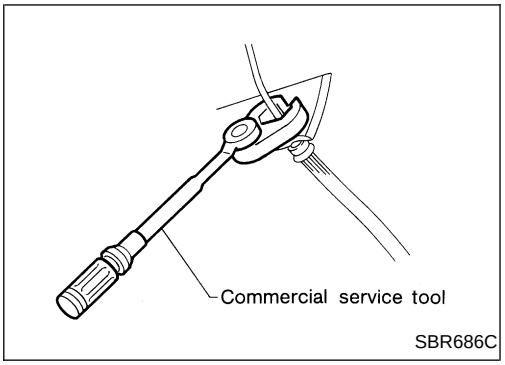
FRONT AXLE & FRONT SUSPENSION

SECTION FA

CONTENTS

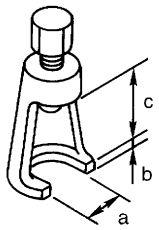
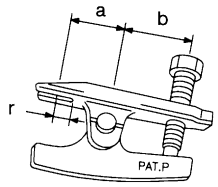
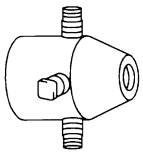
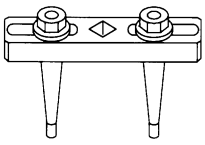
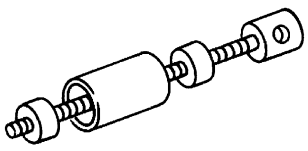


Precautions

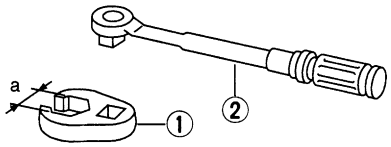
- **When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.**
  *** Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.**
- **Use flare nut wrench when removing and installing brake tubes.**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

Special Service Tools

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

Tool number (Kent-Moore No.) Tool name	Description		Unit application	
			2WD	4WD
ST29020001 (J24319-01) Gear arm puller	 NT694	Removing ball joint for knuckle spindle **a: 34 mm (1.34 in) b: 6.5 mm (0.256 in) c: 61.5 mm (2.421 in)**	X	X
HT72520000 (J25730-B) Ball joint remover	 NT546	Removing tie-rod outer endr: R11.5 mm (0.453 in) **a: 33 mm (1.30 in) b: 50 mm (1.97 in)**	X	X
KV401021S0 (—) Bearing race drift	 NT153	Installing wheel bearing outer race	X	X
KV40105400 (J36001) Wheel bearing lock nut wrench	 NT154	Removing and installing wheel bearing lock nut	—	X
KV40106800 (—) Lower link bushing puller	 NT685	Removing and installing lower link bushing	X	X

Commercial Service Tools

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

NVH Troubleshooting Chart

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

Reference page			—	FA-27	—	FA-5, 6	FA-32	—	—	—	FA-30	FA-9	FA-34	FA-7	FA-9	—	—	—	—	—	NVH in PD section	NVH in PD section	Refer to DRIVESHAFT in this chart.	Refer to FRONT AXLE AND FRONT SUSPENSION in this chart.	NVH in RA Section	Refer to TIRES in this chart.	Refer to ROAD WHEEL in this chart.	NVH in BR section	NVH in ST section
SUSPECTED PARTS (Possible cause)			Excessive joint angle	Joint sliding resistance	Imbalance	Improper installation, looseness	Shock absorber deflection or damage	Bushing or mounting deterioration	Parts interference	Spring fatigue	Suspension looseness	Incorrect wheel alignment	Stabilizer bar fatigue	Wheel bearing damage	Out-of-round	Incorrect air pressure	Uneven tire wear	Deformation or damage	Non-uniformity	Incorrect tire size	PROPELLER SHAFT	DIFFERENTIAL	DRIVE SHAFT	FRONT AXLE AND FRONT SUSPENSION	REAR AXLE AND REAR SUSPENSION	TIRES	ROAD WHEEL	BRAKES	STEERING
Symptom	DRIVESHAFT	Noise, Vibration	X	X																	X	X		X	X	X	X	X	X
		Shake	X		X																X			X	X	X	X	X	X
	FRONT AXLE AND FRONT SUSPENSION	Noise				X	X	X	X	X	X										X	X	X		X	X	X	X	X
		Shake				X	X	X	X		X										X		X		X	X	X	X	X
		Vibration				X	X	X	X	X											X		X		X	X			X
		Shimmy				X	X	X	X			X													X	X	X	X	X
		Judder				X	X	X																	X	X	X	X	X
		Poor quality ride or handling				X	X	X	X	X		X	X	X											X	X	X		
	TIRES	Noise			X	X									X	X	X	X	X		X	X	X	X	X		X	X	X
		Shake			X	X									X	X	X	X		X	X		X	X	X		X	X	X
		Vibration														X				X	X		X	X	X				X
		Shimmy			X	X									X	X	X	X	X	X				X	X		X	X	X
		Judder			X	X									X	X	X	X		X				X	X		X	X	X
		Poor quality ride or handling			X	X									X	X	X	X		X				X	X		X		
	ROAD WHEEL	Noise			X	X									X			X			X	X	X	X	X	X		X	X
		Shake			X	X									X			X			X		X	X	X	X		X	X
		Shimmy, Judder			X	X									X			X						X	X	X		X	X
		Poor quality ride or handling			X	X									X			X						X	X	X			

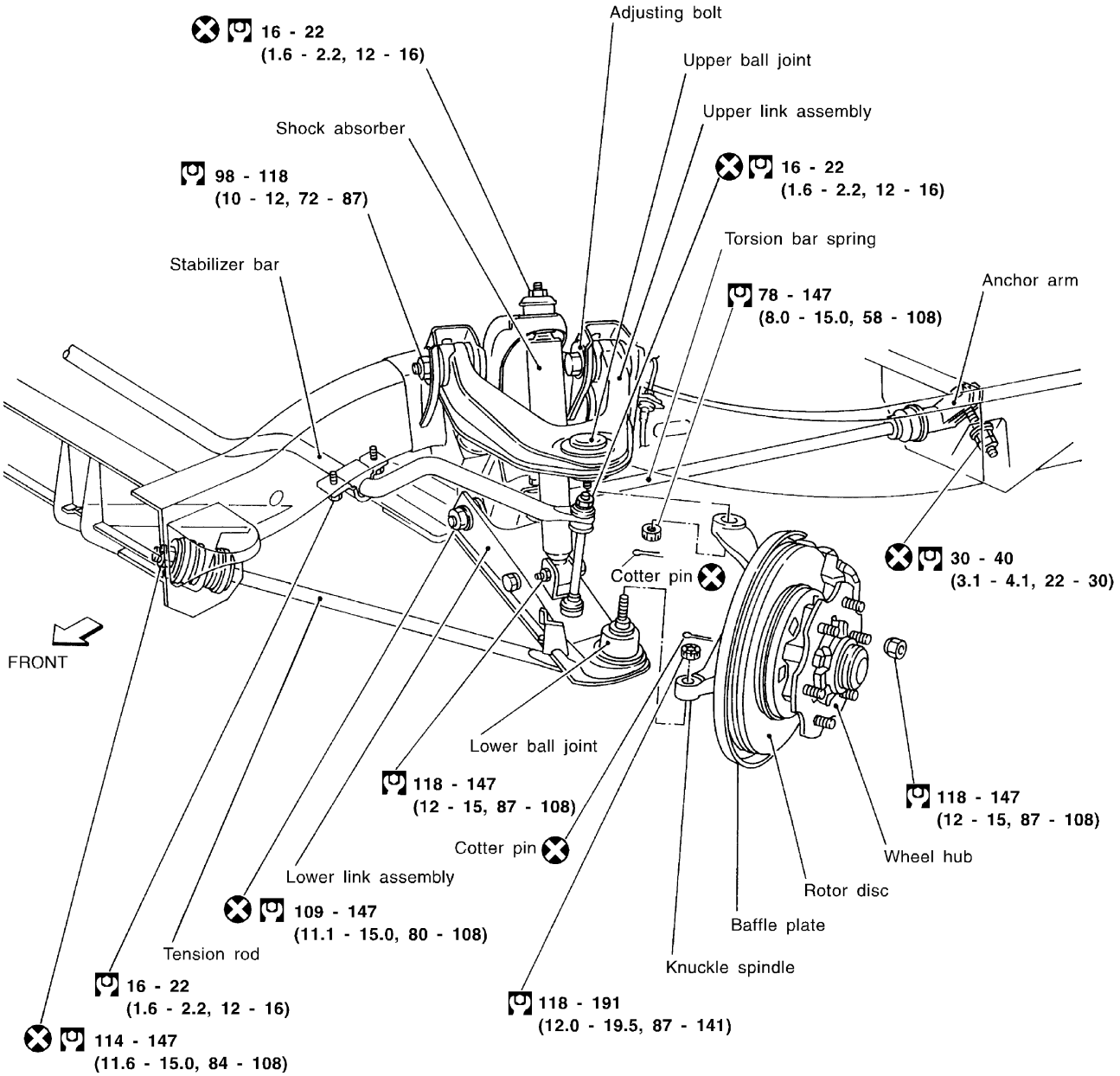
X: Applicable

2WD

SEC. 400•401

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)

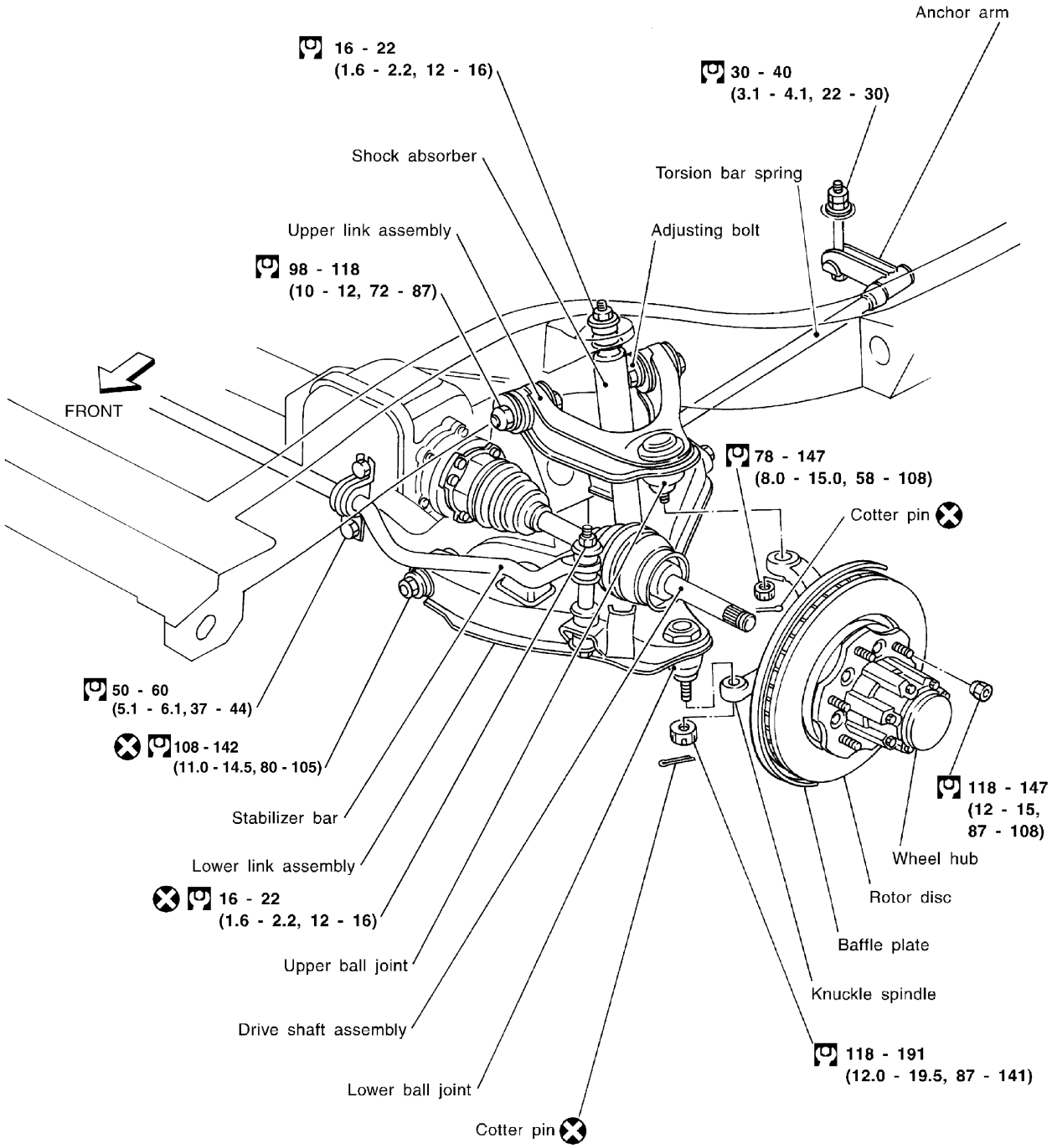
SFA811B

4WD

SEC. 391•400•401

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.**



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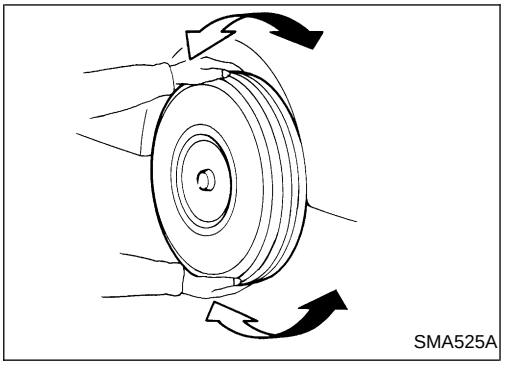
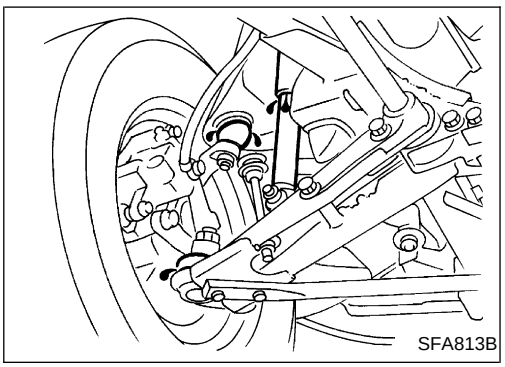

SMA525A

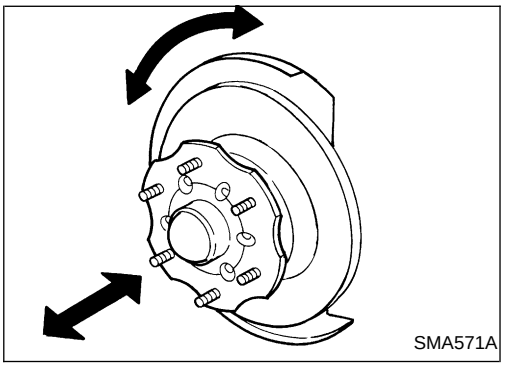
Front Axle and Front Suspension Parts

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

- Shake each front wheel to check for excessive play.
  If looseness is noted, adjust wheel bearing end play, then check ball joint end play.
- Make sure that the cotter pin is inserted.
- Retighten all nuts and bolts to the specified torque.
  : Refer to ''FRONT SUSPENSION'', FA-30.
- Check front axle and front suspension parts for wear, cracks and other damage.

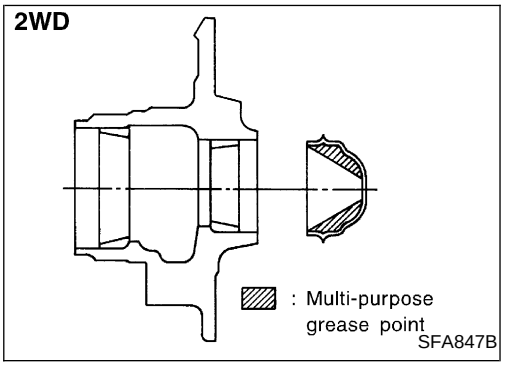

SFA813B

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


SMA571A

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.



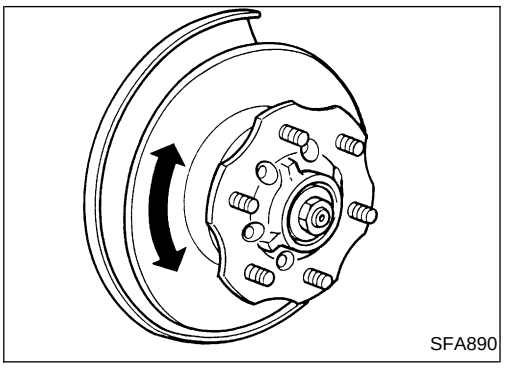
SFA847B

PRELOAD ADJUSTMENT (2WD)

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

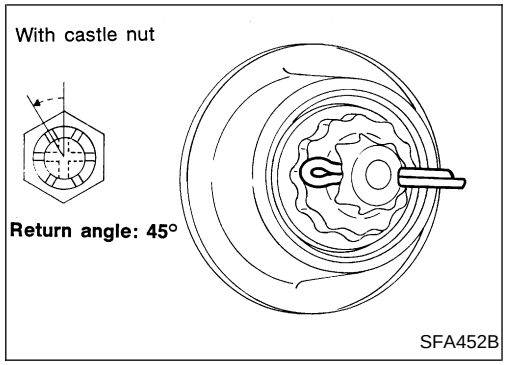
1. Before adjustment, thoroughly clean all parts to prevent dirt entry.
2. Apply multi-purpose grease sparingly to the following parts:

- Threaded area of spindle
- Contact surface between lock washer and outer wheel bearing
- Hub cap (as shown at left) **18 - 22 g (0.63 - 0.78 oz)**
- Grease seal lip

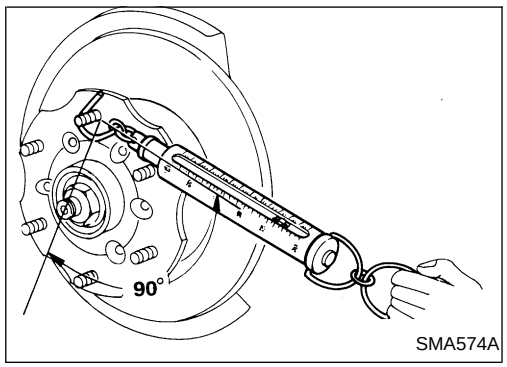

SFA890

3. Tighten wheel bearing lock nut to the specified torque.
   : 34 - 39 N·m (3.5 - 4.0 kg-m, 25 - 29 ft-lb)
4. Turn wheel hub several times in both directions to seat wheel bearing correctly.
5. Again tighten wheel bearing lock nut to the specified torque.
   : 34 - 39 N·m (3.5 - 4.0 kg-m, 25 - 29 ft-lb)

Front Wheel Bearing (Cont'd)

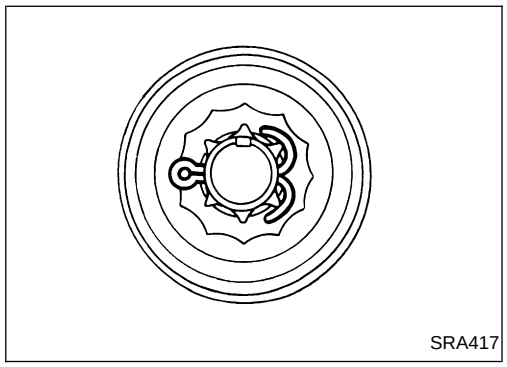


6. Turn wheel bearing lock nut back 45 degrees.
7. Fit adjusting cap and new cotter pin. Align cotter pin slot by loosening nut 15 degrees or less.



8. Measure wheel bearing preload and axial end play.
   Axial end play: 0 mm (0 in)
   Wheel bearing preload
   (As measured at wheel hub bolt):
   New grease seal
   9.8 - 28.4 N (1.0 - 2.9 kg, 2.2 - 6.4 lb)
   Used grease seal
   9.8 - 23.5 N (1.0 - 2.4 kg, 2.2 - 5.3 lb)

Repeat above procedures until correct bearing preload is obtained.



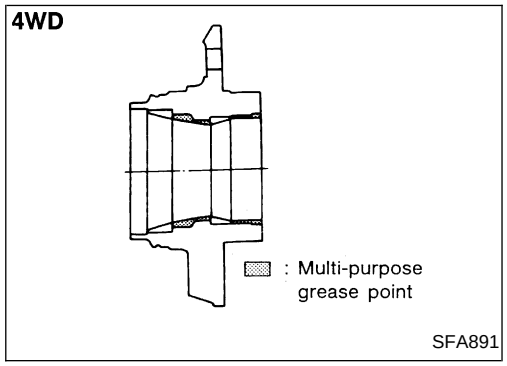
9. Spread cotter pin.
10. Install hub cap.

PRELOAD ADJUSTMENT (4WD)

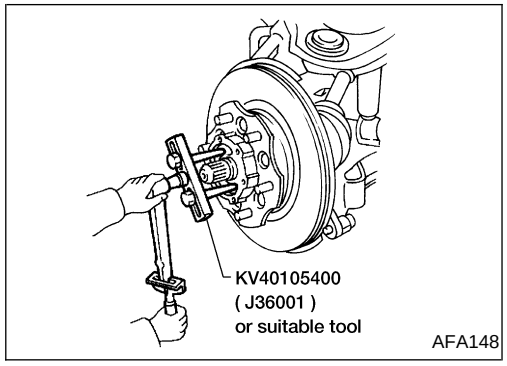
Adjust wheel bearing preload after wheel bearing has been replaced or front axle has been reassembled.

Adjust wheel bearing preload as follows:

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

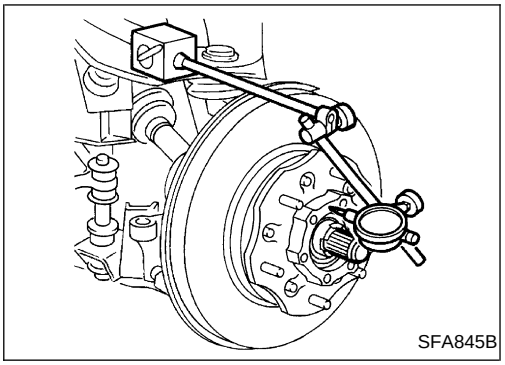


2. Apply multi-purpose grease sparingly to the following parts:
- Threaded portion of spindle
- Contact surface between wheel bearing washer and outer wheel bearing
- Grease seal lip
- Wheel hub (as shown at left) **18 - 23 g (0.63 - 0.81 oz)**

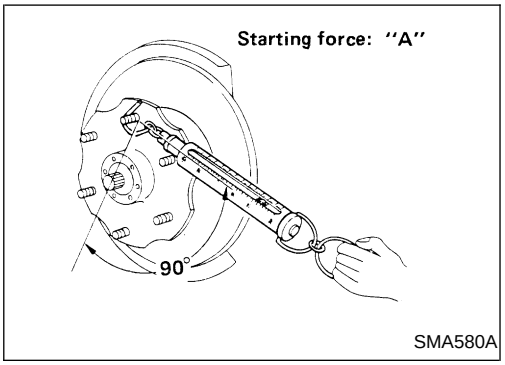


3. Tighten wheel bearing lock nut with Tool.
   : 78 - 98 N·m (8 - 10 kg-m, 58 - 72 ft-lb)
4. Turn wheel hub several times in both directions.
5. Loosen wheel bearing lock nut so that torque becomes 0 N·m (0 kg-m, 0 ft-lb).
6. Retighten wheel bearing lock nut with Tool.
   : 0.5 - 1.5 N·m (0.05 - 0.15 kg-m, 4.3 - 13.0 in-lb)

Front Wheel Bearing (Cont'd)

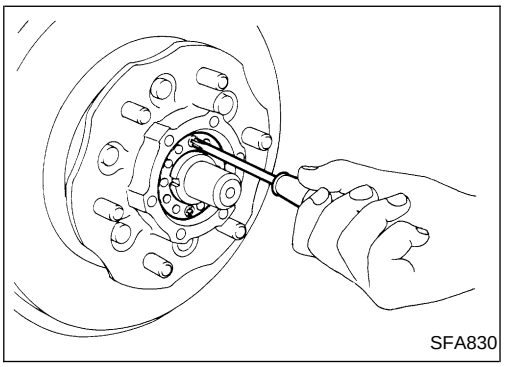

SFA845B

7. Turn wheel hub several times in both directions.
8. Retighten wheel bearing lock nut with Tool.
   : 0.5 - 1.5 N·m (0.05 - 0.15 kg-m, 4.3 - 13.0 in-lb)
9. Measure wheel bearing axial end play.
   Axial end play: 0 mm (0 in)



SMA580A

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


SFA830

11. Install lock washer by tightening the lock nut within 15 to 30 degrees.
12. Turn wheel hub several times in both directions to seat wheel bearing correctly.
13. Measure starting force "B" at wheel hub bolt. Refer to step 10.
14. Wheel bearing preload "C" can be calculated as shown below.

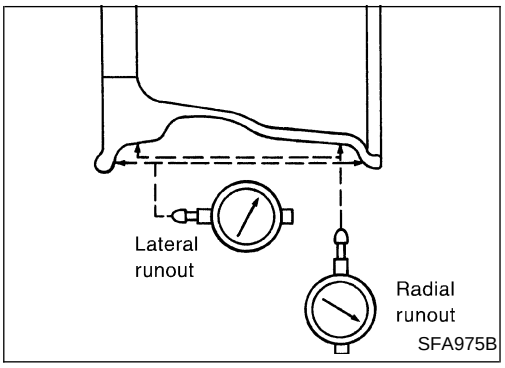
    C = B − A

    Wheel bearing preload "C":
    7.06 - 20.99 N (0.72 - 2.14 kg, 1.59 - 4.72 lb)
15. Repeat steps 3 through 14 until correct axial end play and wheel bearing preload are obtained.
16. Tighten screws.
    : 1.2 - 1.8 N·m (0.12 - 0.18 kg-m, 10.4 - 15.6 in-lb)
17. Install free-running hub.

Front Wheel Alignment

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

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



SFA975B

PRELIMINARY INSPECTION

Aluminum wheel

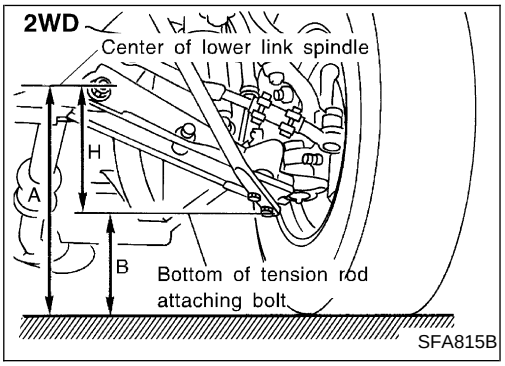
1. Check tires for wear and proper inflation.
2. Check wheels for deformation, cracks and other damage.
   If deformed, remove wheel and check wheel runout.
   a. Remove tire from aluminum wheel and mount on a tire balance machine.
   b. Set dial indicators as shown in the illustration.
      Wheel runout average (Dial indicator value):
      Refer to SDS, FA-39.
3. Check front wheel bearings for looseness.

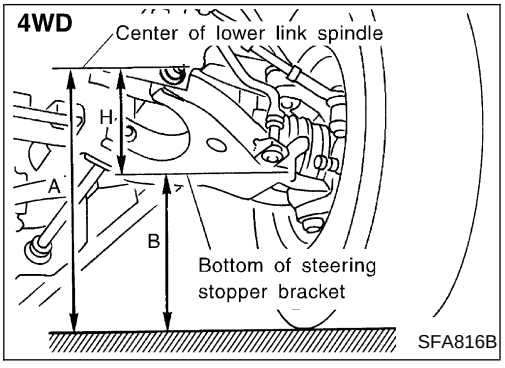
Front Wheel Alignment (Cont'd)

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.

Steel Wheel

1. Check tires for wear and proper inflation.
2. Check wheels for deformation, cracks and other damage.
   If deformed, remove wheel and check wheel runout.
   a. Remove tire from steel wheel and mount wheel on a tire balance machine.
   b. Set two dial indicators as shown in the illustrations.
   c. Set each dial indicator to 0.
   d. Rotate wheel, and check dial indicators at several points around the circumference of the wheel.
   e. Calculate runout at each point as shown below.
      Radial runout = (A+B)/2
      Lateral runout = (A+B)/2
   f. Select maximum positive runout value and the maximum negative value.
      Add the two values to determine total runout.
      In case a positive or negative value is not available, use the maximum value (negative or positive) for total runout.
      Wheel runout:
      Refer to SDS, FA-39
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.

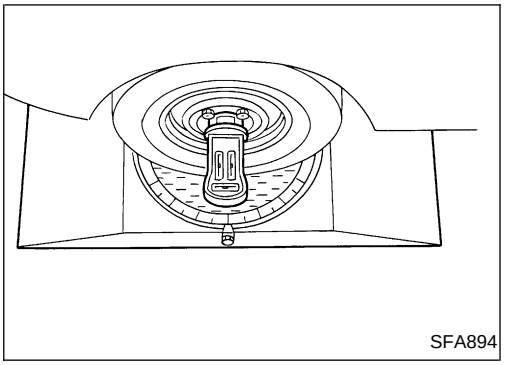




7. Measure vehicle height (Unladen): H = A − B mm (in)
   Refer to SDS, FA-40.

a. Exercise the front suspension by bouncing the front of the vehicle 4 or 5 times to ensure that the vehicle is in a neutral height attitude.
b. Measure wheel alignment.
   Refer to SDS, FA-40.
c. If wheel alignment is not as specified, adjust vehicle posture.
   Refer to SDS, FA-40.
d. Adjust wheel alignment.
   Refer to SDS, FA-40.

Front Wheel Alignment (Cont'd)

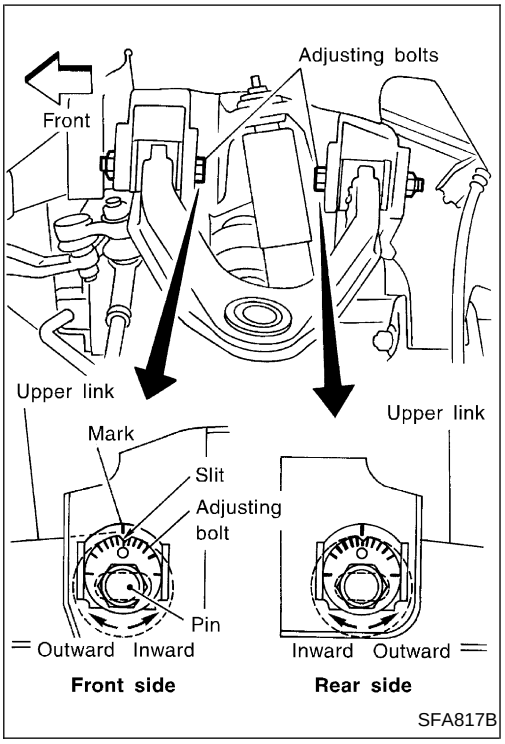

SFA894

CAMBER, CASTER AND KINGPIN INCLINATION

Before checking camber, caster or kingpin inclination, move vehicle up and down on turning radius gauge to minimize friction. Ensure that the vehicle is in correct posture.

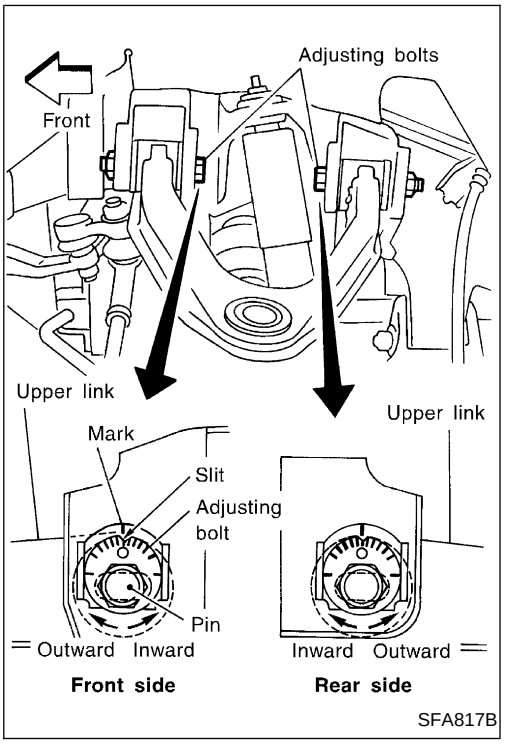
- Measure camber, caster and kingpin inclination of both right and left wheels with a suitable alignment gauge and adjust in accordance with the following procedures.

  Camber, Caster and Kingpin inclination:
  Refer to SDS, FA-40.



SFA817B

- In the following two cases, temporarily tighten the adjusting bolts while aligning the matching marks with the slits as shown in the figure at the left and measure the camber, caster and kingpin inclination:
  (1) When replacing the upper link or other suspension parts with new ones
  (2) When matching marks were not painted on adjusting bolts before suspension disassembly procedures
- If matching marks were already painted during suspension disassembly, align the matching marks with the slits, then temporarily tighten the adjusting bolts. Measure the camber, caster and kingpin inclination.



SFA817B

ADJUSTMENT

1. Both camber and caster angles are adjusted by adjusting bolts.
- If the kingpin inclination is outside specifications, check the front suspension parts for wear or damage. Replace faulty parts with new ones.
2. From the measured value, read the coordinate (or: graduation) at the intersecting point in the graph.

a. If the coordinate (or: graduation) at the intersecting point is positive, move the pin outward by turning the corresponding adjusting bolt by the indicated graduation.

b. If the coordinate (or: graduation) at the intersecting point is negative, move the pin inward by turning the corresponding adjusting bolt by the indicated graduation.
After properly moving the pin(s), tighten the front and rear adjusting bolts to specifications.

3. Re-measure to ensure that the camber and caster are within specified tolerances.

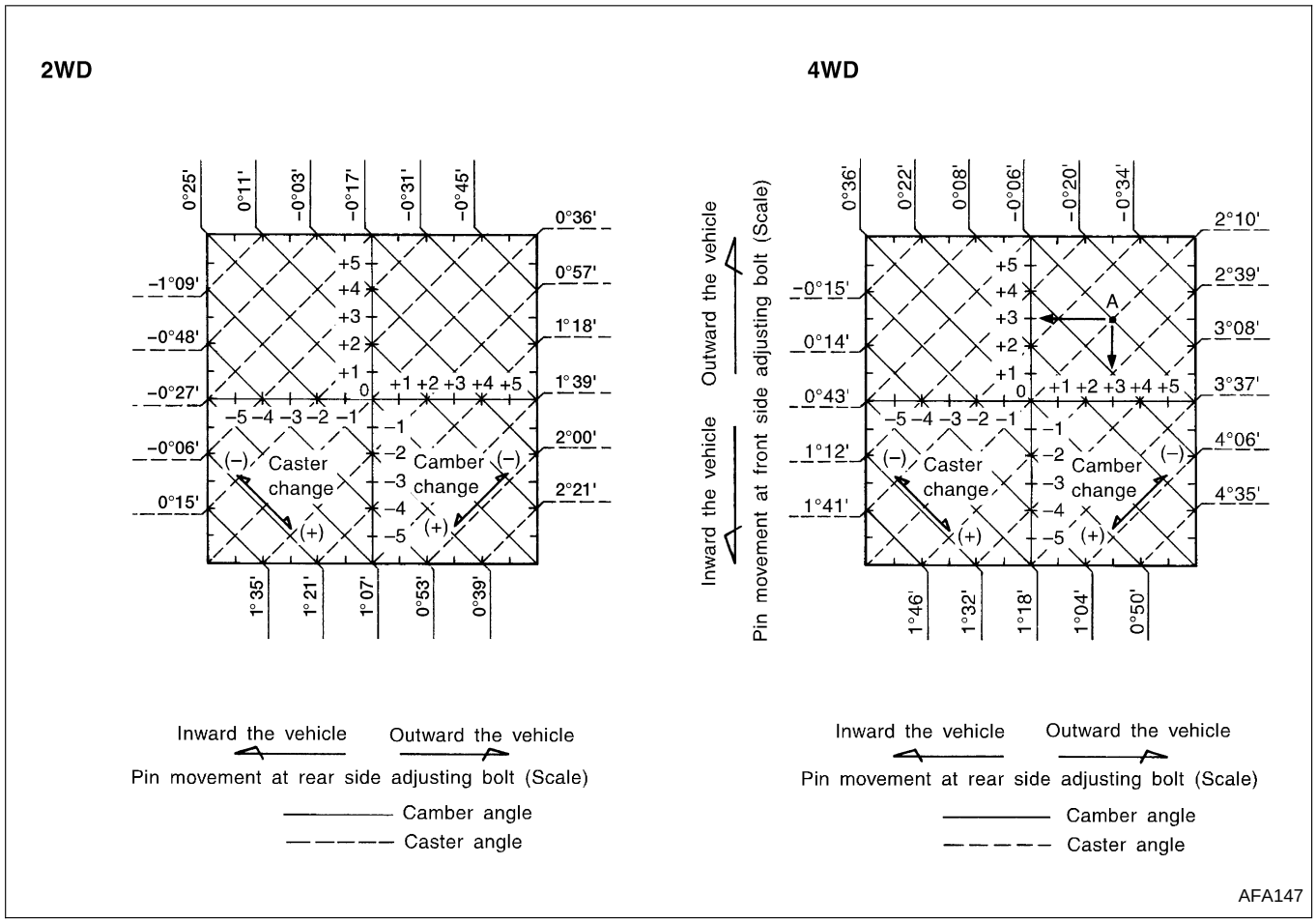
[Example]

a. Measured values corresponding with the two values indicated below: (See chart for 4WD model.)
Camber angle: −0°06′ (−0.10°)
Caster angle: 2°10′ (2.17°)

b. Apply the above two values to the graph and determine point "A".

Front Wheel Alignment (Cont'd)

c. The coordinate (or: graduation) indicates that both the front and rear adjusting bolts must be turned outward by 3 graduations.
Turn the adjusting bolts by the amount corresponding with the 3 graduations.d



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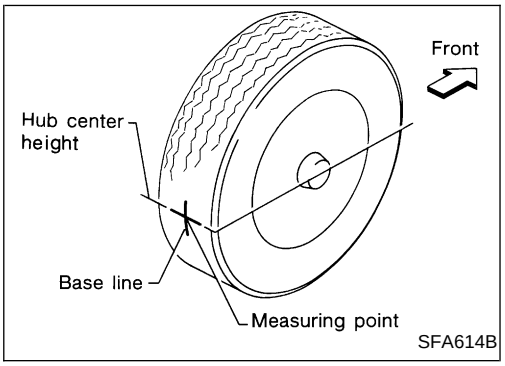
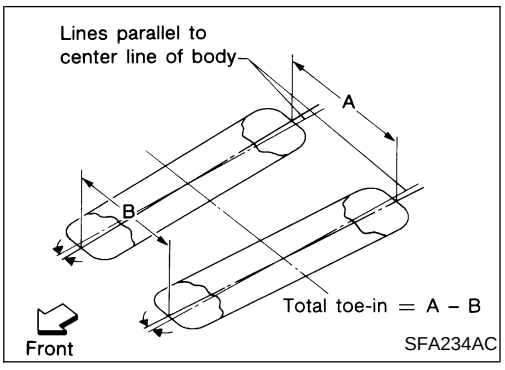


SFA614B



SFA234AC

TOE-IN

Measure toe-in using the following procedure.

WARNING:

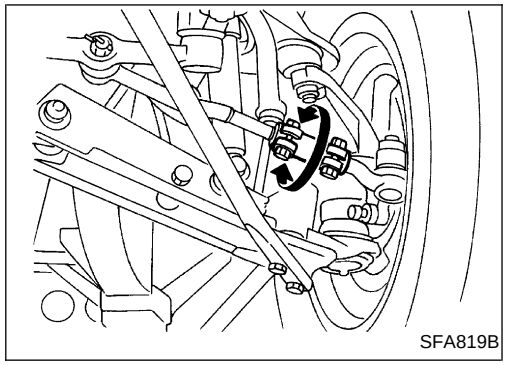
- **Always perform the following procedure on a flat surface.**
- **Make sure that no one is in front of the vehicle before pushing it.**

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).

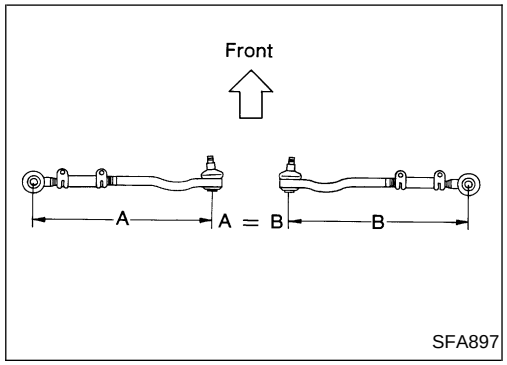
- **If the wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Never push vehicle backward.**

6. Measure distance "B" (front side).
   Total toe-in:
   Refer to SDS, FA-40.

Front Wheel Alignment (Cont'd)


SFA819B

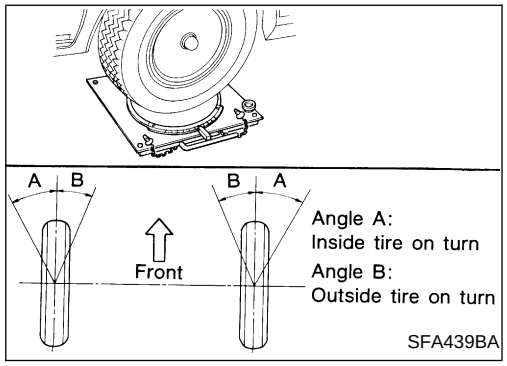
7. Adjust toe-in by varying the length of both steering tie-rods.
a. Loosen clamp bolts or lock nuts.
b. Adjust toe-in by turning both the left and right tie-rod tubes equal amounts.



SFA897

Make sure that the tie-rod bars are screwed into the tie-rod tube more than 35 mm (1.38 in).
Make sure that the tie-rods are the same length.
Standard length (A = B):
2WD
343.9 mm (13.54 in)
4WD
297.6 mm (11.72 in)

c. Tighten clamp bolts or lock nuts, then torque them.



SFA439BA

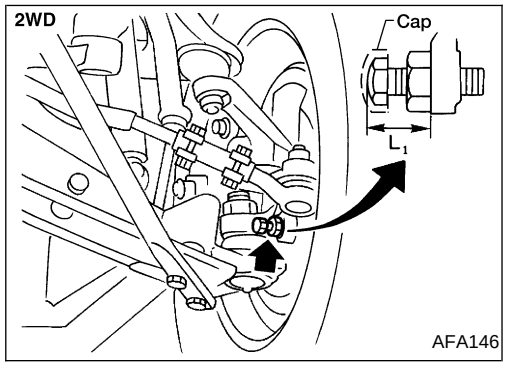
FRONT WHEEL TURNING ANGLE

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

- On power steering models, turn steering wheel to full lock and apply force (at circumference of steering wheel) of 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine at idle.
- **Do not hold the steering wheel at full lock for more than 15 seconds.**

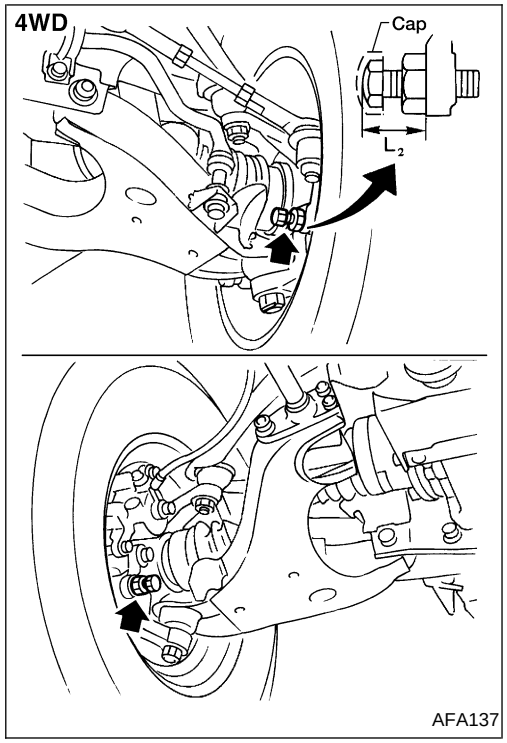
Wheel turning angle (Full turn):
Refer to SDS, FA-40.

3. Adjust stopper bolt if necessary.
Standard length "L_1" (2WD):
20 mm (0.79 in)
(Length before cap is mounted)

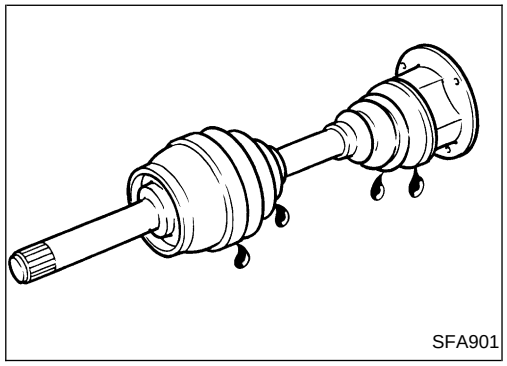


AFA146

Front Wheel Alignment (Cont'd)

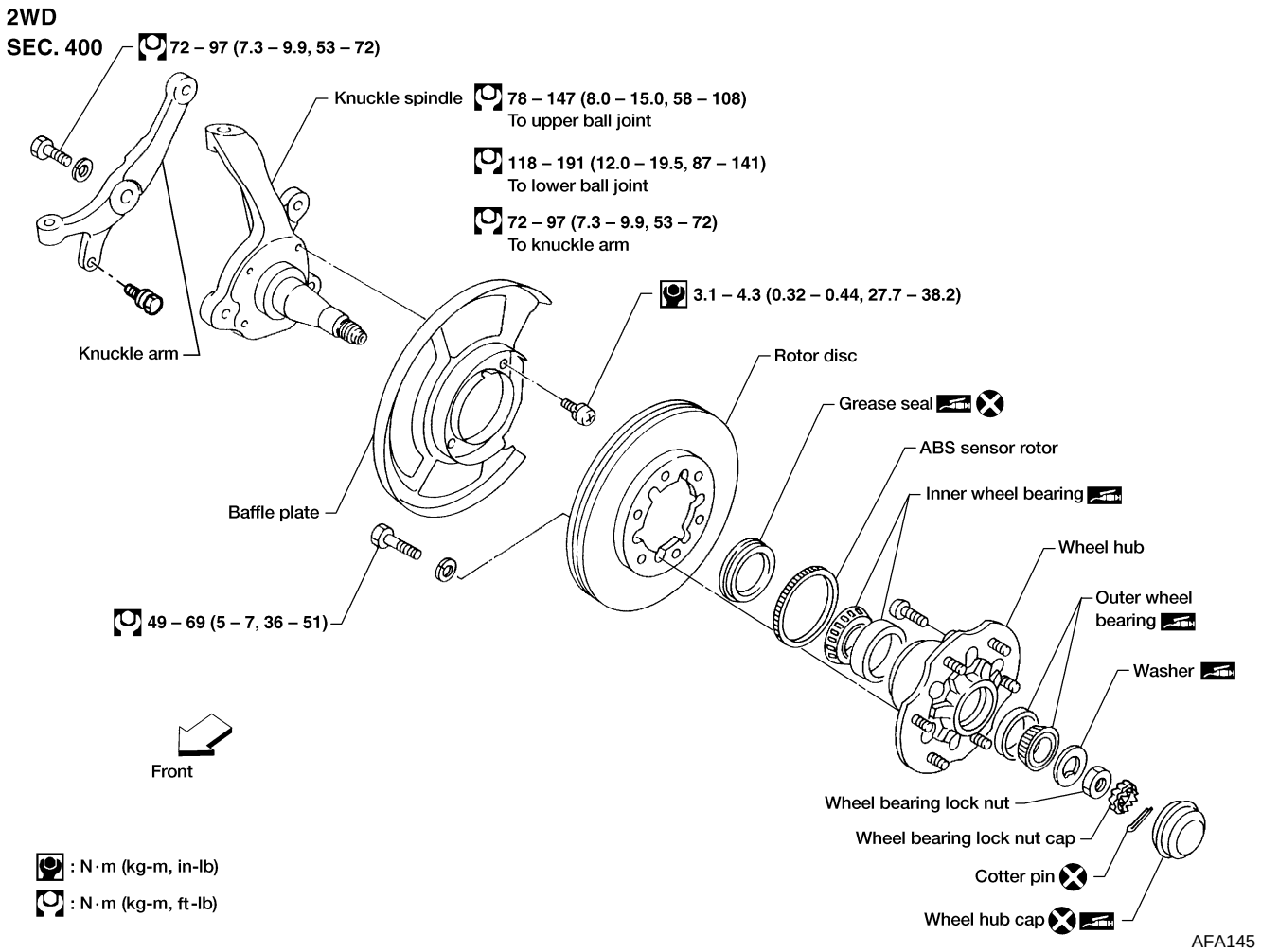


Standard length "L_2" (4WD):
Except P265/70R15 tire:
26.5 mm (1.043 in)
(Length before cap is mounted)
P265/70R15 tire:
30.0 mm (1.2 in)
(Length before cap is mounted)

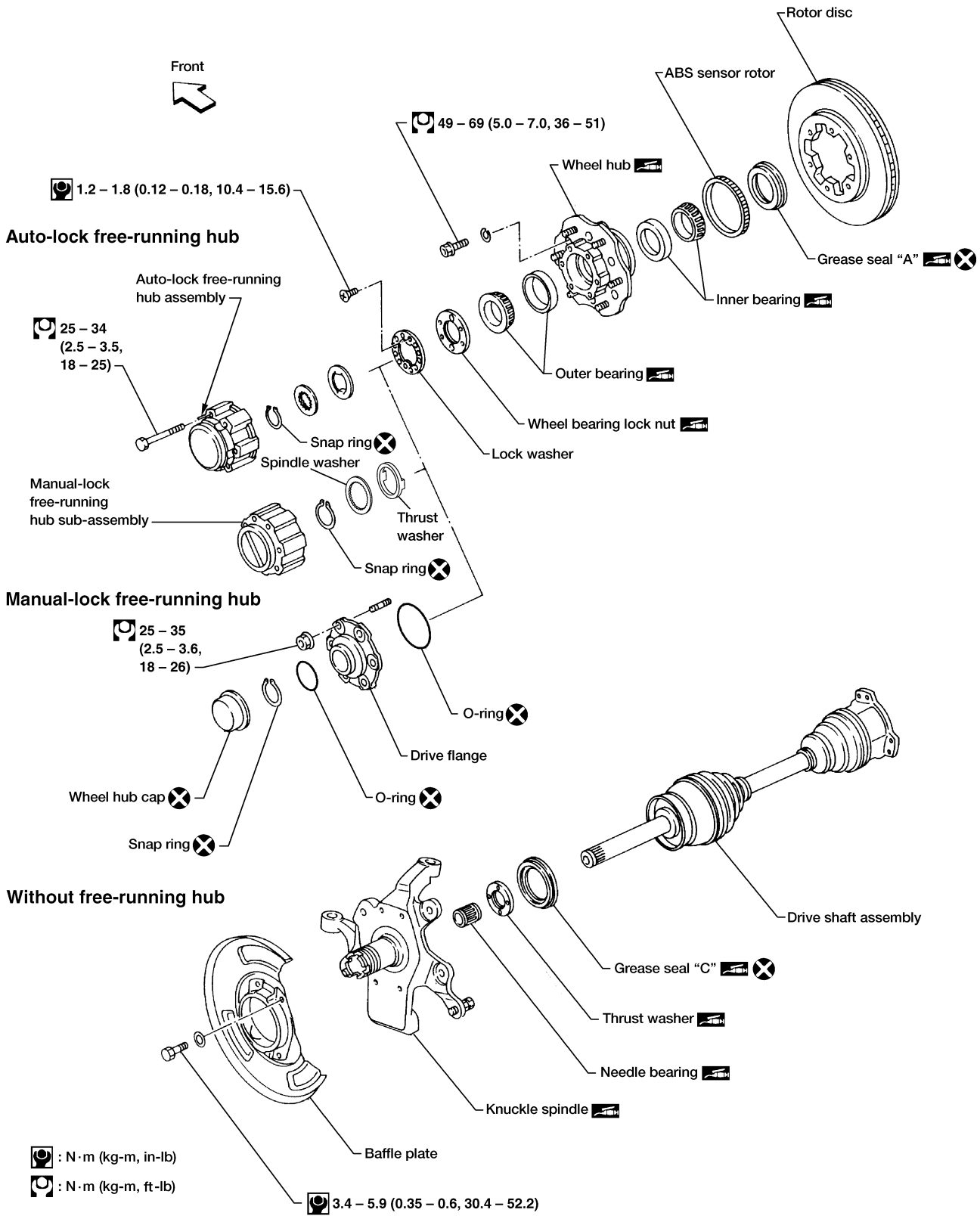


Drive Shaft

- Check for grease leakage and damage.

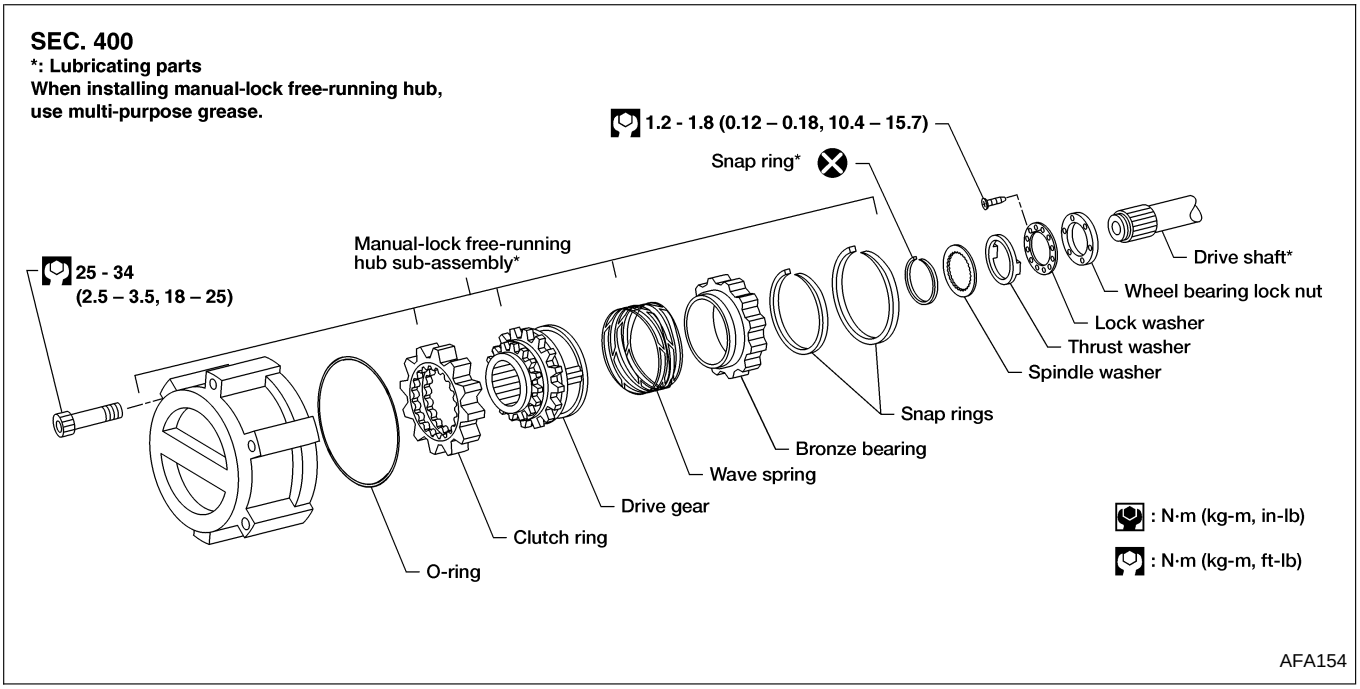

2WD
SEC. 400
72 – 97 (7.3 – 9.9, 53 – 72)
Knuckle spindle
78 – 147 (8.0 – 15.0, 58 – 108)
To upper ball joint
118 – 191 (12.0 – 19.5, 87 – 141)
To lower ball joint
72 – 97 (7.3 – 9.9, 53 – 72)
To knuckle arm
3.1 – 4.3 (0.32 – 0.44, 27.7 – 38.2)
Knuckle arm
Rotor disc
Grease seal
ABS sensor rotor
Inner wheel bearing
Baffle plate
Wheel hub
Outer wheel bearing
49 – 69 (5 – 7, 36 – 51)
Washer
Front
Wheel bearing lock nut
Wheel bearing lock nut cap
: N·m (kg-m, in-lb)
: N·m (kg-m, ft-lb)
Cotter pin
Wheel hub cap
AFA145

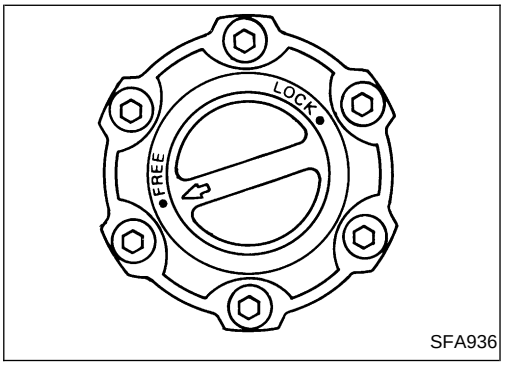
4WD
SEC. 391 • 400



AFA144

Manual-lock Free-running Hub — 4WD —





REMOVAL AND INSTALLATION

1. Set knob of manual-lock free-running hub in the FREE position.
2. Remove manual-lock free-running hub.
3. When installing manual-lock free-running hub, make sure the hub is in the FREE position.

Apply multi-purpose grease to the parts shown in the above illustration.

4. Check operation of manual-lock free-running hub after installation.

INSPECTION

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

Auto-lock Free-running Hub — 4WD —

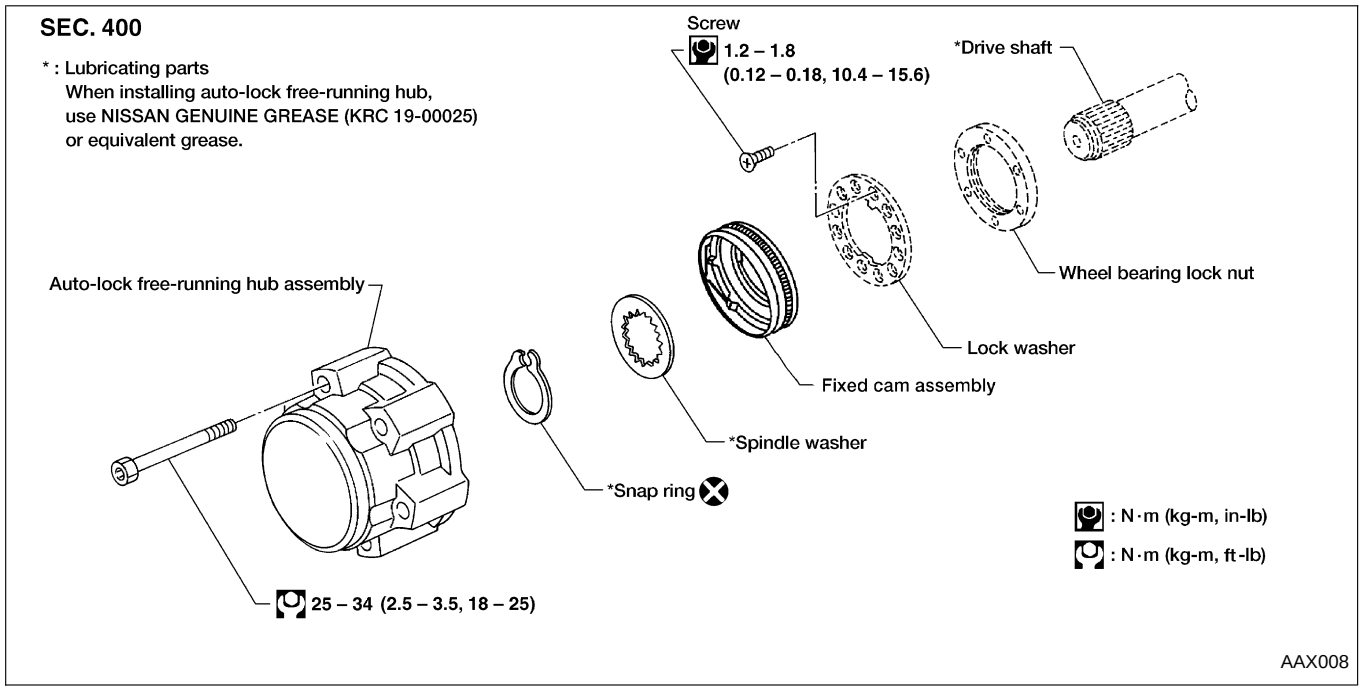
DESCRIPTION

Auto-lock free-running hubs are locked by placing the transfer case into the 4WD mode and moving the vehicle. They are unlocked by placing the transfer case into the 2WD mode and moving the vehicle in reverse gear **in a straight line** for at least 2-3 meters (7-10 feet).

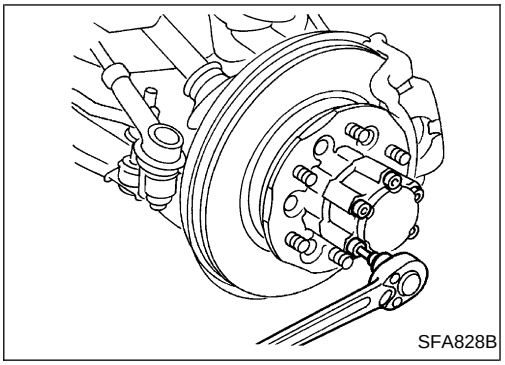
In most cases, the ‘‘ratcheting’’ noise sometimes heard in auto-lock free-running hubs occurs when one hub is locked and the opposite hub is unlocked. The noise is heard in the side opposite to the locked hub. For example, if the noise is heard at the left front wheel, the **right** front hub is still locked and is not unlocking. This condition may be caused by a mechanical condition in one of the hubs or by incorrect operation on the part of the vehicle driver, for example by not backing up in a straight line to unlock the hubs, by not backing up enough, or by shifting into 4WD at too high a vehicle speed, etc.

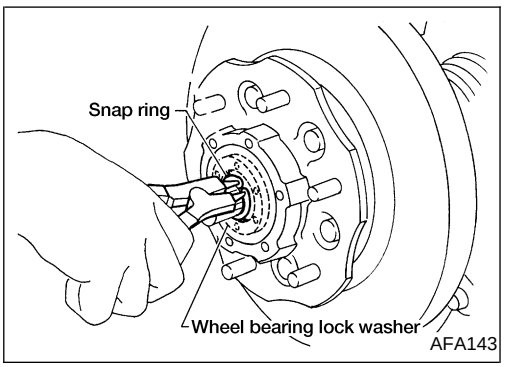
The ratcheting noise does not necessarily cause damage to the good hub. If the noise is caused by incorrect operation, counsel the driver of the vehicle. If replacement is necessary, replace only the defective part. It is not necessary to replace auto-lock free-running hubs in pairs.

Use the trouble diagnosis chart to isolate the cause of the noise. Refer to ‘‘TROUBLE DIAGNOSIS FOR NOISE’’, FA-20.



Auto-lock Free-running Hub — 4WD — (Cont'd)


SFA828B



AFA143

REMOVAL AND INSTALLATION

1. Set auto-lock free-running hub in the FREE position.
2. Remove auto-lock free-running hub assembly.
3. Remove snap ring.
4. Remove spindle washer and fixed cam assembly.
5. Install fixed cam assembly.
   Be sure to align the tabs of the fixed cam assembly to the notches of the knuckle.
6. Place the spindle washer and then the snap ring over the axle shaft and position them between the 2 locking grooves.
7. While supporting the axle shaft behind the knuckle, use an appropriate sized deep socket to securely seat the snap ring into the inner locking groove.

CAUTION:

Visually verify that the snap ring is fully seated into the locking groove.

8. After installing auto-lock free-running hub, check operation.

During installation, apply recommended grease to the parts shown in the above illustration.

INSPECTION

1. Check axle axial end play. Refer to "INSTALLATION ", FA-29.
2. Inspect fixed cam (thrust washer) assembly. If this part shows evidence of galling or heat damage—usually caused by too little axle axial end play—replace as necessary. Check axle axial end play if this part is replaced. Refer to "INSTALLATION", FA-29.
3. Inspect hub assembly. Hold inner splines with a finger and spin the outer body. If the hub shows signs of damage, or if there is excessive metallic clicking when the hub is spun, replace with a new one.

NOTE:

New hubs are greased during manufacture. No additional grease is required.
New hubs are supplied with fixed cam assemblies.

CAUTION:

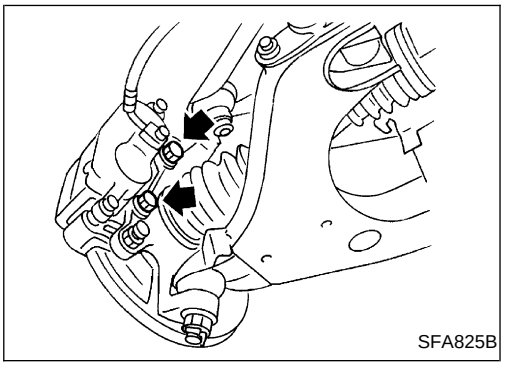
Any hub, the original or a new one, should go onto the axle freely by hand and fit flush against its seat. If it does not fit flush, do not pull the hub into place by tightening the bolts. The hub is possibly misaligned inside and tightening the bolts will cause damage. Remove the hub and turn to align correctly before continuing.

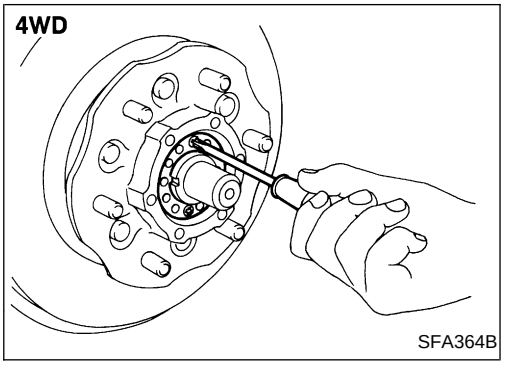
4. Once the repair is completed, test drive to check for correct operation and the absence of noise.

Auto-lock Free-running Hub — 4WD — (Cont'd)

TROUBLE DIAGNOSIS FOR NOISE

Symptom	Possible cause	Repair order
Ratchet noise in hub after shifting the transfer case into 4WD at speeds higher than 40 km/h (25 MPH).	1. Shifting into 4WD at higher speeds is difficult and may cause damage to the transfer case	1. Stop the vehicle or decrease speed to less than 40 km/h (25 MPH). Return the transfer case lever to the 2H position once, then re-shift to the 4H position. Move forward until both hubs lock.
Ratchet noise in hub after shifting or attempting to shift the transfer case into 4WD at speeds less than 40 km/h (25 MPH).	1. Transfer case was not fully engaged or shifting was stopped halfway so that only one hub locked	1. Make sure the 4WD lamp on the dash is "ON" when shifting into 4WD. Slow or stop the vehicle. Shift into 2H, then back to 4H. Move forward until the hubs lock.
Ratchet noise in hub after shifing the transfer case into 4WD on snowy or muddy roads or on slopes.	1. If the rear wheels slip during the hub locking operation, noise can occur in the hubs	1. Reduce engine speed and drive forward slowly. The hubs will lock evenly and the noise will stop.
Ratchet noise in hub after shifting the transfer case into 2WD and backing up to unlock the hubs.	1. The hubs may not be fully released	1. Stop the vehicle, make sure the transfer case lever is fully in the 2H position, then back up slowly in a straight line at least 2-3 meters (7-10 feet).
Ratchet noise in hub when driving in extremely cold weather.	1. The viscosity of differential oil grows higher in extreme cold, increasing the possibility that one hub may lock. A lower viscosity differential fluid may be required for extreme cold temperatures. See owner's manual	1. Shift the transfer case into 4H and drive the vehicle for 10 minutes or more to warm the differential oil. Then shift to 2WD and back up in a straight line for at least 2-3 meters (7-10 feet) to disengage the hubs.
Continual ratchet noise in one wheel when moving forward.	1. A hub may be mechanically locked, either by damage or misinstallation	1. Remove hubs and inspect. Refer to "Inspection", FA-19. Pay special attention to the hub **opposite** the noisy side. The ratcheting does not necessarily cause damage to the good hub.


SFA825B



SFA364B

Wheel Hub and Rotor Disc

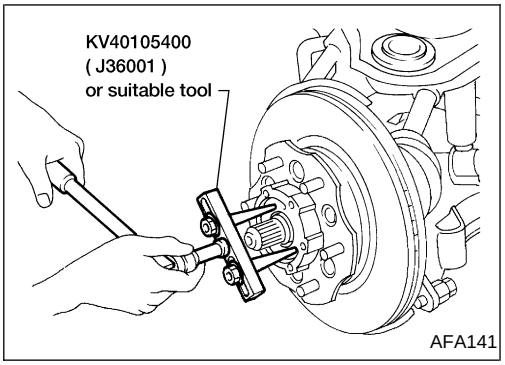
REMOVAL AND INSTALLATION

1. Remove free-running hub assembly. — 4WD — Refer to "Auto-lock Free-running Hub — 4WD —", FA-18, or "Manual-lock Free-running Hub — 4WD —", FA-17.
2. Remove brake caliper assembly without disconnecting hydraulic line.

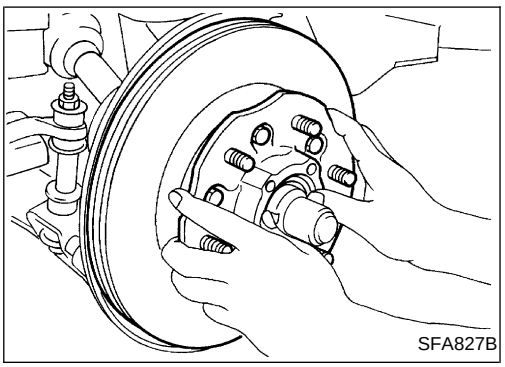
Be careful not to depress brake pedal, or piston will pop out. Make sure brake hose is not twisted.

3. Remove lock washer. — 4WD —

Wheel Hub and Rotor Disc (Cont'd)



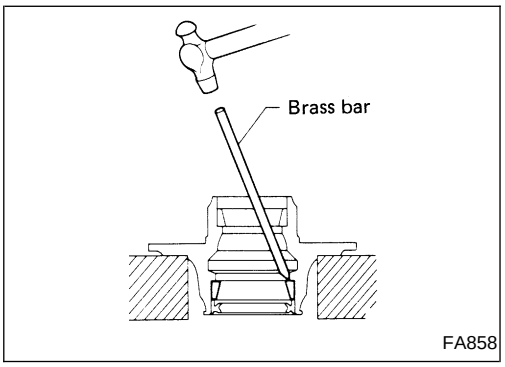
4. Remove wheel bearing lock nut.
   2WD: With suitable tool
   4WD: With Tool



5. Remove wheel hub and wheel bearing.

Be careful not to drop outer bearing.

6. After installing wheel hub and wheel bearing, adjust wheel bearing preload.
   Refer to ''PRELOAD ADJUSTMENT'', ''Front Wheel Bearing'', ''ON-VEHICLE SERVICE'', FA-7.



DISASSEMBLY

- Remove bearing outer races with suitable brass bar.

INSPECTION

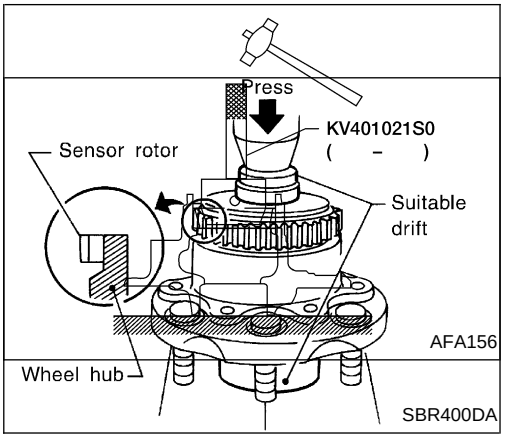
Thoroughly clean wheel bearings and wheel hub.

Wheel bearings

- Make sure wheel bearings roll freely and are free from noise, cracks, pitting and wear.

Wheel hub

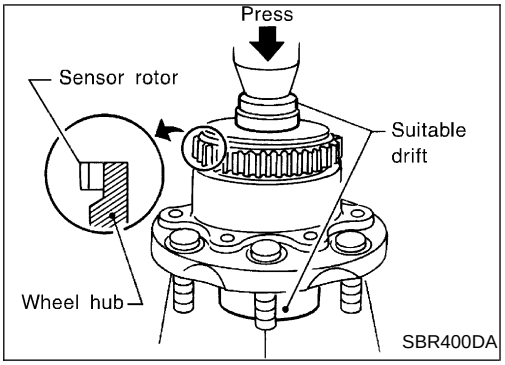
- Check wheel hub for cracks by using a magnetic exploration or dyeing test.



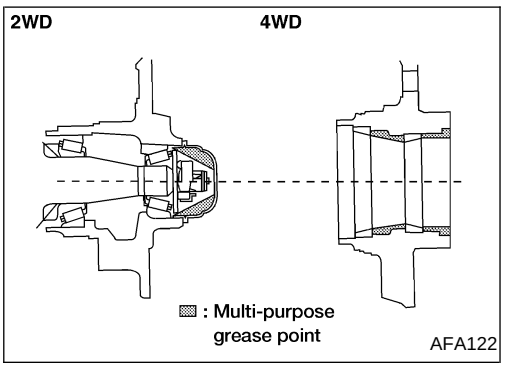
ASSEMBLY

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

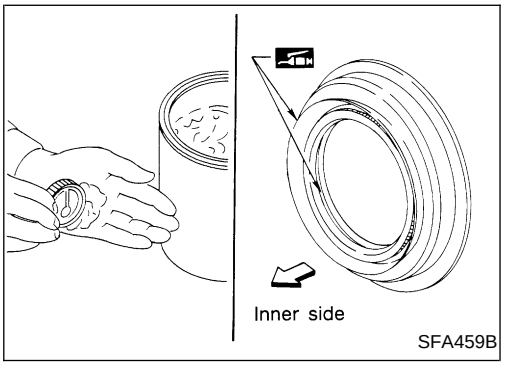
Wheel Hub and Rotor Disc (Cont'd)



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.



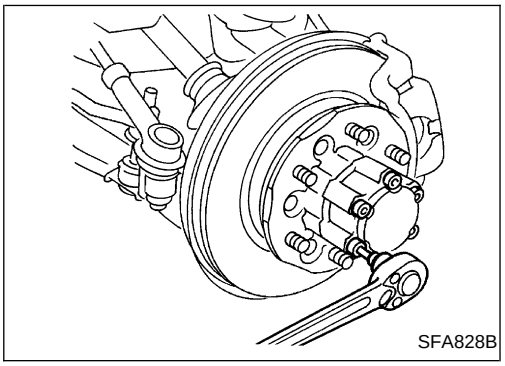
3. Pack multi-purpose grease in wheel hub and hub cap.



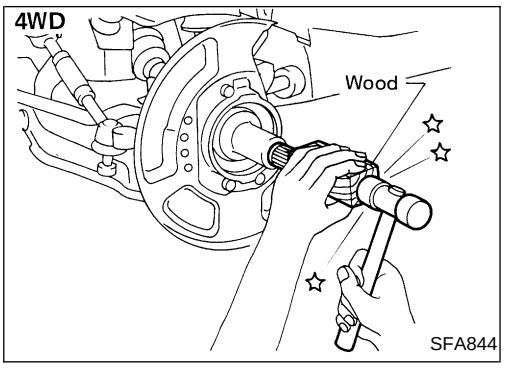
4. Apply multi-purpose grease to each bearing cone.
5. Pack grease seal lip with multi-purpose grease, then install it into wheel hub with suitable drift.

Knuckle Spindle

REMOVAL

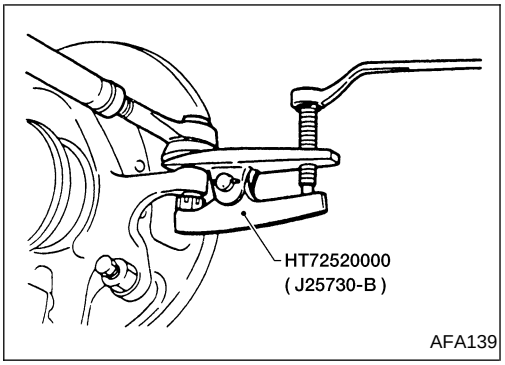


1. Remove free-running hub assembly. — 4WD —
   Refer to "Auto-lock Free-running Hub — 4WD —", FA-18, or "Manual-lock Free-running Hub — 4WD —", FA-17.
2. Remove wheel hub and rotor disc.
   Refer to "Wheel Hub and Rotor Disc", FA-20.



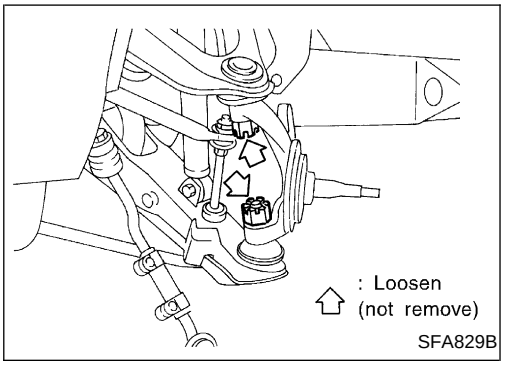
3. Separate drive shaft from knuckle spindle by slightly tapping drive shaft end. — 4WD —

Knuckle Spindle (Cont'd)



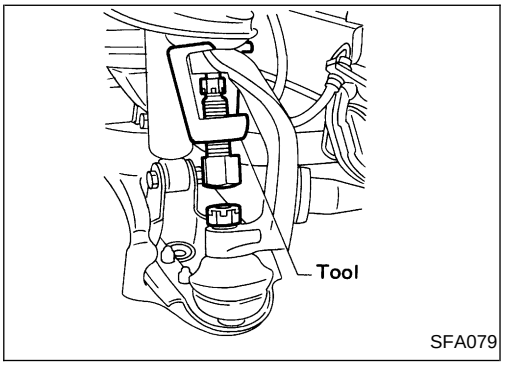
4. Separate tie-rod from knuckle spindle with Tool.

Install stud nut conversely on stud bolt so as not to damage stud bolt.



5. Separate knuckle spindle from ball joints.

a. Loosen (do not remove) upper and lower ball joint tightening nuts.



b. Separate knuckle spindle from upper and lower ball joint studs with Tool.

During above operation, never remove ball joint nuts which are loosened in step (a) above.

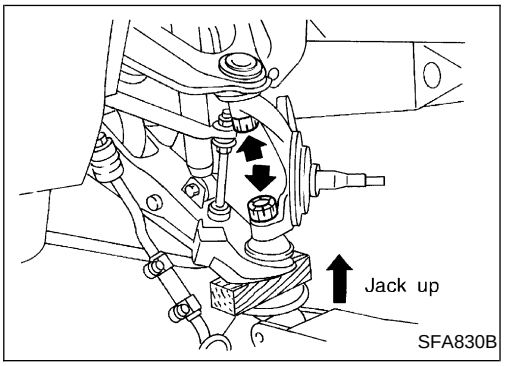
Tool:

2WD

ST29020001 (J24319-01)

4WD

HT72520000 (J25730-B)



c. Remove ball joint tightening nuts.

Support lower link with jack.

d. Remove knuckle spindle from upper and lower links.

INSPECTION

Knuckle spindle

- Check knuckle spindle for deformation, cracks and other damage by using a magnetic exploration or dyeing test.

Bearing spacer — 2WD —

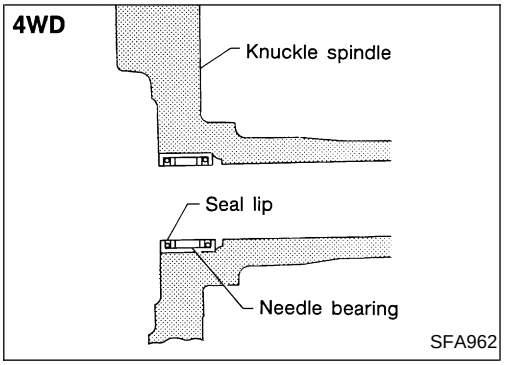
- Check bearing spacer for damage.

Needle bearing — 4WD —

- Check needle bearing for wear, scratches, pitting, flaking and burn marks.

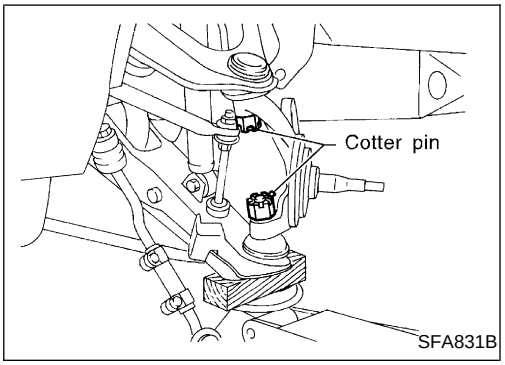
Knuckle Spindle (Cont'd)

INSTALLATION



1. Install needle bearing into knuckle spindle. — 4WD —

Make sure that needle bearing is facing in the proper direction.
Apply multi-purpose grease.

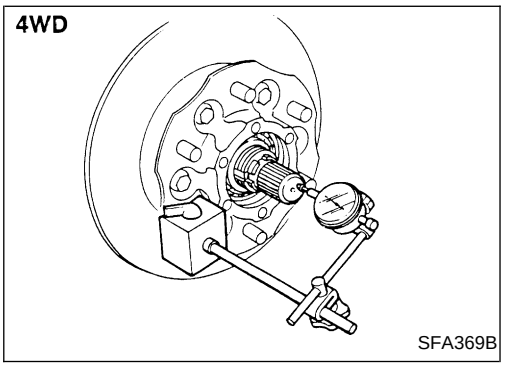


2. Install knuckle spindle to upper and lower ball joints with lower link jacked up.

CAUTION:

Make sure that oil and grease do not come into contact with tapered areas of ball joint, knuckle spindle and threads of ball joint.

3. Connect tie-rod to knuckle spindle.

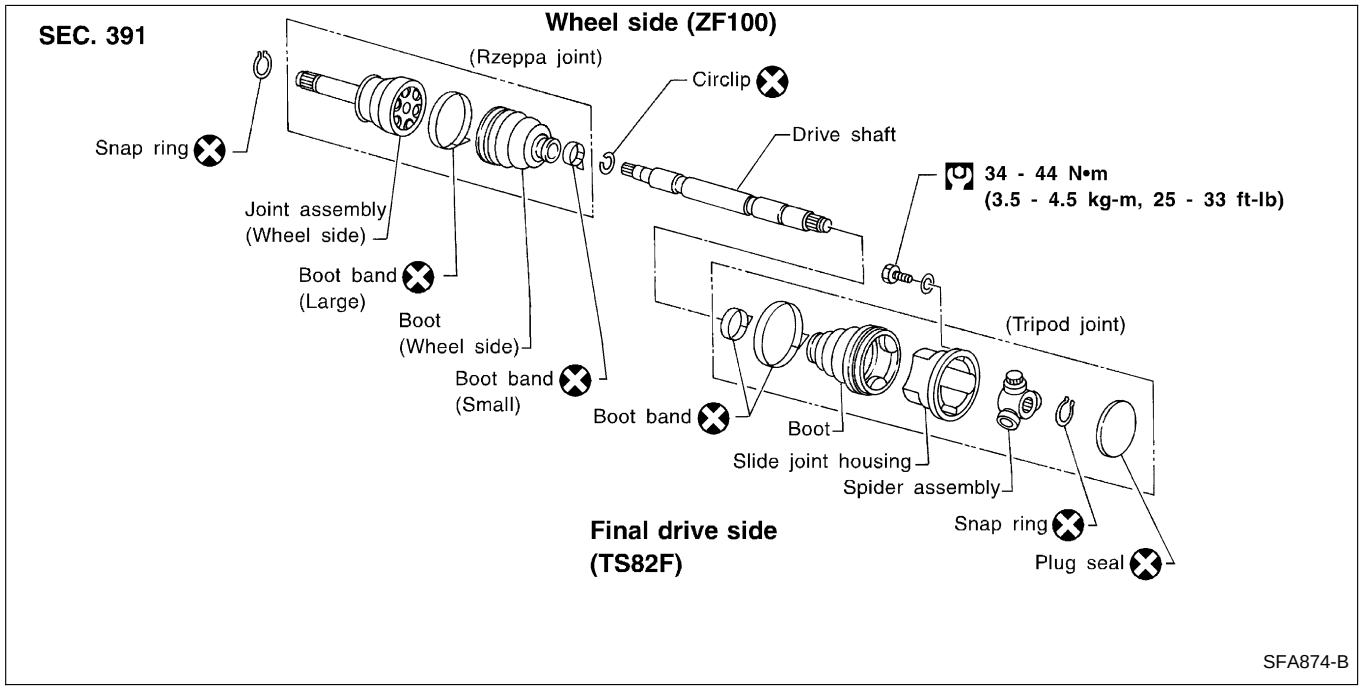


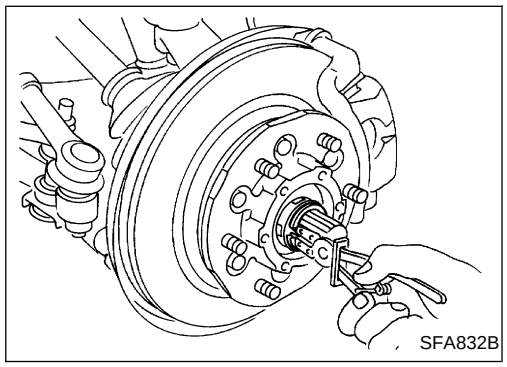
4. After installing knuckle spindle, adjust wheel bearing preload. Refer to "PRELOAD ADJUSTMENT", "Front Wheel Bearing", "ON-VEHICLE SERVICE", FA-7.
5. After installing drive shaft, check drive shaft axial end play.

Do not reuse snap ring once it has been removed.

Refer to "Drive Shaft — 4WD —", FA-25.

Drive Shaft — 4WD —

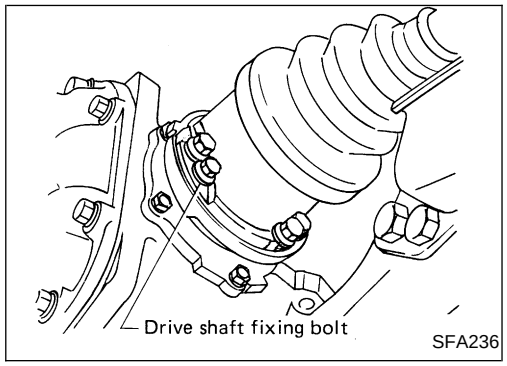




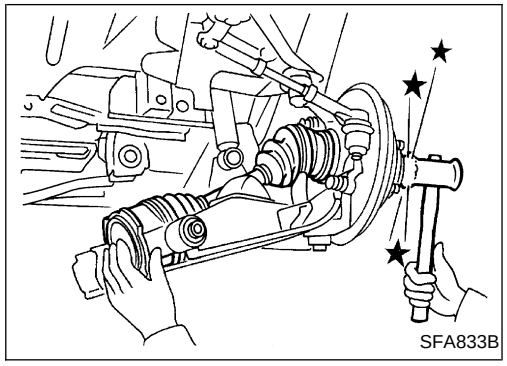
REMOVAL

1. Remove free-running hub or drive flange and snap ring. Refer to ‘‘Auto-lock Free-running Hub — 4WD —’’, FA-18, or ‘‘Manual-lock Free-running Hub — 4WD —’’, FA-17.
2. Remove torsion bar spring. Refer to ‘‘Torsion Bar Spring’’, ‘‘FRONT SUSPENSION’’, FA-32.
3. Remove shock absorber lower fixing bolt.
4. Remove lower link, fixing bolts.

Support lower link with jack.



5. Remove bolts fixing drive shaft to final drive.

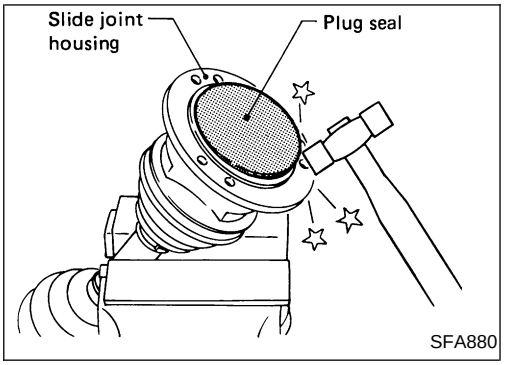


6. Separate drive shaft from knuckle spindle by slightly tapping end of drive shaft.

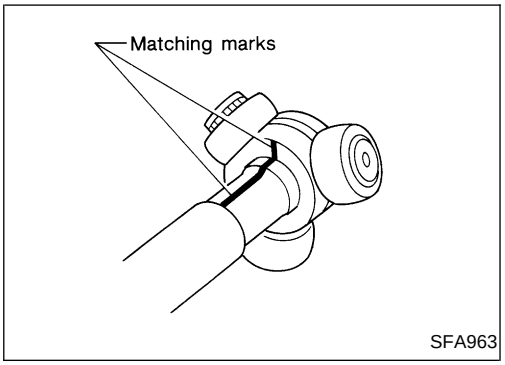
Drive Shaft — 4WD — (Cont'd)

DISASSEMBLY

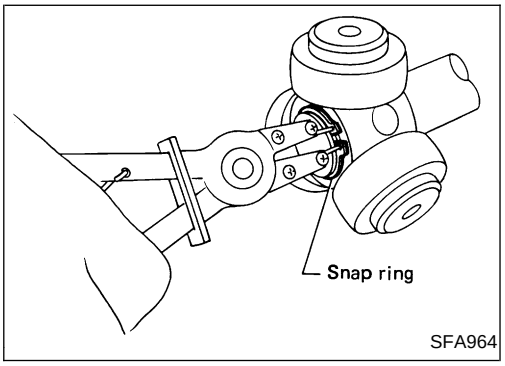
Final drive side (TS82F)



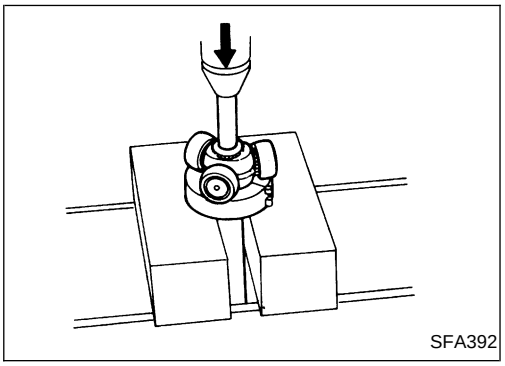
1. Remove plug seal from slide joint housing by lightly tapping around slide joint housing.
2. Remove boot bands.



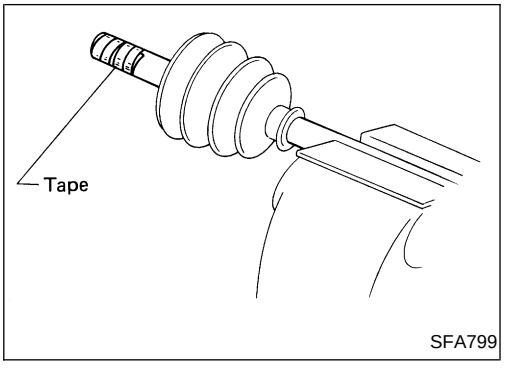
3. Move boot and slide joint housing toward wheel side, and put matching marks.



4. Remove snap ring.



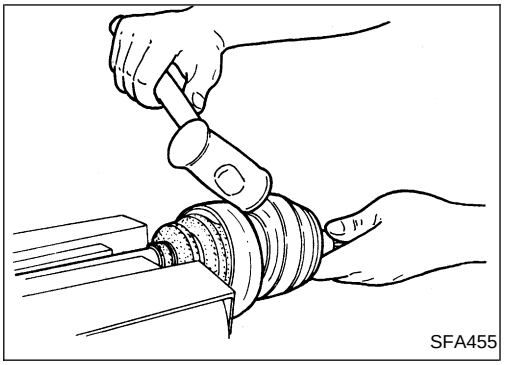
5. Detach spider assembly with press.



6. Draw out boot.

Cover drive shaft serration with tape to prevent damaging the boot.

Drive Shaft — 4WD — (Cont'd)


SFA455

Wheel side (ZF100)

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 suitable tool.

Be careful not to damage threads on drive shaft.

- Remove boot bands.

INSPECTION

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

Drive shaft

Replace drive shaft if it is twisted or cracked.

Boot

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

Joint assembly (Final drive side)

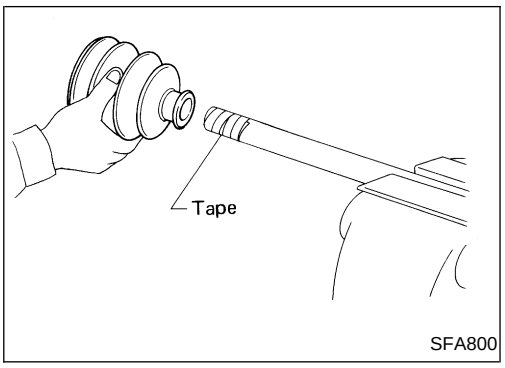
- Replace any parts of double offset joint which show signs of scorching, rust, wear or excessive play.
- Check serration for deformation. Replace if necessary.
- Check slide joint housing for any damage. Replace if necessary.

Joint assembly (Wheel side)

Replace joint assembly if it is deformed or damaged.

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.**



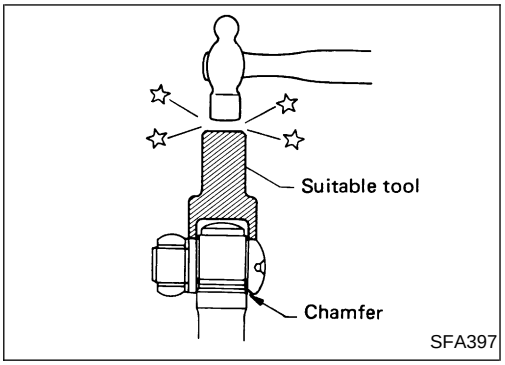
SFA800

Final drive side (TS82F)

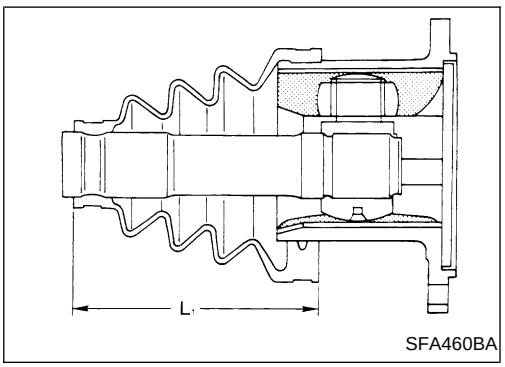
1. Install new small boot band, boot and side joint housing to drive shaft.

Cover drive shaft serration with tape to prevent damaging boot during installation.

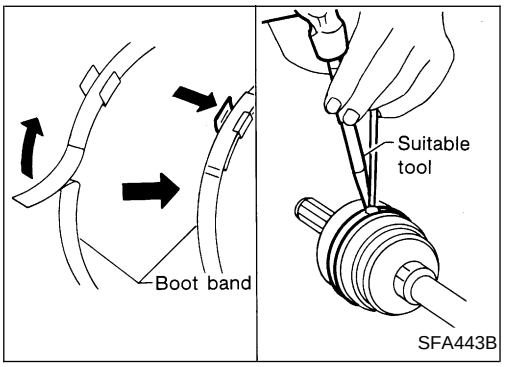
Drive Shaft — 4WD — (Cont'd)



2. Install spider assembly securely, making sure marks are properly aligned.
- **Press-fit with spider assembly serration chamfer facing shaft.**
3. Install new snap ring.



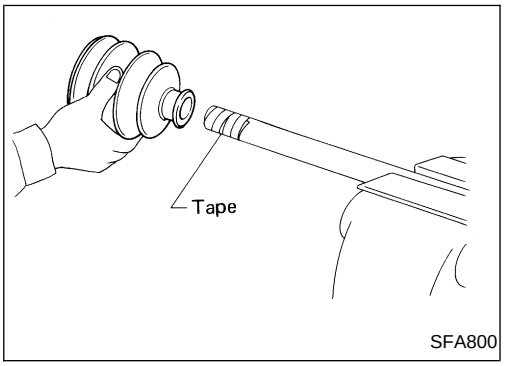
4. Pack with grease.
   Specified amount of grease:
   95 - 105 g (3.35 - 3.70 oz)
5. Make sure that the boot is properly installed on the drive shaft groove. Set the boot so that it does not swell or deform when its length is "L_1".
   Length "L_1": 95 - 97 mm (3.74 - 3.82 in)



6. Lock new large boot band securely with a suitable tool, then lock new small boot band.
7. Install new plug seal to slide joint housing by lightly tapping it.

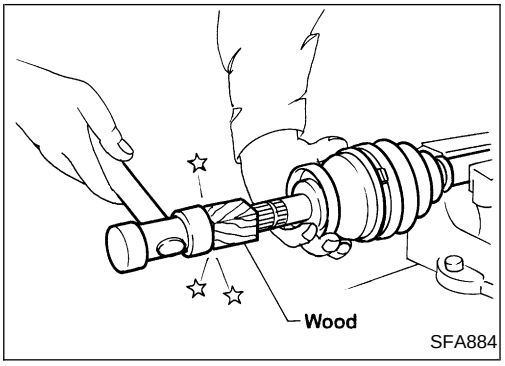
Apply sealant to mating surface of plug seal.

Wheel side (ZF100)



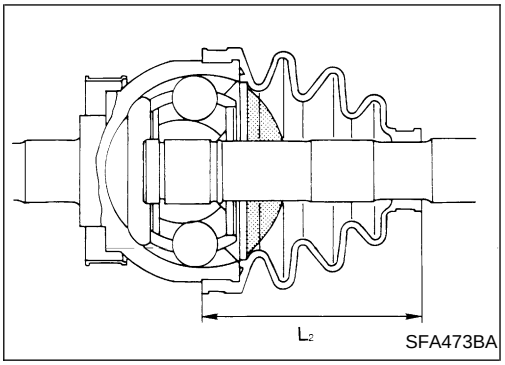
1. Install new small boot band and boot on drive shaft.

Cover drive shaft serration with tape to prevent damaging boot during installation.

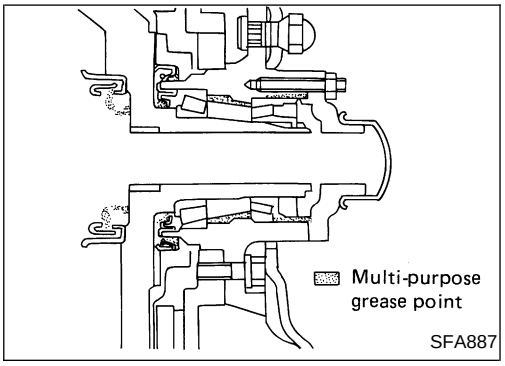


2. Set joint assembly onto drive shaft by lightly tapping it.
   Install joint assembly securely, ensuring that marks which were made during disassembly are properly aligned.

Drive Shaft — 4WD — (Cont'd)

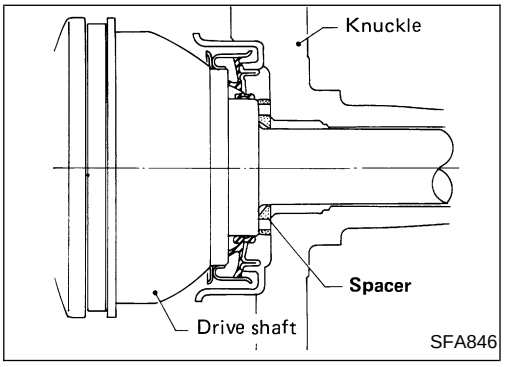


3. Pack drive shaft with specified amount of grease.
   Specified amount of grease:
   135 - 145 g (4.76 - 5.11 oz)
4. Make sure that the boot is properly installed on the drive shaft groove. Set the boot so that it does not swell or deform when its length is "L_2".
   Length "L_2": 96 - 98 mm (3.78 - 3.86 in)
5. Lock new large boot band securely with a suitable tool.
6. Lock new small boot band.



INSTALLATION

1. Apply multi-purpose grease.



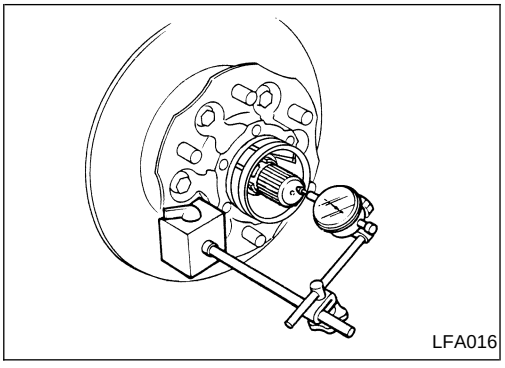
2. Install bearing spacer onto drive shaft.

Make sure that the bearing spacer is facing in the proper direction.

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

4. When installing drive shaft, adjust drive shaft axial end play by selecting a suitable snap ring.

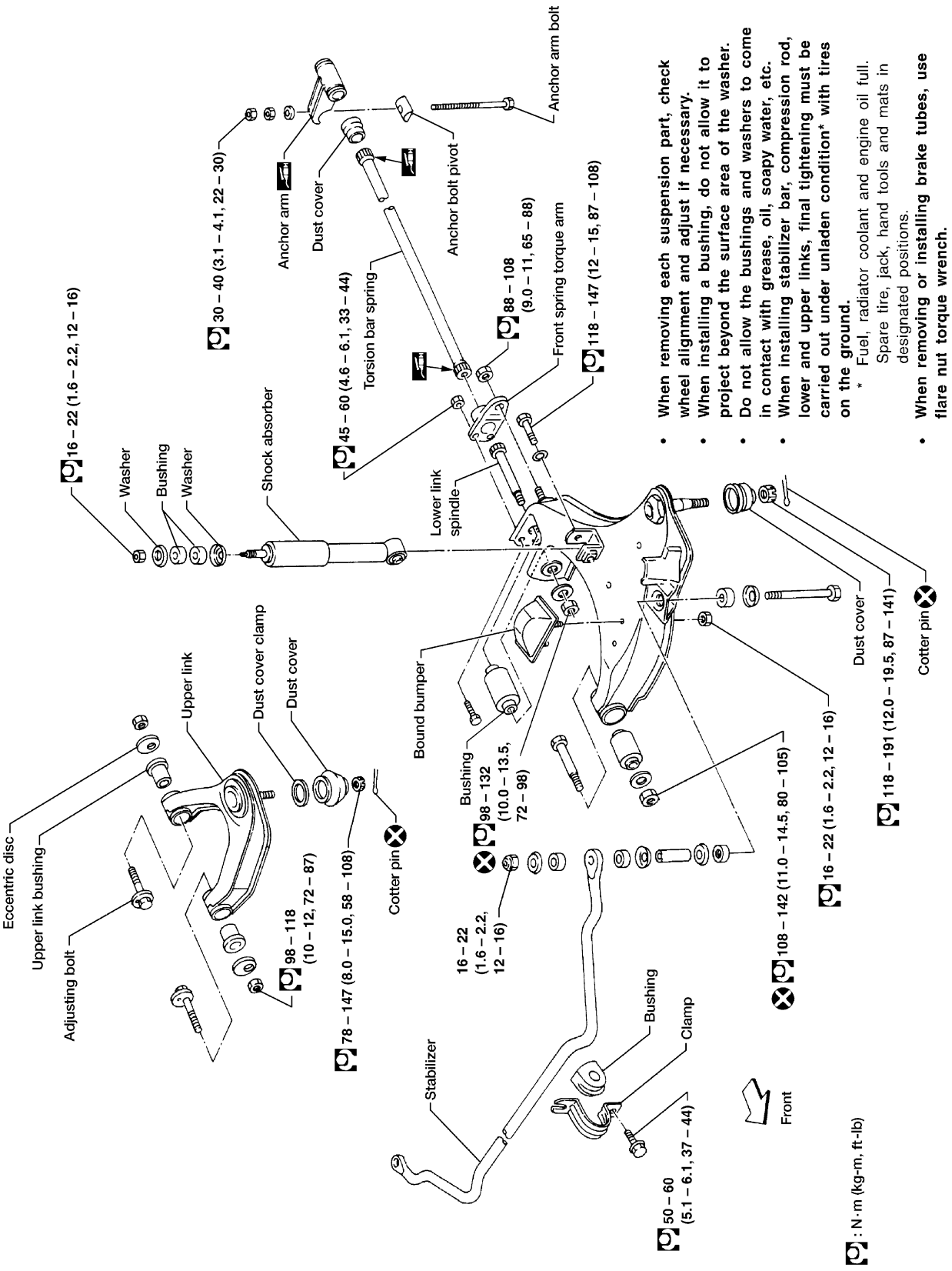
a. Install fixed cam assembly and spindle washer.
b. Temporarily install new snap ring on drive shaft in the same thickness as it was installed before removal.



c. Set dial gauge on drive shaft end.
d. Measure axial end play of drive shaft.
   Axial end play:
   0.10 – 0.45 mm (0.004 – 0.0177 in)
e. If axial end play is not within the specified limit, select another snap ring.

1.1 mm (0.043 in)	**1.3 mm (0.051 in)**
1.5 mm (0.059 in)	**1.7 mm (0.067 in)**
1.9 mm (0.075 in)	**2.1 mm (0.083 in)**
2.3 mm (0.091 in)	

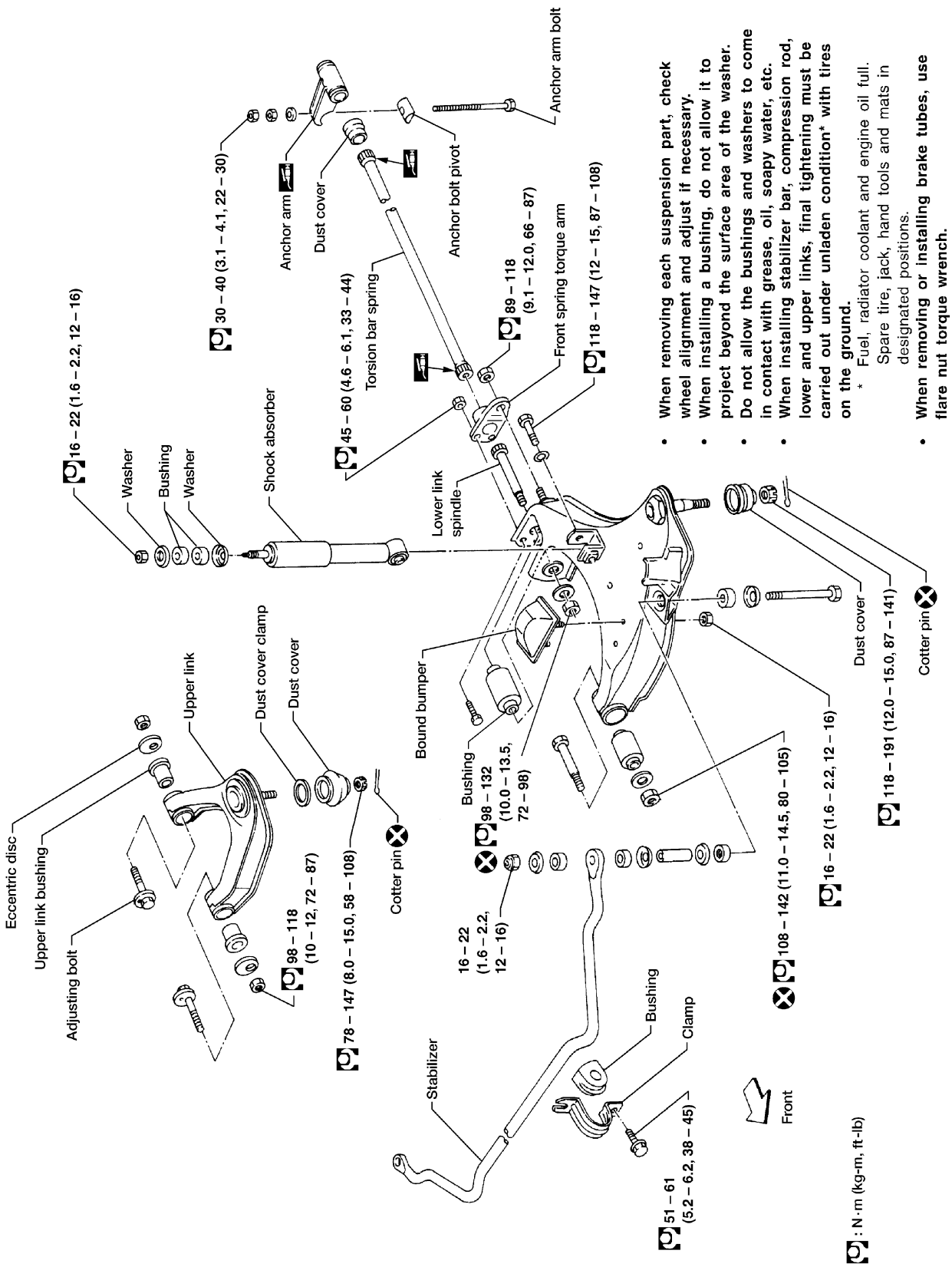
2WD



SEC. 401

ASU059

4WD

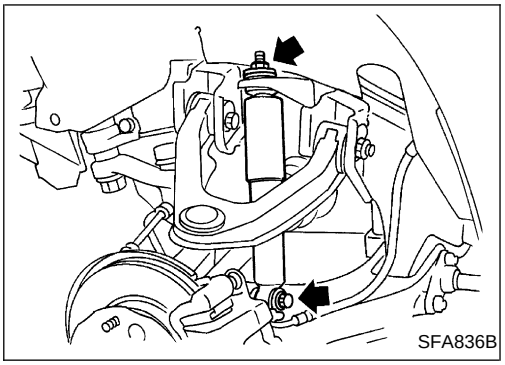


- When removing each suspension part, check wheel alignment and adjust if necessary.
- When installing a bushing, do not allow it to project beyond the surface area of the washer.
- Do not allow the bushings and washers to come in contact with grease, oil, soapy water, etc.
- When installing stabilizer bar, compression rod, lower and upper links, final tightening must be carried out under unladen condition* with tires on the ground.

  * Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- When removing or installing brake tubes, use flare nut torque wrench.

SEC. 401

AFA162


SFA836B

Shock Absorber

REMOVAL AND INSTALLATION

1. Support lower link with jack.
2. Remove bolt and nut that hold shock absorber.

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.

Torsion Bar Spring

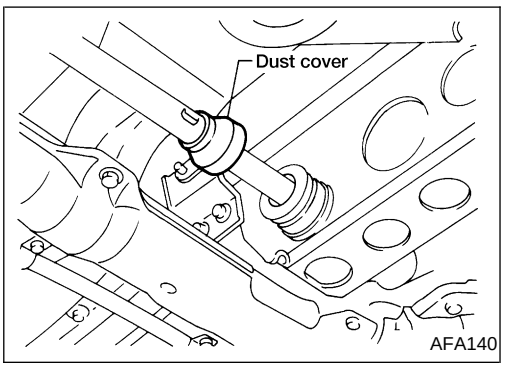
REMOVAL

1. Move dust cover.
2. Paint matching marks on the torsion bar spring and the corresponding arm.

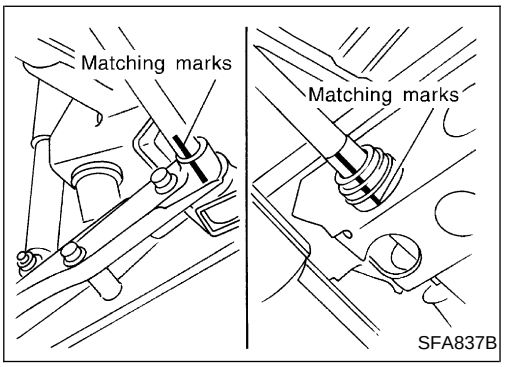
Always use paint to place the matching mark; do not scribe the affected parts.

3. Measure anchor bolt protrusion "L" and remove the lock nut and adjusting nut.

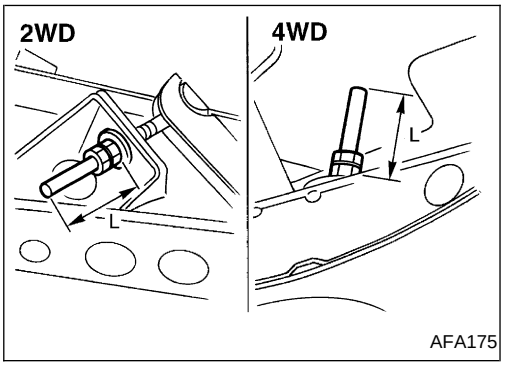
Before removing the nuts, ensure that twisting force is eliminated from the torsion bar springs.



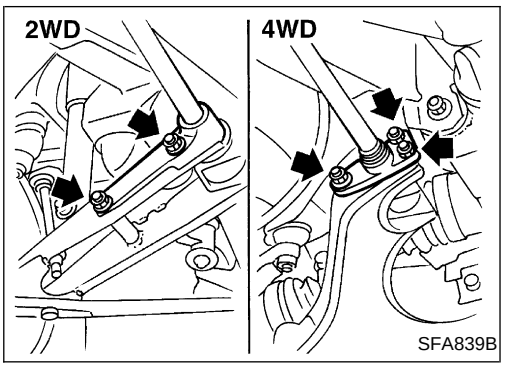
AFA140



SFA837B



AFA175



SFA839B

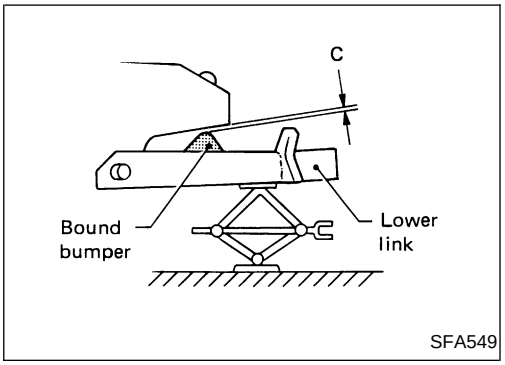
4. Remove torsion bar spring.

- Pull out anchor arm rearward, then withdraw torsion bar spring rearward. — 2WD —
- Remove torque arm. — 2WD —
- Remove torque arm fixing nuts, then withdraw torsion bar spring forward with torque arm. — 4WD —

Torsion Bar Spring (Cont'd)

INSPECTION

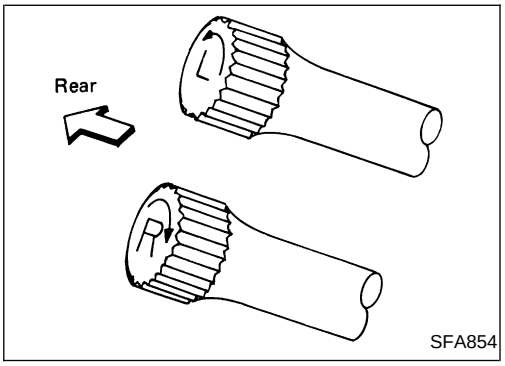
- Check torsion bar spring for wear, twist, bend and other damage.
- Check serrations of each part for cracks, wear, twist and other damage.
- Check dust cover for cracks.



INSTALLATION AND ADJUSTMENT

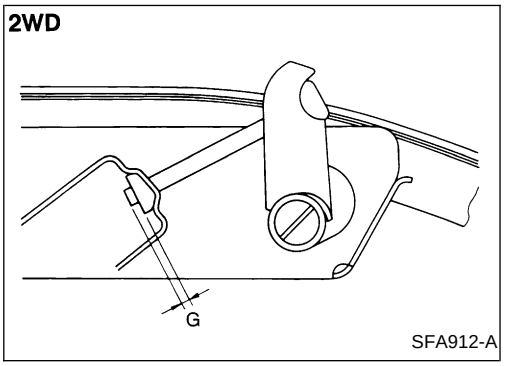
Adjustment of anchor arm adjusting nut is in tightening direction only.
Do not adjust by loosening anchor arm adjusting nut.

1. Install torque arm to lower link. — 2WD —
2. Coat multi-purpose grease on the serration of torsion bar spring.
3. Place lower link in the position where bound bumper clearance "C" is 0.
   Clearance "C": 0 mm (0 in)

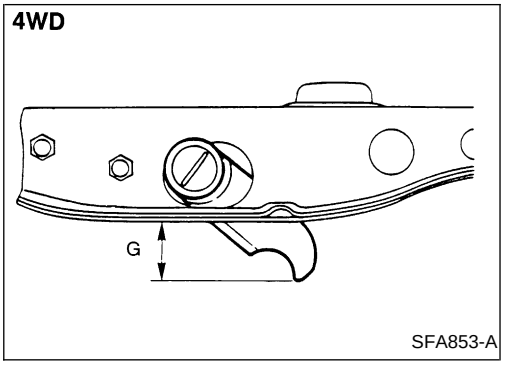


4. Install torsion bar spring. — 2WD —
   Install torsion bar spring with torque arm. — 4WD —

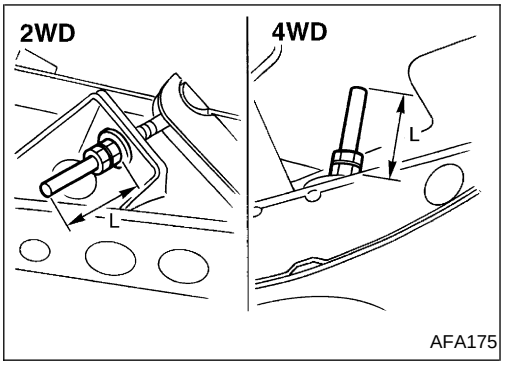
Be sure to install right and left torsion bar springs correctly.



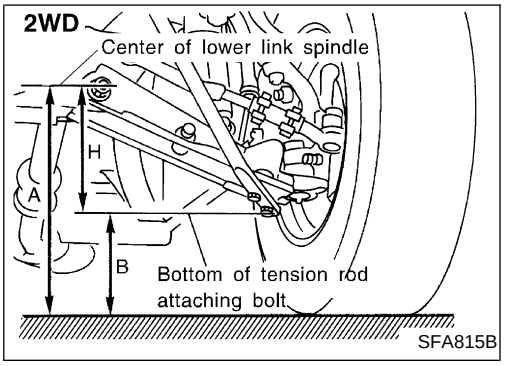
5. While aligning the anchor arm with the matching mark, install the anchor arm to the torsion bar spring.
   If a new torsion bar spring or anchor arm is installed, adjust anchor arm length to the dimension indicated in the figure at the left.
   Standard length "G":
   2WD
   6 - 18 mm (0.24 - 0.71 in)
   4WD
   25 - 39 mm (0.98 - 1.54 in)



Torsion Bar Spring (Cont'd)

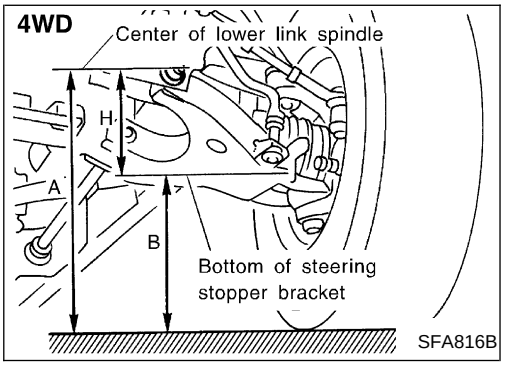


6. Tighten the adjusting nut so the torsion bar length corresponds with dimension "L" previously measured during torsion bar removal. Tighten the lock nut to specifications.
   If a new torsion bar spring or anchor arm is installed, tighten the adjusting nut to the dimension indicated in the figure at the left, then tighten the lock nut to specifications.
   Standard length "L":
   2WD
   54 mm (2.13 in)
   4WD
   70 mm (2.76 in)

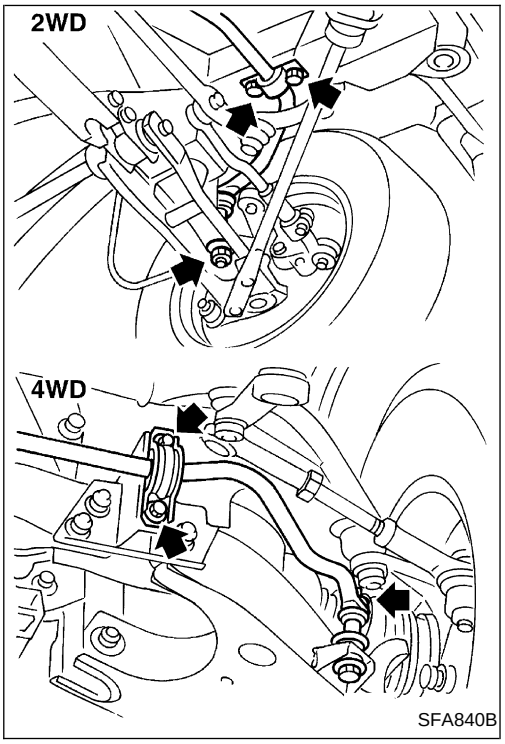


7. Bounce vehicle with tires on ground (Unladen) to eliminate friction of suspension.
8. Measure vehicle posture "H".

a. Exercise the front suspension by bouncing the front of the vehicle 4 or 5 times to ensure that the vehicle is in a neutral height attitude.
b. Measure vehicle posture ... Dimension "H".
   H = A − B mm (in) "Unladen"
   Refer to "WHEEL ALIGNMENT (Unladen)", "SDS", FA-40.



9. If height of the vehicle is not within allowable limit, adjust vehicle posture.
   Refer to "WHEEL ALIGNMENT (Unladen)", "SDS", FA-40.
10. Check wheel alignment if necessary.
    Refer to "WHEEL ALIGNMENT (Unladen)", "SDS", FA-40.



Stabilizer Bar

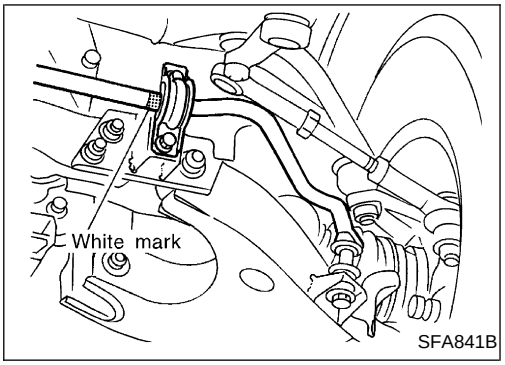
REMOVAL

- 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.

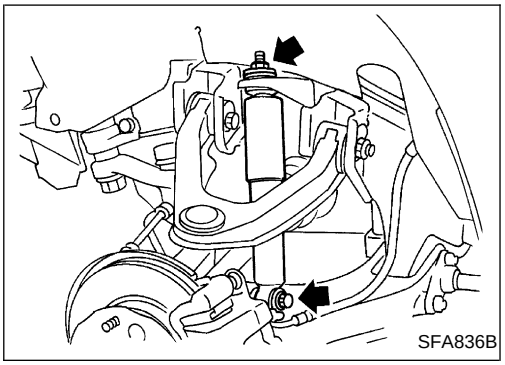
Stabilizer Bar (Cont'd)



INSTALLATION

- Install bushing outside of white mark painted on stabilizer.

Upper Link

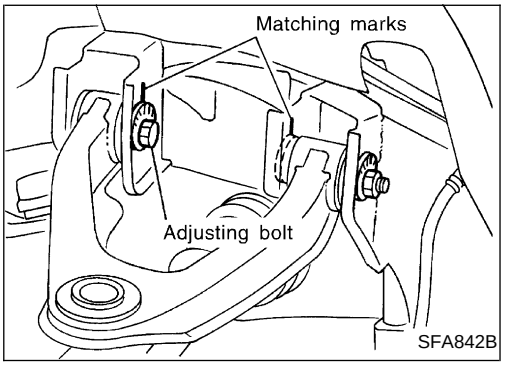


REMOVAL

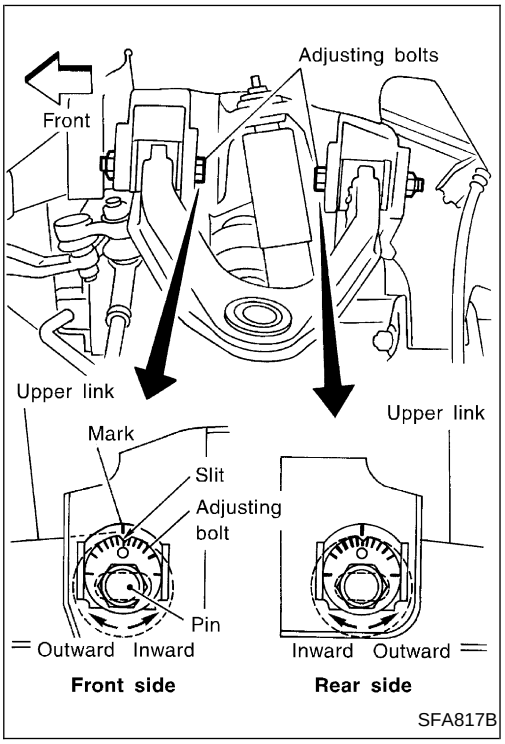
1. Remove shock absorber. Refer to ''Shock Absorber'', FA-32.
2. Separate upper ball joint stud from knuckle spindle.

Support lower link with jack.

Refer to ''Knuckle Spindle'', ''FRONT AXLE'', FA-22.



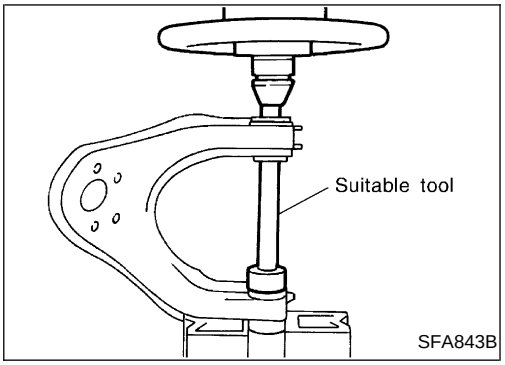
3. Put matching marks on adjusting bolts and remove adjusting bolts.



INSTALLATION

1. While aligning the adjusting bolts with the matching marks, install the upper link.
   If a new upper link or any other suspension part is installed, align the matching mark with the slit as indicated in the figure at the left, then install the upper link.
   Refer to ''Front Wheel Alignment'', ''ON-VEHICLE SERVICE'', FA-9.
2. Install shock absorber.
3. Tighten adjusting bolts under unladen condition with tires on ground.
4. After installing, check wheel alignment. Adjust if necessary. Refer to FA-9.

Upper Link (Cont'd)

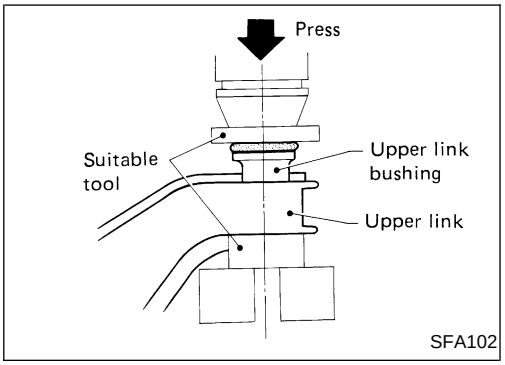


DISASSEMBLY

- Press out upper link bushings.

INSPECTION

- Check adjusting bolts and rubber bushings for damage. Replace if necessary.
- Check upper link for deformation and cracks. Replace if necessary.

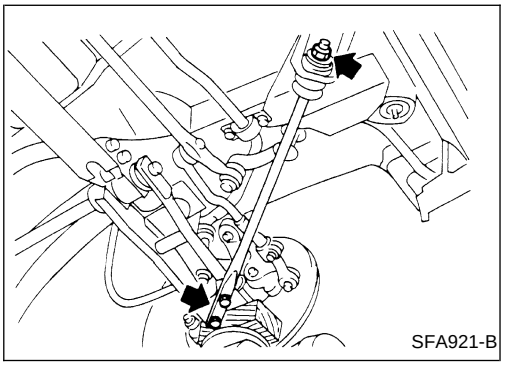


ASSEMBLY

1. Apply soapsuds to rubber bushing.
2. Press upper link bushing.

Press bushing so that the flange of bushing securely contacts the end surface of the upper link collar.

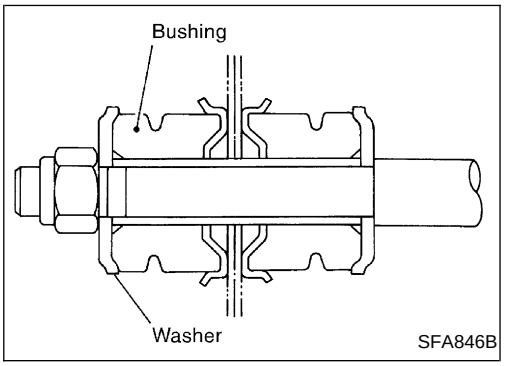
Tension Rod



REMOVAL AND INSTALLATION

1. Remove fixing nuts on lower link and frame.

Support lower link with jack.



2. Install tension rod.

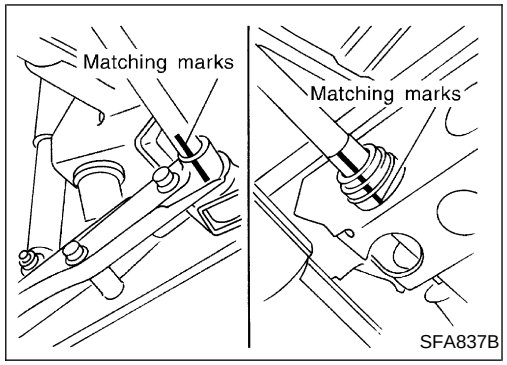
Make sure that the bushings and washers are installed properly.

INSPECTION

- Check tension rod for deformation and cracks. Replace if necessary.
- Check rubber bushings for damage. Replace if necessary.

Tension Rod (Cont'd)

Lower Link

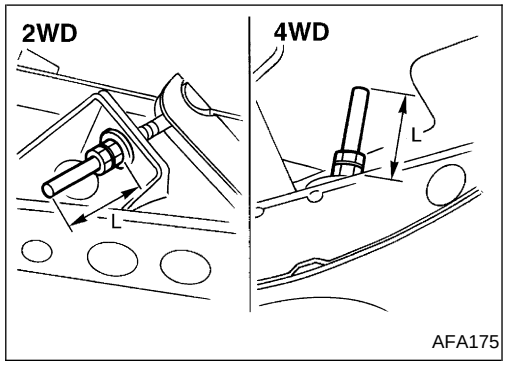


REMOVAL AND INSTALLATION

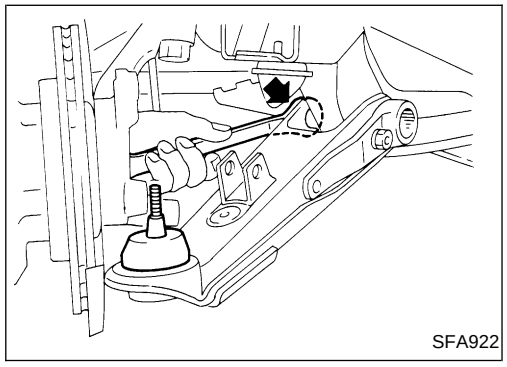
1. Remove torsion bar spring. Refer to ''REMOVAL'', ''Torsion Bar Spring'', FA-32.

Make matching marks and measure dimension "L'' when loosening adjusting nut until there is no tension on torsion bar spring.

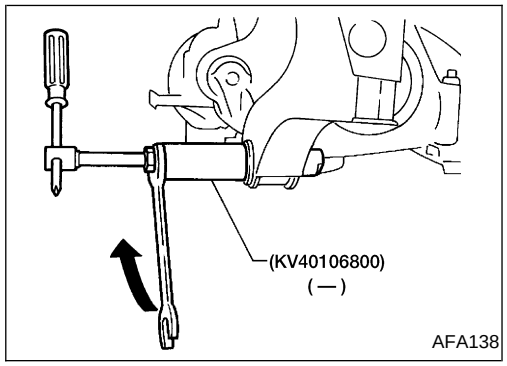
2. Remove shock absorber lower fixing bolt.
3. Remove stabilizer bar connecting bolt.
4. Separate drive shaft from front final drive. — 4WD — Refer to ''Drive Shaft —4WD —'', ''FRONT AXLE'', FA-25.
5. Separate lower link ball joint from knuckle spindle. Refer to ''Knuckle Spindle'', ''FRONT AXLE'', FA-22.



6. Remove front lower link fixing nut.



7. Remove bushing of lower link spindle from frame with Tool.
8. After installing lower link, adjust wheel alignment and vehicle height. Refer to ''Front Wheel Alignment'', ''ON-VEHICLE SERVICE'', FA-9.



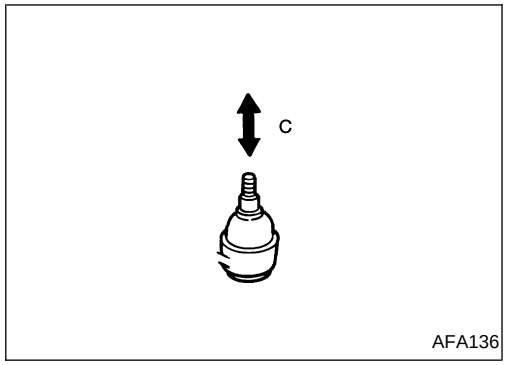
INSPECTION

Lower link and lower link spindle

- Check for deformation and cracks. Replace if necessary.

Lower link bushing

- Check for distortion and damage. Replace if necessary.



Upper Ball Joint and Lower Ball Joint

REMOVAL AND INSTALLATION

- Separate knuckle spindle from upper and lower links.
  Refer to ‘‘Knuckle Spindle’’, ‘‘FRONT AXLE’’, FA-22.

INSPECTION

- Check joints for play. If ball is worn and play in axial direction is excessive or joint is hard to swing, replace as a upper link or lower link.

  Axial end play “C”:
  Upper link
  0 mm (0 in)
  Lower link
  2WD 1.3 mm (0.051 in) or less
  4WD 0.2 mm (0.008 in) or less

- Check dust cover for damage.
  Replace dust cover and dust cover clamp if necessary.

General Specifications

Suspension type	Independent double wishbone torsion bar spring
Shock absorber type	Double-acting hydraulic
Stabilizer	Standard equipment

Inspection and Adjustment

WHEEL BEARING

2WD

Wheel bearing axial end play mm (in)	0 (0)
Wheel bearing lock nut	
Tightening torque N·m (kg-m, ft-lb)	34 - 39 (3.5 - 4.0, 25 - 29)
Return angle degree	45° - 60°
Wheel bearing starting torque	
At wheel hub bolt With new grease seal N (kg, lb)	9.8 - 28.4 (1.0 - 2.9, 2.2 - 6.4)
With used grease seal N (kg, lb)	9.8 - 23.5 (1.0 - 2.4, 2.2 - 5.3)

4WD

Wheel bearing lock nut	
Tightening torque N·m (kg-m, ft-lb)	78 - 98 (8 - 10, 58 - 72)
Retightening torque after loosening wheel bearing lock nut N·m (kg-m, ft-lb)	0.5 - 1.5 (0.05 - 0.15, 0.4 - 1.1)
Axial end play mm (in)	0 (0)
Starting force at wheel hub bolt N (kg, lb)	A
Turning angle degree	15° - 30°
Starting force at wheel hub bolt N (kg, lb)	B
Wheel bearing preload at wheel hub bolt N (kg, lb)	
B − A	7.06 - 20.99 (0.72 - 2.14, 1.59 - 4.72)

WHEEL RUNOUT AVERAGE*

Wheel type	Aluminum	Steel		
		15 inches	14 inches	
			Painted	Plated
Radial runout limit mm (in)	0.3 (0.012)	0.8 (0.031)	0.5 (0.020)	0.6 (0.024)
Lateral runout limit mm (in)	0.3 (0.012)	0.8 (0.031)	0.8 (0.031)	0.8 (0.031)

UPPER BALL JOINT

Vertical end play "C" mm (in)	0 (0)

LOWER BALL JOINT

Applied model	2WD	4WD
Vertical end play "C" mm (in)	1.3 (0.051) or less	0.2 (0.008 in) or less

Inspection and Adjustment (Cont'd)

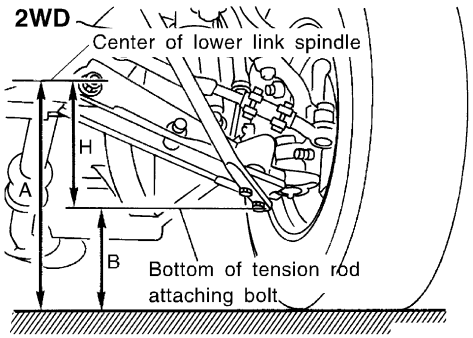
WHEEL ALIGNMENT (Unladen*1)

2WD

Camber	Degree minute (Decimal degree)	Minimum		−0°05′ (−0.08°)	
		Nominal		0°25′ (0.42°)	
		Maximum		0°55′ (0.92°)	
		Left and right difference		45′ (0.75°) or less	
Caster	Degree minute (Decimal degree)	Minimum		0°06′ (0.10°)	
		Nominal		0°36′ (0.60°)	
		Maximum		1°06′ (1.10°)	
		Left and right difference		45′ (0.75°) or less	
Kingpin inclination	Degree minute (Decimal degree)	Minimum		8°35′ (8.58°)	
		Nominal		9°05′ (9.08°)	
		Maximum		9°35′ (9.58°)	
Total toe-in					
Distance (A - B) mm (in)		Radial tire	Minimum	2 (0.08)	
			Nominal	3 (0.12)	
			Maximum	4 (0.16)	
Angle (left plus right)	Degree minute (Decimal degree)	Radial tire	Minimum	10′ (0.17°)	
			Nominal	15′ (0.25°)	
			Maximum	20′ (0.33°)	

				Except P215/65R15	P215/65R15
Wheel turning angle					
Full turn*2	Inside	Degree minute (Decimal degree)	Minimum	36°00′ (36.00°)	35°00′ (35.00°)
			Nominal	38°00′ (38.00°)	37°00′ (37.00°)
			Maximum	38°00′ (38.00°)	37°00′ (37.00°)
	Outside	Degree minute (Decimal degree)	Minimum	32°36′ (32.60°)	31°36′ (31.60°)
			Nominal	34°36′ (34.60°)	33°36′ (33.60°)
			Maximum	34°36′ (34.60°)	33°36′ (33.60°)

Vehicle posture		
Lower arm pivot height (H)	mm (in)	111 - 115 (4.37 - 4.53)



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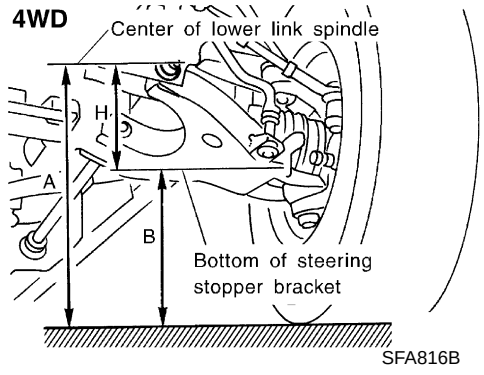
*1: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

*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.

Inspection and Adjustment (Cont'd)

4WD

Camber	Degree minute (Decimal degree)	Minimum		0°06′ (0.10°)	
		Nominal		0°36′ (0.60°)	
		Maximum		1°06′ (1.10°)	
		Left and right difference		45′ (0.75°) or less	
Caster	Degree minute (Decimal degree)	Minimum		1°40′ (1.67°)	
		Nominal		2°10′ (2.17°)	
		Maximum		2°40′ (2.67°)	
		Left and right difference		45′ (0.75°) or less	
Kingpin inclination	Degree minute (Decimal degree)	Minimum		10°18′ (10.30°)	
		Nominal		10°48′ (10.80°)	
		Maximum		11°18′ (11.30°)	
Total toe-in					
Distance (A - B) mm (in)		Radial tire	Minimum	3 (0.12)	
			Nominal	4 (0.16)	
			Maximum	5 (0.20)	
Angle (left plus right)	Degree minute (Decimal degree)	Radial tire	Minimum	15′ (0.25°)	
			Nominal	20′ (0.33°)	
			Maximum	25′ (0.42°)	
Wheel turning angle				Except P265/70R15	P265/70R15
Full turn*2	Inside	Minimum		33°06′ (33.10°)	31°00′ (31.00°)
		Nominal		35°06′ (35.10°)	33°00′ (33.00°)
		Maximum		35°06′ (35.10°)	33°00′ (33.00°)
	Outside	Minimum		31°12′ (31.20°)	29°00′ (29.00°)
		Nominal		33°12′ (33.20°)	31°00′ (31.00°)
		Maximum		33°12′ (33.20°)	31°00′ (31.00°)
Vehicle posture					
Lower arm pivot height (H) mm (in)				45.5 - 49.5 (1.791 - 1.949)	

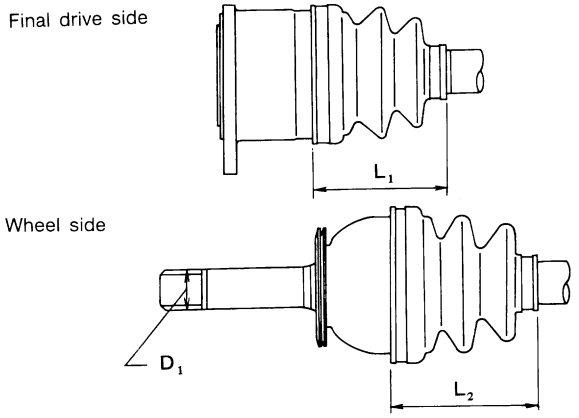


*2: On power steering models, wheel turning force (at circumference of steering wheel) of 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine idle.

Inspection and Adjustment (Cont'd)

DRIVE SHAFT (4WD)

Drive shaft joint type	
Final drive side	TS82F
Wheel side	ZF100
Fixed joint axial end play limit mm (in)	1 (0.04)
Diameter mm (in)	
Wheel side (D_1)	29.0 (1.142)
Grease	
Quality	Nissan genuine grease or equivalent
Capacity g (oz)	
Final drive side	95 - 105 (3.35 - 3.70)
Wheel side	135 - 145 (4.76 - 5.11)
Boot length mm (in)	
Final drive side (L_1)	95 - 97 (3.74 - 3.82)
Wheel side (L_2)	96 - 98 (3.78 - 3.86)



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Drive shaft axial end play

Drive shaft axial end play mm (in)	0.10 – 0.45 (0.004 – 0.0177)

Drive shaft end snap ring

Thickness mm (in)	Part No.*
1.1 (0.043)	39253-88G10
1.3 (0.051)	39253-88G11
1.5 (0.059)	39253-88G12
1.7 (0.067)	39253-88G13
1.9 (0.075)	39253-88G14
2.1 (0.083)	39253-88G15
2.3 (0.091)	39253-88G16

*: Always check with the Parts Department for the latest parts information.