

SUSPENSION – SUSPENSION SYSTEM**SP-1****SUSPENSION SYSTEM****PROBLEM SYMPTOMS TABLE**

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

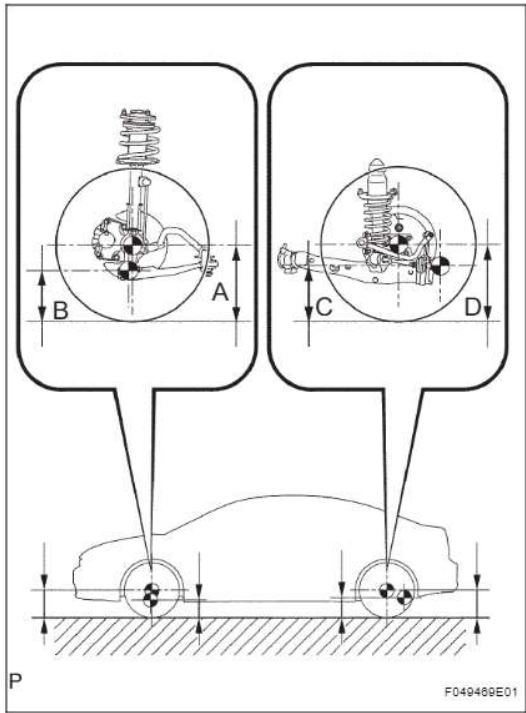
Symptom	Suspected Area	See page
Vehicle/pulls	1. Tire (worn or improperly inflated)	TW-3
	2. Wheel alignment (incorrect), for front	SP-2
	3. Wheel alignment (incorrect), for rear	SP-9
	4. Steering linkage (loose or worn)	-
	5. Hub bearing (worn)	AH-6
	6. Steering gear (out of adjustment or broken)	PS-3
	7. Suspension parts (worn)	-
Bottoming	1. Vehicle (overloaded)	-
	2. Spring (weak), for front	SP-16
	3. Spring (weak), for rear	SP-35
	4. Shock absorber (worn), for front	SP-16
	5. Shock absorber (worn), for rear	SP-35
Sway/pitches	1. Tire (worn or improperly inflated)	TW-3
	2. Stabilizer bar (bent or broken), for front	SP-29
	3. Stabilizer bar (bent or broken), for rear	SP-55
	4. Shock absorber (worn), for front	SP-16
	5. Shock absorber (worn), for rear	SP-35
Wheel shimmy	1. Tire (worn or improperly inflated)	TW-3
	2. Wheel (out of balance)	TW-3
	3. Shock absorber (worn), for front	SP-16
	4. Shock absorber (worn), for rear	SP-35
	5. Wheel alignment (incorrect), for front	SP-2
	6. Wheel alignment (incorrect), for rear	SP-9
	7. Ball joint (worn)	SP-25
	8. Hub bearing (worn)	AH-6
	9. Steering linkage (loose or worn)	-
	10. Steering gear (out of adjustment or broken)	PS-24
Abnormal tire wear	1. Tire (worn or improperly inflated)	TW-3
	2. Wheel alignment (incorrect), for front	SP-2
	3. Wheel alignment (incorrect), for rear	SP-9
	4. Shock absorber (worn), for front	SP-16
	5. Shock absorber (worn), for rear	SP-35
	6. Suspension parts (worn)	-

SP

FRONT WHEEL ALIGNMENT

ADJUSTMENT

- 1. INSPECT TIRE
 - (a) Inspect tire (see page TW-3).
- 2. MEASURE VEHICLE HEIGHT
 - Standard vehicle height



Item	Specified Condition
Front A - B	92 mm (3.62 in.)
Rear D - C	63 mm (2.48 in.)

Measuring points:

- A:
Ground clearance of front wheel center
- B:
Ground clearance of lower suspension arm front bolt center
- C:
Ground clearance of tie rod set bolt center
- D:
Ground clearance of rear wheel center

NOTICE:

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

HINT:

Bounce the vehicle at the corners to stabilize the suspension and inspect the vehicle height.

- 3. INSPECT TOE-IN
 - Standard toe-in

Item	Specified Condition
Toe-in (total)	A + B: 0° +/- 12' (0° +/- 0.2°) C - D: 0 +/- 2 mm (0 +/- 0.08 in.)

HINT:

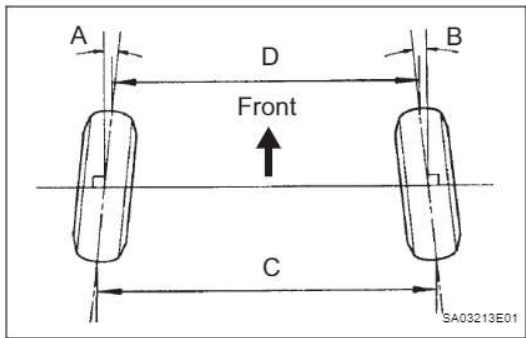
- Measure "C - D" only when "A + B" cannot be measured.
- If the toe-in is not within the specified range, adjust it at the rack ends.

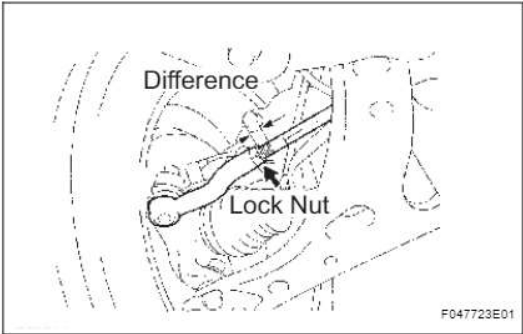
- 4. ADJUST TOE-IN

- (a) Measure the thread lengths of the right and left rack ends.

Rack end length difference:
1.5 mm (0.059 in.) or less

- (b) Remove the rack boot set clips.
- (c) Loosen the tie rod end lock nuts.
- (d) Adjust the rack ends if the difference in thread length between the right and left rack ends is not within the specified range.
 - (1) Extend the shorter rack end if the measured toe-in deviates toward the outer side.
 - (2) Shorten the longer rack end if the measured toe-in deviates toward the inner side.





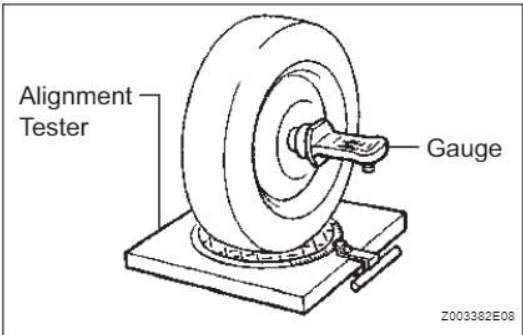
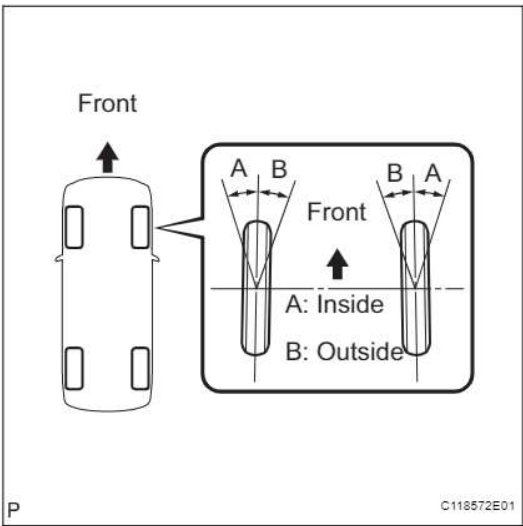
- (e) Turn the right and left rack ends in opposite directions an equal amount to adjust toe-in.
HINT:
Try to adjust toe-in to the center of the specified range.
- (f) Make sure that the lengths of the right and left rack ends are the same.
Standard rack end length difference:
0 +/- 1 mm (0.0039 in.)
- (g) Torque the tie rod ends lock nuts.
Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)
NOTICE:
Temporarily tighten the lock nut while holding the hexagonal part of the steering rack ends so that the lock nut and the steering rack end do not turn together. Hold the width across flat of the tie rod end and tighten the lock nut.
- (h) Place the boots on the seats and install the clips.
HINT:
Make sure that the boots are not twisted.

5. INSPECT WHEEL ANGLE

- (a) Turn the steering wheel fully to the left and right and measure the turning angle.
Standard wheel turning angle

Item	Specified Condition
Inside wheel	38°12' +/- 12' (38.20° +/- 2°)
Outside wheel (reference)	32°49' (32.82°)

If the right and left inside wheel angles differ from the specified range, check the right and left rack end lengths.



6. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION

- (a) Put the front wheel on the center of the alignment tester.
- (b) Remove the center ornament.
- (c) Install the camber-caster-steering axis inclination gauge at the center of the axle hub or drive shaft.
- (d) Inspect the camber, caster and steering axis inclination.
Standard camber, caster and steering axis inclination

Item	Specified Condition
Camber Right-left error	-0°31' +/- 45' (-0.52° +/- 0.75°) 45' (0.75°) or less
Caster Right-left error	3°02' +/- 45' (3.03° +/- 0.75°) 45' (0.75°) or less

Item	Specified Condition
Steering axis inclination	12°31' +- 45' (12.52° +- 0.75°)
Right-left error	45' (0.75°) or less

NOTICE:

- Inspect while the vehicle is empty (without the spare tire or tools).
- The maximum tolerance of right and left difference for the camber and caster is 45' or less.

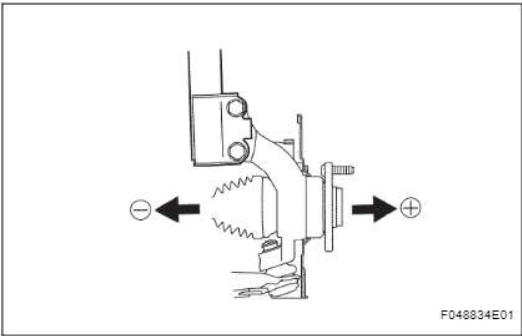
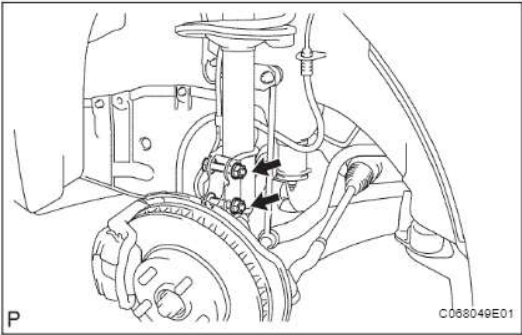
- (e) Remove the camber-caster-steering axis inclination gauge and attachment.
- (f) Install the center ornament.
- If the caster and steering axis inclination are not within the specified range after the camber has been correctly adjusted, recheck the suspension parts for damage and/or wear.

7. ADJUST CAMBER

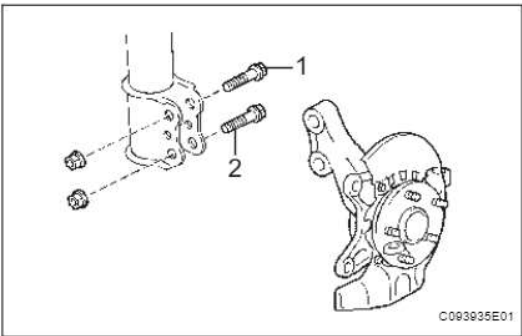
HINT:

After the camber has been adjusted, inspect to toe-in.

- (a) Remove the front wheel.
- (b) Remove the 2 nuts on the lower side of the shock absorber assembly front LH.
- (c) Clean the installation surfaces of the shock absorber assembly front LH and the steering knuckle.
- (d) Temporarily install the 2 nuts (Step A).



- (e) Fully push or pull the front axle hub in the direction of the required adjustment (Step B).
- (f) Tighten the nuts.
- Torque: 240 N*m (2,450 kgf*cm, 177 ft.*lbf)**
- (g) Install the front wheel.
- Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)**



- (h) Check the camber.
- If the measured value is within the specified range, calculate the required adjustment amount using the formula below.

Camber adjustment amount:

Center of the specified range - Measured value

SUSPENSION – FRONT WHEEL ALIGNMENT

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- (i) Check installed bolts combination. Select appropriate bolts from the table below to adjust the camber within the specified range.

Standard selection table

Item	Selection Table
Move the axle toward (+) in step (B)	Refer to table (1) (Move the axle toward positive side)
Move the axle toward (-) in step (B)	Refer to table (2) (Move the axle toward positive side)

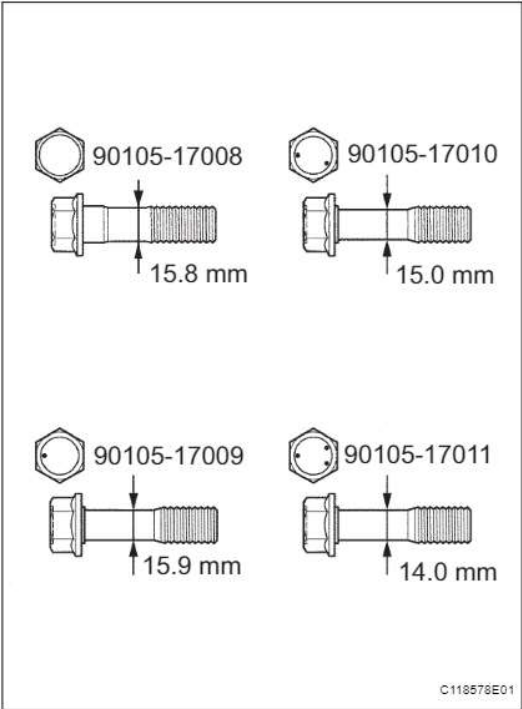
Table (1):
Move the axle toward positive side

Installed Bolt Adjusting Value	1							
	2							
−1°30' to −1°15'								G
−1°15' to −1°00'							G	A
−1°00' to −0°45'						G	A	B
−0°45' to −0°30'					G	A	B	C
−0°30' to −0°15'				G	A	B	C	D
−0°15' to 0°		G	A	B	C	D	E	
0° to 0°15'	A	B	C	D	E	F		
0°15' to 0°30'	B	C	D	E	F			
0°30' to 0°45'	C	D	E	F				
0°45' to 1°00'	D	E	F					
1°00' to 1°15'	E	F						
1°15' to 1°30'	F							

	A	B	C	D	E	F	G
1							
2							

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SUSPENSION – FRONT WHEEL ALIGNMENT



The body and suspension may be damaged if the camber is not correctly adjusted according to the above table.

NOTICE:

Replace the nut with a new one when replacing the bolt.

- (j) Repeat the steps mentioned above. At step (A), replace 1 or 2 selected bolts.

HINT:

Replace 1 bolt at a time when replacing 2 bolts.

Table (2):

Move the axle toward negative side

SUSPENSION – FRONT WHEEL ALIGNMENT

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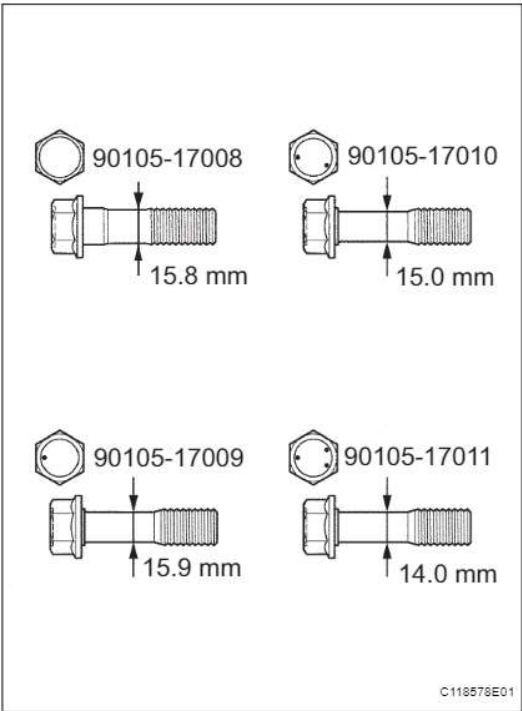
Installed Bolt Adjusting Value	1							
	2							
		90105-17008	90105-17008	90105-17008	90105-17008	90105-17009	90105-17010	90105-17011
		90105-17008	90105-17009	90105-17010	90105-17011	90105-17011	90105-17011	90105-17011
−1°30' to −1°15'	F							
−1°15' to −1°00'	E	F						
−1°00' to −0°45'	D	E	F					
−0°45' to −0°30'	C	D	E	F				
−0°30' to −0°15'	B	C	D	E	F			
−0°15' to 0°	A	B	C	D	E	F		
0° to 0°15'		G	A	B	C	D	E	
0°15' to 0°30'			G	A	B	C	D	
0°30' to 0°45'				G	A	B	C	
0°45' to 1°00'					G	A	B	
1°00' to 1°15'						G	A	
1°15' to 1°30'							G	

	A	B	C	D	E	F	G
1							
	90105-17008	90105-17008	90105-17008	90105-17009	90105-17010	90105-17011	90105-17008
2							
	90105-17009	90105-17010	90105-17011	90105-17011	90105-17011	90105-17011	90105-17008

SP

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SUSPENSION – FRONT WHEEL ALIGNMENT



The body and suspension may be damaged if the camber is not correctly adjusted according to the above table.

NOTICE:

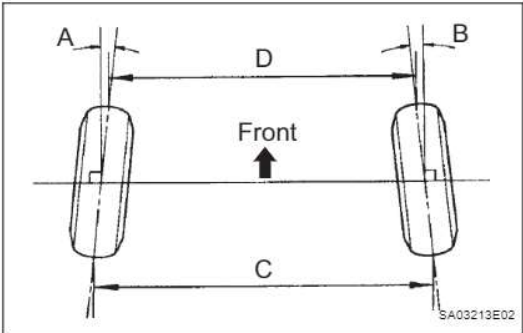
Replace the nut with a new one when replacing the bolt.

- (k) Replace 1 bolt at a time when replacing 2 bolts.

REAR WHEEL ALIGNMENT

ADJUSTMENT

1. INSPECT TIRE
- (a) Inspect the tire (see page TW-3).
2. MEASURE VEHICLE HEIGHT
- (a) Measure the vehicle height (see page SP-2).
3. INSPECT TOE-IN
- Standard toe-in



Item	Specified Condition
Toe-in (total)	A + B: 0°18' +/- 12' (0.3° +/- 0.2°) C + D: 3.0 +/- 2.0 mm (0.12 +/- 0.08 in.)

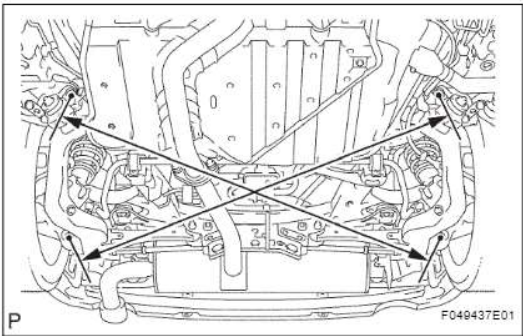
If the toe-in is not within the specified range, inspect the suspension parts and replace them if necessary.

4. INSPECT CAMBER
- (a) Install the camber-caster-kingpin gauge or position the vehicle on the wheel alignment tester.
- (b) Inspect the camber.
- Standard camber

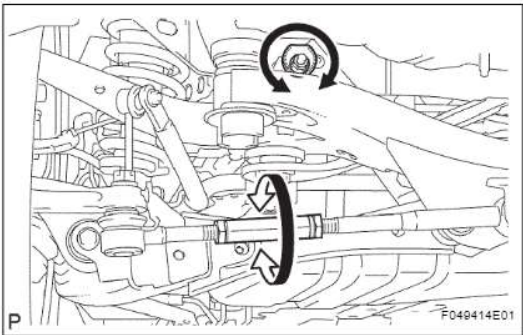
Item	Specified Condition
Camber Right-left error	-0°56' +/- 30' (-0.9° +/- 0.5°) 30' (0.5°) or less

If the measured value is not within the specified range, inspect the suspension parts for damage and/or wear and replace them if necessary because camber is not adjustable.

5. ADJUST CAMBER AND TOE-IN
- (a) Measure the distance from the LH rear suspension arm bracket set bolt to the RH rear axle carrier rear side set bolt as shown in the illustration.
- (b) Measure the distance from the RH rear suspension arm bracket set bolt to the LH rear axle carrier rear side set bolt as shown in the illustration.



Standard length difference:
6.0 mm (0.236 in.) or less
If the difference exceeds the specified value, adjust it by turning the camber adjusting cam and tie rod adjusting tube.



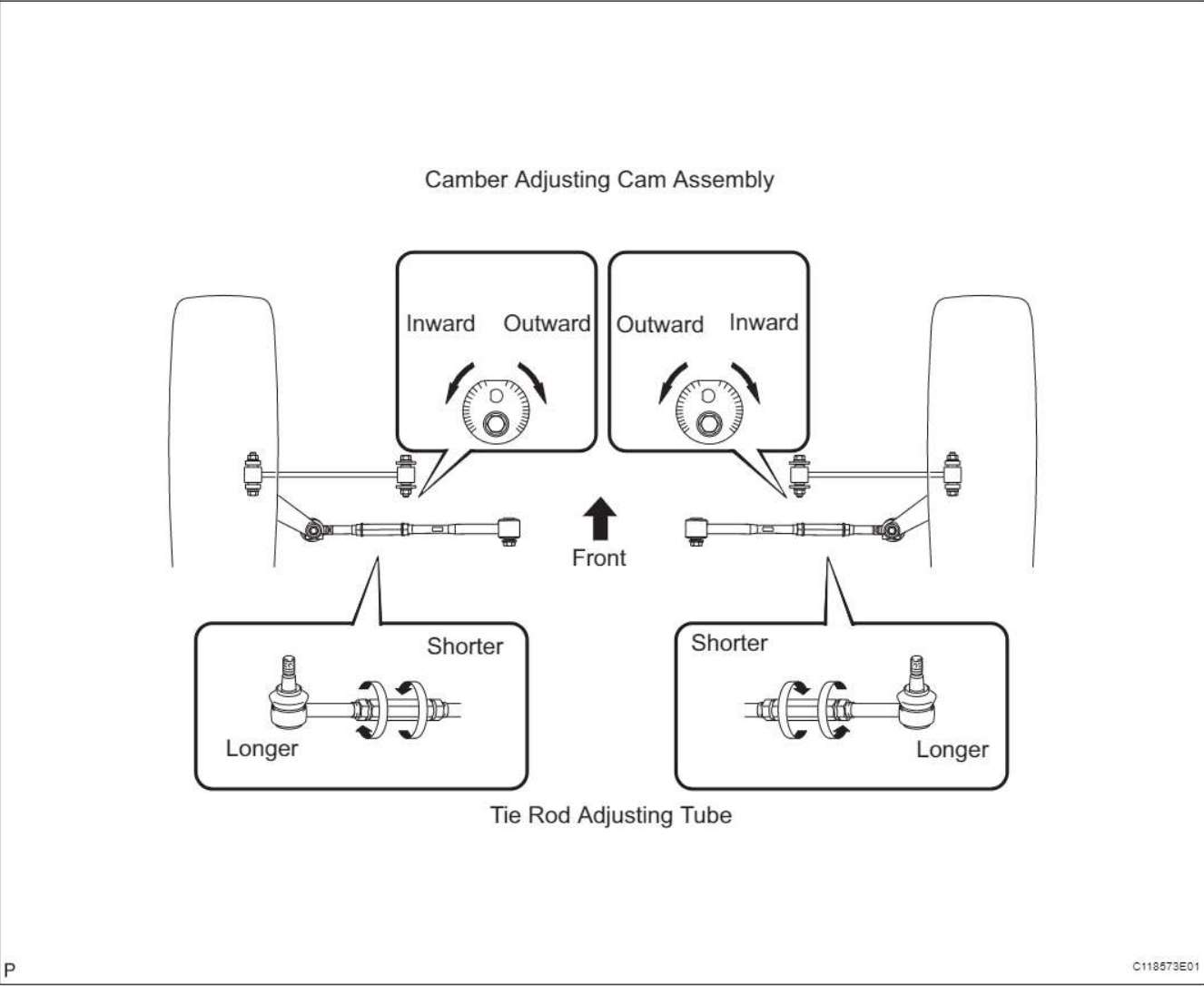
- (c) Loosen the camber adjusting cam set nut.
- (d) Loosen the tie rod adjusting tube set nuts.
- (e) Adjust the camber and toe-in by turning the adjust cam and adjusting tube.
- HINT:
- Adjust the camber and toe-in to the center of the specified ranges as much as possible.
- Standard toe-in

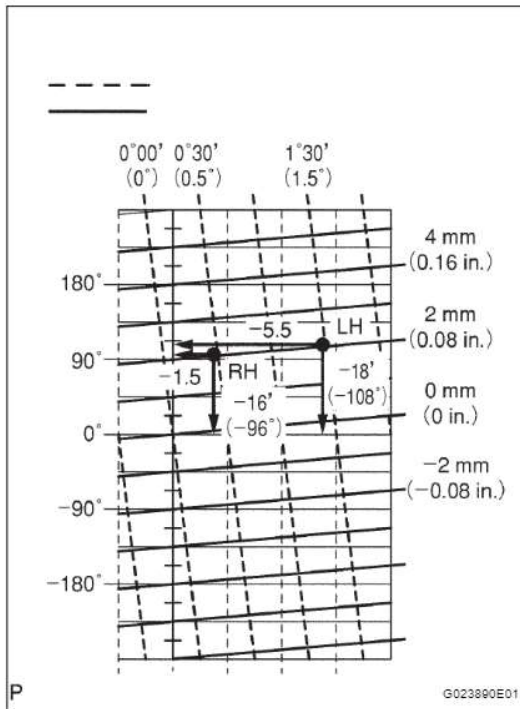
Item	Specified Condition
Toe-in (total)	A + B: 0°18' +/- 6' (0.3° +/- 0.1°) C + D: 3.0 +/- 1.0 mm (0.12 +/- 0.04 in.)

Standard camber

Item	Specified Condition
Camber	-0°56' +- 20' (-0.9° +- 0.3°)
Right-left error	30' (0.5°) or less

- (f) Tighten the camber adjusting cam set nut.
Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)
- (g) Tighten the tie rod adjusting tube set nut.
Torque: 56 N*m (571 kgf*cm, 41 ft.*lbf)



SUSPENSION – REAR WHEEL ALIGNMENT**SP-11**

(h) How to read an adjustment chart (Using examples).

(1) Measure the present alignment.

Example:**Camber (RH):****-1°26' (-1.4°)****Camber (LH):****-2°26' (-2.4°)****Toe-in (total):****IN 7.0 mm (0.276 in.)**

(2) Mark the difference between the standard value (A) and the measured value (B) on the adjustment chart.

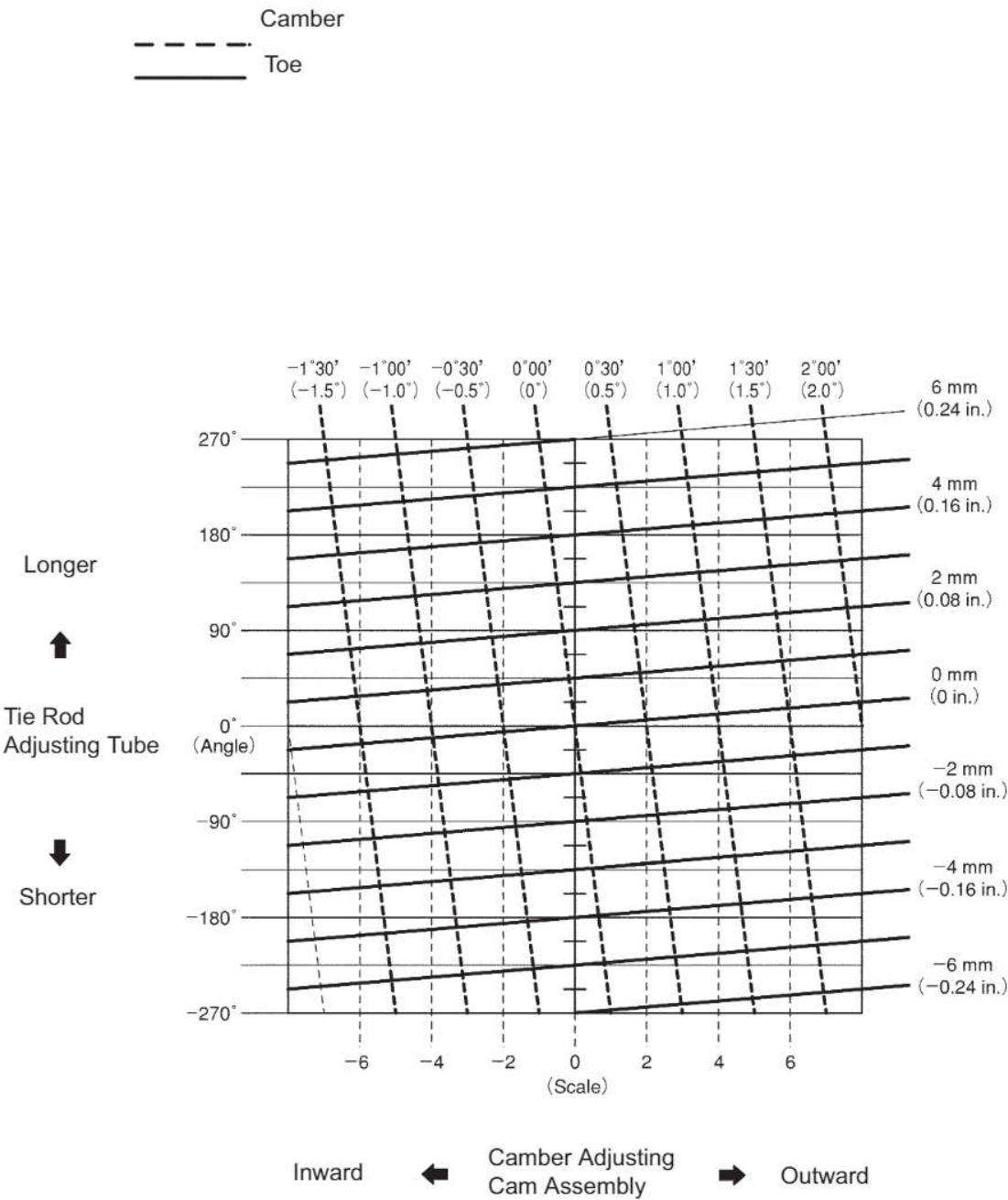
Standard value:**Camber:****-0°56' (-0.9°)****Toe-in (total):****IN 3.0 mm (0.12 in.)****Formula:****A - B = C****Camber (RH):****-0°56' - (-1°26') = 0°30'****Camber (LH):****-0°56' - (-2°26') = 1°30'****Toe-in (total):****IN 3.0 - IN 7.0 = OUT 4.0****Toe-in (each side):****OUT 2.0**

(3) As shown in the example chart, read the distance from the marked point to the center of the chart, and adjust the upper and/or lower arm adjusting cams accordingly.

Amount to turn camber adjusting cam assembly (by graduation):**Scale (RH):****- (Inward) 1.5****Scale (LH):****- (Inward) 5.5****Amount to turn tie rod adjusting tube (by graduation):****Angle (RH):****- (Shorter) 96°****Angle (LH):****- (Shorter) 108°****SP**

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SUSPENSION – REAR WHEEL ALIGNMENT



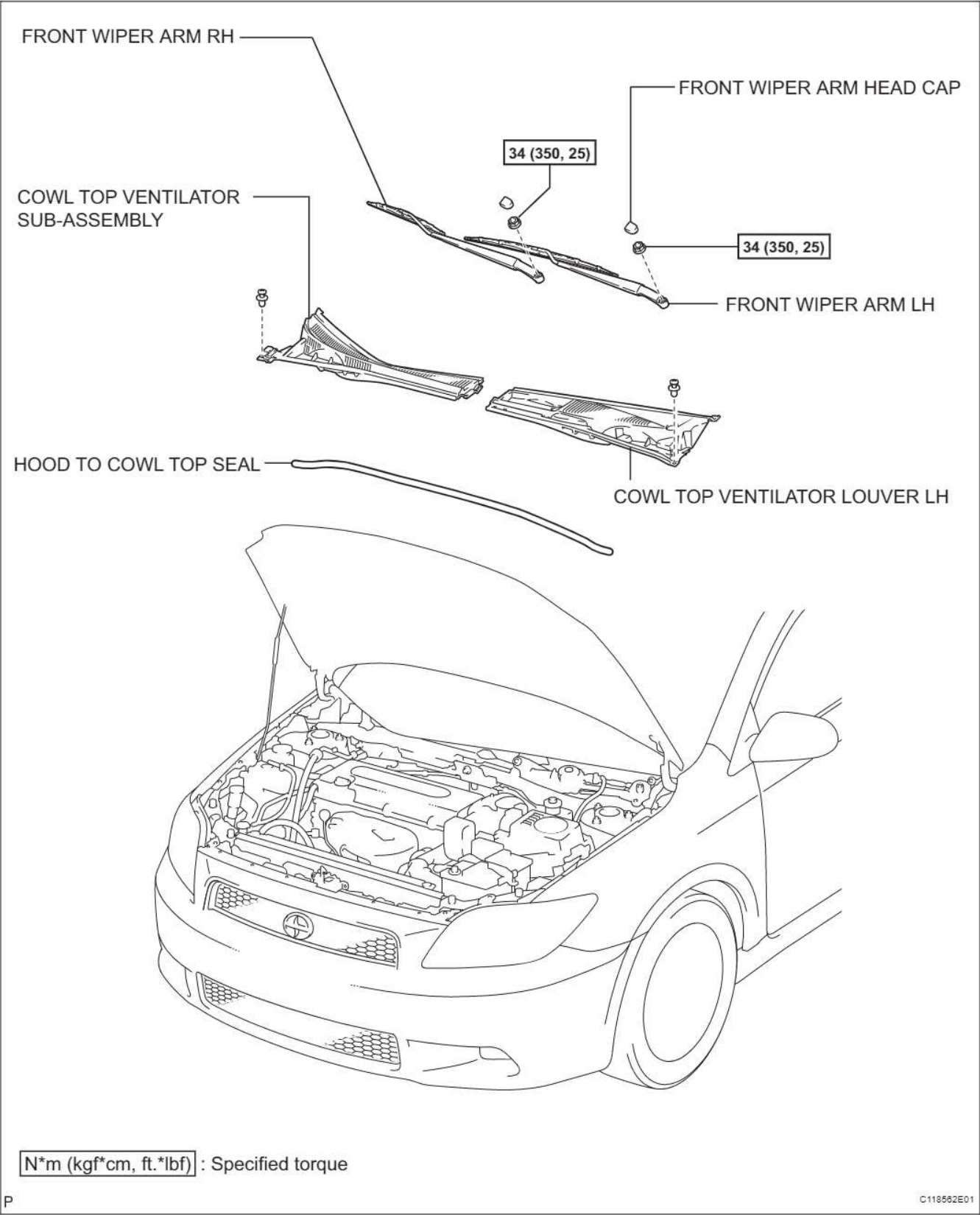
SP

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FRONT SHOCK ABSORBER WITH COIL SPRING

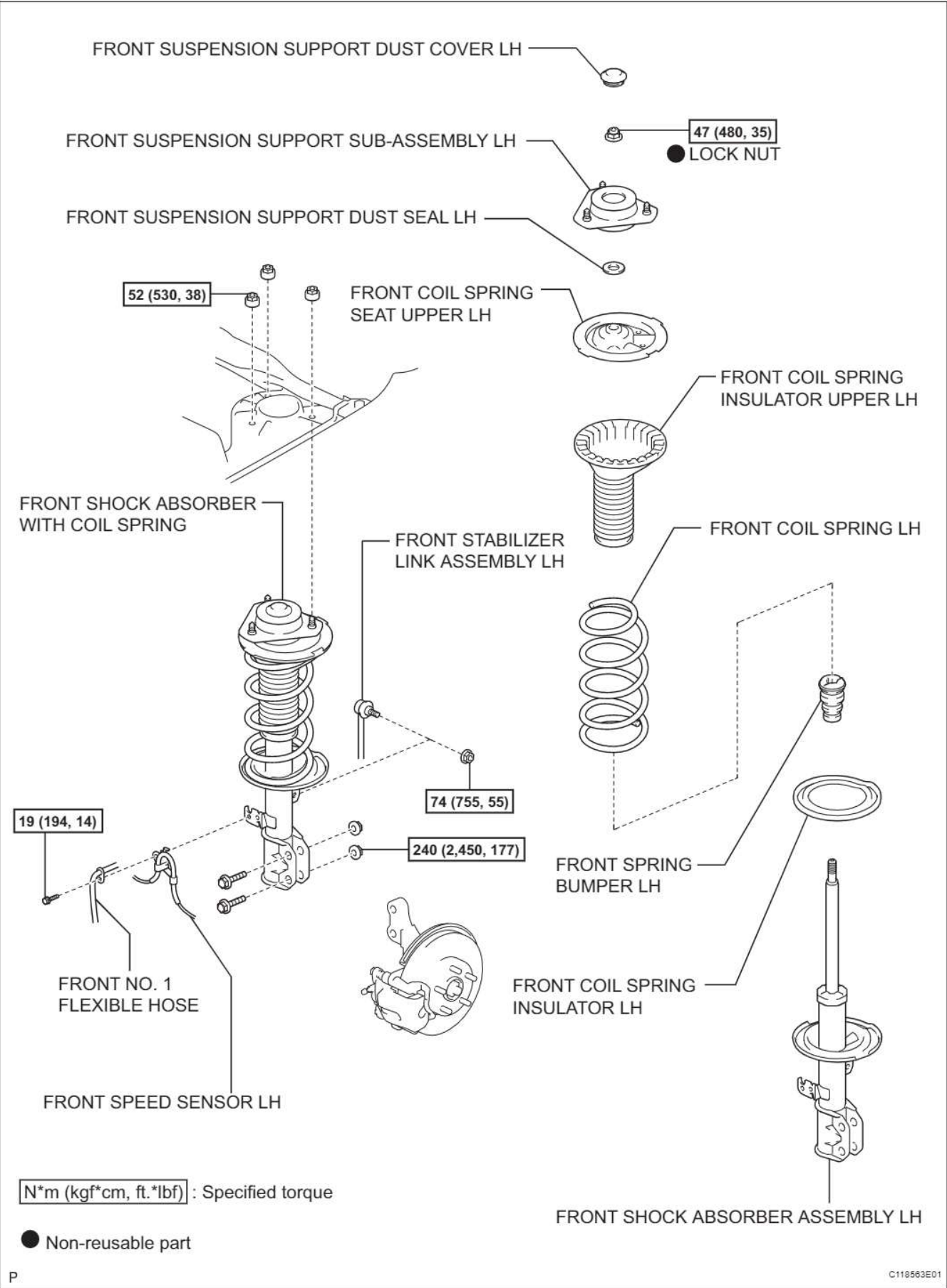
COMPONENTS



SP

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SUSPENSION – FRONT SHOCK ABSORBER WITH COIL SPRING



SUSPENSION – FRONT SHOCK ABSORBER WITH COIL SPRING**SP-15****REMOVAL****HINT:**

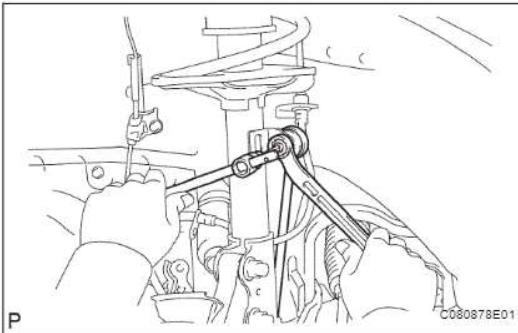
- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.

1. **REMOVE FRONT WHEEL**
2. **REMOVE FRONT WIPER ARM HEAD CAP** (See page [WW-4](#))
3. **REMOVE FRONT WIPER ARM LH** (See page [WW-4](#))
4. **REMOVE FRONT WIPER ARM RH**
5. **REMOVE HOOD TO COWL TOP SEAL** (See page [WW-4](#))
6. **REMOVE COWL TOP VENTILATOR LOUVER LH** (See page [WW-4](#))
7. **DISCONNECT FRONT STABILIZER LINK ASSEMBLY LH**

- (a) Place a wooden block on a jack, and support the front No. 1 suspension lower arm LH with the jack.
- (b) Remove the nut and disconnect the front stabilizer link assembly LH from the shock absorber with coil spring.

HINT:

Use a 6 mm hexagon wrench to hold the stud if the ball joint turns together with the nut.

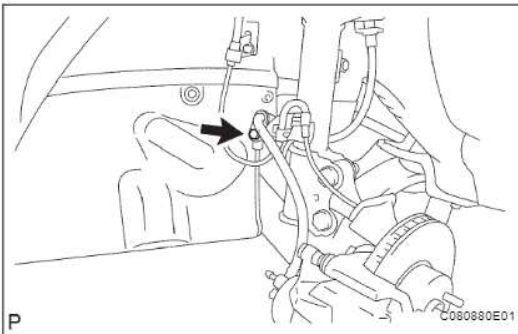


8. **DISCONNECT FRONT SPEED SENSOR LH**

- (a) Remove the bolt, and then disconnect the front No. 1 flexible hose and speed sensor.

NOTICE:

Be sure to completely disconnect the speed sensor from the shock absorber assembly.

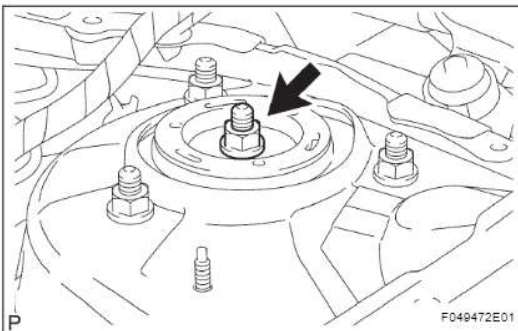


9. **REMOVE FRONT SHOCK ABSORBER WITH COIL SPRING**

- (a) Remove the front suspension support dust cover.
- (b) Loosen the lock nut.

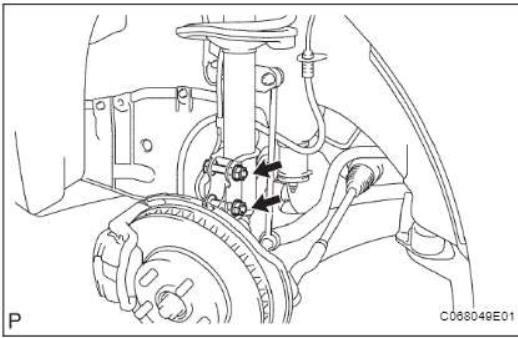
NOTICE:

- Do not loosen except when disassembling the shock absorber assembly with coil spring.
- Do not remove the lock nut.

**SP**

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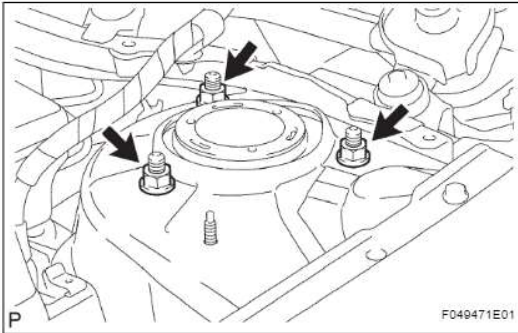
SUSPENSION – FRONT SHOCK ABSORBER WITH COIL SPRING



- (c) Remove the 2 nuts on the lower side of the shock absorber with coil spring.

NOTICE:

Keep the bolts inserted.

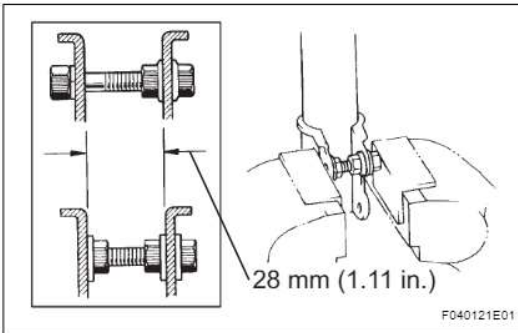


- (d) Remove the 3 nuts on the upper side of the shock absorber with coil spring.

- (e) Lower the jack slowly. Remove the 2 bolts on the lower side and the shock absorber with coil spring.

NOTICE:

Ensure that the speed sensor is completely disconnected from the shock absorber with coil spring.

**DISASSEMBLY****1. FIX FRONT SHOCK ABSORBER WITH COIL SPRING**

- (a) Secure the shock absorber with coil spring in a vise by clamping onto a double-nutted bolt affixed to the bracket at the bottom of the absorber, as shown in the illustration.

2. REMOVE FRONT SHOCK ABSORBER ASSEMBLY LH

- (a) Attach SST to the coil spring so that the upper and lower hooks of the installed area are as wide as possible.

SST 09727-30021 (09727-00010, 09727-00021, 09727-00031)

- (b) Compress the coil spring with SST.

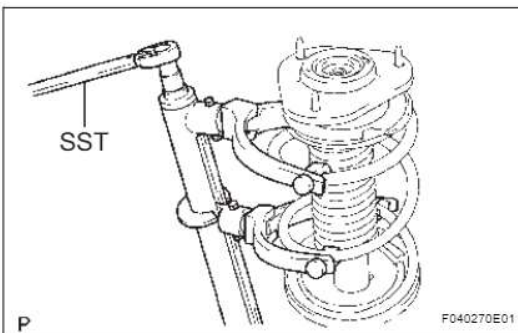
NOTICE:

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

HINT:

The coil spring can be installed/removed using the hydraulic spring compressor.

- (c) Remove the lock nut.
 (d) Remove the suspension support LH.
 (e) Remove the suspension support dust seal LH.
 (f) Remove the coil spring seat upper LH.
 (g) Remove the coil spring insulator upper LH.

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SUSPENSION – FRONT SHOCK ABSORBER WITH COIL SPRING**SP-17**

- (h) Remove the coil spring LH and SST.

NOTICE:

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

- (i) Remove the spring bumper LH.
(j) Remove the coil spring insulator lower LH.

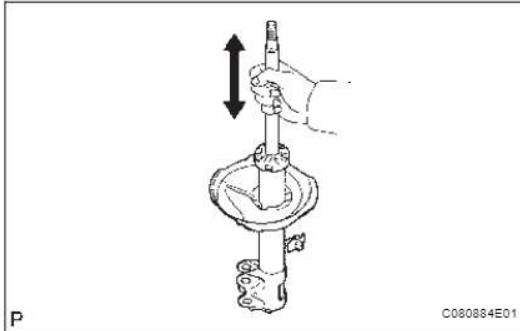
INSPECTION**1. INSPECT FRONT SHOCK ABSORBER ASSEMBLY LH**

- (a) Compress and extend the shock absorber rod 4 or more times. Check that there is no abnormal resistance or sound.

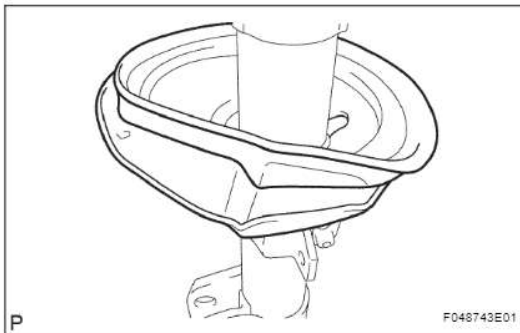
If there is any abnormality, replace the shock absorber with a new one.

NOTICE:

When disposing of the shock absorber, see DISPOSAL on page SP-19.

**REASSEMBLY****1. INSTALL FRONT SHOCK ABSORBER ASSEMBLY LH**

- (a) Install the coil spring insulator lower LH to the shock absorber so that both recessed parts are aligned.
(b) Install the spring bumper LH to the shock absorber piston rod.



- (c) Using SST, compress the coil spring LH.

SST 09727-30021

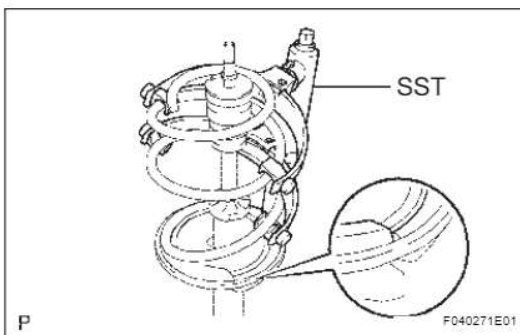
NOTICE:

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

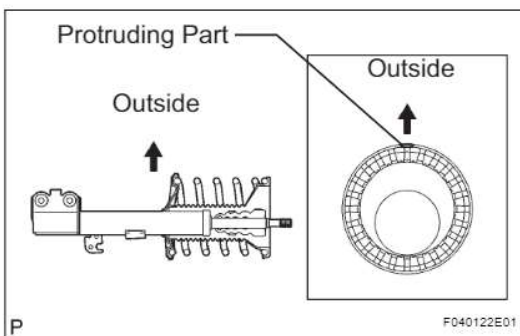
HINT:

The coil spring can be installed/removed using the hydraulic spring compressor.

- (d) Fit the lower end of the coil spring LH into the recessed part of the spring lower seat.

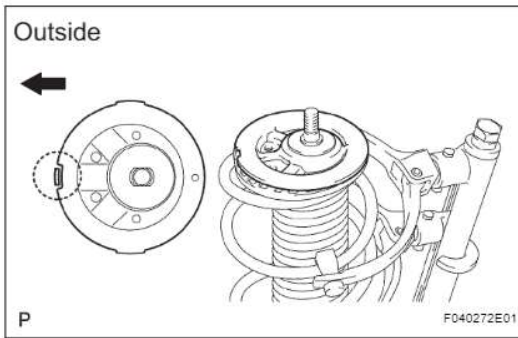


- (e) Install the coil spring insulator upper LH to the shock absorber with the protruding part facing the outside of the vehicle.

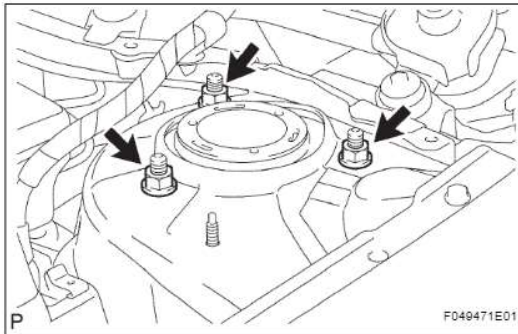
**SP**

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SUSPENSION – FRONT SHOCK ABSORBER WITH COIL SPRING



- (f) Install the coil spring seat upper LH to the shock absorber LH with the notch facing the outside of the vehicle.
- (g) Install the suspension support LH dust seal and suspension support LH.
- (h) Temporarily tighten a new lock nut.
- (i) Remove SST.



INSTALLATION

1. INSTALL FRONT SHOCK ABSORBER WITH COIL SPRING

- (a) Insert the 2 bolts from the front side of the vehicle and install the shock absorber with coil spring to the steering knuckle.
- (b) Place a wooden block between the shock absorber with coil spring and a jack. Slowly raise the jack and install the shock absorber with coil spring (upper side) to the vehicle.
- (c) Install the shock absorber with coil spring (upper side) with the 3 nuts.

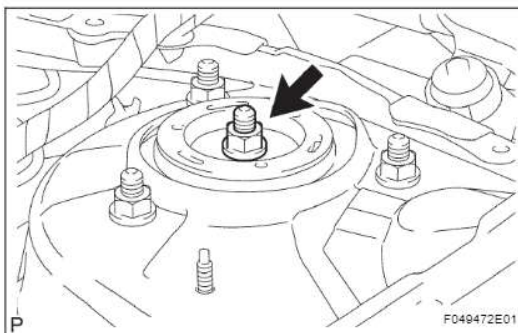
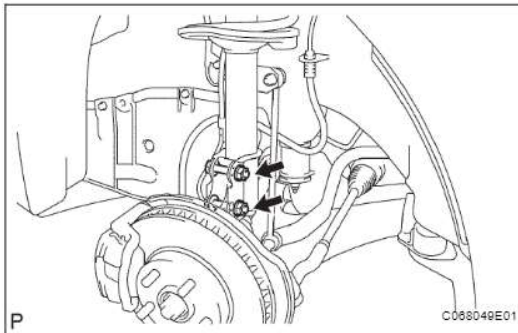
Torque: 52 N*m (530 kgf*cm, 38 ft.*lbf)

- (d) Install the shock absorber with coil spring to the steering knuckle with the 2 nuts.

Torque: 240 N*m (2,450 kgf*cm, 177 ft.*lbf)

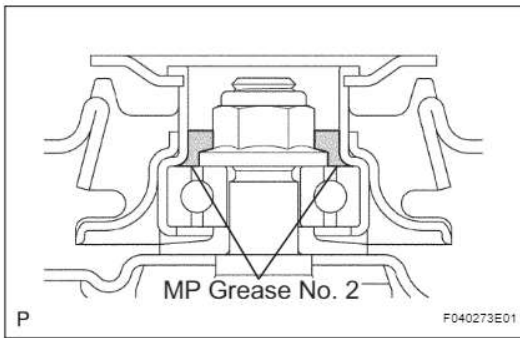
NOTICE:

When installing the nuts, keep the bolts from rotating and torque the nuts.

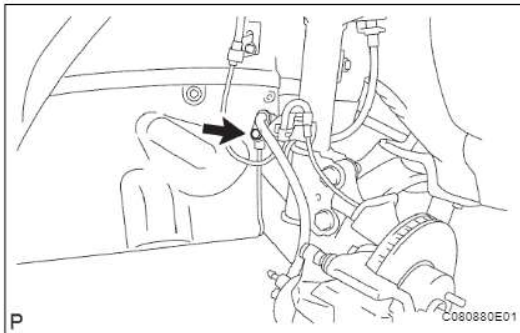


- (e) Tighten the lock nut.
Torque: 47 N*m (480 kgf*cm, 35 ft.*lbf)

SP

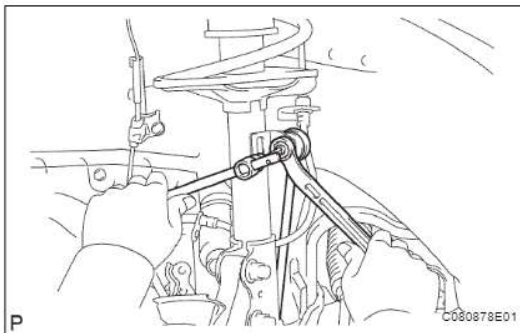
SUSPENSION – FRONT SHOCK ABSORBER WITH COIL SPRING**SP-19**

- (f) Apply MP grease No. 2 to the parts indicated in the illustration and install the suspension dust cover.

**2. INSTALL FRONT SPEED SENSOR LH**

- (a) Install the front No. 1 flexible hose and speed sensor LH with the bolt.

Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)

**3. INSTALL FRONT STABILIZER LINK ASSEMBLY LH**

- (a) Install the stabilizer link to the shock absorber with coil spring with the nut.

Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)

HINT:

Use a 6 mm hexagon wrench to hold the stud if the ball joint turns together with nut.

4. INSTALL FRONT WHEEL

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

5. INSTALL COWL TOP VENTILATOR LOUVER LH

- (a) Install the cowl top ventilator louver (see page [WW-6](#)).

6. INSTALL HOOD TO COWL TOP SEAL

- (a) Install the hood to cowl top seal (see page [WW-6](#)).

7. INSTALL FRONT WIPER ARM LH (See page [WW-7](#))**8. INSTALL FRONT WIPER ARM RH (See page [WW-8](#))****9. INSTALL FRONT WIPER ARM HEAD CAP**

- (a) Install the wiper arm head cap (see page [WW-6](#)).

10. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT

- (a) Inspect and adjust front wheel alignment (see page [SP-2](#)).

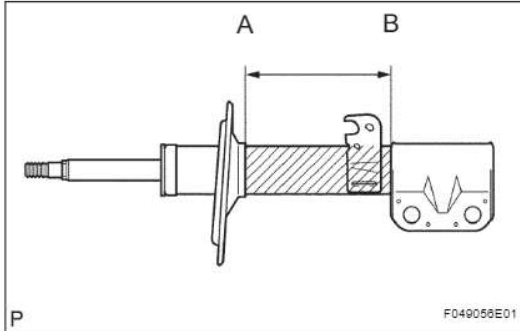
SP

SP-20

SUSPENSION – FRONT SHOCK ABSORBER WITH COIL SPRING

DISPOSAL**HINT:**

Dispose of the RH side following the same procedures as the LH side.

**1. DISPOSE OF FRONT SHOCK ABSORBER ASSEMBLY LH**

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

CAUTION:

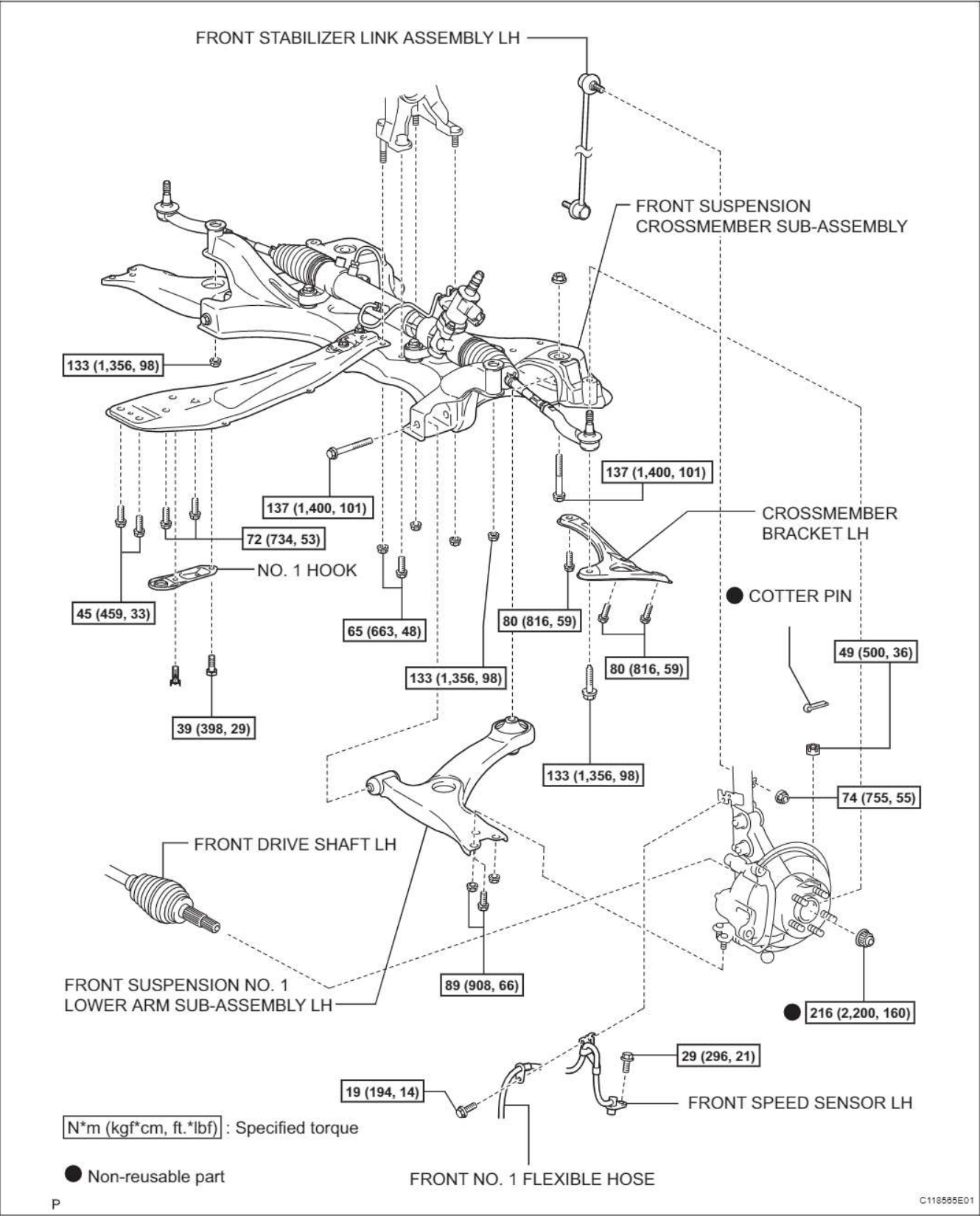
Be careful when drilling because shards of metal may fly about, so always use the proper safety equipment.

NOTICE:

The gas is colorless, odorless and non-poisonous.

SUSPENSION – FRONT SUSPENSION LOWER NO. 1 ARM

FRONT SUSPENSION LOWER NO. 1 ARM
COMPONENTS



SP

SP-22

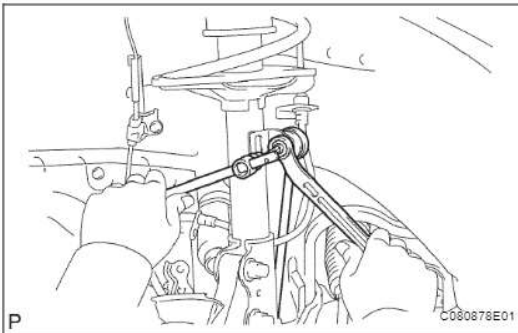
SUSPENSION – FRONT SUSPENSION LOWER NO. 1 ARM

REMOVAL

HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.

1. PLACE FRONT WHEELS FACING STRAIGHT AHEAD
2. REMOVE COLUMN HOLE COVER SILENCER SHEET (See page [SR-9](#))
3. DISCONNECT NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY (See page [PS-21](#))
4. DISCONNECT NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY
5. REMOVE FRONT WHEELS
6. REMOVE ENGINE UNDER COVER LH
7. REMOVE ENGINE UNDER COVER RH
8. DISCONNECT TIE ROD END SUB-ASSEMBLY LH (See page [DS-6](#))
9. DISCONNECT TIE ROD END SUB-ASSEMBLY RH (See page [DS-7](#))
10. DISCONNECT PRESSURE FEED TUBE ASSEMBLY (See page [PS-21](#))
11. DISCONNECT FRONT STABILIZER LINK ASSEMBLY LH
 - (a) Remove the nut and disconnect the stabilizer link from the shock absorber with coil spring.
 HINT:
Use a 6 mm hexagon wrench to hold the stud if the ball joint turns together with the nut.



12. DISCONNECT FRONT STABILIZER LINK ASSEMBLY RH

HINT:

Disconnect the RH side following the same procedures as the LH side.

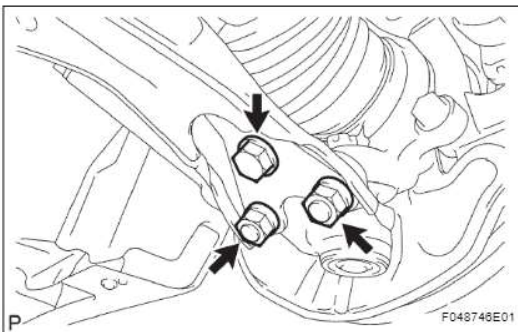
13. DISCONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH
 - (a) Remove the bolt and 2 nuts.
 - (b) Lower the suspension arm lower LH and disconnect it from the lower ball joint.

14. DISCONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY RH

HINT:

Disconnect the RH side following the same procedures as the LH side.

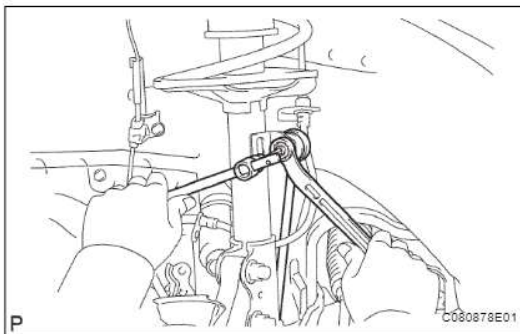
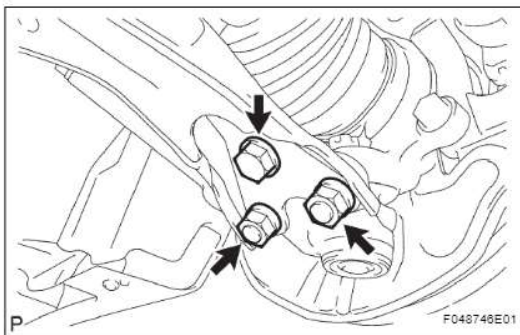
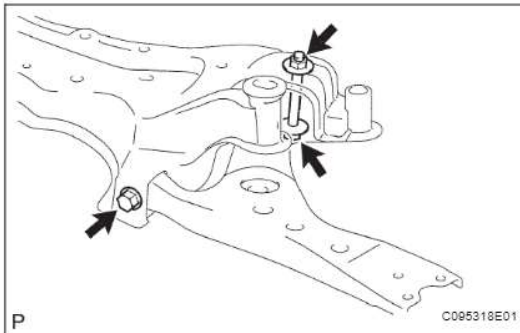
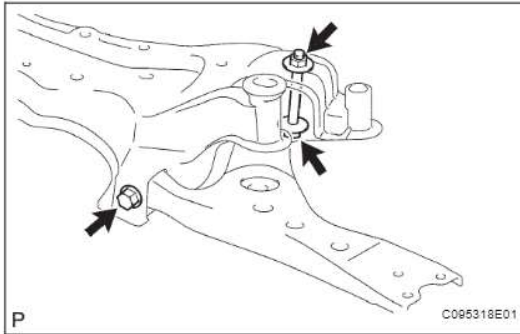
15. REMOVE FRONT FLOOR PANEL BRACE (See page [EX-2](#))
16. REMOVE CENTER EXHAUST PIPE ASSEMBLY (See page [EX-2](#))



SP

17. REMOVE HOOD SUB-ASSEMBLY
18. REMOVE NO. 1 ENGINE COVER SUB-ASSEMBLY
19. SUSPEND ENGINE ASSEMBLY (See page [MX-19](#))
20. REMOVE NO. 1 HOOK (See page [PS-22](#))
21. REMOVE FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY (See page [PS-22](#))
22. REMOVE FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH
 - (a) Remove the 2 bolts, nut and suspension lower arm.

NOTICE:
Keep the nut from rotating and loosen the bolt.



INSTALLATION

1. TEMPORARILY TIGHTEN FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH
 - (a) Install the No. 1 suspension lower arm LH to the suspension crossmember and temporarily tighten the No. 1 suspension lower arm with the 2 bolts and nut.
2. INSTALL FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY (See page [PS-37](#))
3. INSTALL NO. 1 HOOK (See page [PS-38](#))
4. CONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH
 - (a) Install the No. 1 suspension lower arm LH to the lower ball joint with the bolt and 2 nuts.
Torque: 89 N*m (908 kgf*cm, 66 ft.*lbf)
5. CONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY RH

HINT:
Connect the RH side following the same procedures as the LH side.
6. CONNECT FRONT STABILIZER LINK ASSEMBLY LH
 - (a) Connect the stabilizer link LH to the shock absorber with coil spring with the nut.
Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)

HINT:
Use a 6 mm hexagon wrench to hold the stud if the ball joint turns together with the nut.
7. CONNECT FRONT STABILIZER LINK ASSEMBLY RH

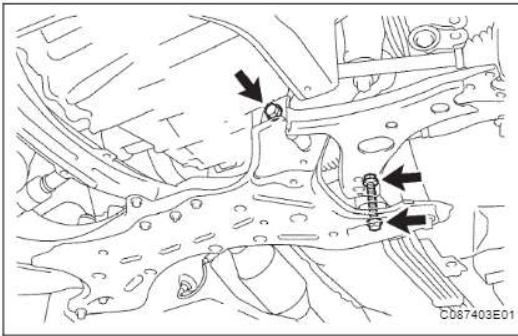
HINT:
Connect the RH side following the same procedures as the LH side.

SP

SP-24

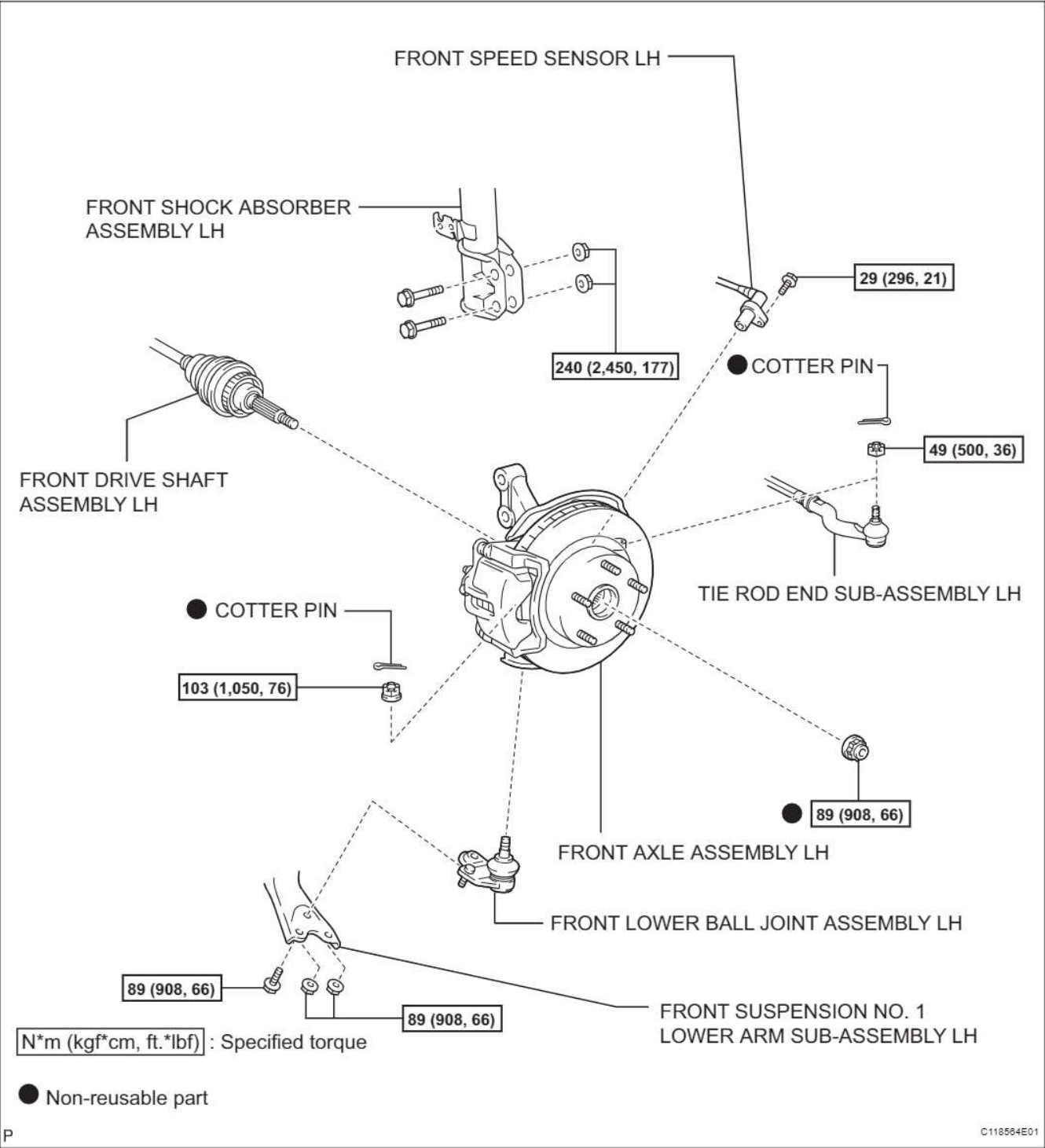
SUSPENSION – FRONT SUSPENSION LOWER NO. 1 ARM

8. **CONNECT PRESSURE FEED TUBE ASSEMBLY** (See page [PS-38](#))
9. **CONNECT TIE ROD END SUB-ASSEMBLY LH** (See page [DS-17](#))
10. **CONNECT TIE ROD END SUB-ASSEMBLY RH** (See page [DS-17](#))
11. **INSTALL CENTER EXHAUST PIPE ASSEMBLY** (See page [EX-4](#))
12. **INSTALL FRONT FLOOR PANEL BRACE** (See page [EX-5](#))
13. **STABILIZE SUSPENSION**
 - (a) Install the front tire.
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)
 - (b) Lower the vehicle and bounce it several times to stabilize the front suspension.
14. **FULLY TIGHTEN FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH**
 - (a) Fully tighten the 2 bolts.
Torque: 137 N*m (1,400 kgf*cm, 101 ft.*lbf)
NOTICE:
 - Keep the nut from rotating while tightening the rear side bolt.
 - Make the tire condition contact ground with a 4 post lift.
15. **CONNECT NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY**
16. **CONNECT NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY** (See page [PS-39](#))
17. **INSTALL COLUMN HOLE COVER SILENCER SHEET**
18. **INSTALL NO. 1 ENGINE COVER SUB-ASSEMBLY**
19. **ADD POWER STEERING FLUID**
20. **BLEED POWER STEERING FLUID** (See page [PS-3](#))
21. **CHECK POWER STEERING FLUID LEVEL IN RESERVOIR**
 - (a) Check the power steering fluid level in reservoir (see page [PS-3](#)).
22. **CHECK POWER STEERING FLUID LEAKS**
23. **INSPECT HOOD SUB-ASSEMBLY**
24. **ADJUST HOOD SUB-ASSEMBLY**
 - (a) Adjust the hood (see page [ED-1](#)).
25. **INSPECT AND ADJUST FRONT WHEEL ALIGNMENT**
 - (a) Inspect and adjust front wheel alignment (see page [SP-2](#)).
26. **INSTALL ENGINE UNDER COVER LH**
27. **INSTALL ENGINE UNDER COVER RH**



SUSPENSION – FRONT LOWER BALL JOINT

FRONT LOWER BALL JOINT
COMPONENTS



SP

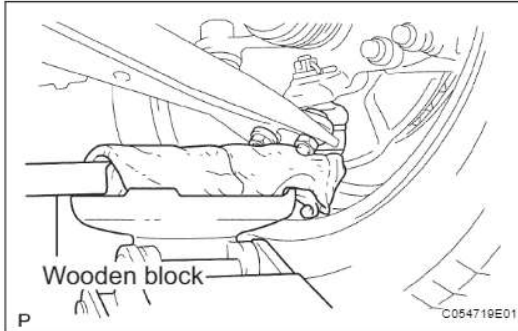
SP-26

SUSPENSION – FRONT LOWER BALL JOINT

REMOVAL

HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.



1. INSPECT FRONT LOWER BALL JOINT ASSEMBLY LH

- Jack up the front part of the vehicle.
- Move the front suspension arm lower No. 1 up and down to check vertical looseness of the lower ball joint.

HINT:

Wrap a cloth around the wooden block to prevent damage to the bolt and nuts.

2. REMOVE FRONT WHEEL

3. REMOVE FRONT AXLE HUB LH NUT (See page [AH-6](#))4. DISCONNECT FRONT SPEED SENSOR LH (See page [BC-77](#))

5. DISCONNECT TIE ROD END SUB-ASSEMBLY LH

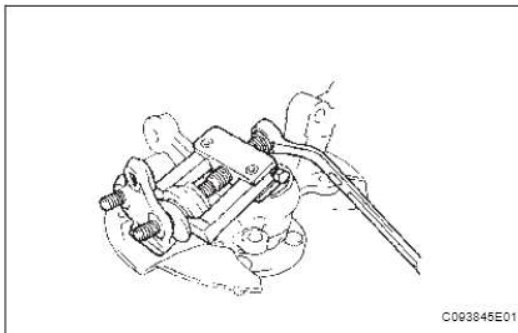
- Disconnect the tie rod end (see page [PS-21](#)).

6. SEPARATE FRONT NO. 1 SUSPENSION ARM SUB-ASSEMBLY LOWER LH (See page [SP-23](#))7. REMOVE FRONT AXLE ASSEMBLY LH (See page [AH-9](#))

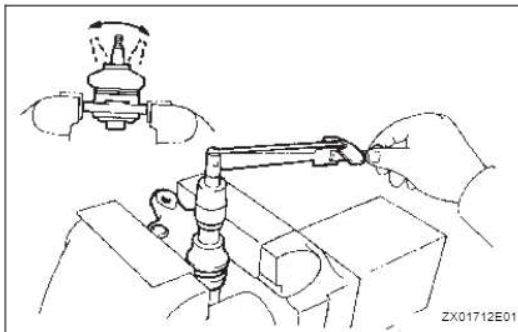
8. REMOVE FRONT LOWER BALL JOINT ASSEMBLY LH

- Remove the cotter pin and the castle nuts.
- Using SST, remove the lower ball joint.

SST 09628-62011



SP



INSPECTION

1. INSPECT FRONT LOWER BALL JOINT ASSEMBLY LH

- Secure the lower ball joint LH with a vise.
- Install the nut to the stud bolt.
- Flip the stud bolt back and forth 5 times or more.
- Use a torque wrench to turn the nut continuously at a rate of 3 to 5 seconds per turn. Take the torque reading on the fifth turn.

Torque: Standard turning torque

5.0 N*m (51 kgf*cm, 44 in.*lbf) or less

- Check the dust boots for cracks or grease leakage. If the value is not within the specified range, replace the lower ball joint with a new one.

INSTALLATION

1. INSTALL FRONT LOWER BALL JOINT ASSEMBLY LH

- (a) Install the lower ball joint LH to the steering knuckle with the castle nut.

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

NOTICE:

Ensure that the thread and taper are free of oil, etc.

- (b) Install a new cotter pin to the steering knuckle.

NOTICE:

Further tighten the nut up to 60° if the holes for the cotter pin are not aligned.

2. INSTALL FRONT AXLE ASSEMBLY LH (See page [AH-10](#))

3. INSTALL FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH (See page [SP-24](#))

4. INSTALL TIE ROD END SUB-ASSEMBLY LH

- (a) Install the tie rod end (see page [PS-36](#)).

5. INSTALL FRONT SPEED SENSOR LH (See page [BC-78](#))

6. INSTALL FRONT AXLE HUB LH NUT (See page [AH-11](#))

7. INSTALL FRONT WHEEL

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

8. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT

- (a) Inspect and adjust the front wheel alignment (see page [SP-2](#)).

9. CHECK ABS SPEED SENSOR SIGNAL

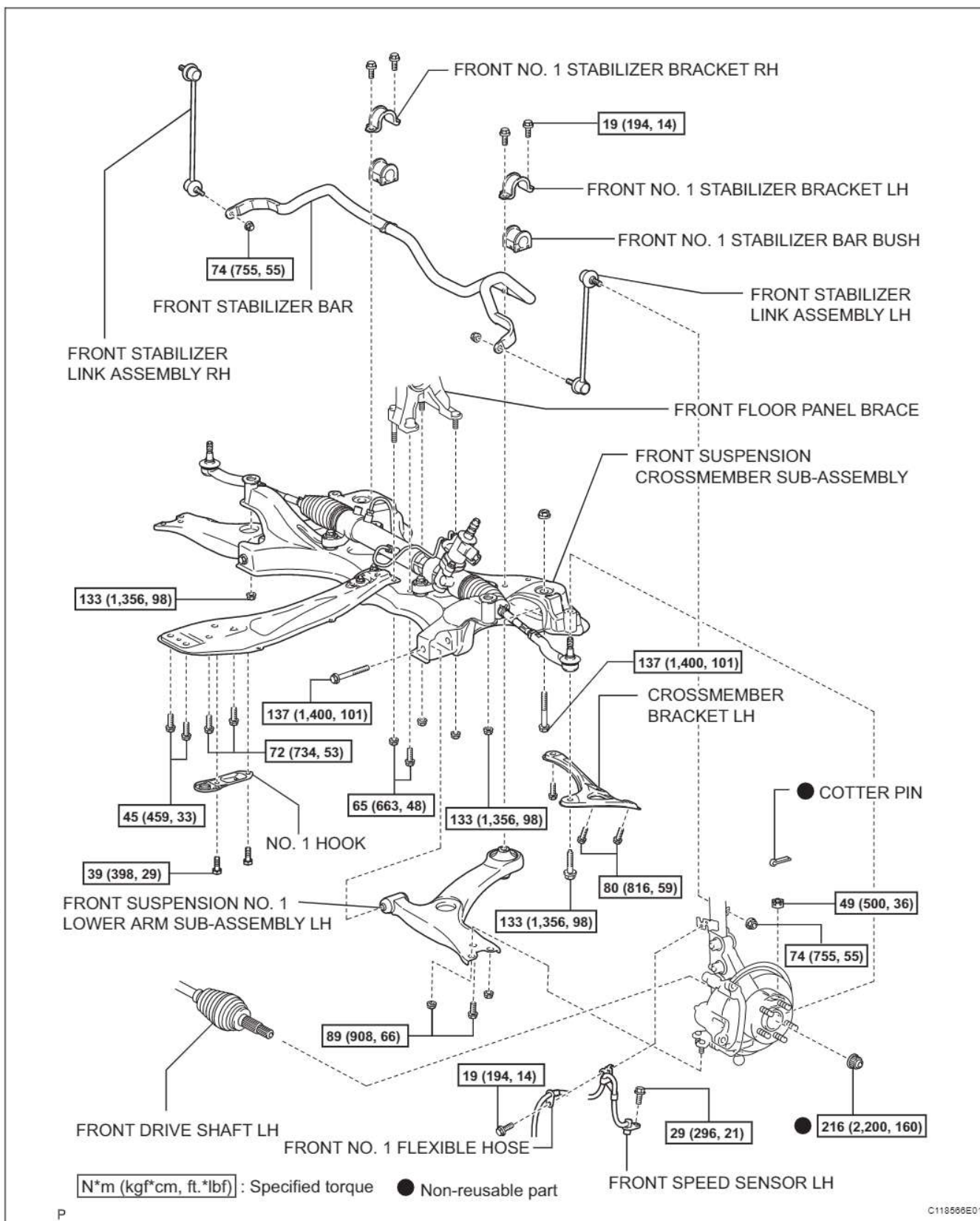
- (a) Check the ABS speed sensor signal (see page [BC-4](#)).

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SUSPENSION – FRONT STABILIZER BAR

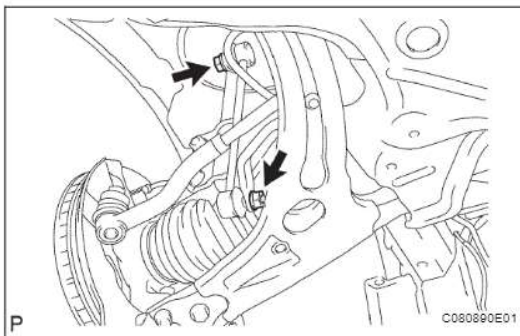
FRONT STABILIZER BAR

COMPONENTS



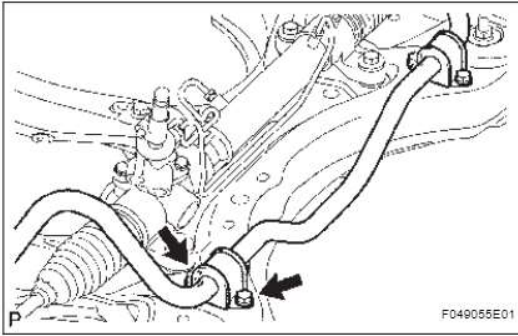
REMOVAL

1. PLACE FRONT WHEEL FACING STRAIGHT AHEAD
2. REMOVE COLUMN HOLE COVER SILENCER SHEET (See page [SR-9](#))
3. DISCONNECT NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY (See page [PS-21](#))
4. DISCONNECT NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY
5. REMOVE FRONT WHEEL
6. REMOVE ENGINE UNDER COVER LH
7. REMOVE ENGINE UNDER COVER RH
8. REMOVE FRONT STABILIZER LINK ASSEMBLY LH
 - (a) Remove the 2 nuts and front stabilizer link LH.
HINT:
Use a 6 mm hexagon wrench to hold the stud if the ball joint turns together with the nut.
9. REMOVE FRONT STABILIZER LINK ASSEMBLY RH
HINT:
Use the same procedures described for the LH side.
10. DISCONNECT TIE ROD END SUB-ASSEMBLY LH (See page [DS-6](#))
11. DISCONNECT TIE ROD END SUB-ASSEMBLY RH (See page [PS-21](#))
12. DISCONNECT PRESSURE FEED TUBE ASSEMBLY (See page [PS-21](#))
13. DISCONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH (See page [SP-22](#))
14. DISCONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY RH
HINT:
Use the same procedures described for the LH side.
15. REMOVE FRONT FLOOR PANEL BRACE (See page [EX-2](#))
16. REMOVE CENTER EXHAUST PIPE ASSEMBLY (See page [EX-2](#))
17. REMOVE HOOD SUB-ASSEMBLY
18. REMOVE NO. 1 ENGINE COVER SUB-ASSEMBLY
19. SUSPEND ENGINE ASSEMBLY (See page [MX-19](#))
20. REMOVE NO. 1 HOOK (See page [PS-22](#))
21. REMOVE FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY (See page [PS-22](#))



SP-30

SUSPENSION – FRONT STABILIZER BAR

**22. REMOVE FRONT NO. 1 STABILIZER BRACKET LH**

- (a) Remove the 2 bolts and front No. 1 stabilizer bracket LH from the suspension crossmember.

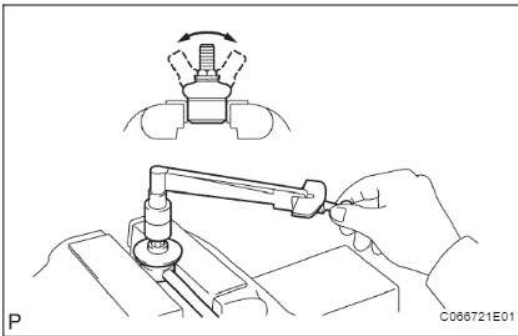
23. REMOVE FRONT NO. 1 STABILIZER BRACKET RH

HINT:

Use the same procedures described for the LH side.

24. REMOVE FRONT NO. 1 STABILIZER BAR BUSH

- (a) Remove the 2 No. 1 stabilizer bar bushes from the stabilizer bar.

**25. REMOVE FRONT STABILIZER BAR****INSPECTION****1. INSPECT FRONT STABILIZER LINK ASSEMBLY**

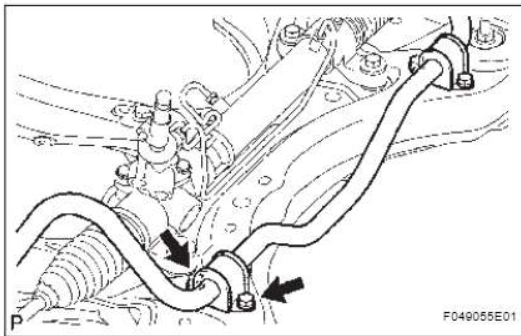
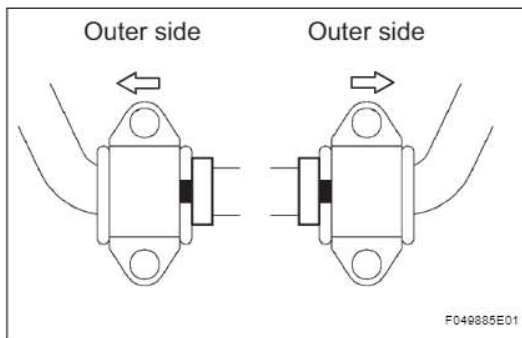
- (a) Secure the stabilizer link LH with a vise.
 (b) Install the nut to the stud bolt.
 (c) Flip the ball joint back and forth 5 times or more.
 (d) Use a torque wrench to turn the nut continuously at a rate of 3 to 5 seconds per turn. Take the torque reading on the fifth turn.

Torque: Standard turning torque

1.0 N*m (10 kgf*cm, 8.9 in.*lbf) or less

- (e) Check the dust boots for cracks or grease leakage. If the value is not within the specified range, replace the stabilizer link with a new one.

INSTALLATION



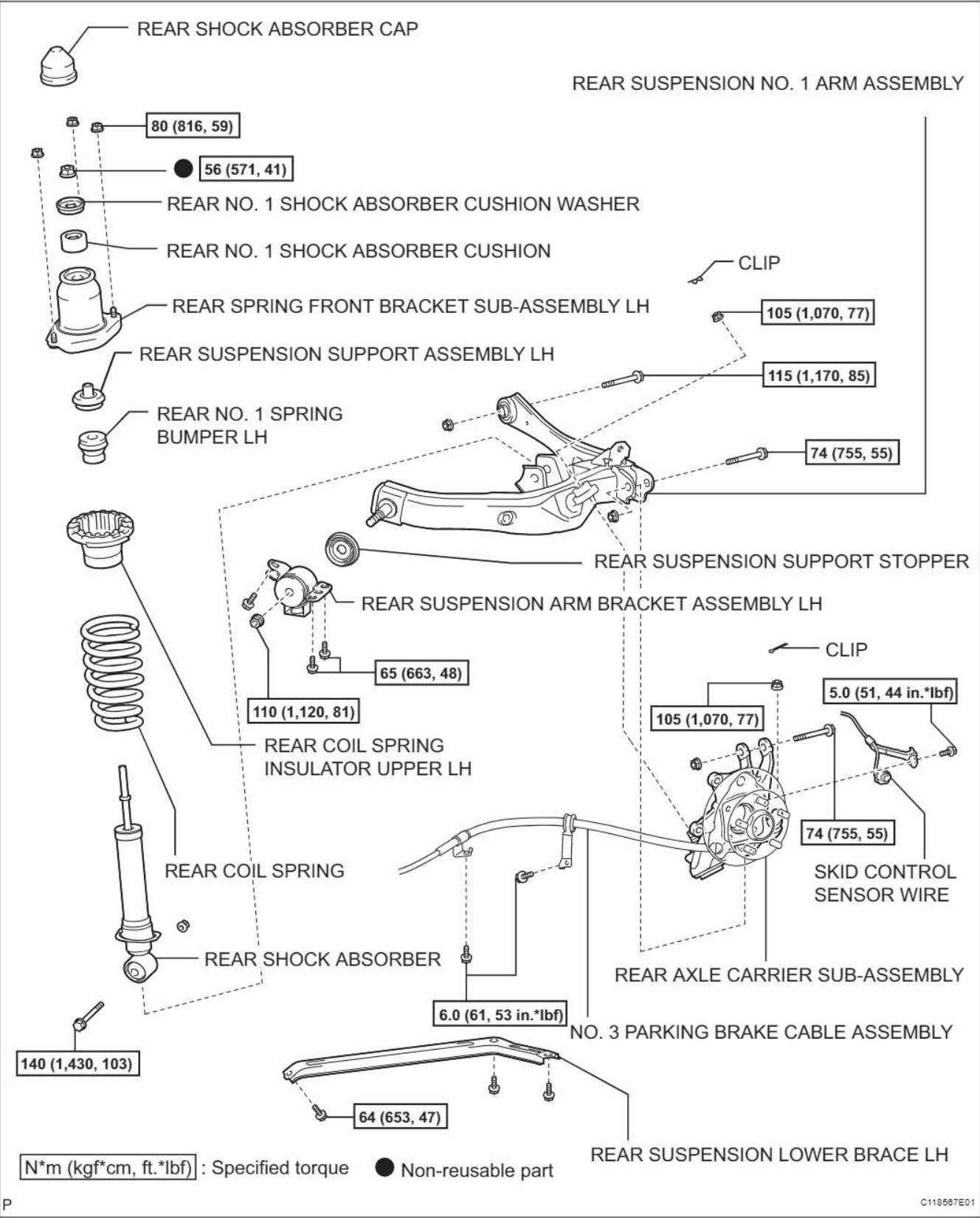
1. **INSTALL FRONT STABILIZER BAR**
2. **INSTALL FRONT NO. 1 STABILIZER BAR BUSH**
 - (a) Install the bushes to the outer side of the bush stopper on the stabilizer bar.
NOTICE:
 Place the cutout of the stabilizer bush facing the rear side.
3. **INSTALL FRONT NO. 1 STABILIZER BRACKET LH**
 - (a) Install the No. 1 stabilizer bracket to the suspension crossmember with the 2 bolts.
Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf)
4. **INSTALL FRONT NO. 1 STABILIZER BRACKET RH**
HINT:
 Use the same procedures described for the LH side.
5. **INSTALL FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY** (See page [PS-37](#))
6. **INSTALL NO. 1 HOOK** (See page [PS-38](#))
7. **CONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY LH** (See page [SP-24](#))
8. **CONNECT FRONT SUSPENSION NO. 1 LOWER ARM SUB-ASSEMBLY RH**
HINT:
 Use the same procedures described for LH side.
9. **INSTALL FRONT STABILIZER LINK ASSEMBLY LH**
10. **INSTALL FRONT STABILIZER LINK ASSEMBLY RH**
11. **CONNECT PRESSURE FEED TUBE ASSEMBLY** (See page [PS-38](#))
12. **CONNECT TIE ROD END SUB-ASSEMBLY LH**
 - (a) Connect the tie rod end LH (see page [PS-36](#)).
13. **CONNECT TIE ROD END SUB-ASSEMBLY RH**
HINT:
 Use the same procedures described for LH side.
14. **INSTALL CENTER EXHAUST PIPE ASSEMBLY** (See page [EX-4](#))
15. **INSTALL FRONT FLOOR PANEL BRACE** (See page [EX-5](#))
16. **INSTALL FRONT WHEEL**
17. **CONNECT NO. 1 STEERING COLUMN HOLE COVER SUB-ASSEMBLY**
18. **CONNECT NO. 2 STEERING INTERMEDIATE SHAFT ASSEMBLY** (See page [PS-39](#))

SP-32**SUSPENSION – FRONT STABILIZER BAR**

- 19. INSTALL COLUMN HOLE COVER SILENCER SHEET**
(a) Install the silencer sheet (see page [SR-14](#)).
- 20. INSTALL NO. 1 ENGINE COVER SUB-ASSEMBLY**
- 21. ADD POWER STEERING FLUID**
- 22. BLEED POWER STEERING FLUID**
(a) Bleed the power steering fluid (see page [PS-3](#)).
- 23. CHECK POWER STEERING FLUID LEVEL IN RESERVOIR**
(a) Check the power steering fluid level in reservoir (see page [PS-3](#)).
- 24. CHECK POWER STEERING FLUID LEAKS**
- 25. INSPECT HOOD SUB-ASSEMBLY**
- 26. ADJUST HOOD SUB-ASSEMBLY** (See page [ED-1](#))
- 27. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT**
(a) Inspect and adjust the front wheel alignment (see page [SP-2](#)).
- 28. INSTALL ENGINE UNDER COVER LH**
- 29. INSTALL ENGINE UNDER COVER RH**

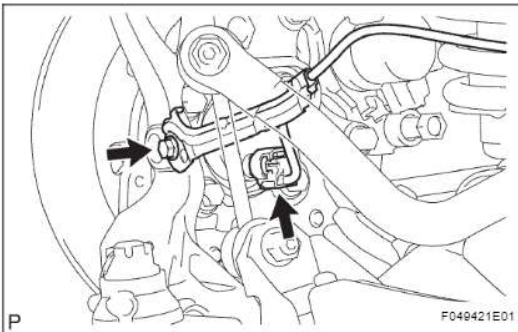
REAR SHOCK ABSORBER WITH COIL SPRING

COMPONENTS



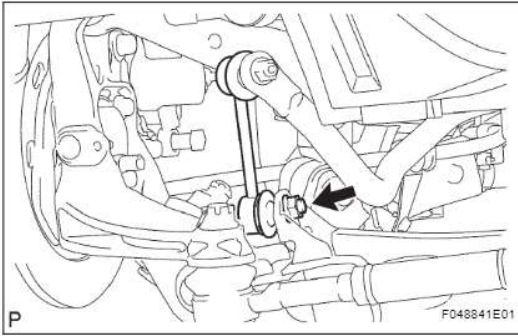
REMOVAL

1. **REMOVE TONNEAU COVER ASSEMBLY**
(a) Remove the tonneau cover (see page [IR-8](#)).
2. **REMOVE DECK BOARD ASSEMBLY**
(a) Remove the deck board (see page [IR-8](#)).
3. **REMOVE BACK DOOR SCUFF PLATE** (See page [IR-8](#))
4. **REMOVE DECK FLOOR BOX LH** (See page [IR-8](#))
5. **REMOVE DECK FLOOR BOX RH** (See page [IR-8](#))
6. **REMOVE ROPE HOOK**
(a) Remove the rope hook (see page [IR-8](#)).
7. **REMOVE REAR NO. 1 FLOOR BOARD** (See page [IR-9](#))
8. **REMOVE REAR SEAT CUSHION ASSEMBLY** (See page [SE-17](#))
9. **REMOVE REAR SEATBACK ASSEMBLY** (See page [SE-17](#))
10. **REMOVE FRONT DOOR SCUFF PLATE** (See page [IR-9](#))
11. **REMOVE NO. 1 LUGGAGE COMPARTMENT TRIM HOOK**
(a) Remove the No. 1 luggage compartment trim hook (see page [IR-8](#)).
12. **REMOVE NO. 1 SIDE TRIM ASSEMBLY** (See page [IR-10](#))
13. **REMOVE NO. 2 DECK SIDE TRIM HOOK**
(a) Remove the No. 2 deck side trim hook (see page [IR-8](#)).
14. **REMOVE DECK TRIM SIDE PANEL ASSEMBLY**
(a) Remove the deck trim side panel (see page [IR-8](#)).
15. **REMOVE REAR WHEEL**
16. **DISCONNECT SKID CONTROL SENSOR WIRE**
(a) Disconnect the skid control sensor connector.
(b) Remove the bolt and wire bracket.

**SP**

SP-34

SUSPENSION – REAR SHOCK ABSORBER WITH COIL SPRING

**17. DISCONNECT REAR STABILIZER LINK ASSEMBLY LH**

- (a) Remove the nut and disconnect the stabilizer link LH.

HINT:

If the ball joint turns together with the nut, use a h5 mm hexagon wrench to hold the stud.

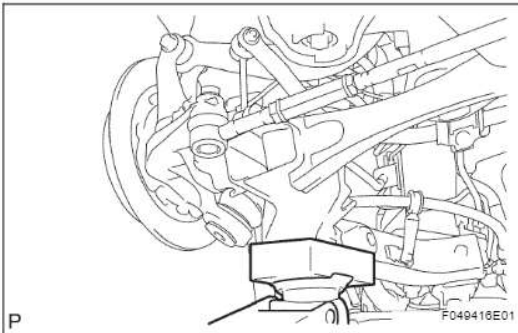
18. DISCONNECT REAR STABILIZER LINK ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

19. REMOVE REAR SHOCK ABSORBER WITH COIL SPRING

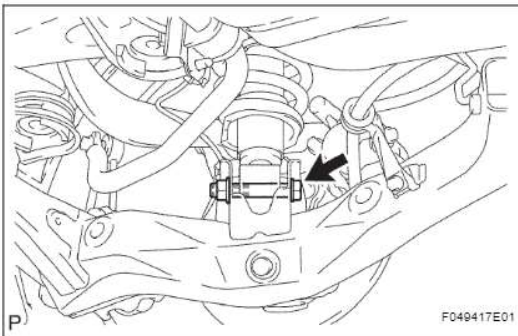
- (a) Support the suspension No. 1 arm LH.



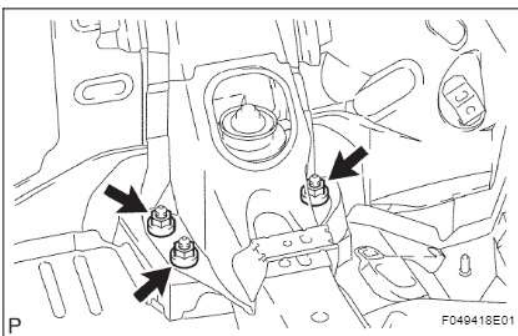
- (b) Remove the bolt and nut from the No. 1 suspension arm LH.

NOTICE:

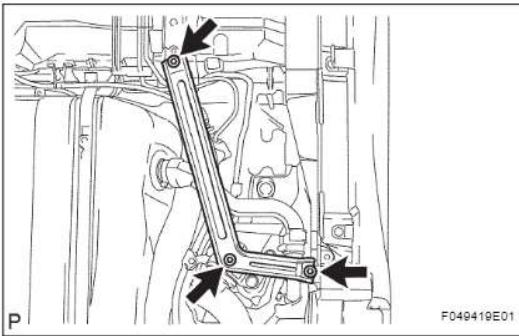
When removing the bolt, hold the nut in place.



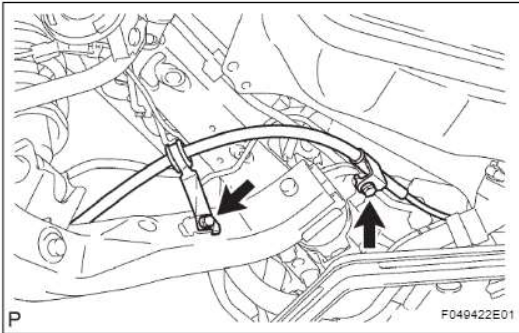
- (c) Remove the 3 nuts.



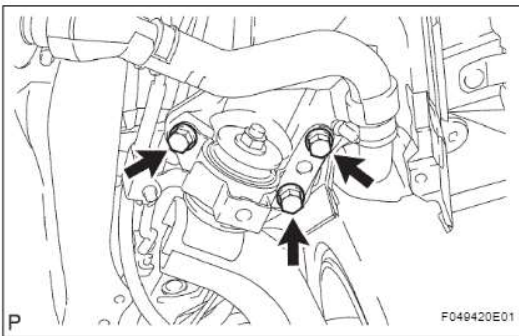
SP

SUSPENSION – REAR SHOCK ABSORBER WITH COIL SPRING**SP-35**

(d) Remove the 3 bolts and suspension lower brace LH.



(e) Remove the 2 bolts, and disconnect the No. 3 parking brake cable.



(f) Remove the 3 bolts from the suspension arm bracket LH.

(g) Press the No. 1 suspension arm LH down to the outside of the vehicle and remove the shock absorber with coil spring.

SP

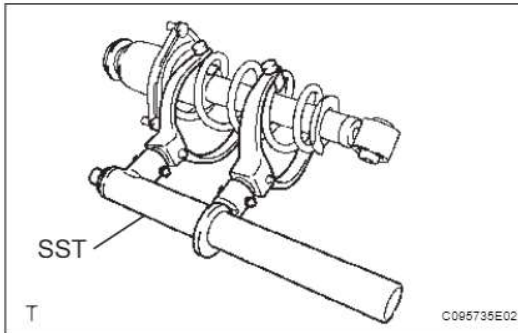
SP-36

SUSPENSION – REAR SHOCK ABSORBER WITH COIL SPRING

DISASSEMBLY

1. REMOVE REAR SHOCK ABSORBER CAP

- (a) Remove the cap from the shock absorber.

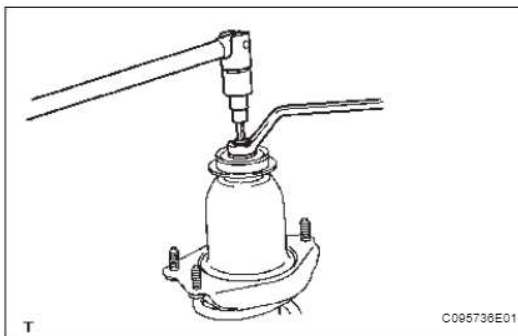


2. REMOVE REAR SHOCK ABSORBER

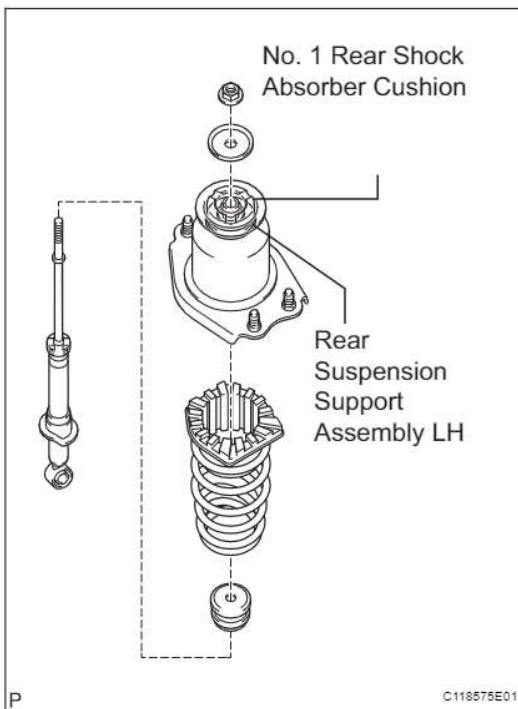
- (a) Using SST, compress the coil spring.
SST 09727-30021 (09727-00010, 09727-00021, 09727-00031)

NOTICE:

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

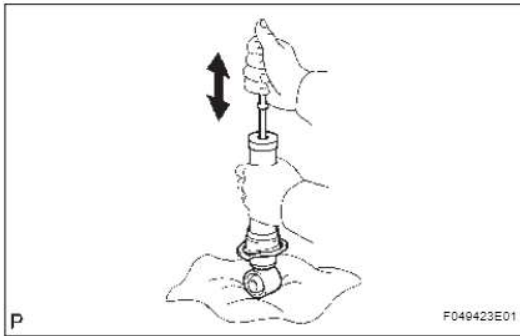


- (b) Using a 6 mm hexagon wrench to hold the piston rod, remove the nut.



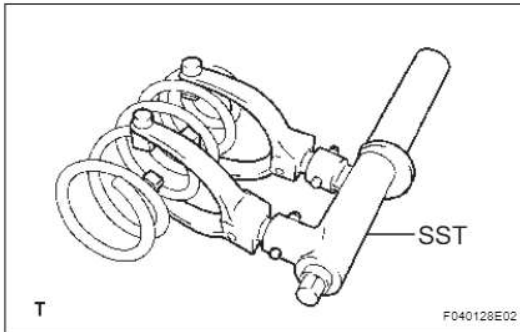
- (c) Remove the No. 1 shock absorber cushion washer.
 (d) Remove the suspension support LH.
 (e) Remove the spring front bracket LH.
 (f) Remove the No. 1 shock absorber cushion.
 (g) Remove the No. 1 spring bumper LH.
 (h) Remove the coil spring insulator upper LH.
 (i) Remove the coil spring.

SP

SUSPENSION – REAR SHOCK ABSORBER WITH COIL SPRING**SP-37****INSPECTION****1. INSPECT REAR SHOCK ABSORBER**

- (a) Compress and extend the shock absorber rod and check for unusual resistance or unusual sound during the operation.

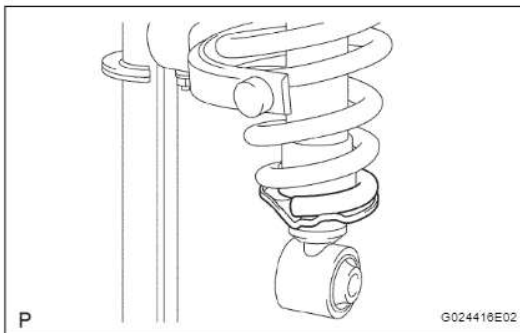
If there is any malfunction, replace the shock absorber with a new one.

**REASSEMBLY****1. INSTALL REAR SHOCK ABSORBER**

- (a) Using SST, compress the coil spring.
SST 09727-30021 (09727-00010, 09727-00021, 09727-00031)

NOTICE:

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

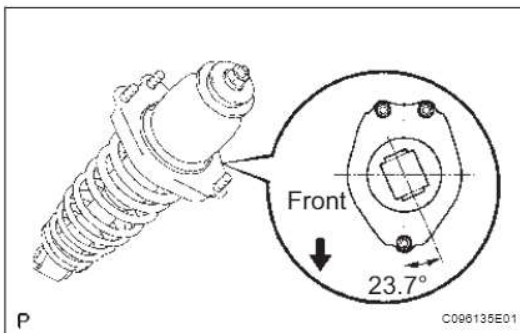


- (b) Install the coil spring to the shock absorber.

NOTICE:

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

- (c) Install the No. 1 spring bumper LH and suspension support LH.
(d) Set the coil spring insulator upper LH to the spring front bracket LH.

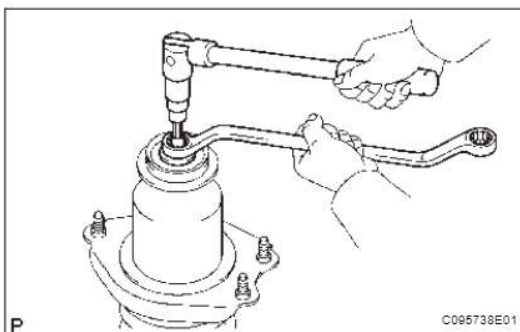


- (e) Position the spring front bracket LH with coil spring insulator upper LH as shown in the illustration.

HINT:

Place the RH side on the symmetric position to the illustration.

- (f) Install the suspension support LH and No. 1 shock absorber cushion washer.
(g) Temporarily tighten a new center nut.
(h) Remove SST.
(i) Recheck the direction of the spring bracket.



- (j) Using a 6 mm hexagon wrench to hold the piston rod, tighten the nut.

Torque: 56 N*m (571 kgf*cm, 41 ft.*lbf)

2. INSTALL REAR SHOCK ABSORBER CAP

- (a) Install the cap to the shock absorber.

SP

SP-38

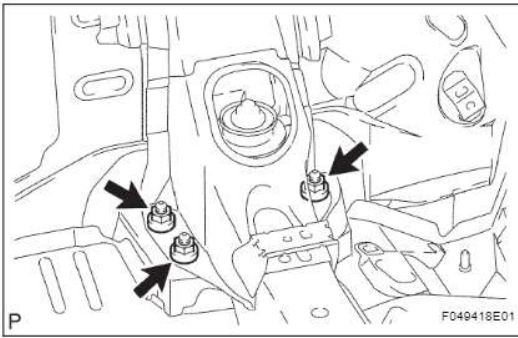
SUSPENSION – REAR SHOCK ABSORBER WITH COIL SPRING

INSTALLATION

1. INSTALL REAR SHOCK ABSORBER WITH COIL SPRING

- (a) Install the shock absorber with coil spring with the 3 nuts.

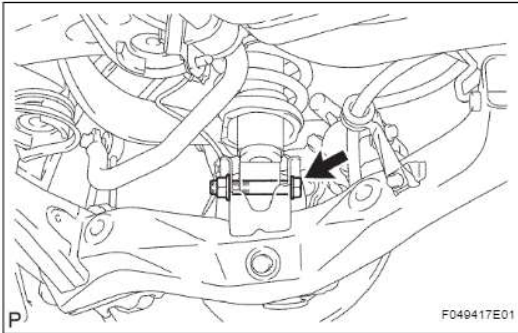
Torque: 80 N*m (816 kgf*cm, 59 ft.*lbf)



- (b) Temporarily tighten the bolt and nut.

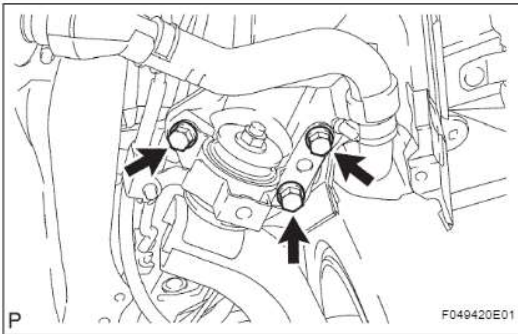
NOTICE:

When installing the bolt, tighten the bolt temporarily with the nut fixed.



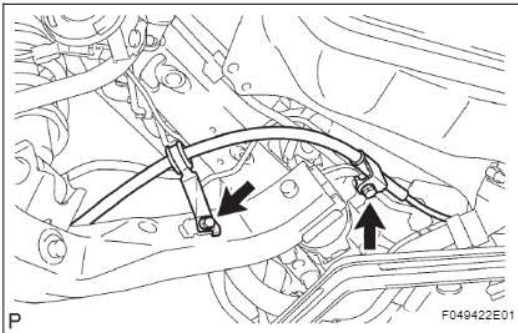
- (c) Install the suspension No. 1 arm LH with the 3 bolts.

Torque: 65 N*m (663 kgf*cm, 48 ft.*lbf)



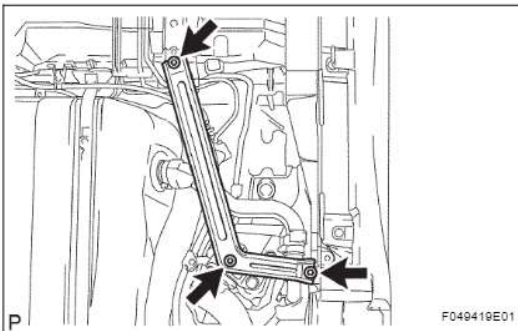
- (d) Connect the No. 3 parking brake cable with the 2 bolts.

Torque: 6.0 N*m (61 kgf*cm, 53 in.*lbf)

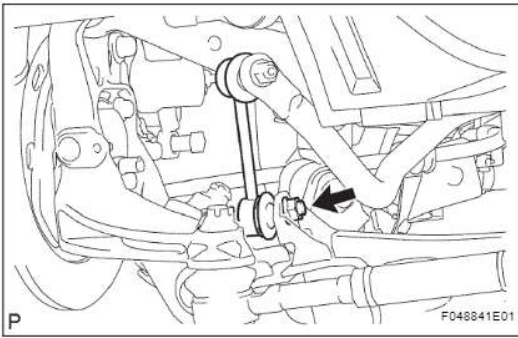


- (e) Install the suspension lower brace LH with the 3 bolts.

Torque: 64 N*m (653 kgf*cm, 47 ft.*lbf)



SP

SUSPENSION – REAR SHOCK ABSORBER WITH COIL SPRING**SP-39****2. CONNECT REAR STABILIZER LINK ASSEMBLY LH**

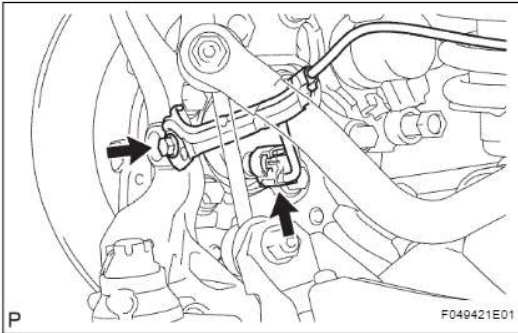
- (a) Connect the stabilizer link LH with the nut.

Torque: 44 N*m (449 kgf*cm, 32 ft.*lbf)**HINT:**

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

3. CONNECT REAR STABILIZER LINK ASSEMBLY RH**HINT:**

Use the same procedures described for the LH side.

**4. CONNECT SKID CONTROL SENSOR WIRE**

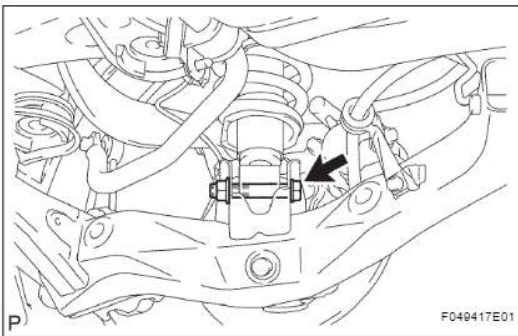
- (a) Install the wire bracket and bolt.

Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

- (b) Connect the skid control sensor connector.

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

- (a) Bounce the vehicle several times to stabilize the suspension.

**7. FULLY TIGHTEN REAR SHOCK ABSORBER WITH COIL SPRING**

- (a) Fully tighten the bolt and nut.

Torque: 140 N*m (1,430 kgf*cm, 103 ft.*lbf)**NOTICE:**

- When installing the bolt, hold the nut in place.
- Be sure to empty the vehicle when fully tightening the bolt and nut.

8. INSPECT AND ADJUST REAR WHEEL ALIGNMENT

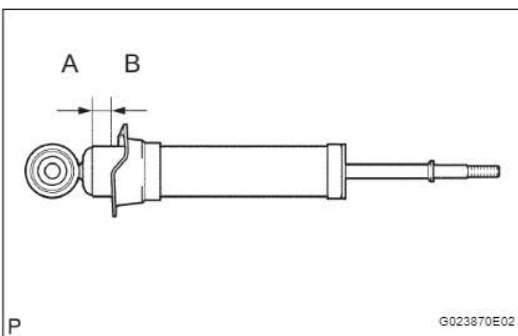
- (a) Inspect and adjust the rear wheel alignment (see page
- [SP-9](#)
-).

9. CHECK ABS SPEED SENSOR SIGNAL

- (a) Check ABS speed sensor signal (see page
- [BC-4](#)
-).

DISPOSAL**1. DISPOSE OF REAR SHOCK ABSORBER**

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

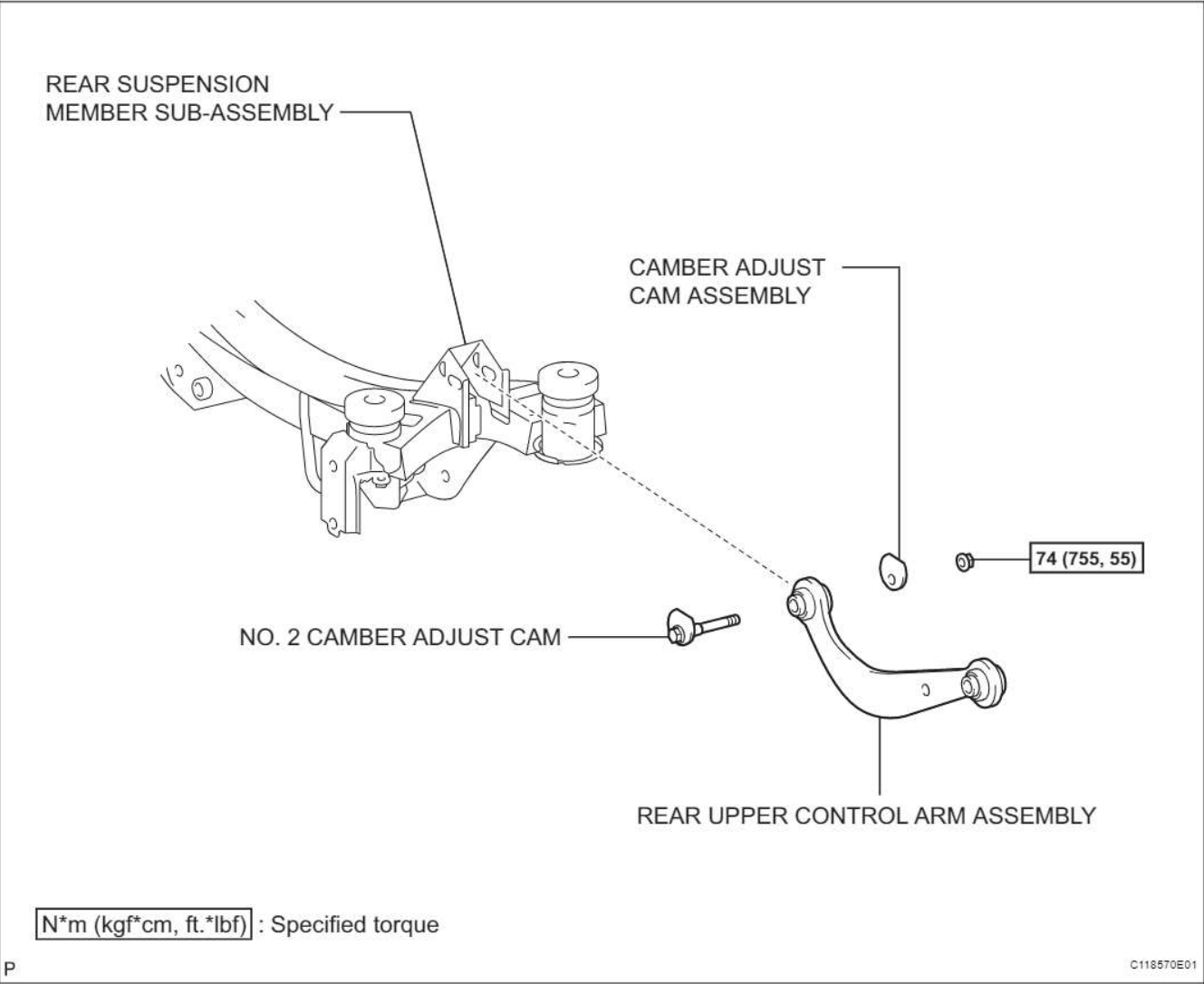
CAUTION:**Be careful when drilling because shards of metal may fly about, so always use the proper safety equipment.****NOTICE:****The discharged gas is colorless, odorless and non-poisonous.****SP**

SP-40

SUSPENSION – REAR UPPER CONTROL ARM

REAR UPPER CONTROL ARM

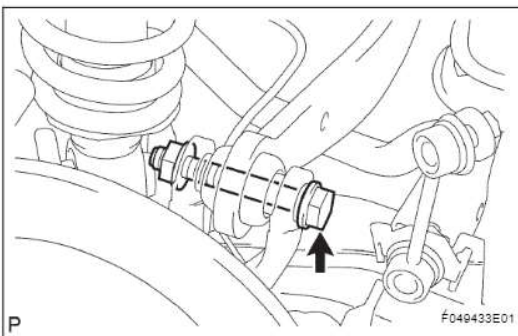
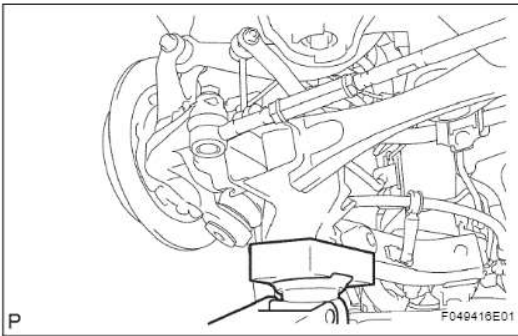
COMPONENTS



SP

SUSPENSION – REAR UPPER CONTROL ARM**SP-41****REMOVAL**

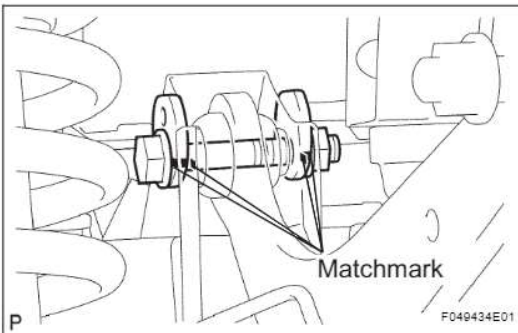
1. REMOVE REAR WHEEL
2. REMOVE REAR UPPER CONTROL ARM ASSEMBLY
 - (a) Support the No. 1 suspension arm.



- (b) Remove the bolt and nut, and disconnect the upper control arm.

NOTICE:

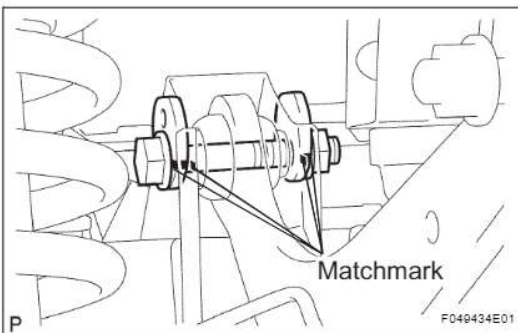
When removing the bolt, hold the nut in place.

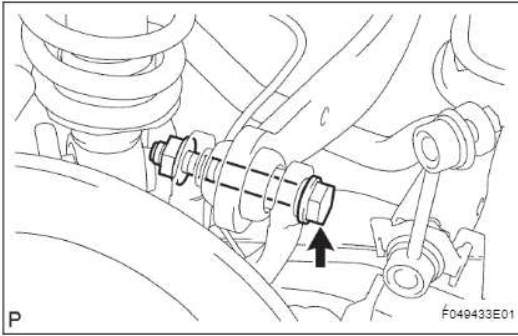


- (c) Put matchmarks on the camber adjust cam, No. 2 camber adjust cam and suspension member.
- (d) Remove the nut, No. 2 camber adjust cam and camber adjust cam.

INSTALLATION

1. INSTALL REAR UPPER CONTROL ARM ASSEMBLY
 - (a) Install the camber adjust cam from the front side of the vehicle, and temporarily fix it with the nut and the No. 2 camber adjust cam.

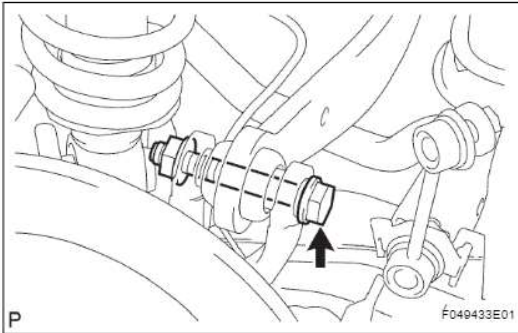
**SP**

SP-42**SUSPENSION – REAR UPPER CONTROL ARM**

(b) Install the upper control arm, and temporarily tighten the bolt and nut.

2. INSTALL REAR WHEEL

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

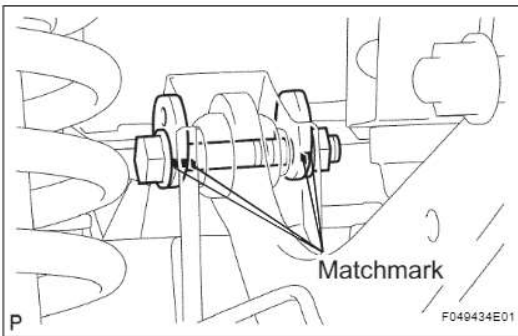
3. STABILIZE SUSPENSION (See page [SP-38](#))**4. FULLY TIGHTEN REAR UPPER CONTROL ARM ASSEMBLY**

(a) Fully tighten the bolt and nut.

Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)

NOTICE:

When installing the bolt, hold the nut in place.



(b) Align the matchmarks, and fully tighten the nut.

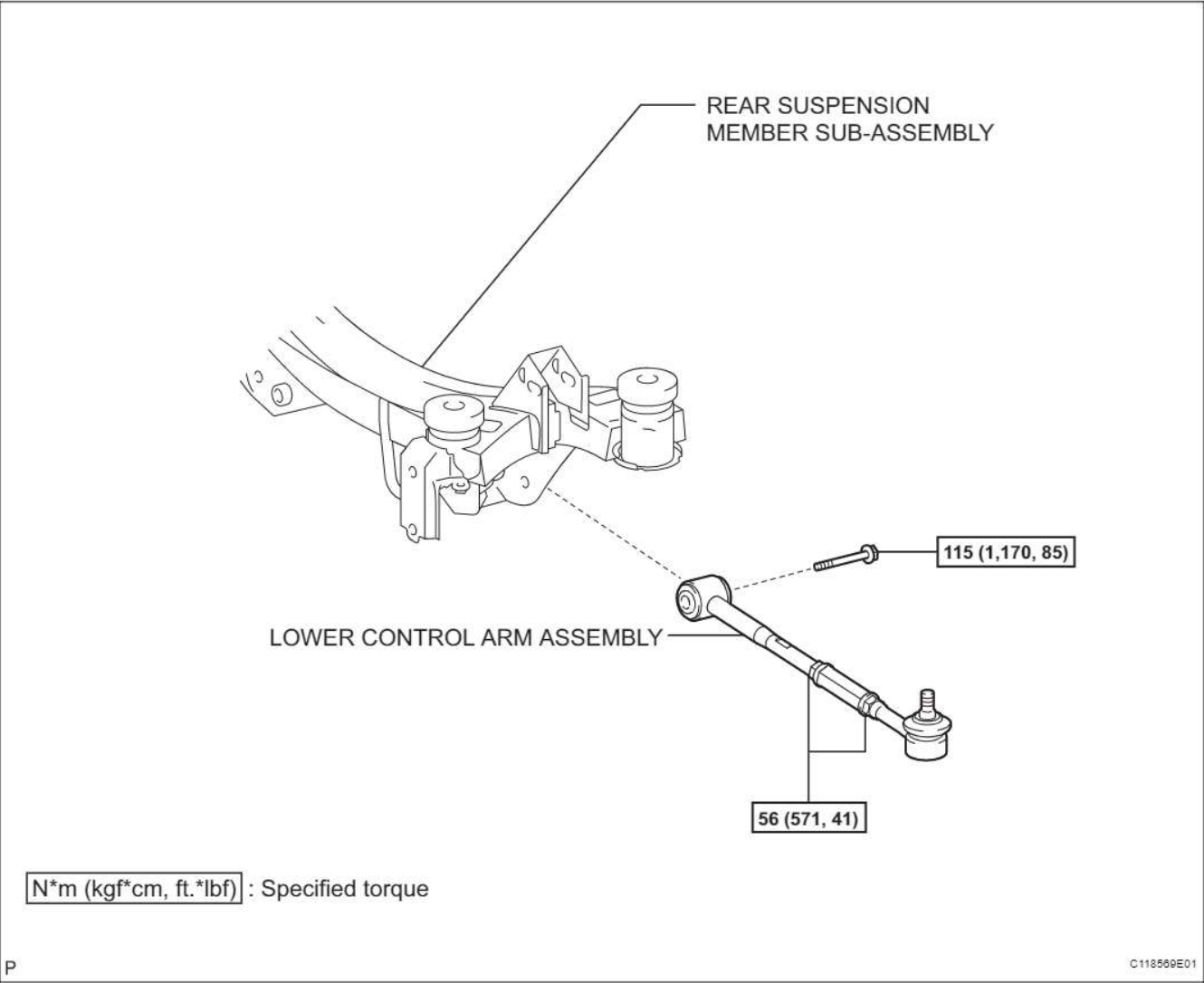
Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)

5. INSPECT AND ADJUST REAR WHEEL ALIGNMENT

(a) Inspect and adjust the rear wheel alignment (see page [SP-9](#)).

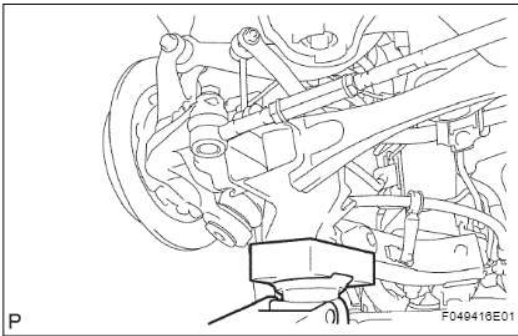
REAR LOWER CONTROL ARM

COMPONENTS

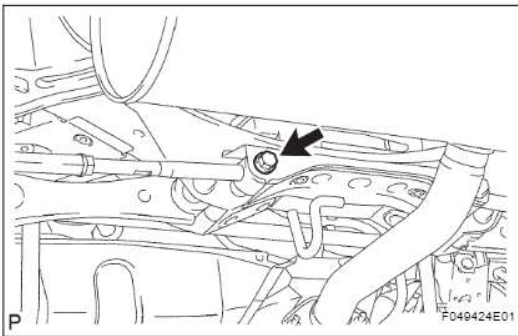


SP-44**SUSPENSION – REAR LOWER CONTROL ARM****REMOVAL****1. REMOVE REAR WHEEL****2. REMOVE LOWER CONTROL ARM ASSEMBLY**

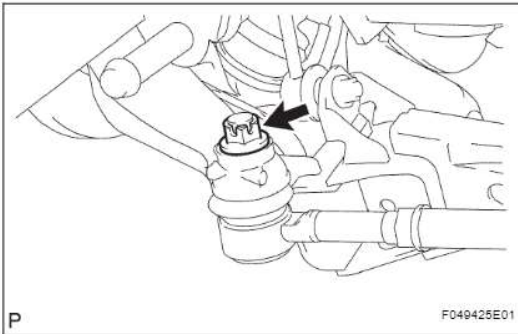
(a) Support the No. 1 suspension arm LH.



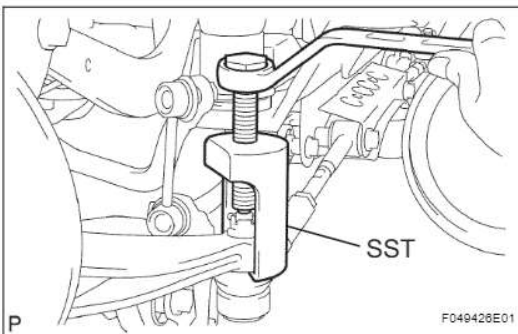
(b) Remove the bolt and disconnect the member side lower control arm LH from the rear suspension member.



(c) Remove the clip and nut.

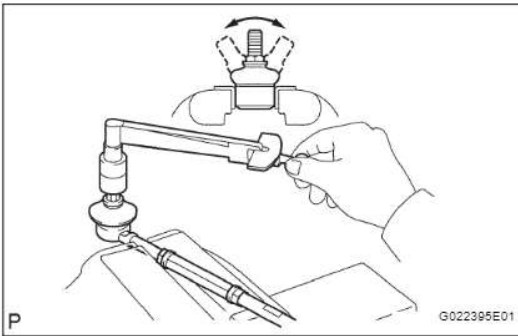


(d) Using SST, remove the lower control arm LH from the axle carrier LH.

SST 09610-20012**NOTICE:****Do not damage the dust cover.****SP**

SUSPENSION – REAR LOWER CONTROL ARM

SP-45



INSPECTION

1. INSPECT LOWER CONTROL ARM ASSEMBLY

- Before installing the nut, flip the ball joint stud back and forth 5 times as shown in the illustration.
- Using a torque wrench, continuously turn the nut for 2 to 4 seconds per turn, and take the torque reading at the fifth turn.

Torque: Standard turning torque

3.5 N*m (36 kgf*cm, 31 in.*lbf) or less

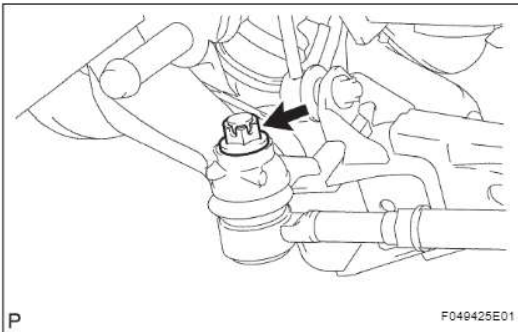
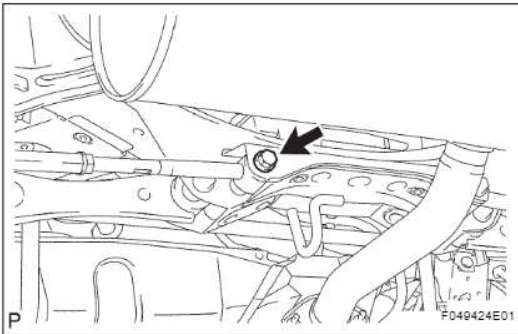
NOTICE:

- Make sure that neither unusual drag nor rattle occurs during the rotation.
- Make sure that neither crack nor grease leakage exists on the dust cover.
- Make sure that the lower control arm LH is not deformed.

INSTALLATION

1. INSTALL LOWER CONTROL ARM ASSEMBLY

- Install the lower control arm to the rear suspension member, and temporarily tighten the bolt.



- Install the nut.

Torque: 105 N*m (1,050 kgf*cm, 77 ft.*lbf)

- Install the clip.

NOTICE:

- When the holes for the clip are not aligned, adjust them by tightening the nut. The tightening angle for the adjustment must be less than 60°.
- Insert the clip from the rear side of the vehicle.

2. INSTALL REAR WHEEL

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

3. STABILIZE SUSPENSION (See page [SP-38](#))

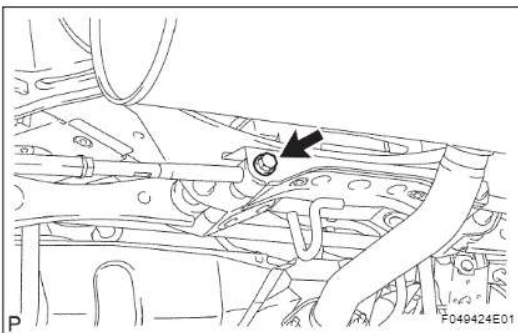
4. FULLY TIGHTEN LOWER CONTROL ARM ASSEMBLY

- Fully tighten the bolt.

Torque: 115 N*m (1,170 kgf*cm, 85 ft.*lbf)

5. INSPECT AND ADJUST REAR WHEEL ALIGNMENT

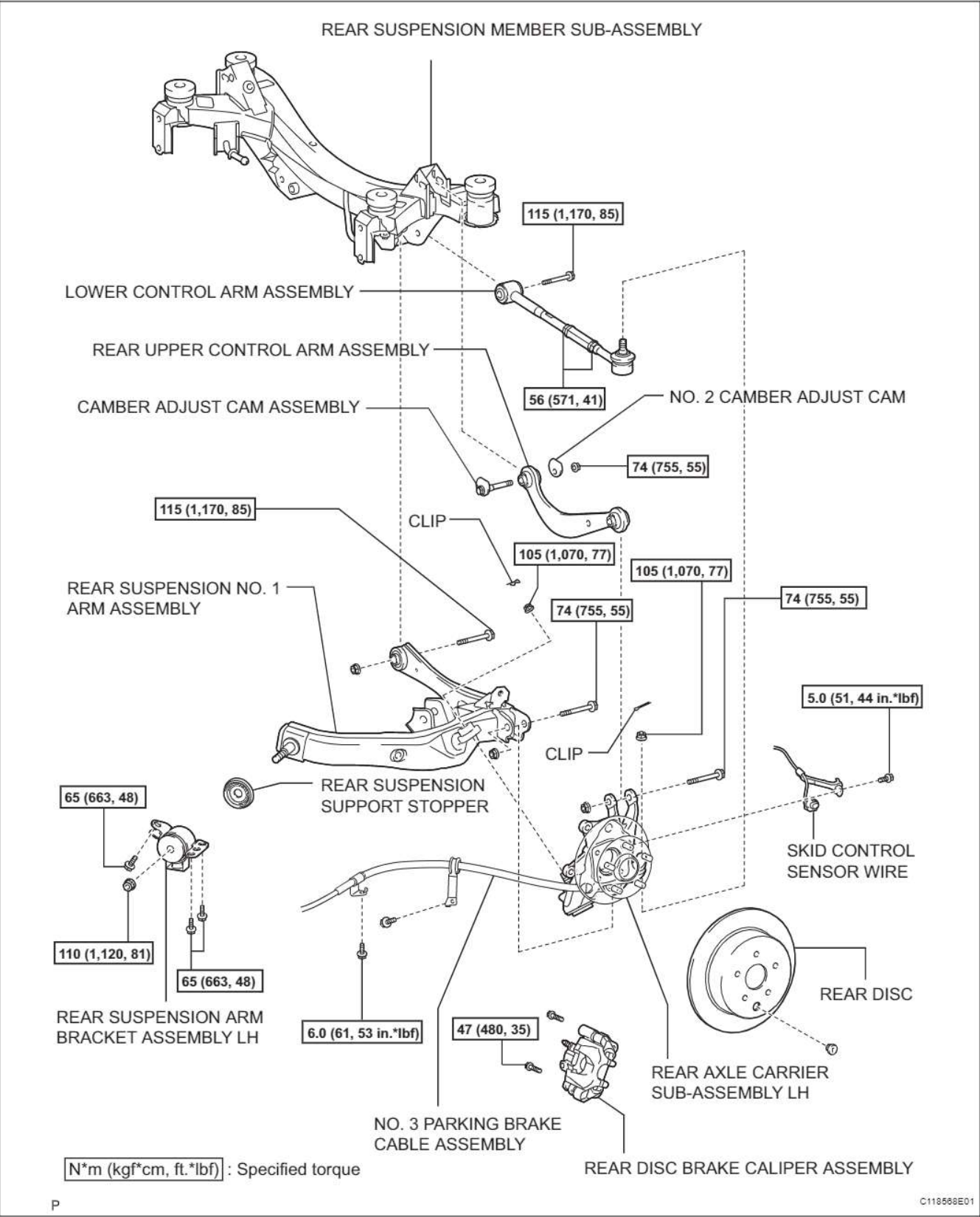
- Inspect and adjust the rear wheel alignment (see page [SP-9](#)).



SP

REAR NO. 1 SUSPENSION ARM

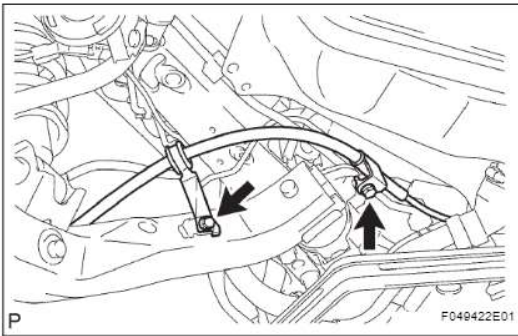
COMPONENTS



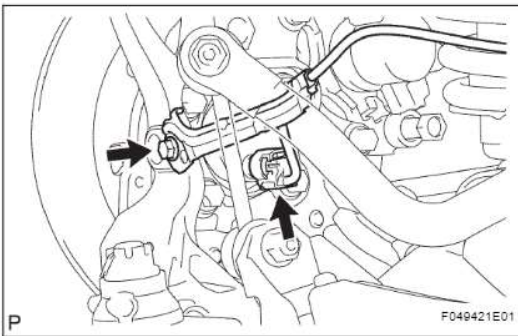
SUSPENSION – REAR NO. 1 SUSPENSION ARM**SP-47****REMOVAL**

1. **REMOVE REAR WHEEL**
2. **DISCONNECT NO. 3 PARKING BRAKE CABLE ASSEMBLY**

(a) Remove the 2 bolts and disconnect the No. 3 parking brake cable.

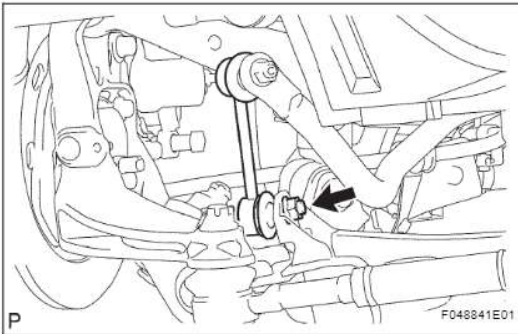


3. **DISCONNECT SKID CONTROL SENSOR WIRE**
 - (a) Disconnect the skid control sensor connector.
 - (b) Remove the bolt and disconnect the wire.

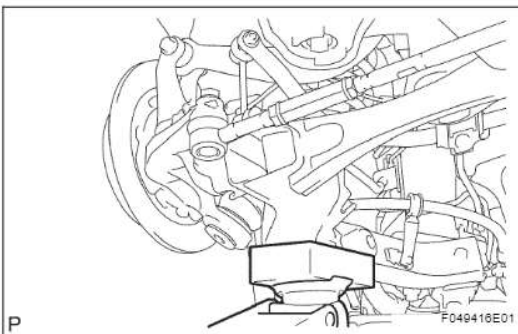


4. **DISCONNECT REAR STABILIZER LINK ASSEMBLY**
 - (a) Remove the nut, and disconnect the stabilizer link LH.

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

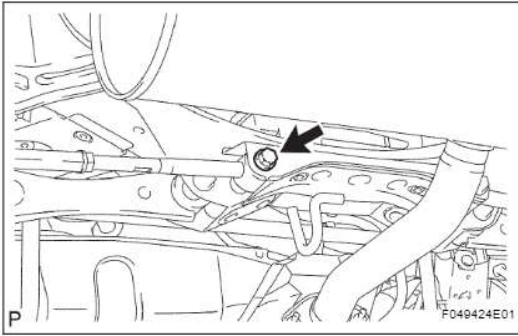


5. **REMOVE LOWER CONTROL ARM ASSEMBLY**
 - (a) Support the No. 1 suspension arm LH.

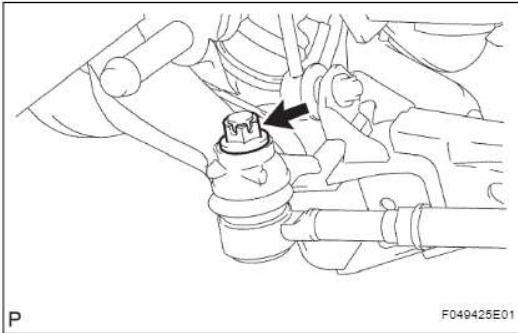
**SP**

SP-48

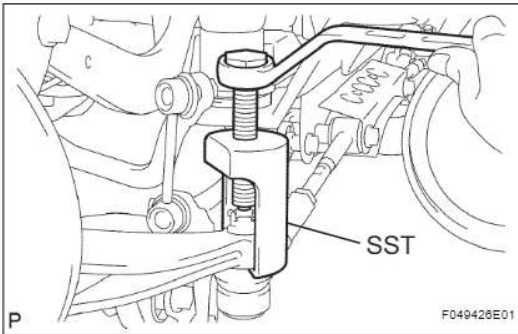
SUSPENSION – REAR NO. 1 SUSPENSION ARM



- (b) Remove the bolt and disconnect the member side lower control arm LH from the rear suspension member.



- (c) Remove the clip and nut.



- (d) Using SST, remove the lower control arm LH from the axle carrier LH.

SST 09610-20012

NOTICE:

Do not damage the dust cover.

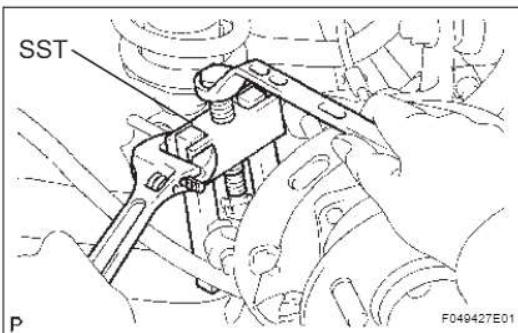
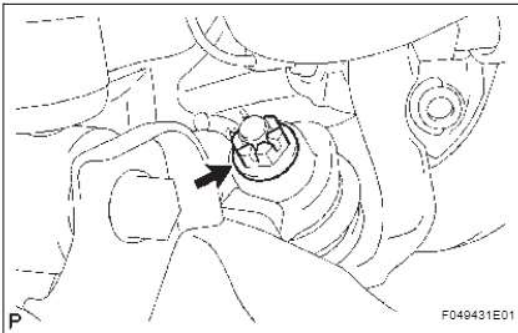
6. REMOVE REAR DISC BRAKE CALIPER ASSEMBLY

- (a) Remove the disc brake caliper (see page [BR-32](#)).

7. REMOVE REAR DISC (See page [BR-32](#))

8. REMOVE REAR SUSPENSION NO. 1 ARM ASSEMBLY

- (a) Remove the clip and nut.



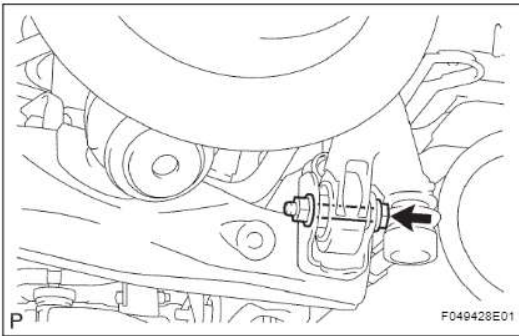
- (b) Using SST, disconnect the axle carrier LH front side from the No. 1 suspension arm LH.

SST 09628-62011

NOTICE:

- Do not damage the dust cover.
- Hang the upper control arm on the axle carrier LH side with a wire or equivalent.

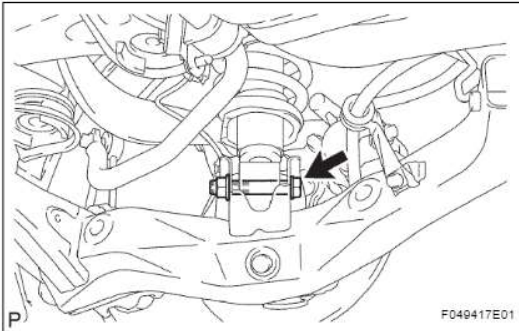
SP

SUSPENSION – REAR NO. 1 SUSPENSION ARM**SP-49**

- (c) Remove the bolt and nut, and disconnect the axle carrier LH side from the suspension No. 1 arm LH.

NOTICE:

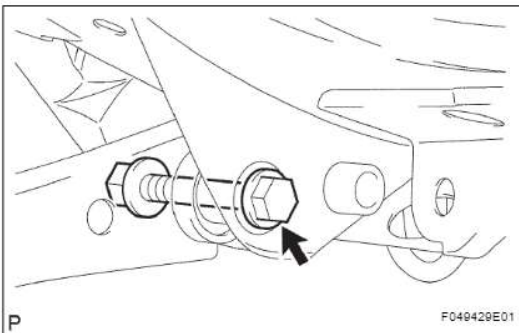
When removing the bolt, hold the nut in place.



- (d) Remove the bolt and nut, and disconnect the shock absorber with coil spring.

NOTICE:

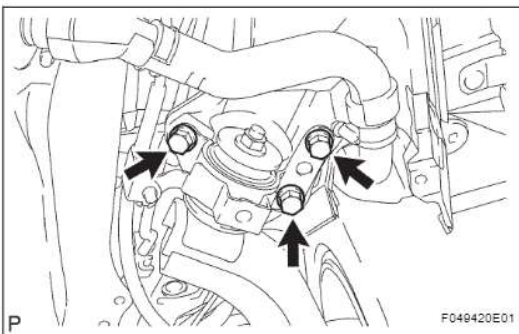
When removing the bolt, hold the nut in place.



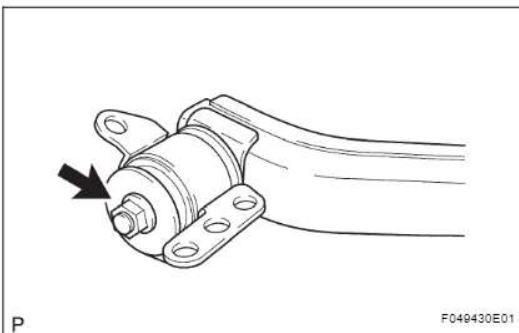
- (e) Remove the bolt and nut, and disconnect the rear side suspension No. 1 arm LH.

NOTICE:

When removing the bolt, hold the nut in place.



- (f) Remove the 3 bolts and suspension No. 1 arm LH.



- (g) Remove the nut, suspension arm bracket LH and suspension support stopper.

SP

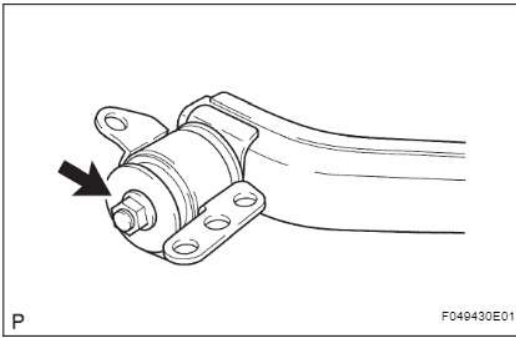
SP-50

SUSPENSION – REAR NO. 1 SUSPENSION ARM

INSTALLATION

1. INSTALL REAR SUSPENSION NO. 1 ARM ASSEMBLY

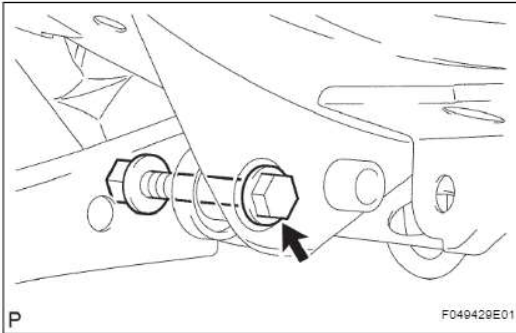
- (a) Install the suspension support stopper and suspension arm bracket LH, and temporarily tighten the nut.



- (b) Install the rear side suspension No. 1 arm LH and temporarily tighten the bolt and nut.

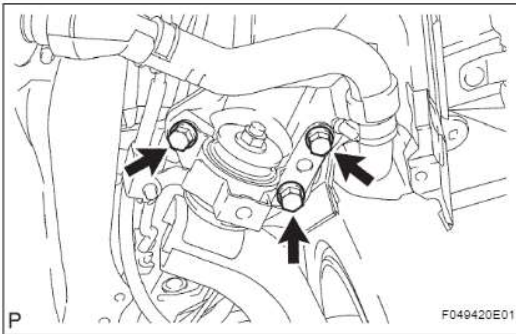
NOTICE:

When installing the bolt, hold the nut in place.

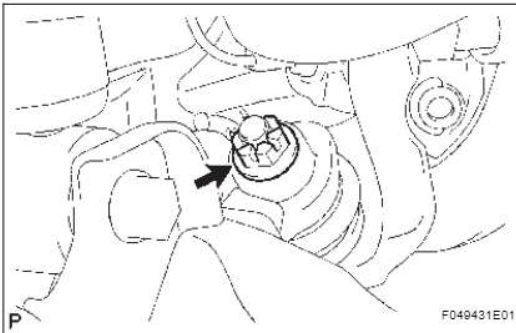


- (c) Install the 3 bolts.

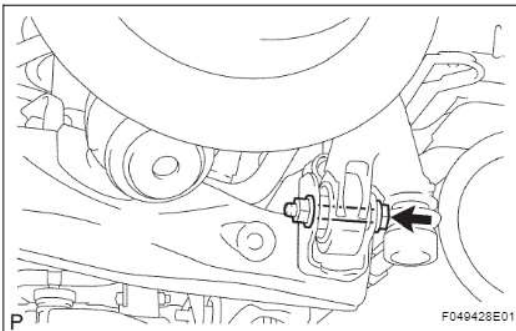
Torque: 65 N*m (663 kgf*cm, 48 ft.*lbf)



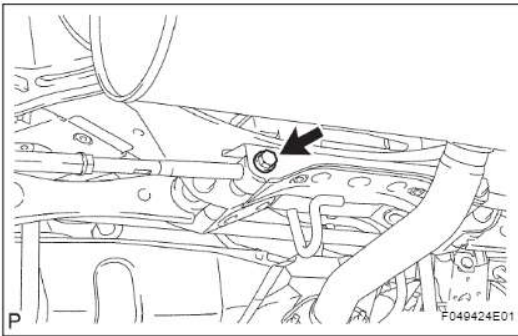
- (d) Install the front side rear axle carrier LH to the suspension No. 1 arm LH and temporarily tighten the nut.



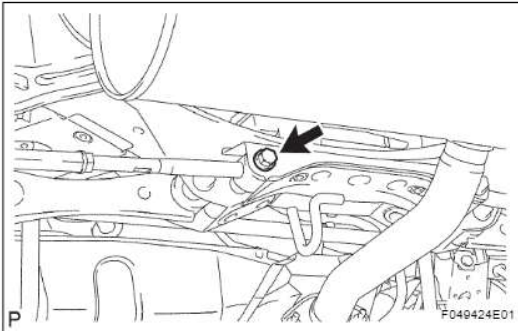
- (e) Install the axle carrier LH to the No. 1 suspension arm LH and temporarily tighten the bolt and nut.



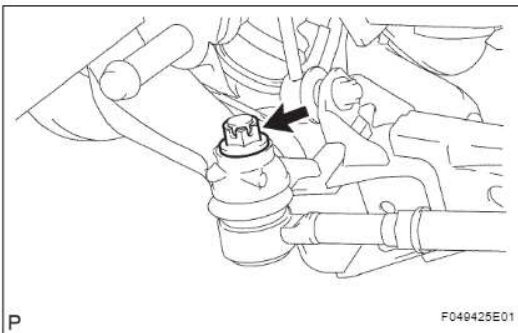
SP

SUSPENSION – REAR NO. 1 SUSPENSION ARM**SP-51**

- (f) Install the shock absorber with coil spring to the suspension No. 1 arm LH and temporarily tighten the bolt and nut.

**2. INSTALL LOWER CONTROL ARM ASSEMBLY**

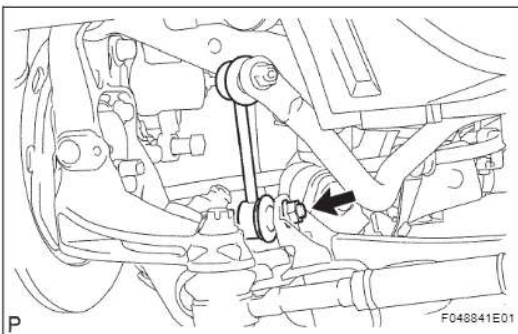
- (a) Install the lower control arm LH and temporarily tighten the bolt.



- (b) Install the lower control arm LH to the axle carrier LH and temporarily tighten the nut.

3. INSTALL REAR DISC (See page BR-35)**4. INSTALL REAR DISC BRAKE CALIPER ASSEMBLY**

- (a) Install the disc brake caliper (see page BR-34).

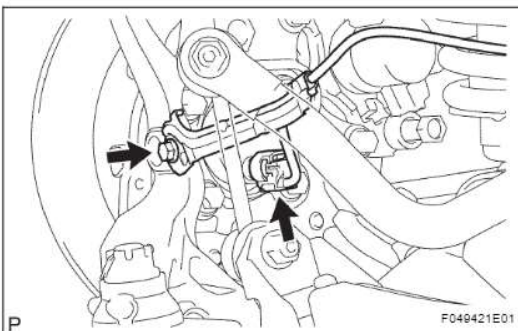
**5. INSTALL REAR STABILIZER LINK ASSEMBLY**

- (a) Install the stabilizer link LH with the nut.

Torque: 44 N*m (449 kgf*cm, 32 ft.*lbf)

HINT:

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

**6. CONNECT SKID CONTROL SENSOR WIRE**

- (a) Install the wire with bolt.

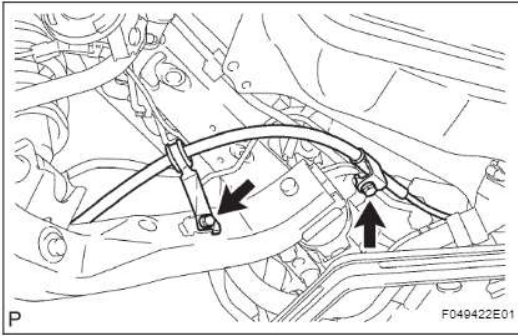
Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

- (b) Connect the skid control sensor connector.

SP

SP-52

SUSPENSION – REAR NO. 1 SUSPENSION ARM

**7. INSTALL NO. 3 PARKING BRAKE CABLE ASSEMBLY**

- (a) Connect the No. 3 parking brake cable with the 2 bolts.

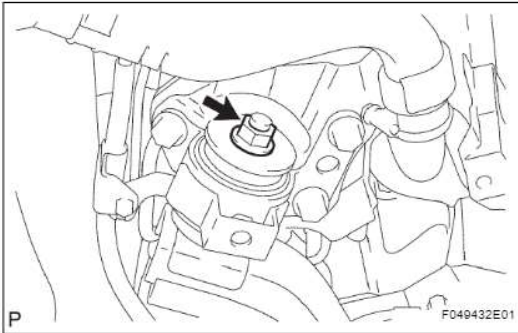
Torque: 6.0 N*m (61 kgf*cm, 53 in.*lbf)

8. INSTALL REAR WHEEL

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

9. STABILIZE SUSPENSION

- (a) Bounce the vehicle several times to stabilize the suspension.

**10. FULLY TIGHTEN REAR SUSPENSION NO. 1 ARM ASSEMBLY****NOTICE:**

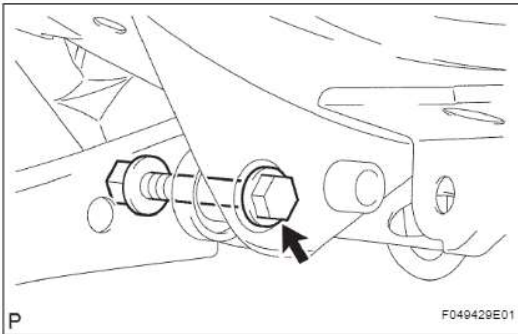
Be sure to empty the vehicle when fully tightening the bolt and nut.

- (a) Fully tighten the nut.

Torque: 110 N*m (1,120 kgf*cm, 81 ft.*lbf)

- (b) Fully tighten the bolt.

Torque: 115 N*m (1,170 kgf*cm, 85 ft.*lbf)

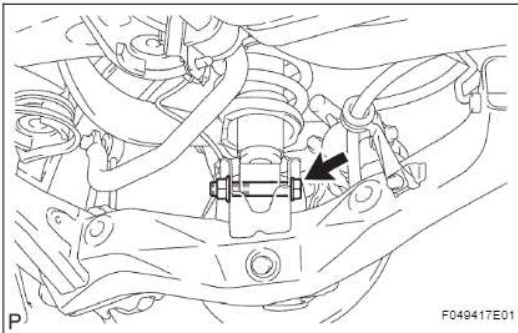


- (c) Fully tighten the bolt and nut.

Torque: 140 N*m (1,430 kgf*cm, 103 ft.*lbf)

NOTICE:

When installing the bolt, hold the nut in place.



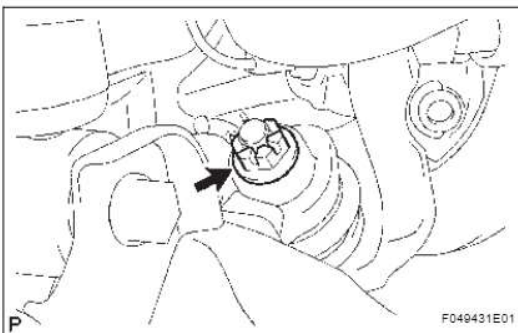
- (d) Fully tighten the nut.

Torque: 105 N*m (1,070 kgf*cm, 77 ft.*lbf)

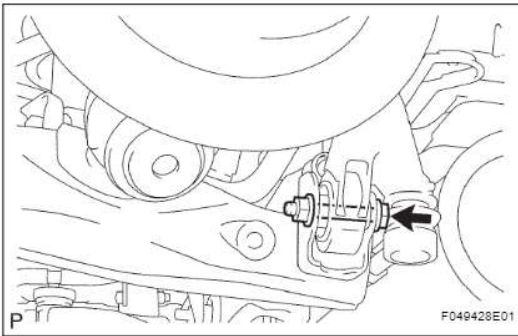
- (e) Install the clip.

NOTICE:

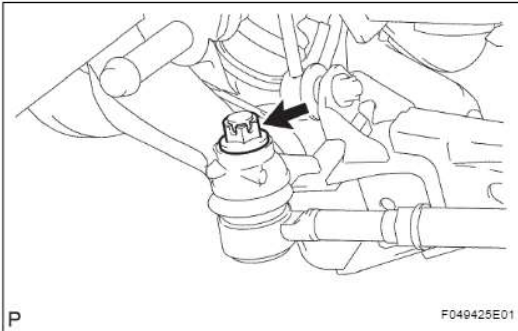
- When the holes for the clip are not aligned, adjust them by tightening the nut. The tightening angle for the adjustment must be less than 60°.
- Insert the clip from the front side of the vehicle.



SP

SUSPENSION – REAR NO. 1 SUSPENSION ARM**SP-53**

- (f) Fully tighten the bolt and nut.
Torque: 74 N*m (755 kgf*cm, 55 ft.*lbf)
NOTICE:
When installing the bolt, hold the nut in place.

**11. FULLY TIGHTEN LOWER CONTROL ARM ASSEMBLY****NOTICE:**

Be sure to empty the vehicle when fully tightening the bolt and nut.

- (a) Fully tighten the nut.
Torque: 105 N*m (1,070 kgf*cm, 77 ft.*lbf)
 (b) Install the clip.

NOTICE:

- When the holes for the clip are not alignment, adjust them by tightening the nut. The tightening angle for the adjustment must be less than 60°.
- Insert the clip from the rear side of the vehicle.

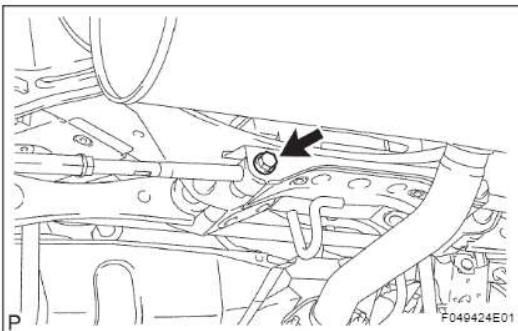
- (c) Fully tighten the bolt.
Torque: 115 N*m (1,170 kgf*cm, 85 ft.*lbf)

12. INSPECT AND ADJUST REAR WHEEL ALIGNMENT

- (a) Inspect and adjust the rear wheel alignment (see page [SP-9](#)).

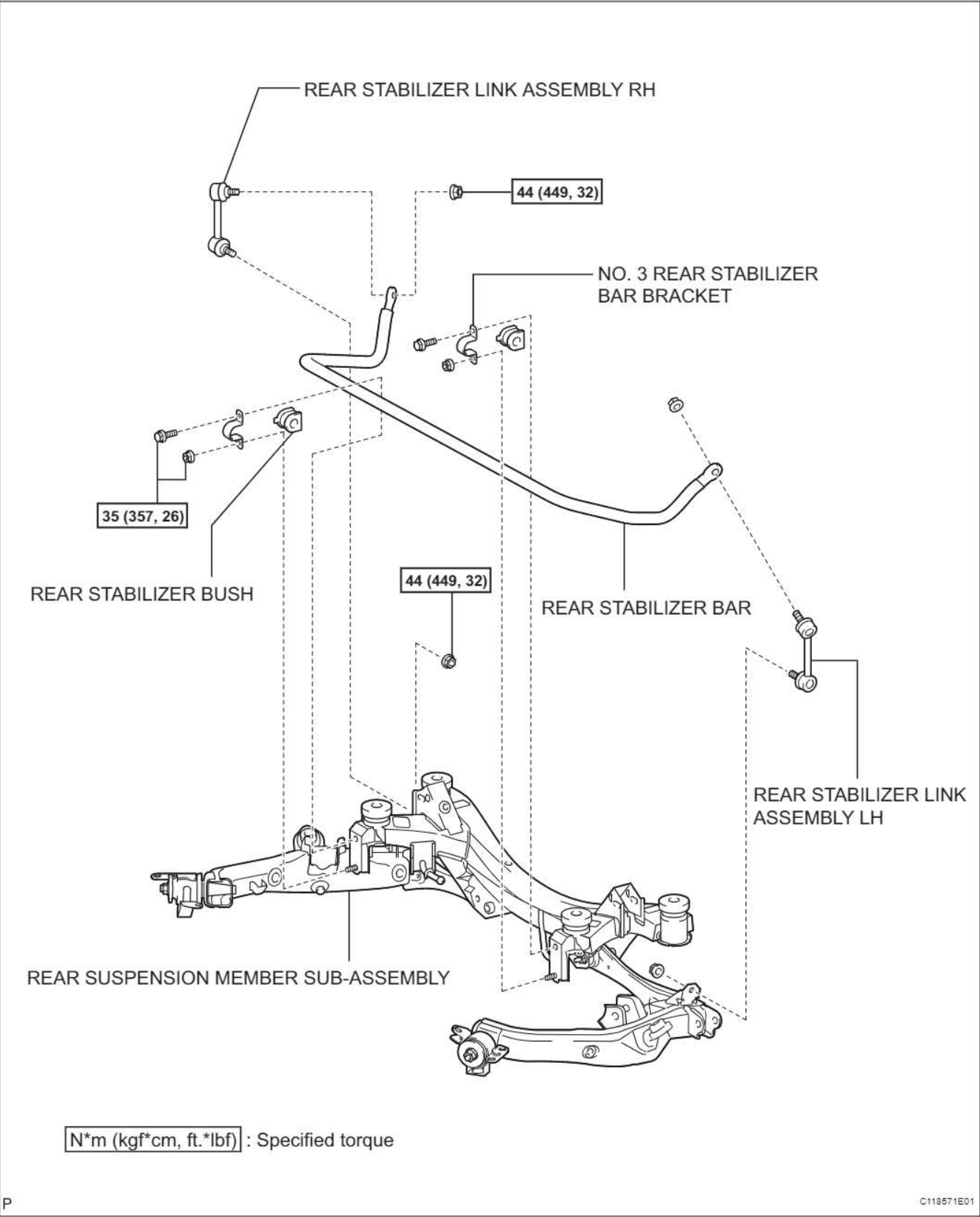
13. CHECK ABS SPEED SENSOR SIGNAL

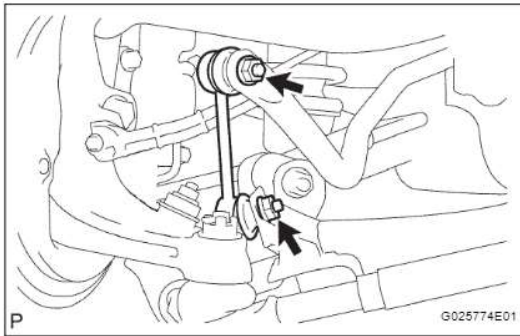
- (a) Check the ABS speed sensor signal (see page [BC-4](#)).

**SP**

REAR STABILIZER BAR

COMPONENTS



SUSPENSION – REAR STABILIZER BAR**SP-55****REMOVAL**

1. **REMOVE REAR STABILIZER LINK ASSEMBLY LH**
 - (a) Remove the 2 nuts and stabilizer link LH.

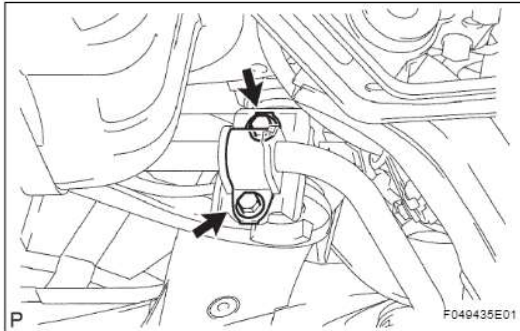
HINT:

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

2. **REMOVE REAR STABILIZER LINK ASSEMBLY RH**

HINT:

Use the same procedures described for the LH side.



3. **REMOVE REAR STABILIZER BAR**

- (a) Remove the 2 bolts, 2 nuts and 2 No. 3 stabilizer bar brackets from the suspension member.
- (b) Remove the 2 stabilizer bushes from the stabilizer bar.

INSPECTION

1. **INSPECT REAR STABILIZER BAR**

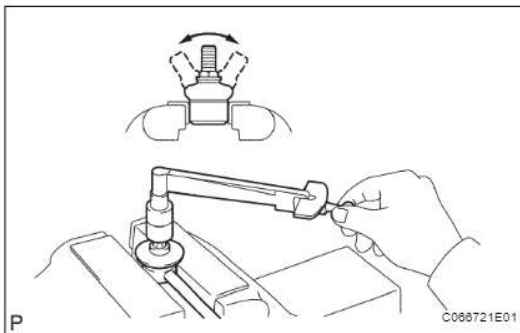
- (a) Before installing the nut, flip the ball joint stud back and forth 5 times as shown in the illustration.
- (b) Using a torque wrench, continuously turn the nut for 2 to 4 seconds per turn, and take the torque reading on the fifth turn.

Torque: Standard turning torque

1.0 N*m (10 kgf*cm, 8.7 in.*lbf) or less

NOTICE:

- Make sure that neither unusual drag nor rattle occurs during the rotation.
- Make sure that neither crack nor grease leakage exists on the dust cover.
- Make sure that the stabilizer link LH is not deformed.

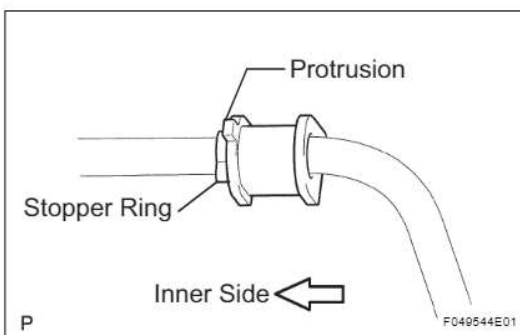
**INSTALLATION**

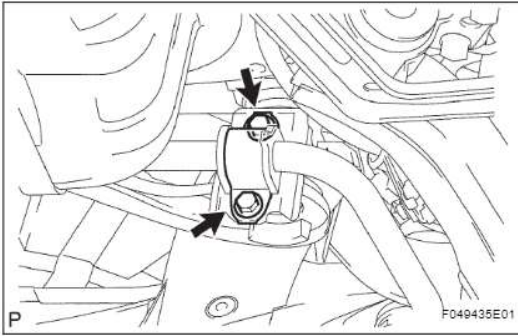
1. **INSTALL REAR STABILIZER BAR**

- (a) Install the 2 stabilizer bushes to the stabilizer bar.

HINT:

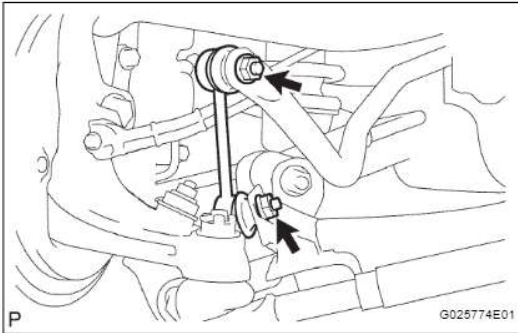
- Install the stabilizer bush to the outer side of the stopper ring on the stabilizer bar.
- Install the stabilizer bush with the protrusion facing towards the inside of the vehicle.

**SP**

SP-56**SUSPENSION – REAR STABILIZER BAR**

- (b) Install the stabilizer bar and 2 No. 3 stabilizer bar brackets with the 2 bolts and 2 nuts.

Torque: 35 N*m (357 kgf*cm, 26 ft.*lbf)



2. INSTALL REAR STABILIZER LINK ASSEMBLY LH

- (a) Install the stabilizer link LH with the 2 nuts.

Torque: 44 N*m (49 kgf*cm, 32 ft.*lbf)

HINT:

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

3. INSTALL REAR STABILIZER LINK ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

4. INSTALL REAR WHEEL ALIGNMENT

- (a) Inspect and adjust the rear wheel alignment (see page [SP-9](#)).