

DAIHATSU

F73,F78

FRONT AXLE & SUSPENSION

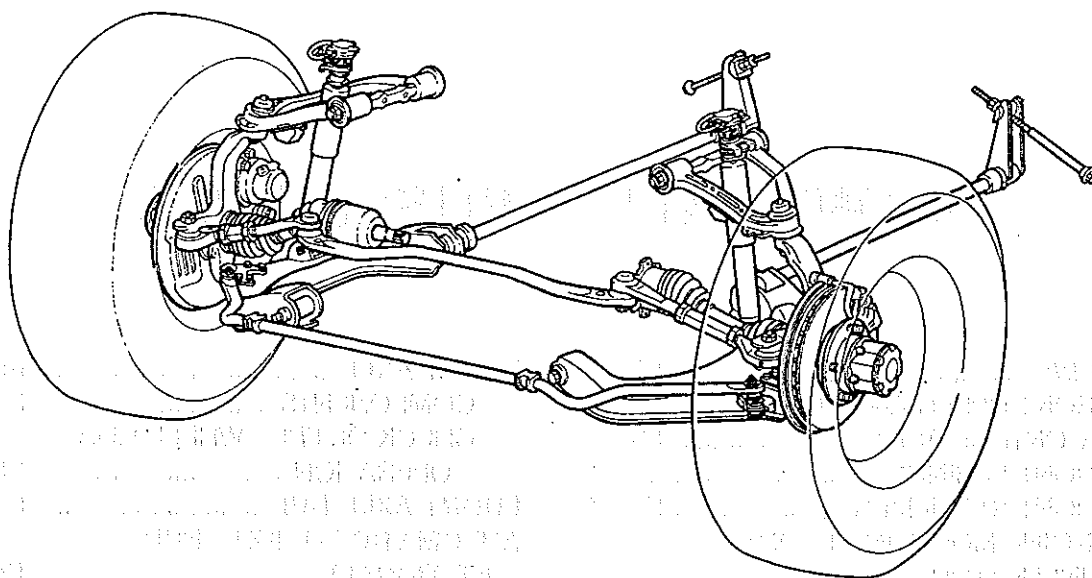
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OUTLINE

- The front suspension consists of front upper and lower control arms, front shock absorbers, torsion bar springs and so forth. For improved controllability and riding comfort, the front suspension has newly employed a double wishbone type, where the wheels are sustained to the body by means of two control arms at the upper and lower sides. The springs adopt a torsion bar spring featuring lightweight and a comparatively high energy absorption rate per unit weight. Furthermore, a three-stage damper is available as optional equipment, which makes it possible to select the damping force of the front shock absorber over three stages. Moreover, for enhanced quietness, the engine mounting front insulator has newly employed a liquid flow mounting as optional equipment.

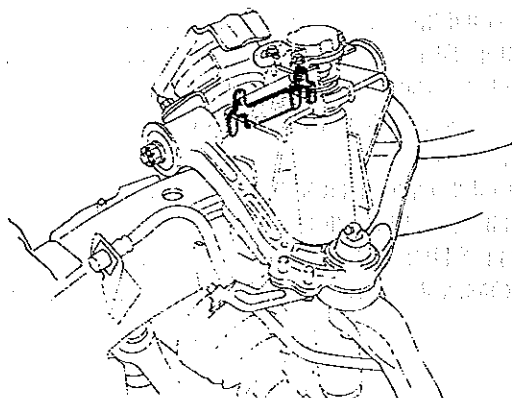
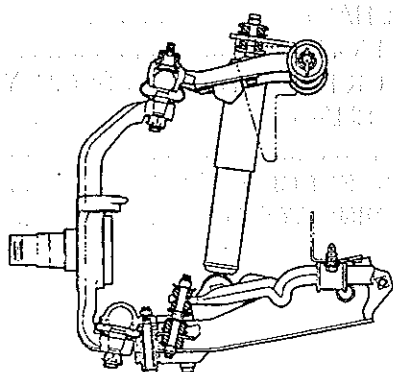


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FRONT UPPER AND LOWER CONTROL ARMS

- The front upper and lower control arms sustain forces in a fore-and-aft direction of the vehicle which is generated during the running and braking as well as forces in a right-and-left direction which takes place during the cornering.

As regards the adjustment of the front wheel alignment, the camber and caster angles can be adjusted by increasing and decreasing the shims for upper control arm adjustment. The camber angle decreases when the adjusting shims increase. Furthermore, the caster angle can be altered by changing the thickness of the adjusting shims at the front side or at the rear side.

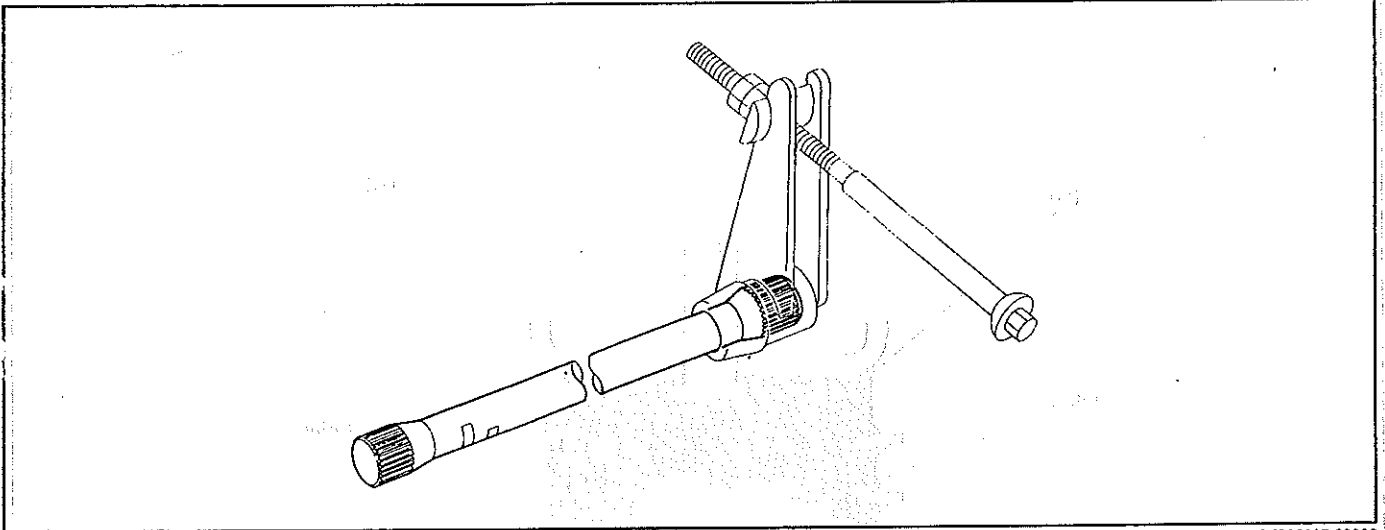


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FRONT SPRINGS

The front springs adopt a torsion spring that features lightweight and a comparatively high energy absorption rate per unit weight.

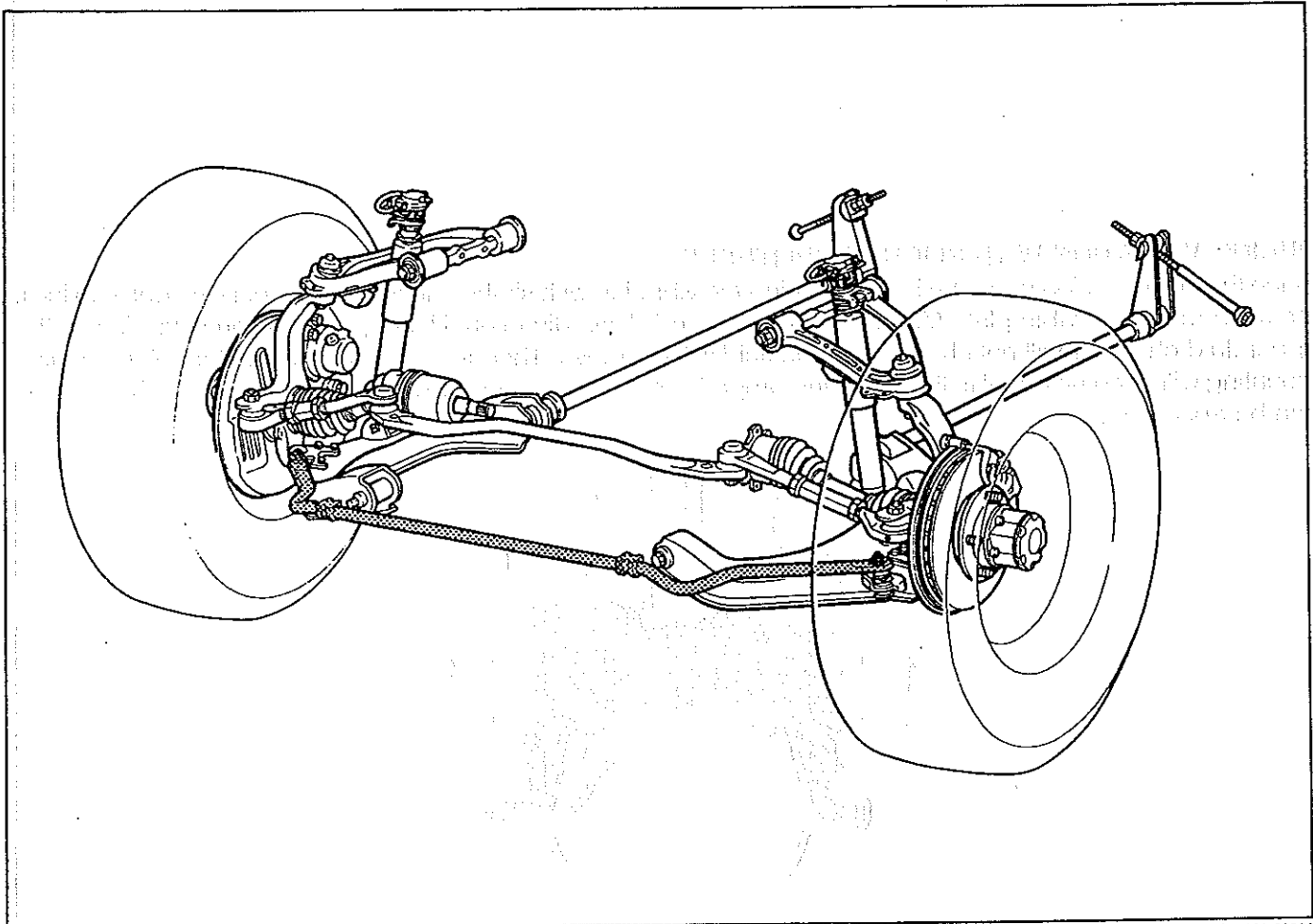
The torsion bar springs come in two kinds: One for the right side and the other for the left side. The respective torsion bar springs have been set by determining the twisting direction.



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FRONT STABILIZER

For improved running stability, the front stabilizer having an outer diameter of 22 mm has been provided between the right and left lower control arms.

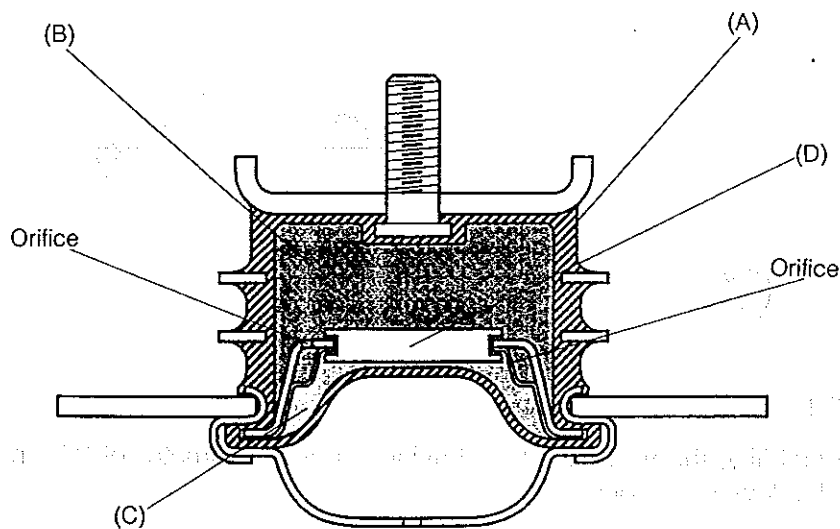


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ENGINE MOUNTING FRONT INSULATOR (OPTIONAL EQUIPMENT)

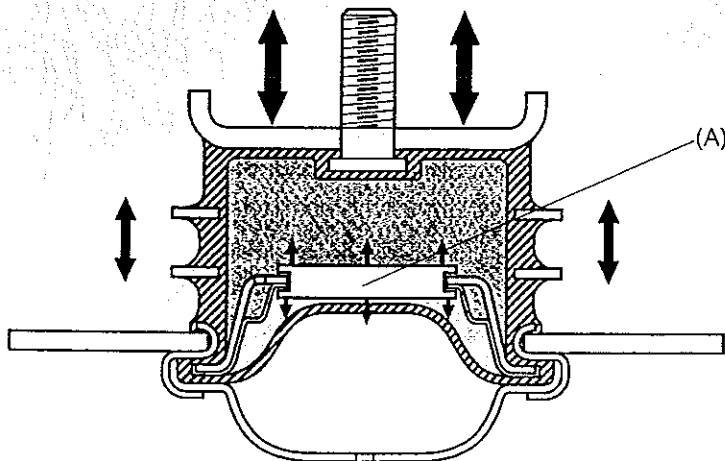
- The engine mounting front insulator consists of an upper fluid chamber (B) and a lower fluid chamber (C) that seal fluid inside the mounting rubber (A), a resin-made movable plate (D) located between these chambers and orifices connecting the upper and lower fluid chambers. When a large pressure is applied to the fluid, the fluid inside the upper fluid chamber flows into the lower fluid chamber through the orifices.



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DURING VIBRATION WITH SLIGHT AMPLITUDES:

Since the compression pressure is small during the vibration with slight amplitudes (especially engine idling), the resin-made movable plate (A) moves in an up-and-down direction. Hence, the fluid pressure inside the upper fluid chamber will not change and the fluid will not move. Therefore, the spring constant of the engine mounting will become equal to the mounting proper's coefficient specific to rubber. In this way, slight vibration can be absorbed.



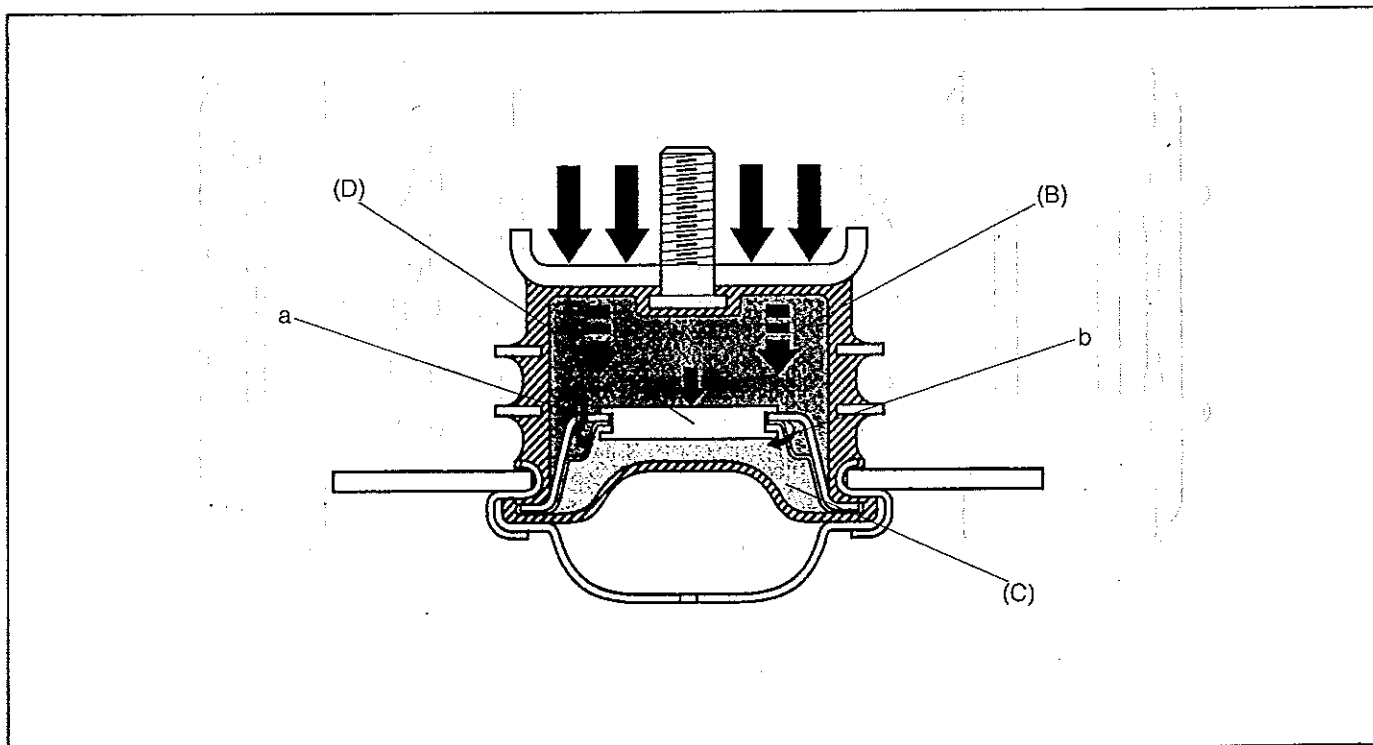
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DURING VIBRATION WITH LARGE AMPLITUDES:

During vibration with large amplitudes (especially running on curbstone, etc.), the upper fluid chamber will be greatly compressed. Hence, the fluid inside the upper fluid chamber will be also compressed, thus pushing down the resin-made movable plate (D).

Furthermore, the compressed fluid flows from the orifice (b) into the lower fluid chamber (C) through the orifice (a).

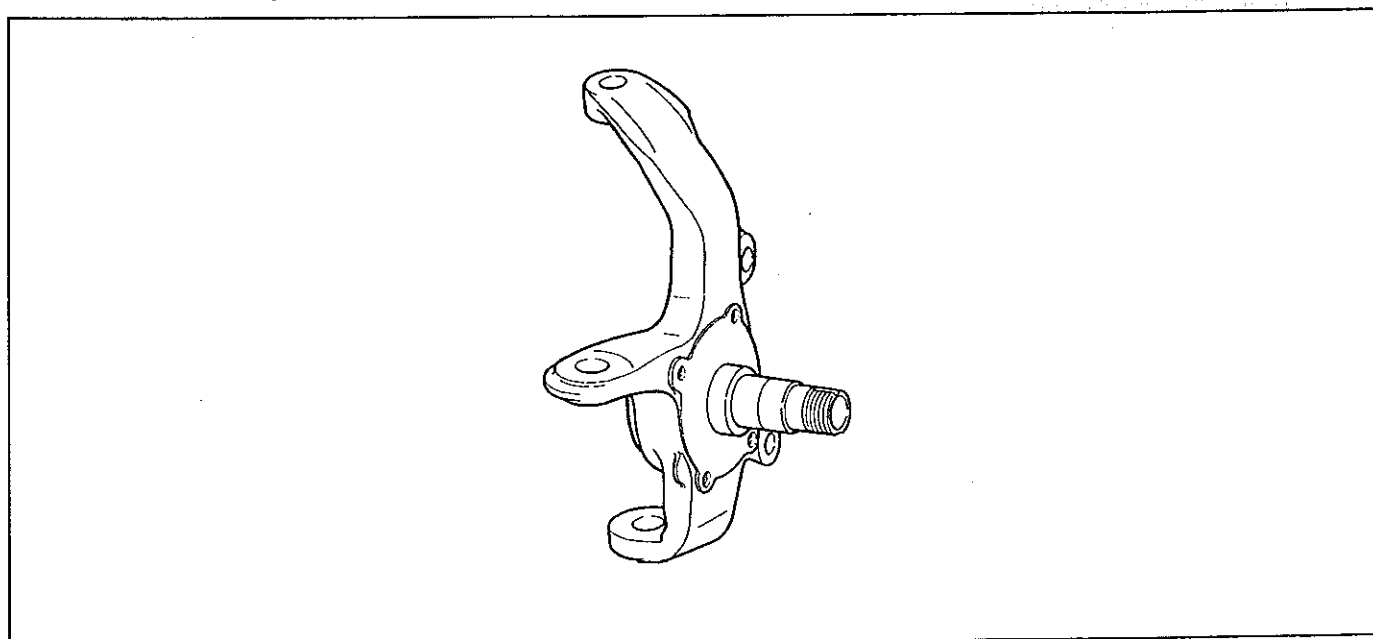
At this time, the damping force generated at a time when the fluid passes through the orifice is added to the mounting proper's spring constant specific to rubber. Thus, the large vibration can be controlled. When the applied pressure no longer exists, the fluid inside the lower fluid chamber returns to the upper fluid chamber through the orifices. The upper fluid chamber will be filled again with the fluid.



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STEERING KNUCKLE

In line with the change in the front suspension, the steering knuckle has been newly employed.



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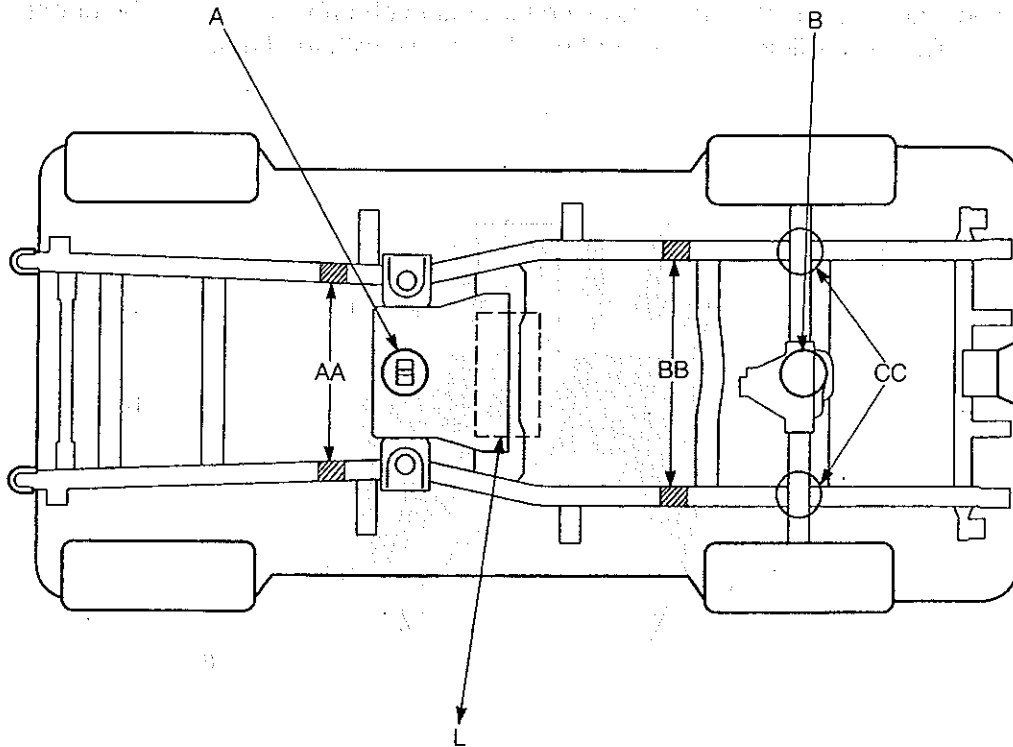
VEHICLE SUPPORTING POINTS (FRONT & REAR SIDES)

The figure below shows the jacking-up points, safety stand points and lifting-up points.

Jacking-up point: A - B

Safety stand point: AA - CC

Lifting-up point: AA - BB



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NOTE:

- Never support the L-point (Anchor member). Failure to observe this notice may cause the deformation of the anchor member.

FRONT WHEEL ALIGNMENT CHECK AND ADJUSTMENT

PRELIMINARY CHECK ITEMS

1. Check of disc wheel and tire for wear and runout.

(1) Ensure that the all tire have the same, designated size and that they are made by the same manufacture.

Designated Tire: 215R15 100Q, 255/70R15 108Q, 6.00-16-6 (LIBLUG), 6.00-16-4 (SAND), 215/80R15 100Q and H78-15 100P

NOTE:

- The tire inflation pressure should be checked under the unloaded state and when the tires are cold.

Unit: kPa (kgf/cm²)

			European and France	General	Australian	G.C.C
215R15 100Q (H78-15 100P for spare tyre)	Unloaded	Front	200 (2.0)	200 (2.0)	200 (2.0)	—
		Rear	180 (1.8)	180 (1.8)	180 (1.8)	—
	Loaded	Front	200 (2.0)	200 (2.0)	200 (2.0)	—
		Rear	180 (1.8)	180 (1.8)	180 (1.8)	—
255/70R15 108Q	Unloaded	Front	200 (2.0)	200 (2.0)	200 (2.0)	—
		Rear	180 (1.8)	180 (1.8)	180 (1.8)	—
	Loaded	Front	200 (2.0)	200 (2.0)	200 (2.0)	—
		Rear	180 (1.8)	180 (1.8)	180 (1.8)	—
6.00-16-6 (LIBLUG)	Unloaded	Front	—	180 (1.8)	—	—
		Rear	—	240 (2.4)	—	—
	Loaded	Front	—	180 (1.8)	—	—
		Rear	—	325 (3.25)	—	—
6.50-16-4 (SAND)	Unloaded (ON ROAD)	Front	—	—	—	160 (1.6)
		Rear	—	—	—	210 (2.1)
	Loaded (ON SAND)	Front	—	—	—	110 (1.1)
		Rear	—	—	—	130 (1.3)
215/80R15 100Q	Unloaded	Front	—	—	—	200 (2.0)
		Rear	—	—	—	180 (1.8)
	Loaded	Front	—	—	—	200 (2.0)
		Rear	—	—	—	180 (1.8)
Tire air inflation pressure caution label affixing position			Lower part of front door striker at driver's seat side		Inside glove compartment	Lower part of front door striker at driver's seat side

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(2) Ensure that the vehicle height is within the specification, if not, adjustment is required.

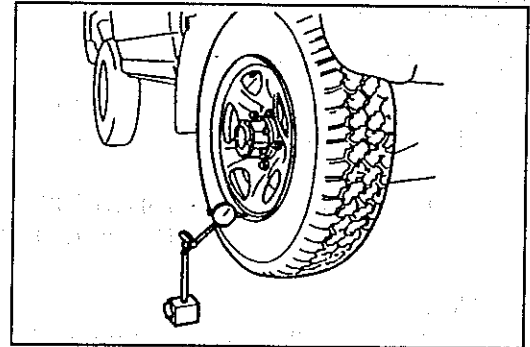
(3) Ensure that the steering wheel is unlocked state.

(4) Depress the brake pedal when measuring the Kingpin, camber and caster checks.

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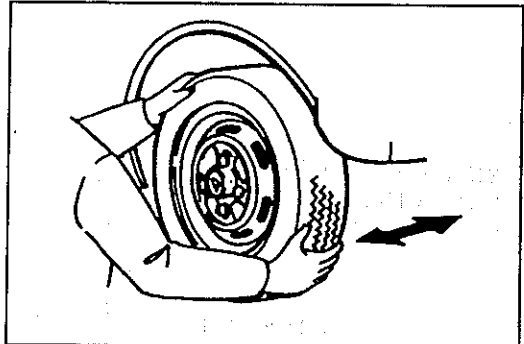
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(5) Check the disc wheel for runout, using a dial gauge.
Allowable Limit: Not to exceed 1.5 mm



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(6) Check the tire for runout, using a dial gauge.
Radial Runout: Not to exceed 1.4 mm
Lateral Runout: Not to exceed 2.0 mm

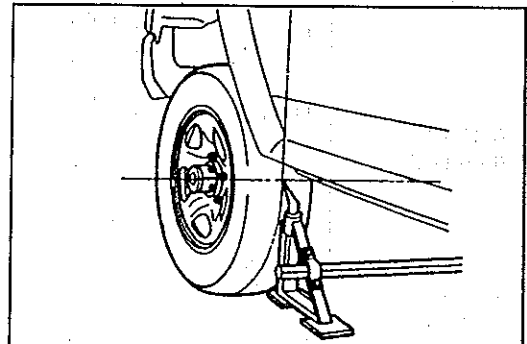


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2. Check the suspension-related sections for bolt and nut tightness.
3. Check that no excessive clearance on the ball joint on while rocking the vehicle body.

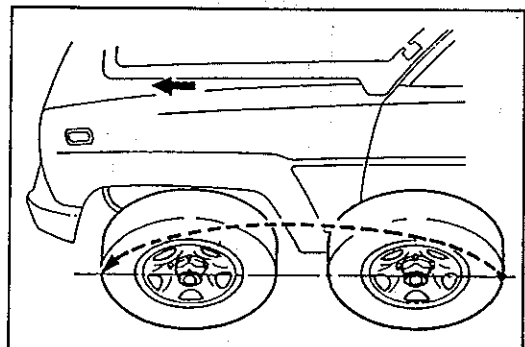
TOE-IN CHECK

1. Move the vehicle forward so that the front wheel becomes straight.
2. Apply a toe-in gauge to the center point of the height that the rear side of each front wheel of the vehicle.
3. Mark the thread center at the rear side of each front tire.
4. Measure the distance between marks.



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5. Move the vehicle slowly until the front wheels turn 180 degrees.

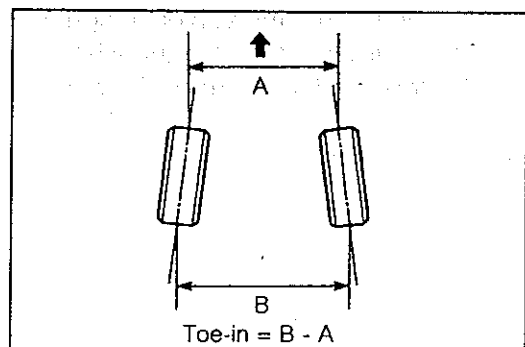


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6. Measure the distance between the marks at the front side of each front wheel.

Determine the toe-in amount by calculating the difference.

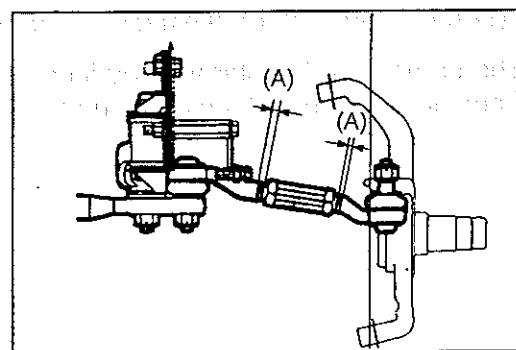
Specified Value: 2 ± 1 mm



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- If the toe-in amount fails to conform to the specification, adjust the tie-rod length by turning the tie-rod tube the same amount at the right and left sides to the specification (A).

Specified Value: 6^{+3}_{-2} mm



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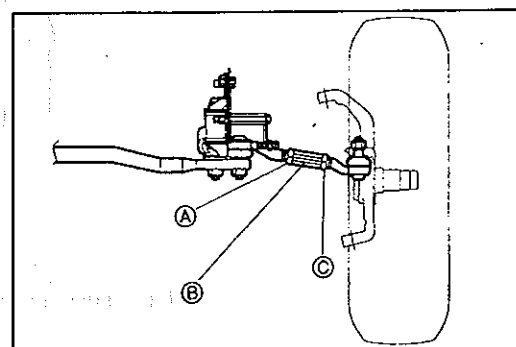
TIE-ROD ADJUSTING NUT TIGHTENING PROCEDURE

- Turn the tie-rod by turning the nut A, with a wrench applied to the section B.
- Tighten the tie-rod by turning the nut C, with a wrench applied to the section B.

Tightening Torque:

118.0 - 167.0 N·m

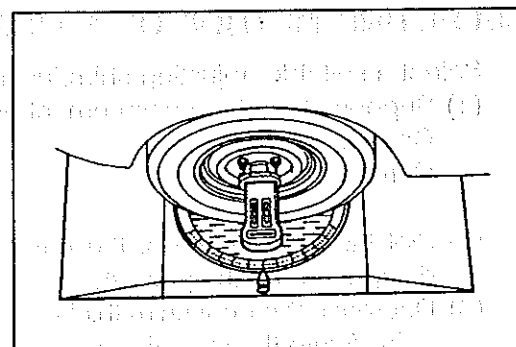
(12.0 - 17.0 kgf-m, 87.0 - 123.0 ft-lb)



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CAMBER, CASTER AND KINGPIN CHECK

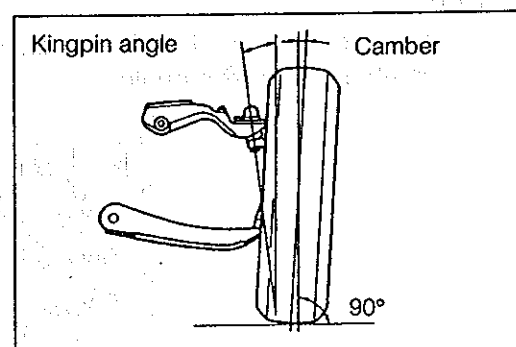
- Place the wheel on the turning radius gauge.
- Remove the free wheel hub cover.
- Align the forward end of the center rod of the camber, caster and kingpin with the center of the drive shaft section.
- Proceed to make the forward end of the center rod closely contact with the hub body.



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- Camber measurement
The measurement should be performed in the same way at the right and left wheels.

Specified Value: $0^{\circ} 30' \pm 30'$



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- Caster and Kingpin measurement

Kingpin:

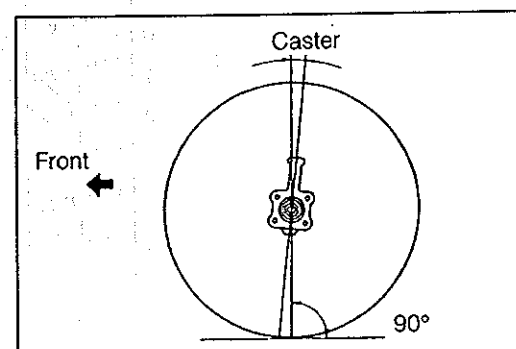
- Depress the brake pedal and turn the steering wheel until the reading of the turning radius gauge becomes 20 degrees.
- Set the 0 degree.
- Return the steering wheel until the reading of the turning radius gauge becomes 20 degrees, and Then, read the Kingpin angle.

Specified Value: 10°

- Caster angle

Ensure that the difference angle between right and left sides is within 1° .

Specified Value: $2^{\circ} 20' \pm 45'$

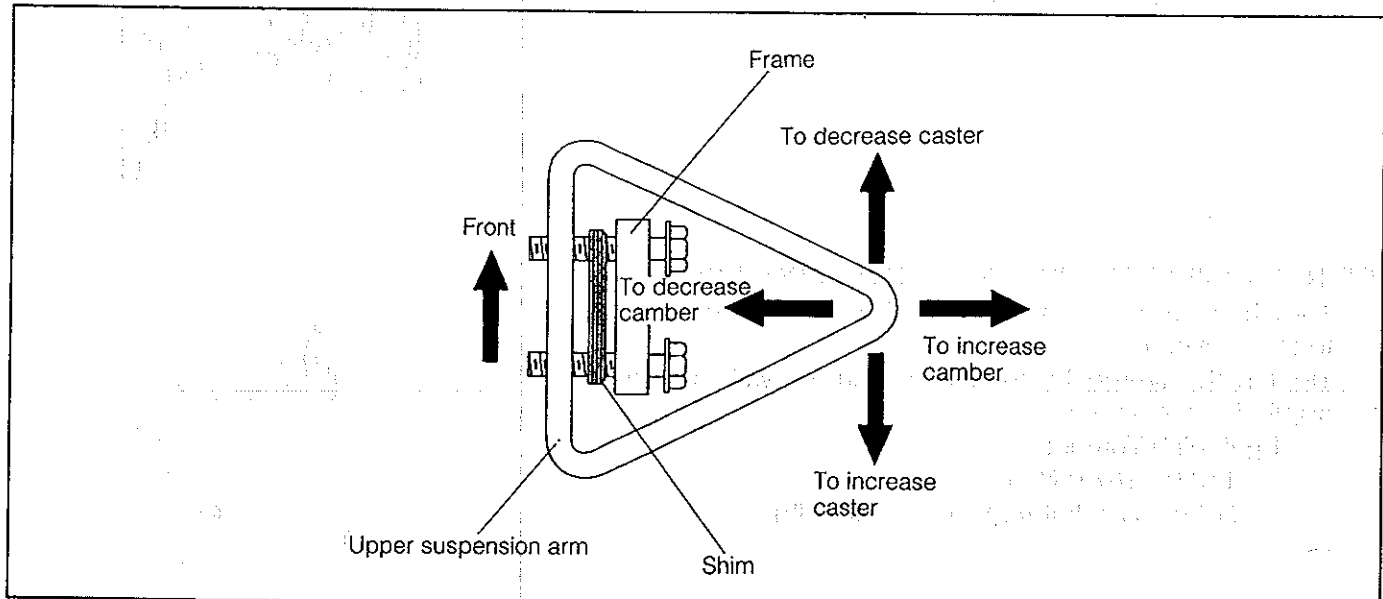


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ADJUSTING PROCEDURE FOR CAMBER AND CASTER

The camber and caster vary by increasing/decreasing the number of the adjusting shims provided at the frame installation surface of the upper shaft.



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SELECTING METHOD OF ADJUSTING SHIM

1. Select a suitable adjusting shim, using the diagram below.

(1) Suppose that the measurement on a vehicle reveals the following results.

Caster: $0^{\circ} 50'$

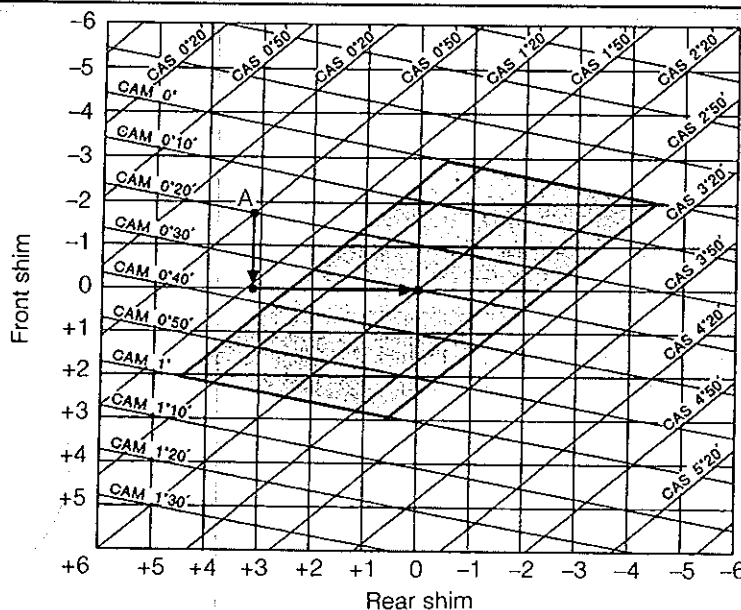
Camber: $0^{\circ} 20'$

(2) Plot the intersection of the caster line with camber line in the diagram below. The intersection is designated as the point A.

(3) Decrease the front shim thickness by 2 mm and increase the rear shim thickness by 3 mm. Thus, the point A into the specified range.

NOTE:

- The area enclosed by heavy lines () in the below diagram denotes the permissible range for camber and caster angle.



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- Both the front and rear shim thickness should not exceed 10 mm. The difference in thickness between the front and rear shim should not exceed 4 mm.
- After the adjusting shims have been installed, finally ensure that the front shim alignment conforms to the specifications.

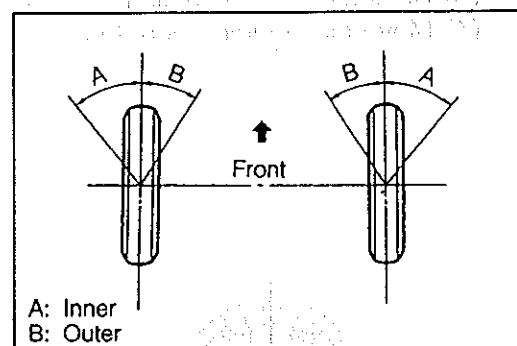
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CHECK OF STEERING WHEEL TURNING ANGLE

- Place the wheel on the turning radius gauge and check the wheel turning angle.

Specified Value:

Mounted steering	Inner turning angle (A)	Outer turning angle (B)
Power	32° 20' $\pm$ 3'	28° 35'
Standard	30° 35' $\pm$ 3'	27°

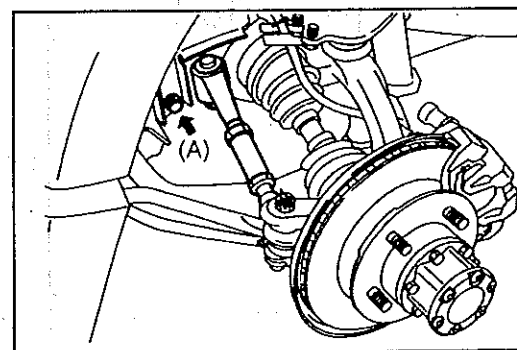


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- If the measured turning angle fails to conform to the specifications, adjust the wheel turning angle by means of the stopper bolt (A).

Stopper Bolt Lock Nut Tightening Torque:

14.7 - 34.3 N·m (1.5 - 3.5 kgf-m, 10.8 - 25.3 ft-lb)

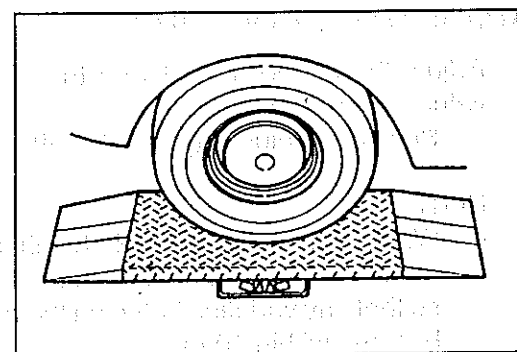


RFS00026-99999

SIDE SLIP CHECK

- Check the side slip, using a side slip tester.

Specified Value: Within 3 mm per meter



RFS00027-99999

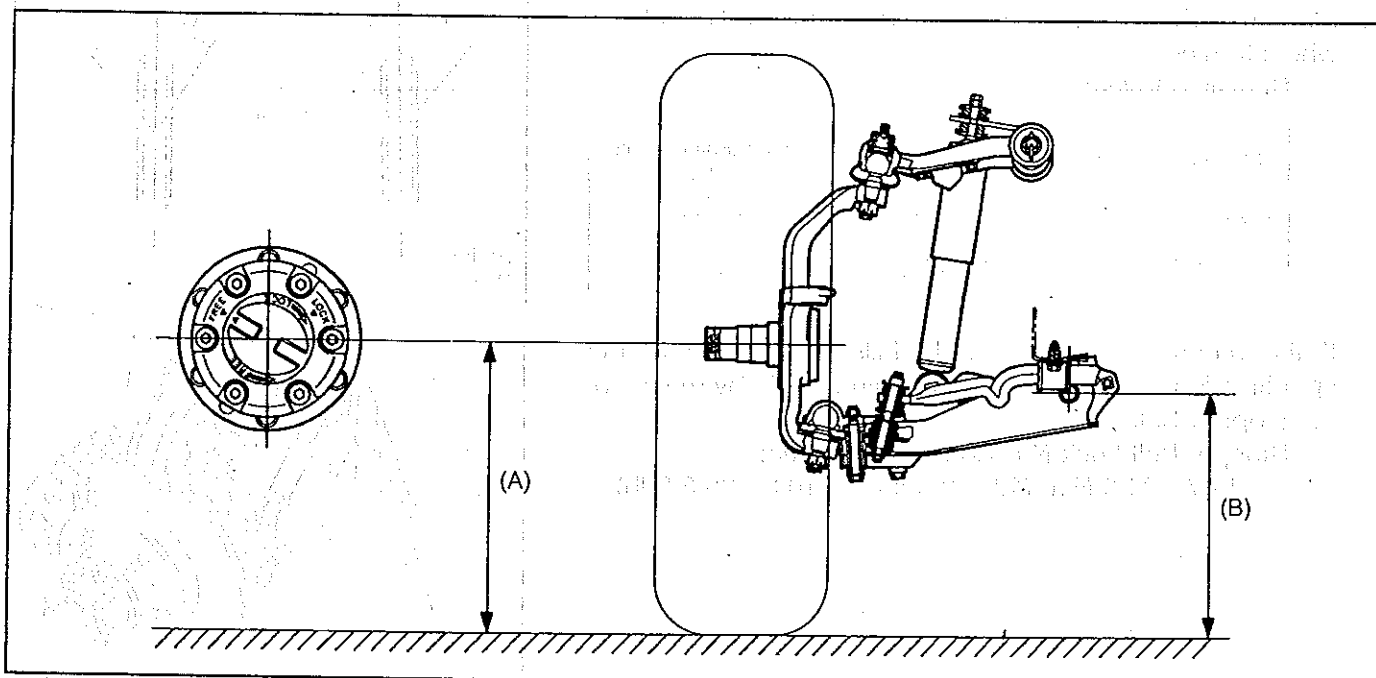
FS-12

CHECKING AND ADJUSTING PROCEDURE FOR VEHICLE HEIGHT

- (A): Height of center of attaching bolt at front side of lower arm, measured from ground level.
(B): Height of center of wheel ornament of free wheel hub, measured from ground level.

NOTE:

- Care must be exercised as to the following points before the vehicle height is checked.
 - The measurement should be conducted with the vehicle under no-loaded state.
- (1) The designated tires are installed and are inflated to the specified value.
 - (2) The vehicle is under no-loaded state.
 - (3) Rock/Move the vehicle in an up-and-down directions several times so as to the specifications.
 - (4) Move the vehicle about three meters twice in a fore-and-aft direction.



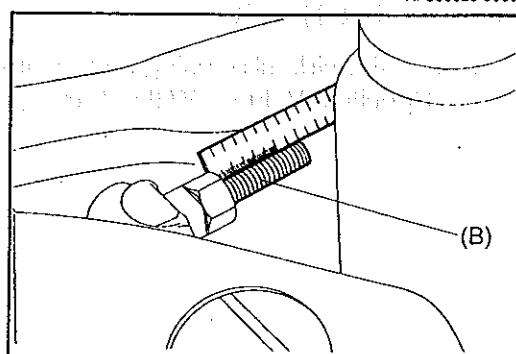
ADJUSTING PROCEDURE

1. Adjust the anchor bolt (B) so that the following specified value may be obtained.

Specified Value: $(A) - (B) = 48 \pm 10 \text{ mm}$

NOTE:

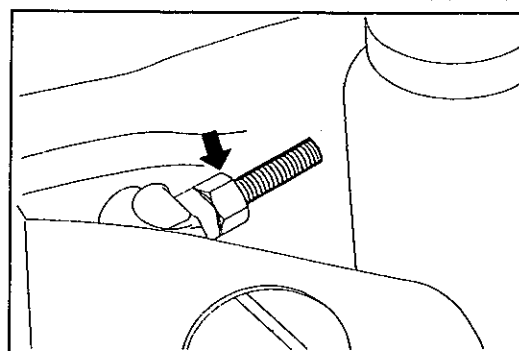
- With regards to the vehicle height and protrusion height of the anchor bolt, the adjustment should be carried out so that any variation between the right and left sides may become within 10 mm.



2. Secure the anchor bolt by means of the lock nut.

Tightening Torque: 68.6 - 88.3 N·m

(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)

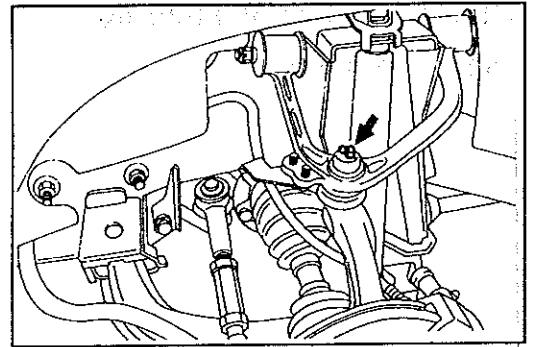


GREASE LUBRICATION**1. Upper arm ball joint**

- (1) Clean the grease fitting of the upper arm ball joint.
- (2) Ensure that the grease fitting of the upper arm ball joint exhibits no damage. If any damage is present, replace the damaged grease fitting.

Specified Grease: Lithium-based MP grease

Filling Amount: 27 grams (New parts is installed)



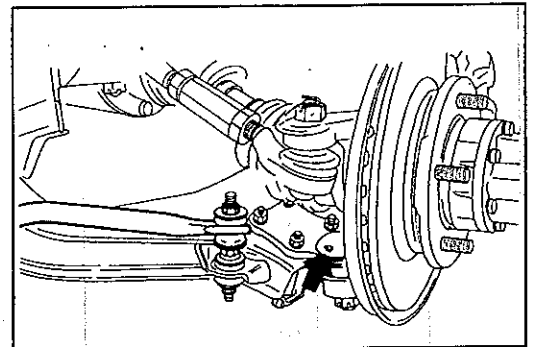
RFS00031-99999

2. Lower ball joint

In the same manner of the step 1, Fill the grease from the grease fitting, using a grease gun.

Specified Grease: Lithium-based MP grease

Filling Amount: 10 grams (New parts is installed)



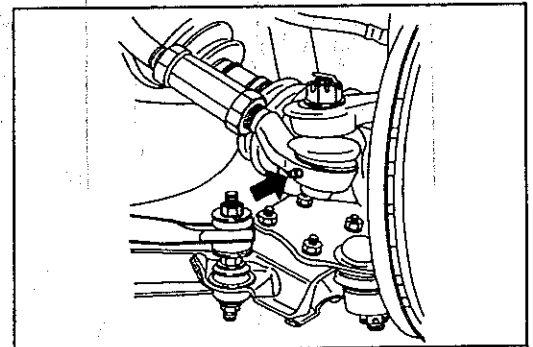
RFS00032-99999

3. Tie-rod end

In the same manner of the step 1, Fill the grease from the grease fitting, using a grease gun.

Specified Grease: Lithium-based MP grease

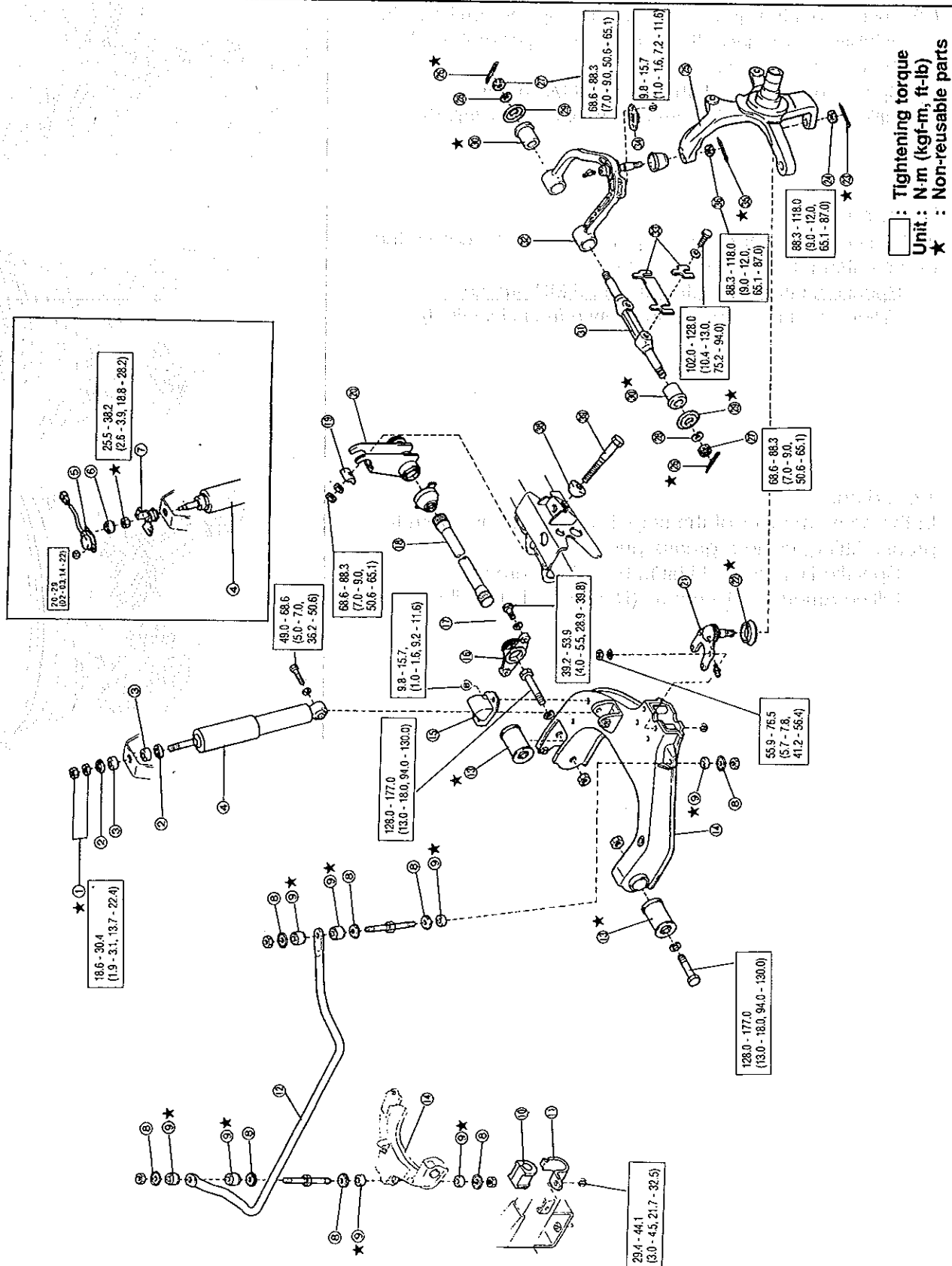
Filling Amount: 15 grams (New parts is installed)



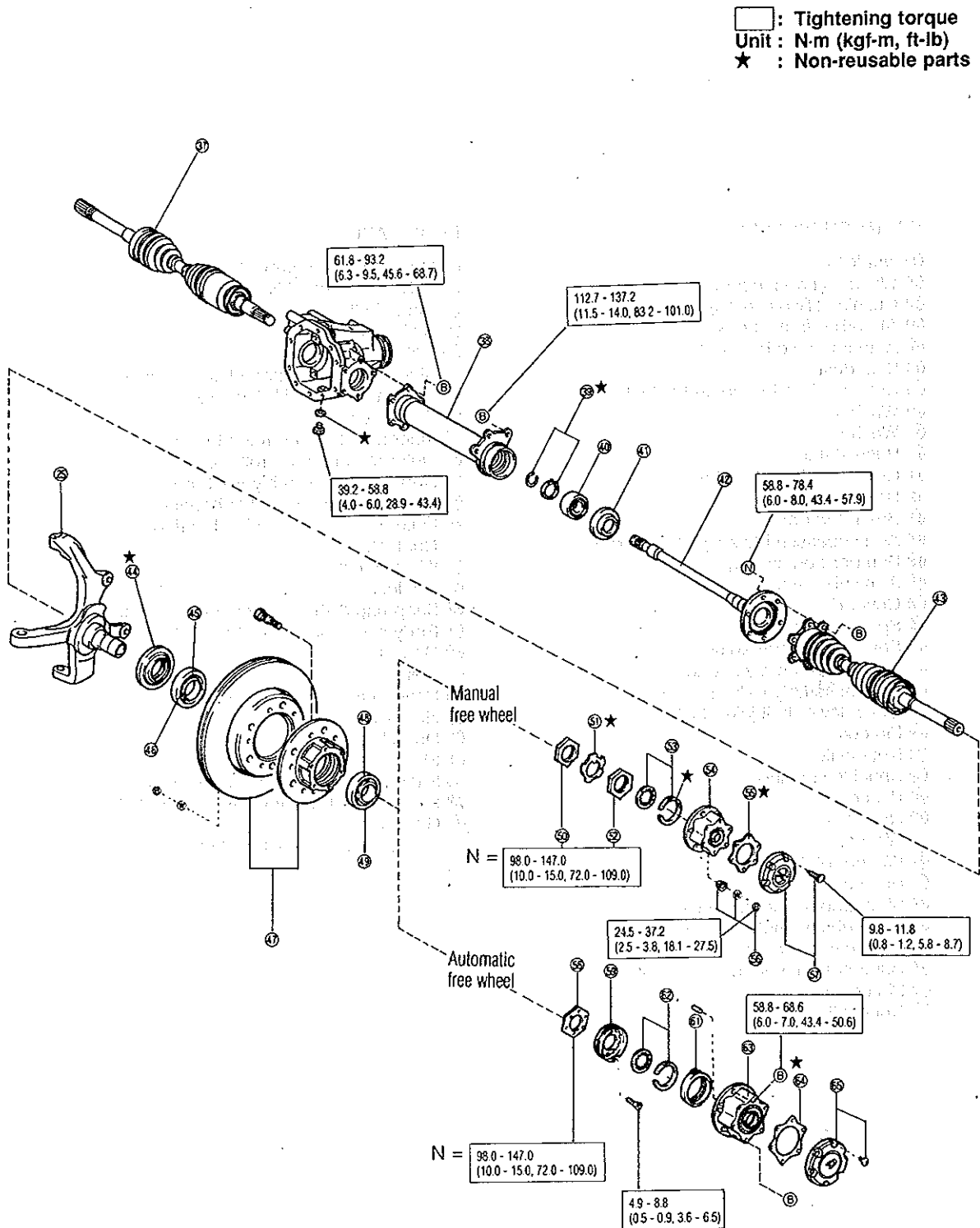
RFS00033-99999

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FRONT SUSPENSION COMPONENTS



FRONT AXLE COMPONENTS



NOTE:

- Ensure that the pre-load is required.

FRONT SUSPENSION

- ① Nut lock
- ② Washer (Two pieces)
- ③ Cushion (Two pieces)
- ④ Absorber front shock
- ⑤ Actuator absorber control
- ⑥ Seal dust
- ⑦ Bracket absorber control actuator
- ⑧ Washer
- ⑨ Washer
- ⑩ Bush stabilizer
- ⑪ Cover stabilizer bracket
- ⑫ Bar stabilizer
- ⑬ Bush lower arm
- ⑭ Arm subassembly suspension lower
- ⑮ Bumper front spring No. 2
- ⑯ Arm subassembly torque
- ⑰ Cover dust
- ⑱ Spring torsion bar
- ⑲ Seat anchor arm adjust
- ⑳ Arm subassembly anchor
- ㉑ Joint assembly ball joint dust
- ㉒ Cover lower ball joint dust
- ㉓ Pin cotter
- ㉔ Nut castle
- ㉕ Knuckle steering
- ㉖ Pin cotter
- ㉗ Nut castle
- ㉘ Washer
- ㉙ Washer plate
- ㉚ Bush upper arm
- ㉛ Shaft upper suspension arm
- ㉜ Arm subassembly suspension upper
- ㉝ Shim camber adjust
- ㉞ Bumper front spring
- ㉟ Pin cotter
- ㊱ Nut castle

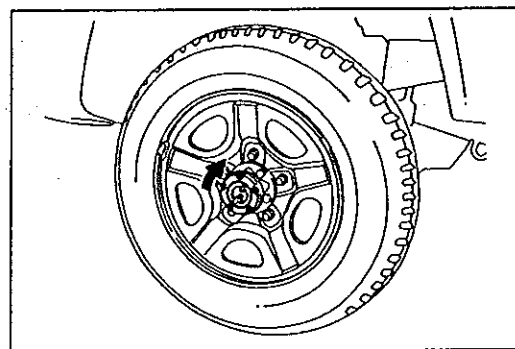
FRONT AXLE

- ㊲ Hub & disc assembly front
- ㊳ Tube assembly differential
- ㊴ Ring shaft snap
- ㊵ Ball bearing radial
- ㊶ Deflector dust
- ㊷ Shaft assembly differential side gear
- ㊸ Shaft assembly LH drive front
- ㊹ Seal T type oil
- ㊺ Inner race tapered roller bearing
- ㊻ Outer race tapered roller bearing
- ㊼ Hub & disc assembly front axle
- ㊽ Inner race tapered roller bearing
- ㊾ Outer race tapered roller bearing
- ㊿ Nut lock
- ① Washer lock
- ② Nut lock
- ③ Snap ring & thrust washer drive shaft
- ④ Body assembly manual free wheel hub
- ⑤ Gasket
- ⑥ Bolt
- ⑦ Cover manual free wheel hub
- ⑧ Nut lock
- ⑨ Drum brake
- ⑩ Shoe subassembly brake
- ⑪ Snap ring & thrust washer drive shaft
- ⑫ Body assembly automatic locking hub
- ⑬ Gasket
- ⑭ Cover automatic locking hub

CHECK OF FREE WHEEL HUB OPERATION

1. Manual (Standard)

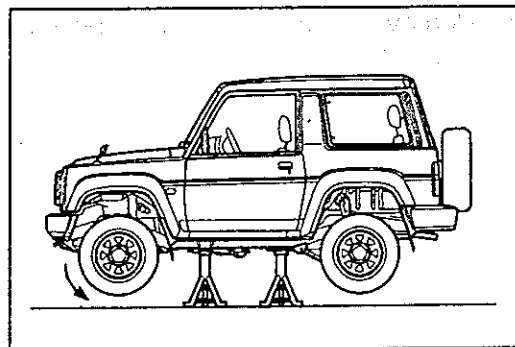
- (1) Jack up the vehicle and support its with safety stands.
- (2) Set the handle of the free wheel hub to the Lock position
- (3) Turn the tire several times. At this time, ensure that the front drive shaft turns together.
 - If the free wheel hub is in the FREE position, The drive shaft will not turn together.
- (4) Jack down the vehicle.



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2. Automatic (Optional)

- (1) Jack up the vehicle and support its with safety stands.
- (2) Shift the lever position to the 4H position.
- (3) Start the engine. When the driving force is applied to the wheel, ensure that the front wheel turn. If not, replace the free wheel hub.

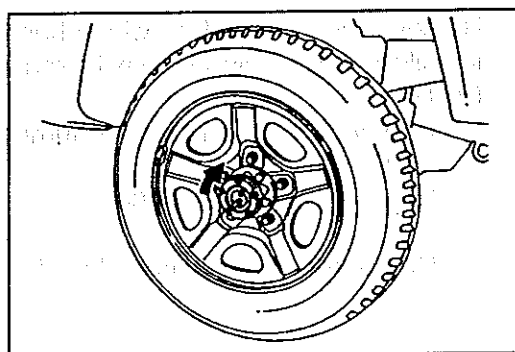


RFS00038-99999

- (4) Shift the shift lever to the 2H position.
- (5) While slightly applying the brake, apply the driving force to the wheel in a direction opposite side to the former direction in the step (3). In this way, turn the wheel more than three times.

RFS00039-00000

- (6) Stop the engine. When turning the wheel by hands, ensure that the drive shaft will not turn together. If not, replace them.



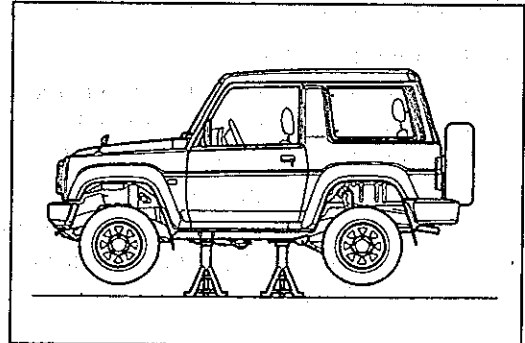
RFS00040-99999

FS-18

FRONT AXLE HUB

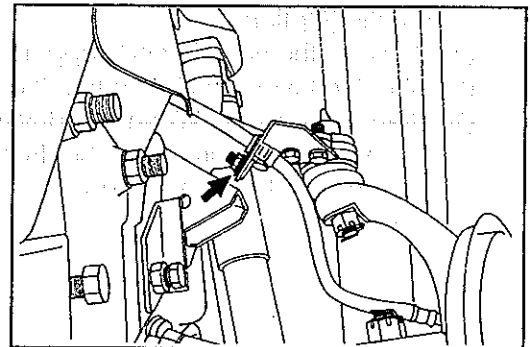
REMOVAL

1. Jack up the vehicle and support its with safety stands.
2. Remove the front wheel.



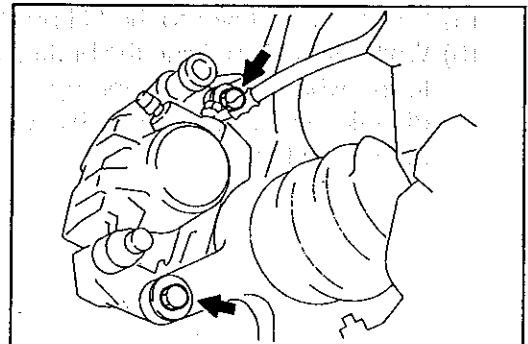
RFS00041-99999

3. Remove the nut of the brake hose at the suspension upper arm subassembly.



RFS00042-99999

4. Remove the disc brake caliper by removing the two bolts.
5. Suspend the disc brake caliper from the upper frame in such a way that no undue force is applied to the brake hose.



RFS00043-99999

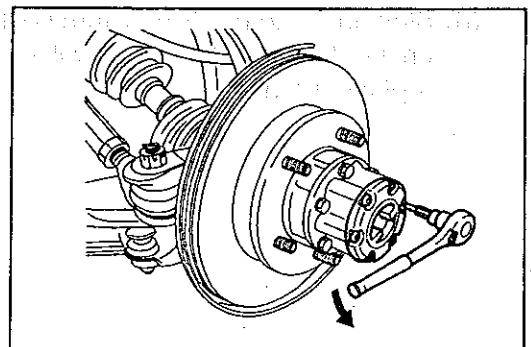
6. Remove the manual free wheel hub cover with the gasket installed by removing the six hexagon bolts.

NOTE:

- Prevent the axle hub from turning, using the following SST.

SST: 09511-87202-000

- Do not reuse the removed gasket.



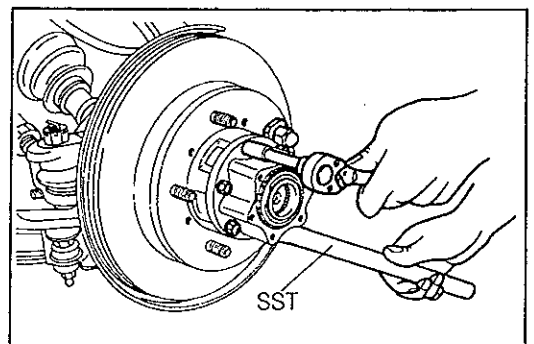
RFS00044-99999

7. Remove the six bolts of the manual free wheel hub body assembly.

NOTE:

- Prevent the axle hub from turning, using the following SST.

SST: 09511-87202-000



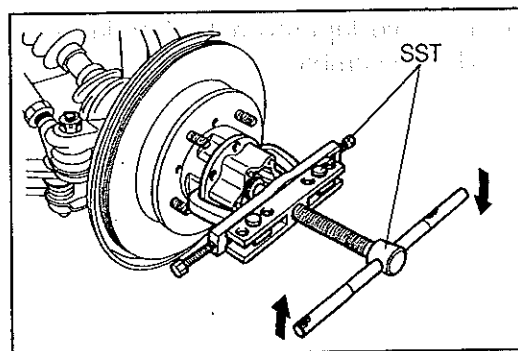
RFS00045-99999

8. Remove the manual free wheel hub body assembly, using the following SST.

SST: 09950-20017-000

NOTE:

- Be careful not to drop the manual free wheel hub body assembly when removing.

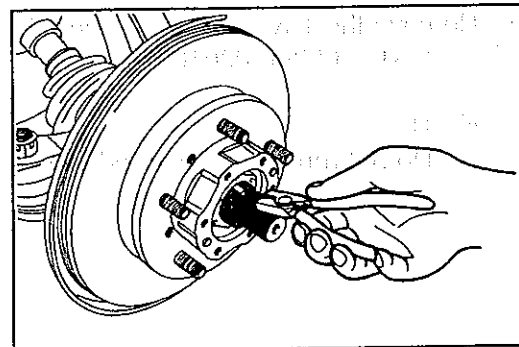


RFS00046-99999

9. Remove the shaft snap ring & drive shaft thrust washer, using the snap ring expander.

NOTE:

- Do not reuse the removed shaft snap ring.



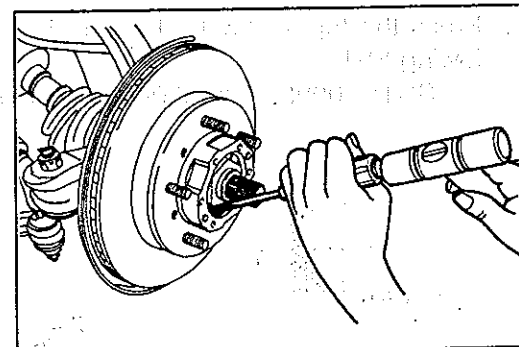
RFS00047-99999

10. Expand the pawl of the lock nut washer by means of a chisel or the like.

11. Remove the lock washer.

NOTE:

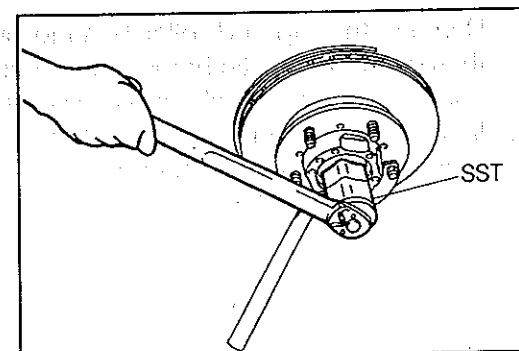
- Do not reuse the removed lock washer.



RFS00048-99999

12. Remove the lock nut, using the following SST.

SST: 09607-87602-000



RFS00049-99999

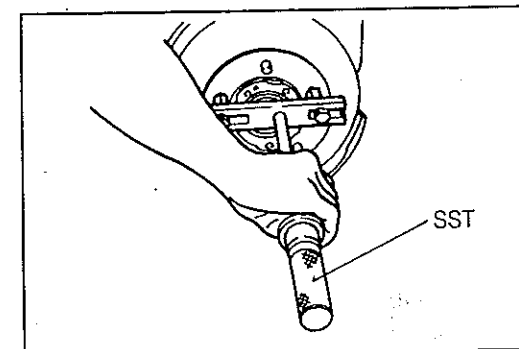
13. In the same manner of above step 12, remove the lock nut.

14. Remove the front axle hub & disc assembly, using the following SST.

SST: 09520-00031-000

NOTE:

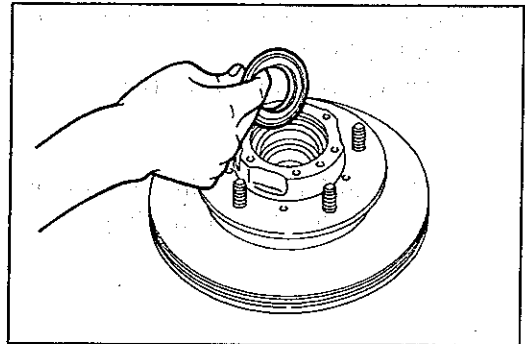
- Be careful not to drop the front axle hub & disc assembly when removing.



RFS00050-99999

FS-20

15. Remove tapered roller bearing from the front axle hub & disc assembly.

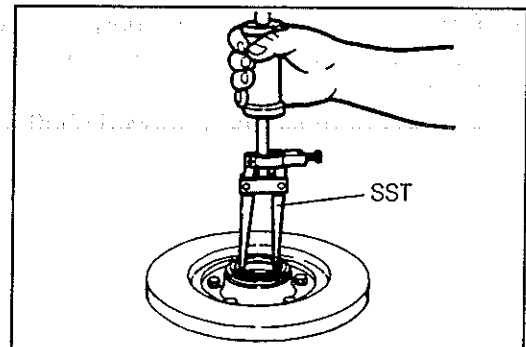


RFS00051-99999

16. Remove the T type oil seal, using the following SST.
SST: 09308-00010-000

NOTE:

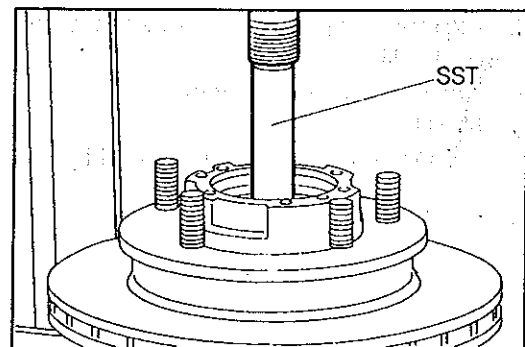
- Do not reuse the removed oil seal.



RFS00052-99999

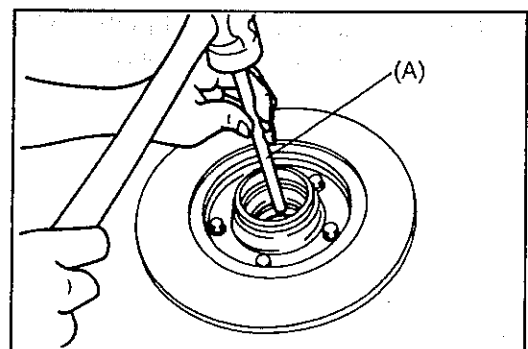
17. Press the tapered roller bearing inner race, using the following SST.

SST: 09950-20017-000 (Disc plate No. C)



RFS00053-99999

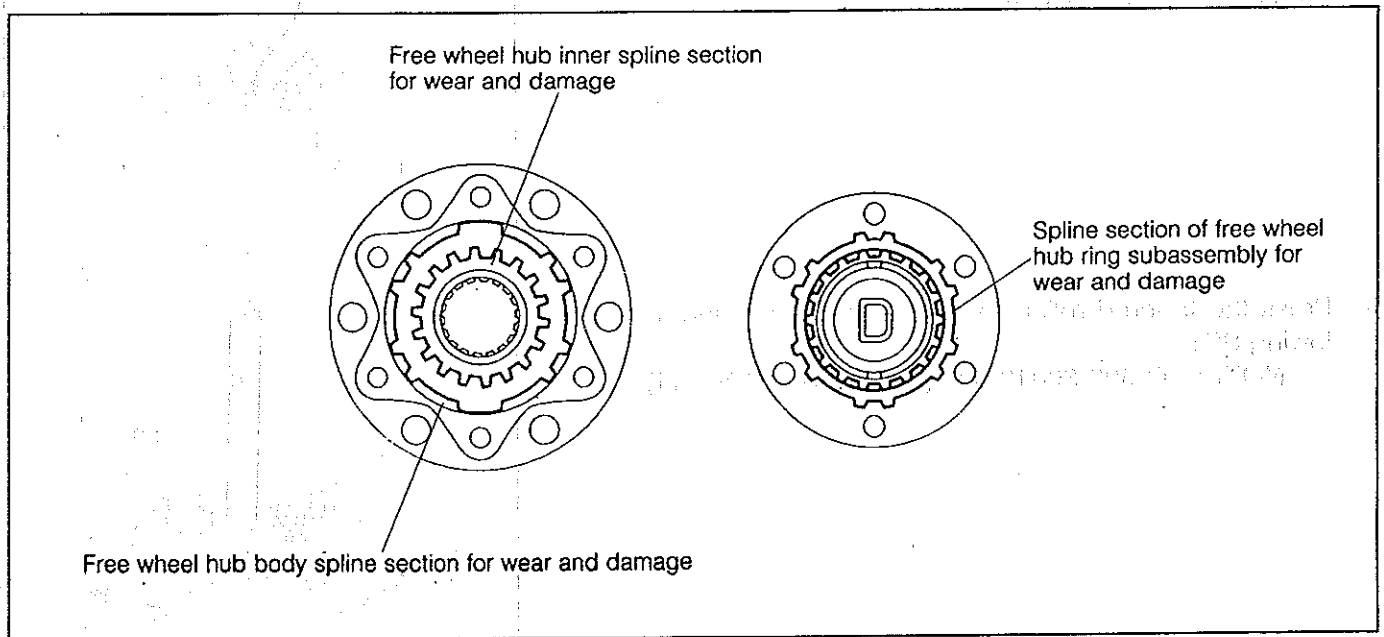
18. Remove the tapered roller bearing outer race by tapping them with the plastic hammer and suitable brass bar (A).
19. Turn over the front axle hub & disc assembly.
20. In the same manner of the above step 18, remove the tapered roller bearing outer race.



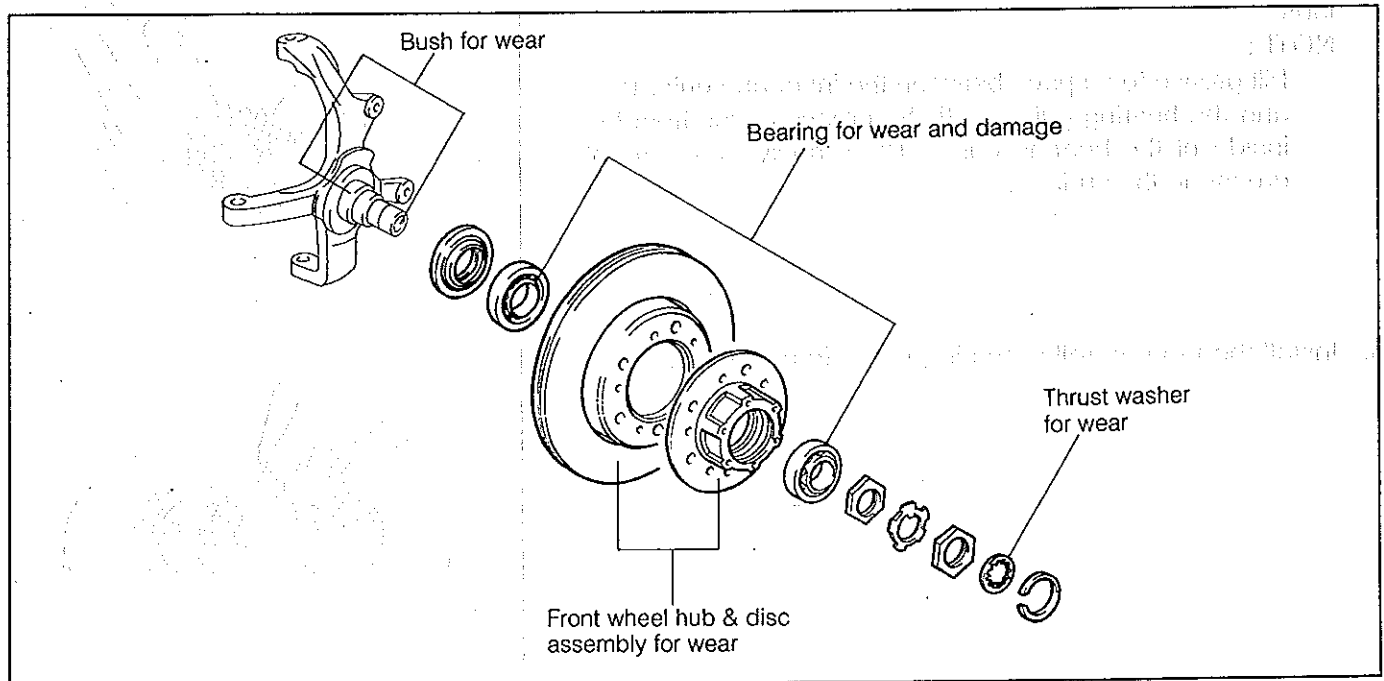
RFS00054-99999

INSPECTION

1. Check the following parts. Replace any damaged parts.



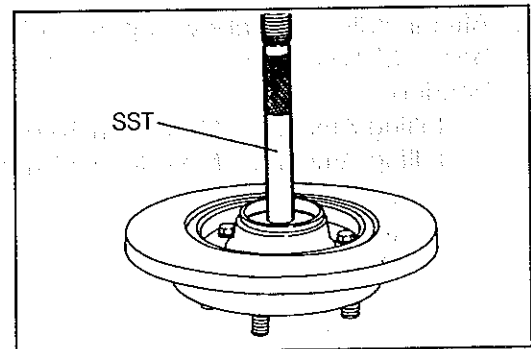
2. Check the following parts. Replace any damaged parts.



INSTALLATION

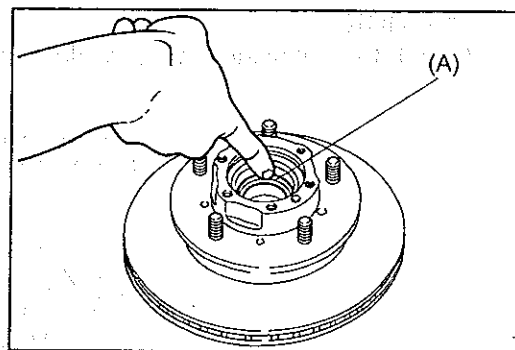
1. Press the tapered roller bearing outer race, using the following SST.

SST: 09608-30012-000 (No. 2, No. 11 and No. 10)



FS-22

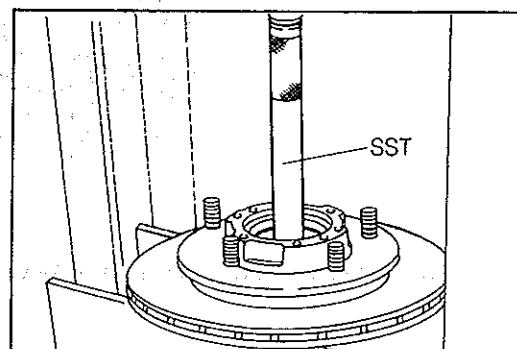
2. Apply lithium-based MP grease to the inner periphery of the tapered section (A) of the outer race.
3. Turn over the front axle hub.



RFS00058-99999

4. Press the tapered roller bearing outer race, using the following SST.

NOTE: 09608-30012-000 (No. 2, No and No. 11)

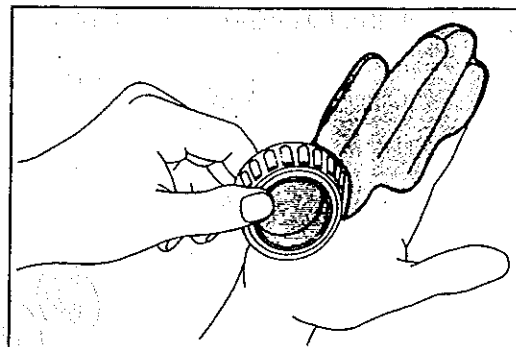


RFS00059-99999

5. Fill lithium-based MP grease to the inner and outer bearings.

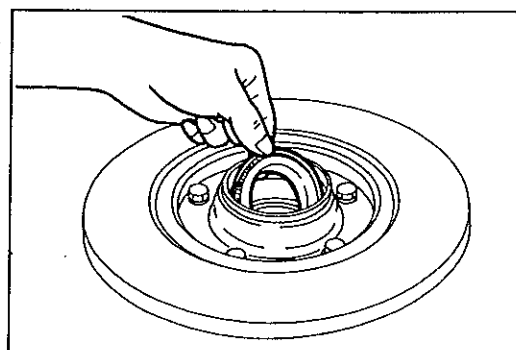
NOTE:

- Fill grease to a space between the inner and outer race and the bearing guide, until the grease oozes from the inside of the bearing guide. Then, apply 27 grams of grease to the surface.



RFS00060-99999

6. Install the tapered roller bearing to the front axle hub.

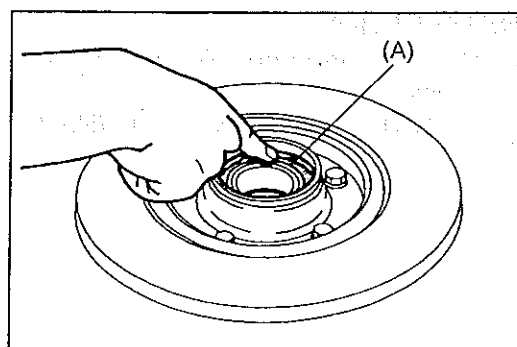


RFS00061-99999

7. After installing the above tapered roller bearing, Fill lithium-based MP grease evenly around the end surface (A) of the bearing.

Filling Amount: More than 16 grams for inner

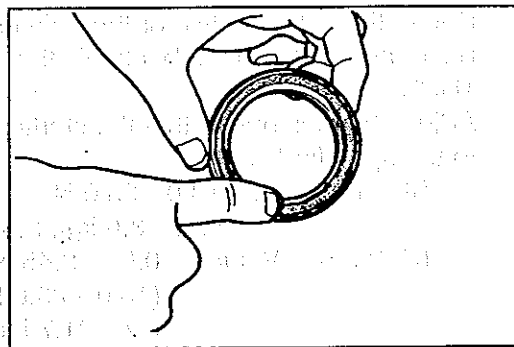
Filling Amount: More than 14 grams for outer



RFS00062-99999

8. Fill lithium-based MP grease to the new T type oil seal lip section.

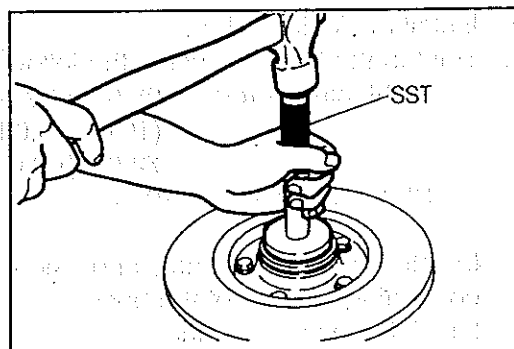
Filling Amount: 2 grams



RFS00063-99999

9. Install a new T type oil seal, using the following SST.

SST: 09608-30012-000 (No. 2 and No. 11)



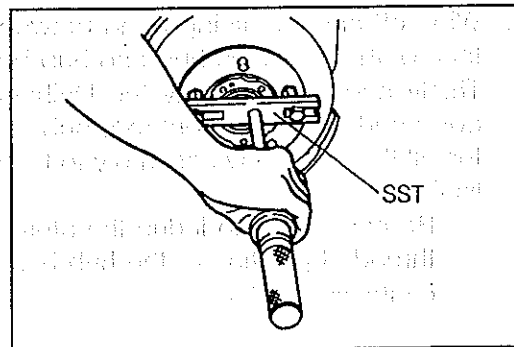
RFS00064-99999

10. Install the front axle hub & disc assembly, using the following SST.

SST: 09520-00031-000

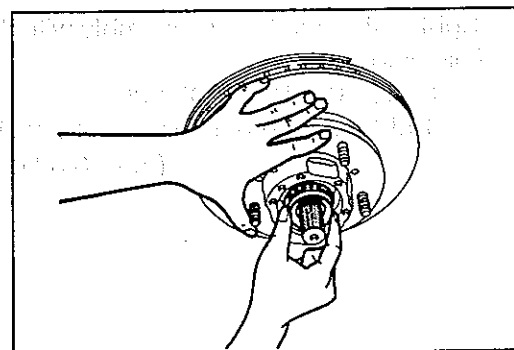
NOTE:

- Be careful not to damage the oil seal lip section during installation.



RFS00065-99999

11. Install the tapered roller bearing outer race to the front axle hub & disc assembly.
12. Apply lithium-based MP grease to the end surface of the bearing evenly.

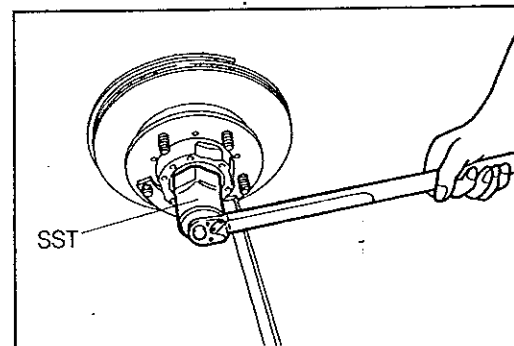


RFS00066-99999

13. Tighten the lock nut to the specified torque, using the following SST.

Tightening Torque: 98.0 - 147.0 N·m
(10.0 - 15.0 kgf-m,
72.0 - 109.0 ft-lb)

SST: 09607-87602-000



RFS00067-99999

FS-24

14. Rotate the axle hub two or three times so that the axle may be beaded in. Then, back off the lock nut ONE SIXTH TURN.

15. Adjust the lock nut so that the starting torque may conform to the specified value.

Starting Load: 13.0 - 35.0 N
(1.4 - 3.6 kgf, 2.8 - 7.9 lb)

(Reference Value): 0.98 - 2.45 N·m
(10.0 - 25.0 kgf-cm,
8.7 - 21.7 inch lb)

16. Install the lock washer.

17. Tighten the lock nut, using the following SST.

Tightening Torque: 98.0 - 14.7 N·m
(10.0 - 15.0 kgf-m,
72.0 - 109.0 ft-lb)

SST: 09607-87602-000

18. Install the thrust washer, and Then, apply grease to the contacting surface of the bush.

19. Install the new snap ring.

20. Wipe off any remaining bond between the contacting surface of the front axle hub and hub body assembly.

21. Thinly and evenly apply the Daihatsu Bond No. 4 to the edge surface of the front axle hub.

22. Install the hub body assembly to the drive shaft.

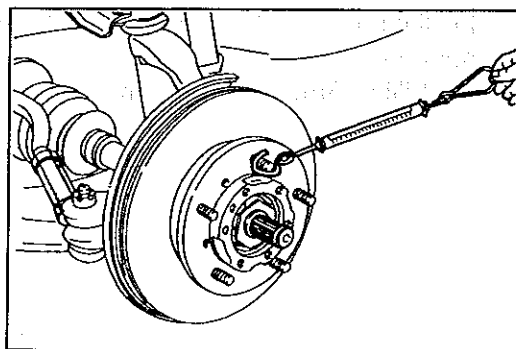
NOTE:

- Be careful not to lodge the aforesaid Bond around the threaded position of the hub bolt when applying to the contacting surface.

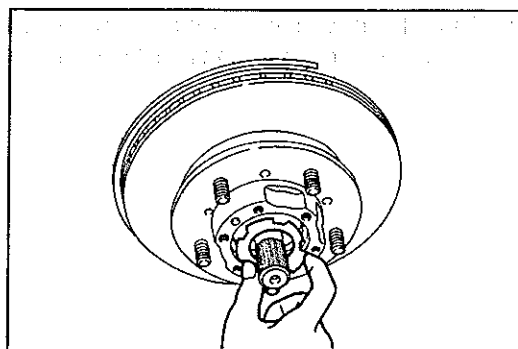
23. Tighten the hub body assembly with the six bolts, using the following SST.

SST: 09511-87202-000

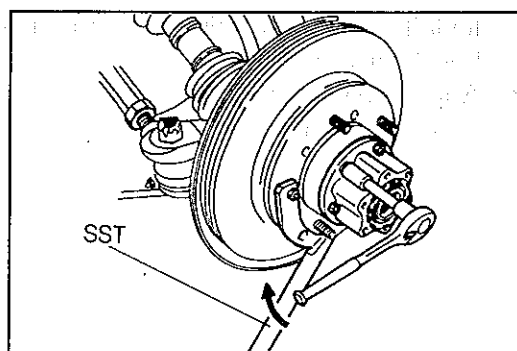
Tightening Torque: 24.5 - 37.2 N·m
(2.5 - 3.8 kgf-m, 18.1 - 27.5 ft-lb)



RFS00068-99999



RFS00069-99999



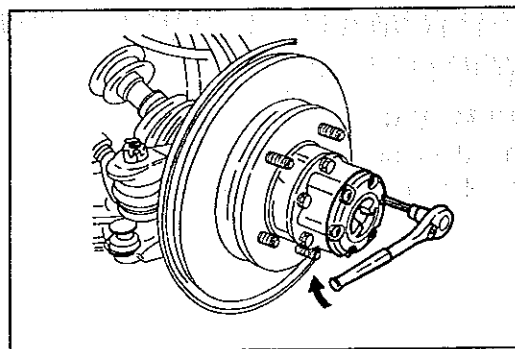
RFS00071-99999

24. With a new gasket interposed, tighten the free wheel hub cover with the six hexagon bolts.

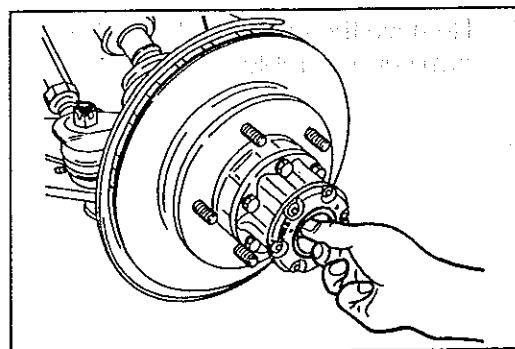
Tightening Torque: 7.8 - 11.8 N·m
(0.8 - 1.2 kgf-m, 5.8 - 8.7 ft-lb)

NOTE:

- Ensure that the gasket should be placed correct position when tightening the hub cover.
- Be sure to move the handle in FREE position.



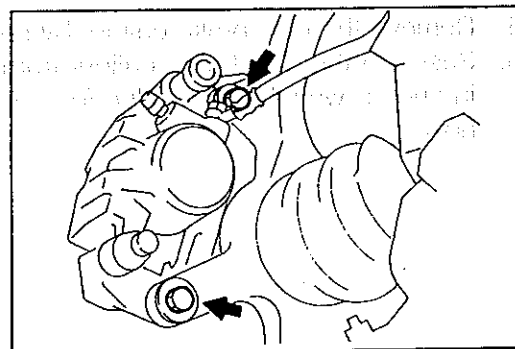
RFS00072-99999



RFS00000-99999

25. Remove the suspended disc brake caliper from the upper arm and then, install/tighten them to the steering knuckle.

Tightening Torque: 68.6 - 88.3 N·m
(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)



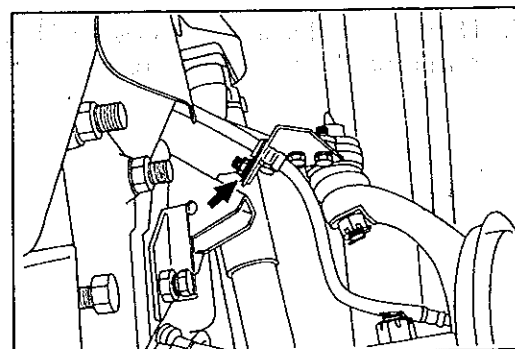
RFS00073-99999

26. Tighten the brake hose with a nut.

Tightening Torque: 6.9 - 15.7 N·m
(0.7 - 1.6 kgf-m, 5.1 - 11.6 ft-lb)

27. Tighten the front wheel.

Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)



RFS00074-99999

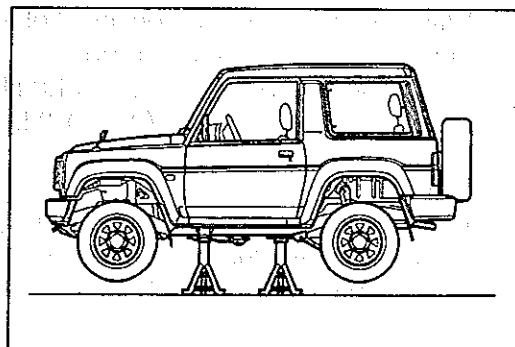
28. Jack down the vehicle.

FS-26

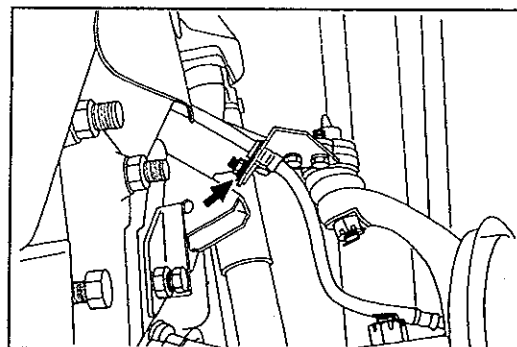
AUTOMATIC LOCKING HUB (OPTIONAL)

REMOVAL

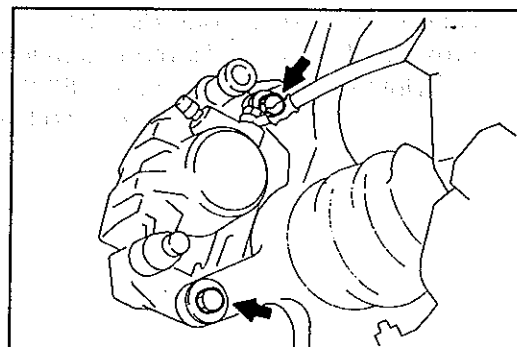
1. Jack up the vehicle and support its with safety stands.
 2. Remove the front wheel.
 3. Remove the nut of the brake hose at the suspension upper arm subassembly.
 4. Remove the disc brake caliper by removing the two bolts.
 5. Suspend the disc brake caliper from the upper arm frame in such a way that no undue force is applied to the brake hose.
 6. Remove the locking hub cover with the gasket installed by removing the six screws, using the hexagon wrench.
 7. Remove the six bolts of the locking hub body, using the following SST.
- SST: 09511-87202-000



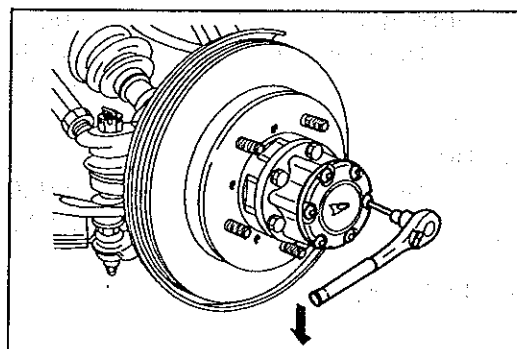
RFS00075-99999



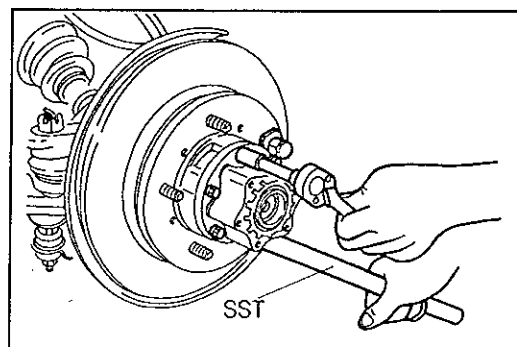
RFS00076-99999



RFS00077-99999



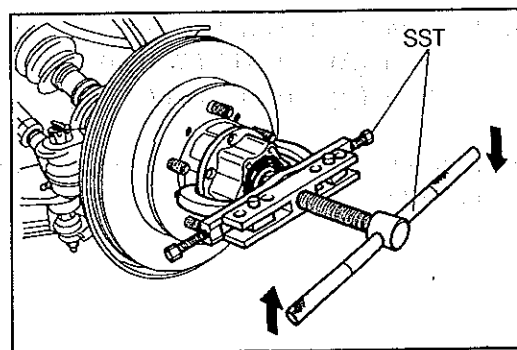
RFS00078-99999



RFS00079-99999

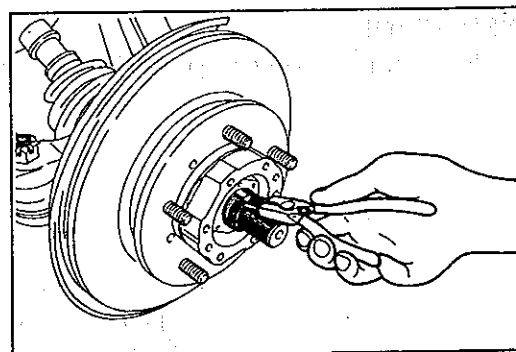
8. Remove the automatic locking hub body assembly, using the following SST.

SST: 09950-20017-000



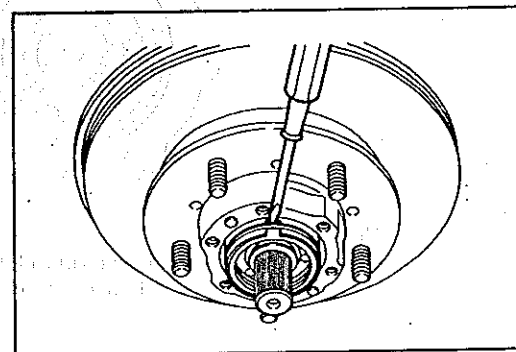
RFS00080-99999

9. Remove the snap ring shaft, using the snap ring expander.



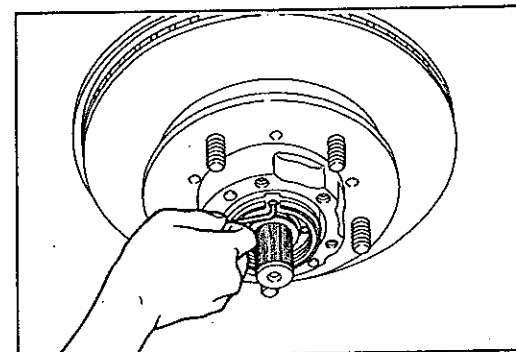
RFS00081-99999

10. Inset the flat driver between the brake drum and protrusion section of the brake shoe subassembly.
11. Evenly and uniformly pull out the brake shoe subassembly, using the flat driver.



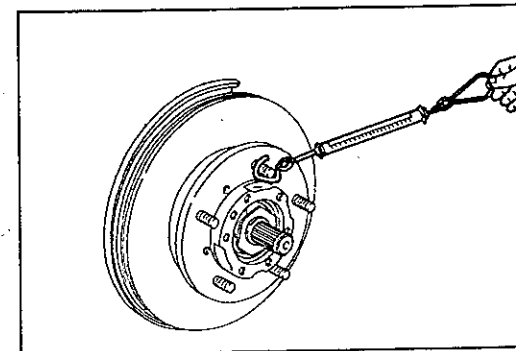
RFS00082-99999

12. Remove the brake drum by removing the three screws, using the torx wrench.



RFS00083-99999

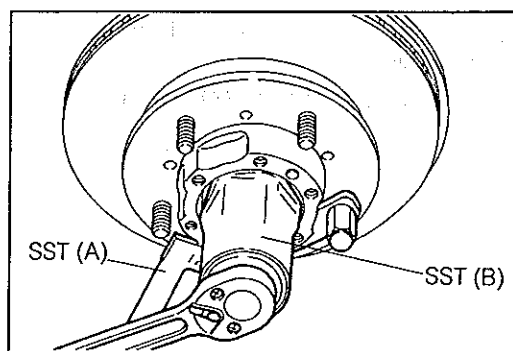
13. Measure and record the actual starting torque for the reference of installation.



RFS00084-99999

FS-28

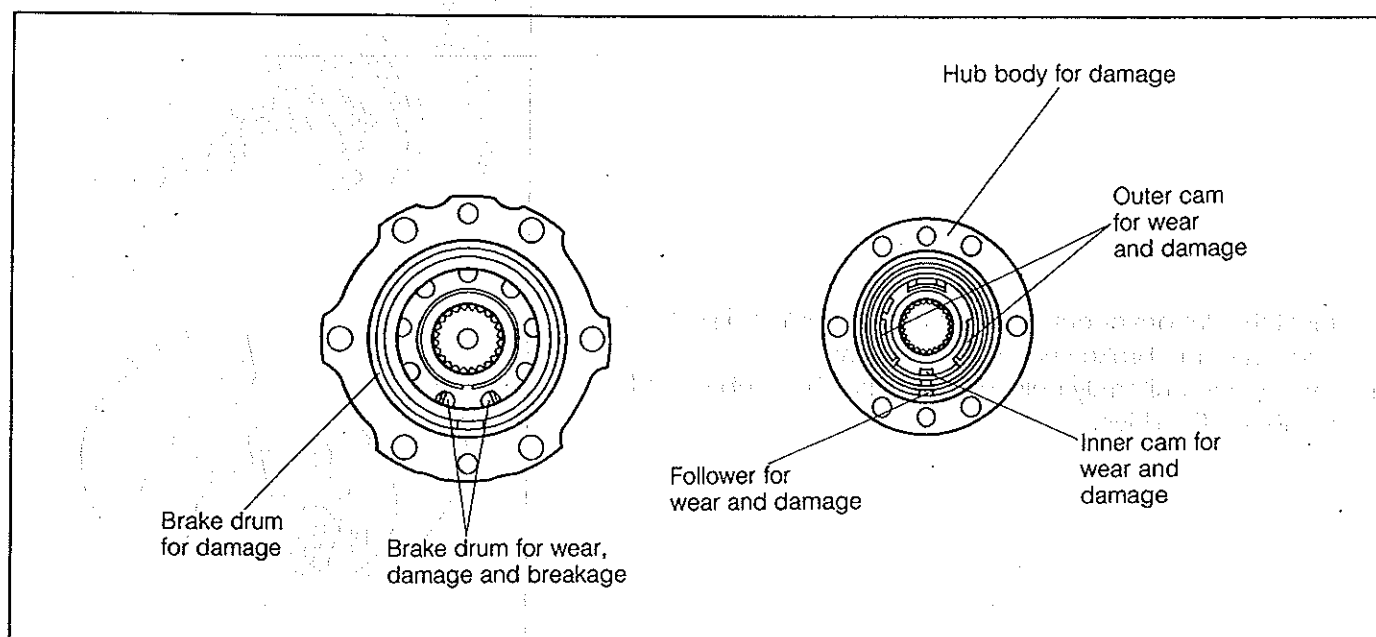
14. Remove the lock nut, using the following SST.
SST (A): 09511-87202-000
SST (B): 09607-87603-000
15. Pull out the front axle hub and disc assembly. (see page FS-19 step 14.)



RFS00085-99999

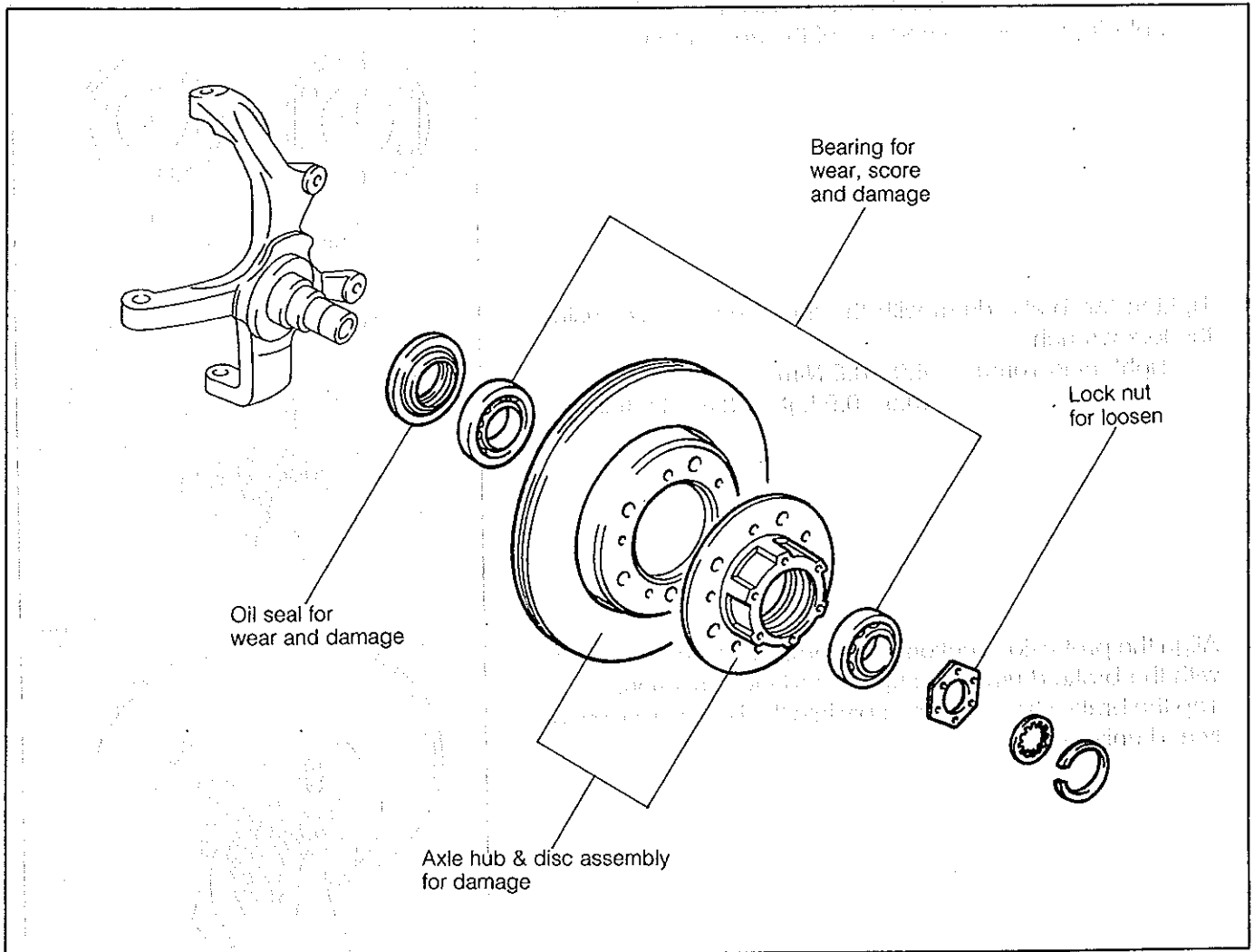
INSPECTION

1. Inspect the following parts. Replace any damaged parts.



RFS00086-99999

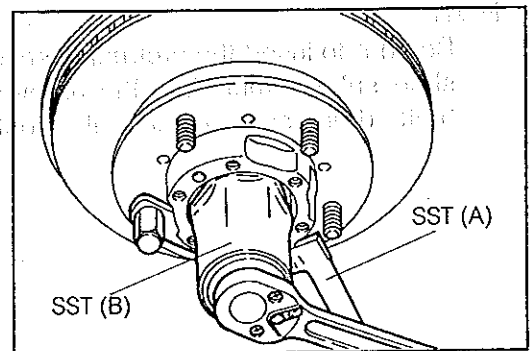
2. Inspect the following parts. Replace any damaged parts.



RFS00087-99999

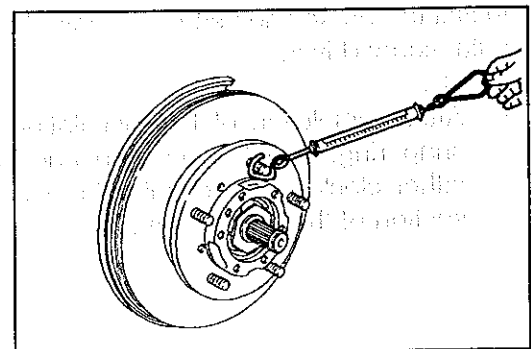
INSTALLATION

1. Install the tapered roller bearings for inner/outer race and oil seal to the front axle hub & disc assembly. (see page FS-21 through FS-23)
2. Tighten the lock nut, using the following SST.
 - SST (A): 09511-87202-000
 - SST (B): 09607-87603-000
 - Tightening Torque: 98.0 - 147.0 N·m
(10.0 - 15.0 kgf-m,
72.0 - 109.0 ft-lb)



RFS00088-99999

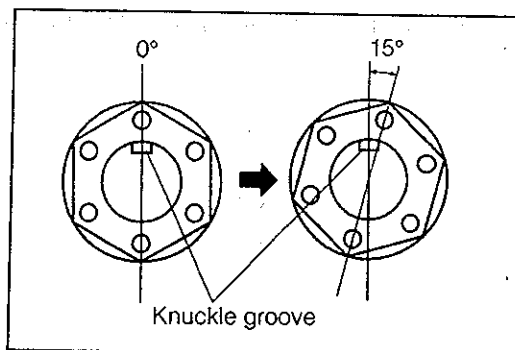
3. Adjustment of starting torque for hub bearing
 - (1) Rotate the axle hub two or three times so that the axle hub may be beaded in.
 - (2) Back off the lock nut one sixth turn.
 - (3) Adjust the lock nut so that the starting torque may conform to the specified value.
 - Starting Load: 13.0 - 35.0 N
(1.4 - 3.6 kgf, 2.8 - 7.9 lb)
 - (Reference Value): 0.98 - 2.45 N·m
(10.0 - 25.0 kgf-cm,
8.7 - 21.75 lb)



RFS00089-99999

FS-30

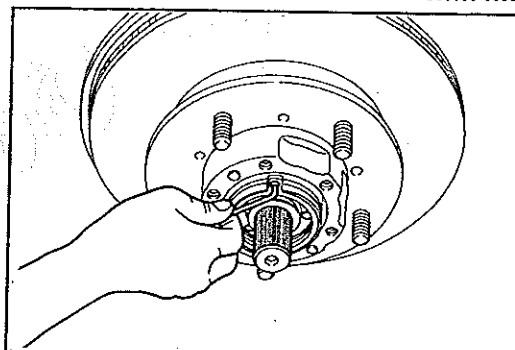
- (4) Adjust the automatic locking hub in such a way that the hub nut position comes at the position indicated in the right figure after completion of the adjustment.



RFS00090-99999

4. Tighten the brake drum with the three torx screws, using the torx wrench.

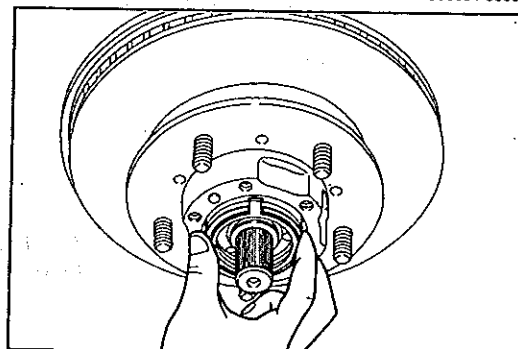
Tightening Torque: 4.9 - 8.8 N·m
(0.5 - 0.9 kgf-m, 3.6 - 6.5 ft-lb)



RFS00091-99999

5. Align the protrusion section of the brake shoe subassembly with the brake drum at the upper and lower section.

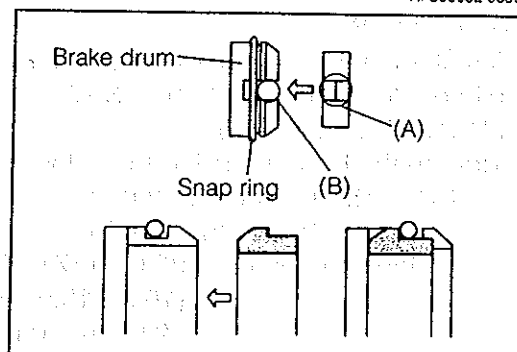
6. Tap the brake shoe subassembly into the brake drum evenly and uniformly.



RFS00092-99999

NOTE:

- Be sure to insert the protruding section (A) of the brake shoe subassembly into the groove section (B) of the brake drum, as indicated in the right figure.

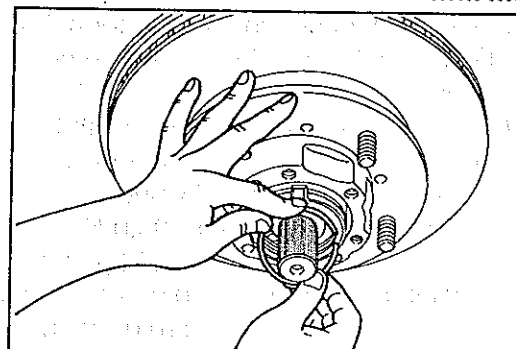


RFS00093-99999

7. Install the brake shoe snap ring into the brake drum, using a flat screwdriver.

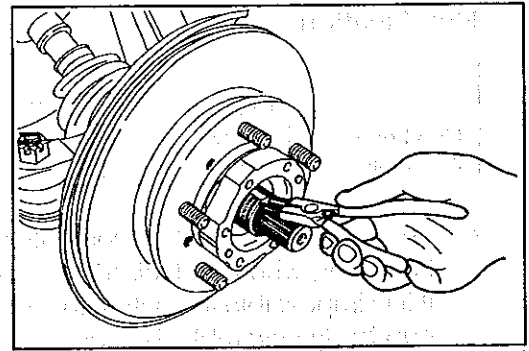
NOTE:

- After completion of the installation of the brake shoe snap ring, turn the opening end section 90 degrees either clockwise or counterclockwise from the opening section of the brake drum.



RFS00094-99999

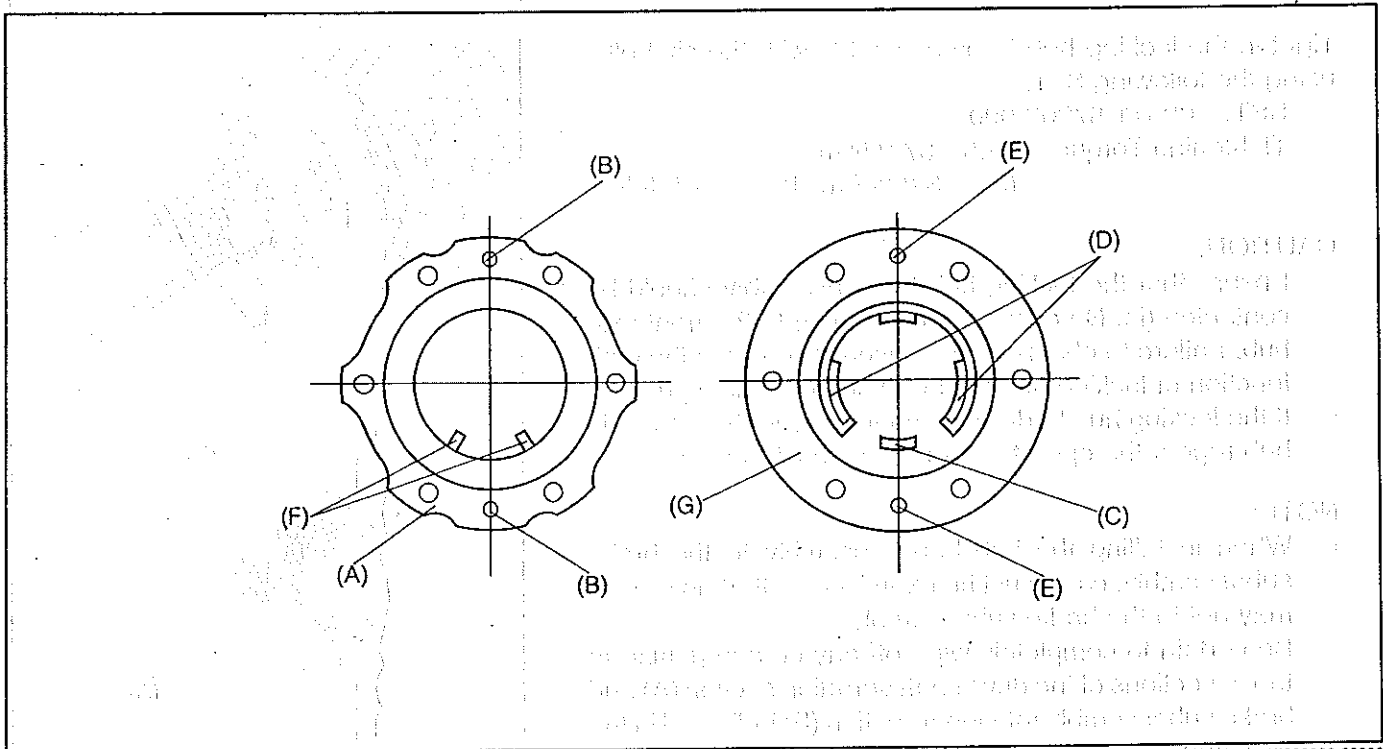
8. Install the drive shaft thrust washer.
9. Install a new snap ring to the drive shaft, using a snap ring expander.



RFS00095-99999

10. Installation of locking hub body assembly

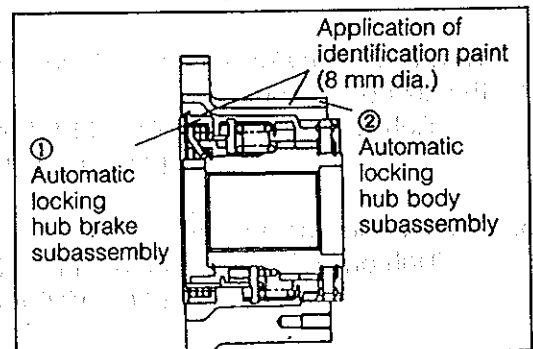
- (1) Turn and set the front axle hub (A) so that the knock pins (B) may come on the same vertical line.
- (2) Set the pawl (C) of the inner cam to the center of the pawls (D) of the outer cam.
- (3) Set the position of the knock pin hole (E).
- (4) Set the brake spring (F) so that the center of its bend section may come at the center of the knock pin (B).
- (5) Install the automatic locking hub (G) to the front axle hub in such a way that the pawl (C) of the inner cam may come at the inside of the brake spring (F) as well as that pawl (D) of the outer cam may come at the outside of the brake spring (F). Then, align the automatic locking hub with the spline of the drive shaft.



RFS00096-99999

11. Identification of automatic locking hub

- (1) When the hub body assembly and/or the hub brake subassembly is replaced, it is necessary to consider the combination of the hub body assembly and the hub brake subassembly. Before these parts are assembled, be certain to confirm their identification, using the table next page.



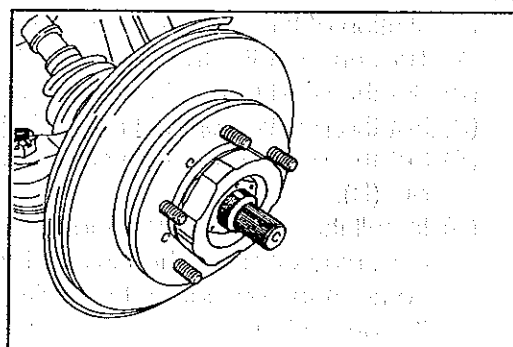
RFS00097-99999

Identification Colors

	Color	Brake subassembly	
		Yellow	Blue
Hub body assembly	Yellow	○	○
	Blue	x	○

- The O-marked combination only is acceptable. However, when replacing the hub brake subassembly, if it is impossible to confirm the identification color of the hub body assembly, be certain to employ a blue brake subassembly.

- Clean the contacting surfaces of the hub body and axle hub. Then, thinly and evenly apply the Daihatsu Bond No. 4.



RFS00098-00000

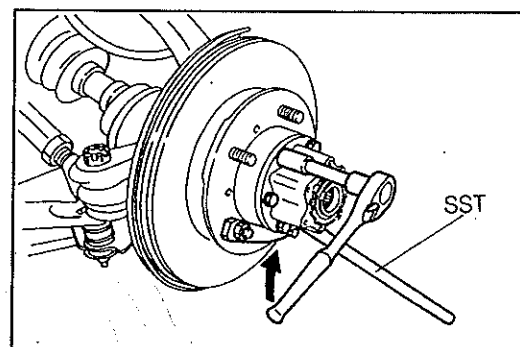
- Tighten the locking hub body assembly with the six bolts, using the following SST.

SST: 09511-87202-000

Tightening Torque: 24.5 - 37.2 N·m
(2.5 - 3.8 kgf-m, 18.1 - 27.5 ft-lb)

CAUTION:

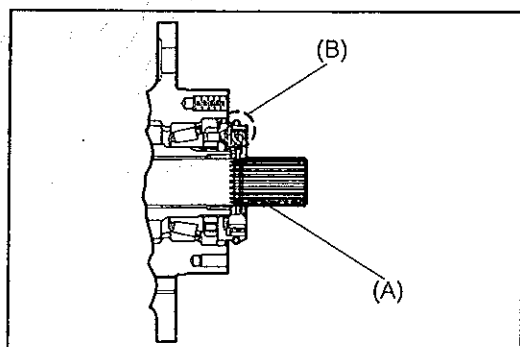
- Ensure that the locking hub body assembly should be contacted (ie: No excessive clearance) to the front axle hub. Failure to observe this caution may cause the malfunction of locking hub (ie: breakage of brake spring).
- If the locking hub body is not contacting to the front axle hub repeat the operation from the step 10 onward.



RFS00099-99999

NOTE:

- When installing the hub body assembly to the brake subassembly, care must be exercised so that no grease may get to the brake subassembly.
- Be certain to completely wipe off any grease getting to those sections of the drive shaft serration section (A) and brake subassembly rotational section (B) indicated in the right figure.



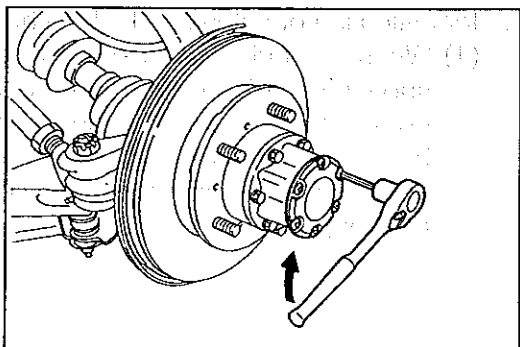
RFS00100-99999

- With a new gasket interposed, tighten the hub cover with the six hexagon bolts.

Tightening Torque: 7.8 - 11.8 N·m
(0.8 - 1.2 kgf-m, 5.8 - 8.7 ft-lb)

- Tighten the front wheel.

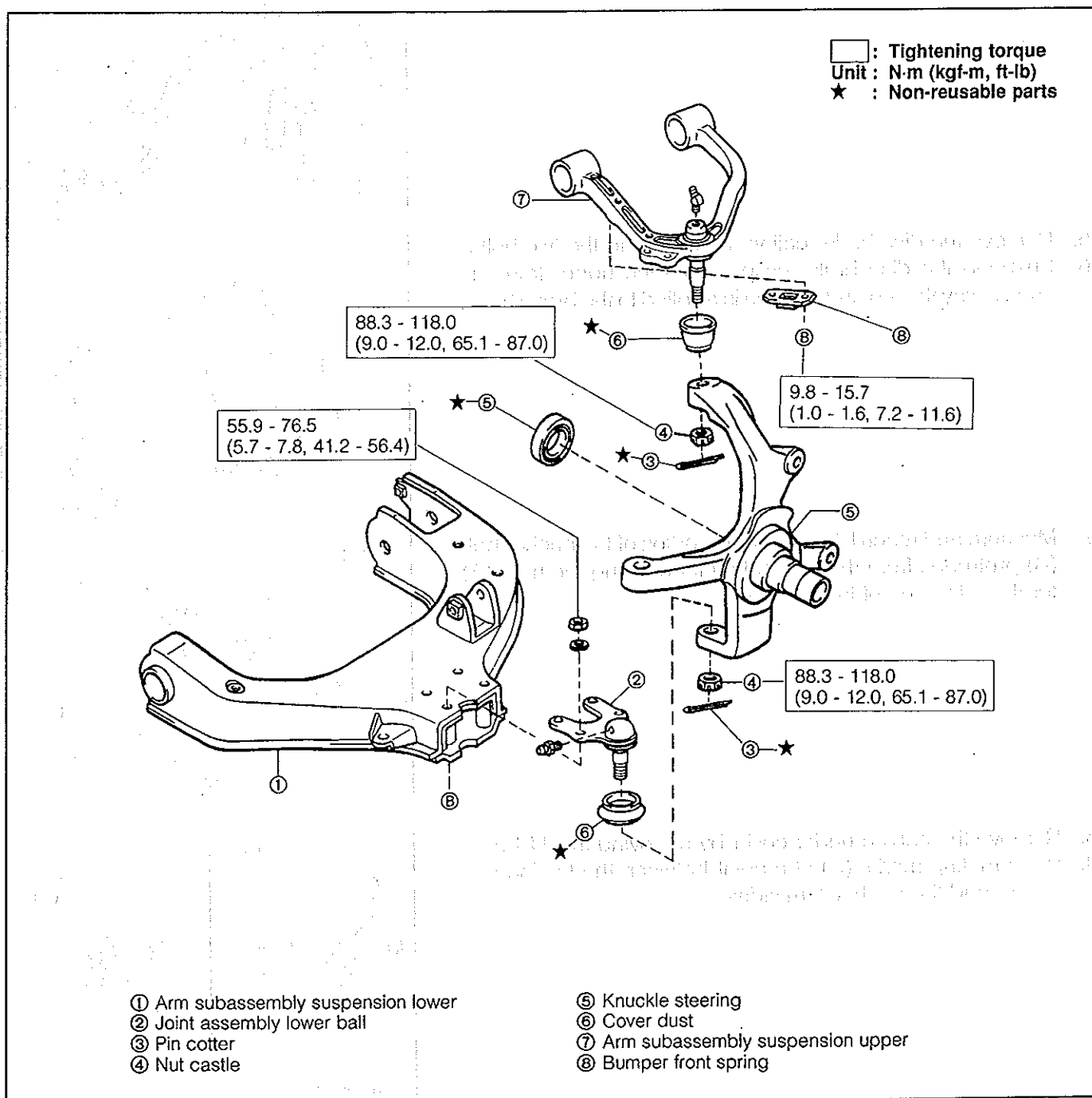
Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)



RFS00102-99999

- Jack down the vehicle.

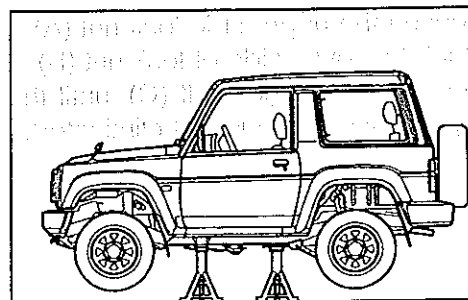
STEERING KNUCKLE COMPONENTS



RFS00103-99999

REMOVAL

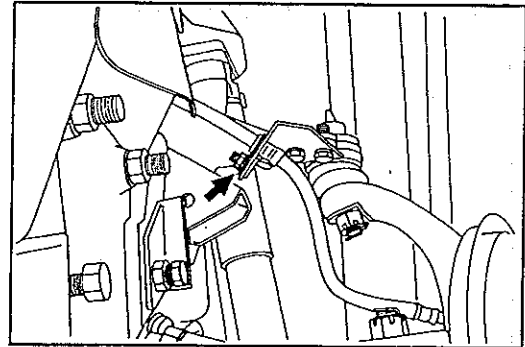
1. Jack up the vehicle and support its with safety stands.
2. Remove the front wheel.
3. Remove the free wheel hub (see page FS-17 through FS-18).



RFS00104-99999

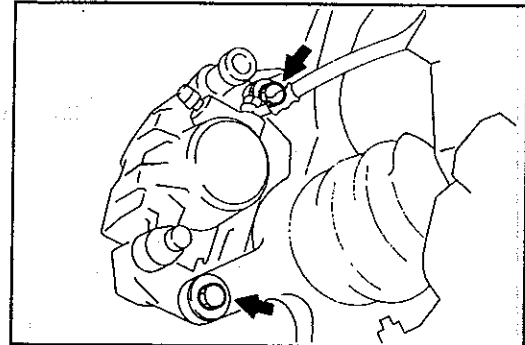
FS-34

4. Remove the nut of the brake hose at the upper arm suspension subassembly.



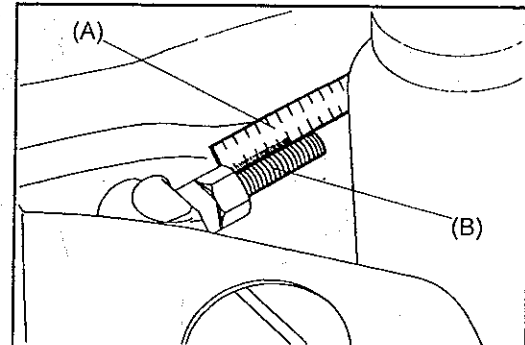
RFS00105-99999

5. Remove the disc brake caliper by removing the two bolts.
6. Suspend the disc brake caliper from the upper frame in such a way that no undue force is applied to the brake hose.



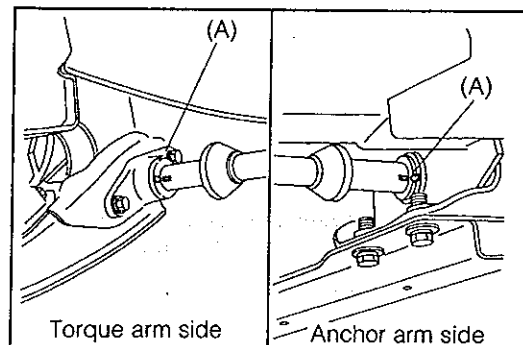
RFS00106-99999

7. Measure and record the threaded portion of the anchor bolt (B) protrudes from the nut end surface, using the ruler (A) for the reference of installation.



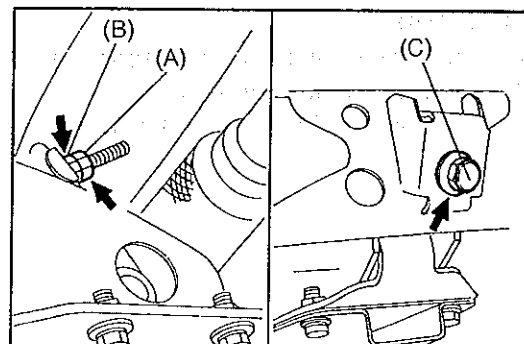
RFS00107-99999

8. Remove the engine under cover by removing the 11 bolts.
9. Put a mating marks (A) at a point between the torsion bar spring and the anchor arm sides.



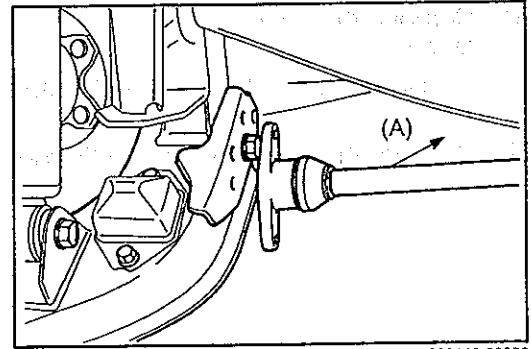
RFS00108-99999

10. Loosen the upper side lock nut (A).
11. Rock the lower side of lock nut (B).
12. Loosen the anchor bolt (C), until the reaction force of the torsion bar spring is just eliminated.



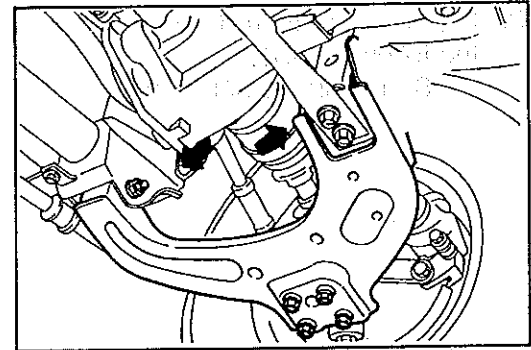
RFS00109-99999

13. Remove the two bolts of the torsion bar spring.
14. Move the torsion bar spring faces toward the vehicle center side (A).



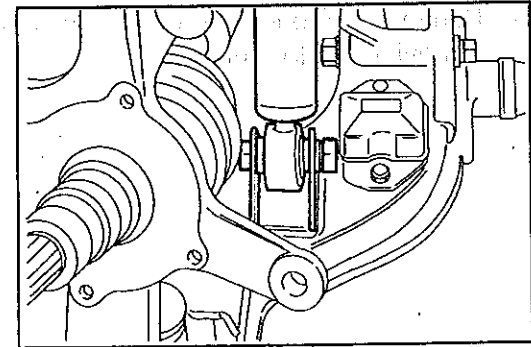
RFS00110-99999

15. Slacken the installation nuts of the lower arm suspension subassembly, until its move in a art-and-aft directions.



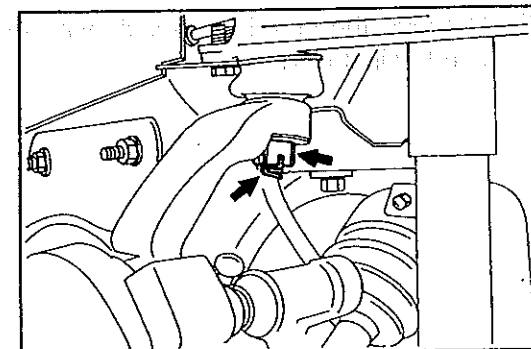
RFS00111-99999

16. Remove a bolt of the front shock absorber at the lower side.



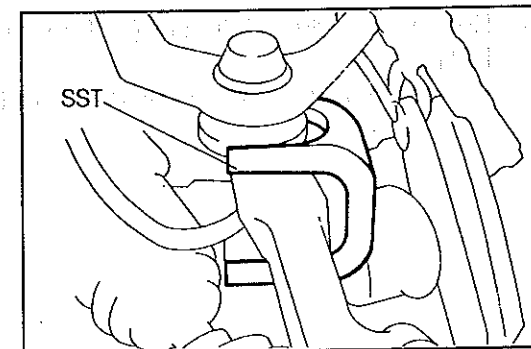
RFS00112-99999

17. Remove the cotter pin.
NOTE:
• Do not reuse the removed cotter pin.



RFS00113-99999

18. Remove the castle nut from the upper arm ball joint side.



RFS00114-99999

19. Separate the upper ball joint from the steering knuckle, using the following SST.
SST: 09611-36020-000

FS-36

20. Remove the cotter pin.

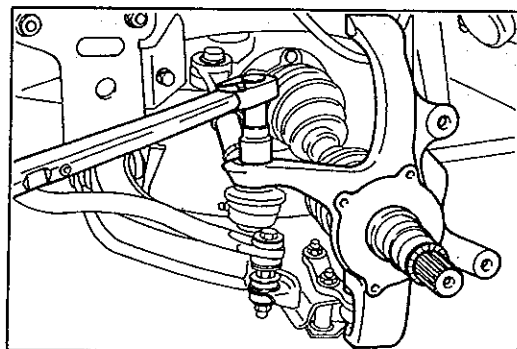
NOTE:

- Do not reuse the removed cotter pin.

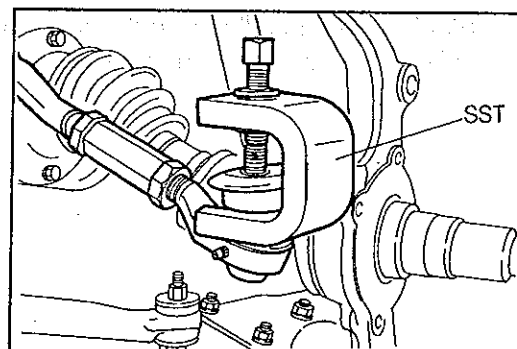
21. Remove the castle nut at the tie-rod end.

22. Separate the tie-rod end from the steering knuckle, using the following SST.

SST: 09611-36020-000

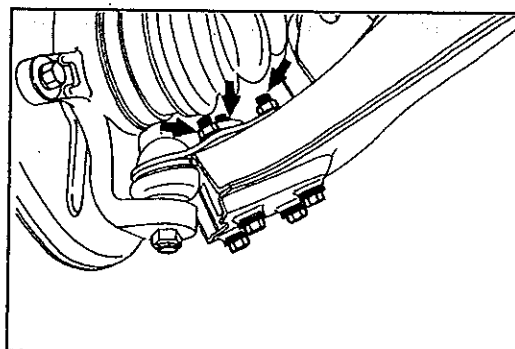


RFS00115-99999



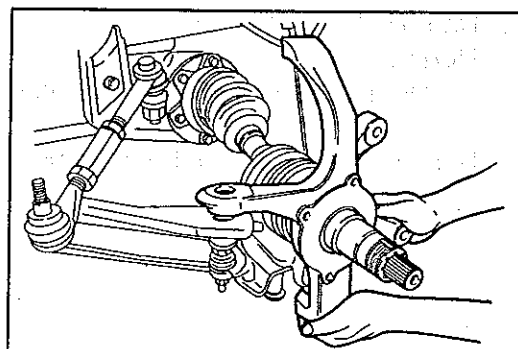
RFS00116-99999

23. Remove the four bolts of the lower ball joint assembly by removing the four nuts.



RFS00117-99999

24. Remove the steering knuckle with the lower ball joint assembly installed.

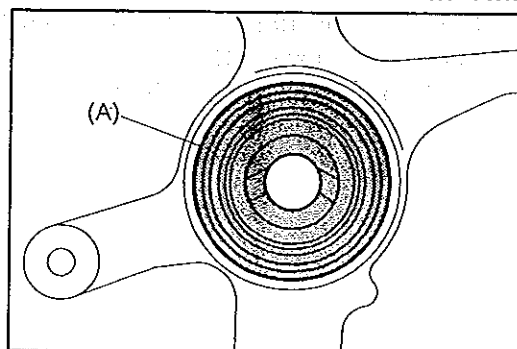


RFS00118-99999

25. Remove the dust deflector (A) from the steering knuckle.

NOTE:

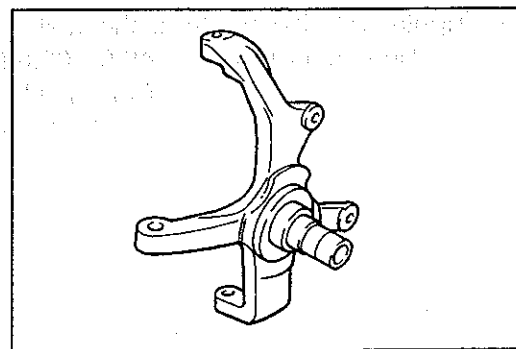
- Do not reuse the removed dust deflector.



RFS00119-99999

INSPECTION

Visually check the steering knuckle for cracks or damage.

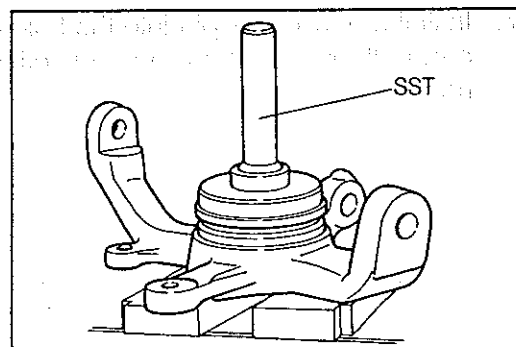


RFS00120-99999

INSTALLATION

1. Install a new dust deflector to the steering knuckle, using the following SST.

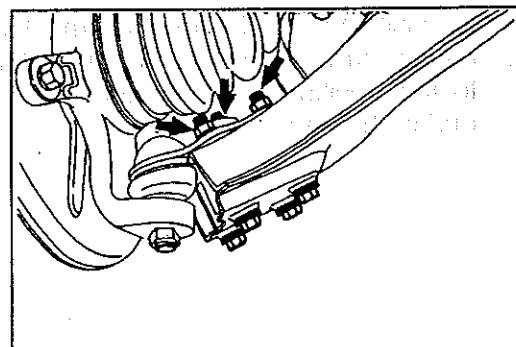
SST: 09223-87703-000



RFS00121-99999

2. Install the steering knuckle with the lower ball joint assembly installed to the lower arm suspension subassembly.
3. Insert the four bolts to the lower ball joint, and Then, tighten the lower ball joint assembly with the four nuts and bolts.

Tightening Torque: 55.9 - 76.5 N·m
(5.7 - 7.8 kgf-m, 41.2 - 56.4 ft-lb)



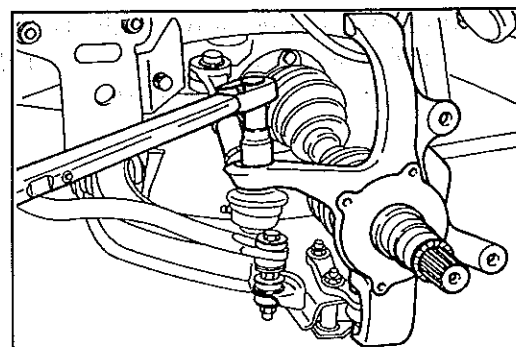
RFS00122-99999

4. Tighten the castle nut at the tie-rod end and upper arm.

Tightening Torque: 68.6 - 137.0 N·m
(7.0 - 14.0 kgf-m,
50.6 - 101.0 ft-lb)

NOTE:

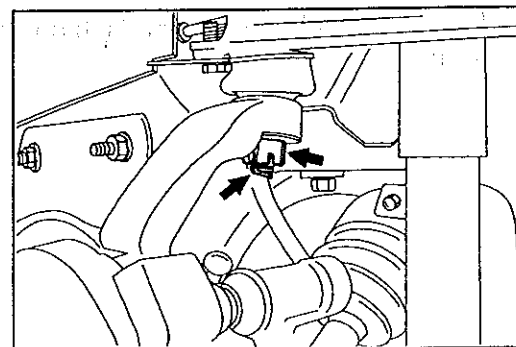
- Not allow to get an oil or grease at the tapered section or threaded position of the ball joint.



RFS00123-99999

5. Tighten the castle nut at the upper arm ball joint section.

Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m,
65.1 - 87.0 ft-lb)

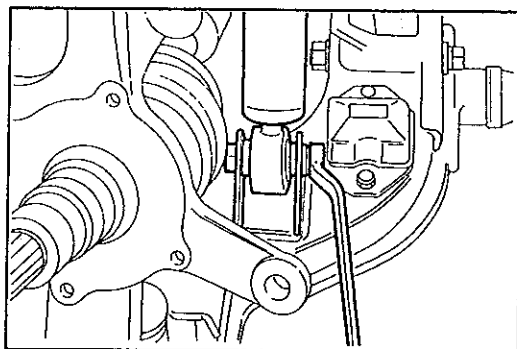


RFS00142-99999

FS-38

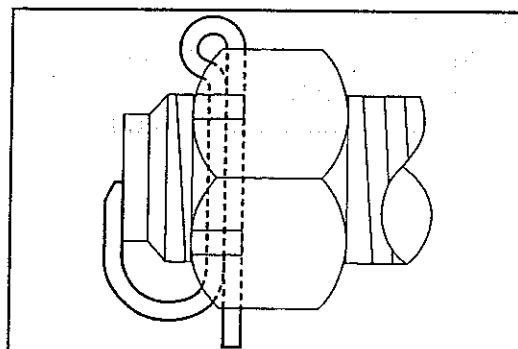
6. Tighten a bolt of the front shock absorber at the lower side.

Tightening Torque: 49.0 - 68.6 N·m
(5.7 - 7.0 kgf-m,
36.23 - 50.6 ft-lb)



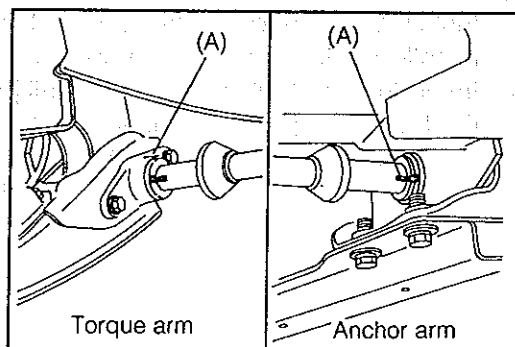
RFS00124-99999

7. Install a new cotter pin into the hole of castle nut at upper arm ball joint and tie-rod end section, as indicated in the right figure.



RFS00144-99999

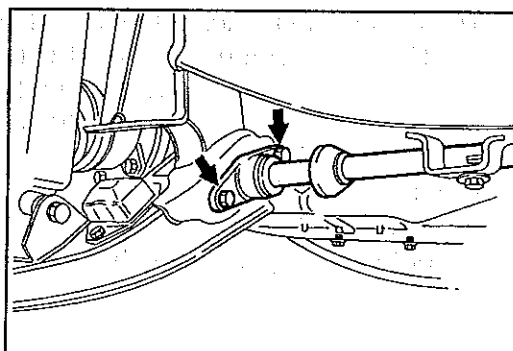
8. In cases where the torque arm, torsion bar spring and anchor arm are reused, install the torque and anchor arm to the position while aligning the mating marks (A) put during the removal.



RFS00125-99999

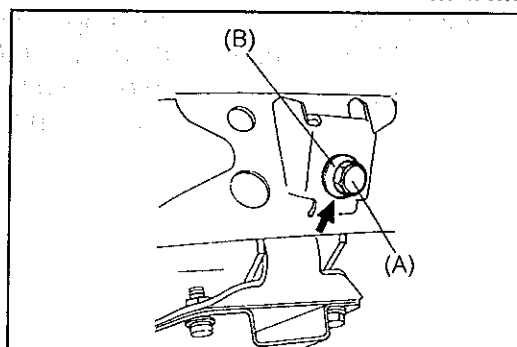
9. Tighten the torque arm with the bolts.

Tightening Torque: 39.2 - 53.9 N·m
(4.0 - 5.5 kgf-m, 28.9 - 39.8 ft-lb)



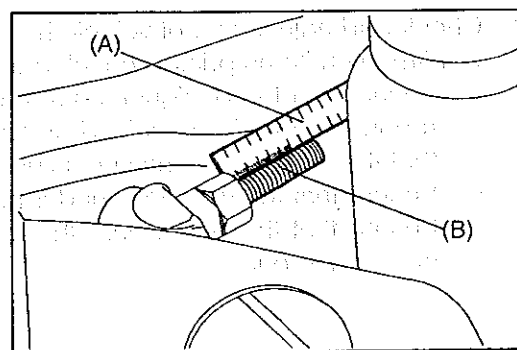
RFS00126-99999

10. Install the anchor arm swivel (B) and anchor bolt (A) to the frame.



RFS00127-99999

11. While preventing the lock nut at the frame side from turning, adjust the anchor bolt (B) so that the protruding dimension of the anchor bolt become the value measured, using the ruler (A).



RFS00129-99999

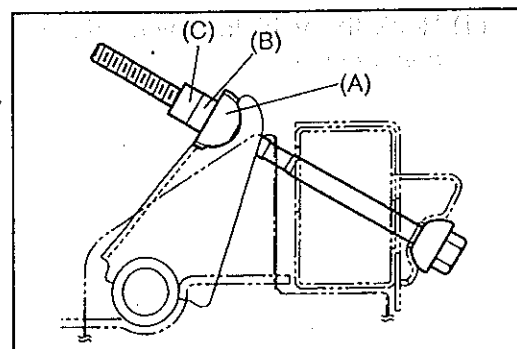
12. Install the anchor arm adjust seat (A) to the anchor bolt.

13. Tighten the upper side lock nut (C).

Tightening Torque: 68.6 - 88.3 N·m
(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)

NOTE:

- As regards the tightening of the lock nut, be sure to prevent the lower nut (B) from the turning, using a spanner or the like. Then, tighten the upper nut (C).



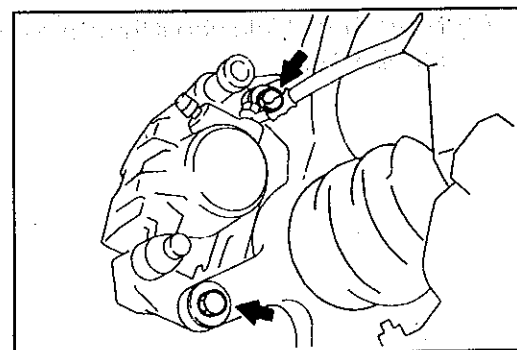
RFS00128-99999

14. Tighten the front brake disc dust cover with the four bolts.

Tightening Torque: 10.3 - 24.0 N·m
(1.05 - 2.45 kgf-m,
7.5 - 17.6 ft-lb)

15. Tighten the disc brake caliper with the two bolts.

Tightening Torque: 68.6 - 88.3 N·m
(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)



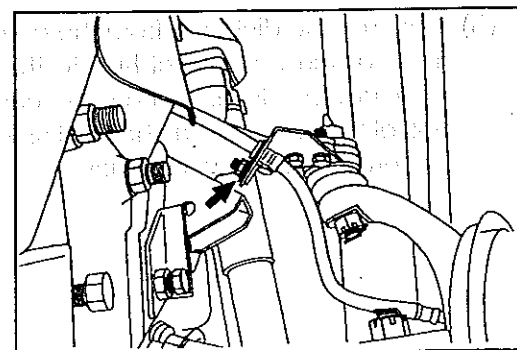
RFS00130-99999

16. Tighten the nut of the brake hose at the upper arm suspension subassembly.

Tightening Torque: 6.9 - 15.7 N·m
(0.7 - 1.6 kgf-m, 5.1 - 11.6 ft-lb)

17. Tighten the front wheel.

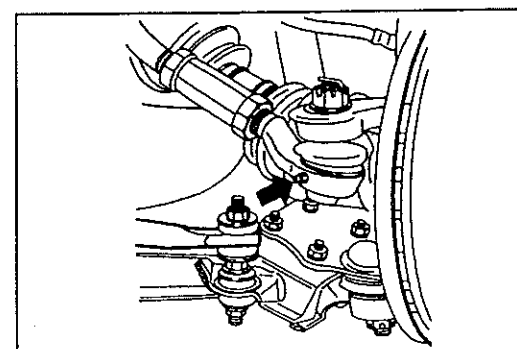
Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m,
65.1 - 87.0 ft-lb)



RFS00131-99999

18. Fill new lithium-based MP grease to the tie-rod end, until the present grease oozes.

Filling Amount: 15 grams (New parts is installed)



RFS00134-99999

FS-40

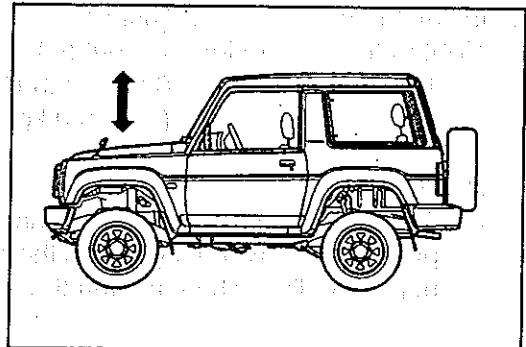
19. Check and adjustment of vehicle height.

Confirmation items prior to check and adjustment

- Ensure that the designated tires are installed and tires are inflated to the specified air pressure. Also, ensure that the air inflation pressure is uniform on the four tires.
- Ensure that the vehicle is under no-loaded state.
- Ensure that the floor where the check and adjustment are carried out.

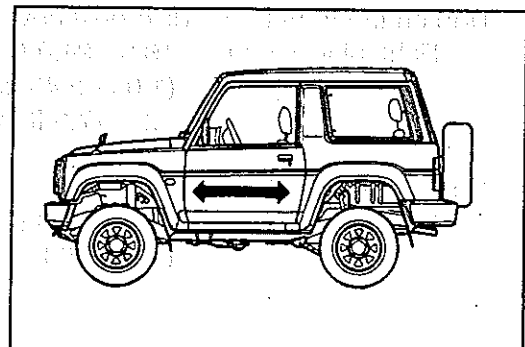
RFS00135-00000

- (1) Rock the vehicle several times so as to stabilize the suspensions.



RFS00136-99999

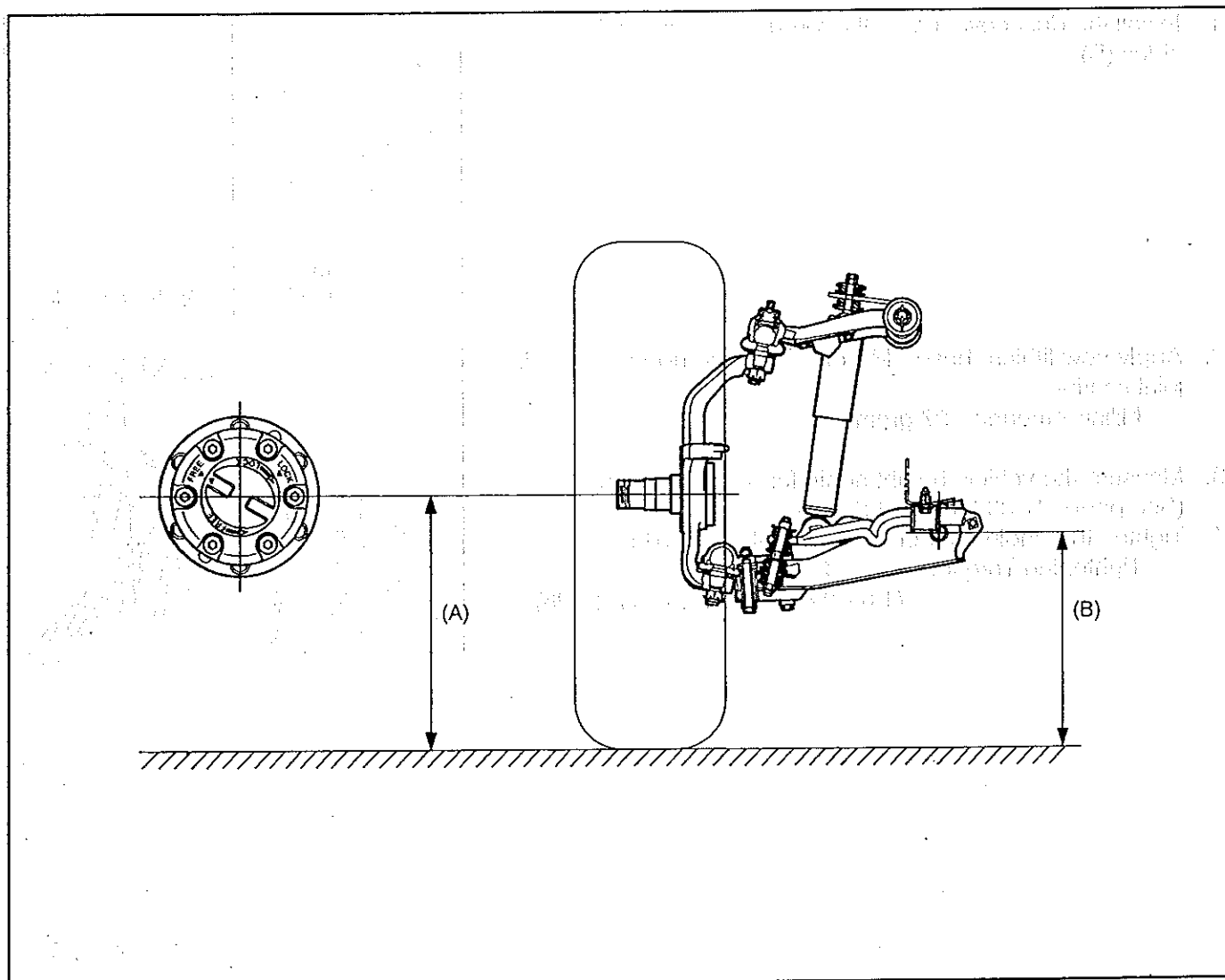
- (2) Move the vehicle about three meters twice in a fore-and-aft directions.



RFS00137-99999

- (3) Measure the distance from the center of the front ornament or the free wheel hub to the ground level. Also, measure the distance from the center of the attaching bolt of the lower arm at the front side to the ground level. Record the measured values.

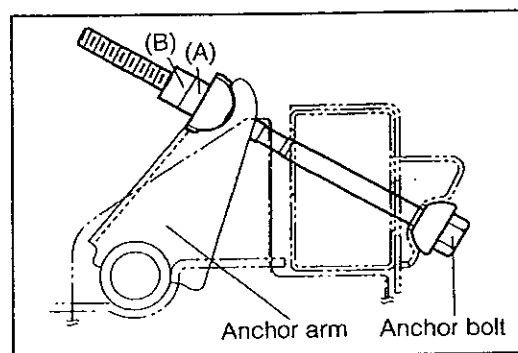
RFS00138-00000



- (4) Calculate the measured value. Ensure that the difference conforms to the specified value. However, the variation in the specified value between the right and left sides should be within 10 mm.
 $(A) - (B) = C$ (Specified Value) $C = 48 \pm 10$ mm

RFS00139-99999

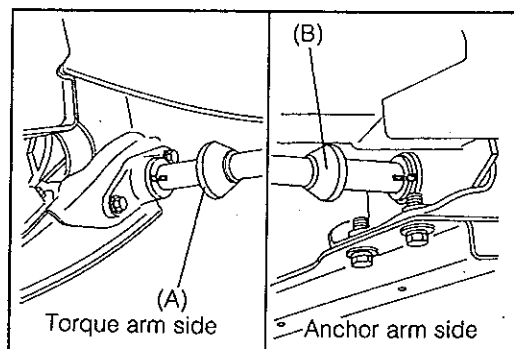
20. Tighten the lock nut (B) of the anchor bolt and lock it.
 Tightening Torque: 68.6 - 88.3 N·m
 (7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)



RFS00140-99999

FS-42

21. Install the dust cover (A) at the torque arm and anchor arm sides (B).



RFS00141-99999

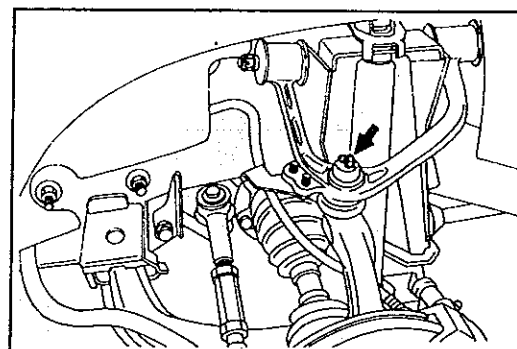
22. Apply new lithium-based MP grease to the upper arm ball joint section.

Filling Amount: 27 grams

23. Measure the vehicle height again for reconfirmation.
(See page FS-39 through FS-41.)

24. Tighten the engine under cover with the 11 bolts.

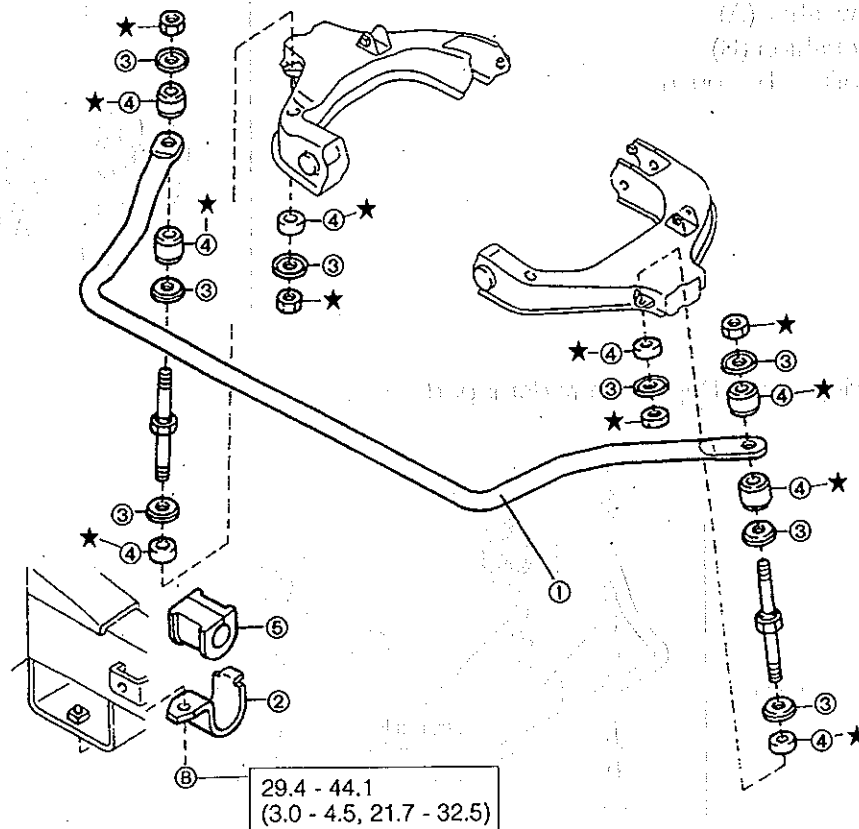
Tightening Torque: 15.7 - 23.5 N·m
(1.6 - 2.4 kgf-m, 11.6 - 17.4 ft-lb)



RFS00146-99999

STABILIZER BAR COMPONENTS

□ : Tightening torque
Unit : N·m (kgf-m, ft-lb)
★ : Non-reusable parts



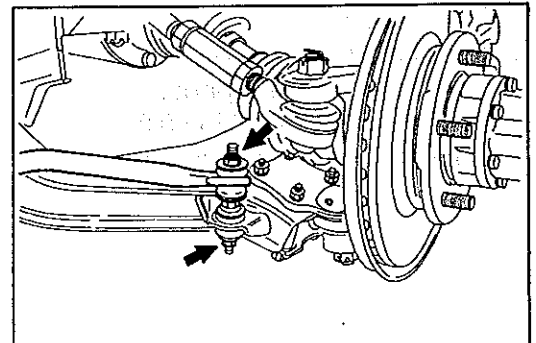
- ① Bar stabilizer
- ② Cover stabilizer bracket
- ③ Washer

- ④ Washer
- ⑤ Bush stabilizer bar

RFS00147-99999

REMOVAL

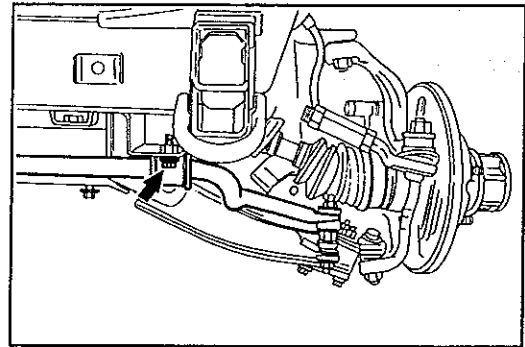
1. Place the vehicle in an unloaded state.
2. Remove the engine under cover at the front side.
3. Remove the nuts attaching the stabilizer to the lower arm at the right and left sides.



RFS00148-99999

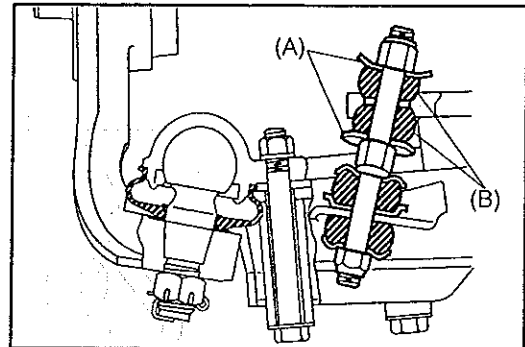
FS-44

4. Remove the bolts attaching the stabilizer bracket cover to the frame at the right and left sides.



RFS00149-99999

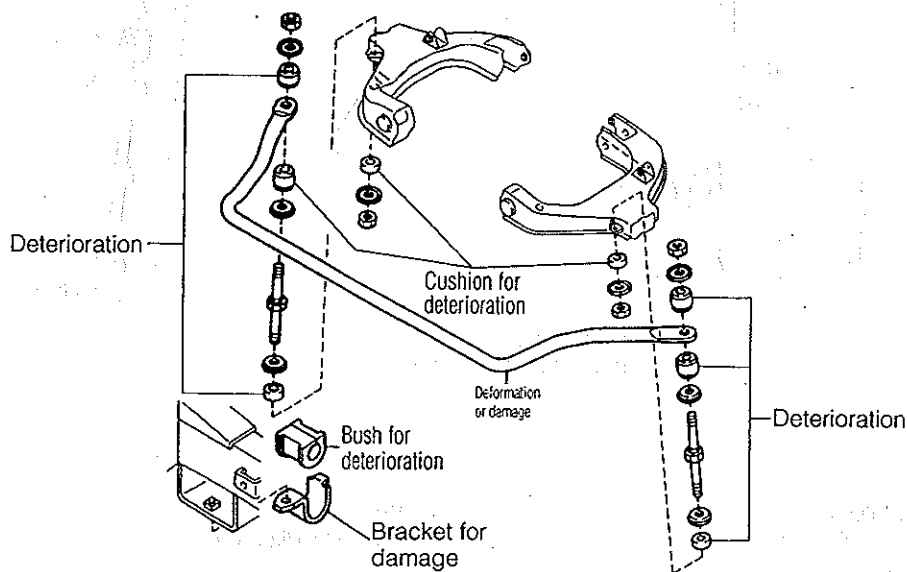
5. Remove the following parts.
 - (1) Two pieces washer (A)
 - (2) Two pieces cushion (B)
6. Remove the stabilizer bar bush.



RFS00150-99999

INSPECTION

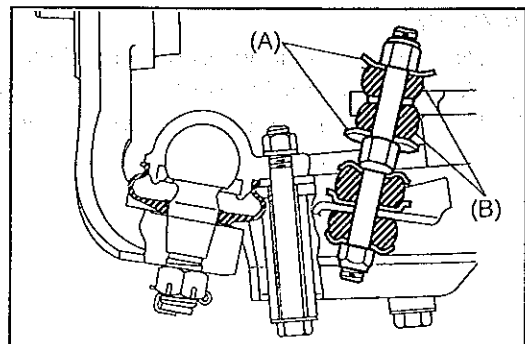
Check the following parts. Replace any damaged parts.



RFS00151-99999

INSTALLATION

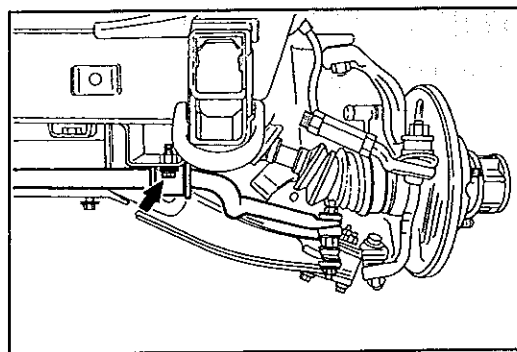
1. Install the stabilizer bar bush.
2. Install the following parts.
 - (1) Two pieces cushion (B)
 - (2) Two pieces washer (A)



RFS00152-99999

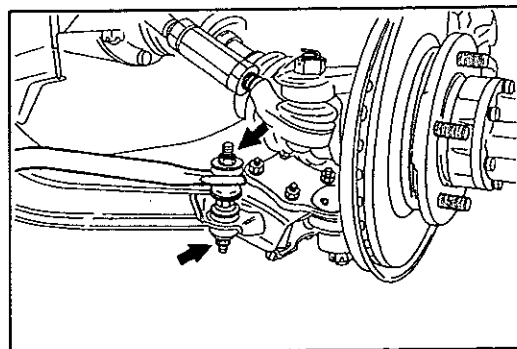
3. Tighten the bolts attaching the stabilizer bar bracket to the frame.

Tightening Torque: 29.4 - 44.1 N·m
(3.0 - 4.5 kgf-m, 21.7 - 32.5 ft-lb)



RFS00153-99999

4. Temporarily tighten the nuts attaching the stabilizer link rod to the lower arm.

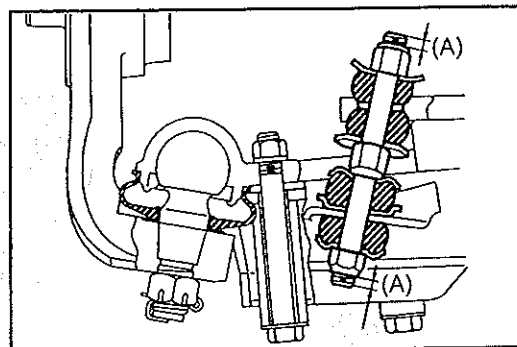


RFS00154-99999

5. Tighten the aforesaid nuts so that the threaded portion of the lower arm protrudes (A) 4 - 8 mm from the nut end surface.

NOTE:

- Never reuse the removed lock nut.



RFS00155-99999

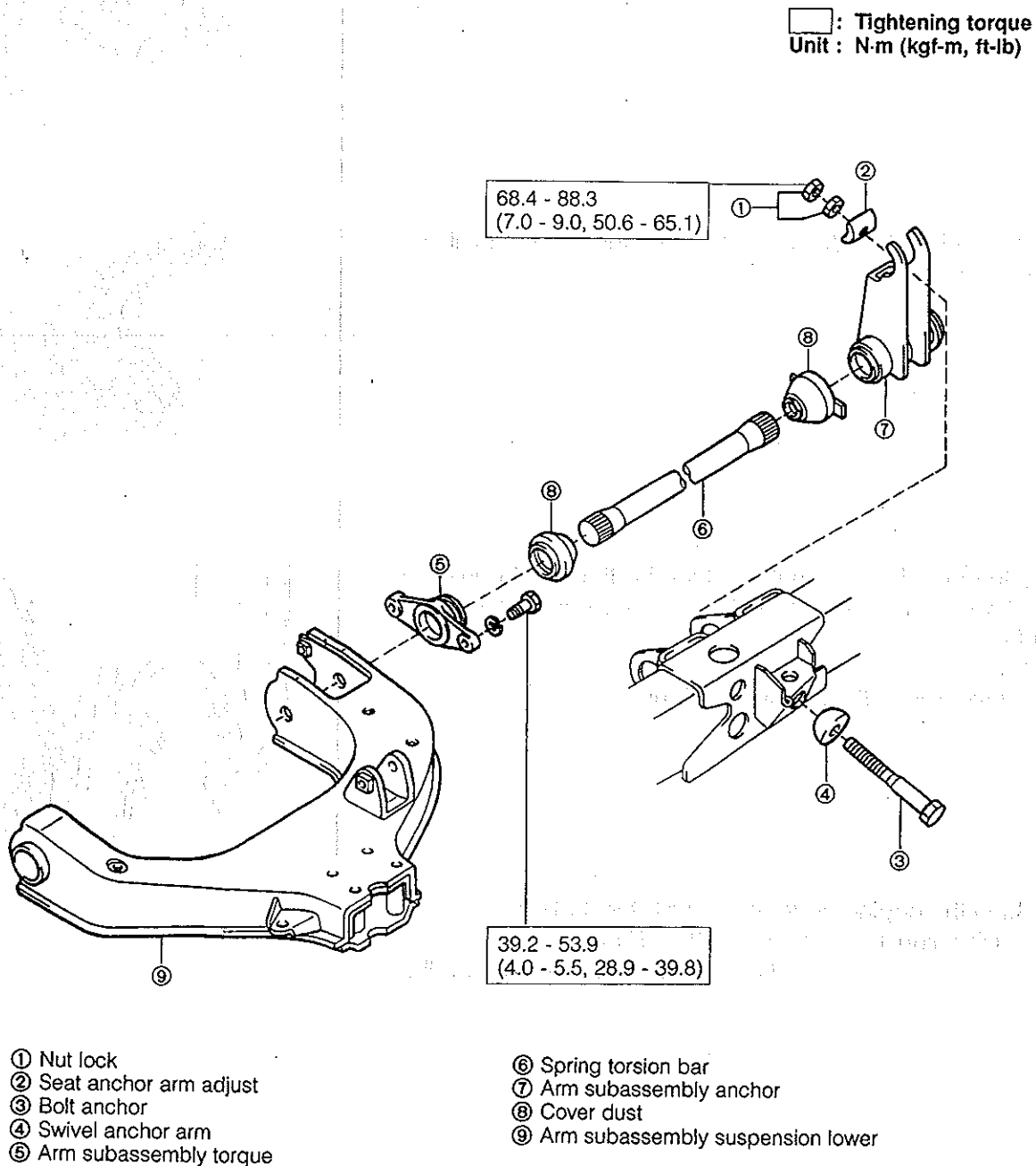
6. Tighten the engine under cover with the 11 bolts.

Tightening Torque: 15.7 - 23.5 N·m
(1.6 - 2.4 kgf-m, 11.6 - 17.4 ft-lb)

RFS00156-00000

FS-46

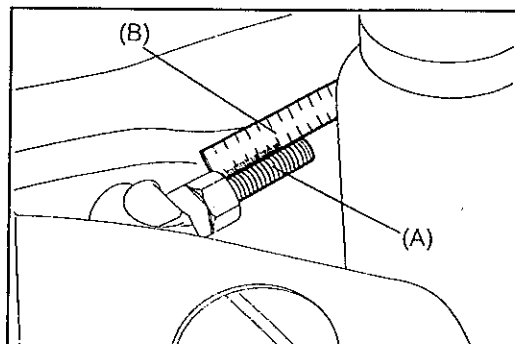
TORSION BAR SPRING COMPONENTS



RFS00157-99999

PRELIMINARY CHECK

1. Measure the protruding dimension of the anchor bolt (A), using the ruler (B), and record the measured value.

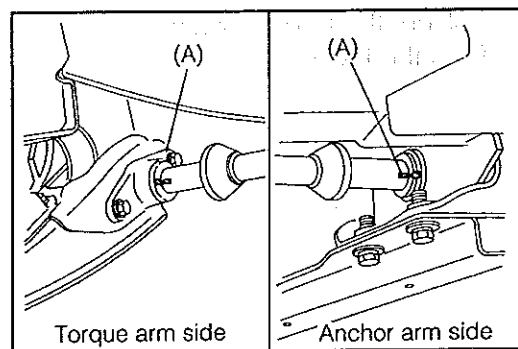


RFS00158-99999

2. Move the dust cover. Put mating marks at a point between the torsion bar spring and the anchor arm. For this identification marks, use white paint or the like.

NOTE:

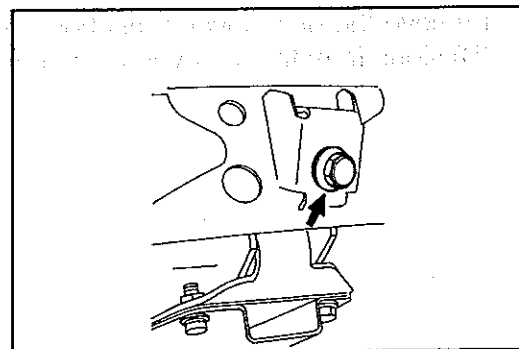
- Since the shape of the torsion bar spring differs between the right side and the left side, be sure to put mating marks (A), so that the torsion bar springs may be installed correctly in their original position.



RFS00159-99999

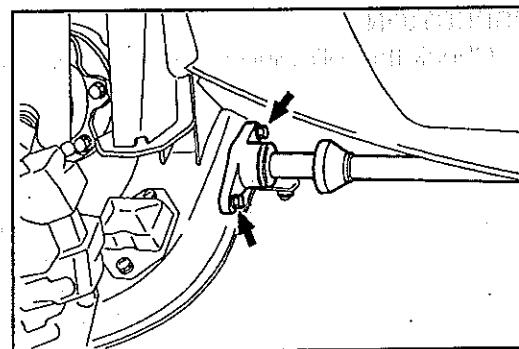
REMOVAL

1. Jack up the vehicle and support its with safety stands.
2. Remove the front wheel.
3. Remove the engine under cover by removing the 11 bolts.
4. Loosen the lock nut of the anchor bolt, until the reaction force of the torsion bar spring is just e liminated.



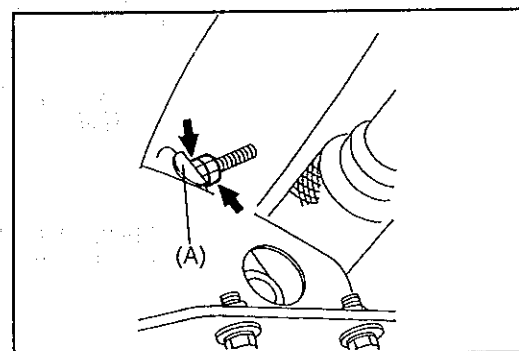
RFS00160-99999

5. Remove the torque arm from the lower arm by removing the torque arm attaching bolt.



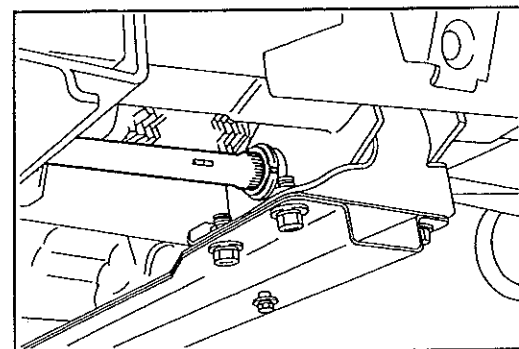
RFS00161-99999

6. Remove the adjusting seat (A) from the anchor arm. Then, remove the anchor arm swivel together with the anchor bolts, nuts and anchor arm adjusting seat from the frame.



RFS00162-99999

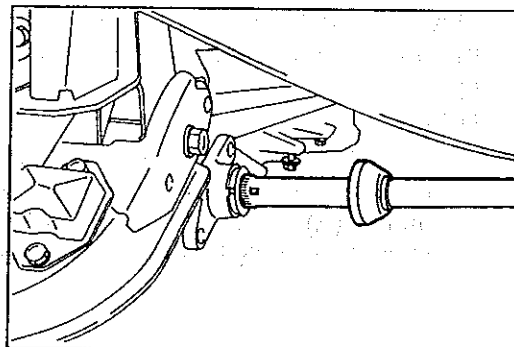
7. Pull out the torsion bar spring with anchor arm subassembly.



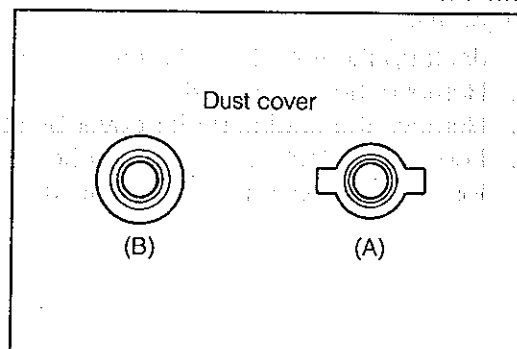
RFS00163-99999

FS-48

8. Pull out the torque arm with the torsion bar spring installed from the lower arm.

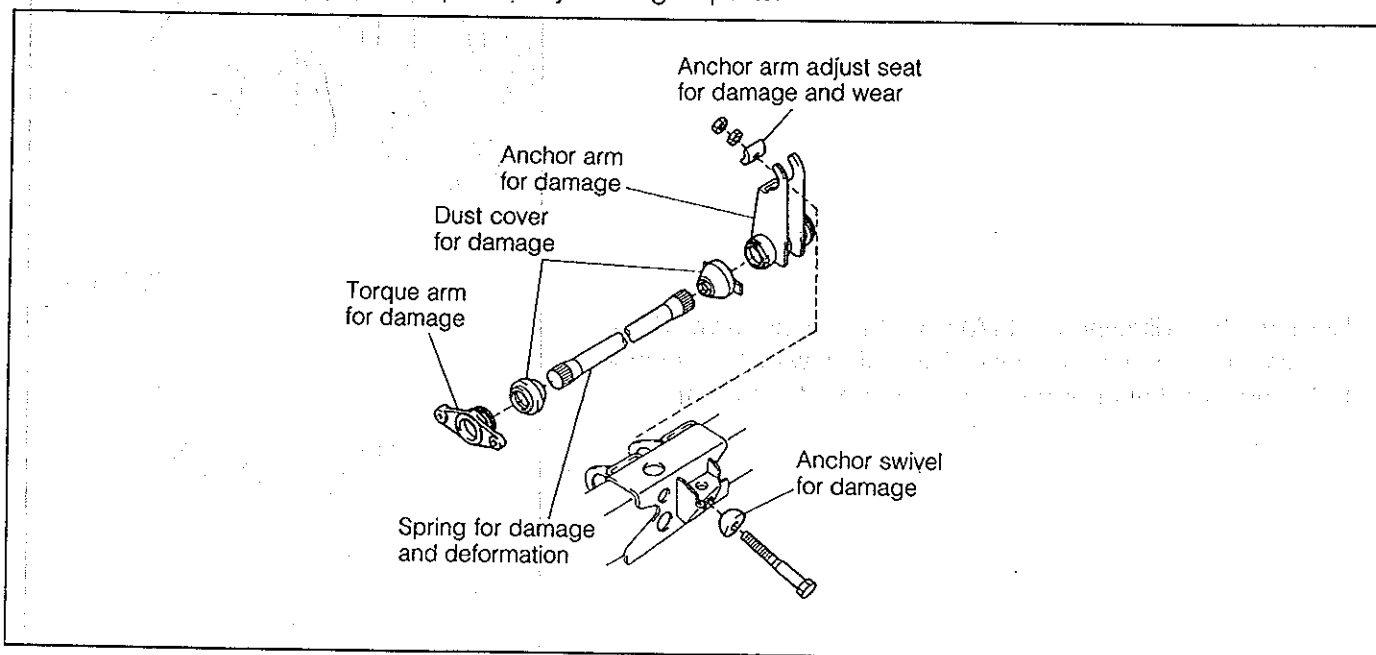


9. Remove the dust cover at anchor arm (A) and torque arm (B) sides from the removed torsion bar spring.



INSPECTION

Check the following parts. Replace any damaged parts.

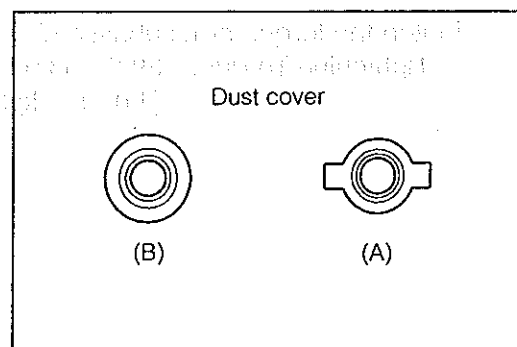


INSTALLATION

1. Install the dust cover to the torsion bar spring.

NOTE:

- Dust cover for the torque arm (B) and anchor arm (A) are designated parts exclusively for each side. Care must be exercised as to the shape in the right figure illustration.

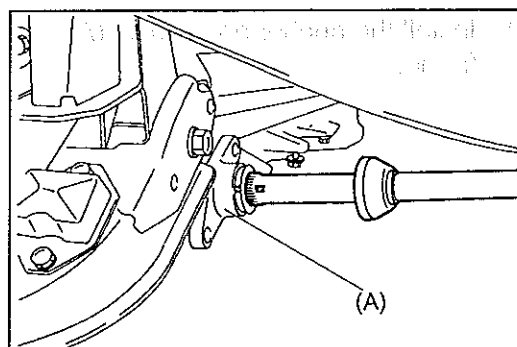


RFS00167-99999

2. Apply lithium-based MP grease to the torsion bar spring spline section.
3. Connect the torsion bar spring to the frame.
4. Install the torque arm (A).

NOTE:

- In case where the torsion bar spring is reused, align the mating marks put during the preliminary check.

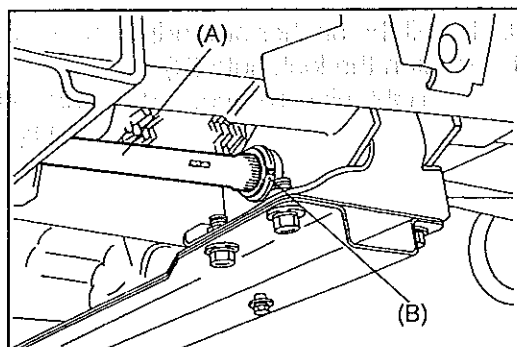


RFS00168-99999

5. Connect the anchor arm subassembly (B) to the frame.
6. Apply lithium-based MP grease to the torsion bar spring spline section.
7. Install the torsion bar spring.

NOTE:

- In case where the torsion bar spring (A) is reused, align the mating marks put during the removal.



RFS00169-99999

Identification Marks

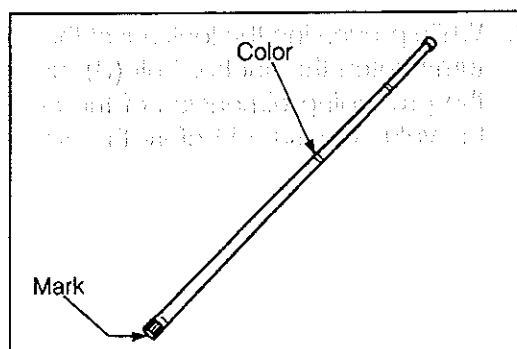
	Left side	Right side
Color	Yellow	White
Mark		

CAUTION:

- As respects the torsion bar spring, be sure to observe the combination above.
- If this caution should fail to be observed, running performance may drop significantly.

NOTE:

- Torsion bar springs for the right and for the left are the designated parts exclusively for each side. Care must be exercised as to the above identification marks.

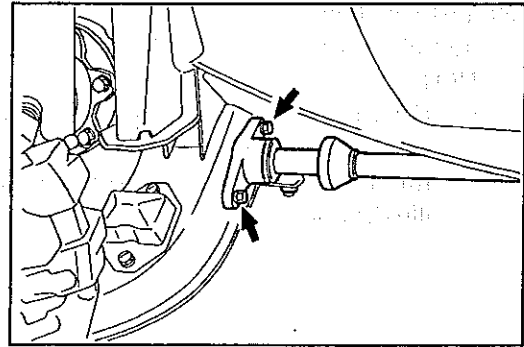


RFS00170-99999

RFS00166-00000

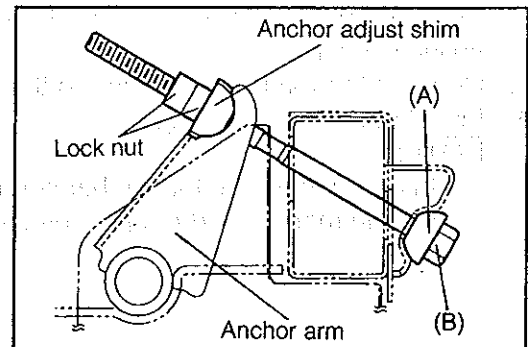
FS-50

8. Tighten the torque arm subassembly with the two bolts.
Tightening Torque: 39.2 - 53.9 N·m
(4.0 - 5.5 kgf-m, 28.9 - 39.8 ft-lb)



RFS00171-99999

9. Install the anchor arm swivel (A) and anchor bolt (B) to the frame.

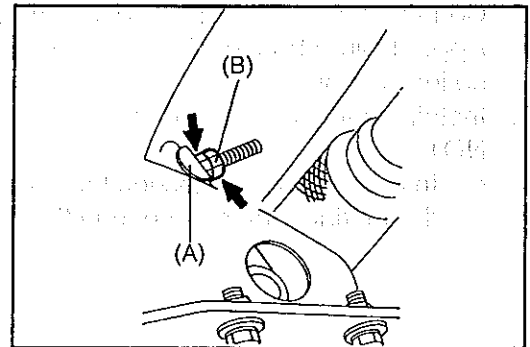


RFS00172-99999

10. Install the anchor arm adjust seat (A) to the anchor bolt.

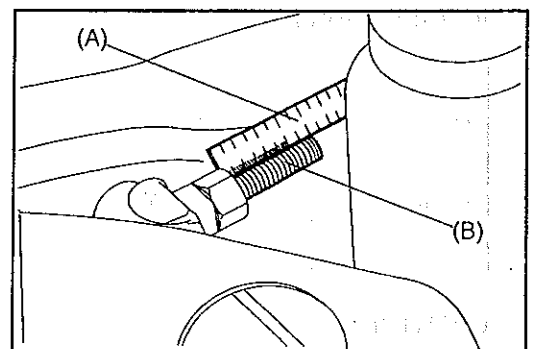
11. Tighten the lock nuts (B).

Tightening Torque: 68.6 - 88.3 N·m
(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)



RFS00173-99999

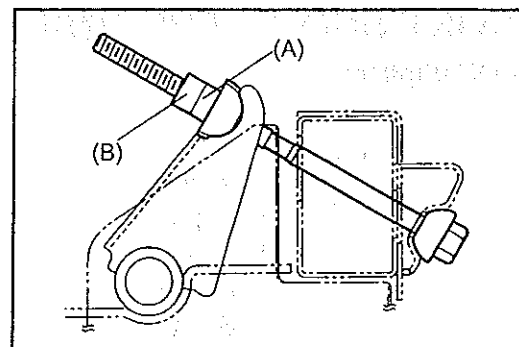
12. While preventing the lock nut at the frame side from turning, turn/tighten the anchor bolt (B), using the ruler (A) so that the protruding dimension of the anchor bolt may become the value measured before the disassembly.



RFS00174-99999

NOTE:

- As regards the tightening of the lock nut, be sure to prevent the lower arm nut (A) from the turning, using a spanner or the like. Then, tighten the upper lock nut (B).
Tightening Torque: 68.6 - 88.3 N·m
(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)



RFS00175-99999

- Tighten the engine under cover with the 11 bolts
Tightening Torque: 15.7 - 23.5 N·m
(1.6 - 2.4 kgf-m, 11.6 - 17.4 ft-lb)
- Tighten the front wheel.
Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)
- Jack down the vehicle.
- Adjust the vehicle height. (see page FS-38 through FS-41)

FS-52

FRONT SHOCK ABSORBER COMPONENTS

18.6 - 30.4
(1.9 - 3.1, 13.7 - 22.4)



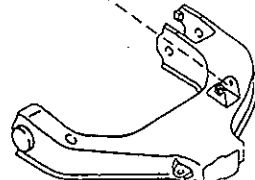
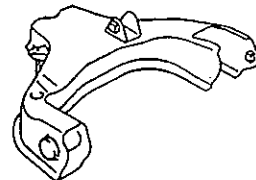
2

3

3

2

4



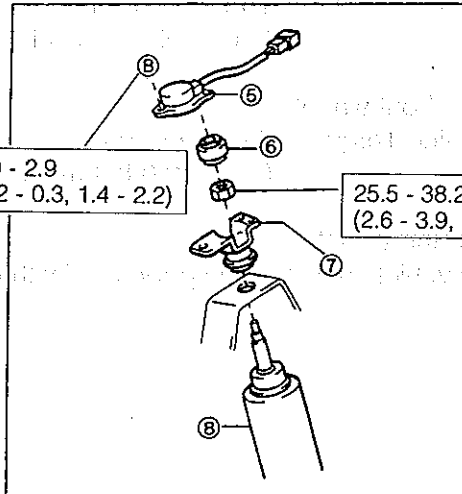
49.0 - 68.6
(5.0 - 7.0, 36.2 - 50.6)

□ : Tightening torque
Unit : N·m (kgf·m, ft·lb)
★ : Non-reusable parts

Three stage dampers (optional)

2.0 - 2.9
(0.2 - 0.3, 1.4 - 2.2)

25.5 - 38.2
(2.6 - 3.9, 18.8 - 28.2)



STD TYPE

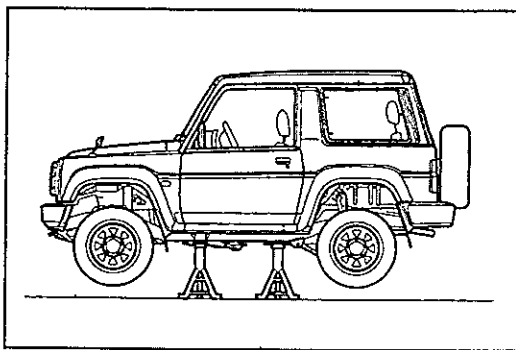
- ① lock nut
- ② Washer (Two pieces)
- ③ Cushion (Two pieces)
- ④ Absorber front shock

THREE STAGE DAMPER (OPTIONAL)

- ⑤ Actuator absorber control
- ⑥ Seal dust
- ⑦ Bracket absorber control actuator
- ⑧ Absorber front shock

REMOVAL

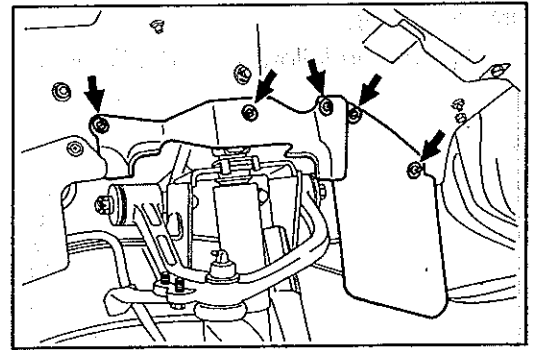
1. Jack up the vehicle and support its with safety stands.
2. Remove the front wheel



RFS00176-99999

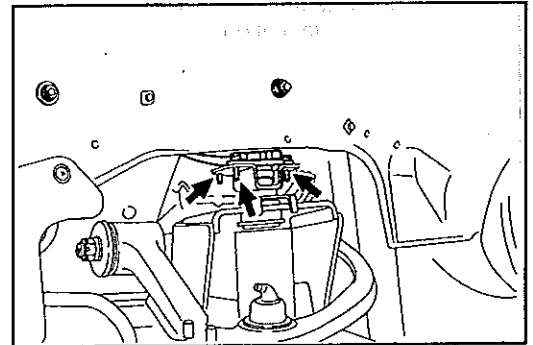
RFS00177-99999

3. Remove the dust cover.



RFS00178-99999

4. Remove the air cleaner assembly with air duct.
5. Remove the connector of the three stage actuator from the bracket and disconnect the connector.
6. Remove the actuator absorber control with dust seal by removing its attaching screws.



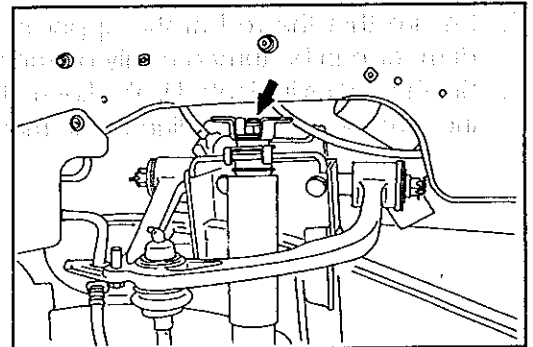
RFS00179-99999

7. Remove the lock nuts.

NOTE:

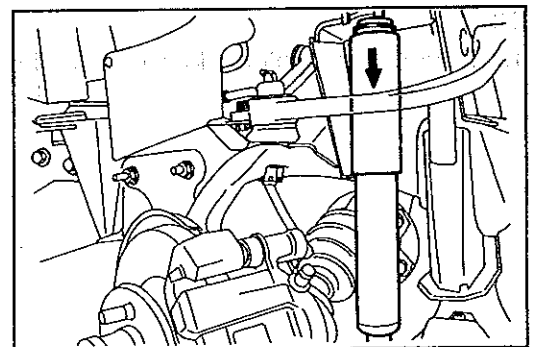
- Do not reuse the removed lock nuts

8. Remove the absorber actuator control bracket.



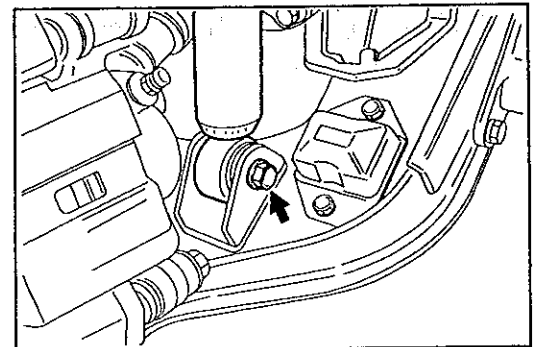
RFS00180-99999

9. Compress the front shock absorber. Then, lower the front shock absorber of the upper section from the frame.



RFS00181-99999

10. Remove the front shock absorber by removing a lower bolt.

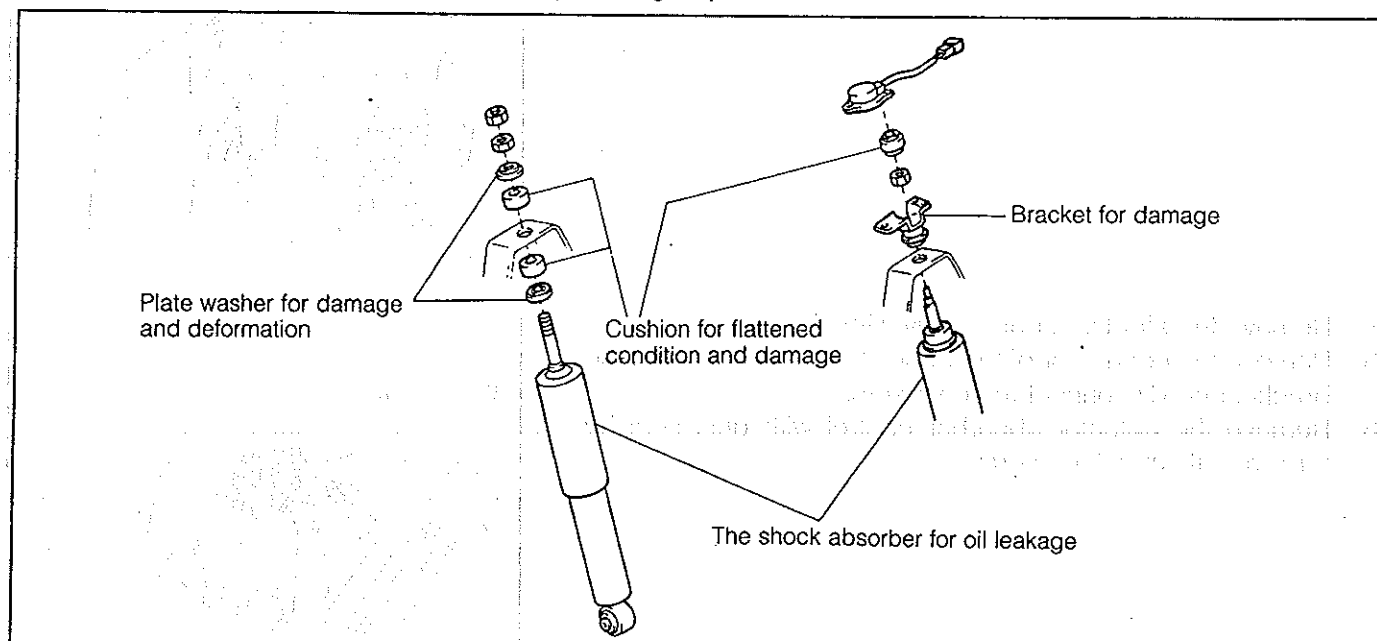


RFS00182-99999

FS-54

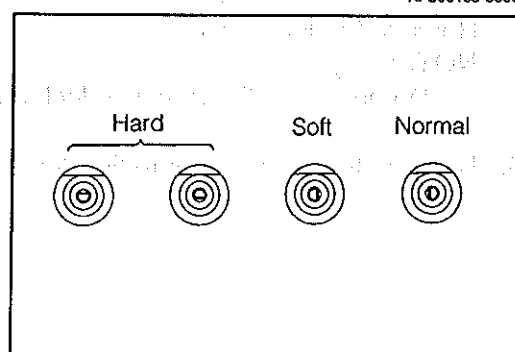
INSPECTION

1. Check the following parts. Replace any damaged parts.



RFS00183-99999

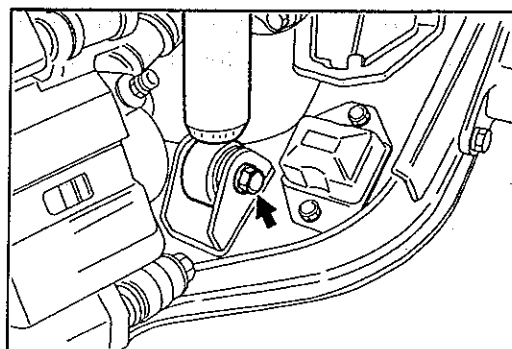
2. Ensure that the rod at the upper side of the three stage damper can be turned easily by radio pliers or the like.
3. Set the rod as indicated in the figure. Ensure that the damping force varies according to the modes.



RFS00184-99999

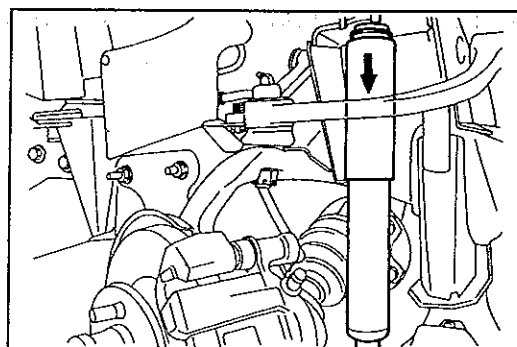
INSTALLATION

1. Temporarily tighten a lower bolt of the front shock absorber.



RFS00185-99999

2. While compressing the front shock absorber, install them to the frame side.

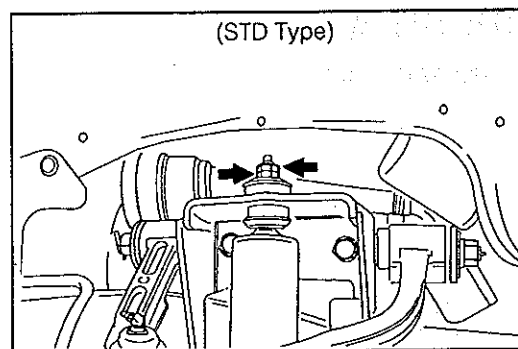


RFS00186-99999

3. Tighten the new lock nuts.
Tightening Torque: 18.6 - 30.4 N·m
(1.9 - 3.1 kgf-m, 13.7 - 22.4 ft-lb)

NOTE:

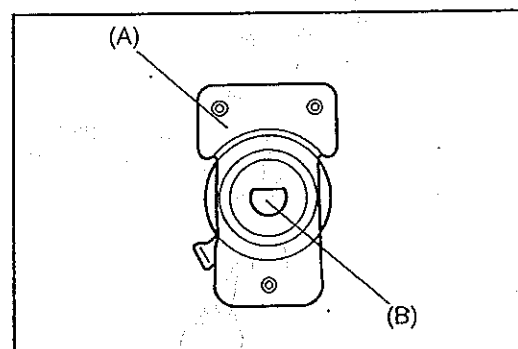
- Ensure that the lower side of the lock nut should be used with thickness type.



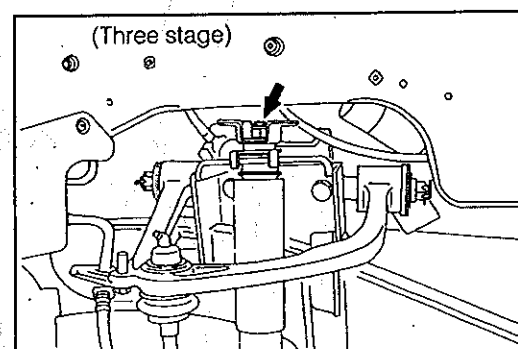
4. Install the absorber control actuator bracket.

NOTE:

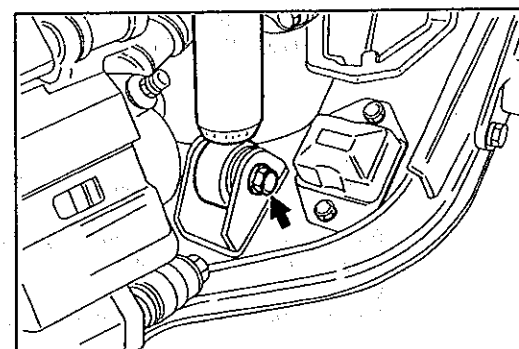
- When installing the absorber control actuator bracket, be sure to align the cut out sections between the bracket (A) and front shock absorber (B).



5. Tighten the absorber control actuator bracket with new nut.
Tightening Torque: 25.5 - 38.2 N·m
(2.6 - 3.9 kgf-m, 18.8 - 28.2 ft-lb)

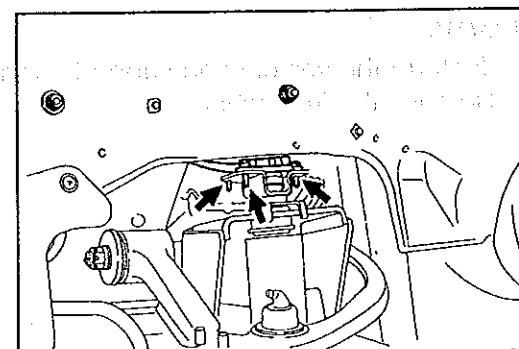


6. Jack down the vehicle.
7. Tighten a lower bolt of the front shock absorber.
Tightening Torque: 49.0 - 68.6 N·m
(5.0 - 7.0 kgf-m, 36.2 - 50.6 ft-lb)



8. Install the dust seal and absorber control actuator.

9. Tighten the absorber control actuator with screws.
Tightening Torque: 2.0 - 2.9 N·m
(0.2 - 0.3 kgf-m, 1.4 - 2.2 ft-lb)

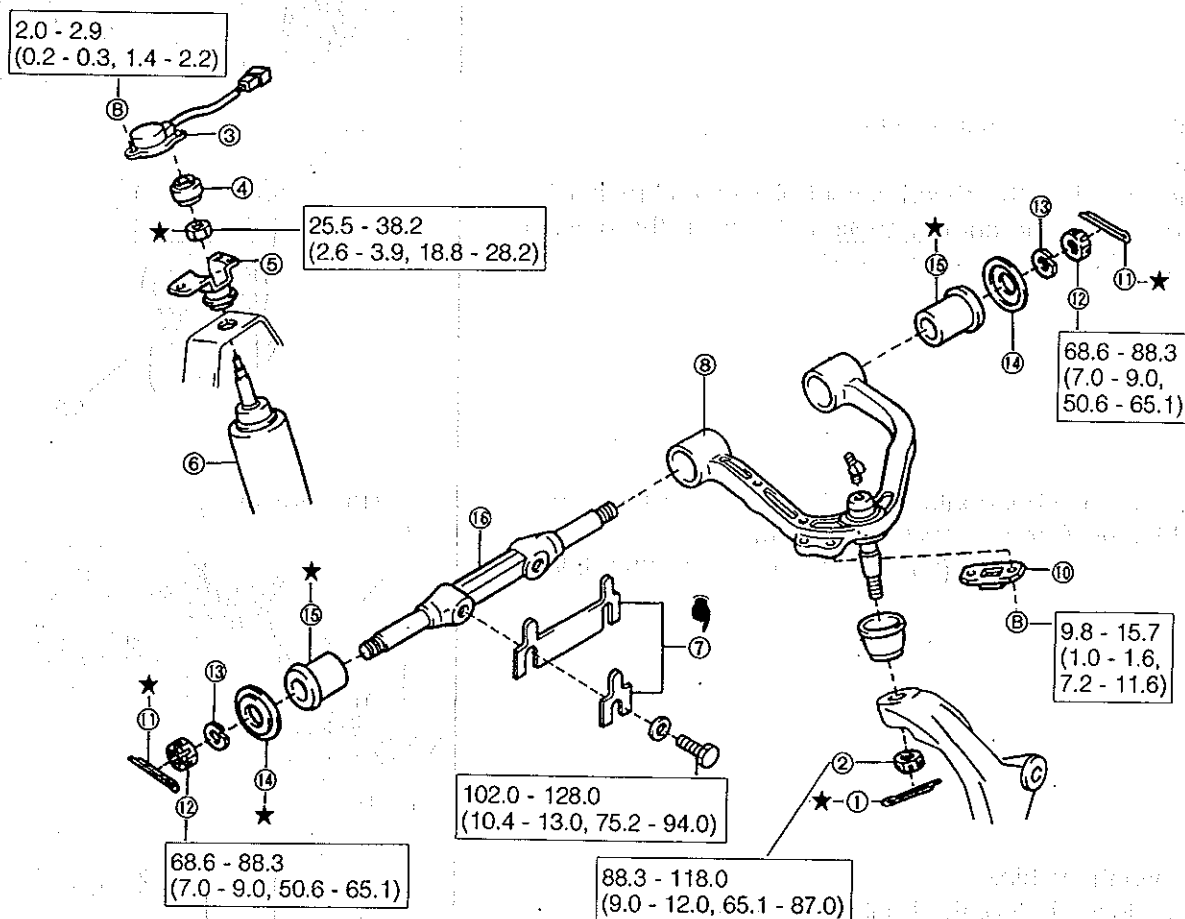


10. Install the dust cover.
11. Tighten the front wheel.
Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)

FS-56

UPPER ARMS COMPONENTS

 : Tightening torque
 Unit : N·m (kgf·m, ft·lb)
 ★ : Non-reusable parts
 : Selection parts



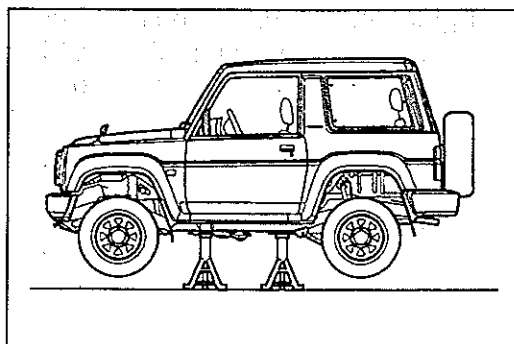
- ① Pin cotter
- ② Nut castle
- ③ Actuator absorber control
- ④ Seal dust
- ⑤ Bracket absorber control actuator
- ⑥ Absorber front shock
- ⑦ Shim camber adjust
- ⑧ Arm subassembly suspension upper

- ⑨ Bracket brake hose
- ⑩ Bumper front spring
- ⑪ Pin cotter
- ⑫ Nut castle
- ⑬ Washer
- ⑭ Washer plate
- ⑮ Bush upper arm
- ⑯ Shaft upper suspension arm

RFS00192-99999

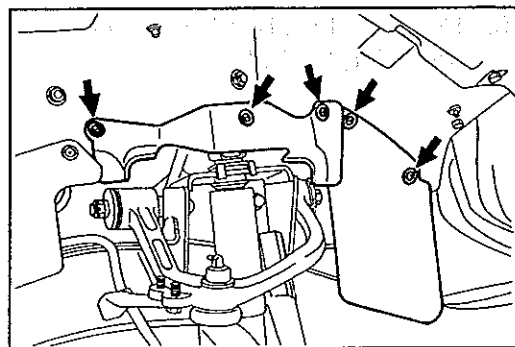
REMOVAL

1. Jack up the vehicle and support its with safety stands.
2. Remove the front wheel.



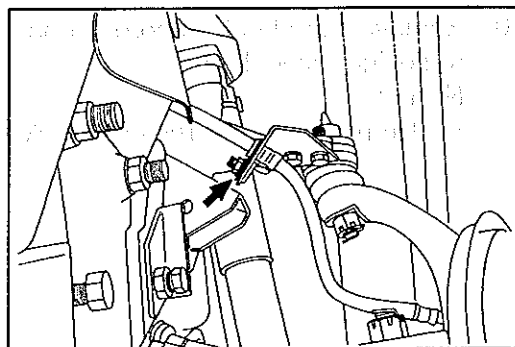
RFS00193-99999

3. Remove the dust cover.



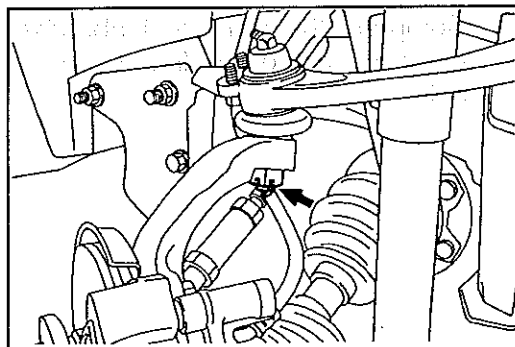
RFS00194-99999

4. Remove the brake hose bracket from the suspension upper arm subassembly by removing a nut.



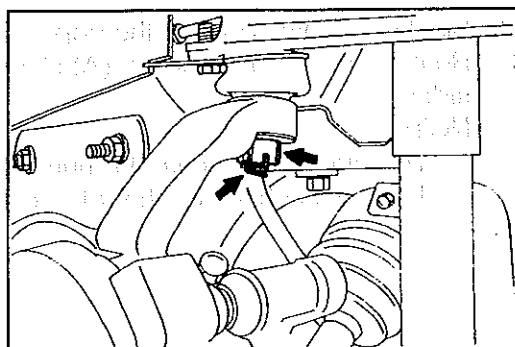
RFS00195-99999

5. Remove the cotter pin.
NOTE:
• Do not reuse the removed cotter pin.



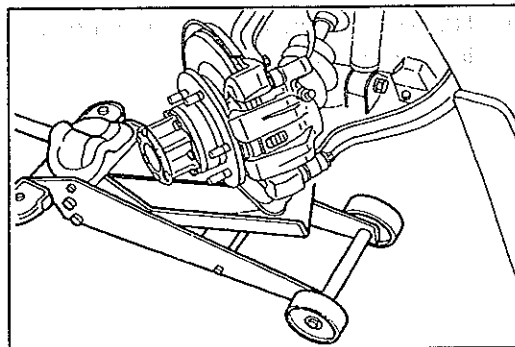
RFS00196-99999

7. Remove the upper arm ball joint section from the steering knuckle, using the following SST.
SST: 09611-36020-000



RFS00197-99999

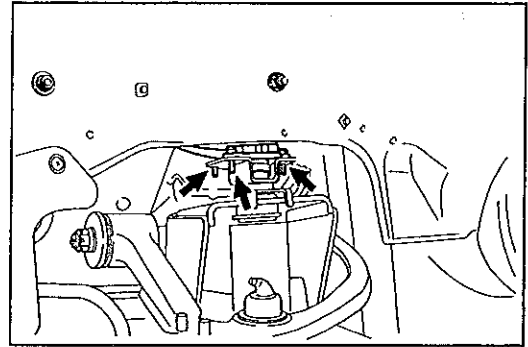
8. Support the lower section of the lower arm with the suitable jack or the like.



RFS00198-99999

FS-58

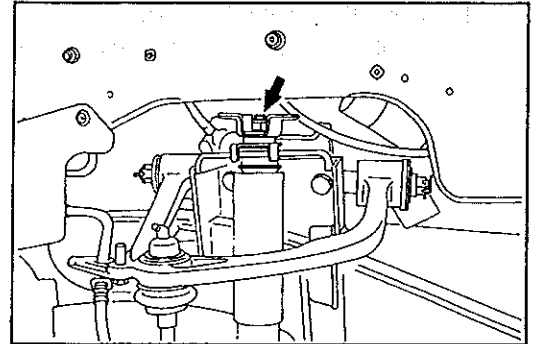
9. Remove the absorber control actuator and dust seal by removing the bolts.



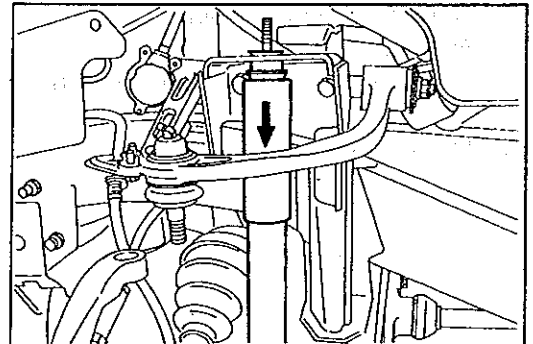
10. Remove the shock absorber control bracket actuator by removing the lock nut.

NOTE:

- Do not reuse the removed lock nut.



11. Compress the front shock absorber and Then, remove the upper section of the front shock absorber from the frame side.

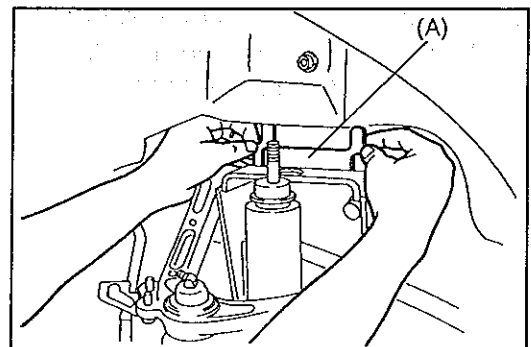


12. Slacken the two bolts of the upper arm shaft suspension.

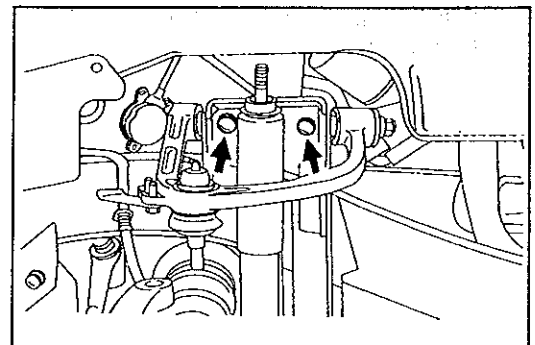
13. Remove the camber adjust (A) shims at the front and rear sides.

NOTE:

- Measure and Record the number of the removed camber adjust shims for the reference of installation.



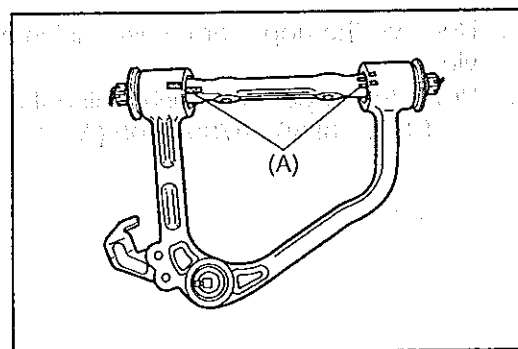
14. Remove the upper arm suspension subassembly by removing the two bolts.



15. Put mating marks at a points between upper arm suspension subassembly and upper arm shaft suspension at the front and rear sides.

NOTE:

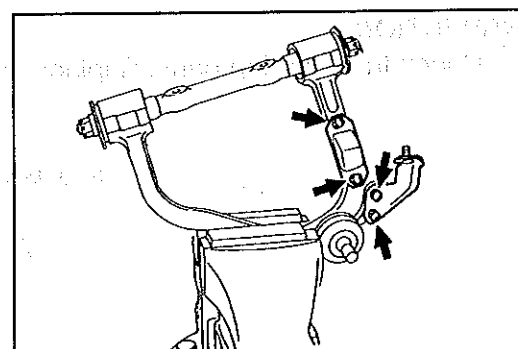
- Putting marks are required, only when upper arm suspension subassembly and upper arm shaft suspension in reused.



RFS00204-99999

DISASSEMBLY

1. Clamp the upper arm suspension subassembly in a vice.
2. Remove the brake hose bracket and front spring bumper by removing the bolts.

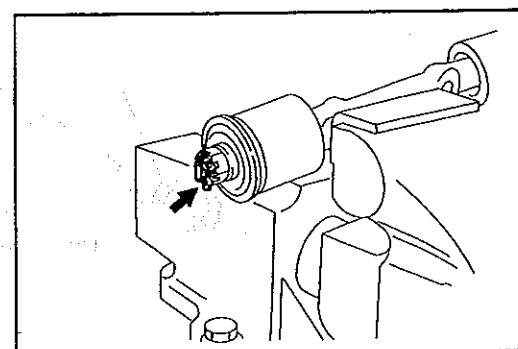


RFS00205-99999

3. Remove the cotter pin.

NOTE:

- Do not reuse the removed cotter pin.

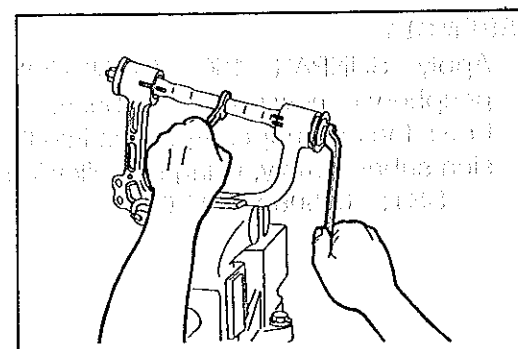


RFS00206-99999

4. Rock the upper arm shaft with the spanner or the like from turning.
5. Remove the washer and washer plate by removing the castle nut.

NOTE:

- Do not reuse the removed washer plate.



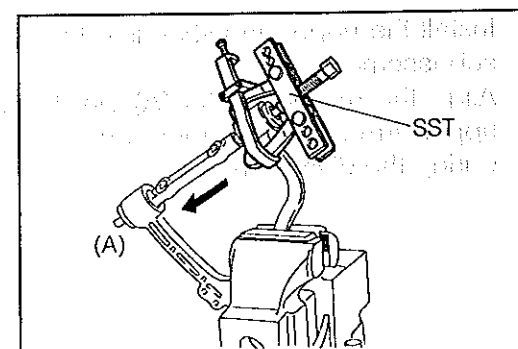
RFS00207-99999

6. Remove the upper arm bush (direction A) together with the upper arm shaft, using the following SST.

SST: 09950-20017-000

NOTE:

- Do not reuse the removed upper arm bush.

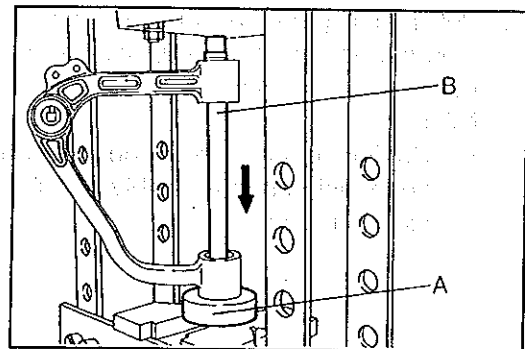


RFS00208-99999

FS-60

7. Remove the upper arm suspension subassembly from the vice.
8. Press the upper arm bush, using the following SST.

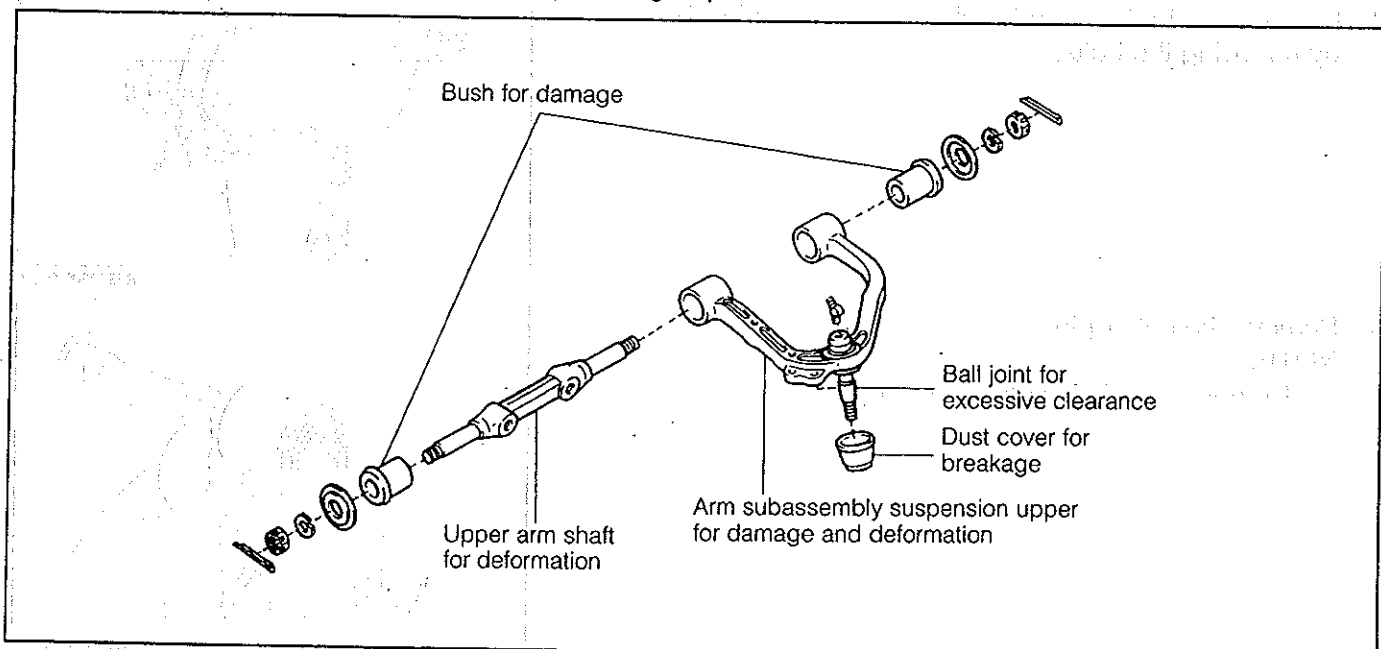
SST: 09506-87304-000 (A), 09631-00020-000 (B)



RFS00209-99999

INSPECTION

Check the following parts. Replace any damaged parts.

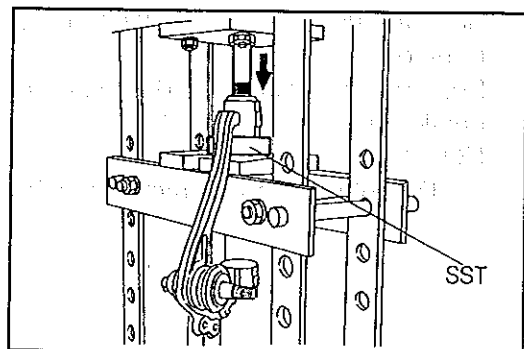


RFS00210-99999

ASSEMBLY

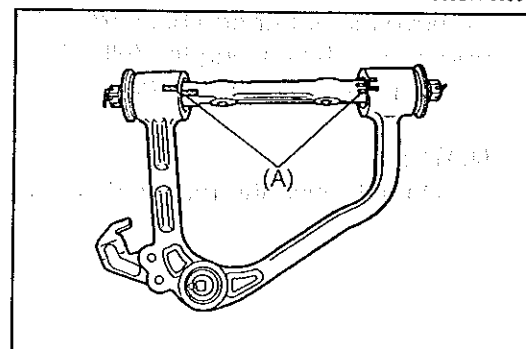
1. Apply SUNPAR 150° (SUNOCO) around the outer periphery of new upper arm bush.
2. Press the new upper arm bush into the upper arm suspension subassembly, using the following SST.

SST: 09506-87304-000



RFS00211-99999

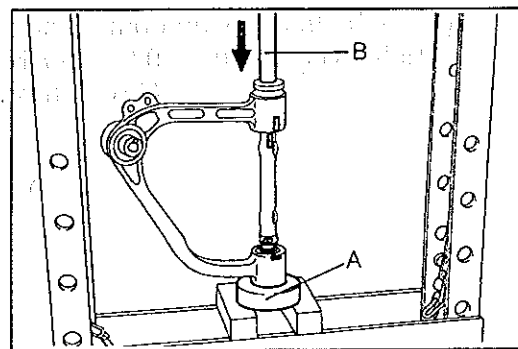
3. Install the upper arm shaft into the upper arm suspension subassembly.
4. Align the mating marks (A) which have been put at the upper arm shaft and upper arm suspension subassembly during the disassembly.



RFS00212-99999

5. Apply SUNPAR 150® (SUNOCO) around the outer periphery of new upper arm bush.
6. Press them into the upper arm suspension subassembly, using the following SST.

SST: 09506-87304-000 (A), 09612-10061-000 (B)

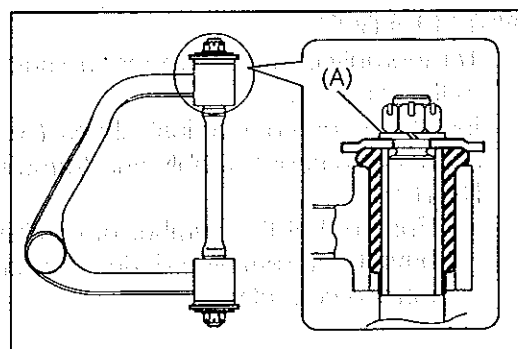


RFS00213-99999

7. Install the new plate washer and spring washer.

NOTE:

- Ensure that the protrusion portion (A) of the new plate washer faces toward the castle nut side.



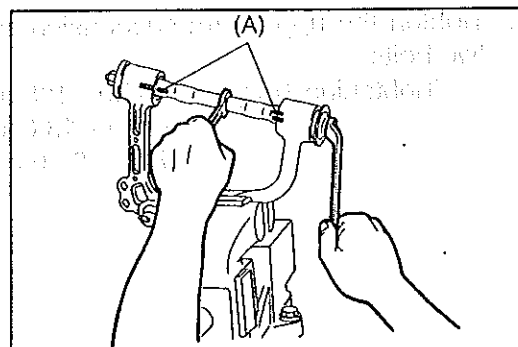
RFS00214-99999

8. Clamp the upper arm suspension subassembly in a vice.
9. Tighten the castle nut while aligning the mating marks (A) which have been put at the upper arm shaft and upper arm suspension subassembly during the disassembly (In case where the upper arm shaft and upper arm suspension subassembly are reused).

Tightening Torque: 68.6 - 88.3 N·m
(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)

NOTE:

- Align the cotter pin hole with the castle nut of the cotter pin hole groove during the tightening.



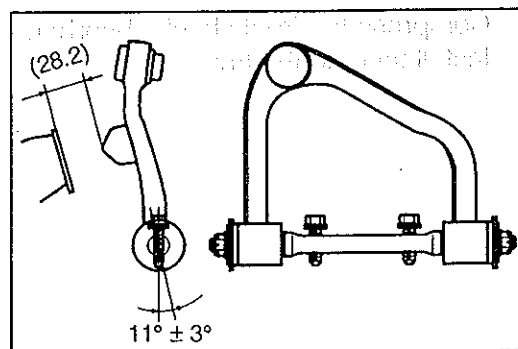
RFS00215-99999

10. Set the upper arm shaft and upper arm suspension subassembly in such a way that they are placed at their positional relationships as indicated in the right figure.

Tightening Torque: 68.6 - 88.3 N·m
(7.0 - 9.0 kgf-m, 50.6 - 65.1 ft-lb)

NOTE:

- Align the cotter pin hole with the castle nut of the cotter pin hole groove during the tightening.

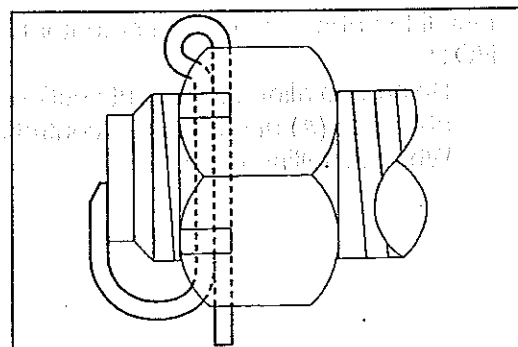


RFS00216-99999

11. Install a new cotter pin and bend its tip-ends, as indicated in the right figure.

NOTE:

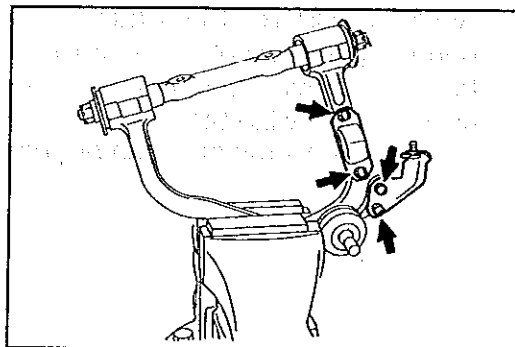
- Do not reuse the cotter pin.



RFS00217-99999

FS-62

12. Tighten the front spring bumper and brake hose bracket.
Tightening Torque: 9.8 - 15.7 N·m
(1.0 - 1.6 kgf-m, 7.2 - 11.6 ft-lb)



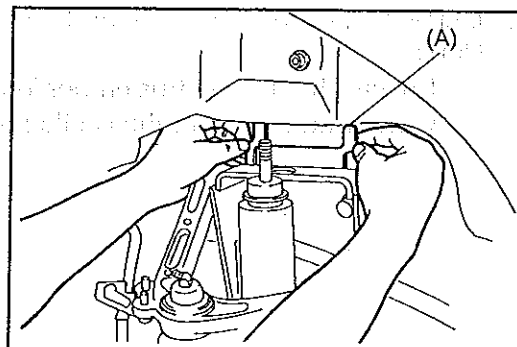
RFS00218-99999

INSTALLATION

1. Temporarily install the upper arm suspension subassembly to the frame side.
2. Install the camber adjust shims (A) between upper arm suspension subassembly and frame sides.

NOTE:

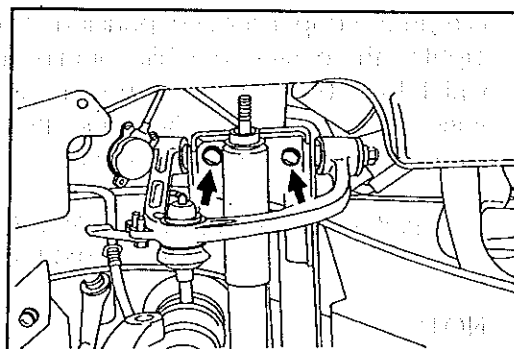
- Ensure that the number of camber adjust shims which have been removed during the removal should be conformed correctly.



RFS00219-99999

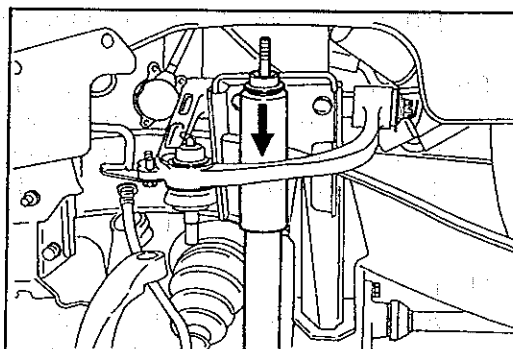
3. Tighten the upper arm suspension subassembly with the two bolts.

Tightening Torque: 102.0 - 128.0 N·m
(10.4 - 13.0 kgf-m,
75.2 - 94.0 ft-lb)



RFS00220-99999

4. Compress the front shock absorber.
5. Install them to the frame side.

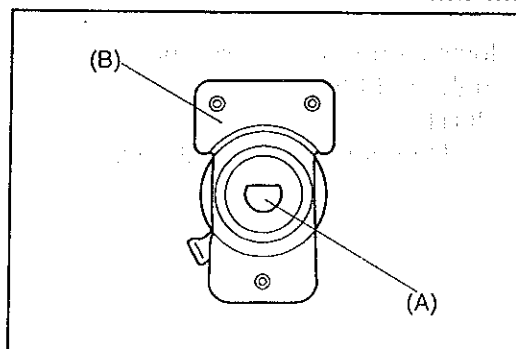


RFS00221-99999

6. Install the absorber control actuator bracket.

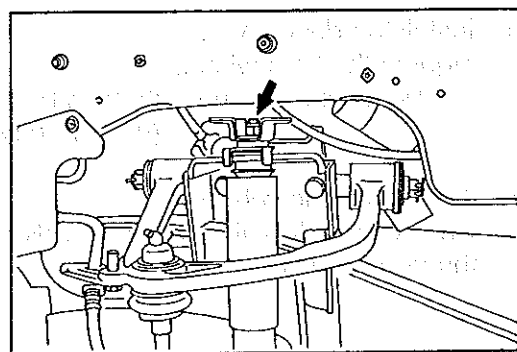
NOTE:

- Be sure to align the cut out sections with the front shock absorber (A) and absorber control actuator bracket (B), When installing them.



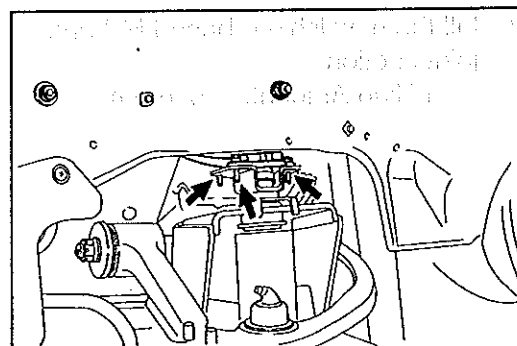
RFS00222-99999

7. With the new nut used, tighten the nut.
Tightening Torque: 25.5 - 38.2 N·m
(2.6 - 3.9 kgf-m, 18.8 - 28.2 ft-lb)



RFS00223-99999

8. Install the dust seal and actuator absorber control.
9. Tighten the actuator absorber control with the screws.
Tightening Torque: 2.0 - 2.9 N·m
(0.2 - 0.3 kgf-m, 1.4 - 2.2 ft-lb)

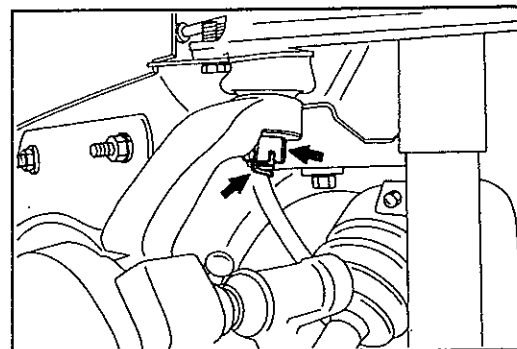


RFS00224-99999

10. Install the steering knuckle to the upper arm ball joint section.
11. Tighten the steering knuckle with the castle nut.
Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)

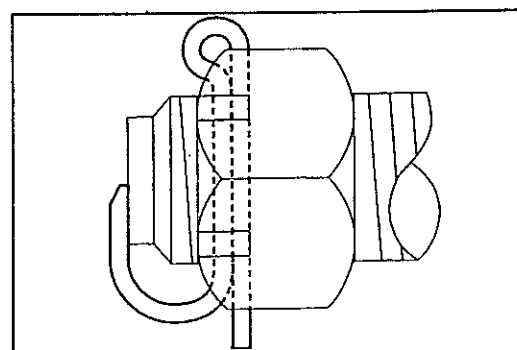
NOTE:

- Ensure that the cotter pin hole should be aligned with the groove section of the castle nut.



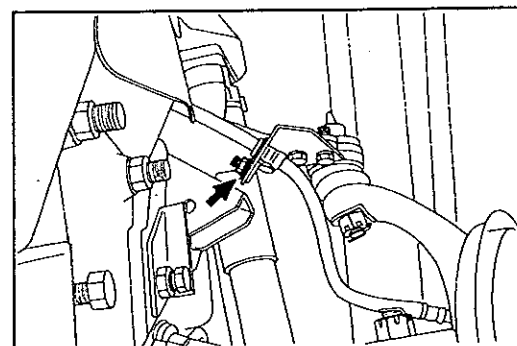
RFS00225-99999

12. Insert a new cotter pin into the castle nut, as indicated in the right figure. Bend the legs of the cotter pin.



RFS00226-99999

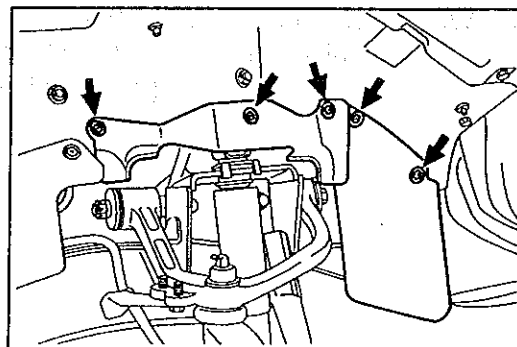
13. Install the brake hose bracket to the upper arm suspension subassembly.
14. Tighten the brake hose bracket with a nut.
Tightening Torque: 6.9 - 15.7 N·m
(0.7 - 1.6 kgf-m, 5.1 - 11.6 ft-lb)



RFS00227-99999

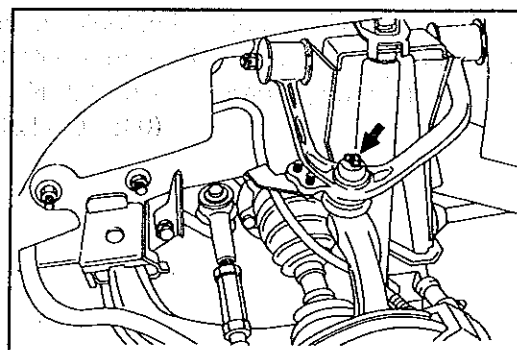
FS-64

15. Install the dust cover.
16. Tighten the front wheel.
Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)
17. Jack down the vehicle.
18. Check and adjust the front wheel alignment (see page FS-7 through FS-11).



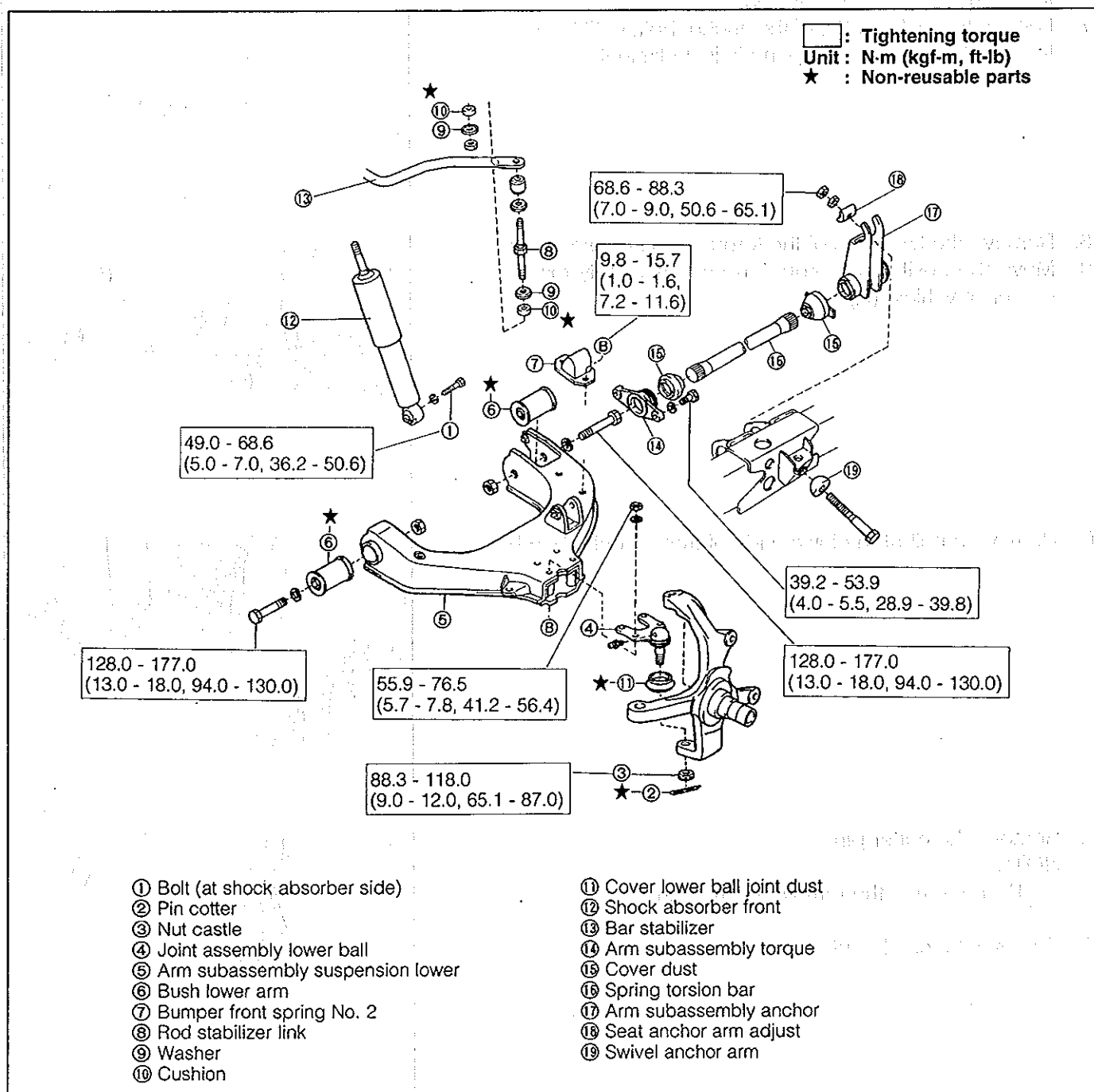
RFS00228-99999

19. Fill the new lithium-based MP grease to the upper arm ball joint section.
Filling Amount: 27 grams



RFS00229-99999

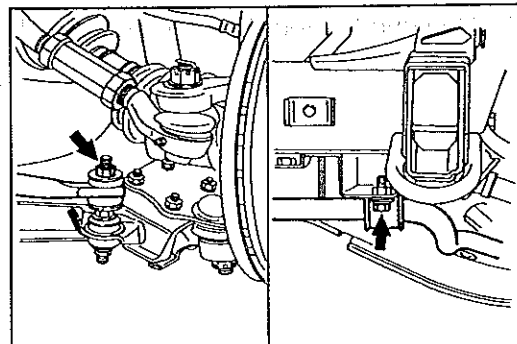
LOWER ARMS COMPONENTS



RFS00230-99999

REMOVAL

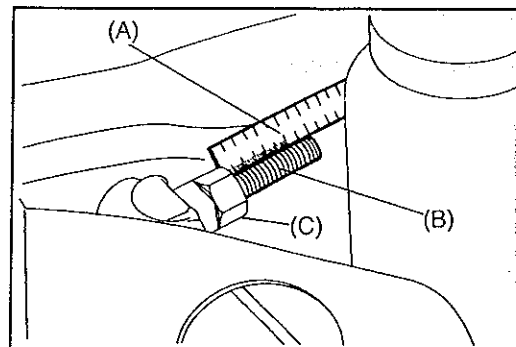
1. Remove the stabilizer bar (see page FS-43 through FS-44).
2. Jack up the vehicle and support its with safety stands.
3. Remove the front wheel.
4. Remove the nuts attaching the stabilizer bar to the lower arm at the right and left sides.
5. Remove the bolts attaching the stabilizer bracket cover to the frame at the right and left sides.



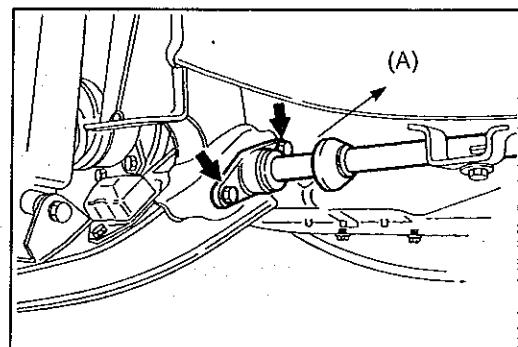
RFS00231-99999

FS-66

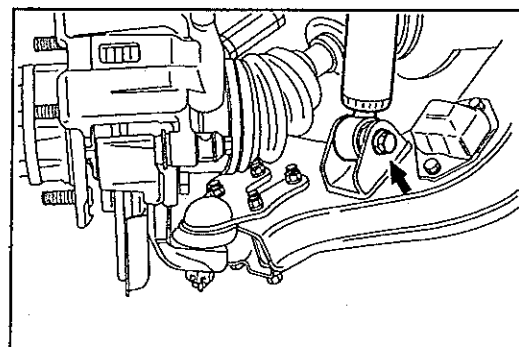
6. Measure and record the threaded portion of the anchor bolt (B) protrudes from the nut end surface, using the ruler (A) for the reference of installation.
7. Loosen the lock nut (C) of the anchor bolt, until the reaction force of the torsion bar spring is just eliminated.



8. Remove the two bolts of the torque arm subassembly.
9. Move the position of torque arm subassembly toward the center of vehicle (A).



10. Remove a bolt at the lower side of front shock absorber.

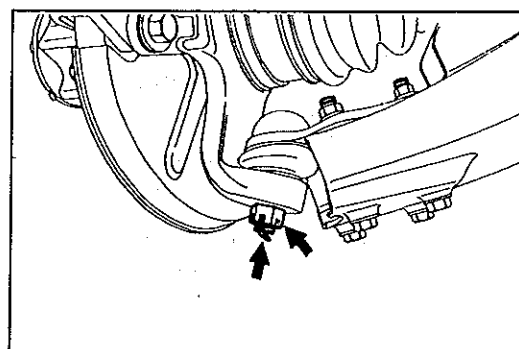


11. Remove the cotter pin.

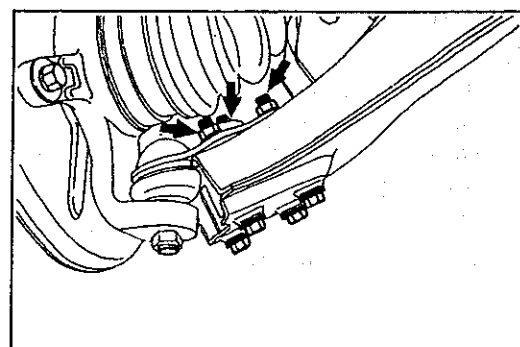
NOTE:

- Do not reuse the removed cotter pin.

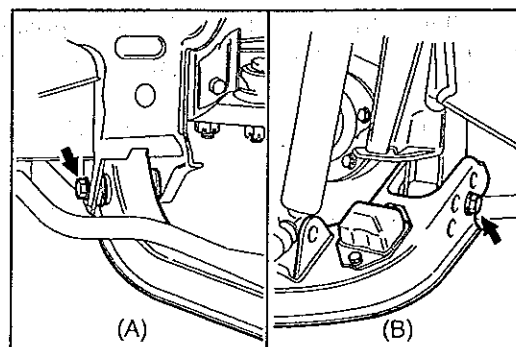
12. Remove the castle nut.



13. Remove the four bolts of the lower ball joint assembly.



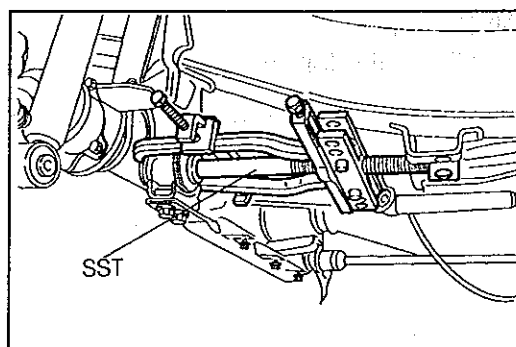
14. Remove the lower arm suspension subassembly by removing the bolt at the front (A) and rear (B) sides.



RFS00237-99999

15. Remove the lower arm bush from the frame side, using the following SST.

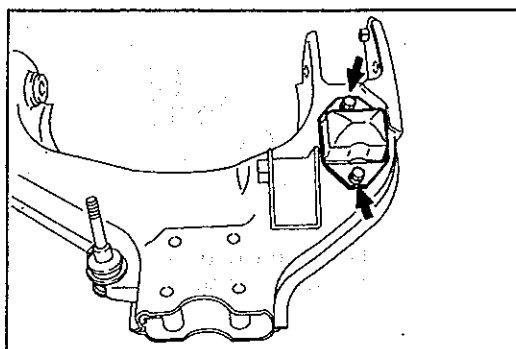
SST: 09950-20017-000



RFS00238-99999

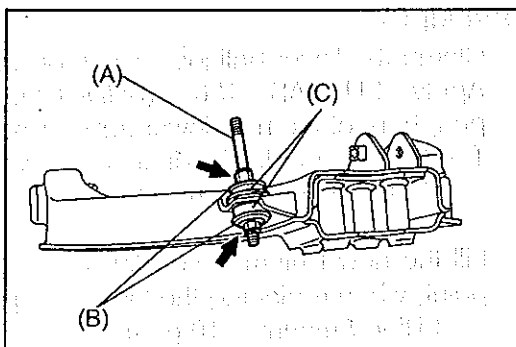
DISASSEMBLY

1. Remove the front spring bumper No. 2 by removing the bolts.



RFS00239-99999

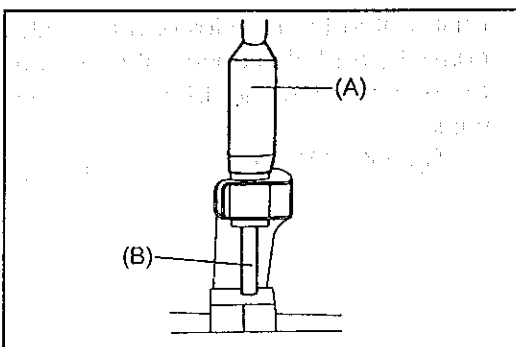
2. Remove the following parts.
 - (A): Stabilizer link rod
 - (B): Two pieces washers
 - (C): Two pieces cushions



RFS00240-99999

3. Press the lower arm bush, using the following SST.

SST: 09618-87301-000 (A), 09301-87701-000 (B)



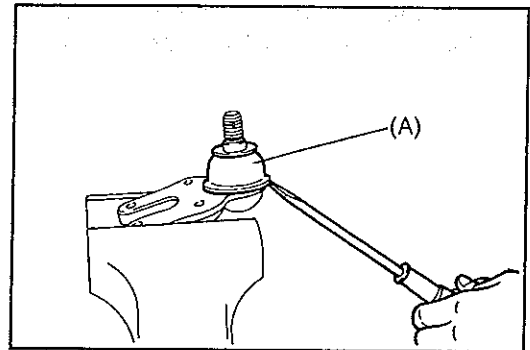
RFS00241-99999

FS-68

4. Clamp the lower ball joint assembly in a vice.
5. Pry off the dust cover (A), using the flat driver or the like.

NOTE:

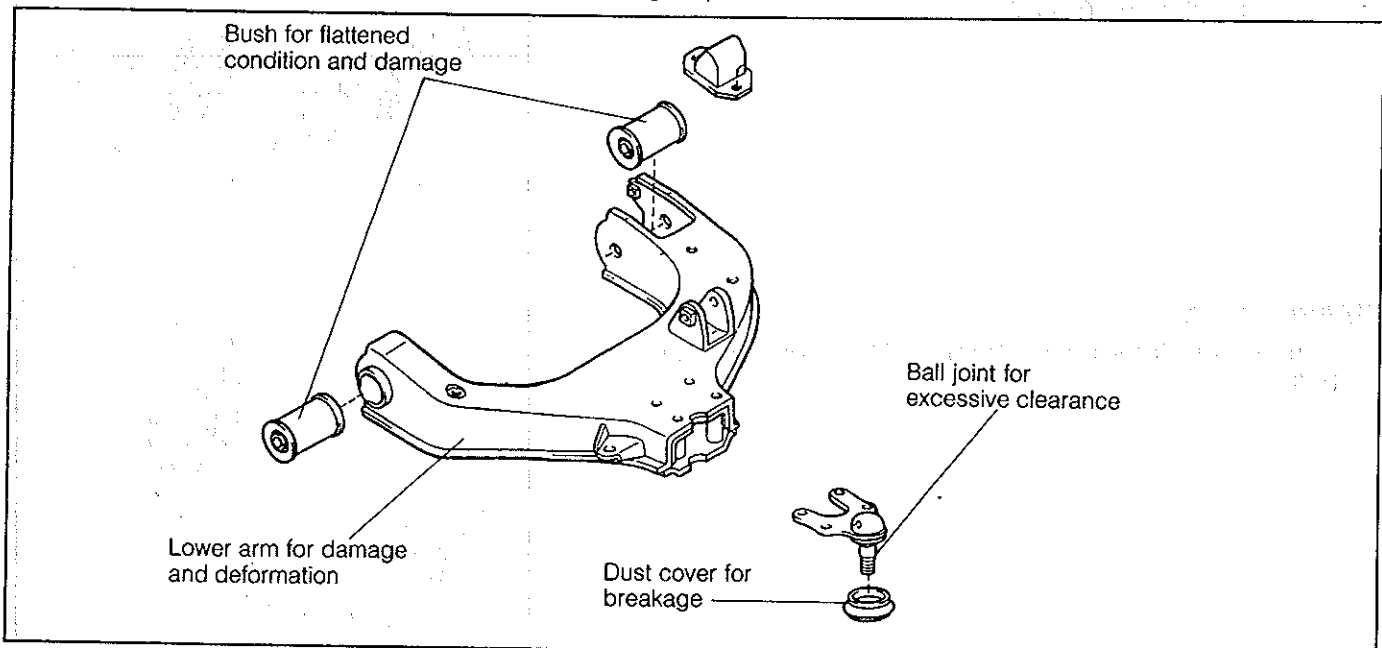
- Do not reuse the removed dust cover.



RFS00242-99999

INSPECTION

Check the following parts. Replace any damaged parts.

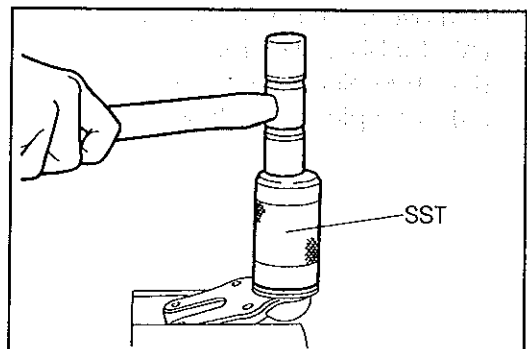


RFS00243-99999

ASSEMBLY

1. Clamp the lower ball joint assembly in a vice.
2. Apply SUNPAR 150® (SUNOCO) around the outer periphery of the new lower arm bush.
3. Tap the lower ball joint dust cover, using the following SST.
SST: 09635-20010-000

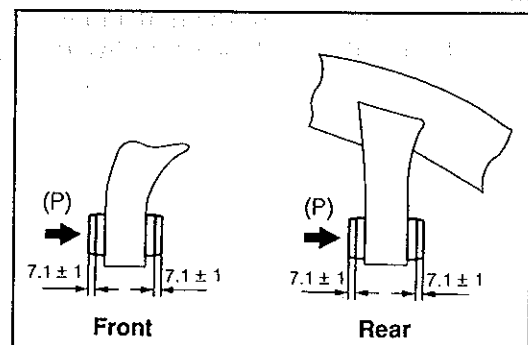
4. Fill the new lithium-based MP grease to the grease fitting point, when replacing the lower ball joint assembly.
Filling Amount: 10 grams



RFS00244-99999

5. Ensure that the new lower arm bushes should be installed correctly and also ensure that the protrusion (P) section of the new bushes should be conformed within the specified value

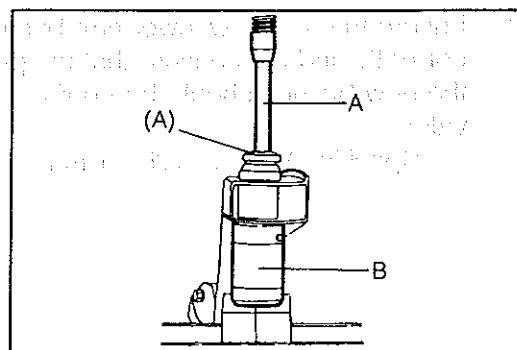
Specified Value: 7.1 ± 1 mm



RFS00245-99999

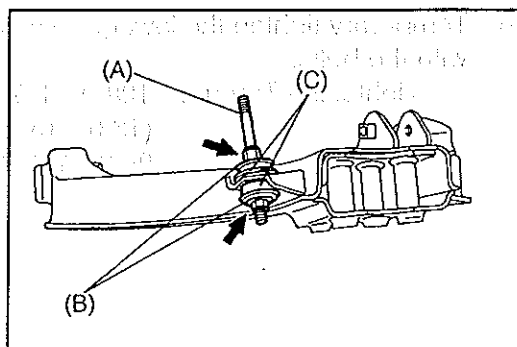
6. Apply SUNPAR 150® (SUNOCO) around the outer periphery of the new lower arm bushes.
7. Press them, using the following SST.

SST: 09310-87701-000 (A), 09635-20010-000 (B)



RFS00246-99999

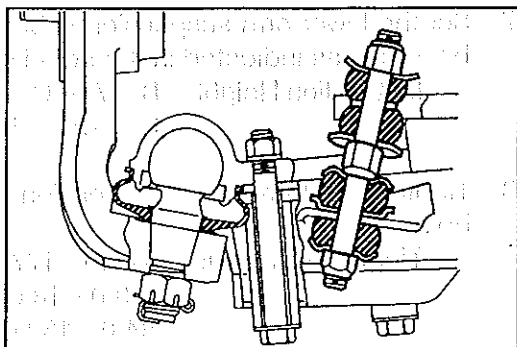
8. Install the following parts.
- (A): Stabilizer link rod
 - (B): Two pieces washers
 - (C): Two pieces cushions



RFS00247-99999

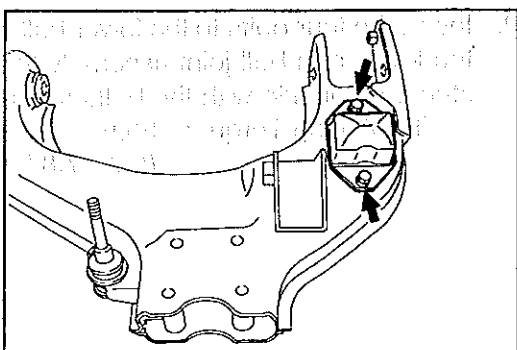
INSTALLATION

1. Temporarily tighten the nut of the stabilizer link rod, until the threaded portion of the stabilizer link rod protrudes within the specified value.



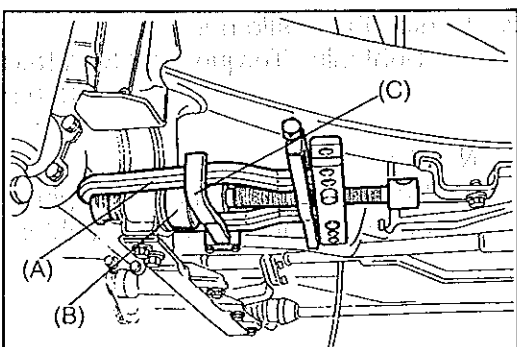
RFS00248-99999

2. Tighten the front bumper spring No. 2 with the two bolts.
- Tightening Torque: 9.8 - 15.7 N·m
(1.0 - 1.6 kgf-m, 7.2 - 11.6 ft-lb)



RFS00249-99999

3. Apply SUNPAR 150® (SUNOCO) around the outer periphery of the new lower arm bush.
 4. Install the new lower arm bush to the frame side, using the following SST and the suitable box wrench (C).
- SST: 09950-20017-000 (A), 09351-32150-000 (B)

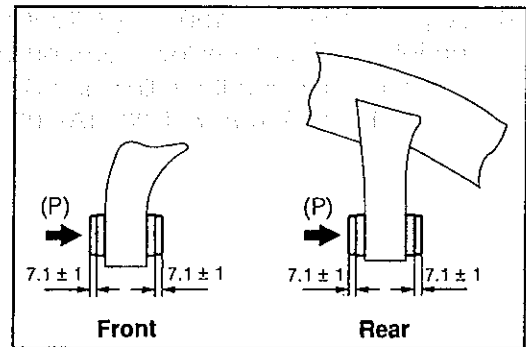


RFS00250-99999

FS-70

5. Ensure that the new lower arm bushes should be installed correctly and also ensure that the protrusion (P) section of the new bushes should be conformed within the specified value

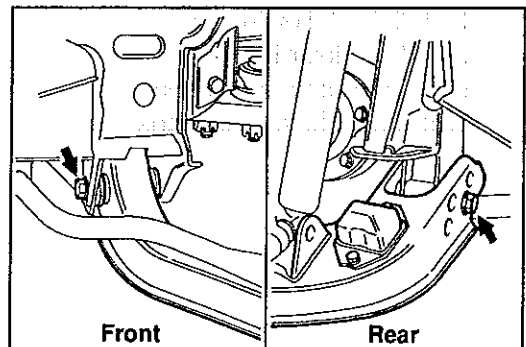
Specified Value: 7.1 ± 1 mm



RFS00251-99999

6. Temporary tighten the lower arm suspension subassembly with the bolts.

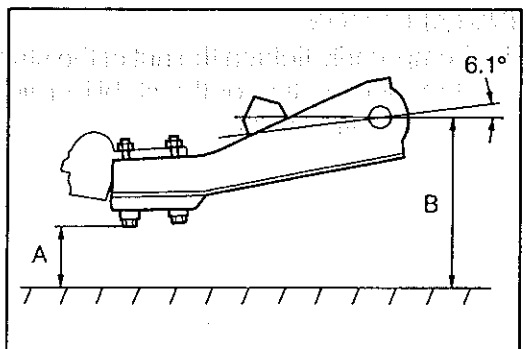
Tightening Torque: 128.0 - 177.0 N·m
(13.0 - 18.0 kgf-m,
94.0 - 130.0 ft-lb)



RFS00252-99999

7. Set the lower arm suspension subassembly so that it may becomes as indicated in the right figure.

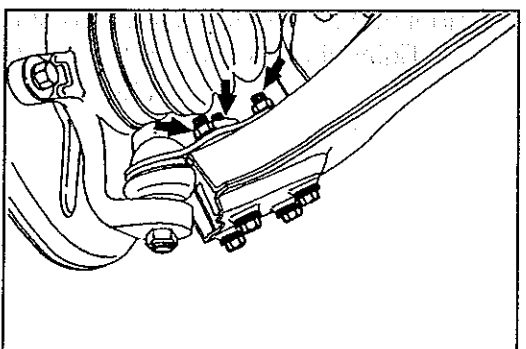
Installation Height: $B - A = C$
 $C = 124 \pm 10$ mm



RFS00253-99999

8. Tighten the lower arm suspension subassembly with the bolts.

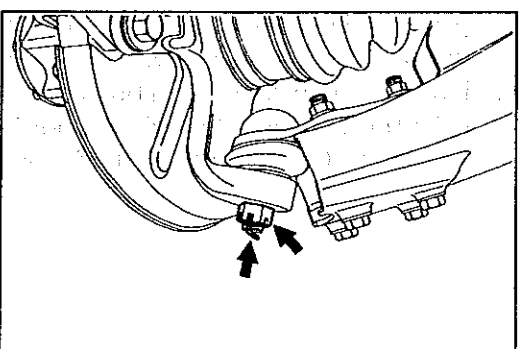
Tightening Torque: 128.0 - 177.0 N·m
(13.0 - 18.0 kgf-m,
94.0 - 130.0 ft-lb)



RFS00254-99999

9. Insert the four bolts to the lower ball joint, and Then, tighten the lower arm ball joint assembly to the end section of the steering knuckle with the bolts and nuts.

Tightening Torque: 55.9 - 76.5 N·m
(5.7 - 7.8 kgf-m, 41.2 - 56.4 ft-lb)



RFS00255-99999

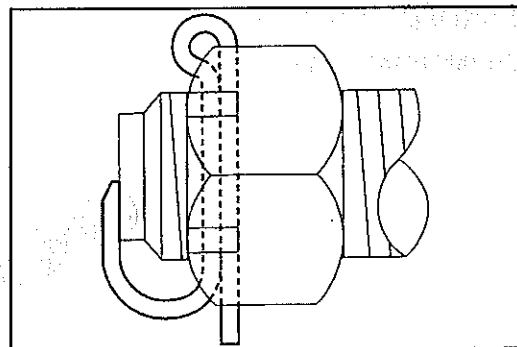
10. Tighten the castle nut.

Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)

NOTE:

- Be sure to align the cotter pin hole with the cotter pin groove section during the tightening.

11. Insert a new cotter pin into the castle nut as indicated in the right figure. Bend the legs of the cotter pin.

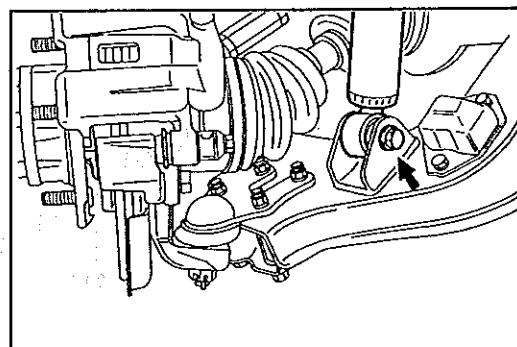


RFS00256-99999

12. Install the front shock absorber to the lower arm suspension subassembly.

13. Tighten the front shock absorber with a bolt.

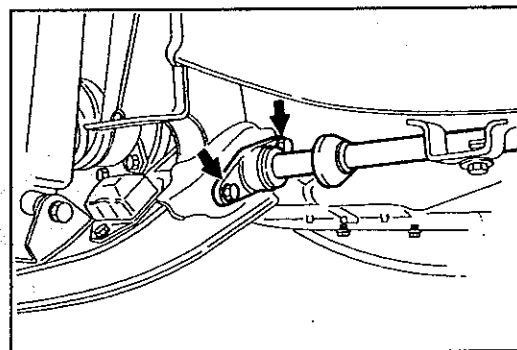
Tightening Torque: 49.0 - 68.6 N·m
(5.0 - 7.0 kgf-m, 36.2 - 50.6 ft-lb)



RFS00257-99999

14. Tighten the torque arm subassembly with the bolts.

Tightening Torque: 39.2 - 53.9 N·m
(4.0 - 5.5 kgf-m, 28.9 - 39.8 ft-lb)



RFS00258-99999

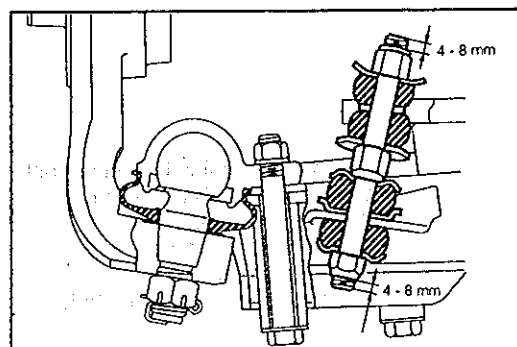
15. Install the stabilizer bar.

16. Tighten the nut of the stabilizer link until the threaded portion of the stabilizer link rod protrudes within the specified value.

Specified Value: 4 - 8 mm

17. Tighten the front wheel.

Tightening Torque: 88.3 - 118.0 N·m
(9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)



RFS00259-99999

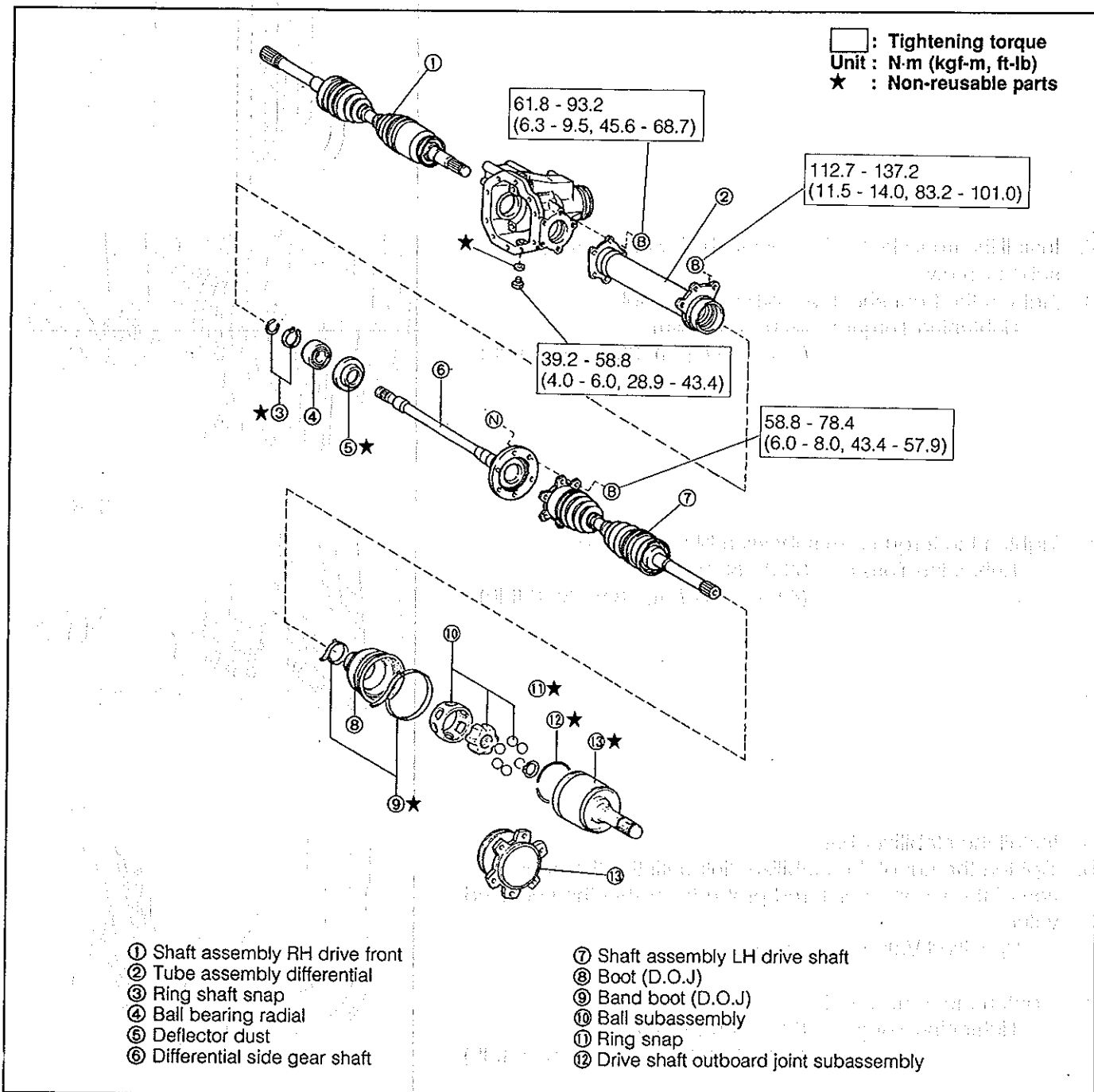
18. Jack down the vehicle.

19. Check and adjust the vehicle height (see page FS-12 through FS-13).

20. Adjust the front wheel alignment (see page FS-7 through FS-11).

FS-72

DRIVE SHAFT COMPONENTS

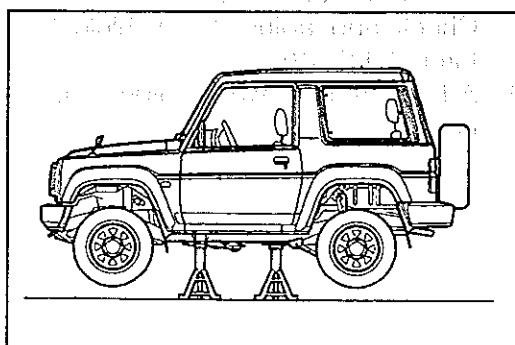


REMOVAL

1. Jack up the vehicle and support its with safety stands.
2. Remove the front wheel, engine under cover and front axle hub & disc assembly.
3. Remove the steering knuckle.
4. Drain the differential oil by removing the plug with the gas-ket.

NOTE:

- Do not reuse the removed gasket.



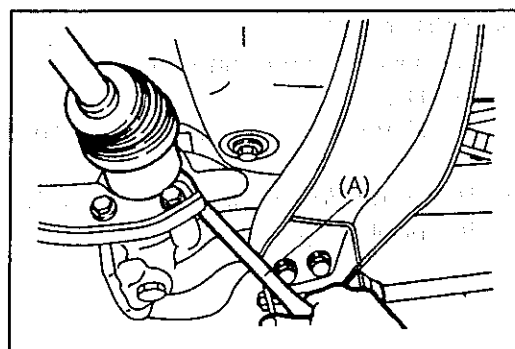
5. After the oil drained completely, tighten the plug with the new gasket.

Tightening Torque: 39.2 - 58.8 N·m
(4.0 - 6.0 kgf-m, 28.7 - 43.4 ft-lb)

6. Pull out the drive shaft, using a tire lever or the like.

NOTE:

- Be careful not to damage the spline, oil seal, boot and so forth during the removal.



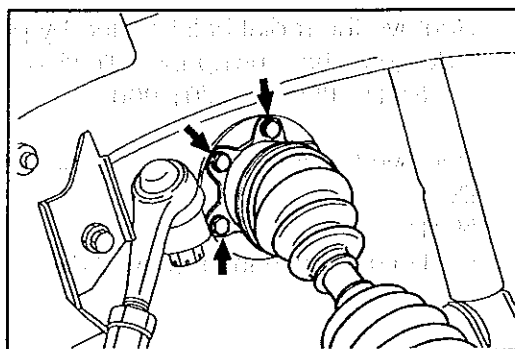
RFS00262-99999

7. Remove the six bolts of the differential tube assembly.

8. Remove the drive shaft LH side assembly.

NOTE:

- Be very careful not to drop the drive shaft during the removal.



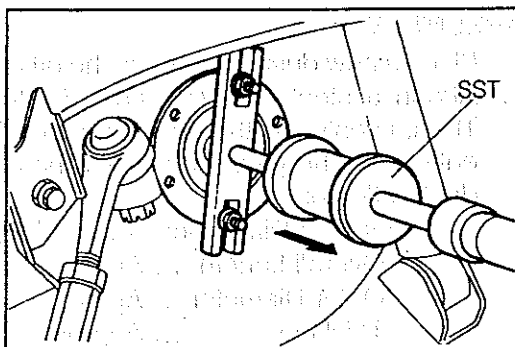
RFS00263-99999

9. Pull out the differential side gear shaft assembly toward you, using the following SST.

SST: 09520-00031-000

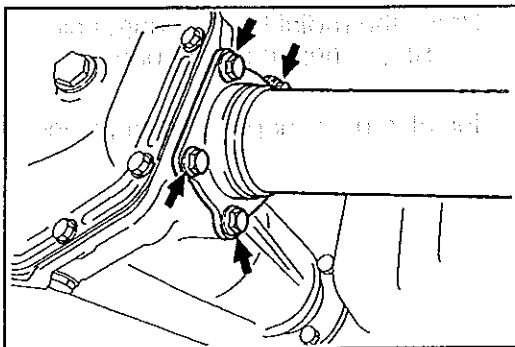
NOTE:

- Ensure that no damage is present at the oil seal lip section, after shaft has removed.



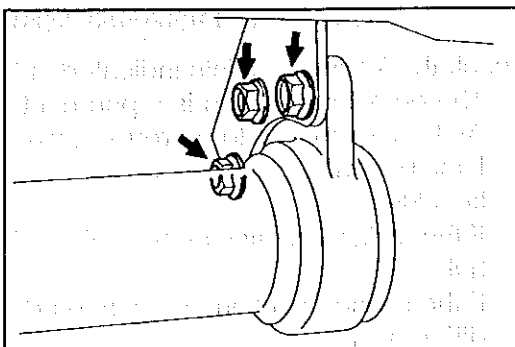
RFS00264-99999

10. Remove the five bolts of the differential tube assembly.



RFS00265-99999

11. Remove the three bolts of the differential tube assembly.

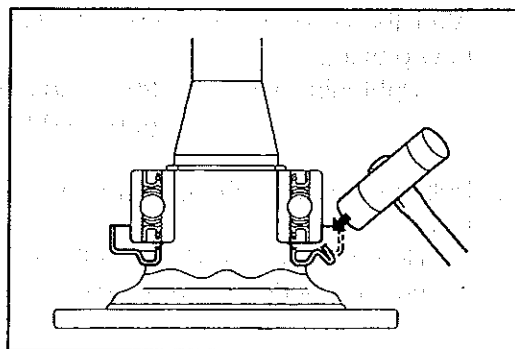


RFS00266-99999

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DISASSEMBLY

1. Remove the snap ring shaft, using a snap ring expander.
NOTE:
 - Never reuse the removed snap ring shaft.
2. Bend the dust deflector, using a hammer, as indicated in the right figure.



RFS00267-99999

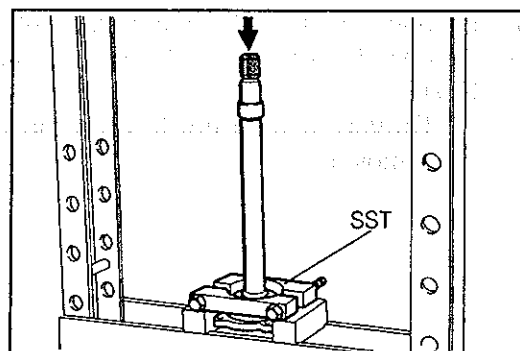
3. Remove the radial ball bearing by pressing the differential side gear shaft, using the following SST.

SST: 09950-87701-000

4. Remove the dust deflector, using a flat screwdriver or the like.

NOTE:

- Do not reuse the removed dust deflector.



RFS00268-99999

ASSEMBLY

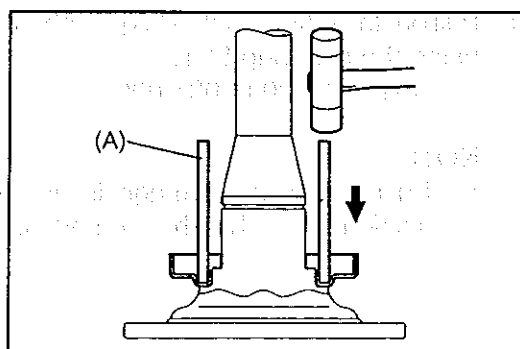
1. Place a new dust deflector to the differential side gear shaft.
2. Attach a steel pipe (A), as indicated in the right figure. Then, evenly tap the edge surface of the steel pipe at the entire periphery by means of a hammer to install the new dust deflector.

Reference Dimensions of Steel Pipe:

Overall Length ... Approx. : 50 mm

Outer Diameter ... Approx. : 65 mm

Thickness ... Approx. : 4 mm

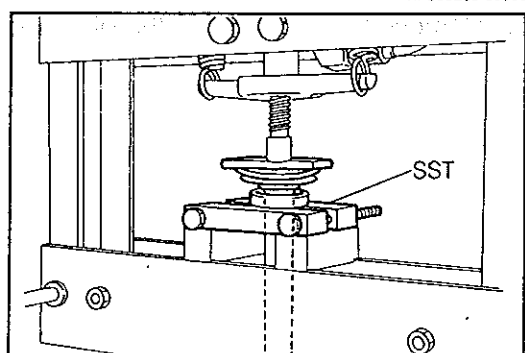


RFS00269-99999

3. Press the radial ball bearing, using the following SST.

SST: 09950-87701-000

4. Install a new snap ring shaft, using a snap ring expander.



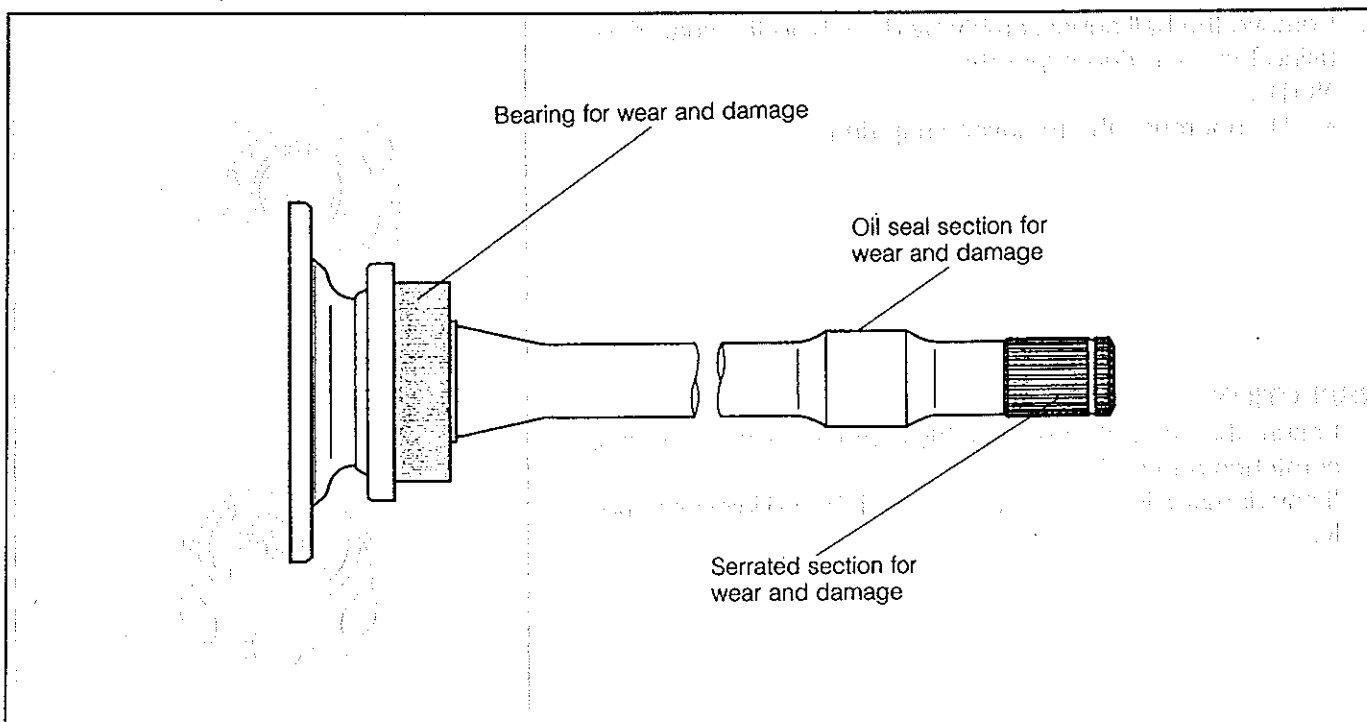
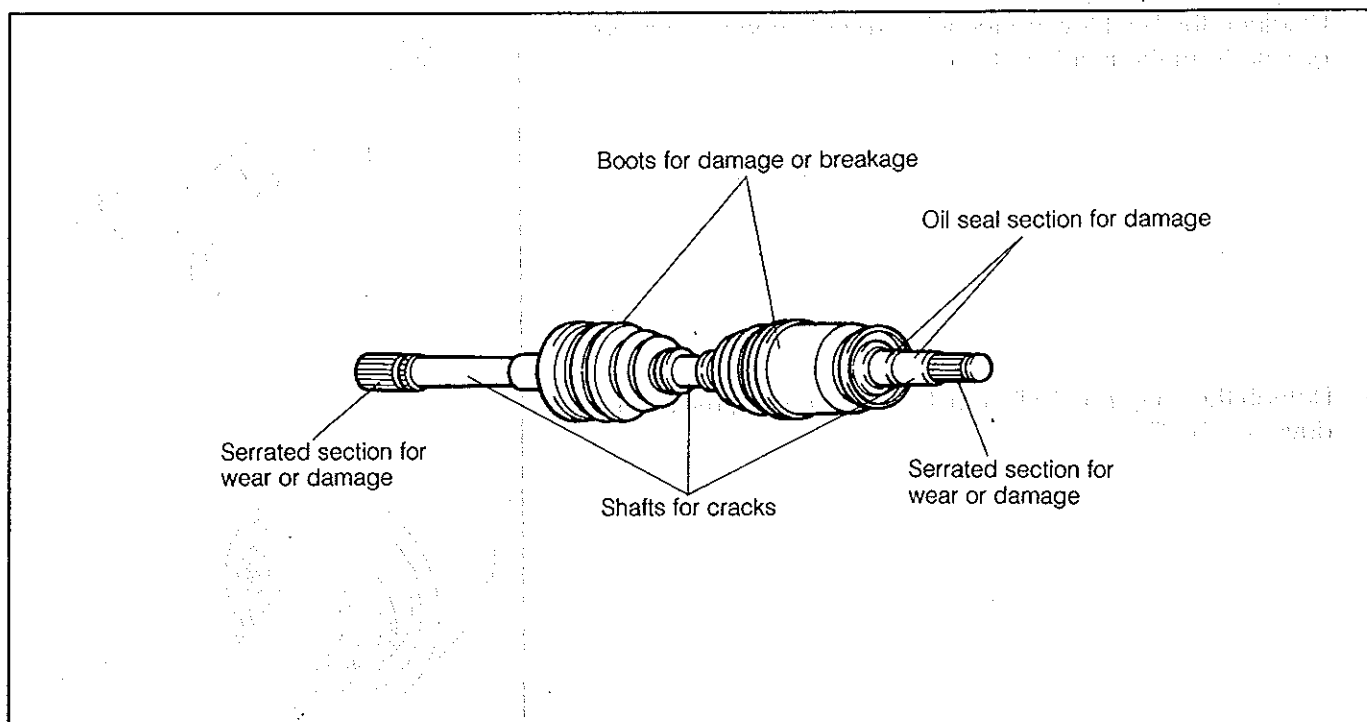
RFS00270-99999

CHECK PRIOR TO DISASSEMBLY OF SHAFT

Check the following points indicated in the figure below. Replace any damaged parts.

- The outboard bearing is a part not to be disassembled.
- As for those parts to be reused, wash them using cleaning solvent and then dry them in advance.
- If the bearing section is encountered with damage, such as seizure, check the bush section of the steering knuckle.
- If the splined section at the outboard side is encountered with damage, check the splined section of the hub.
- If the splined section at the inboard side is encountered with damage, check the splined section of the differential.

RFS00271-00000



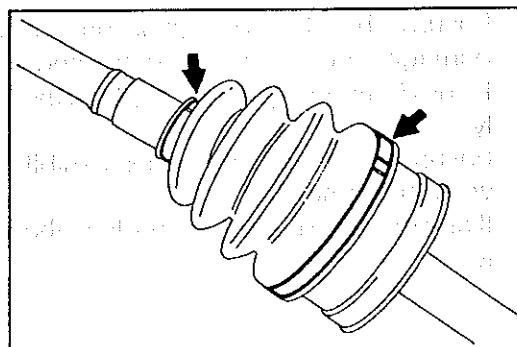
RFS00272-99999

DISASSEMBLY

1. Clamp the drive shaft in a vice.
2. Raise the tang of each boot band of the inboard bearing by means of a screwdriver or the like so as to loosen the boot band.
3. Detach the boot and boot band from the drive shaft.

NOTE:

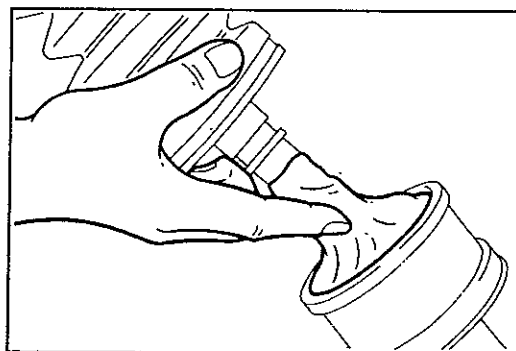
- Do not reuse the removed boot band.



RFS00273-99999

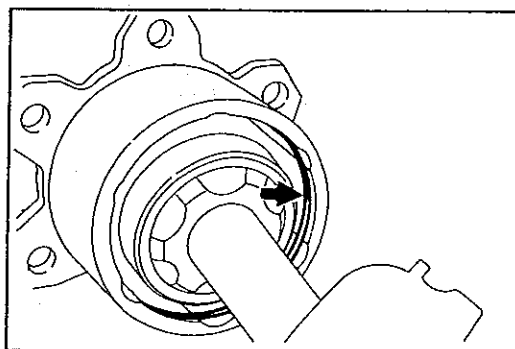
FS-76

4. Displace the boot toward the inboard side and remove any grease from the inside of boot.



RFS00274-99999

5. Detach the snap ring ball from the inboard joint, using a flat driver or the like.

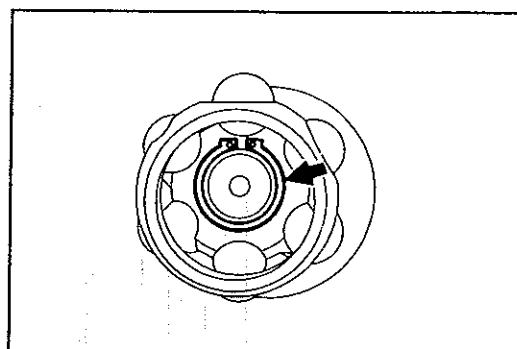


RFS00275-99999

6. Remove the ball subassembly by detaching the snap ring, using the snap ring expander.

NOTE:

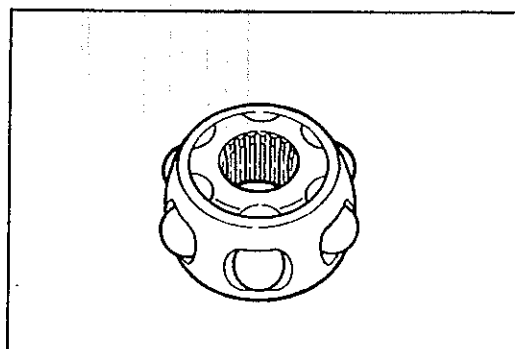
- Do not reuse the removed snap ring.



RFS00276-99999

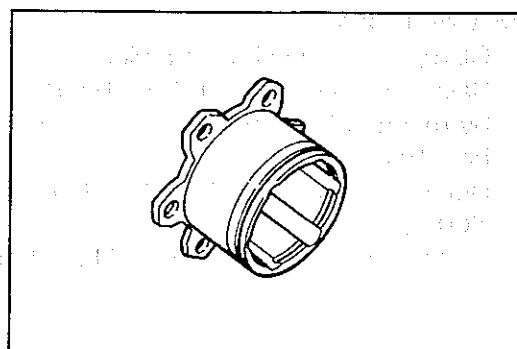
INSPECTION

1. Ensure that the ball subassembly exhibits no wear, cracks, scratches and so forth.
If any damage is present, replace the inboard joint assembly.



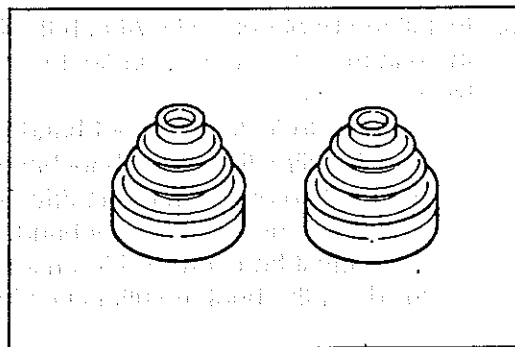
RFS00277-99999

2. Ensure that the ball joint groove section exhibits no damage, such as wear, cracks and scratches.
If any damage is present, replace the inboard joint assembly.
3. Ensure that the spline section exhibits no damage, such as wear and cracks.
If any damage is present, replace the inboard joint assembly.



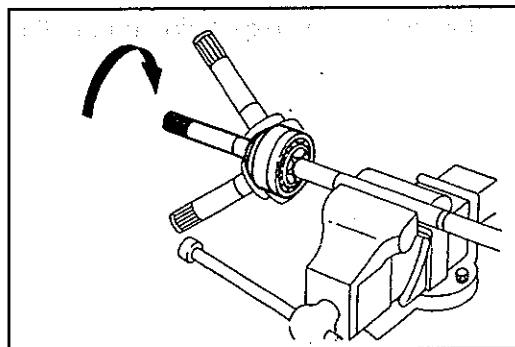
RFS00278-99999

4. Ensure that the boot exhibits no damage, such as cracks. If any damage is present, replace the inboard joint assembly.



RFS00279-99999

5. Ensure that the inboard joint exhibits no excessive play and or sticking. If any damage is present, replace the inboard joint assembly.



RFS00280-99999

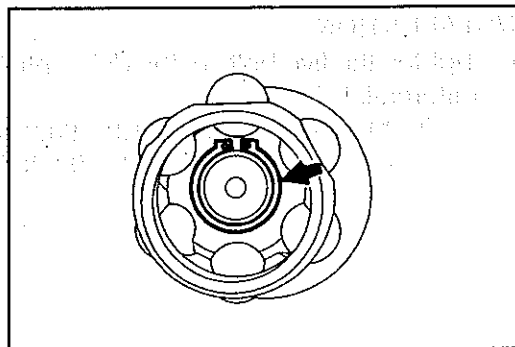
ASSEMBLY

1. Install the boot to the inboard joint.

NOTE:

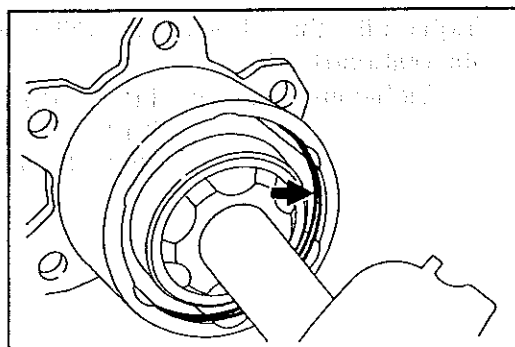
- Be careful not to damage the boot.

2. Install the ball subassembly to the drive shaft with a new snap ring, using the snap ring expander.



RFS00281-99999

3. Install the inboard joint to the ball subassembly.
4. Attach the snap ring ball.



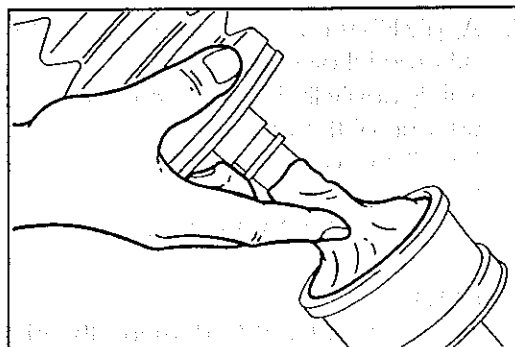
RFS00282-99999

5. Positively fill the specified amount of grease furnished in the boot band or the boot set to the outboard joint as well as the inside of the boot.

Grease to Be Used: Morilex No. 2

Amount to Be Used: 135 - 155 grams for outboard

140 - 160 grams for inboard



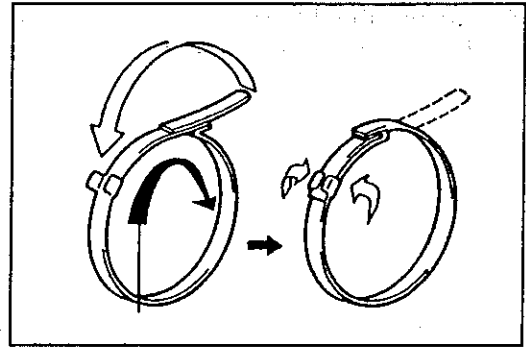
RFS00283-99999

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6. Install the boot correctly. Attach the boot bands and bend them in the sequence as indicated in the right figure.

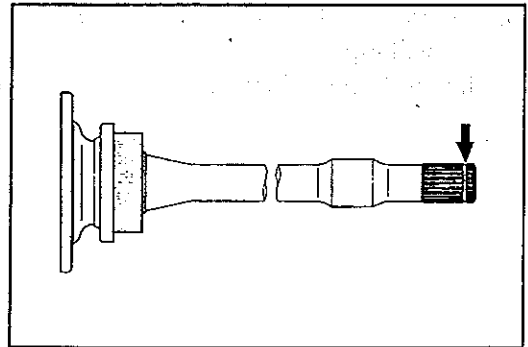
NOTE:

- Be sure to install the boot band in such a way that the bending direction of the boot band becomes opposite to the rotating direction of the drive shaft.
- Be sure to use a new boot band.
- Care must be exercised to ensure that no air is trapped inside of the boot, resulting in a bulging boot.



RFS00284-99999

7. Install the new expansion ring to the inboard joint.

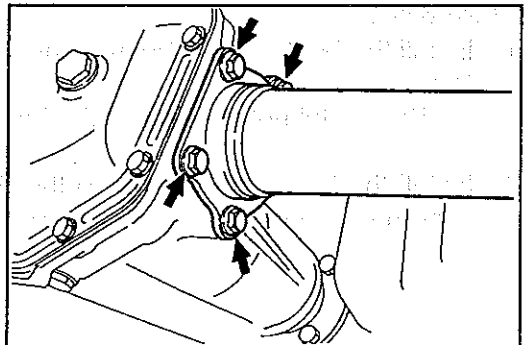


RFS00285-99999

INSTALLATION

1. Tighten the five bolts of the differential tube assembly at the differential side.

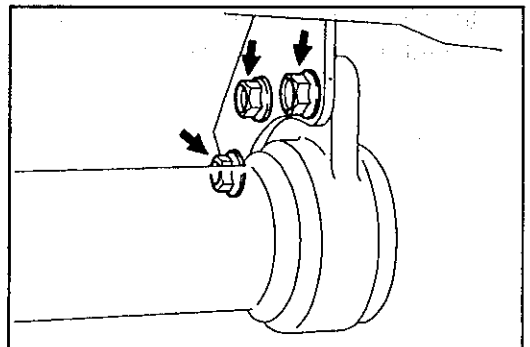
Tightening Torque: 61.8 - 93.2 N·m
(6.3 - 9.5 kgf-m, 45.6 - 68.7 ft-lb)



RFS00286-99999

2. Tighten the three bolts of the differential tube assembly at the outboard side.

Tightening Torque: 112.7 - 137.2 N·m
(11.5 - 14.0 kgf-m,
83.2 - 101.0 ft-lb)



RFS00287-99999

3. Apply lithium-based MP grease to the lip section of the front differential oil seal.

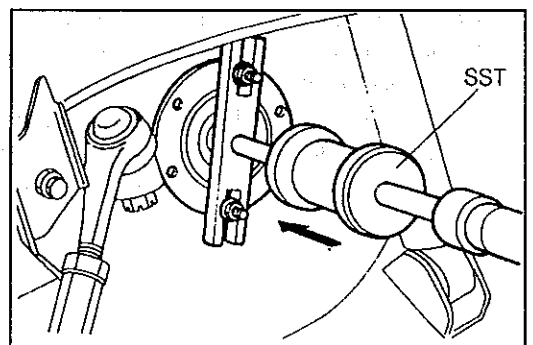
4. Thinly apply lithium-based MP grease to the oil seal contact surface of the inboard.

5. Install the differential side gear shaft, using the following SST.

SST: 09520-00031-000

NOTE:

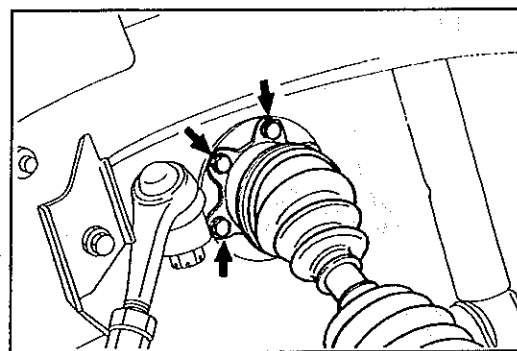
- Be careful not to damage the oil seal lip section during installation.



RFS00288-99999

6. Tighten the six bolts between the differential side gear shaft and LH front drive shaft assembly.

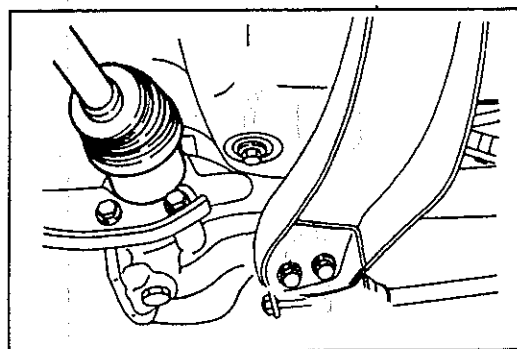
Tightening Torque: 58.8 - 78.4 N·m
(6.0 - 8.0 kgf-m, 43.4 - 57.9 ft-lb)



7. Install the drive shaft RH side.

NOTE:

- Be careful not to damage the oil seal lip section during installation.



8. Install the steering knuckle. (see page FS-37 through FS-43)
9. Install the front axle hub & disc assembly. (see page FS-21 through FS-25)
10. Remove the filler plug with the gasket.

NOTE:

- Do not reuse the removed gasket.

11. Fill new differential oil.

Filling Amount (C): 1.5 API GL-5/SAE 90

12. With the new gasket interposed, tighten the filler plug.

Tightening Torque: 39.2 - 58.8 N·m (4.0 - 6.0 kgf-m, 28.9 - 43.4 ft-lb)

13. Tighten the engine under cover with the 11 bolts.

Tightening Torque: 15.7 - 23.5 N·m (1.6 - 2.4 kgf-m, 11.6 - 17.4 ft-lb)

14. Tighten the front wheel.

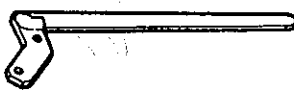
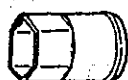
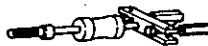
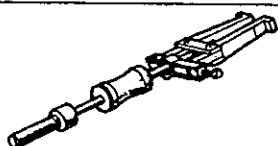
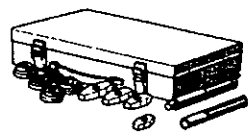
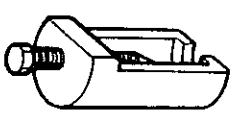
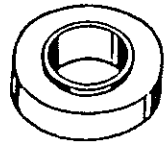
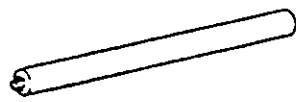
Tightening Torque: 88.3 - 118.0 N·m (9.0 - 12.0 kgf-m, 65.1 - 87.0 ft-lb)

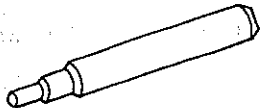
15. Jack down the vehicle.

RFS00291-00000

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SSTs

Shape	Parts No.	Parts name
	09950-20017-000	Puller universal
	09511-87202-000	Stopper brake drum
	09607-87602-000	Wrench front hub bearing lock nut
	09607-60020-000	Wrench front hub bearing lock nut
	09520-00031-000	Puller rear axle shaft
	09308-00010-000	Puller oil seal
	09608-30012-000	Tool set front hub & drive pinion bearing
	09610-20012-000	Puller pitman arm
	09506-87304-000	Replacer differential drive pinion bearing corn rear
	09631-00020-000	Handle
	09612-10061-000	Replacer steering pinion bearing

Shape	Parts No.	Parts name
	09618-87301-000	Replacer transmission bearing
	09310-87701-000	Tool clutch guide
	09635-20010-000	Replacer lower ball joint dust cover
	09351-32150-000	Replacer oil seal
	09950-87701-000	Bearing remover

RFS00292-9999

SERVICE SPECIFICATION

Wheel alignment	Side slip		3 mm			
	Toe-in		2 ± 1 mm			
	Camber		0°30' ± 30'			
	Caster		2°20' ± 45'			
	King pin angle		10°			
	Turnning angle		Inner		Outer	
			Power steering	S.T.D	Power steering	S.T.D
32°20'± ^{0°} _{3°}			30°35'± ^{0°} _{3°}	28°35'	27°	
Runout	Wheel		1.5 mm (Maximum)			
	Tyre	Radial	1.4 mm (Maximum)			
		Lateral	2.0 mm (Maximum)			
Front vehicle height			48 ± 10 mm			
Front axle bearing starting torque			1.4 - 3.6 kgf (3.1 - 7.9 lb)			

RFS00293-00000

FS-82

TIGHTENING TORQUE

Tightening component	N-m	kgf-m	ft-lb
Tie-rod x Lock nut	68.6 - 118.0	7.0 - 14.0	50.6 - 101.0
Knuckle stopper bolt x Nut	14.7 - 34.3	1.5 - 3.5	10.8 - 25.3
Anchor bolt x Lock nut	68.6 - 88.3	7.0 - 9.0	50.6 - 65.1
Hub nut x Lock nut	98.0 - 147.0	10.0 - 15.0	72.0 - 109.0
Hub cover x Hub body	7.8 - 11.8	0.8 - 1.2	5.8 - 8.7
Brake hose bracket x Nut	6.9 - 15.7	0.7 - 1.6	5.1 - 11.6
Front wheel x Hub nut	88.3 - 118.0	9.0 - 12.0	65.1 - 87.0
Hub body x Brake drum	4.9 - 8.8	0.5 - 0.9	3.6 - 6.5
Hub body x Axle hub	24.5 - 37.3	2.5 - 3.8	18.1 - 27.5
Lower arm x Lower ball joint (at nut side)	55.9 - 76.5	5.7 - 7.8	41.2 - 56.4
Steering knuckle x Lower ball joint	88.3 - 118.0	9.0 - 12.0	65.1 - 87.0
Steering knuckle x Upper arm	88.3 - 118.0	9.0 - 12.0	65.1 - 87.0
Upper arm x Front spring bumper	9.8 - 15.7	1.0 - 1.6	7.2 - 11.6
Lower arm x Shock absorber	49.0 - 68.6	5.0 - 7.0	36.2 - 50.6
Stabilizer bracket cover x Frame	29.4 - 44.1	3.0 - 4.5	21.7 - 32.5
Torque arm x Lower arm	39.2 - 53.9	4.0 - 5.5	28.9 - 39.8
Shock absorber x Lock nut (Three stage)	25.5 - 38.2	2.6 - 3.9	18.8 - 28.2
Shock absorber x Lock nut (STD)	18.6 - 30.4	1.9 - 3.1	18.8 - 28.2
Control actuator x Actuator bracket	2.0 - 2.9	0.2 - 0.3	1.4 - 2.2
Upper arm shaft x Castle nut	68.6 - 88.3	7.0 - 9.0	50.6 - 65.1
Upper arm shaft x Frame	102.0 - 128.0	10.4 - 13.0	75.2 - 94.0
Lower arm x Frame	128.0 - 177.0	13.0 - 18.0	94.0 - 130.0
Differential tube x Differential	61.8 - 93.2	6.3 - 9.5	45.6 - 68.7
Differential tube x Bracket	112.7 - 137.2	11.5 - 14.0	83.2 - 101.0
Differential tube x Drive shaft LH side	58.8 - 78.4	6.0 - 8.0	43.4 - 57.9

RFS00294-00000