REAR SUSPENSION SYSTEM

2701I–03

PROBLEM SYMPTOMS TABLE

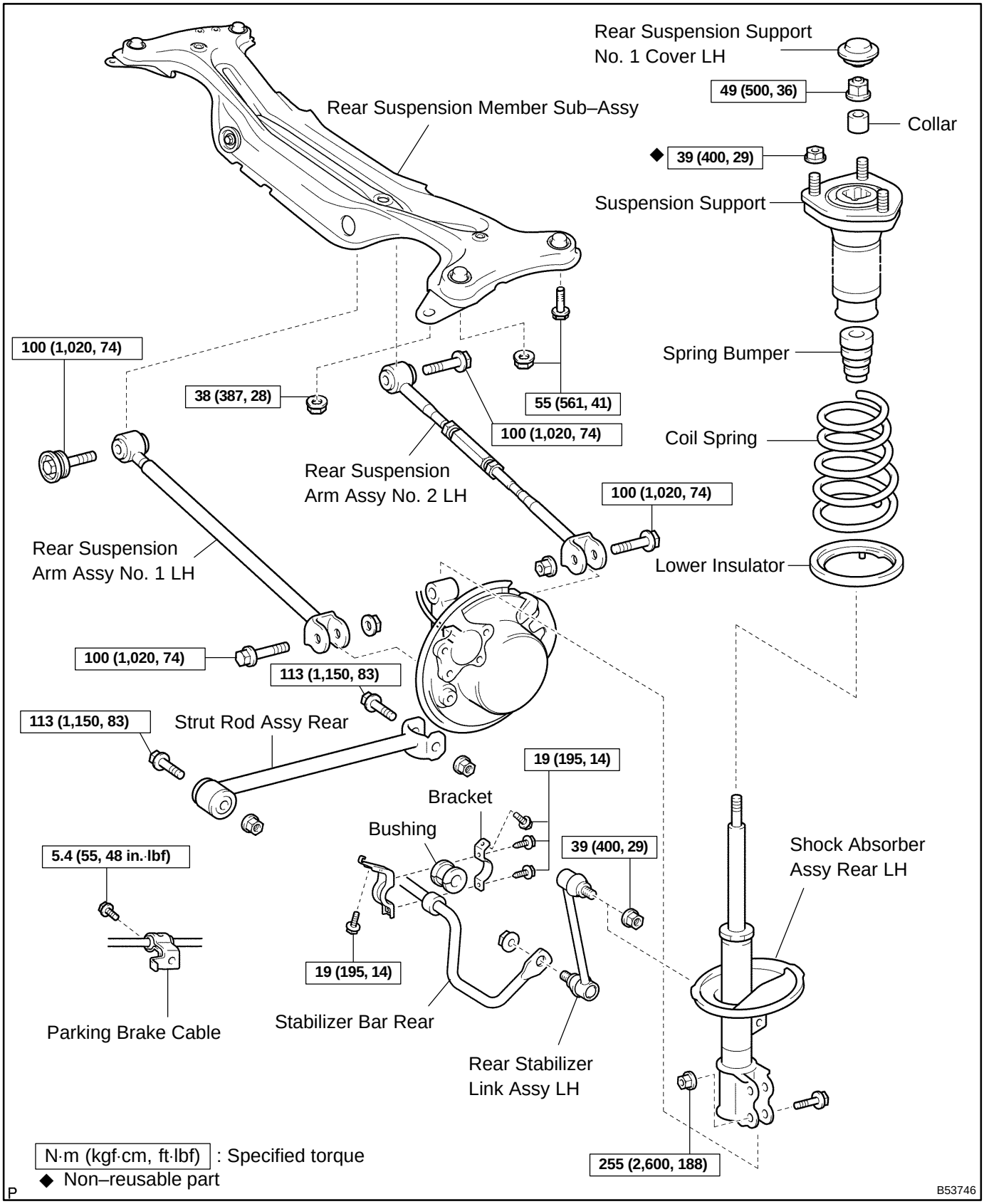
Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order. If necessary, replace these parts.

Symptom	Suspect Area	See page
Bottoming	1. Vehicle (Overloaded) 2. Spring (Weak) 3. Shock absorber (Worn)	– 27–4 27–4
Sways/pitches	1. Tire (Worn or improperly inflated) 2. Stabilizer bar (Bent or broken) 3. Shock absorber (Worn)	28–1 27–17 27–4
Rear wheel shimmy	1. Tire (Worn or improperly inflated) 2. Wheel (Out of balance) 3. Shock absorber (Worn) 4. Wheel alignment (Incorrect) 5. Hub bearing (Worn)	28–1 28–1 27–4 26–5 27–3 30–2
Abnormal tire wear	1. Tire (Worn or improperly inflated) 2. Wheel alignment (Incorrect) 3. Shock absorber (Worn) 4. Suspension parts (Worn)	28–1 26–5 27–3 27–4 –

REAR SUSPENSION

COMPONENTS

2704V–02



REAR WHEEL ALIGNMENT

2704P–02

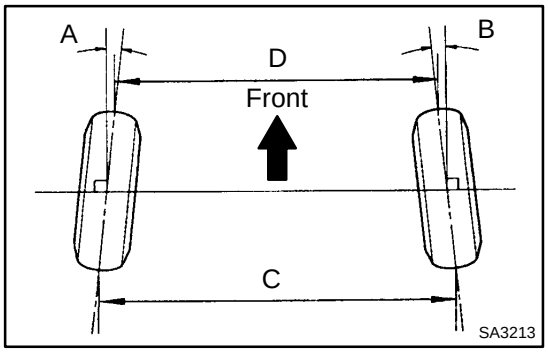
ADJUSTMENT

1. INSPECT TIRE(See page 28–1)

2. MEASURE VEHICLE HEIGHT(See page 26–5)

NOTICE:

Before inspecting the wheel alignment, adjust the vehicle height to the specified value.

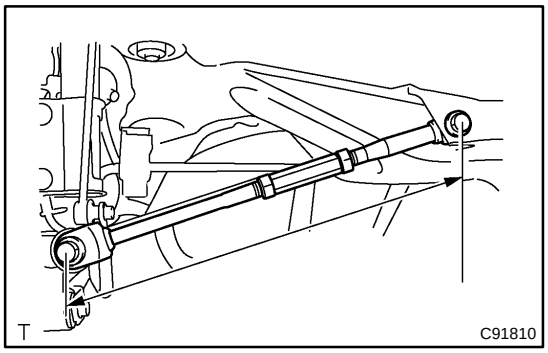


3. INSPECT TOE–IN

Toe–in:

Toe–in (total)	A + B: 0°22' ± 11' (0.4° ± 0.2°) C – D: 4 ± 2 mm (0.16 ± 0.08 in.)

If the toe–in is not within the specified value, inspect and replace the suspension parts if necessary.

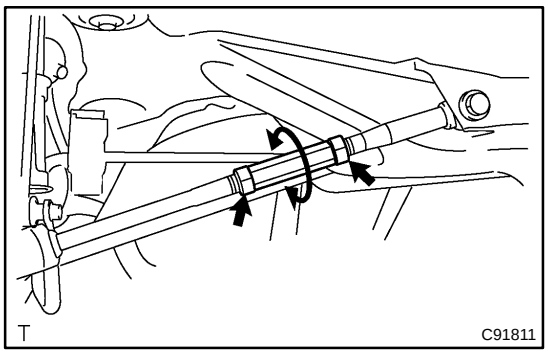


4. ADJUST TOE–IN

(a) Measure the lengths of the right and left No. 2 lower suspension arms.

No. 2 lower suspension arm length difference:
1.0 mm (0.039 in.) or less

If the left–right difference is larger than 1.0 mm (0.039 in.), adjust it by following the procedures below.



(b) Loosen the lock nuts.

(c) Turn the right and left adjusting tube by an equal amount to adjust toe–in.

HINT:

- Try to adjust the toe–in to the center value.
- One turn of the each adjusting tube will adjust the toe–in by approximately 67' (1°12', 10.8 mm, 0.425 in.).

(d) Torque the lock nut.

Torque: 56 N·m (570 kgf·cm, 41 ft·lbf)

5. INSPECT CAMBER

	USA, Canada	Mexico
Camber	–1°16' ± 45' (–1.27° ± 0.75°)	–1°09' ± 45' (–1.15° ± 0.75°)
Right–left error	45' (0.75°) or less	45' (0.75°) or less

HINT:

Camber is not adjustable. If the measurement is not within the specification, inspect the suspension parts for damaged and/or worn–out parts and replace them if necessary.

SHOCK ABSORBER ASSY REAR LH

2705Y–01

REPLACEMENT

HINT:
COMPONENTS: See page 27–2

1. REMOVE REAR WHEEL

2. REMOVE REAR SEAT CUSHION ASSY

(a) TMC made: (See page 72–34)
(b) TMMK made: (See page 72–38)

3. REMOVE REAR SIDE SEAT BACK ASSY RH

(a) TMC made: (See page 72–34)
(b) TMMK made: (See page 72–38)

4. REMOVE REAR SIDE SEAT BACK ASSY LH

HINT:
Remove the LH side by the same procedures with the RH side.

5. REMOVE ROOF SIDE GARNISH INNER RH
(See page 76–20)

6. REMOVE ROOF SIDE GARNISH INNER LH

HINT:
Remove the LH side by the same procedures with the RH side.

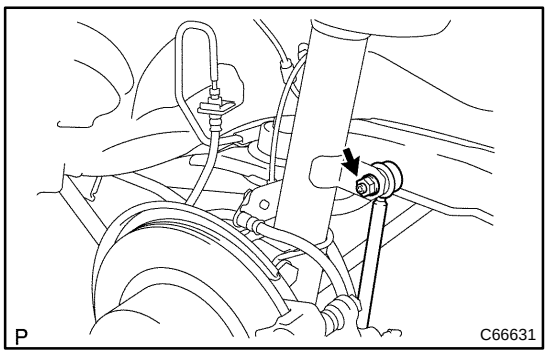
7. REMOVE CENTER STOP LAMP ASSY
(See page 65–16)

8. REMOVE PACKAGE TRAY TRIM PANEL ASSY

(a) TMC made: (See page 61–14)
(b) TMMK made: (See page 61–17)

9. REMOVE REAR SEAT 3 POINT TYPE BELT ASSY OUTER

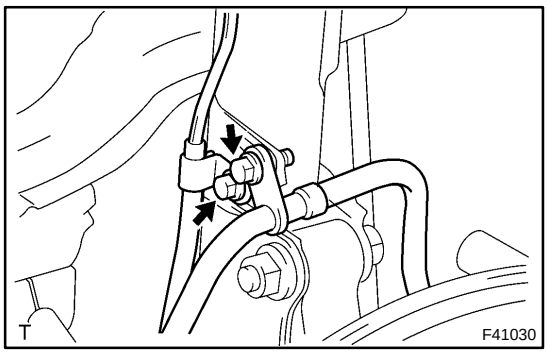
(a) TMC made: (See page 61–14)
(b) TMMK made: (See page 61–17)



10. SEPARATE REAR STABILIZER LINK ASSY LH

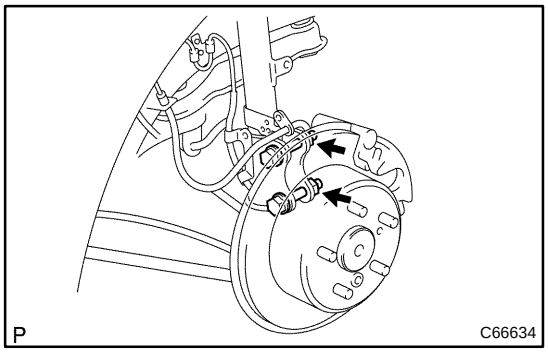
(a) Remove the nut and disconnect the stabilizer bar link from the shock absorber.

HINT:
If the ball joint turns together with the nut, use a hexagon (5 mm) wrench to hold the stud.



11. REMOVE REAR SHOCK ABSORBER WITH COIL SPRING

(a) Remove the 2 bolts, disconnect the flexible hose and ABS speed sensor wire harness from shock absorber.



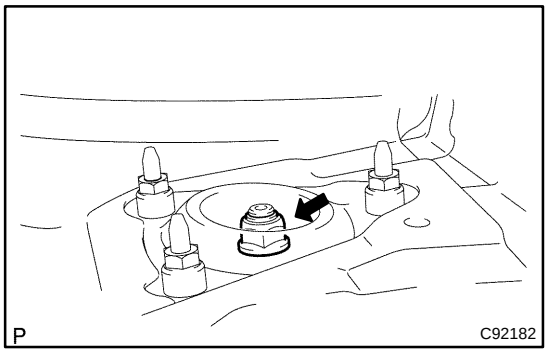
(b) Loosen the 2 nuts on the lower side of the shock absorber.

HINT:

Do not remove the 2 bolts.

(c) Support the rear axle carrier with a jack.

(d) Remove the rear suspension support No. 1 cover LH.



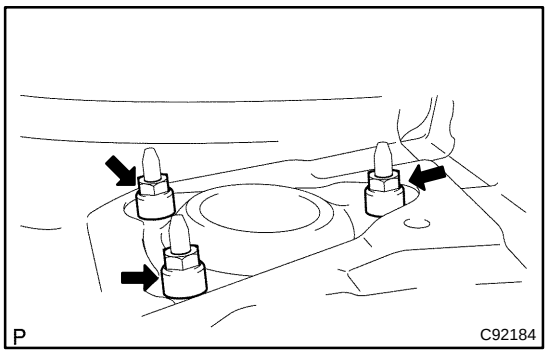
(e) Loosen the suspension support center nut.

NOTICE:

Do not remove the nut.

HINT:

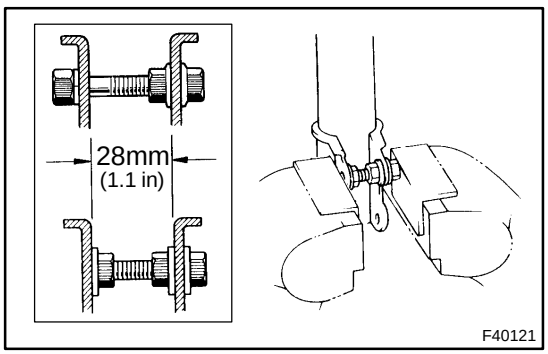
If not disassembling the rear shock absorber, it is not necessary to loosen the nut.



(f) Remove the 3 nuts of the suspension support.

(g) Lower the rear axle carrier and remove the 2 nuts and bolts on the lower side of the shock absorber.

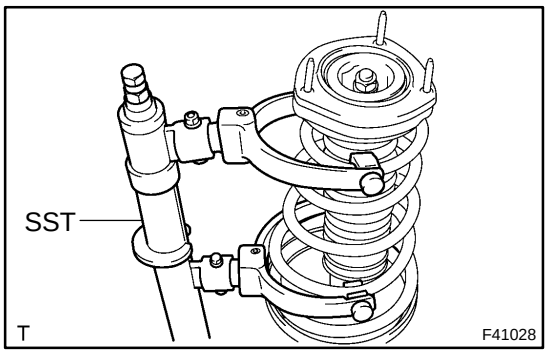
(h) Remove the shock absorber with the coil spring.



12. FIX REAR SHOCK ABSORBER WITH COIL SPRING

13. REMOVE SHOCK ABSORBER ASSY REAR LH

(a) Install 2 nuts and a bolt to the bracket at the lower part of the shock absorber, and secure it in a vise.



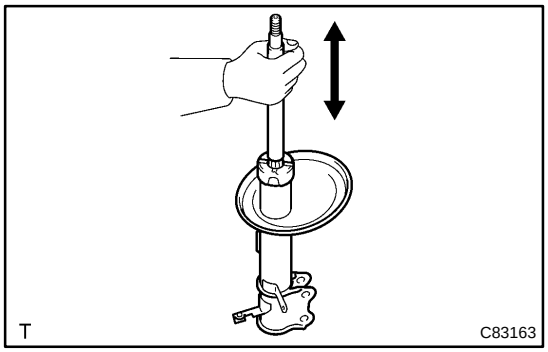
(b) Using SST, compress the coil spring.
SST 09727–30021

NOTICE:

Do not use an impact wrench. It will damage the SST.

(c) Remove the nut, collar and suspension support.

(d) Remove the coil spring, spring bumper and lower insulator.



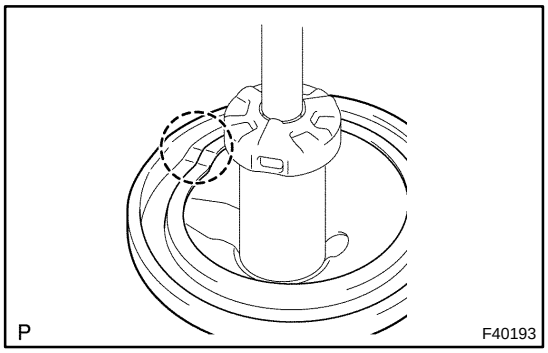
14. INSPECT SHOCK ABSORBER ASSY REAR LH

(a) Compress and extend the shock absorber rod, and check that there is no abnormal resistance or unusual operation sound.

If there is any abnormality, replace the shock absorber with a new one.

NOTICE:

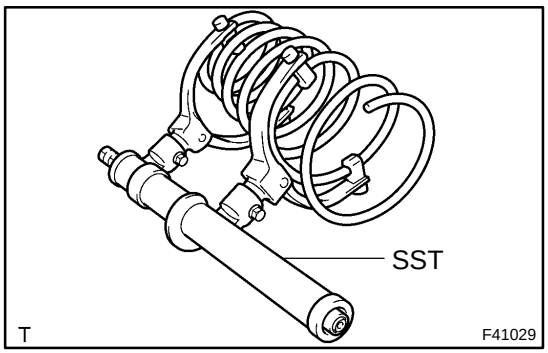
When disposing the shock absorber, see DISPOSAL on page 27–9.



15. INSTALL SHOCK ABSORBER ASSY REAR LH

(a) Install the spring bumper.

(b) Install the lower insulator, as shown in the illustration.



(c) Using SST, compress the coil spring.
SST 09727–30021

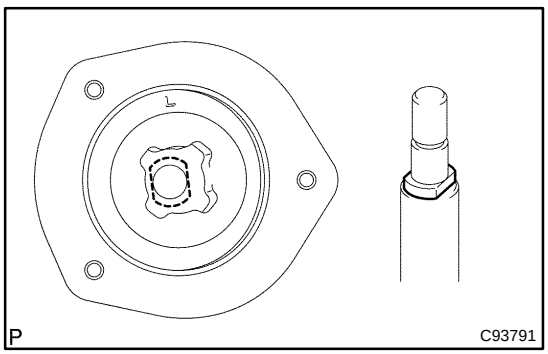
NOTICE:

Do not use an impact wrench. It will damage the SST.

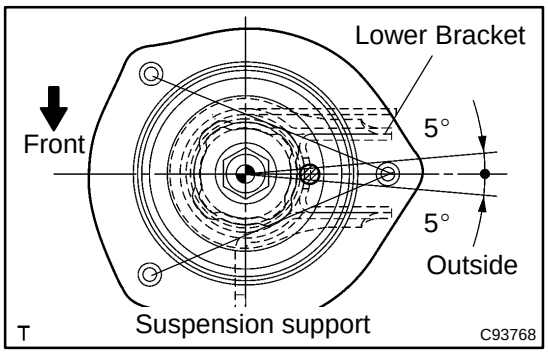
(d) Install the coil spring to the shock absorber.

HINT:

- Fit the lower end of the coil spring into the gap of the lower seat.

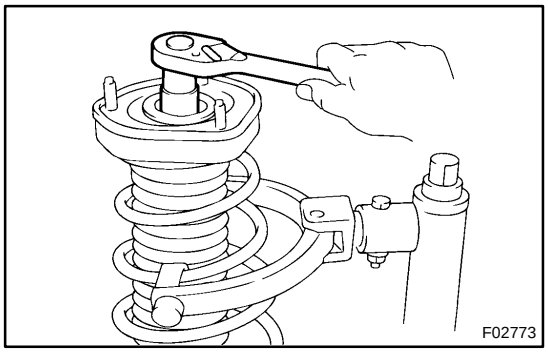


- Check that the 2 flat faces of the piston rod are positioned in parallel with the 2 flat faces of the rear suspension support.



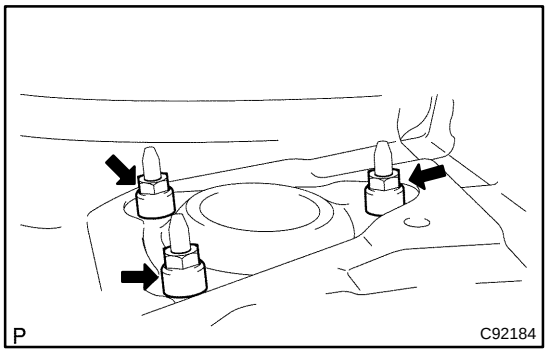
(e) Align the suspension support with the shock absorber lower bracket, as shown in the illustration.

HINT:
Set the suspension support so that the ribbed part of the suspension support faces out side.



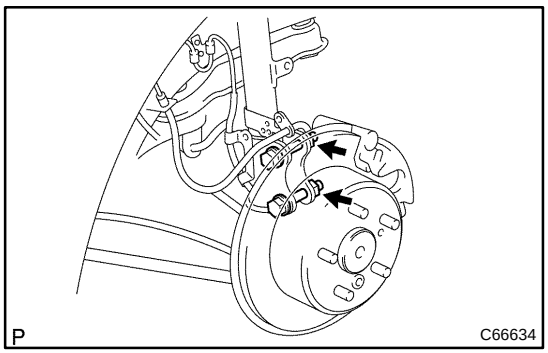
(f) Install the collar to the piston rod.
(g) Temporarily install a new nut.
(h) Remove the SST.
SST 09727–30021

HINT:
After removing SST, recheck the direction of the suspension support.



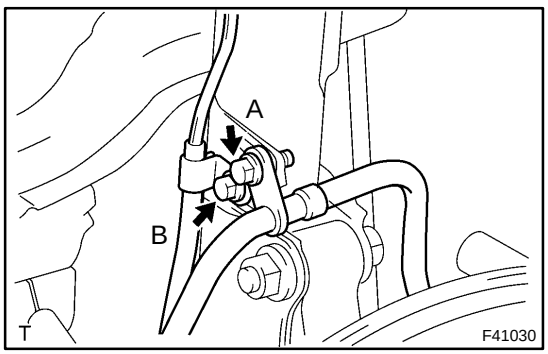
16. INSTALL REAR SHOCK ABSORBER WITH COIL SPRING

(a) Install the shock absorber with the coil spring and 3 nuts.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

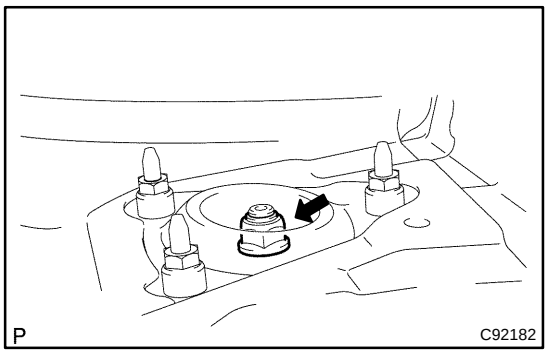


(b) Install the shock absorber with the coil spring, 2 bolts and nuts.
Torque: 255 N·m (2,600 kgf·cm, 188 ft·lbf)

HINT:
Keep the bolt fixed while tightening the nut.



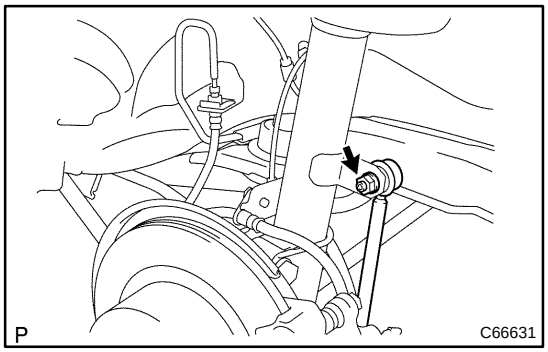
(c) Install the flexible hose and ABS speed sensor wire harness with the 2 bolts.
Torque:
A: Flexible hose: 19 N·m (194 kgf·cm, 14 ft·lbf)
B: ABS speed sensor wire harness:
5.5 N·m (56 kgf·cm, 49 in·lbf)



(d) Tighten the nut in the center of suspension support.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

HINT:
If the shock absorber has not been disassembled, it is necessary to torque the nut.

(e) Install the rear suspension support No. 1cover LH.



17. INSTALL REAR STABILIZER LINK ASSY LH

(a) Install the stabilizer bar link to the shock absorber with the nut.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

HINT:
If the ball joint turns together with the nut, use a hexagon (5 mm) wrench to hold the stud.

18. INSTALL REAR SEAT 3 POINT TYPE BELT ASSY OUTER

(a) TMC made: (See page 61–14)
(b) TMMK made: (See page 61–17)

19. INSTALL REAR SIDE SEAT BACK ASSY RH

(a) TMC made: (See page 72–34)
(b) TMMK made: (See page 72–38)

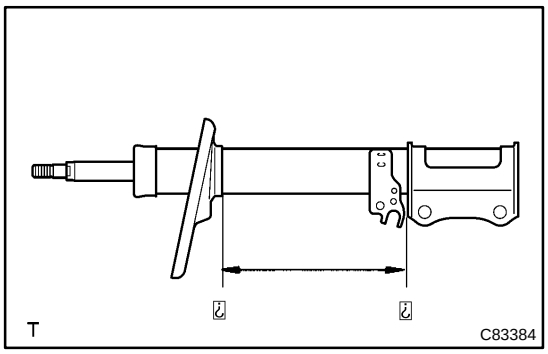
20. INSTALL REAR SIDE SEAT BACK ASSY LH

HINT:
Install the LH side by the same procedures with the RH side.

21. INSTALL REAR WHEEL
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

22. INSPECT REAR WHEEL ALIGNMENT(See page 27–3)

2701L–03



DISPOSAL

1. DISPOSE SHOCK ABSORBER ASSY REAR LH

(a) Fully extend the shock absorber rod.
(b) Using a drill, make a hole in the cylinder as shown in the illustration to discharge the gas inside.

CAUTION:

- **When drilling, chips may fly out, work carefully.**
- **The gas is colorless, odorless and non–poisonous.**

REAR SUSPENSION ARM ASSY NO.1 LH

2705Z–01

REPLACEMENT

HINT:

COMPONENTS: See page 27–2

1. REMOVE REAR WHEEL

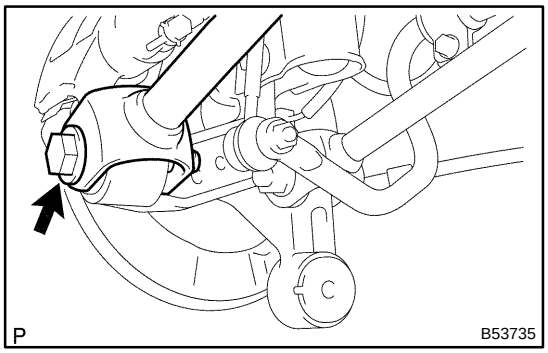
2. REMOVE EXHAUST PIPE ASSY CENTER

(a) 1MZ–FE engine: See page 15–5

(b) 2AZ–FE engine: See page 15–2

3. REMOVE STABILIZER BAR REAR
(See page 27–17)

4. SEPARATE STRUT ROD ASSY REAR
(See page 27–19)



5. SEPARATE REAR SUSPENSION ARM ASSY NO.2 LH

(a) Remove the bolt, nut and rear suspension arm No. 2 (outer side) from the rear carrier.

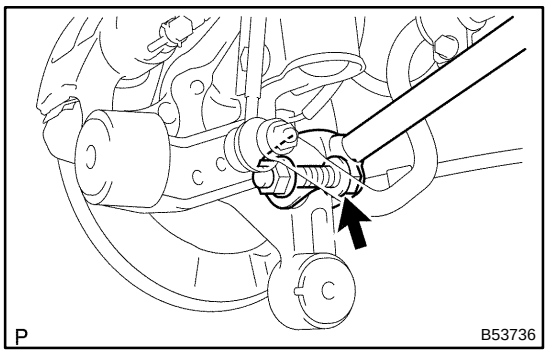
HINT:

Keep the nut fixed while loosening and removing the bolt.

6. SEPARATE REAR SUSPENSION ARM ASSY NO.2 RH

HINT:

Separate the RH side by the procedures with the LH side.



7. SEPARATE REAR SUSPENSION ARM ASSY NO.1 LH

(a) Remove the bolt, nut and rear suspension arm No. 1 (outer side) from rear axle carrier.

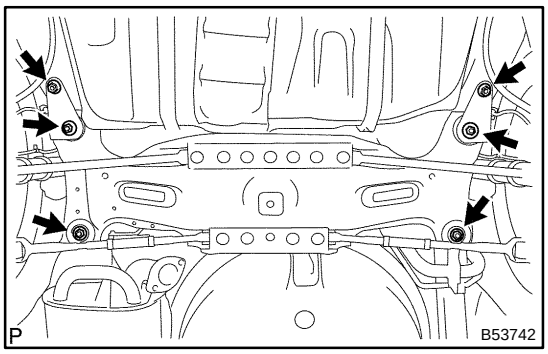
HINT:

Keep the nut fixed while loosening and removing the bolt.

8. SEPARATE REAR SUSPENSION ARM ASSY NO.1 RH

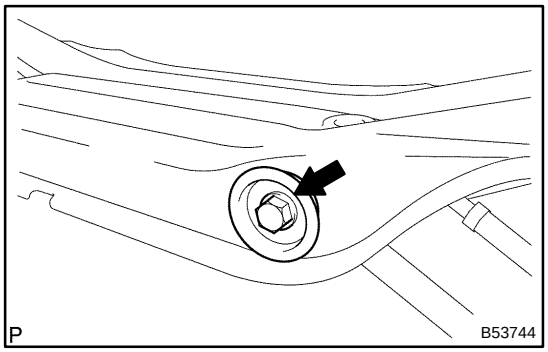
HINT:

Separate the RH side by the procedures with the LH side.



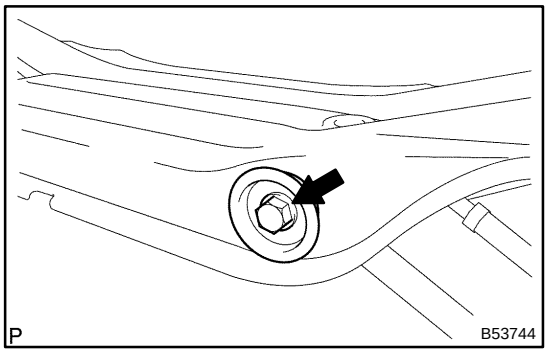
9. REMOVE REAR SUSPENSION MEMBER SUB–ASSY

(a) Support the rear suspension member with a jack.
(b) Remove the 4 nuts, 2 bolts and 4 retainers from the rear suspension member.



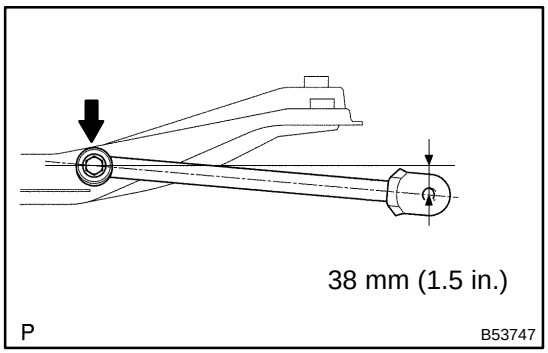
10. REMOVE REAR SUSPENSION ARM ASSY NO.1 LH

(a) Lower the rear suspension member.
(b) Remove the bolt and lower suspension arm No. 1.

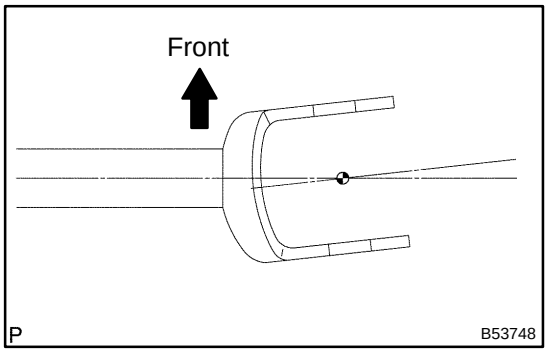


11. INSTALL REAR SUSPENSION ARM ASSY NO.1 LH

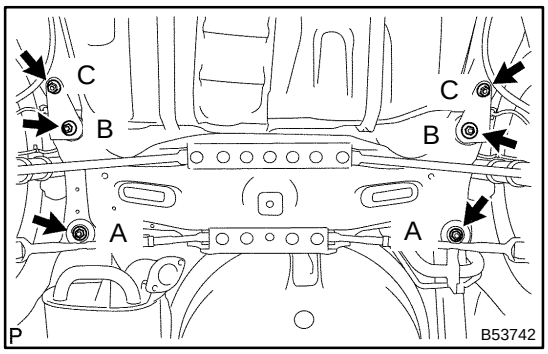
(a) Install the lower suspension No. 1 with the bolt, nut and temporary tighten the bolt.



(b) Set suspension arm in the position shown in the illustration and fully tighten the bolt.
Torque: 100 N·m (1,020 kgf·cm, 74 ft·lbf)

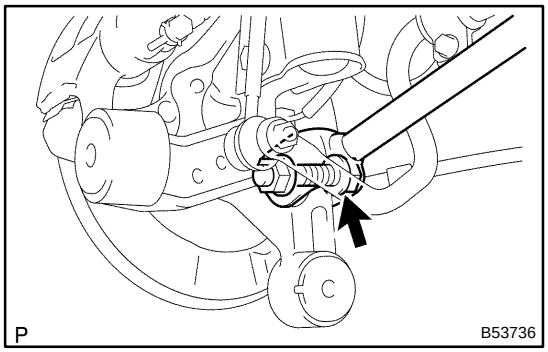


HINT:
Install the lower suspension No. 1 so that the bracket leans toward the front of the vehicle, as shown in the illustration.



12. INSTALL REAR SUSPENSION MEMBER SUB–ASSY

(a) Support the rear suspension member with a jack.
(b) Install the rear suspension member with the 4 nuts, 2 bolts and 4 retainers.
Torque:
A, B: 55 N·m (561 kgf·cm, 41 ft·lbf)
C: 38 N·m (387 kgf·cm, 28 ft·lbf)



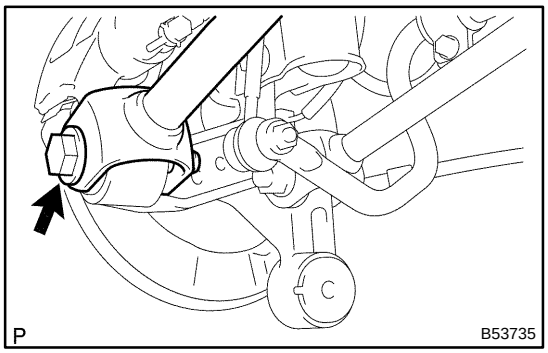
13. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 LH

(a) Connect the rear suspension arm No. 1 (outer side) to the rear axle carrier with the bolt and nut, and temporarily tighten the bolt and nut.

HINT:
Insert the bolt from the front side of the vehicle and temporarily install the bolt.

14. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 RH

HINT:
Temporarily tighten the RH side by the procedures with the LH side.



15. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 LH

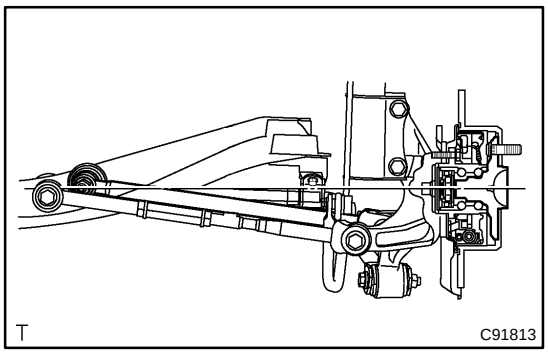
(a) Connect the rear suspension arm No. 2 (outer side) to the rear axle carrier with the bolt and nut, and temporarily tighten the bolt.

HINT:
Insert the bolt from the rear side of the vehicle and temporarily install the bolt.

16. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 RH

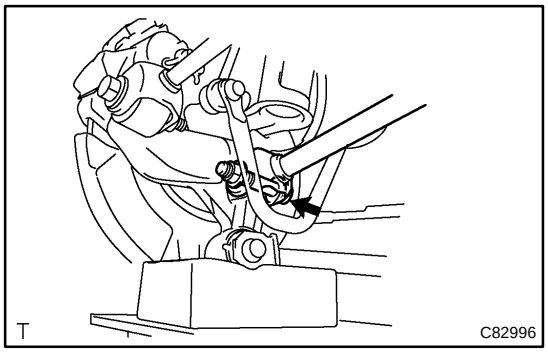
HINT:
Temporarily tighten the RH side by the procedures with the LH side.

17. TEMPORARY TIGHTEN STRUT ROD ASSY REAR
(See page 27–19)



18. STABILIZE SUSPENSION

(a) Jack up the rear axle carrier, placing a wood block between them. Apply load to the suspension so that the installed bolt of the suspension arm assy No. 1 (vehicle side) is horizontally aligned with the center of the rear axle hub.



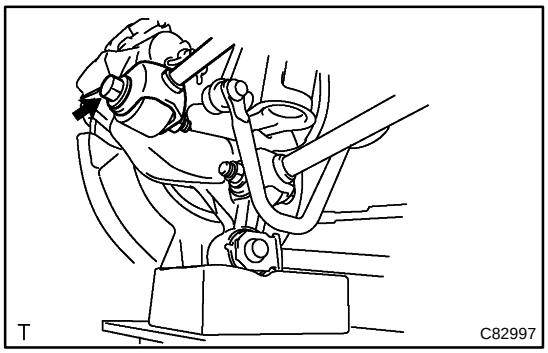
19. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 LH

(a) Fully tighten the bolt.
Torque: 100 N·m (1,020 kgf·cm, 74 ft·lbf)

HINT:
Keep the nut fixed while tightening the bolt.

20. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 RH

HINT:
Fully tighten the RH side by the procedures with the LH side.



21. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 LH

(a) Fully tighten the bolt.
Torque: 100 N·m (1,020 kgf·cm, 74 ft·lbf)

HINT:
Keep the nut fixed while tightening the bolt.

22. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 RH

HINT:
Fully tighten the RH side by the procedures with the LH side.

23. FULLY TIGHTEN STRUT ROD ASSY REAR
(See page 27–19)

24. INSTALL STABILIZER BAR REAR
(See page 27–17)

25. INSTALL EXHAUST PIPE ASSY CENTER

(a) 1MZ–FE engine: See page 15–5
(b) 2AZ–FE engine: See page 15–2

26. INSTALL REAR WHEEL
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

27. INSPECT REAR WHEEL ALIGNMENT(See page 27–3)

REAR SUSPENSION ARM ASSY NO.2 LH

27060–01

REPLACEMENT

HINT:
COMPONENTS: See page 27–2

1. REMOVE REAR WHEEL

2. REMOVE EXHAUST PIPE ASSY CENTER

(a) 1MZ–FE engine: See page 15–5
(b) 2AZ–FE engine: See page 15–2

3. REMOVE STABILIZER BAR REAR
(See page 27–17)

4. SEPARATE REAR SUSPENSION ARM ASSY NO.1 LH
(See page 27–10)

5. SEPARATE REAR SUSPENSION ARM ASSY NO.1 RH

HINT:
Separate the RH side by the procedures with the LH side.

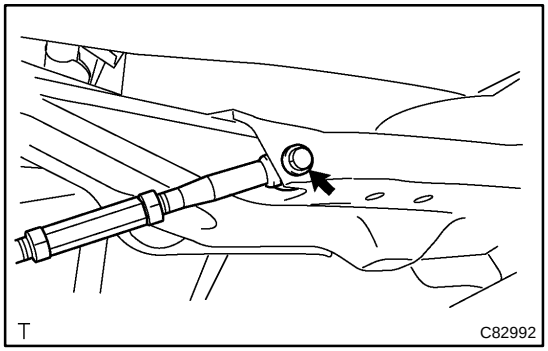
6. SEPARATE REAR SUSPENSION ARM ASSY NO.2 LH
(See page 27–14)

7. SEPARATE REAR SUSPENSION ARM ASSY NO.2 RH

HINT:
Separate the RH side by the procedures with the LH side.

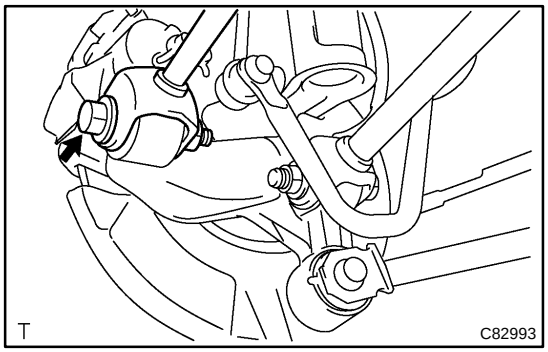
8. SEPARATE STRUT ROD ASSY REAR
(See page 27–19)

9. REMOVE REAR SUSPENSION MEMBER SUB–ASSY
(See page 27–10)



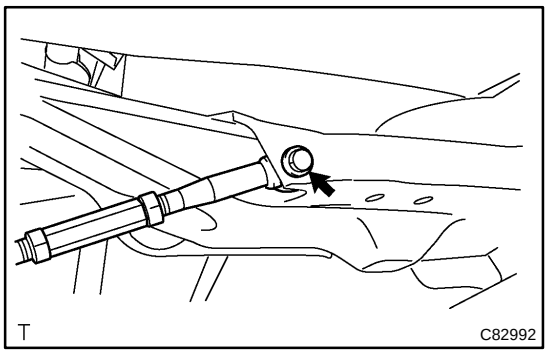
10. REMOVE REAR SUSPENSION ARM ASSY NO.2 LH

(a) Remove the bolt and disconnect the rear suspension arm No. 2 (inner side).



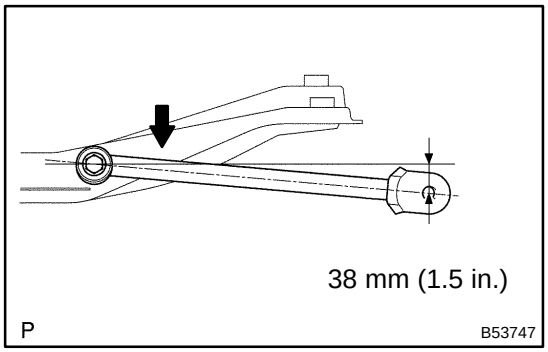
(b) Remove the bolt, nut and the rear suspension arm No. 2 (outer side) from rear axle carrier.

HINT:
Keep the nut fixed while loosening and removing the bolt.



11. INSTALL REAR SUSPENSION ARM ASSY NO.2 LH

(a) Install the rear suspension arm No. 2 (inner side) with the bolt and temporarily tighten the bolt.



(b) Set the suspension arm in the position in the illustration and fully tighten the bolt.
Torque: 100 N·m (1,020 kgf·cm, 74 ft·lbf)

12. INSTALL REAR SUSPENSION MEMBER SUB–ASSY
(See page 27–10)
13. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 LH
(See page 27–10)
14. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 RH

HINT:
Temporarily tighten the RH side by the procedures with the LH side.

15. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 LH
(See page 27–14)
16. TEMPORARY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 RH

HINT:
Temporarily tighten the RH side by the procedures with the LH side.

17. TEMPORARY TIGHTEN STRUT ROD ASSY REAR
(See page 27–19)
18. INSTALL STABILIZER BAR REAR
(See page 27–17)
19. STABILIZE SUSPENSION(See page 27–10)
20. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 LH
(See page 27–10)
21. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 RH

HINT:
Fully tighten the RH side by the procedures with the LH side.

22. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 LH
(See page 27–14)

23. FULLY TIGHTEN REAR SUSPENSION ARM ASSY NO.2 RH

HINT:
Fully tighten the RH side by the procedures with the LH side.

24. FULLY TIGHTEN STRUT ROD ASSY REAR
(See page 27–19)

25. INSTALL EXHAUST PIPE ASSY CENTER

(a) 1MZ–FE engine: See page 15–5
(b) 2AZ–FE engine: See page 15–2

26. INSTALL REAR WHEEL
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

27. INSPECT REAR WHEEL ALIGNMENT(See page 27–3)

STABILIZER BAR REAR

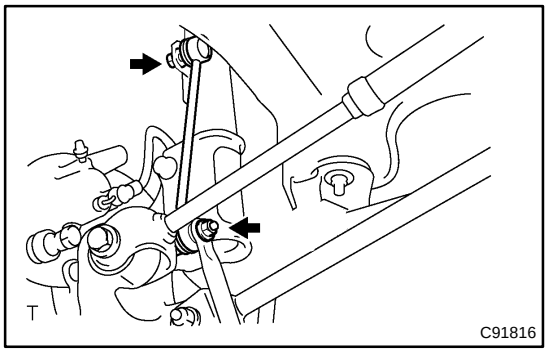
REPLACEMENT

27061–01

HINT:

COMPONENTS: See page 27–2

1. REMOVE REAR WHEEL



2. REMOVE REAR STABILIZER LINK ASSY LH

(a) Remove the 2 nuts and stabilizer bar link.

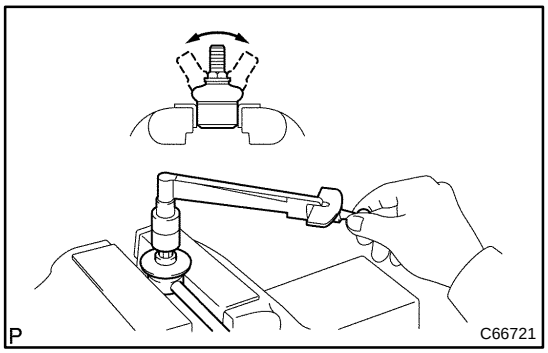
HINT:

If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud.

3. REMOVE REAR STABILIZER LINK ASSY RH

HINT:

Remove the RH side by the same procedures with the LH side.



4. INSPECT REAR STABILIZER LINK ASSY LH

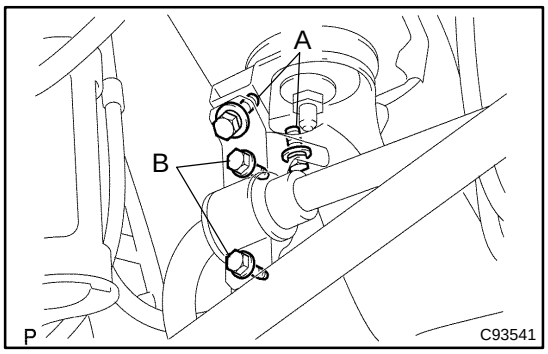
(a) As shown in the illustration, flip the ball joint stud back and forth 5 times, before installing the nut.

(b) Using a torque wrench, turn the nut continuously at a rate of 2 – 4 seconds per 1 turn and take the torque reading on the 5th turn.

Turning torque:
0.05 – 1.0 N·m (0.5 – 10 kgf·cm, 0.4 – 8.7 in.·lbf)

5. REMOVE STABILIZER BAR REAR

(a) Remove the 8 bolts, 2 No. 1 brackets and 2 bushings.

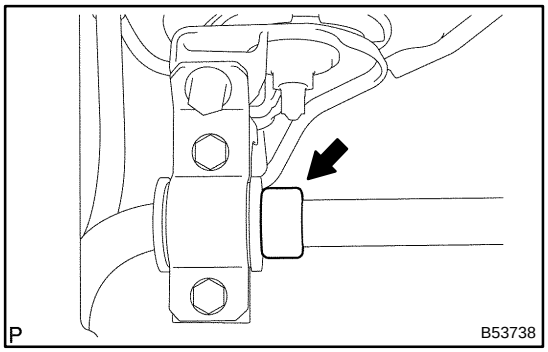


6. INSTALL STABILIZER BAR REAR

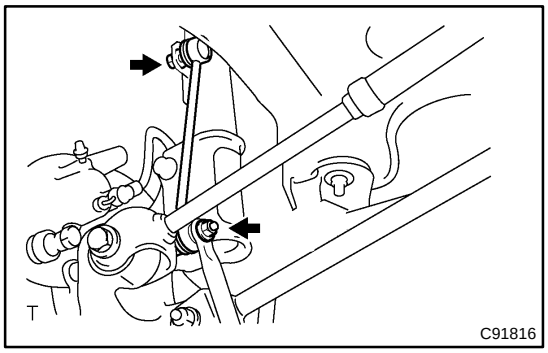
(a) Install the bushing and bracket with the 4 bolts (LH side).
Torque: 19 N·m (195 kgf·cm, 14 ft·lbf)

HINT:

- 2 types of bolts (A, B) are used, so make sure the correct bolts are installed.



- Install the bushing to the inner side of the bushing stopper on the stabilizer bar.



7. INSTALL REAR STABILIZER LINK ASSY LH

(a) Remove the 2 nuts and stabilizer bar link.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

HINT:

If the ball joint turns together with the nut, use a hexagon (5 mm) wrench to hold the stud.

8. INSTALL REAR STABILIZER LINK ASSY RH

HINT:

Install the RH side by the same procedures with the LH side.

9. INSTALL REAR WHEEL

Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

STRUT ROD ASSY REAR

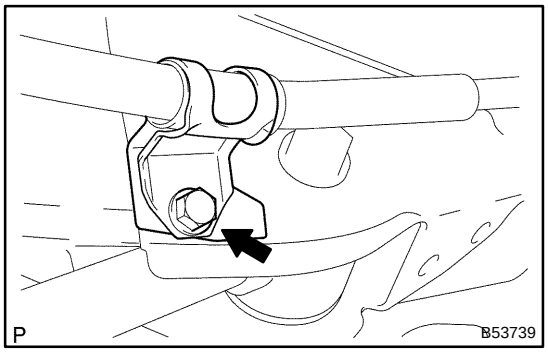
REPLACEMENT

2704T–02

HINT:

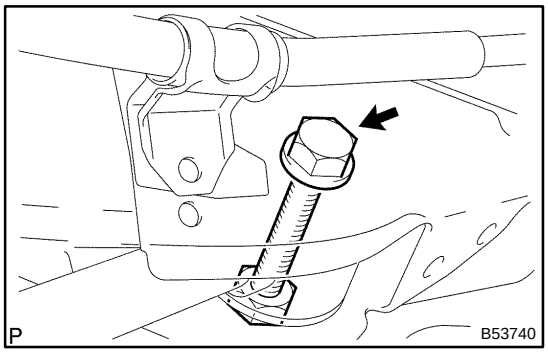
COMPONENTS: See page 27–2

1. REMOVE REAR WHEEL



2. REMOVE STRUT ROD ASSY REAR

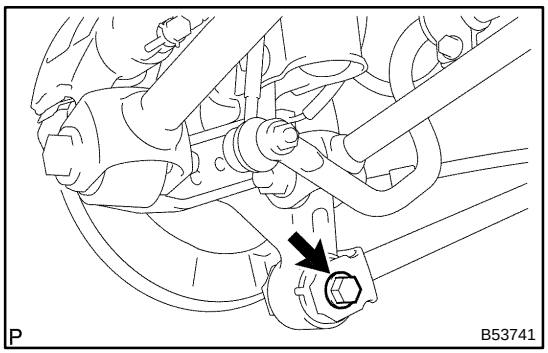
(a) Remove the bolt, nut and disconnect the parking brake cable.



(b) Remove the bolt, nut and disconnect the strut rod (front side).

HINT:

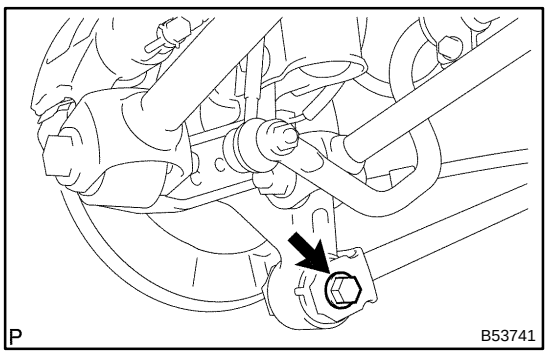
Keep the nut fixed while loosening and removing the bolt.



(c) Remove the bolt, nut and strut rod from rear axle carrier.

HINT:

Keep the nut fixed while loosening and removing the bolt.

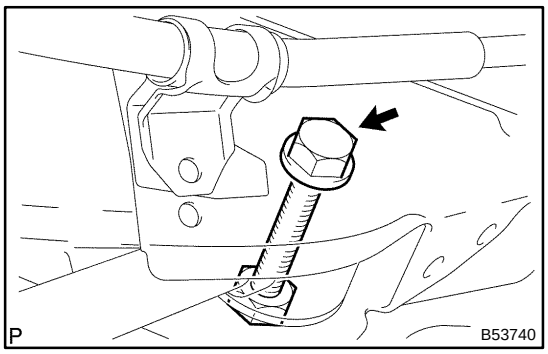


3. TEMPORARY TIGHTEN STRUT ROD ASSY REAR

(a) Install the strut rod (rear side), bolt nut and temporarily tighten the bolt.

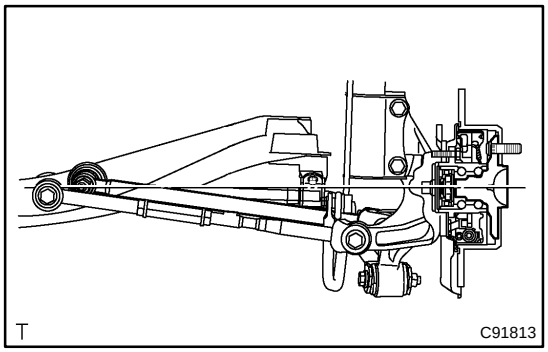
HINT:

- Insert the bolt from the inner side of the vehicle and temporarily install the bolt.
- Keep the nut fixed while tightening the bolt.



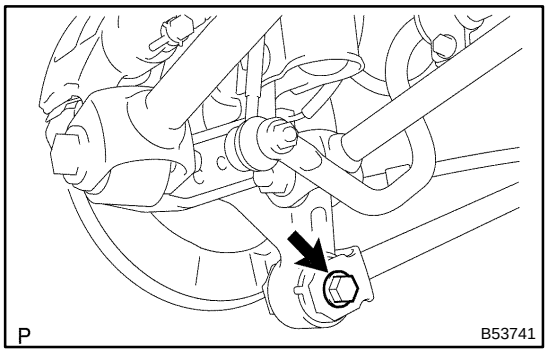
(b) Connect the strut rod (inner side) with the bolt.
Torque: 113 N·m (1,150 kgf·cm, 83 ft·lbf)

HINT:
Keep the nut fixed while tightening the bolt.



4. STABILIZE SUSPENSION

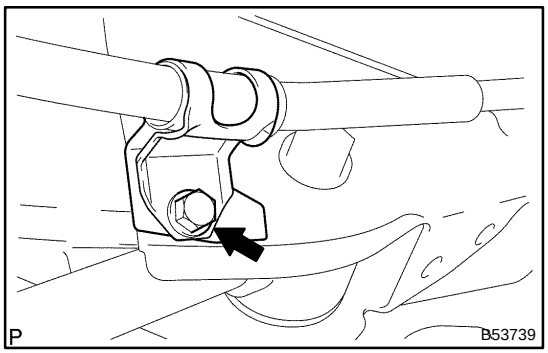
(a) Jack up the rear axle carrier, placing a wood block between them. Apply load to the suspension so that the installed bolt of the suspension arm assy No. 1 (vehicle side) is horizontally aligned with the center of the rear axle hub.



5. FULLY TIGHTEN STRUT ROD ASSY REAR

(a) Fully tighten the bolt.
Torque: 113 N·m (1,152 kgf·cm, 83 ft·lbf)

HINT:
Keep the nut fixed while tightening the bolt.



(b) Install the parking brake cable with the bolt and nut.
Torque: 5.4 N·m (55 kgf·cm, 48 in.·lbf)

6. INSTALL REAR WHEEL
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

7. INSPECT REAR WHEEL ALIGNMENT(See page 27–3)