

Front Wheel Alignment Construction

S6RW0C2201002

Among factors for front wheel alignment, only toe setting can be adjusted. Camber and caster are not adjustable. Therefore, should camber or caster be out of specification due to the damage caused by hazardous road conditions or collision, whether the damage is in body or in suspension should be determined and damaged body should be repaired or damaged suspension should be replaced.

Preliminary Checks Prior to Adjustment Front Wheel Alignment

Steering and vibration complaints are not always the result of improper wheel alignment. An additional item to be checked is the possibility of tire lead due to worn or improperly manufactured tires. "Lead" is the vehicle deviation from a straight path on a level road without hand pressure on the steering wheel. Refer to "Radial Tire Lead / Pull Description in Section 2D" in order to determine if the vehicle has a tire lead problem. Before making any adjustment affecting wheel alignment, the following checks and inspections should be made to ensure correctness of alignment readings and alignment adjustments:

- Check all tires for proper inflation pressures and approximately the same tread wear.
- Check for looseness of ball joints. Check tie-rod ends; if excessive looseness is noted, it must be corrected before adjusting.
- Check for run-out of wheels and tires.
- Check vehicle trim heights; if it is out of limit and a correction is needed, it must be done before adjusting toe.
- Check for looseness of suspension control arms.
- Check for loose or missing stabilizer bar attachments.
- Consideration must be given to excess loads, such as tool boxes. If this excess load is normally carried in vehicle, it should remain in vehicle during alignment checks.
- Consider condition of equipment being used to check alignment and follow manufacturer's instructions.
- Regardless of equipment used to check alignment, vehicle must be placed on a level surface.

NOTE

To prevent possible incorrect reading of toe, camber or caster, vehicle front and rear end must be moved up and down a few times before inspection.

Repair Instructions

Front Wheel Alignment Inspection and Adjustment

S6RW0C2206001

Toe Inspection and Adjustment

Preparation for toe inspection and adjustment.

- Place vehicle in unloaded state on level surface.
- Set steering wheel in straight state.
- Check that inflation pressure of each tire is adjusted properly and wheel is free from deflection.
- Check that each suspension part is free from bend, dent, wear or damage in any other form.
- Check that ground clearance at the right and left is just about the same.

Inspection

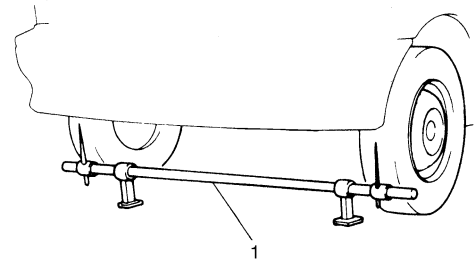
Measure toe with toe-in gauge (1).

Toe should be within following specifications.

If toe is out of the specification, adjust toe properly.

Toe

IN 1.0 ± 1.0 mm (0.0394 ± 0.0394 in.)



I2RH01220062-01

2B-3 Front Suspension:

Adjustment

- 1) Loosen right and left tie-rod end lock nuts (1) first.
- 2) Rotate right and left tie-rods (2) by the same amount to align toe to specification. In this adjustment, the lengths "A" of both right and left tie-rod should be equal.

NOTE

Before rotating tie-rods (2), apply grease between tie-rods and rack boots so that boots won't be twisted.

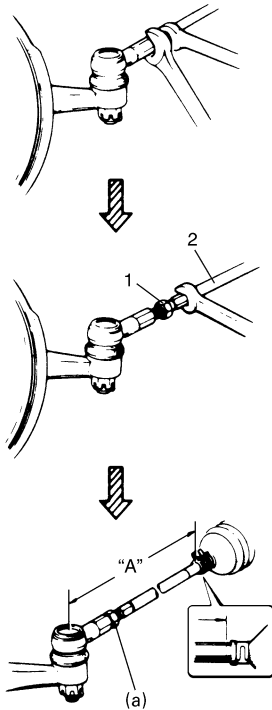
- 3) After adjustment, tighten lock nuts (1) to specified torque.

Tightening torque

Tie-rod end lock nut (a): 45 N·m (4.5 kgf·m, 32.5 lb-ft)

NOTE

Make sure that rack boots are not twisted.



I3RH0A220002-01

Edited by Foxit PDF Editor

Copyright (c) by Foxit Software Company, 2004
For Evaluation Only.

Steering Angle Check and Adjustment

When tie-rod or tie-rod end was replaced, check toe and then also steering angle with turning radius gauge (1). If steering angle is not correct, check whether right and left tie-rods length "A" are equal.

NOTE

If tie-rod lengths were changed to adjust steering angle, reinspect toe-in.

Steering angle

2WD

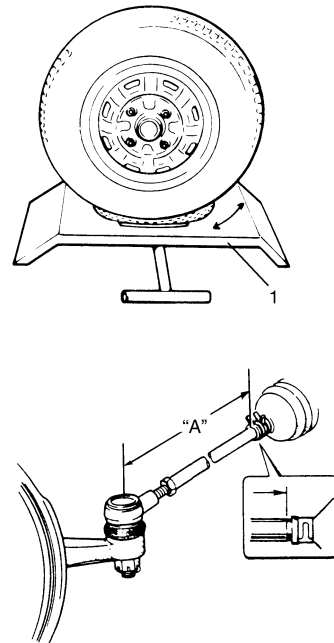
Inside: $36.0^\circ \pm 2^\circ$

Outside: 32.1° (Reference)

4WD

Inside: $37.4^\circ \pm 2^\circ$

Outside: 32.6° (Reference)



I3RH0A220003-01

Reference Information

Side slip

When checked with side slip tester, side slip should satisfy following specification.

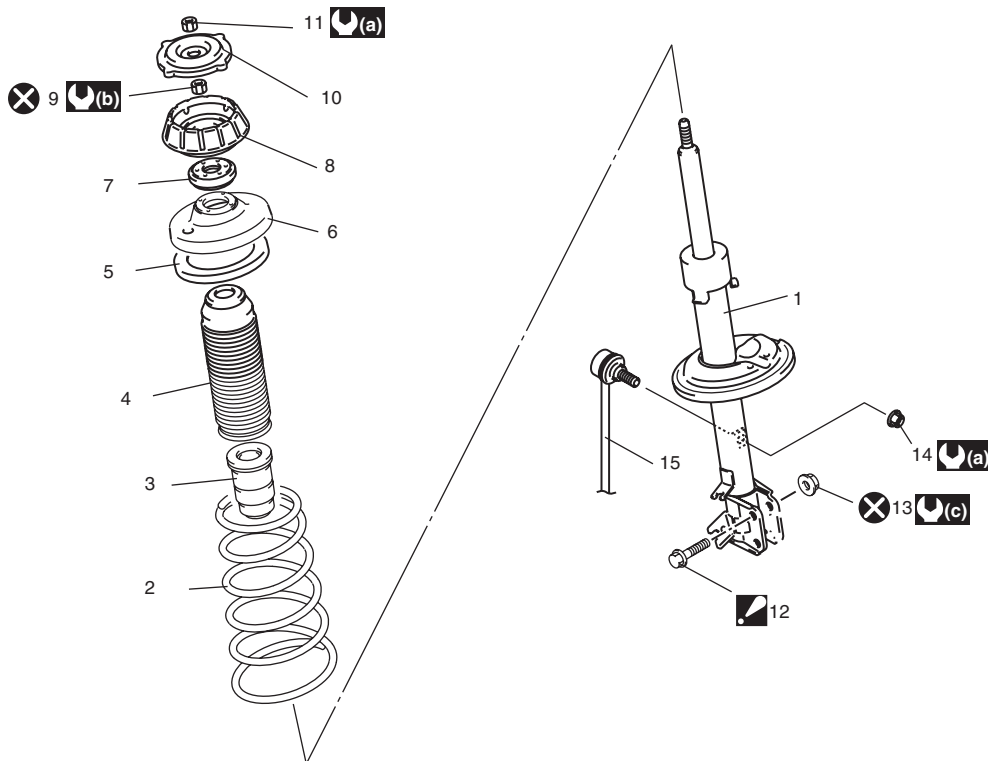
Side slip

0 to IN 3.0 mm/m (0 to IN 0.118 in/3.3 ft)

If side slip is greatly difference, toe or front wheel alignment may not be correct.

Front Strut Assembly Components

S6RW0C2206002



I7RW01220003-03

1. Front strut	6. Coil spring upper seat	11. Strut nut	(a) : 50 N·m (5.0 kgf-m, 36.5 lb-ft)
2. Coil spring	7. Strut bearing	12. Strut bracket bolt : Insert from vehicle front side.	(b) : 55 N·m (5.5 kgf-m, 40.0 lb-ft)
3. Bump stopper	8. Strut support	13. Strut bracket nut	(c) : 140 N·m (14.0 kgf-m, 101.5 lb-ft)
4. Strut dust cover	9. Strut support lower nut	14. Stabilizer joint nut	X : Do not reuse.
5. Coil spring seat	10. Rebound stopper	15. Stabilizer joint	

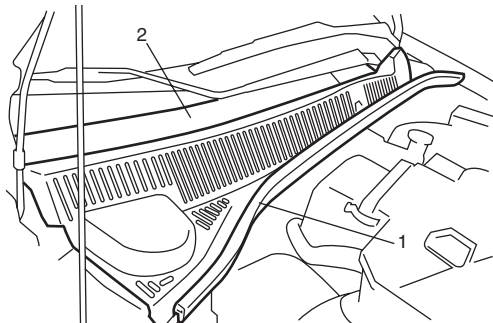
Front Strut Assembly Removal and Installation
 S6RW0C2206003

⚠ CAUTION

When rebound stopper and strut assembly were removed, check strut support lower nut for specified torque before installing strut assembly.

Removal

- 1) Remove hood rear seal (1), and then remove cowl top garnish (2) from vehicle.

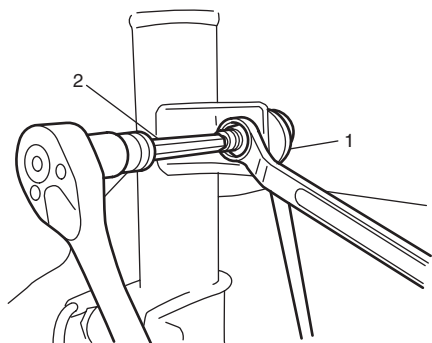


I5RW0A220003-01

NOTE

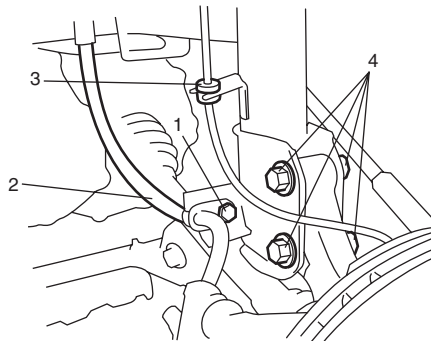
When servicing component parts of strut assembly, beforehand loosen strut nut a little before removing strut assembly. This will make service work easier. Note that the nut must not be removed at this point.

- 2) Hoist vehicle, allowing front suspension to hang free.
- 3) Remove wheel and disconnect stabilizer joint (1) from strut bracket.
 When loosening joint nut, hold stud with hexagon wrench (2).



I5RW0A220004-01

- 4) Remove brake hose mounting bolt (1). Remove brake hose (2) from bracket and wheel speed sensor harness (3) from strut bracket as shown in figure.
- 5) Remove strut bracket bolts and nuts (4).

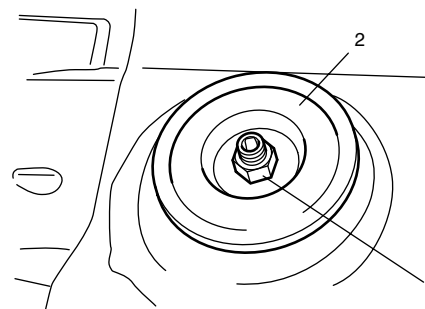


I5RW0A220005-01

- 6) Remove strut nut (1), and remove rebound stopper (2).

NOTE

Hold strut by hand so that it will not fall off.



I4RS0A220006-01

- 7) Remove strut assembly.

Installation

Install strut assembly by reversing removal procedure, noting the following instructions.

- Insert bolts in such direction as shown in figure.
- Tighten all fasteners to specified torque.

Tightening torque

Strut bracket nut (a): 140 N·m (14.0 kgf-m, 101.5 lb-ft)

Brake hose mounting bolt (c): 26 N·m (2.6 kgf-m, 19.0 lb-ft)

Stabilizer joint nut (d): 50 N·m (5.0 kgf-m, 36.5 lb-ft)

⚠ CAUTION

Never reuse the removed strut bracket nut.

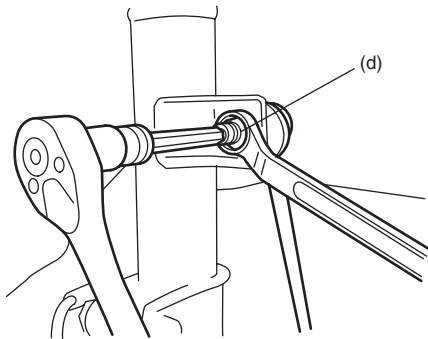
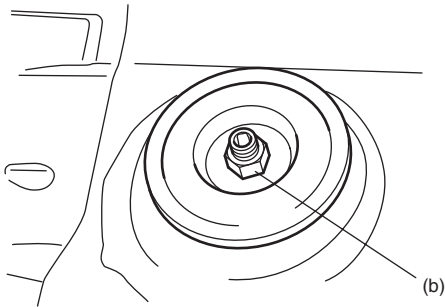
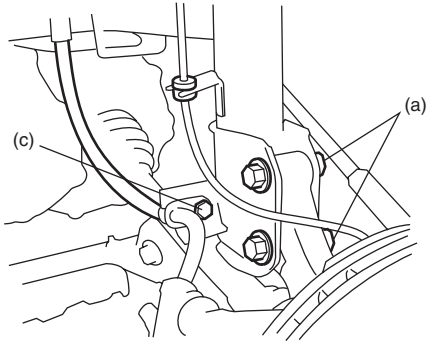
- Lower hoist and vehicle in unloaded condition, tighten strut nut (b) to specified torque.

Tightening torque

Strut nut (b): 50 N·m (5.0 kgf-m, 36.5 lb-ft)

NOTE

Don't twist brake hose and wheel speed sensor harness when installing them.



I5RW0A220006-01

- Tighten wheel nut to specified torque.

Tightening torque

Wheel nut: 85 N·m (8.5 kgf-m, 61.5 lb-ft)

- After installation, confirm front wheel alignment.

Front Strut Assembly Disassembly and Reassembly

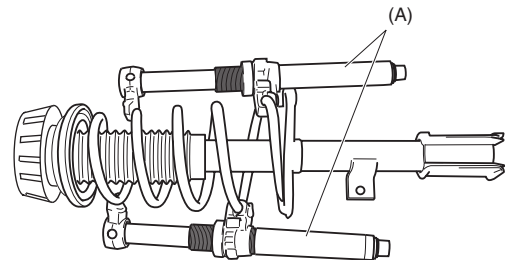
S6RW0C2206004

Disassembly

- 1) Attach special tool (A) to coil spring as shown. Turn special tool bolts alternately until coil spring tension is released. Rotate the strut around its axis to confirm that the coil spring is released or not.

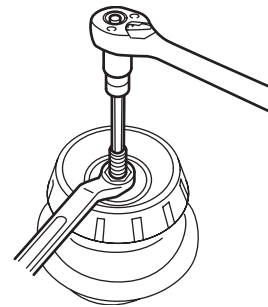
Special tool

(A): 09943-25010



I5RW0A220007-01

- 2) While keeping coil spring compressed with special tools, remove strut support lower nut with hexagon wrench as shown figure.



I5RW0A220008-01

- 3) Disassemble front strut assembly.

2B-7 Front Suspension:

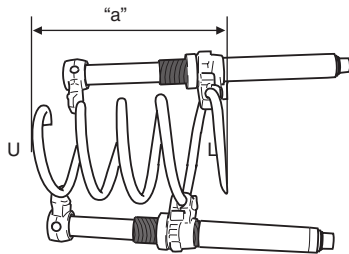
Reassembly

For assembly, reverse disassembly procedure, noting the following instructions.

- 1) Compress coil spring with special tool (A) until total length becomes about 280 mm (11.0 in.) as shown.

Length

"a": 280 mm (11.0 in.)



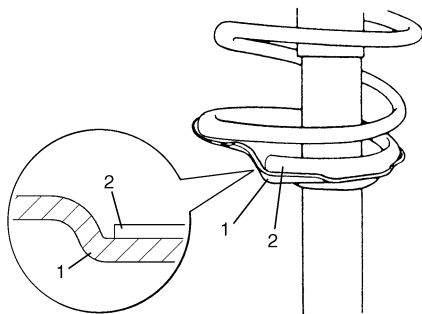
I5RW0A220009-01

U: Upper side (small dia.)
L: Lower side (large dia.)

- 2) Install compressed coil spring to strut, and place coil spring end (2) onto spring lower seat (1) as shown.

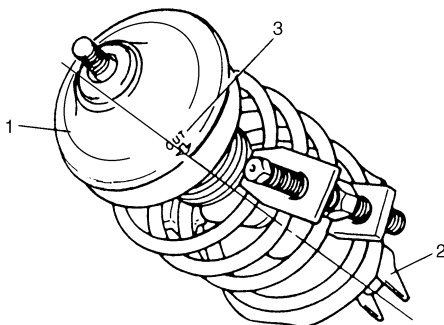
NOTE

End of coil spring must not interfere with step of spring lower seat.



I4RS0A220011-01

- 3) Install bump stopper and strut dust cover onto strut rod. For installing direction, refer to the figure in "Front Strut Assembly Components".
- 4) Pull strut rod as far up as possible and use care not to allow it to retract into strut.
- 5) Install spring seat on coil spring and then spring upper seat (1) aligning "OUT" mark (3) on spring upper seat and center of strut bracket (2).



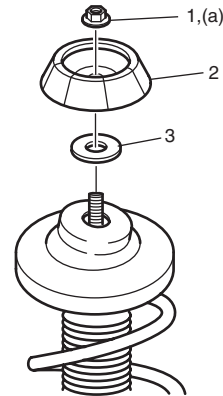
I4RS0A220012-01

Edited by Foxit PDF Editor
Copyright (c) by Foxit Software Company, 2004
For Evaluation Only.

- 6) Install bearing (3), strut support (2) and strut support lower nut (1) in this sequence.
Tighten strut support lower nut (1) to specified torque.
When tightening strut support lower nut, hold stud with hexagon wrench.

Tightening torque

Strut support lower nut (a): 55 N·m (5.5 kgf·m, 40.0 lb·ft)

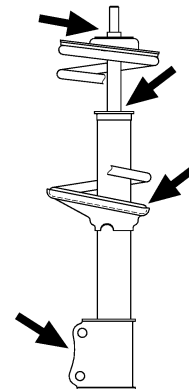


I5RW0A220010-02

Front Strut Assembly Check

S6RW0C2206005

- Inspect strut for oil leakage, damage or deformation. If defect is found, replace strut as an assembly unit, because it can not be disassembled.



I4RS0A220014-01

- Inspect strut function referring to the following procedures:
 - 1) Check and adjust tire pressures as specified.
 - 2) Bounce vehicle body up and down 3 or 4 times continuously by pushing front end of the vehicle side body to check strut.
Also, note how many times vehicle body rebounds to stop after force application.
 - 3) Repeat the same procedure to the other strut to confirm that the both side struts equally respond.

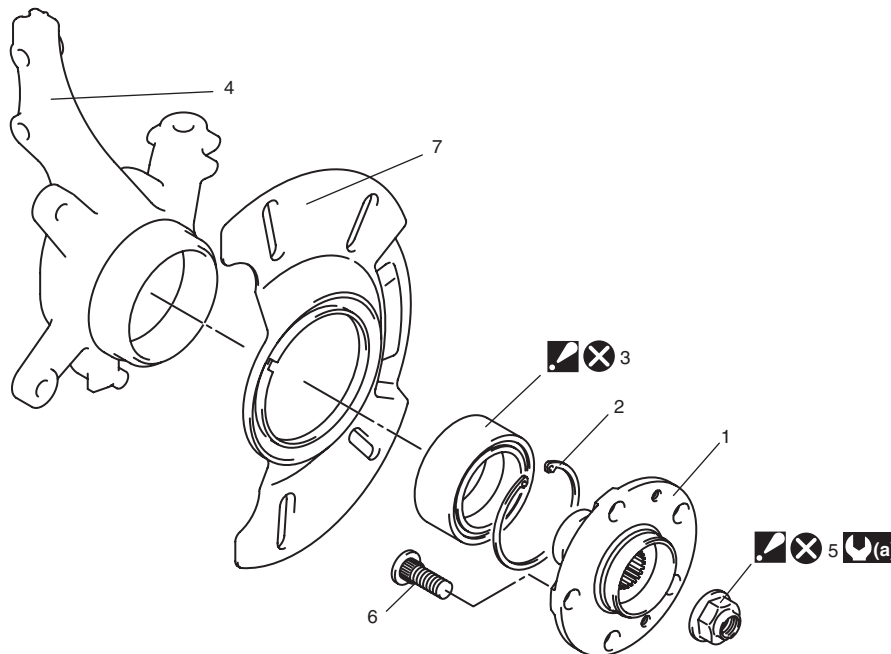
If conditions of struts are in doubt, compare them with known-good vehicle or strut.

- Inspect bearing for wear, abnormal noise or gripping. If defective, replace.
- Inspect coil spring seat for cracks or deformation. If defective, replace.

- Inspect bump stopper for deterioration. If defective, replace.
- Inspect rebound stopper and strut mount for wear, cracks or deformation. If defective, replace.

Front Wheel Hub and Steering Knuckle Components

S6RW0C2206006



I7RW01220014-01

1. Front wheel hub	4. Steering knuckle	7. Dust cover
2. Circlip	5. Drive shaft nut : Calk, after tightening.	(a) : 200 N·m (20.0 kgf·m, 145.0 lb-ft)
3. Wheel bearing : Face grooved rubber seal side to wheel hub.	6. Hub bolt	⊗ : Do not reuse.

Front Wheel Hub, Steering Knuckle and Wheel Bearing Removal and Installation

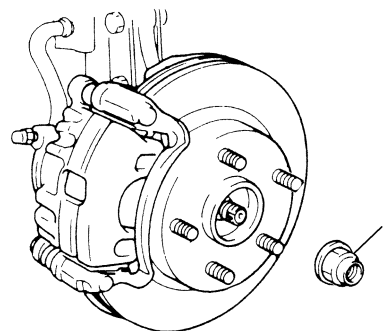
S6RW0C2206007

⚠ CAUTION

When removing and installing steering knuckle assembly, be careful not to damage dust boots of control arm joint by drive shaft dust cover and brake dust cover.

Removal

- 1) Hoist vehicle and remove wheel.
- 2) Uncalk drive shaft nut (1).
- 3) Depress foot brake pedal and hold it. Remove drive shaft nut (1).



I5JB0A220013-01

2B-9 Front Suspension:

- 4) Remove caliper carrier bolts and then caliper (1) with carrier.

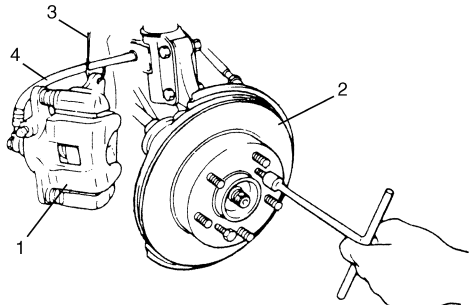
NOTE

Hang removed caliper with a wire hook or the like (3) so as to prevent brake hose (4) from bending, twisting or tension.

Do not depress brake pedal during caliper removal.

Don't operate brake pedal with caliper removed.

- 5) Pull brake disc (2) off by using two 8 mm bolts.



I5JB0A220014-01

- 6) Pull out wheel hub (1) with special tools.

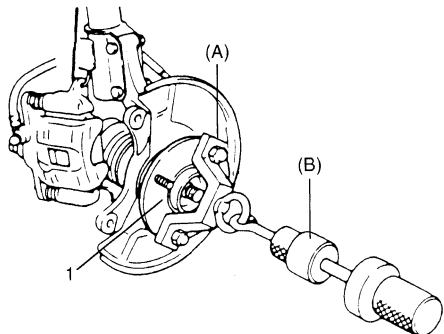
Special tool

(A): 09943-17912

(B): 09942-15511

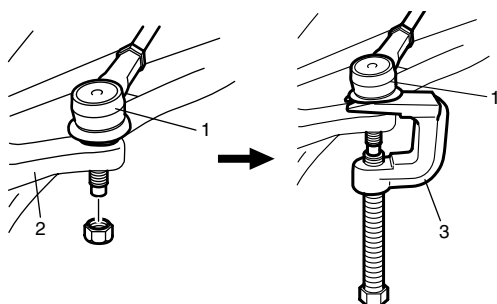
⚠ CAUTION

When wheel hub is removed, replace wheel bearing with new one.



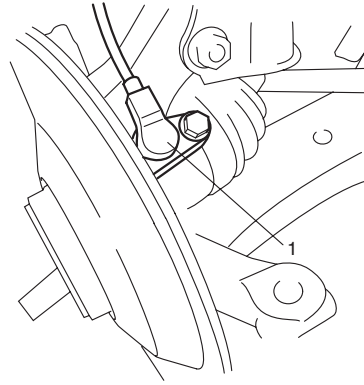
I2RH01220028-01

- 7) Disconnect tie-rod end (1) from steering knuckle (2) with puller (3).



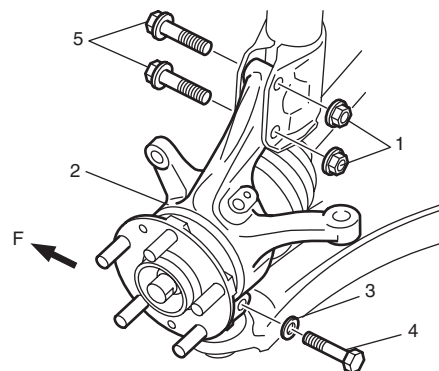
I4RS0A220017-01

- 8) Remove wheel speed sensor (1) from knuckle.



I5RW0A220013-01

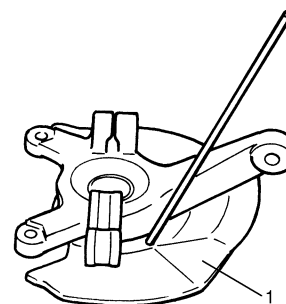
- 9) Loosen strut bracket nuts (1).
- 10) Remove ball joint bolt (4) and washer (3).
- 11) Remove strut bracket bolts (5) from strut bracket and then steering knuckle (2).



F: Vehicle front

I7RW01220004-01

- 12) Uncaulk and remove dust cover (1).

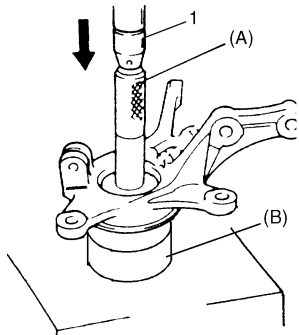


I2RH01220032-01

- 13) Remove circlip from knuckle.
- 14) Using hydraulic press (1) and special tool, remove wheel bearing.

Special tool

- (A): 09913-75510
- (B): 09943-37910

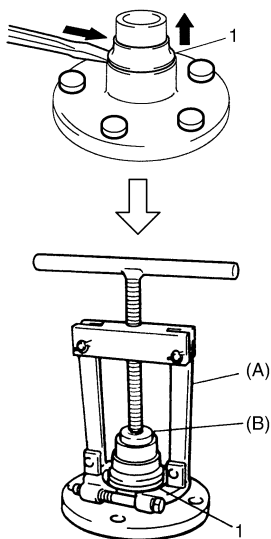


I5RW0A220014-01

- 15) Remove wheel bearing outside inner race (1).

Special tool

- (A): 09913-65810
- (B): 09913-85230

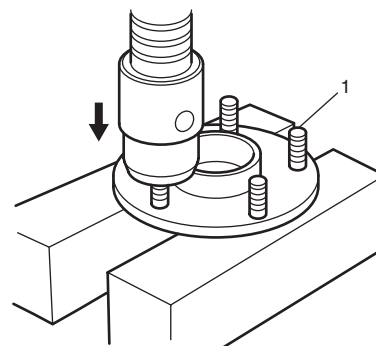


I7RW01220005-01

- 16) Remove hub bolts (1) with copper hammer or hydraulic press.

CAUTION

Never remove bolt unless replacement is necessary.
Be sure to use a new bolt for replacement.



I7RW01220006-01

Installation

For installation, reverse removal procedure, noting the following instructions.

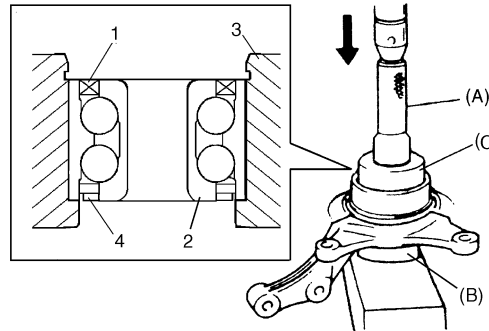
- 1) Face grooved rubber seal side (1) of new wheel bearing (2) upward as shown in figure and press-fit it into knuckle (3) using special tool.

Special tool

- (A): 09913-75510
- (B): 09944-78220
- (C): 09925-14520

CAUTION

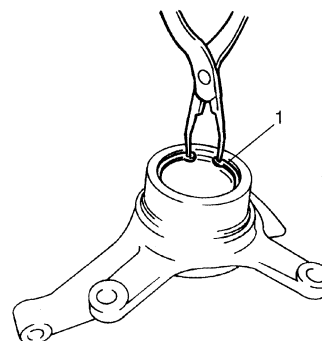
Never reuse wheel bearing.



I5RW0A220016-01

4. Encoder

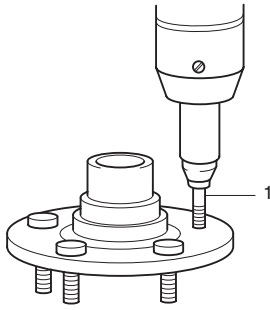
- 2) Install circlip (1).



I2RH01220037-01

2B-11 Front Suspension:

- 3) Insert new hub bolt (1) in hub hole. Rotate hub bolt slowly to assure that serrations are aligned with those made by original bolt.

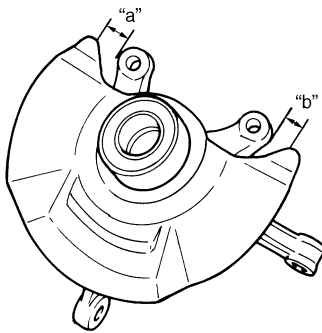


I7RW01220015-01

- 4) Drive in dust cover so that dimensions "a" and "b" become equal as shown in figure.

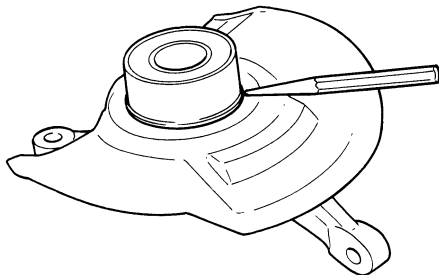
⚠ CAUTION

When drive in dust cover, be careful not to deform it.



I2RH01220038-01

- 5) Caulk more than 6 places with a punch.

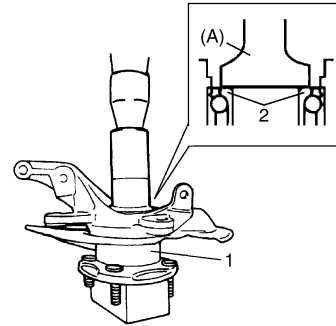


I2RH01220039-01

- 6) Using special tool and hydraulic press, press fit wheel hub (1) into wheel bearing (2) (Face grooved rubber seal side to wheel hub).

Special tool

(A): 09913-75510



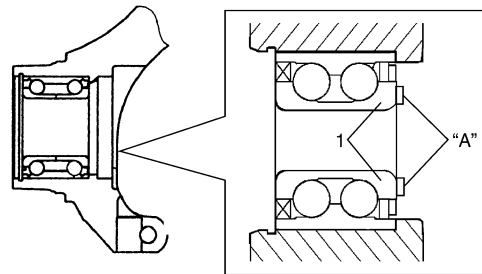
I7RW01220007-01

- 7) Apply grease lightly to end face of inner ring (1).

"A": Grease 99000-25121 (SUZUKI Super Grease H)

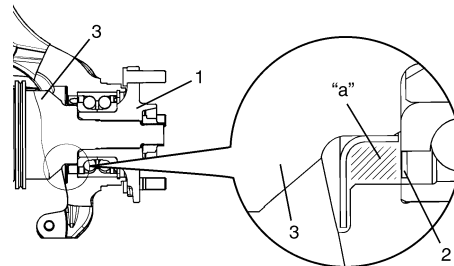
NOTE

Do not apply the grease to the encoder section to avoid the encoder malfunction.



I5RW0B220001-01

- 8) Install steering knuckle with wheel hub and bearing (1) so that foreign material should not enter wheel speed sensing point "a".



I7RW01220008-02

2. Wheel encoder
3. Drive shaft

- 9) Install ball joint bolt (1), washer (2), strut bracket bolts (4) and new nuts (3) from the direction shown in figure.
- 10) Tighten suspension arm ball joint bolt (2) to specified torque.

Tightening torque

Suspension arm ball joint bolt (a): 60 N·m (6.0 kgf-m, 43.5 lb-ft)

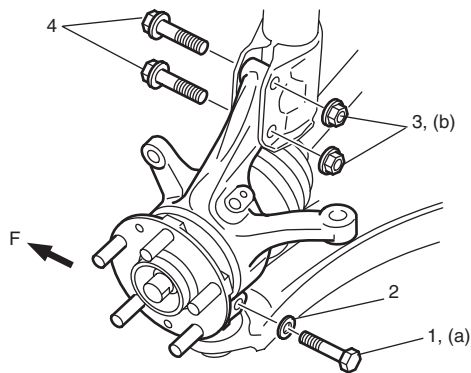
- 11) Tighten new strut bracket nuts (3) to specified torque.

Tightening torque

Strut bracket nut (b): 140 N·m (14.0 kgf-m, 101.5 lb-ft)

⚠ CAUTION

Never reuse the removed strut bracket nut.

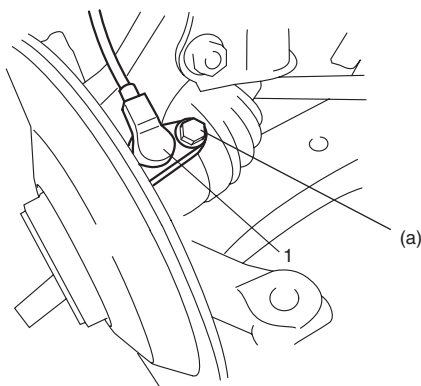


F: Vehicle front

- 12) Install wheel speed sensor (1).

Tightening torque

Wheel speed sensor mounting bolt (a): 11 N·m (1.1 kgf-m, 8.0 lb-ft)

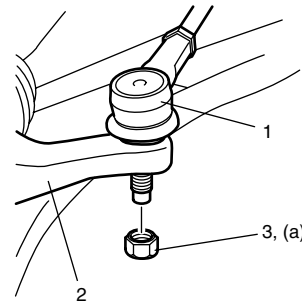


I5RW0A220017-01

- 13) Connect tie-rod end (1) to steering knuckle (2), tighten new nut (3) to specified torque.

Tightening torque

Tie-rod end nut (a): 45 N·m (4.5 kgf-m, 32.5 lb-ft)



I4RS0B220007-01

- 14) Install brake disk (2) and brake caliper (3).
- 15) Tighten caliper carrier bolt to specified torque.

Tightening torque

Caliper carrier bolt: 85 N·m (8.5 kgf-m, 61.5 lb-ft)

- 16) Depress foot brake pedal and hold it there. Tighten new drive shaft nut (1) to specified torque.

Tightening torque

Drive shaft nut (a): 200 N·m (20.0 kgf-m, 145.0 lb-ft)

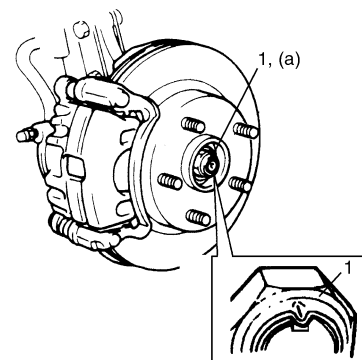
⚠ CAUTION

Never reuse drive shaft nut (1).

- 17) Caulk drive shaft nut (1) as shown.

⚠ CAUTION

Be careful not to damage the drive shaft nut while caulking it. If it is damaged, replace it with new one.



I7RW01220013-02

- 18) Tighten wheel nuts to specified torque.

Tightening torque

Wheel nut: 85 N·m (8.5 kgf-m, 61.5 lb-ft)

- 19) Confirm front wheel alignment referring to "Front Wheel Alignment Inspection and Adjustment".

2B-13 Front Suspension:

Front Wheel Hub, Disc, Bolt and Bearing Check

S6RW0C2206008

- Inspect each wheel disc for dents, distortion and cracks.
A disc in badly damaged condition must be replaced.
- Check rust of installation face inside of wheel disc.
As rust affects adversely, remove it thoroughly.
- Check tightness of wheel nuts and, if necessary, retighten them to specified torque.

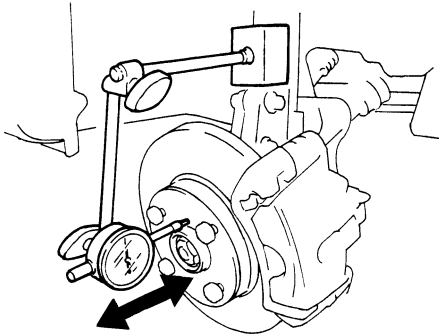
Tightening torque

Wheel nut: 85 N·m (8.5 kgf-m, 61.5 lb-ft)

- Check wear of wheel bearing. When measuring thrust play, apply a dial gauge to wheel hub as shown in figure.

Front wheel bearing thrust play

Limit: 0.1 mm (0.004 in.)



I3RM0A220034-01

- Check wheel bearing noise and smooth wheel rotation by rotating wheel.
If defective, replace bearing.

Suspension Control Arm / Bushing Removal and Installation

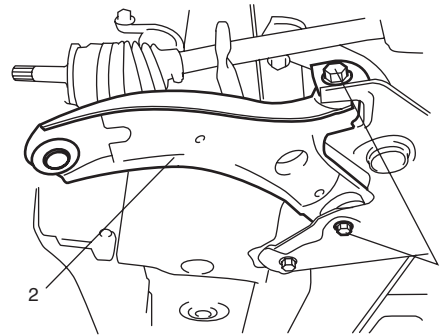
S6RW0C2206009

⚠ CAUTION

When removing and installing steering knuckle assembly, be careful not to damage dust boots of control arm joint by drive shaft dust cover and brake dust cover.

Removal

- 1) Hoist vehicle and remove wheel.
- 2) Remove steering knuckle with front wheel hub referring to step 2) to 5), 7) to 11) of "Removal" under "Front Wheel Hub, Steering Knuckle and Wheel Bearing Removal and Installation".
- 3) Remove suspension control arm bolts (1).
- 4) Remove suspension control arm (2).



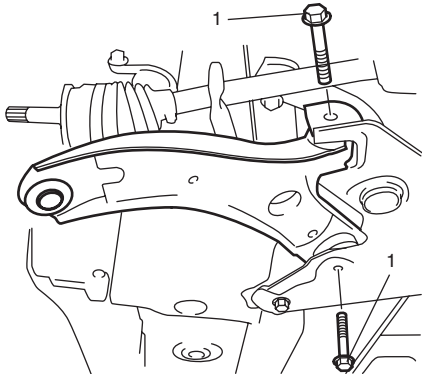
I5RW0A220019-01

Installation

- 1) Install suspension control arm as shown but tighten suspension control arm bolts (1) only temporarily.

⚠ CAUTION

Use new control arm bolt.



I5RW0A220020-01

- 2) Install steering knuckle with front wheel hub referring to step 7) to 17) of "Installation" under "Front Wheel Hub, Steering Knuckle and Wheel Bearing Removal and Installation".
- 3) Install wheel and tighten wheel nuts to specified torque.

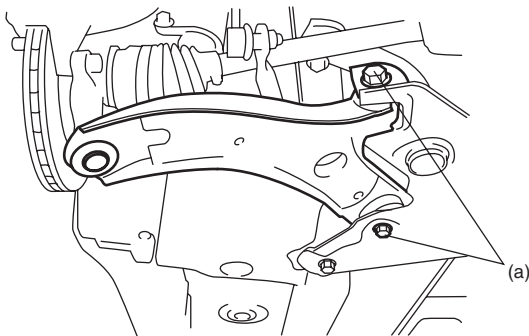
Tightening torque

Wheel nut: 85 N·m (8.5 kgf-m, 61.5 lb-ft)

- 4) Lower hoist and vehicle in unloaded condition, tighten new control arm bolts to specified torque.

Tightening torque

Suspension control arm bolt (a): 95 N·m (9.5 kgf-m, 69.0 lb-ft)



I5RW0A220021-01

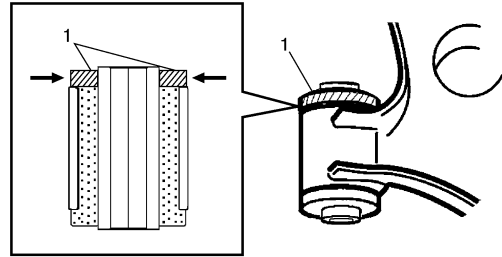
- 5) Confirm front wheel alignment referring to "Front Wheel Alignment Inspection and Adjustment".

Suspension Control Arm / Bushing Disassembly and Assembly

S6RW0C2206010

Disassembly

- 1) Cut off bushing flange (rubber) (1) with knife.



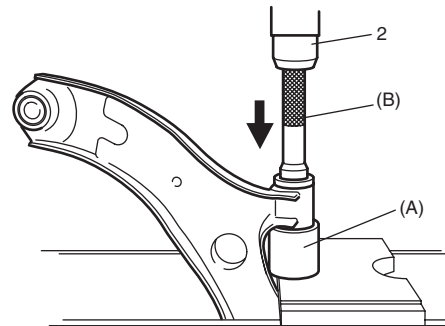
I4RS0B220019-01

- 2) Push out bushing by using hydraulic press (2) and special tools.

Special tool

(A): 09943-76310

(B): 09913-75821



I4RS0B220020-01

2B-15 Front Suspension:

Assembly

1) Front bushing

Press-fit front bushing (1) by using special tools and press (2).

Special tool

(A): 09943-76310

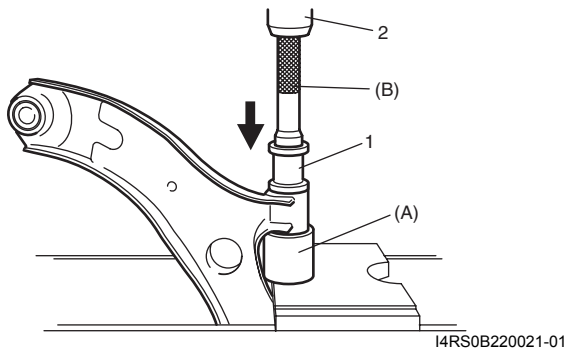
(B): 09913-75821

⚠ CAUTION

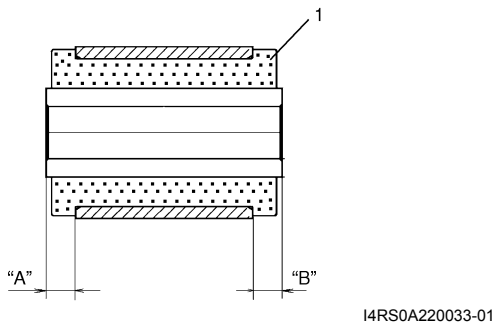
Be sure to use new bushing.

NOTE

- Before installing bushing, apply soap water on its circumference to facilitate bushing installation.



2) Press-fit bushing (1) so that dimensions "A" and "B" in figure become equal.



Suspension Control Arm / Steering Knuckle Check

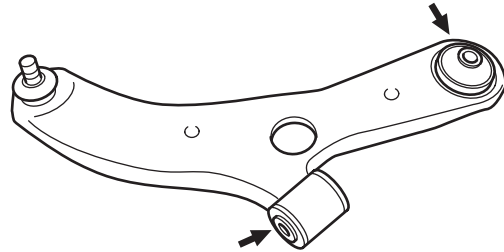
S6RW0C2206011

Inspect for cracks, deformation or damage.
If defective, replace.

Suspension Control Arm Bushing Check

S6RW0C2206012

Inspect for damage, wear or deterioration.
If defective, replace.



I4RS0B220022-01

Suspension Control Arm Joint Check

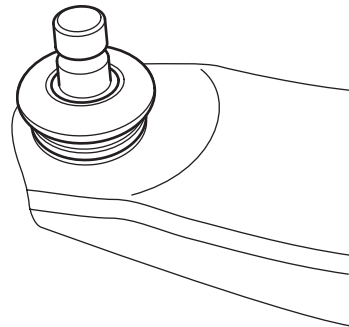
S6RW0C2206013

- Check smooth rotation of ball stud.
- Check damages of ball stud.
- Check damages of dust cover.

NOTE

Suspension control arm and arm joint cannot be separated.

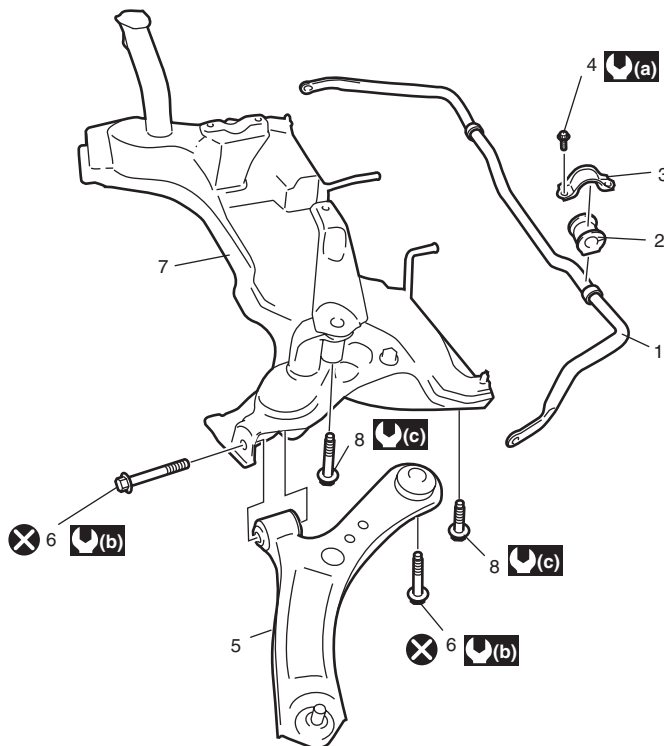
If there is any damage to either parts, control arm must be replaced as a complete unit.



I4RS0B220023-01

Front Suspension Frame, Stabilizer Bar and/or Bushing Components

S6RW0C2206014



I6RW0C220001-01

1. Stabilizer bar	4. Stabilizer bar mounting bracket bolt	7. Front suspension frame	(b) : 95 N-m (9.5 kgf-m, 36.5 lb-ft)
2. Stabilizer bushing	5. Suspension control arm	8. Front suspension frame mounting bolt	(c) : 150 N-m (15.0 kgf-m, 108.5 lb-ft)
3. Stabilizer mounting bracket	6. Suspension control arm mounting bolt	(a) : 23 N-m (2.3 kgf-m, 17.0 lb-ft)	X : Do not reuse.

Front Suspension Frame, Stabilizer Bar and/or Bushing Removal and Installation (2WD Model)

S6RW0C2206015

▲ WARNING

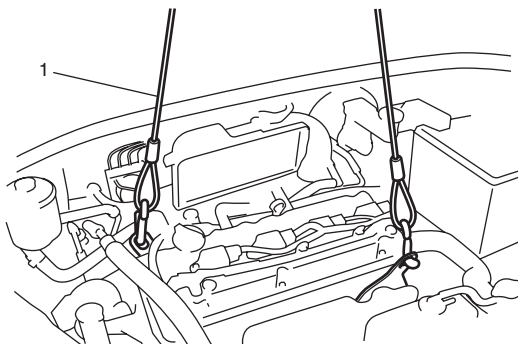
When supporting and installing front suspension frame, be sure to apply some supporting equipment (such as mission jack) at well-balanced position in the center section of front suspension frame so as to prevent from its drop. Otherwise drop and injure.

▲ CAUTION

When removing and installing suspension control arm, be careful not to damage dust boots of suspension control arm joint by drive shaft dust cover and brake dust cover.

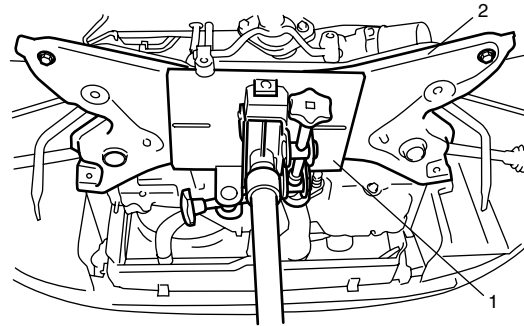
Removal

- 1) Disconnect negative (-) cable at battery.
- 2) Remove air cleaner assembly referring to "Air Cleaner Assembly Removal and Installation in Section 1D".
- 3) Remove hood referring to "Hood Removal and Installation in Section 9J".
- 4) Disconnect steering lower shaft from pinion shaft referring to "Steering Lower Shaft Removal and Installation in Section 6B".
- 5) Hoist vehicle and remove front wheels.
- 6) Remove exhaust No.1, No.2 and center pipes referring to "Exhaust System Components in Section 1K".
- 7) Remove suspension control arms and disconnect stabilizer joints.
- 8) Disconnect tie-rod end from steering knuckle referring to "Tie-Rod End Removal and Installation in Section 6C".
- 9) Disconnect torque sensor connector and P/S motor connector from steering gear case referring to "Steering Gear Case Assembly Removal and Installation in Section 6C".
- 10) Support engine assembly by using chain hoist (1).



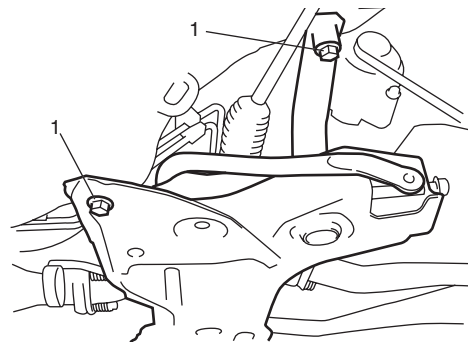
I7RW01220010-01

- 11) Support front suspension frame (2) with mission jack (1).



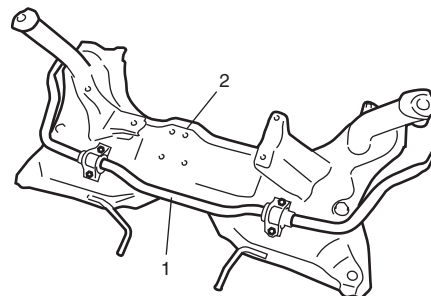
I4RS0A220042-01

- 12) Remove engine rear mounting, mounting member bolt and front suspension frame mounting bolts (1).



I7RW01220012-01

- 13) Lower front suspension frame and steering gear case.
- 14) Remove steering gear case assembly from front suspension frame.
- 15) Remove stabilizer bar (1) with bushing from suspension frame (2).



I7RW01220016-01

Installation

- 1) Install stabilizer bar (1), stabilizer bushing (2) and stabilizer mounting bracket (3) to front suspension frame as shown in figure while ensuring that stabilizer is centered, side-to-side.

NOTE

- For proper installing direction of stabilizer mounting bracket (3), place oblong to rear and circular hole to front.
- For correct installation of stabilizer bar, side-to-side, be sure that stopper ring (4) on stabilizer bar aligns with mounting bush, both right and left, as shown in figure.

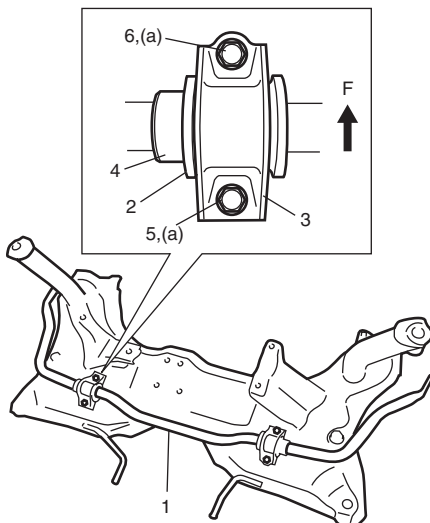
- 2) Tighten stabilizer bar mounting bracket bolts to specified torque.

NOTE

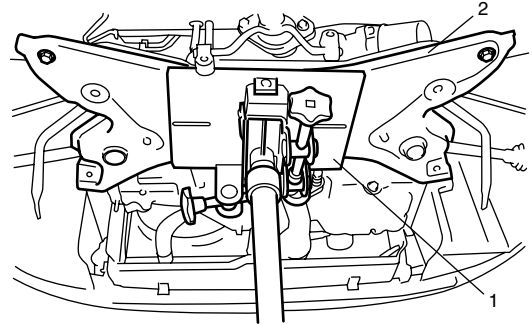
Tighten stabilizer bar mounting bracket rear bolt (5) after front bolt (6).

Tightening torque

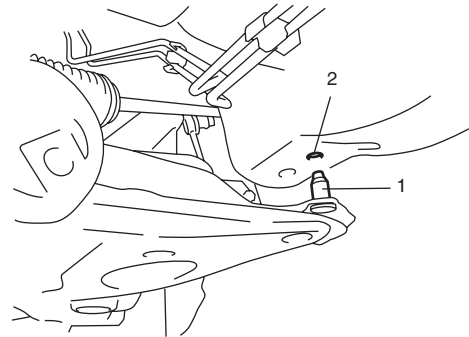
Stabilizer bar mounting bracket bolt (a): Tighten 23 N·m (2.3 kgf·m, 17.0 lb-ft) to specified procedure



- 3) Install steering gear case assembly to front suspension frame referring to "Steering Gear Case Assembly Removal and Installation in Section 6C" or "Steering Gear Case Assembly Removal and Installation in Section 6C".
- 4) Support front suspension frame (2) with mission jack (1) and jack up it.



- 5) Align lugs (1) (right and left) of front suspension frame with whole (2) in vehicle body.



2B-19 Front Suspension:

- 6) Tighten front suspension frame bolts to specified torque.

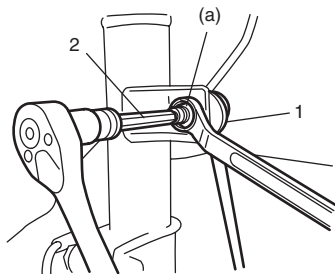
Tightening torque

Front suspension frame mounting bolt: 150 N·m (15.0 kgf-m, 108.5 lb-ft)

- 7) Remove mission jack from front suspension frame.
- 8) Install engine rear mounting and tighten mounting member bolts referring to "Engine Mountings Components in Section 1D".
- 9) Remove chain hoist from engine assembly.
- 10) Connect torque sensor connector and P/S motor connector to steering gear case referring to "Steering Gear Case Assembly Removal and Installation in Section 6C".
- 11) Install suspension control arms referring to "Suspension Control Arm / Bushing Removal and Installation".
- 12) Install stabilizer joint (1) and tighten nut to specified torque.
When tightening nut, hold stud with hexagon wrench (2).

Tightening torque

Stabilizer joint nut (a): 50 N·m (5.0 kgf-m, 36.5 lb-ft)



I5RW0A220033-01

- 13) Connect tie-rod end to steering knuckle referring to "Tie-Rod End Removal and Installation in Section 6C".
- 14) Install exhaust No.1, No.2 and center pipe referring to "Exhaust System Components in Section 1K".
- 15) Install wheel and tighten nut to specified torque.

Tightening torque

Wheel nut: 85 N·m (8.5 kgf-m, 61.5 lb-ft)

- 16) Install air cleaner assembly referring to "Air Cleaner Assembly Removal and Installation in Section 1D".
- 17) Install hood referring to "Hood Removal and Installation in Section 9J".
- 18) Lower hoist and vehicle in unloaded condition, tighten suspension control arm bolts to specified torque.

Tightening torque

Suspension control arm bolt: 95 N·m (9.5 kgf-m, 69.0 lb-ft)

Edited by Foxit PDF Editor

Copyright (c) by Foxit Software Company, 2004
For Evaluation Only.

- 19) Connect negative (-) cable at battery.
- 20) Confirm front wheel alignment referring to "Front Wheel Alignment Inspection and Adjustment".

Front Suspension Frame, Stabilizer Bar and/or Bushing Removal and Installation (4WD Model)

S6RW0C2206016

▲ WARNING

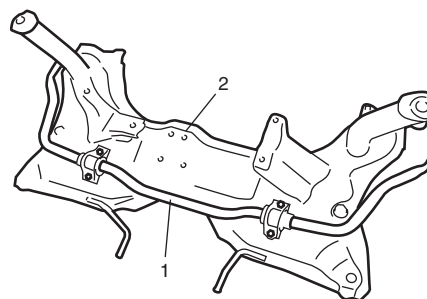
When supporting and installing front suspension frame, be sure to apply some supporting equipment (such as mission jack) at well-balanced position in the center section of front suspension frame so as to prevent from its drop. Otherwise drop and injure.

▲ CAUTION

When removing and installing suspension control arm, be careful not to damage dust boots of suspension control arm joint by drive shaft dust cover and brake dust cover.

Removal

- 1) Remove front suspension frame, steering gear case assembly and transfer all together referring to "Transfer Dismounting and Remounting in Section 3C".
- 2) Remove steering gear case assembly from front suspension frame.
- 3) Remove stabilizer bar (1) with bushing from front suspension frame (2).



I7RW01220016-01

Installation

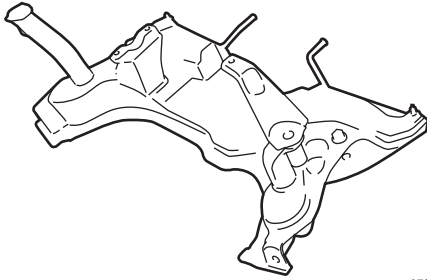
Install front suspension frame by reversing removal procedure, noting the following instruction.

- Tighten all fasteners to specified torque referring to "Front Suspension Construction".

Front Suspension Frame Check

S6RW0C2206017

Inspect for cracks, deformation or damage.
If defective, replace.



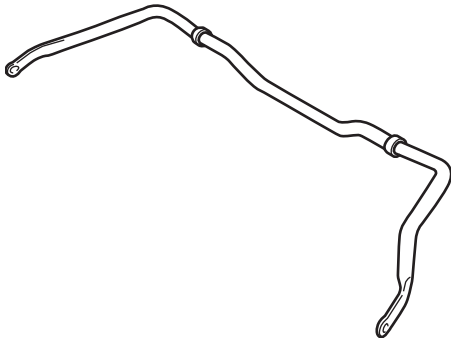
I5RW0A220034-01

Front Stabilizer Bar, Bushing and/or Joint Check

S6RW0C2206018

Stabilizer Bar

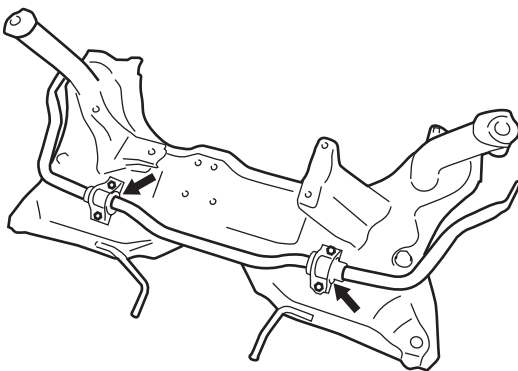
Inspect for damage or deformation.
If defective, replace.



I5RW0A220035-01

Stabilizer Bushing

Inspect for damage, wear or deterioration.
If defective, replace.



I5RW0A220036-01

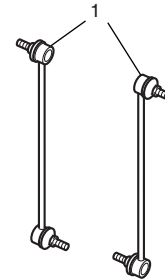
Stabilizer Joint

- 1) Check for smooth rotation.
- 2) Check damages of ball stud.
- 3) Check damages of dust cover.

NOTE

Stabilizer joint (1) cannot be disassembled.

If there is any damage to either parts, stabilizer joint must be replaced as a complete unit.



I4RH01220007-01

Front Suspension Fasteners Check

S6RW0C2206019

Check each bolt and nut fastening suspension parts for tightness. Tighten loose one, if any, to specified torque, referring to "Front Suspension Construction".

Specifications

Tightening Torque Specifications

S6RW0C2207001

Fastening part	Tightening torque			Note
	N-m	kgf-m	lb-ft	
Tie-rod end lock nut	45	4.5	32.5	🔩
Strut bracket nut	140	14.0	101.5	🔩 / 🔩
Brake hose mounting bolt	26	2.6	19.0	🔩
Stabilizer joint nut	50	5.0	36.5	🔩 / 🔩
Strut nut	50	5.0	36.5	🔩
Wheel nut	85	8.5	61.5	🔩 / 🔩 / 🔩 / 🔩 / 🔩
Strut support lower nut	55	5.5	40.0	🔩
Suspension arm ball joint bolt	60	6.0	43.5	🔩
Wheel speed sensor mounting bolt	11	1.1	8.0	🔩
Tie-rod end nut	45	4.5	32.5	🔩
Caliper carrier bolt	85	8.5	61.5	🔩
Drive shaft nut	200	20.0	145.0	🔩
Suspension control arm bolt	95	9.5	69.0	🔩 / 🔩
Stabilizer bar mounting bracket bolt	Tighten 23 N·m (2.3 kgf-m, 17.0 lb-ft) to specified procedure			🔩
Front suspension frame mounting bolt	150	15.0	108.5	🔩

NOTE

The specified tightening torque is also described in the following.

“Front Suspension Construction”

“Front Strut Assembly Components”

“Front Wheel Hub and Steering Knuckle Components”

“Front Suspension Frame, Stabilizer Bar and/or Bushing Components”

Reference:

For the tightening torque of fastener not specified in this section, refer to “Fasteners Information in Section 0A”.

Special Tools and Equipment

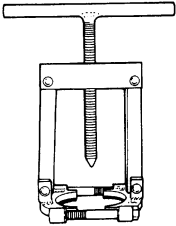
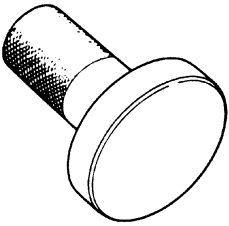
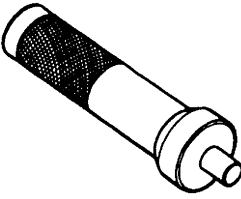
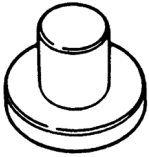

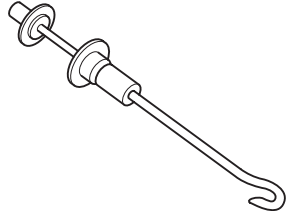
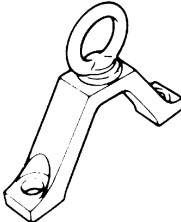
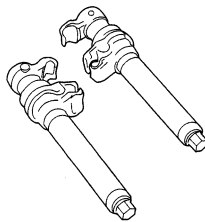
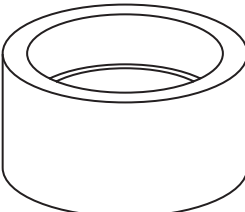
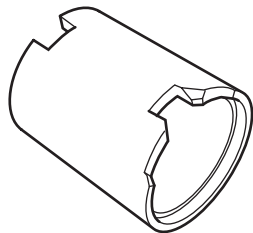
Recommended Service Material

S6RW0C2208001

Material	SUZUKI recommended product or Specification	Note
Grease	SUZUKI Super Grease H P/No.: 99000-25121	☞

Special Tool

S6RW0C2208002

09913-65810 Crankshaft bearing puller ☞		09913-75510 Bearing installer ☞ / ☞ / ☞	
09913-75821 Bearing installer attachment ☞ / ☞		09913-85230 Bearing remover tool ☞	
09925-14520 Bearing and oil seal installer (80 x 50 mm) ☞		09942-15511 Sliding hammer ☞	
09943-17912 Wheel hub remover ☞		09943-25010 Spring compressor ☞	
09943-37910 Bearing installer & remover ☞		09943-76310 Bush remover ☞ / ☞	
09944-78220 Bearing installer support ☞	