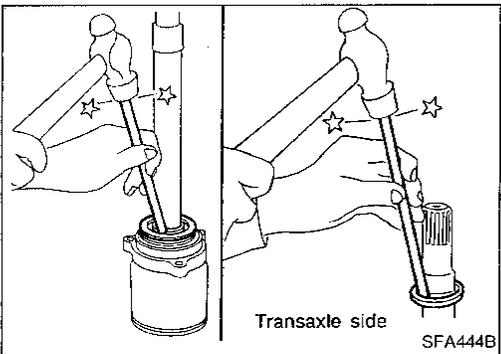
- Press bearing into retainer.



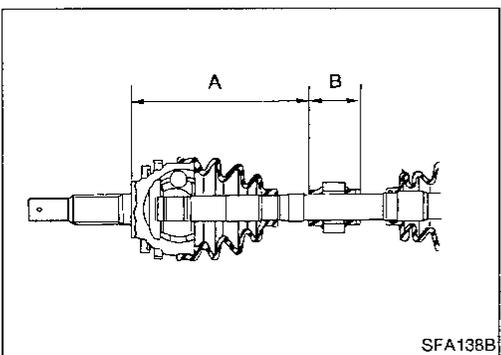
- Press drive shaft into bearing.



- Install snap ring.
- Install new dust shield.



- Use new damper band when reinstalling.
- Install dynamic damper from stationary-joint side while holding it securely.

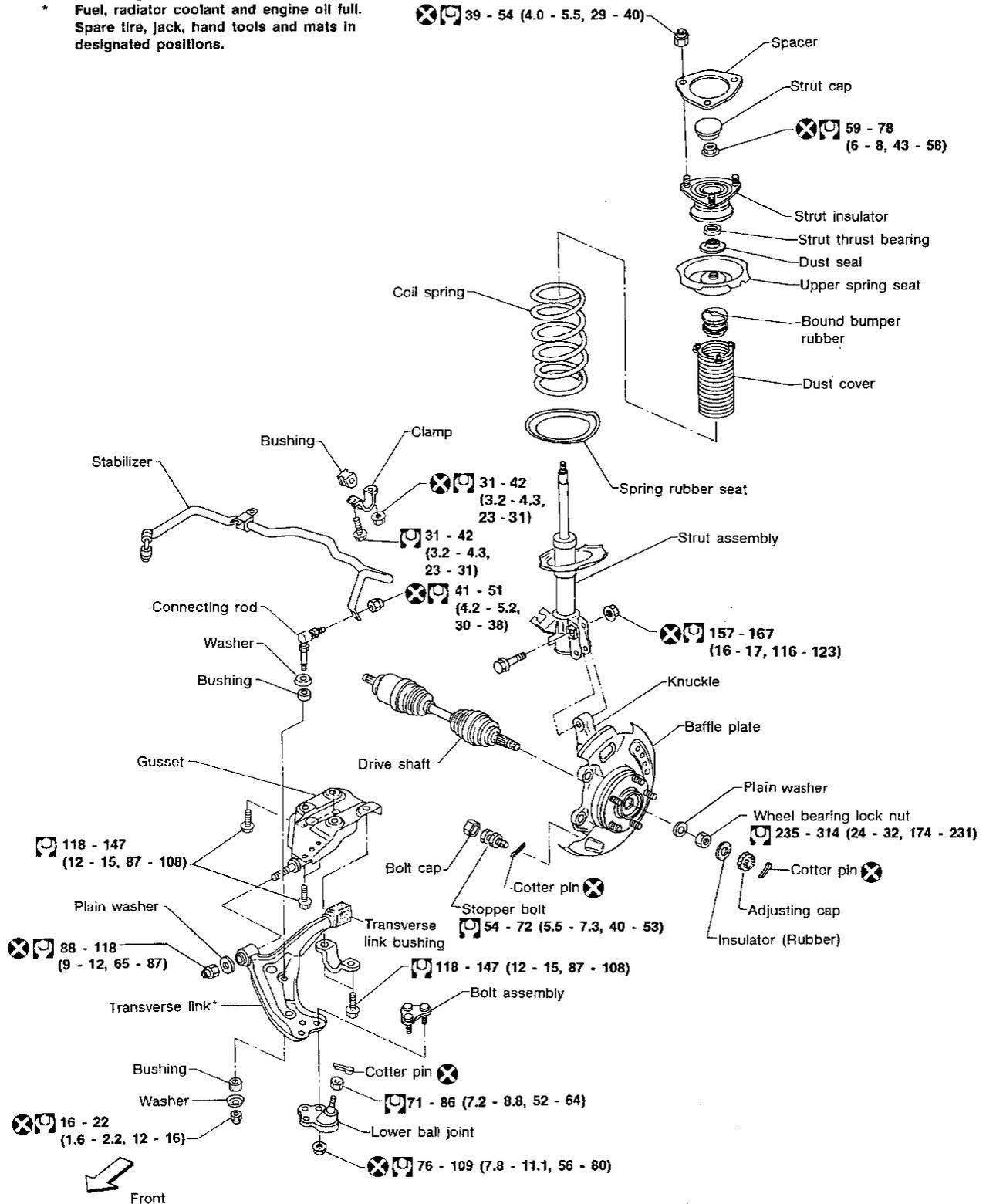


		(RH)
Length	"A"	214 - 224 mm (8.43 - 8.82 in)
	"B"	50 mm (1.97 in)

FRONT SUSPENSION

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.



: N·m (kg-m, ft-lb)

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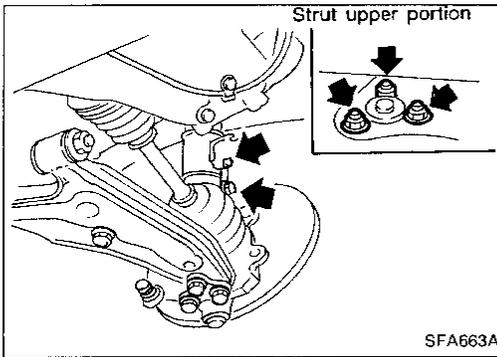
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FRONT SUSPENSION

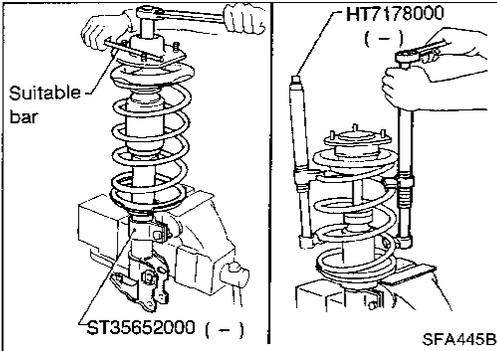


Coil Spring and Strut Assembly

REMOVAL AND INSTALLATION

- Remove strut assembly fixing bolts and nuts (to hoodledge).

Do not remove piston rod lock nut on vehicle.

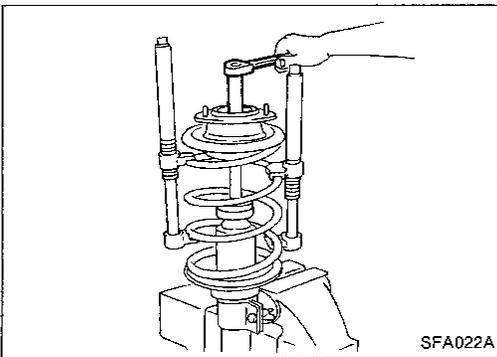


DISASSEMBLY

1. Set strut assembly on vise with Tool, then loosen piston rod lock nut.

Do not remove piston rod lock nut.

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



3. Remove piston rod lock nut.

INSPECTION

Strut assembly

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

Strut mounting insulator

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

Thrust bearing

- Check thrust bearing parts for abnormal noise or excessive rattle in axial direction.
- Replace if necessary.

FRONT SUSPENSION

Coil Spring and Strut Assembly (Cont'd)

Coil spring

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

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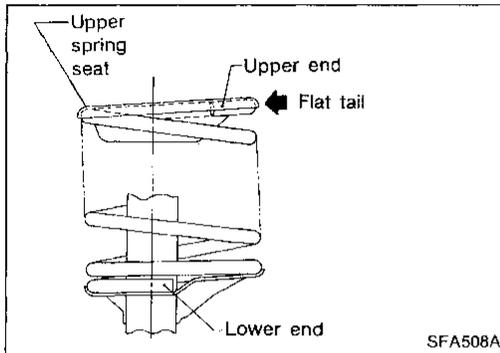
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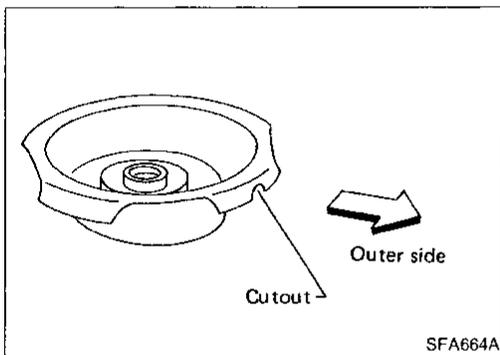
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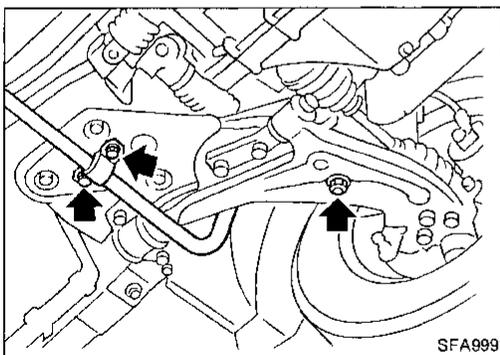


ASSEMBLY

- When installing coil spring on strut, it must be positioned as shown in the figure at left.



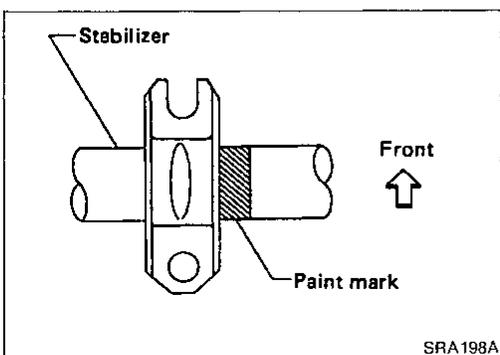
- Install upper spring seat with its cutout facing the outer side of vehicle.



Stabilizer Bar

REMOVAL AND INSTALLATION

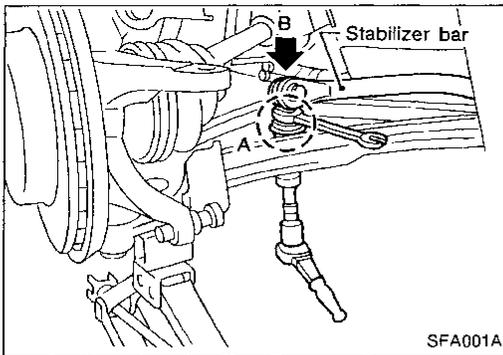
- Remove stabilizer bar.



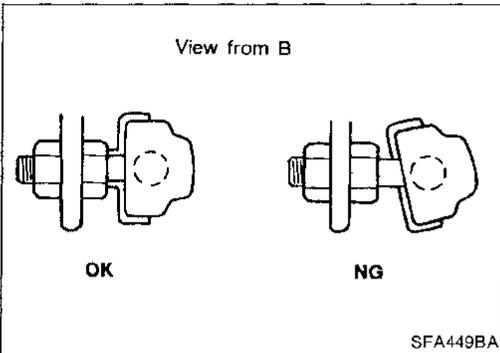
- When installing stabilizer, make sure that paint mark and clamp face in their correct directions.

FRONT SUSPENSION

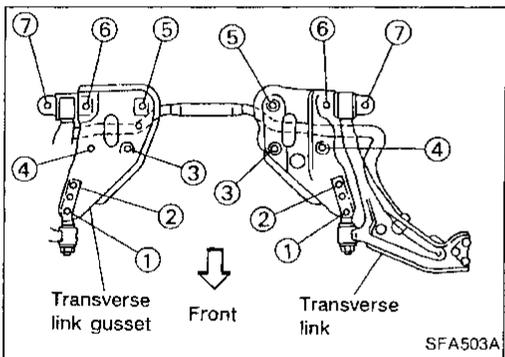
Stabilizer Bar (Cont'd)



- When removing and installing stabilizer bar, fix portion A.



- Install stabilizer bar with ball joint socket properly placed.



Transverse Link and Transverse Link Gusset

REMOVAL AND INSTALLATION

- Remove stabilizer bar.
- Remove fixing bolts.
- Install bolts in order of number.

Tightening torque:

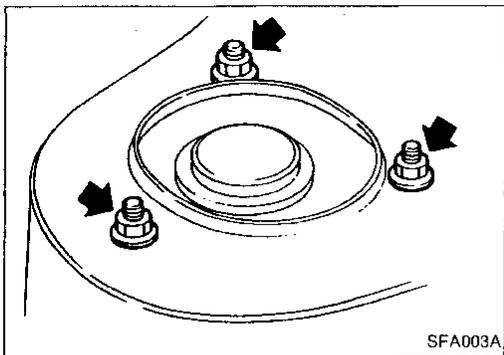
Refer to **FRONT SUSPENSION. (FA-19)**

- During installation, final tightening must be carried out at curb weight with tires on the ground.
- After installation, check wheel alignment. Refer to **ON-VEHICLE SERVICE — Front Wheel Alignment. (FA-6)**

INSPECTION

- Check transverse link for damage, cracks or deformation. Replace it if necessary.
- Check rubber bushing for damage, cracks and deformation. Replace transverse link if necessary.
- Check transverse link gusset for damage, cracks or deformation. Replace it if necessary.

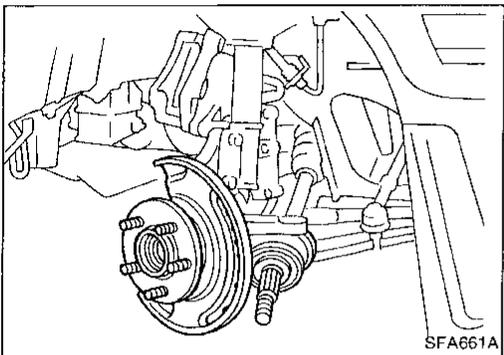
FRONT SUSPENSION



Lower Ball Joint

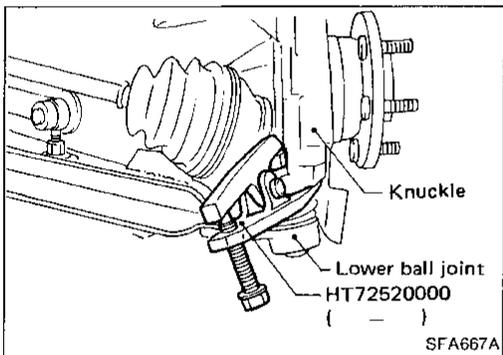
REMOVAL AND INSTALLATION

1. Remove wheel bearing lock nut.
2. Remove tie-rod ball joint.
3. Loosen (do not remove) strut mounting nuts.

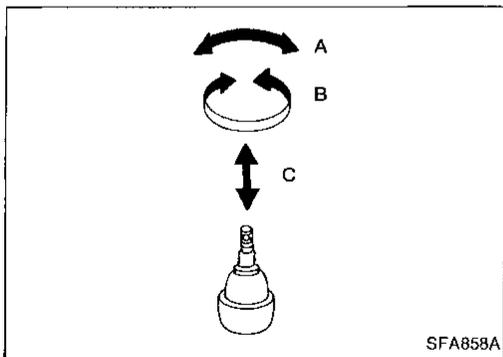


4. Remove nut securing lower ball joint to transverse link.
5. Separate drive shaft from knuckle by slightly tapping drive shaft end.

Cover boots with waste cloth so as not to damage them when removing drive shaft.



6. Remove lower ball joint from knuckle with Tool.



INSPECTION

- Check ball joint for play. If ball stud is worn, play in axial direction is excessive or joint is hard to swing, replace lower ball joint.

Before checking, turn ball joint at least 10 revolutions so that ball joint is properly broken in.

Swinging force "A": Refer to SDS. (FA-25)
(measuring point: cotter pin hole of ball stud)

Turning torque "B": Refer to SDS. (FA-25)

Vertical end play "C": Refer to SDS. (FA-25)

- Check dust cover for damage. Replace it if necessary.

SERVICE DATA AND SPECIFICATIONS (SDS)

General Specifications

COIL SPRING

Applied model	VG30E		VE30DE			
	A/T		M/T	A/T		
	LH	RH	LH, RH	LH	RH	
Wire diameter	mm (in)	13.7 (0.539)	13.6 (0.535)	14.0 (0.551)	14.1 (0.555)	14.0 (0.551)
Coil diameter	mm (in)	160 (6.30)		160 (6.30)		
Free length	mm (in)	418 (16.46)	408 (16.06)	379 (14.92)	387 (15.24)	379 (14.92)
Identification color		Light green x 1, Purple x 2	Red x 1, Light green x 2	Yellow x 1, Red x 2	Red x 1, Pink x 2	Yellow x 1, Red x 2

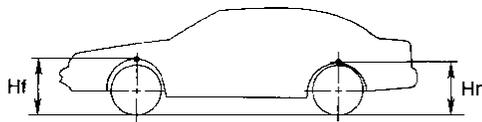
STRUT

Applied model	VG30E	VE30DE
Piston rod diameter	mm (in) 22 (0.87)	

FRONT STABILIZER BAR

Applied model	All
Stabilizer diameter	mm (in) 31.8 (1.252)
Identification color	Red

WHEELARCH HEIGHT (Unladen*)



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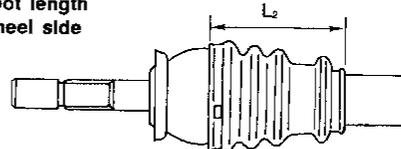
Applied model	VG30E	VE30DE
Front (Hf)	mm (in) 704 (27.72)	701 (27.60)
Rear (Hr)	mm (in) 689 (27.13)	686 (27.01)

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

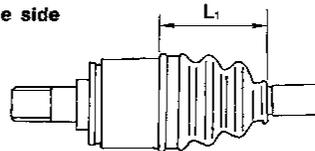
DRIVE SHAFT

Applied model	VG30E	VE30DE
Joint type		
Transaxle side	DS90	
Wheel side	ZF100	
Boot length	mm (in)	
Transaxle side L ₁	96 - 98 (3.78 - 3.86)	
Wheel side L ₂	97 - 99 (3.82 - 3.90)	
Grease	Nissan genuine grease or equivalent	
Capacity	g (oz)	
Transaxle side	160 - 180 (5.64 - 6.35)	
Wheel side	205 - 225 (7.23 - 7.94)	

Boot length
Wheel side



Transaxle side



SFA396BA

SERVICE DATA AND SPECIFICATIONS (SDS)

Inspection and Adjustment

WHEEL ALIGNMENT (Unladen*1)

Applied model		All
Camber	degree	- 1°00' to 30'
Caster	degree	30' - 2° 00'
Kingpin inclination	degree	13°35' - 15°05'
Toe-in		
A - B	mm (in)	1 - 3 (0.04 - 0.12)
Total angle 2θ	degree	6' - 16'
Front wheel turning angle		
Full turn*2	Inside	35° - 39°
	Outside	28° - 32°

*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 BEARING

Wheel bearing axial end play limit	mm (in)	0.05 (0.0020)
Wheel bearing lock nut tightening torque	N·m (kg-m, ft-lb)	235 - 314 (24 - 32, 174 - 231)

LOWER BALL JOINT

Swinging force "A" (Measured at cotter pin hole)	N (kg, lb)	7.8 - 54.9 (0.8 - 5.6, 1.8 - 12.3)
Turning torque "B" N·m (kg-cm, in-lb)		0.49 - 3.43 (5.0 - 35, 4.3 - 30.4)
Vertical end play limit "C"	mm (in)	0 (0)

WHEEL RUNOUT

Unit: mm (in)

Wheel type	Aluminum wheel	Steel wheel
Maximum radial runout limit	0.3 (0.012)	0.5 (0.020)
Maximum lateral runout limit	0.3 (0.012)	0.8 (0.031)

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