

TROUBLESHOOTING

PROBLEM SYMPTOMS TABLE

SAOR1-04

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
Wanders/pulls	1. Tire (Worn or improperly inflated) 2. Wheel alignment (Incorrect) 3. Steering linkage (Loose or worn) 4. Hub bearing (Loose or worn) 5. Steering gear (Out of adjustment or broken) 6. Suspension parts (Worn)	SA-2 SA-5 SA-8 – SA-11 SA-47 SR-46 –
Bottoming	1. Vehicle (Overloaded) 2. Spring (Weak) 3. Shock absorber (Worn)	– SA-18 SA-104 SA-22 SA-107
Sways/pitches	1. Tire (Worn or improperly inflated) 2. Stabilizer bar (Bent or broken) 3. Shock absorber (Worn)	SA-2 SA-41 SA-122 SA-22 SA-107
Front wheel shimmy	1. Tire (Worn or improperly inflated) 2. Wheel (Out of balance) 3. Shock absorber (Worn) 4. Wheel alignment (Incorrect) 5. Ball joint (Worn) 6. Hub bearing (Loose or worn) 7. Steering linkage (Loose or worn) 8. Steering gear (Out of adjustment or broken)	SA-2 SA-2 SA-22 SA-5 SA-29 SA-36 SA-39 SA-11 – SR-46
Abnormal tire wear	1. Tire (Improperly inflated) 2. Wheel alignment (Incorrect) 3. Shock absorber (Worn) 4. Suspension parts (Worn)	SA-2 SA-5 SA-8 SA-22 SA-107 –
Noise in rear differential	1. Oil level (Low or wrong grade) 2. Excessive backlash between pinion and ring gear 3. Ring, pinion or side gears (Worn or chipped) 4. Side bearing (Worn)	SA-65 SA-72 SA-72 SA-72
Oil leak from rear differential	1. Oil level (Too high or wrong grade) 2. Drive pinion oil seal (Worn or damaged) 3. Side gear oil seal (Worn or damaged) 4. Companion flange (Loose or damaged) 5. Side gear shaft (Damaged)	SA-65 SA-63 SA-68 SA-77 SA-72

TIRE AND WHEEL INSPECTION

1. INSPECT TIRE

(a) Check the tires for wear and proper inflation pressure.

Cold tire inflation pressure:

Europe:

Up to 4 passengers:

Tire size	Front kPa (kgf/cm ² , psi)	Rear kPa (kgf/cm ² , psi)
215/45ZR17	250 (2.5, 36)* ¹	260 (2.6, 38)* ¹
	240 (2.4, 35)* ²	240 (2.4, 35)* ²
	230 (2.3, 33)* ³	230 (2.3, 33)* ³
205/55R16 89V	230 (2.3, 33)* ¹	240 (2.4, 35)* ¹
	230 (2.3, 33)* ²	230 (2.3, 33)* ²
	230 (2.3, 33)* ³	230 (2.3, 33)* ³

5 passengers:

Tire size	Front kPa (kgf/cm ² , psi)	Rear kPa (kgf/cm ² , psi)
215/45ZR17	260 (2.6, 38)* ¹	340 (3.4, 49)* ¹
	250 (2.5, 36)* ²	280 (2.8, 41)* ²
	230 (2.3, 33)* ³	240 (2.4, 35)* ³
205/55R16 89V	240 (2.4, 35)* ¹	310 (3.1, 45)* ¹
	240 (2.4, 35)* ²	270 (2.7, 39)* ²
	230 (2.3, 33)* ³	230 (2.3, 33)* ³

*¹: For driving at 210 km/h (131 mph) or over

*²: For driving at 160 km/h (100 mph) to 210 km/h (131 mph)

*³: For driving under 160 km/h (100 mph)

Others:

Up to 4 passengers:

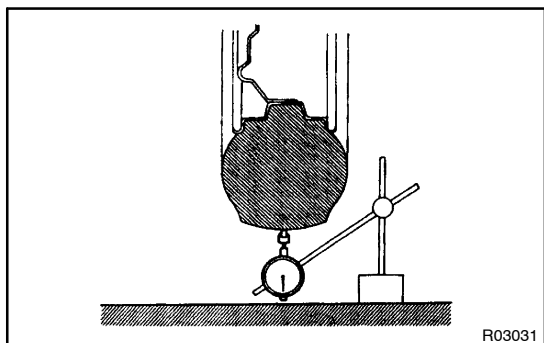
Tire size	Front kPa (kgf/cm ² , psi)	Rear kPa (kgf/cm ² , psi)
215/45ZR17	280 (2.8, 41)* ⁴	280 (2.8, 41)* ⁴
	230 (2.3, 33)* ⁵	230 (2.3, 33)* ⁵
205/55R16 89V	270 (2.7, 39)* ⁴	270 (2.7, 39)* ⁴
	220 (2.2, 32)* ⁵	220 (2.2, 32)* ⁵

5 passengers:

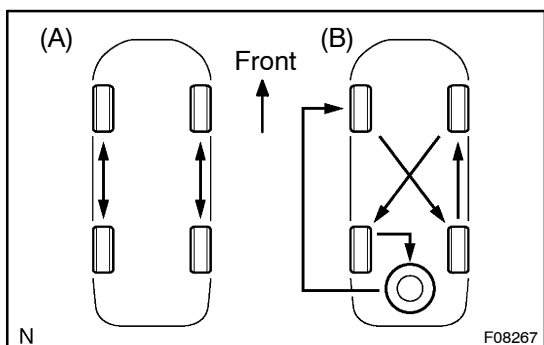
Tire size	Front kPa (kgf/cm ² , psi)	Rear kPa (kgf/cm ² , psi)
215/45ZR17	290 (2.9, 42)* ⁴	320 (3.2, 46)* ⁴
	230 (2.3, 33)* ⁵	240 (2.4, 35)* ⁵
205/55R16 89V	280 (2.8, 41)* ⁴	310 (3.1, 45)* ⁴
	220 (2.2, 32)* ⁵	220 (2.2, 32)* ⁵

*⁴: For driving at 140 km/h (88 mph) or over

*⁵: For driving under 140 km/h (88 mph)



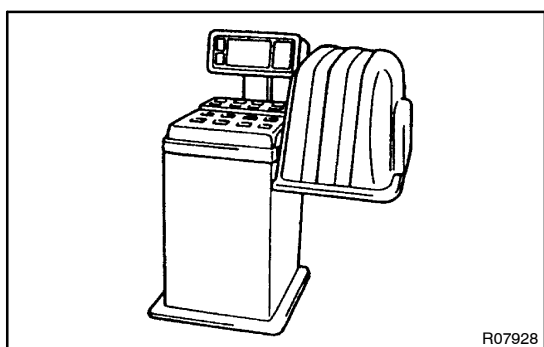
- (b) Check the tire runout.
Tire runout: 1.4 mm (0.055 in.) or less



2. ROTATING TIRES

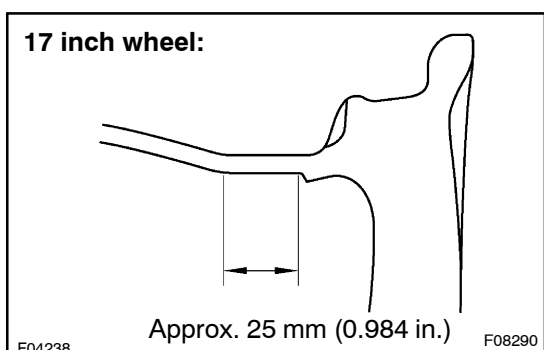
HINT:

Rotate tires as shown in the illustration as rotation way differs according to whether the tire turning direction is specified (A) or (B).



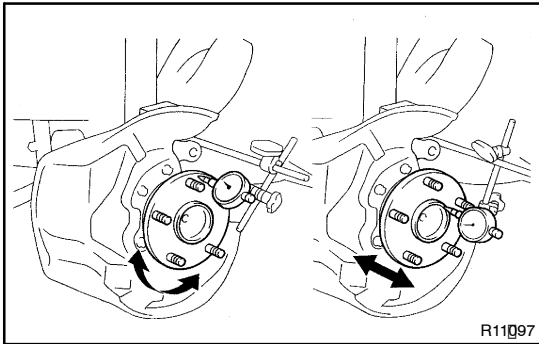
3. INSPECT WHEEL BALANCE

- (a) Check and adjust the off-the-car balance.
 (b) If necessary, check and adjust the on-the-car balance.
Imbalance after adjustment: 8.0 g (0.018 lb) or less



NOTICE:

- Adhere the sticking type balance weight to the flat position as shown in the illustration.
- Push the balance weight securely with a finger to adhere it to the position.
 (Pushing force: 10 kgf/more than 2 secs.)
- After cleaning the surface which the balance weight will be adhered to of dirt, oil and water with a cleaning detergent, adhere the balance weight to the surface.
- Do not touch the sticking surface of the tape.
- Do not use the once used balance weight.
- Please use the TOYOTA genuine sticking type balance weight.

**4. CHECK WHEEL BEARING LOOSENESS**

(a) Check the backlash in the bearing shaft direction.

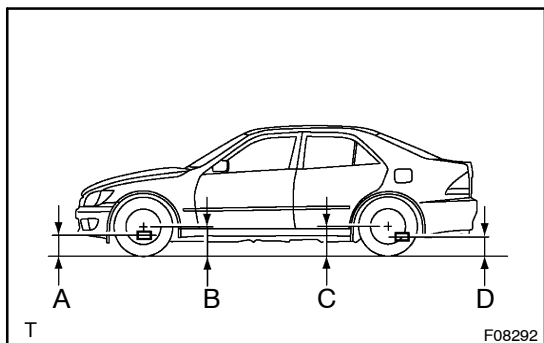
Maximum: 0.05 mm (0.0020 in.)

(b) Check the axle hub deviation.

Maximum: 0.05 mm (0.0020 in.)

5. CHECK FRONT SUSPENSION FOR LOOSENESS**6. CHECK STEERING LINKAGE FOR LOOSENESS****7. CHECK BALL JOINT FOR LOOSENESS AND EXCESSIVE PLAY (See page SA-36)****8. CHECK SHOCK ABSORBER WORKS PROPERLY**

- Check if oil leaks
- Check mounting bushings for wear
- Bounce front and rear of the vehicle



FRONT WHEEL ALIGNMENT INSPECTION

SA11U-01

1. MEASURE VEHICLE HEIGHT

Vehicle height:

Front vehicle height	Rear vehicle height
66 mm (2.60 in.)	66 mm (2.60 in.)

Measuring points:

A: Ground clearance of the front No. 1 lower suspension arm mounting bolt center.

B: Ground clearance of the front wheel center.

C: Ground clearance of the rear wheel center.

D: Ground clearance of the No. 2 lower suspension arm mounting bolt (Suspension member side) tail center.

Vehicle height:

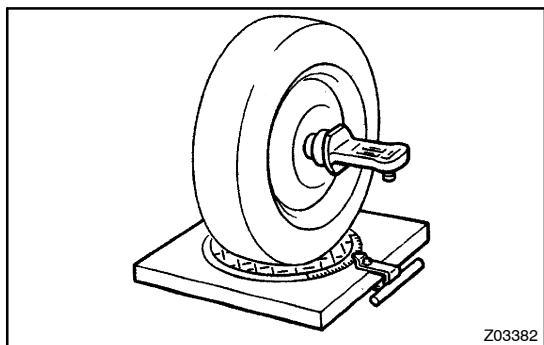
Front: B – A

Rear: C – D

NOTICE:

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

If the vehicle height is not the specified value, try to adjust it by pushing down on or lifting the body.



2. INSTALL CAMBER-CASTER-KINGPIN GAUGE OR POSITION VEHICLE ON WHEEL ALIGNMENT TESTER

Follow the specific instructions of the equipment manufacturer.

3. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION

Camber, caster and steering axis inclination:

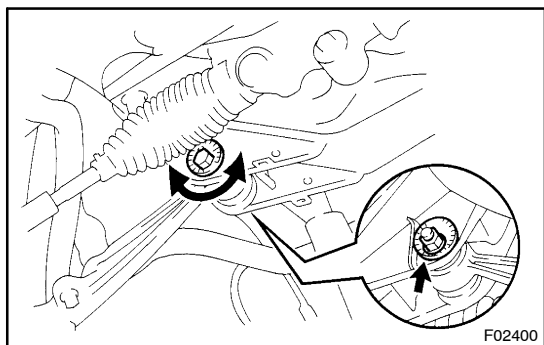
Camber	Right-left error	$-0^{\circ}21' \pm 30'$ ($-0.35^{\circ} \pm 0.5^{\circ}$) 30' (0.5°) or less
Caster	Right-left error	$5^{\circ}46' \pm 30'$ ($5.77^{\circ} \pm 0.5^{\circ}$) 30' (0.5°) or less
Steering axis inclination	Right-left error	$9^{\circ}16' \pm 30'$ ($9.27^{\circ} \pm 0.5^{\circ}$) 30' (0.5°) or less

If the caster and steering axis inclination are not within the specified values, after the camber has been correctly adjusted, re-check the suspension parts for damaged and/or worn out parts.

4. ADJUST CAMBER

HINT:

After adjusting the camber, inspect the caster and toe-in.

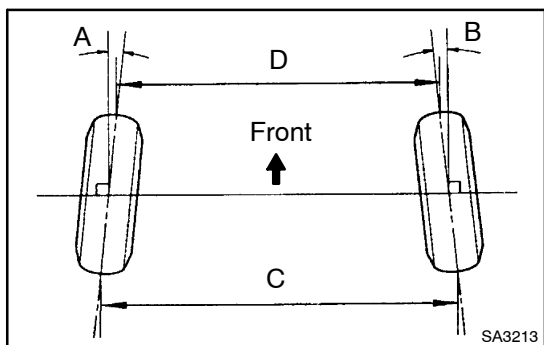


- (a) Loosen the camber adjusting cam nut of the No. 1 lower suspension arm.
- (b) Turn the camber adjusting cam of the No. 1 lower suspension arm and adjust the camber.

HINT:

- Try to adjust the camber to the center of the specified value.
 - Camber will change about 7.5' (0.13°) with each graduation of the adjusting cam.
- (c) Torque the camber adjusting cam nut of the No. 1 lower suspension arm.

Torque: 184 N·m (1,880 kgf·cm, 136 ft·lbf)



5. INSPECT TOE-IN

Toe-in:

Toe-in (total)	A + B: $0^{\circ}06' \pm 12'$ ($0.1^{\circ} \pm 0.2^{\circ}$) C - D: 1 ± 2 mm (0.04 ± 0.08 in.)
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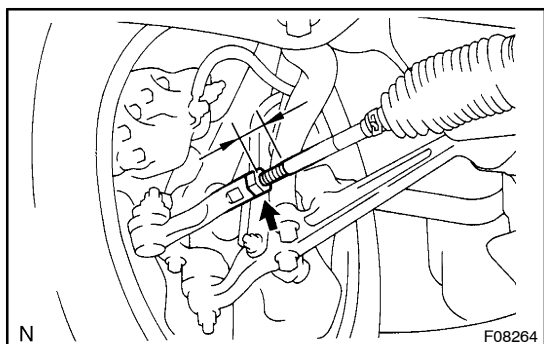
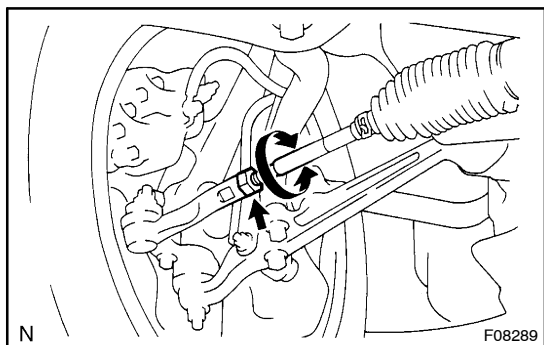
If the toe-in is not within the specified value, adjust it at the rack ends.

6. ADJUST TOE-IN

- (a) Using pliers, remove the boot clips.
- (b) Loosen the tie rod end lock nuts.
- (c) Turn the right and left rack ends by an equal amount to adjust the toe-in.

HINT:

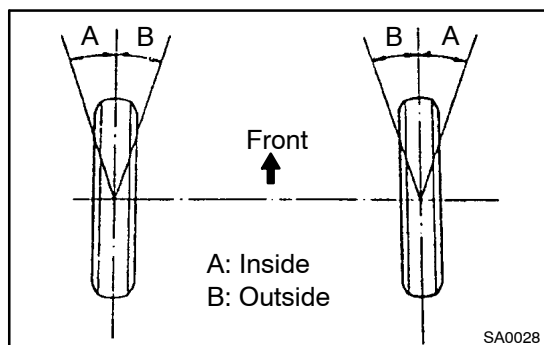
Try to adjust the toe-in to the center of the specified value.



- (d) Make sure that the lengths of the right and left rack ends are same.
- Rack end length difference: 1.5 mm (0.059 in.) or less**
- (e) Torque the tie rod end lock nuts.
- Torque: 56 N·m (570 kgf·cm, 41 ft·lbf)**
- (f) Place the boots on the seats and using pliers, install the clips.

HINT:

Make sure that the boots are not twisted.



7. INSPECT WHEEL ANGLE

Turn the steering wheel fully, and measure the turning angle.

Wheel turning angle:

Inside wheel	41°02' (39°02' – 42°02') 41.03° (39.03° – 42.03°)
Outside wheel (Reference)	33°30' 33.5°

If the right and left inside wheel angles differ from the specified value, inspect the toe-in.

REAR WHEEL ALIGNMENT INSPECTION

SA0R4-03

1. MEASURE VEHICLE HEIGHT (See page SA-5)
2. INSTALL CAMBER-CASTER-KINGPIN GAUGE OR POSITION VEHICLE ON WHEEL ALIGNMENT TESTER

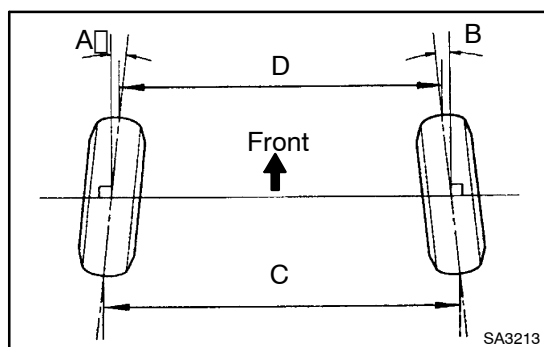
Follow the specific instructions of the equipment manufacturer.

3. INSPECT CAMBER

Camber:

Camber	$-0^{\circ}23' \pm 30' (-0.38^{\circ} \pm 0.5^{\circ})$
Right-left error	$30' (0.5^{\circ})$ or less

If the camber is not within the specified value, after the toe-in is inspected, see step 5. to adjust.



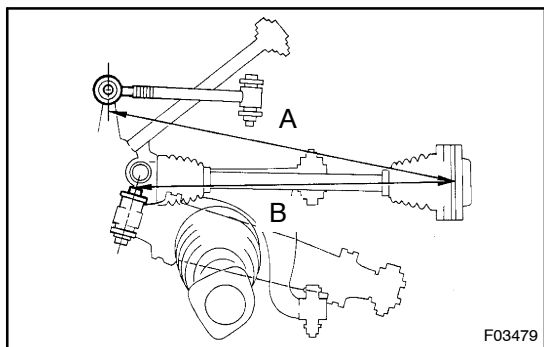
SA3213

4. INSPECT TOE-IN

Toe-in:

Toe-in (total)	$A - B: 0^{\circ}12' \pm 12' (0.2^{\circ} \pm 0.2^{\circ})$ $C - D: 2 \pm 2 \text{ mm} (0.08 \pm 0.08 \text{ in.})$
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If the toe-in is not within the specified value, after the camber is inspected, see step 5. to adjust.



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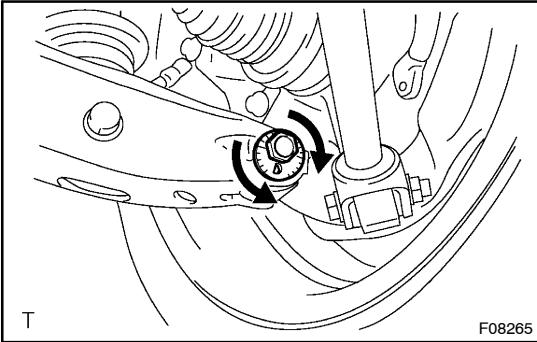
5. ADJUST CAMBER AND TOE-IN

- (a) Measure the lengths of the toe control link (A) and No. 2 lower suspension arm (B), as shown in the illustration.
- (b) Obtain the difference between A and B.
- (c) Employ the same manner described above to the other side.
- (d) Obtain the difference between right and left from the values obtained above.

Right and left difference: 4.0 mm (0.157 in.) or less

If they are not within the specified value, adjust the lengths of them by turning the adjusting cam.

- (e) Inspect the camber and toe-in.



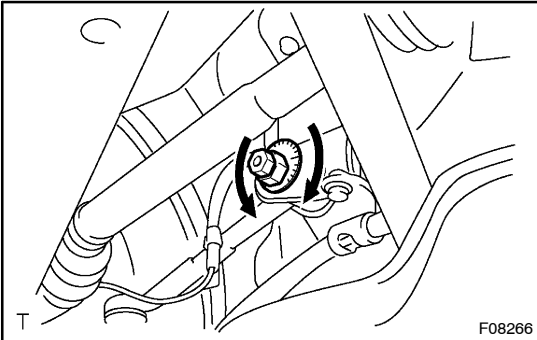
- (f) Adjust the camber.
- (1) Loosen the camber adjusting cam nut of the No. 2 lower suspension arm.
 - (2) Turn the camber adjusting cam of the No. 2 lower suspension arm and adjust the camber.

HINT:

Camber will change about 5.0' (0.08°) with each graduation of the adjusting cam.

- (3) Torque the camber adjusting cam nut.

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



- (g) Adjust the toe-in.
- (1) Loosen the camber adjusting cam nut of the toe control link.
 - (2) Turn the camber adjusting cam of the toe control link and adjust the toe-in.

HINT:

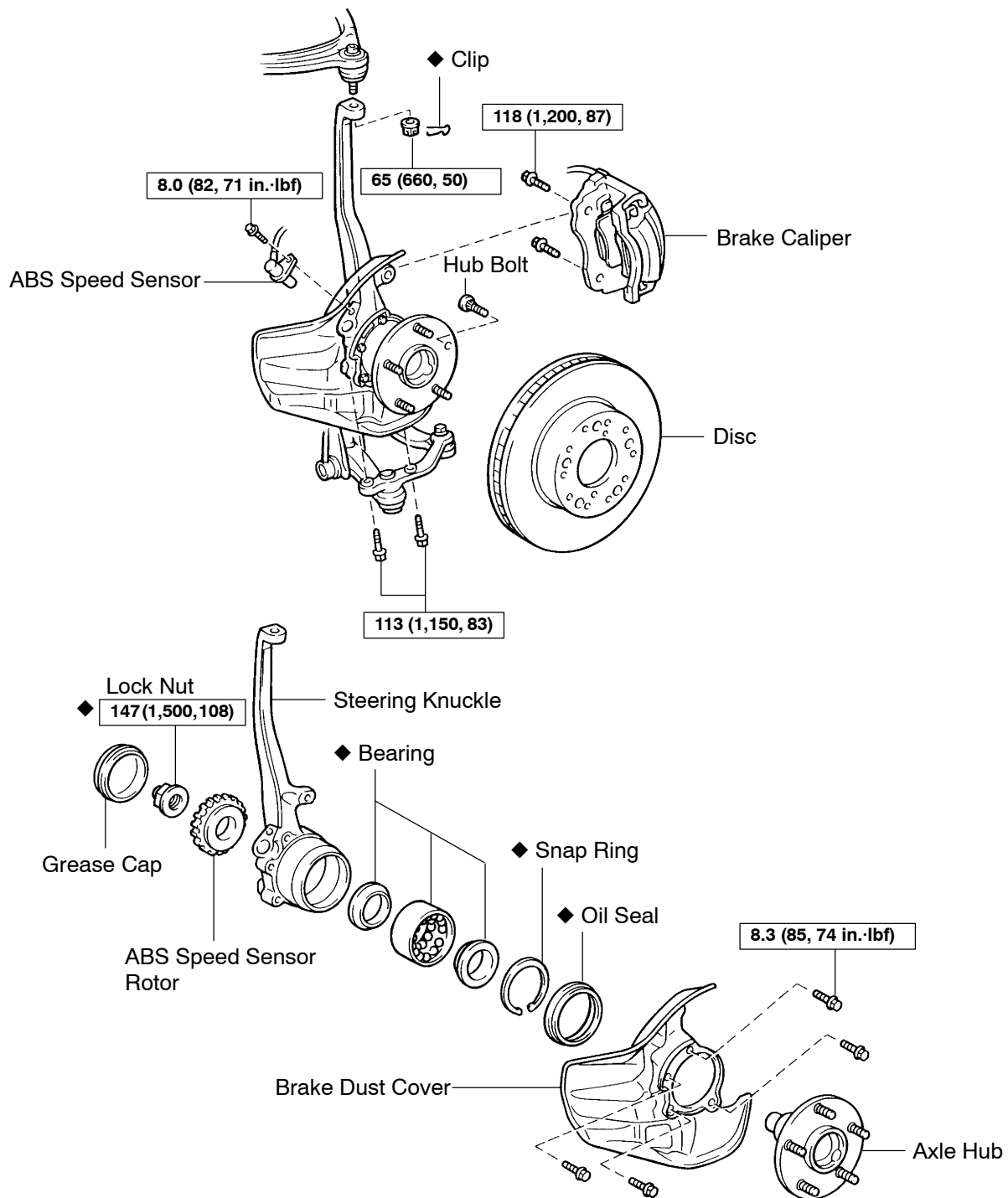
Toe-in will change about 4.0 mm (0.157 in.) with each graduation of the adjusting cam.

- (3) Torque the camber adjusting cam nut.

Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

FRONT AXLE HUB COMPONENTS

SAORS-04



N·m (kgf·cm, ft·lbf) : Specified torque

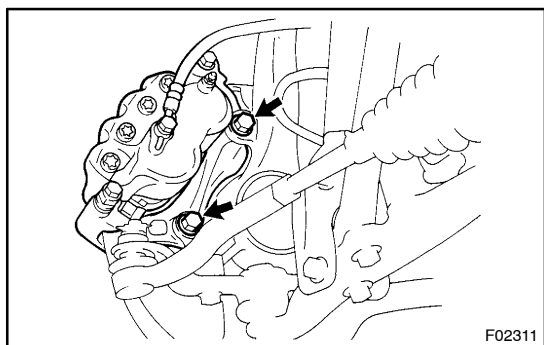
◆ Non-reusable part

N

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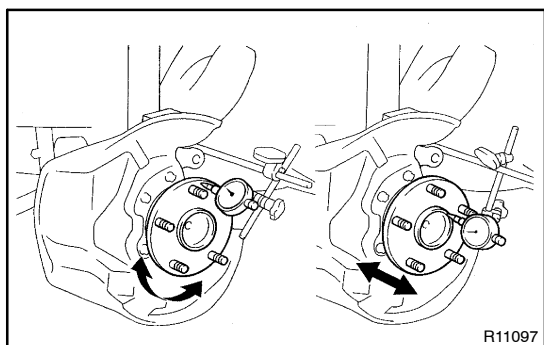
REMOVAL

1. REMOVE FRONT WHEEL



2. REMOVE FRONT BRAKE CALIPER AND DISC

- (a) Remove the 2 bolts and brake caliper from the steering knuckle.
- (b) Support the brake caliper securely.
- (c) Remove the disc.



3. CHECK BEARING BACKLASH AND AXLE HUB DEVIATION

- (a) Using a dial indicator near the center of the axle hub and check the backlash in the bearing shaft direction.

Maximum: 0.05 mm (0.0020 in.)

If the backlash exceeds the maximum, replace the bearing.

- (b) Using a dial indicator, check the deviation at the surface of the axle hub outside the hub bolt.

Maximum: 0.05 mm (0.0020 in.)

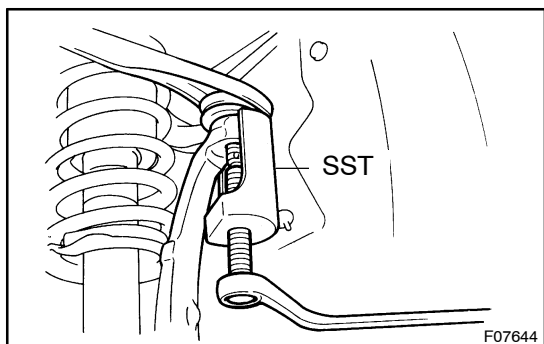
If the deviation exceeds the maximum, replace the axle hub.

4. REMOVE ABS SPEED SENSOR

Remove the bolt and disconnect the ABS speed sensor from the steering knuckle.

5. REMOVE STEERING KNUCKLE WITH AXLE HUB

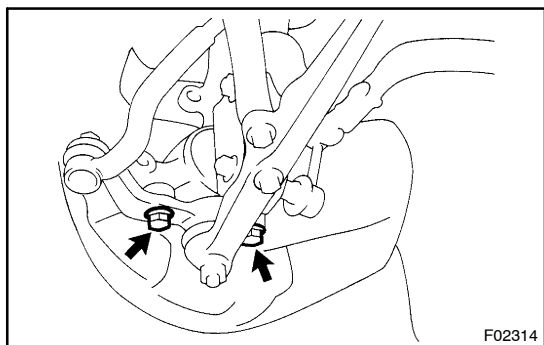
- (a) Remove the clip and nut.



- (b) Using SST, remove the steering knuckle from the upper suspension arm.

SST 09610-20012

- (c) Temporarily install the steering knuckle to the upper suspension arm with the nut.

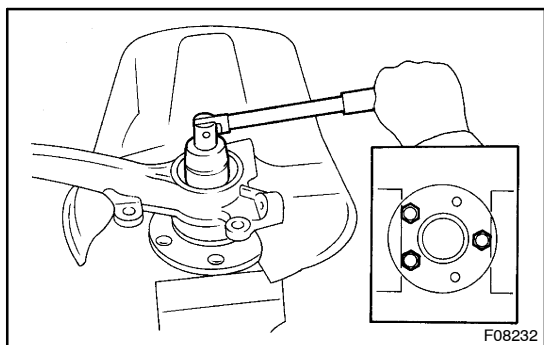


- (d) Remove the 2 bolts and disconnect the lower ball joint from the steering knuckle.
- (e) Remove the nut and steering knuckle with the axle hub from the upper suspension arm.

DISASSEMBLY

1. REMOVE GREASE CAP

Using a screwdriver and hammer, remove the grease cap from the steering knuckle.



2. REMOVE LOCK NUT

- (a) Mount the axle hub in a soft jaw vise.

HINT:

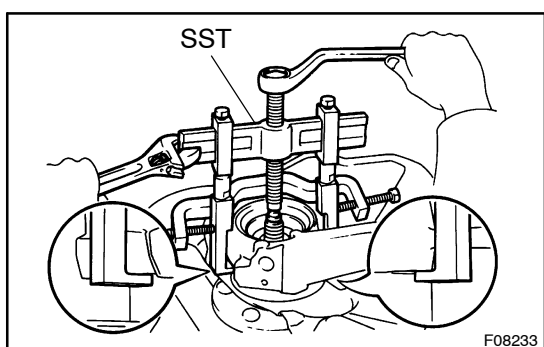
Close the vise until it holds hub bolts. Do not tighten further.

- (b) Using a chisel and hammer, loosen the staked part of the lock nut.

- (c) Using a socket wrench (32 mm), remove the lock nut.

3. REMOVE ABS SPEED SENSOR ROTOR AND AXLE HUB

- (a) Remove the 4 bolts and shift the brake dust cover toward the outside.



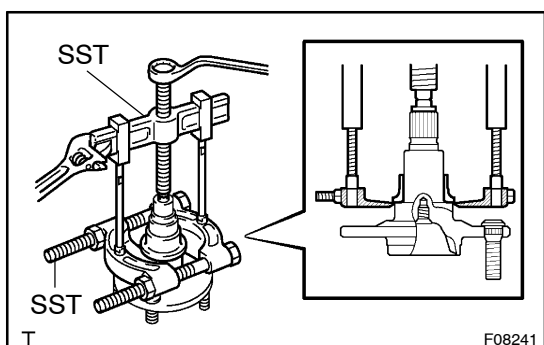
- (b) Using SST, remove the ABS speed sensor rotor and axle hub from the steering knuckle.

SST 09950-40011 (09951-04020, 09952-04010, 09953-04020, 09954-04010, 09955-04051, 09957-04010, 09958-04011)

NOTICE:

Take care not to scratch the serrations of the sensor rotor.

- (c) Remove the brake dust cover.



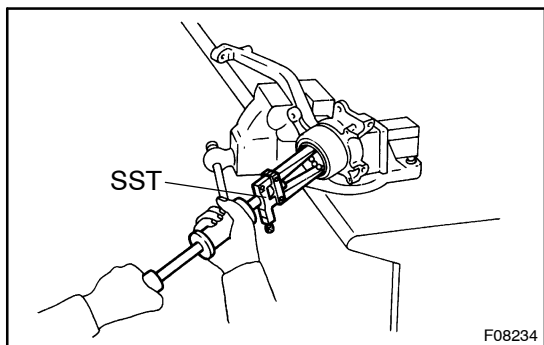
4. REMOVE INNER RACE (OUTSIDE)

Using SST, remove the inner race from the axle hub.

SST 09950-00020, 09950-40011 (09951-04020, 09953-04030, 09957-04010), 09950-50012 (09952-05010, 09954-05030, 09955-05040)

NOTICE:

Be careful not to damage the axle hub.

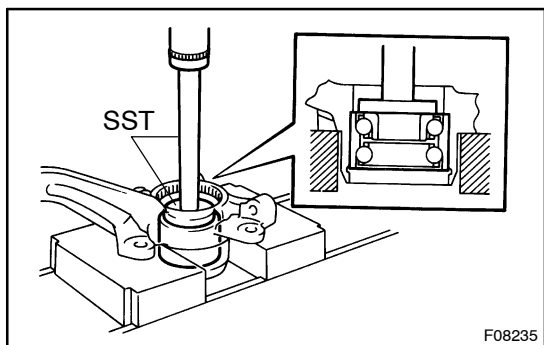
**5. REMOVE OIL SEAL**

Using SST, remove the oil seal from the steering knuckle.

SST 09308-00010

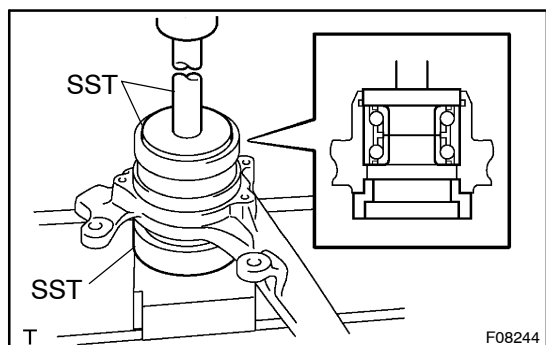
6. REMOVE BEARING

(a) Using snap ring pliers, remove the snap ring from the steering knuckle.



(b) Using SST and a press, remove the bearing from the steering knuckle.

SST 09950-60010 (09951-00560), 09950-70010 (09951-07150)



REASSEMBLY

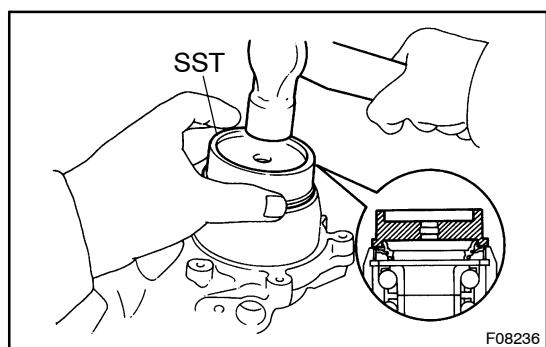
1. INSTALL BEARING

- (a) Using SST and a press, install a new bearing to the steering knuckle.
 SST 09502-24010, 09950-60020 (09951-00710),
 09950-70010 (09951-07150)

NOTICE:

If the inner race and balls come loose from the bearing outer race, make sure that they are installed on the same side as before.

- (b) Using snap ring pliers, install a new snap ring to the steering knuckle.



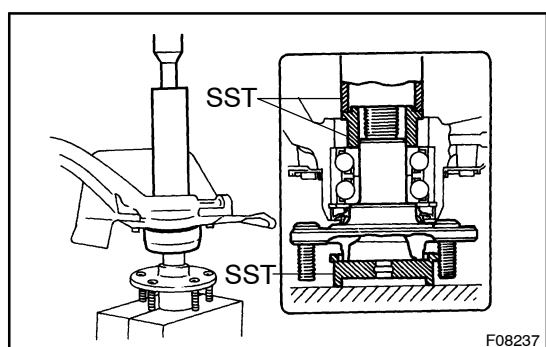
2. INSTALL OIL SEAL

- (a) Using SST and a hammer, install a new oil seal until it is flush with the end surface of the steering knuckle.
 SST 09608-32010
 (b) Coat MP grease to the oil seal lip.

3. INSTALL AXLE HUB

- (a) Install the brake dust cover to the steering knuckle with the 4 bolts.

Torque: 8.3 N·m (85 kgf·cm, 74 in·lbf)



- (b) Using SST and a press, install the axle hub to the steering knuckle.

SST 09316-60011 (09316-00011, 09316-00071),
 09608-32010

4. INSTALL ABS SPEED SENSOR ROTOR

Install the speed sensor rotor to the steering knuckle with its concave surface facing to the inner side.

NOTICE:

Do not scratch the serrations of the sensor rotor.

5. INSTALL LOCK NUT

- (a) Using a socket wrench (32 mm), install a new lock nut.
Torque: 147 N·m (1,500 kgf·cm, 108 ft·lbf)
 (b) Using a chisel and hammer, stake the lock nut.

6. INSTALL GREASE CAP

Using a screwdriver and hammer, install the grease cap to the steering knuckle.

INSTALLATION

1. INSTALL STEERING KNUCKLE WITH AXLE HUB

- (a) Temporarily install the steering knuckle to the upper suspension arm with the nut.
- (b) Connect the steering knuckle to the lower ball joint with the 2 bolts.

Torque: 113 N·m (1,150 kgf·cm, 83 ft·lbf)

- (c) Torque the nut on the upper side of the steering knuckle.

Torque: 65 N·m (660 kgf·cm, 50 ft·lbf)

- (d) Install a new clip.

If the holes for the clip are not aligned, tighten the nut further up to 60°.

2. CONNECT ABS SPEED SENSOR TO STEERING KNUCKLE

Torque: 8.0 N·m (82 kgf·cm, 71 in·lbf)

3. CHECK BEARING BACKLASH AND AXLE HUB DEVIATION (See page SA-11)

4. INSTALL DISC AND BRAKE CALIPER

Install the disc, brake caliper and 2 bolts.

Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

5. INSTALL FRONT WHEEL

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

6. DEPRESS BRAKE PEDAL SEVERAL TIMES

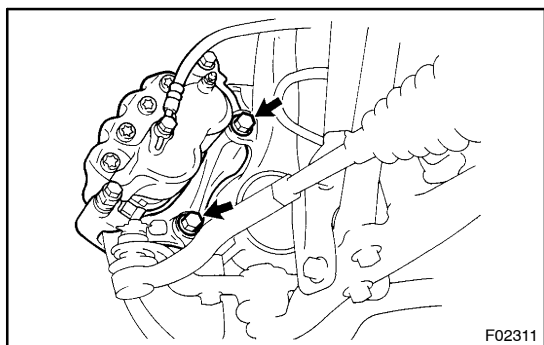
7. CHECK FRONT WHEEL ALIGNMENT (See page SA-5)

8. CHECK ABS SPEED SENSOR SIGNAL (See page DI-223)

FRONT WHEEL HUB BOLT REPLACEMENT

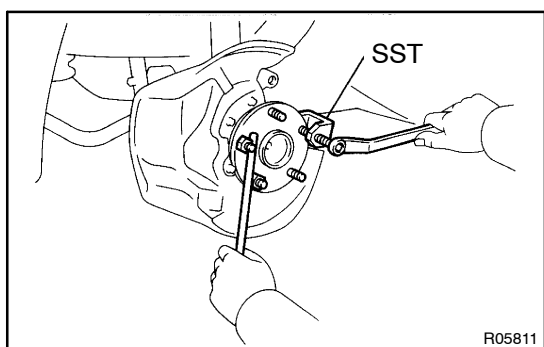
SA09A-03

1. REMOVE FRONT WHEEL



2. REMOVE BRAKE CALIPER AND DISC

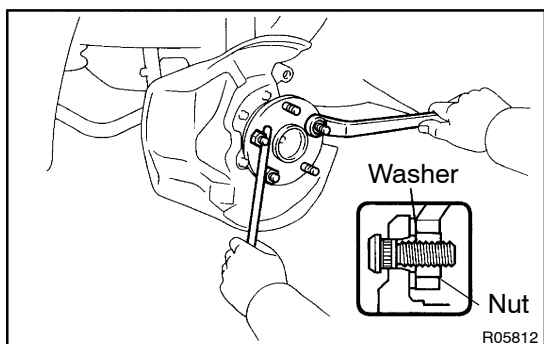
- Remove the 2 bolts and brake caliper from the steering knuckle.
- Support the brake caliper securely.
- Remove the disc.



3. REMOVE HUB BOLT

Using SST and a brass bar or an equivalent to hold, remove the hub bolt.

SST 09628-10011



4. INSTALL HUB BOLT

- Install a washer and nut to a new hub bolt, as shown in the illustration.
- Using a brass bar or an equivalent to hold, install the hub bolt by torquing the nut.

5. INSTALL DISC AND BRAKE CALIPER

- Install the disc.
- Install the brake caliper and 2 bolts to the steering knuckle.

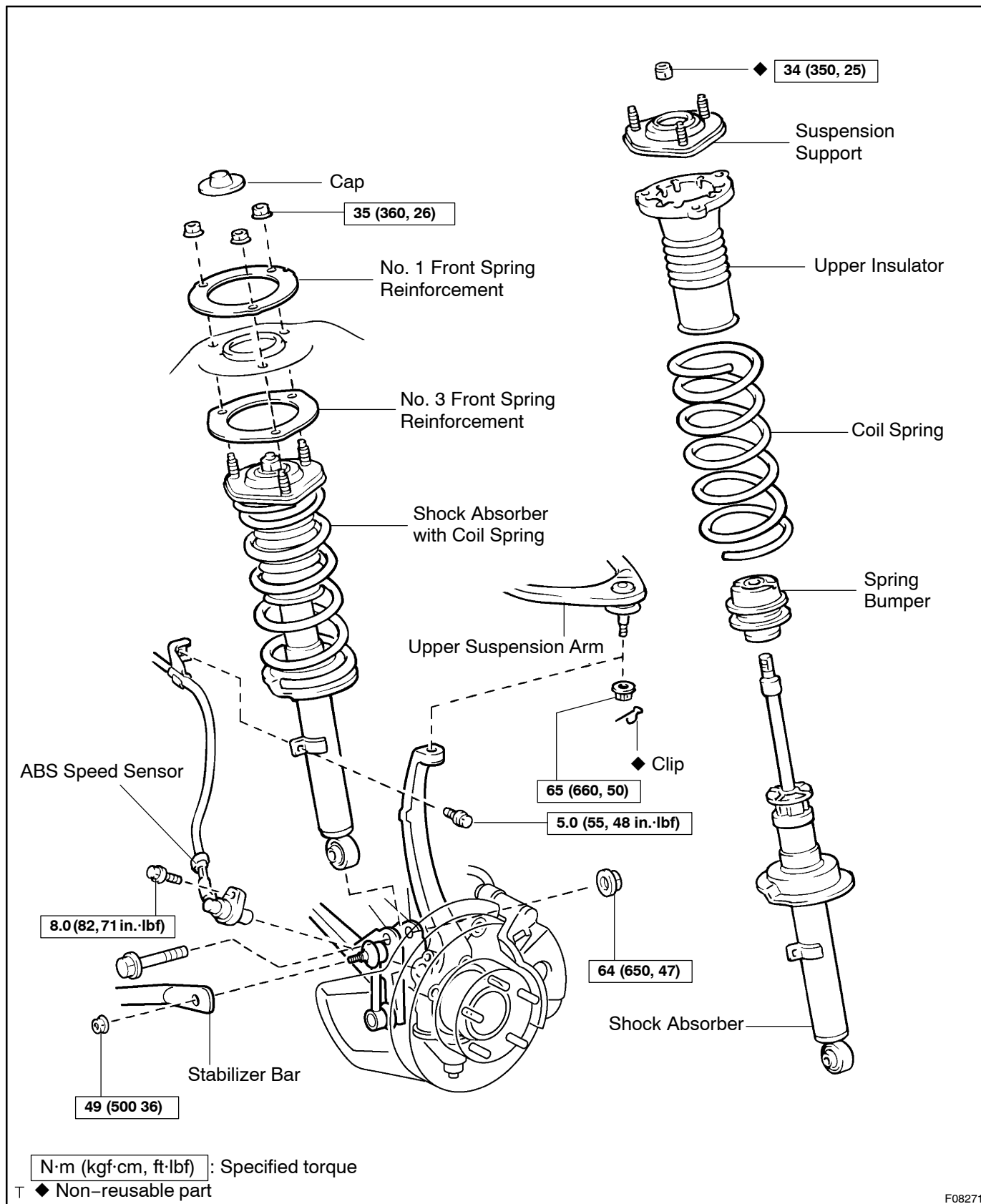
Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

6. INSTALL FRONT WHEEL

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

FRONT SHOCK ABSORBER COMPONENTS

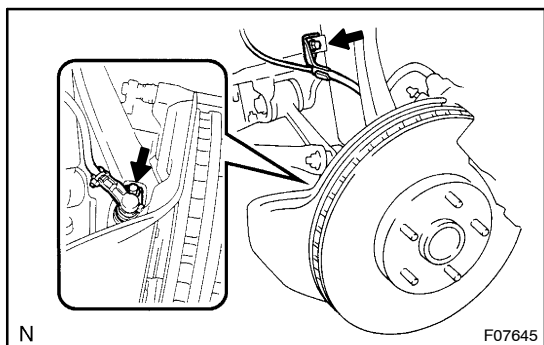
SAORB-04



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REMOVAL

1. REMOVE FRONT WHEEL

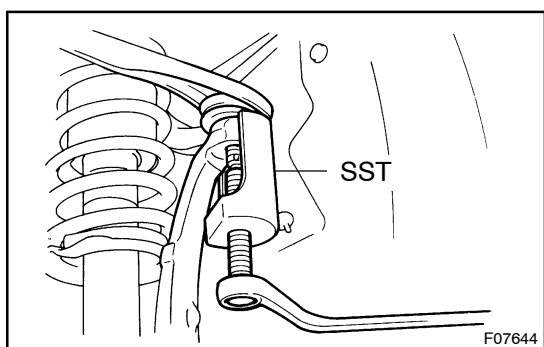


2. DISCONNECT ABS SPEED SENSOR AND WIRE HARNESS CLAMP

- (a) Remove the bolt and disconnect the ABS speed sensor from the steering knuckle.
- (b) Remove the bolt and disconnect the ABS speed sensor wire harness clamp from the shock absorber.

3. DISCONNECT UPPER SUSPENSION ARM FROM STEERING KNUCKLE

- (a) Remove the clip and nut.
- (b) Using SST, disconnect the upper suspension arm.
SST 09610-20012
- (c) Support the steering knuckle securely.

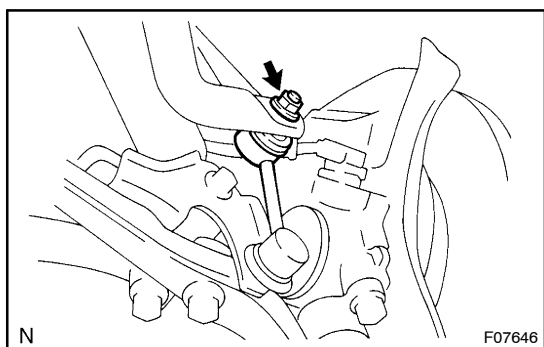


4. DISCONNECT STABILIZER BAR LINK FROM STABILIZER BAR

Remove the nut and disconnect the stabilizer bar link.

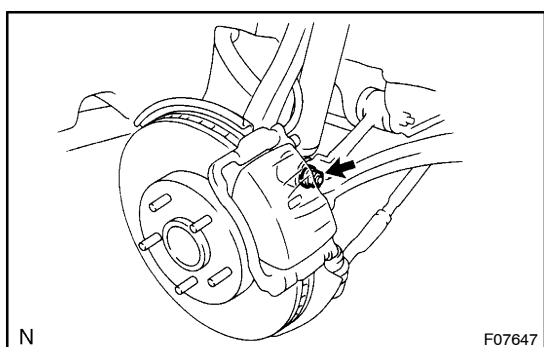
HINT:

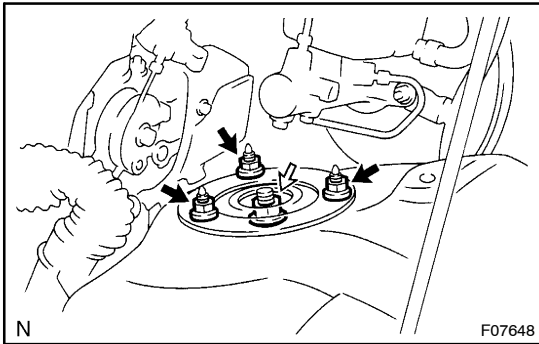
If the ball joint turns together with the nut, use a 5 mm hexagon wrench to hold the stud.



5. REMOVE FRONT SHOCK ABSORBER WITH COIL SPRING

- (a) Remove the nut and bolt, and disconnect the shock absorber from the shock absorber bracket.
- (b) Remove the cap from the suspension support.





- (c) Loosen the nut in the center of the suspension support.

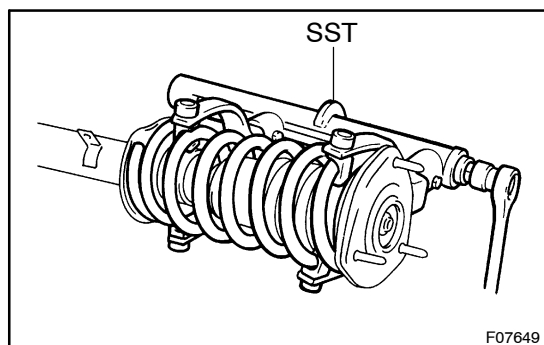
NOTICE:

Do not remove it.

HINT:

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

- (d) Remove the 3 nuts, No. 1 front spring reinforcement and shock absorber with coil spring from the body.
- (e) Remove the No. 3 front spring reinforcement from the shock absorber.



DISASSEMBLY

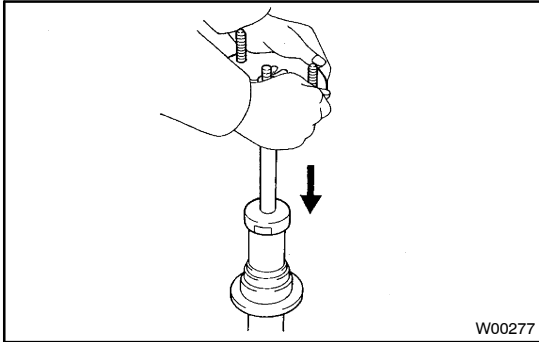
REMOVE SUSPENSION SUPPORT AND COIL SPRING

- (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 the SST.

- (b) Remove the suspension support nut.
(c) Remove the suspension support, upper insulator, coil spring and spring bumper from the shock absorber.



INSPECTION

INSPECT SHOCK ABSORBER

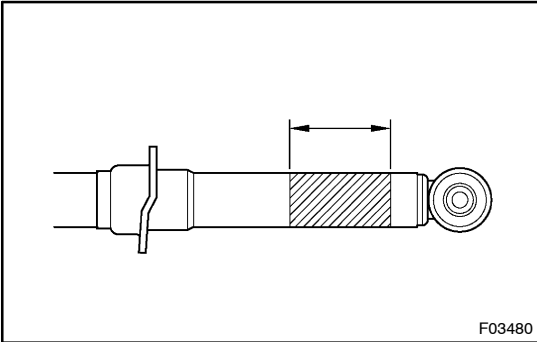
Compress and extend the shock absorber rod and check that there is no abnormal resistance or unusual operation sounds. If there is any abnormality, replace the shock absorber with a new one.

NOTICE:

When discarding the shock absorber, see **DISPOSAL** on [page SA-23](#).

DISPOSAL

1. FULLY EXTEND SHOCK ABSORBER PISTON ROD



2. DRILL HOLE TO DISCHARGE GAS FROM CYLINDER

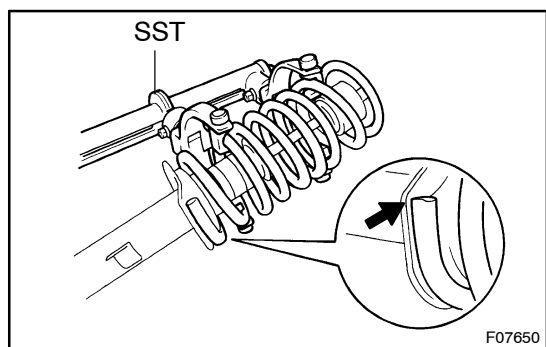
- (a) Place the shock absorber horizontally to prevent the oil from coming out.
- (b) Using a drill, make a hole on the top of the shell as shown to discharge the gas inside.

CAUTION:

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

REASSEMBLY

1. INSTALL SPRING BUMPER TO PISTON ROD



2. INSTALL COIL SPRING

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

NOTICE:

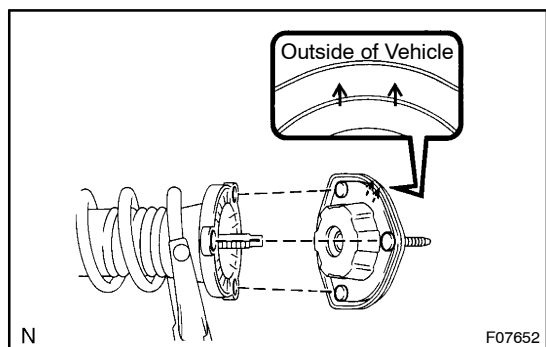
Do not use an impact wrench. It will damage the SST.

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

HINT:

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

3. INSTALL UPPER INSULATOR TO SHOCK ABSORBER



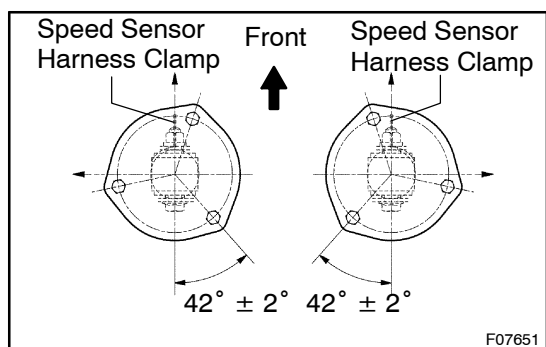
4. INSTALL SUSPENSION SUPPORT

- (a) Install the suspension support to the shock absorber, as shown in the illustration.

HINT:

Align the bolt of the suspension support with the cut-out of the upper insulator.

- (b) Temporarily tighten a new lock nut.



- (c) Align the suspension support with the shock absorber lower bolt as shown in the illustration.

5. REMOVE SST

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

HINT:

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

INSTALLATION

1. INSTALL FRONT SHOCK ABSORBER WITH COIL SPRING

(a) Install the No. 3 front spring reinforcement to the shock absorber.

(b) Install the shock absorber, No. 1 front spring reinforcement to the body with the 3 nuts.

Torque: 35 N·m (360 kgf·cm, 26 ft·lbf)

(c) Connect the shock absorber to the shock absorber bracket with the bolt and nut.

Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)

HINT:

After stabilizing the suspension, torque the nut.

(d) Torque the nut in the center of the suspension support.

Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)

HINT:

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

(e) Install the cap to the suspension support.

2. CONNECT STABILIZER BAR LINK TO STABILIZER BAR

Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

HINT:

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

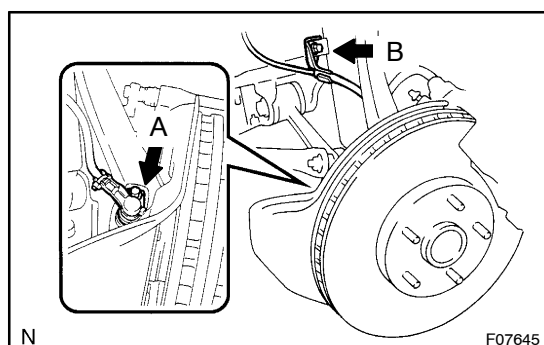
3. CONNECT UPPER SUSPENSION ARM TO STEERING KNUCKLE

(a) Connect the upper suspension arm with the nut.

Torque: 65 N·m (660 kgf·cm, 50 ft·lbf)

(b) Install a new clip.

If the holes for the clip are not aligned, tighten the nut further up to 60°.



4. CONNECT ABS SPEED SENSOR AND WIRE HARNESS CLAMP

Torque:

Bolt A: 8.0 N·m (82 kgf·cm, 71 in·lbf)

Bolt B: 5.0 N·m (55 kgf·cm, 48 in·lbf)

5. INSTALL FRONT WHEEL

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

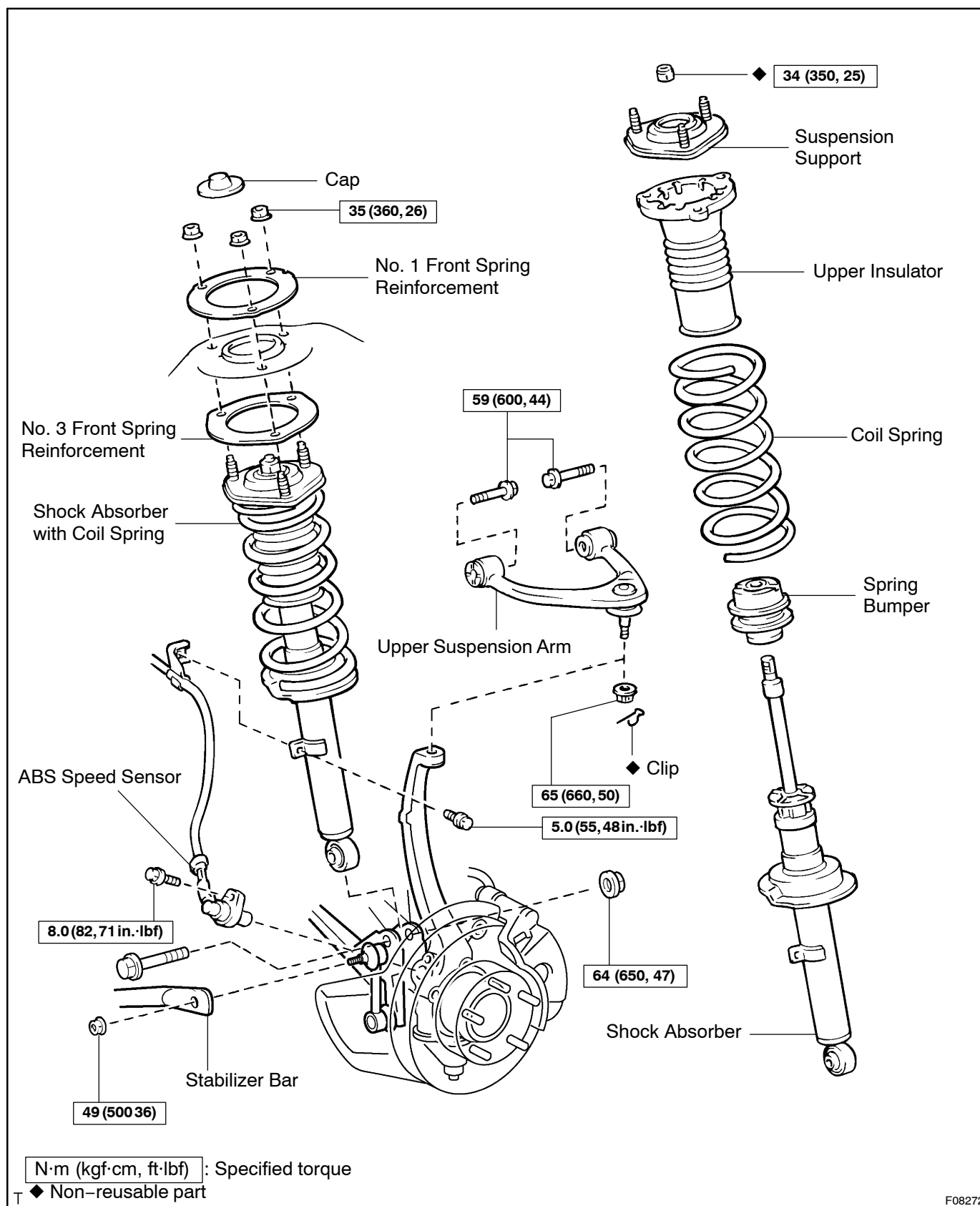
6. CHECK FRONT WHEEL ALIGNMENT

(See page SA-5)

7. CHECK ABS SPEED SENSOR SIGNAL
(See [page DI-223](#))

FRONT UPPER SUSPENSION ARM COMPONENTS

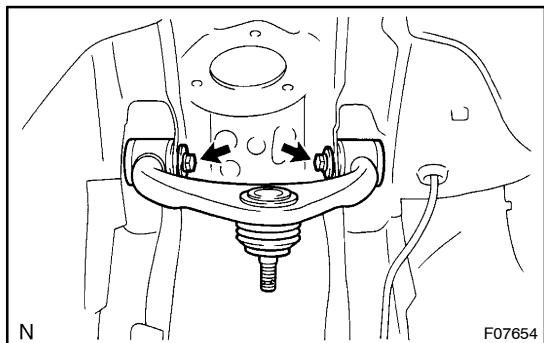
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REMOVAL

1. REMOVE FRONT WHEEL
2. REMOVE FRONT SHOCK ABSORBER
(See page SA-19)

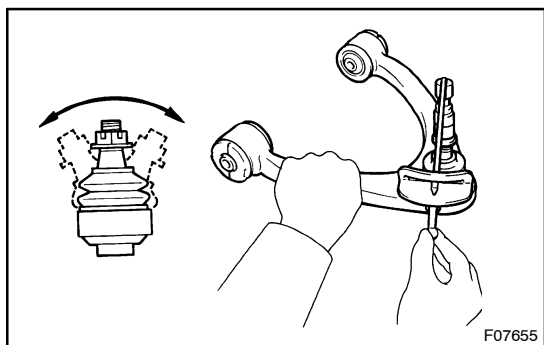


3. REMOVE UPPER SUSPENSION ARM

Remove the 2 bolts and upper suspension arm from the body.

INSPECTION

1. INSPECT UPPER SUSPENSION ARM BALL JOINT BOOT FOR DAMAGE



2. INSPECT UPPER SUSPENSION ARM BALL JOINT FOR ROTATION CONDITION

- (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 1 turn per 2 – 4 seconds and take the torque reading on the 5th turn.

Turning torque:

1.0 – 3.4 N·m (10 – 35 kgf·cm, 9 – 30 in.·lbf)

INSTALLATION

1. INSTALL UPPER SUSPENSION ARM TO BODY

Torque: 59 N·m (600 kgf·cm, 44 ft·lbf)

HINT:

After stabilizing the suspension, torque the bolt.

2. INSTALL FRONT SHOCK ABSORBER (See page SA-25)

3. INSTALL FRONT WHEEL

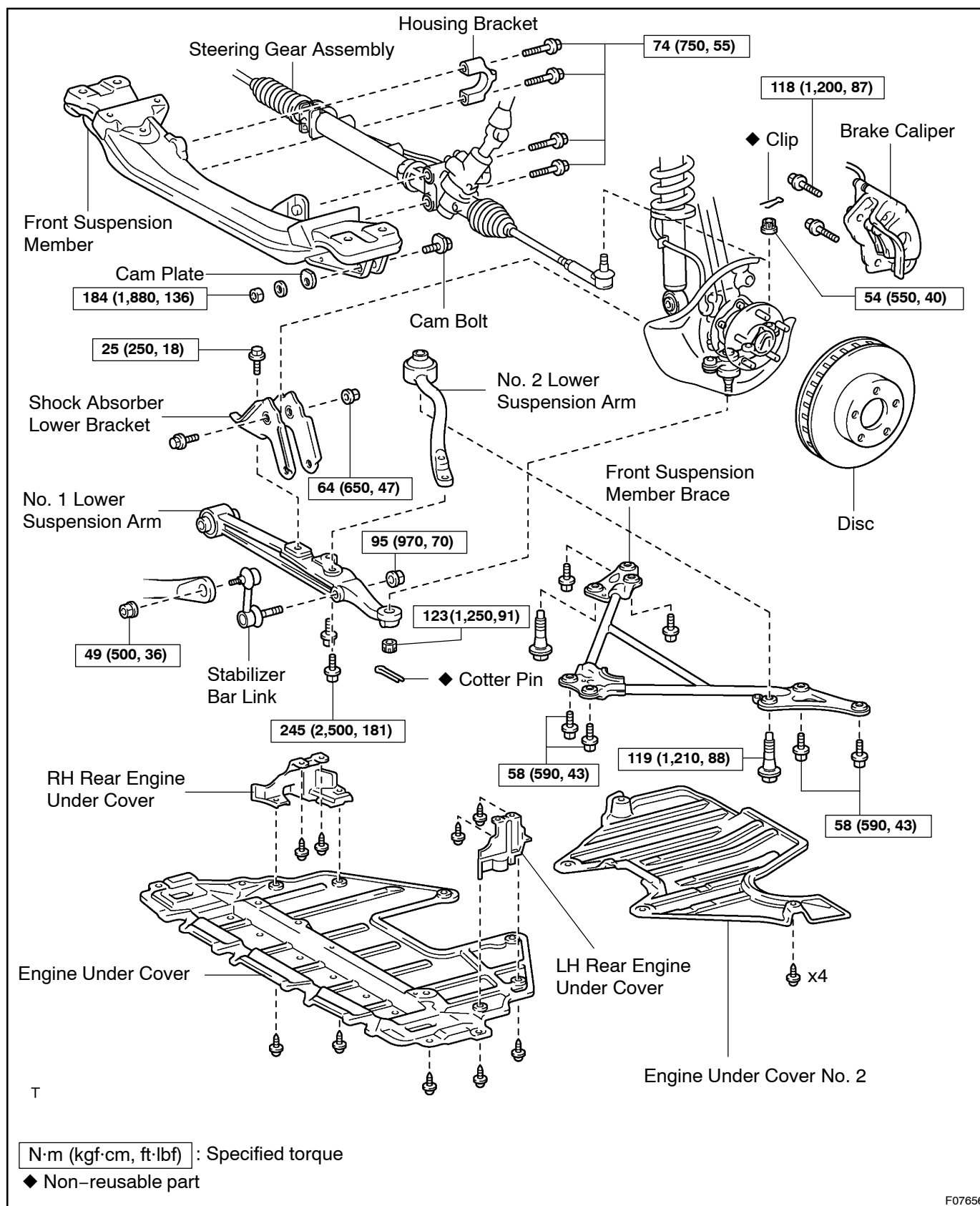
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

4. CHECK FRONT WHEEL ALIGNMENT (See page SA-5)

5. CHECK ABS SPEED SENSOR SIGNAL (See page DI-223)

FRONT LOWER SUSPENSION ARM COMPONENTS

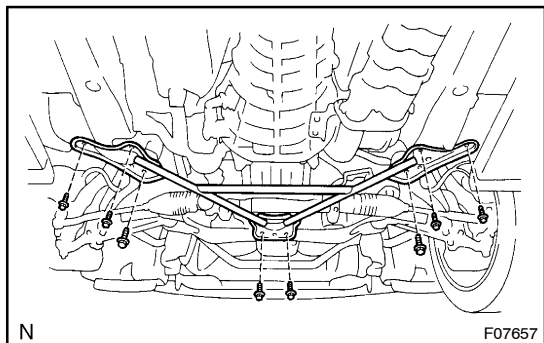
SAORM-03



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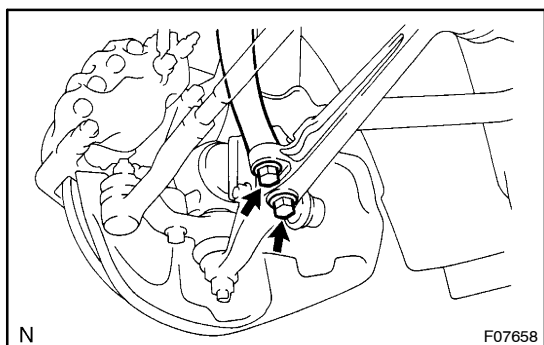
REMOVAL

1. REMOVE FRONT WHEEL
2. REMOVE ENGINE UNDER COVER AND ENGINE UNDER COVER NO. 2
3. REMOVE RH AND LH REAR ENGINE UNDER COVER



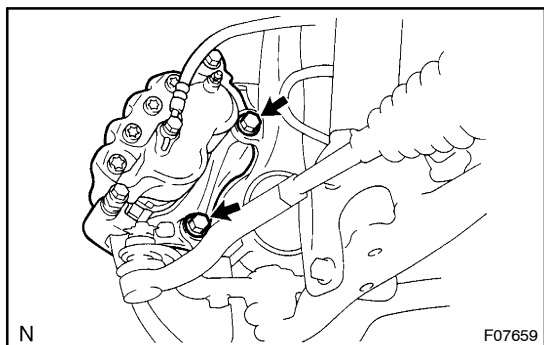
4. REMOVE FRONT SUSPENSION MEMBER BRACE

Remove the 8 bolts and suspension member brace.



5. REMOVE NO. 2 LOWER SUSPENSION ARM

Remove the 2 bolts and No. 2 lower suspension arm from the No. 1 lower suspension arm.

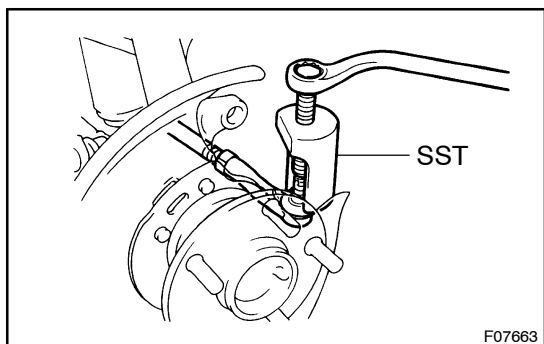


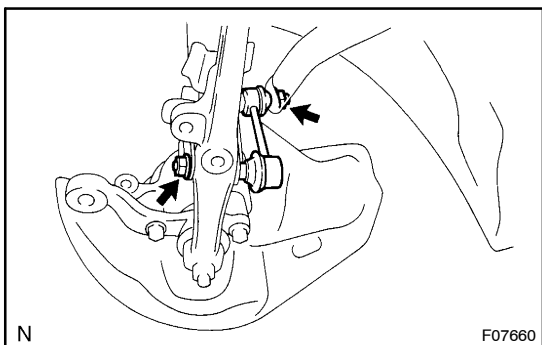
6. REMOVE BRAKE CALIPER AND DISC

- (a) Remove the 2 bolts and brake caliper from the steering knuckle.
- (b) Support the brake caliper securely.
- (c) Remove the disc.

7. DISCONNECT TIE ROD END FROM LOWER BALL JOINT

- (a) Remove the clip and nut.
- (b) Using SST, disconnect the tie rod end.
SST 09610-20012

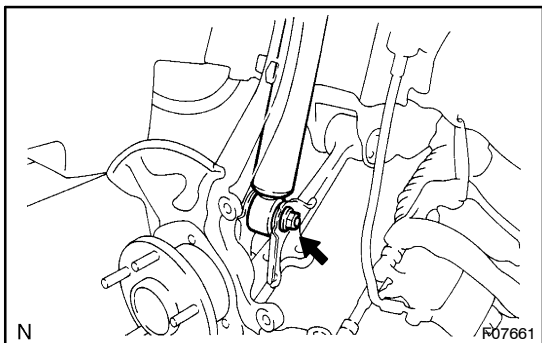


**8. REMOVE STABILIZER BAR LINK**

Remove the 2 nuts and stabilizer bar link.

HINT:

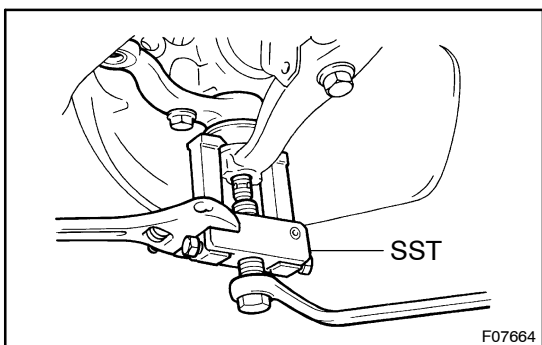
If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud.

**9. DISCONNECT SHOCK ABSORBER FROM SHOCK ABSORBER BRACKET**

Remove the nut and bolt and disconnect the shock absorber.

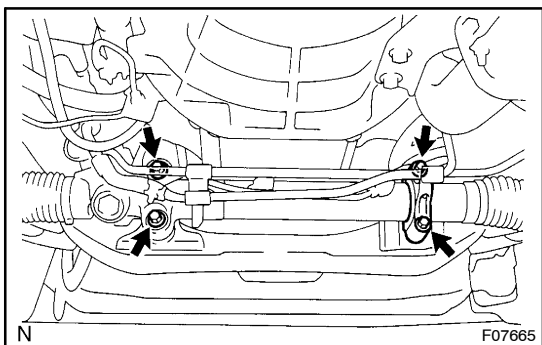
10. DISCONNECT LOWER BALL JOINT FROM NO. 1 LOWER SUSPENSION ARM

(a) Remove the cotter pin and nut.



(b) Using SST, disconnect the lower ball joint.

SST 09628-62011

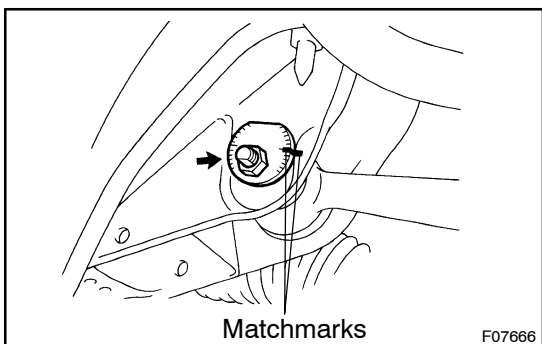
**11. DISCONNECT STEERING GEAR ASSEMBLY**

(a) Remove the 4 bolts, housing bracket and disconnect the steering gear assembly.

NOTICE:

Be careful not to damage the return tube and pressure feed tube.

(b) Support the steering gear assembly securely.

**12. REMOVE NO. 1 LOWER SUSPENSION ARM**

(a) Place matchmarks on the cam plate and suspension member.

(b) Remove the nut, washer, cam plate, cam bolt and No.1 lower suspension arm from the suspension member.

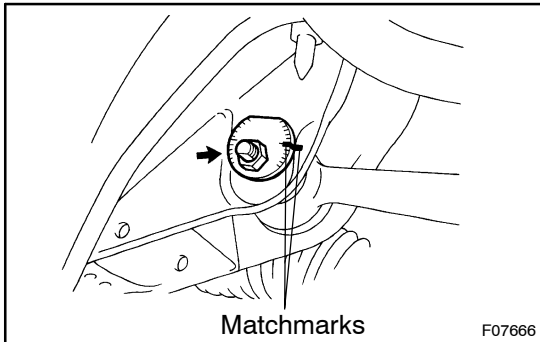
13. REMOVE SHOCK ABSORBER LOWER BRACKET

Remove the bolt and shock absorber lower bracket from the No. 1 lower suspension arm.

INSTALLATION

1. INSTALL SHOCK ABSORBER LOWER BRACKET TO NO. 1 LOWER SUSPENSION ARM

Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)



2. INSTALL NO. 1 LOWER SUSPENSION ARM

- (a) Install the No. 1 lower suspension arm to the suspension member with the cam bolt, cam plate, washer and nut.

Torque: 184 N·m (1,880 kgf·cm, 136 ft·lbf)

HINT:

After stabilizing the suspension, align the matchmarks on the cam plate and suspension member, and torque the nut.

- (b) Connect the lower ball joint to the No. 1 lower suspension arm with the nut.

Torque: 123 N·m (1,250 kgf·cm, 91 ft·lbf)

- (c) Install a new cotter pin.

If the holes for the cotter pin are not aligned, tighten the nut further up to 60°.

3. CONNECT STEERING GEAR ASSEMBLY

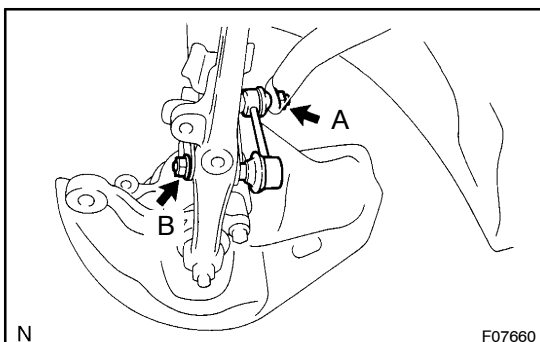
Torque: 74 N·m (750 kgf·cm, 55 ft·lbf)

NOTICE:

Be careful not to damage the return tube and pressure feed tube.

4. CONNECT SHOCK ABSORBER TO FRONT SHOCK ABSORBER BRACKET

Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)



5. INSTALL STABILIZER BAR LINK

Torque:

Nut A: 49 N·m (500 kgf·cm, 36 ft·lbf)

Nut B: 95 N·m (970 kgf·cm, 70 ft·lbf)

HINT:

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

6. CONNECT TIE ROD END TO LOWER BALL JOINT

(a) Connect the tie rod end to the lower ball joint with the nut.

Torque: 54 N·m (550 kgf·cm, 40 ft·lbf)

(b) Install a new clip.

HINT:

If the holes for the clip are not aligned, tighten the nut further up to 60°.

7. INSTALL DISC AND BRAKE CALIPER

Install the disc, brake caliper and 2 bolts.

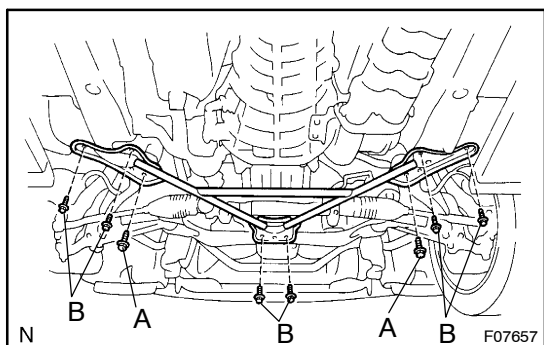
Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

8. CONNECT NO. 2 LOWER SUSPENSION ARM TO NO. 1 LOWER SUSPENSION ARM

Torque: 245 N·m (2,500 kgf·cm, 181 ft·lbf)

HINT:

After stabilizing the suspension, torque the bolt.

**9. INSTALL FRONT SUSPENSION MEMBER BRACE**

Torque:

Bolt A: 119 N·m (1,210 kgf·cm, 88 ft·lbf)

Bolt B: 58 N·m (590 kgf·cm, 43 ft·lbf)

HINT:

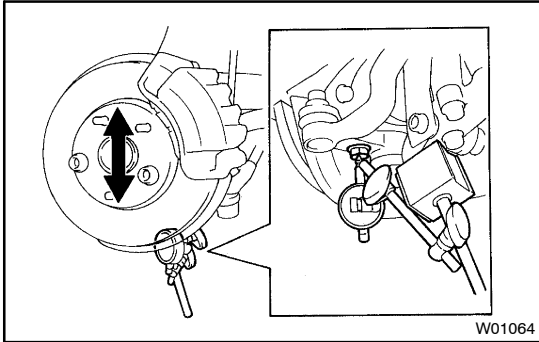
- Install the bolt A through the No.2 lower suspension arm.
- After stabilizing the suspension, torque the bolt A.

10. INSTALL RH AND LH REAR ENGINE UNDER COVER**11. INSTALL ENGINE UNDER COVER AND ENGINE UNDER COVER NO. 2****12. INSTALL FRONT WHEEL**

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

13. DEPRESS BRAKE PEDAL SEVERAL TIMES**14. CHECK FRONT WHEEL ALIGNMENT**

(See page SA-5)



FRONT LOWER BALL JOINT ON-VEHICLE INSPECTION

SAORP-03

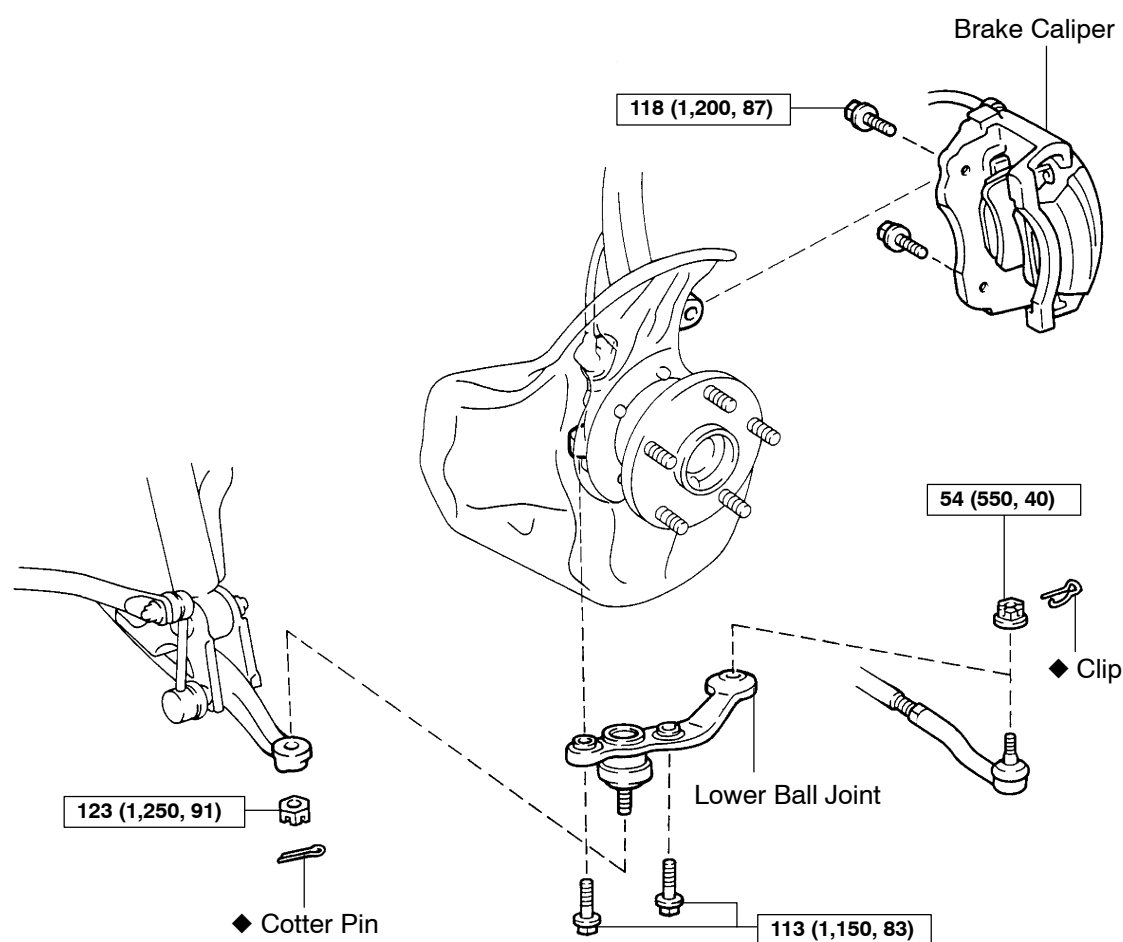
INSPECT LOWER BALL JOINT EXCESSIVE PLAY ON-VEHICLE

- (a) Remove the front wheel and install the hub nuts to the disc.
- (b) Using a dial indicator, check the lower ball joint for excessive play when you push the hub nuts up and down with a force of 294 N (30 kgf, 66 lbf).

Maximum: 0.9 mm (0.035 in.)

If it is not within the specified value, replace the lower ball joint.

COMPONENTS



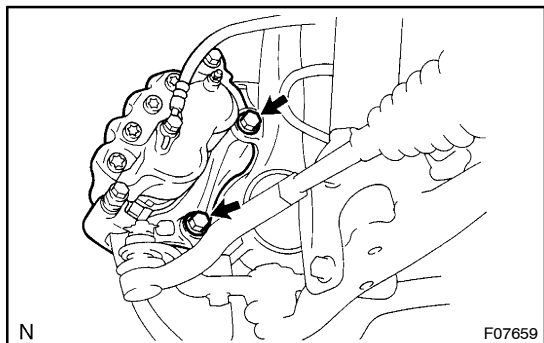
N·m (kgf·cm, ft·lbf) : Specified torque

N ◆ Non-reusable part

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REMOVAL

1. REMOVE FRONT WHEEL

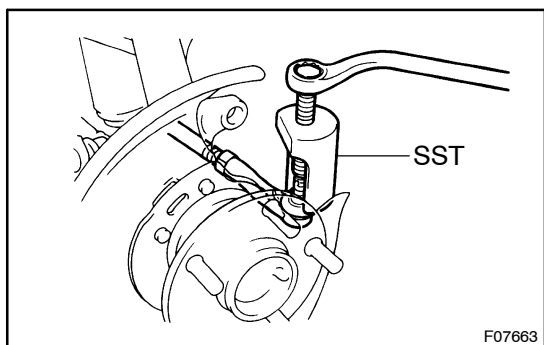


2. REMOVE BRAKE CALIPER

- (a) Remove the 2 bolts and brake caliper from the steering knuckle.
- (b) Support the brake caliper securely.
- (c) Remove the disc.

3. DISCONNECT TIE ROD END FROM LOWER BALL JOINT

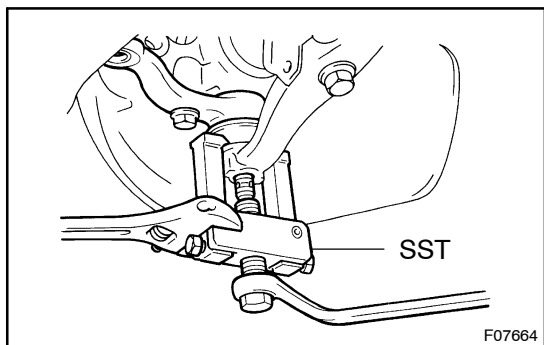
- (a) Remove the clip and nut.



- (b) Using SST, disconnect the tie rod end.
SST 09610-20012

4. DISCONNECT LOWER BALL JOINT FROM LOWER SUSPENSION ARM

- (a) Remove the cotter pin and nut.



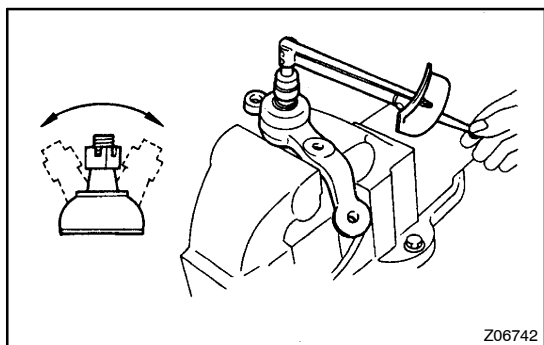
- (b) Using SST, remove the lower ball joint.
SST 09628-62011

5. REMOVE LOWER BALL JOINT

Remove the 2 bolts and lower ball joint from the steering knuckle.

INSPECTION

1. INSPECT LOWER BALL JOINT BOOT FOR DAMAGE



2. INSPECT LOWER BALL JOINT FOR ROTATION CONDITION

- (a) As shown in the illustration, flip the ball joint stud back and forth 5 times, before installing the nut.
- (b) Using torque wrench, turn the nut continuously 1 turn per 2 – 4 seconds and take the torque reading on the 5th turn.

Turning torque:

0.5 – 3.0 N·m (5 – 30 kgf·cm, 0.4 – 26 in·lbf)

INSTALLATION

1. INSTALL LOWER BALL JOINT

- (a) Install the lower ball joint to the steering knuckle with the 2 bolts.

Torque: 113 N·m (1,150 kgf·cm, 83 ft·lbf)

- (b) Connect the lower ball joint to the No. 1 lower suspension arm with the nut.

Torque: 123 N·m (1,250 kgf·cm, 91 ft·lbf)

- (c) Install a new cotter pin.

If the holes for the cotter pin are not aligned, tighten the nut further up to 60°.

2. CONNECT TIE ROD END TO LOWER BALL JOINT

- (a) Connect the tie rod end with the nut.

Torque: 54 N·m (550 kgf·cm, 40 ft·lbf)

- (b) Install a new clip.

If the holes for the clip are not aligned, tighten the nut further up to 60°.

3. INSTALL DISC AND BRAKE CALIPER

Install the disc, brake caliper and 2 bolts.

Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

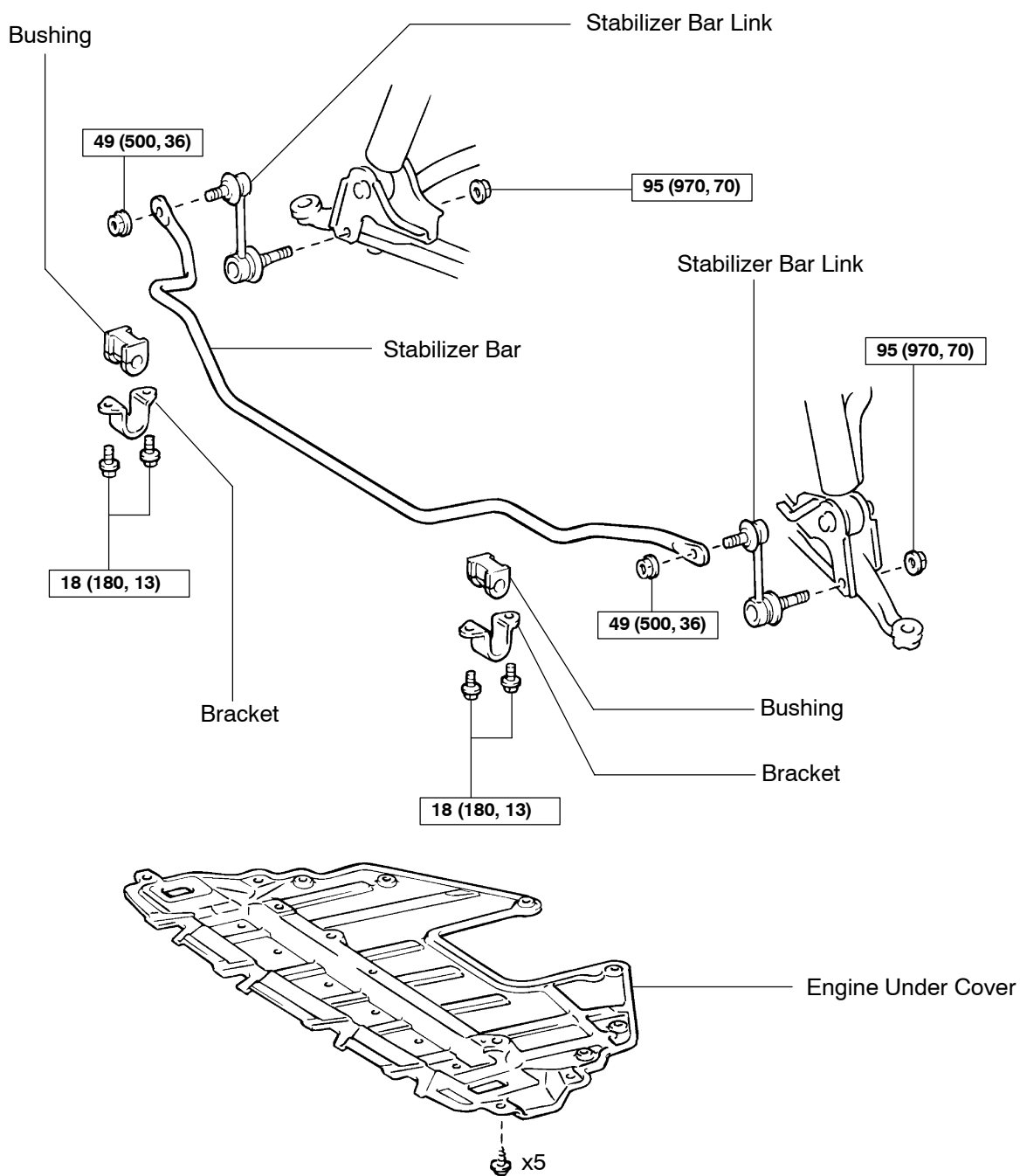
4. INSTALL FRONT WHEEL

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

5. CHECK FRONT WHEEL ALIGNMENT (See page SA-5)

FRONT STABILIZER BAR COMPONENTS

SAORU-03



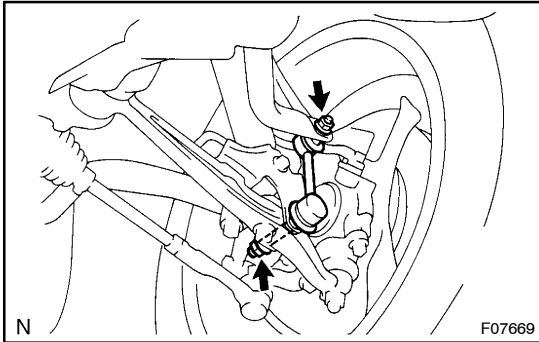
T

N·m (kgf·cm, ft·lbf) : Specified torque

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REMOVAL

1. REMOVE ENGINE UNDER COVER



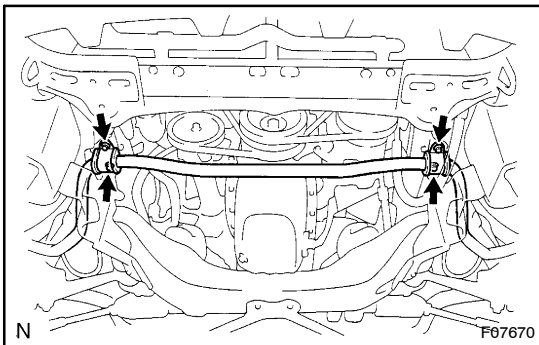
2. REMOVE RH AND LH STABILIZER BAR LINKS

- (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.

- (b) Employ the same manner described above to the other side.



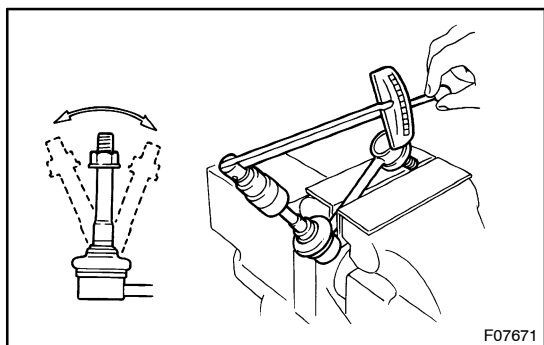
3. REMOVE STABILIZER BAR

Remove the 4 bolts and stabilizer bar.

4. REMOVE 2 BRACKETS AND BUSHINGS FROM STABILIZER BAR

INSPECTION

1. INSPECT STABILIZER BAR LINK BALL JOINT BOOT FOR DAMAGE

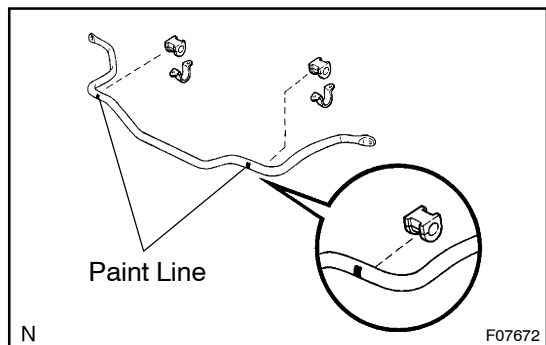


2. INSPECT STABILIZER BAR LINK BALL JOINT FOR ROTATION CONDITION

- (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 stud continuously 1 turn per 2 – 4 seconds and take the torque reading on the 5th turn.

Turning torque:

0.05 – 1.9 N·m (0.5 – 20 kgf·cm, 0.4 – 16 in.·lbf)



INSTALLATION

1. INSTALL 2 BUSHINGS AND BRACKETS TO STABILIZER BAR

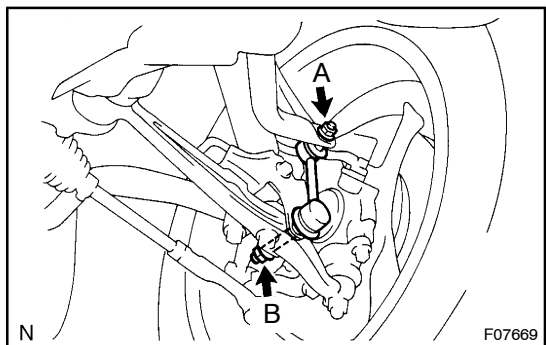
HINT:

- Install the bushing to the stabilizer bar so that the cutout of the bushing faces the front of the vehicle, as shown in the illustration.
- Install the bushing to the outside of the paint line on the stabilizer bar.

2. INSTALL STABILIZER BAR

Install the stabilizer bar to the body with the 4 bolts.

Torque: 18 N·m (180 kgf·cm, 13 ft·lbf)



3. INSTALL RH AND LH STABILIZER BAR LINKS

Torque:

Nut A: 49 (500 kgf·cm, 36 ft·lbf)

Nut B: 95 (970 kgf·cm, 70 ft·lbf)

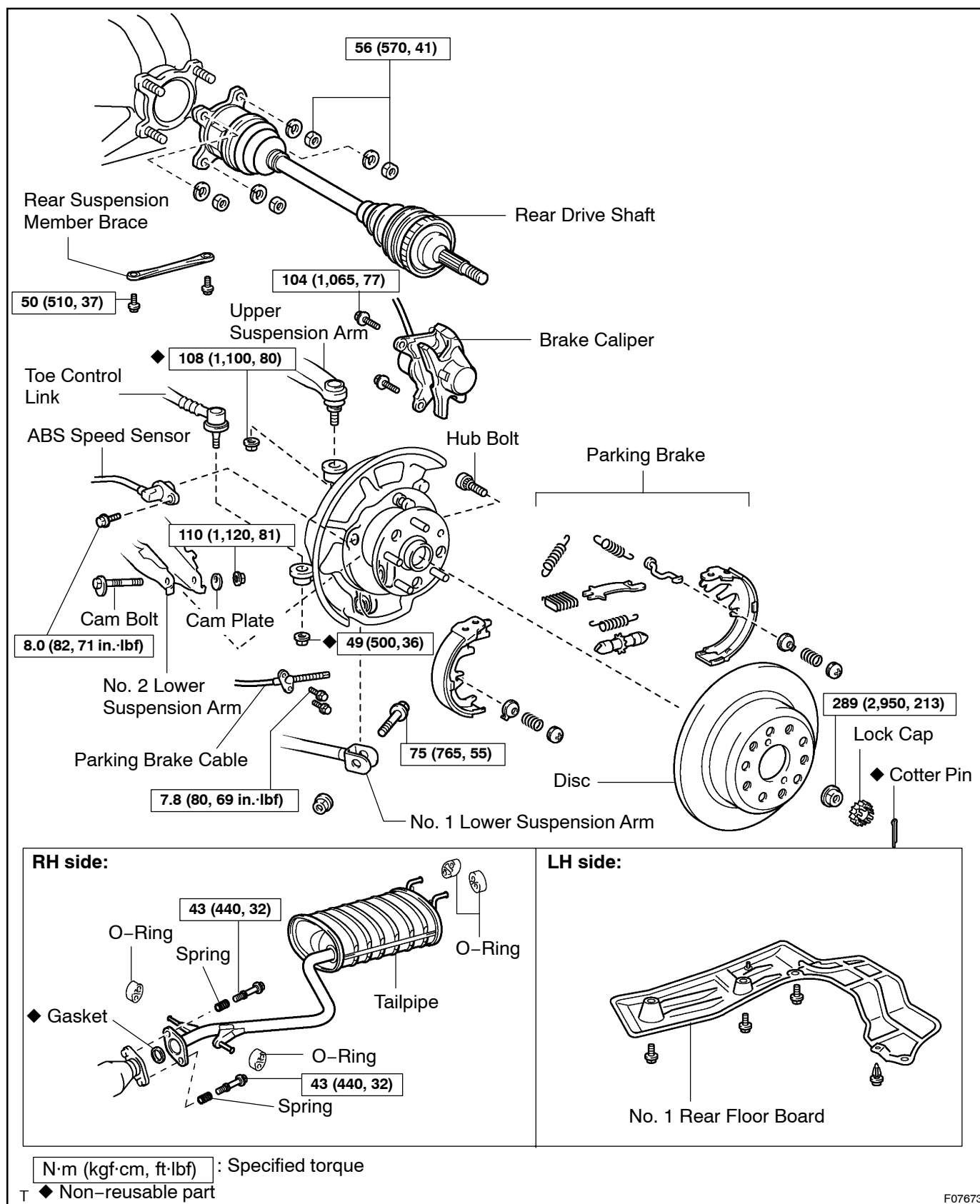
HINT:

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

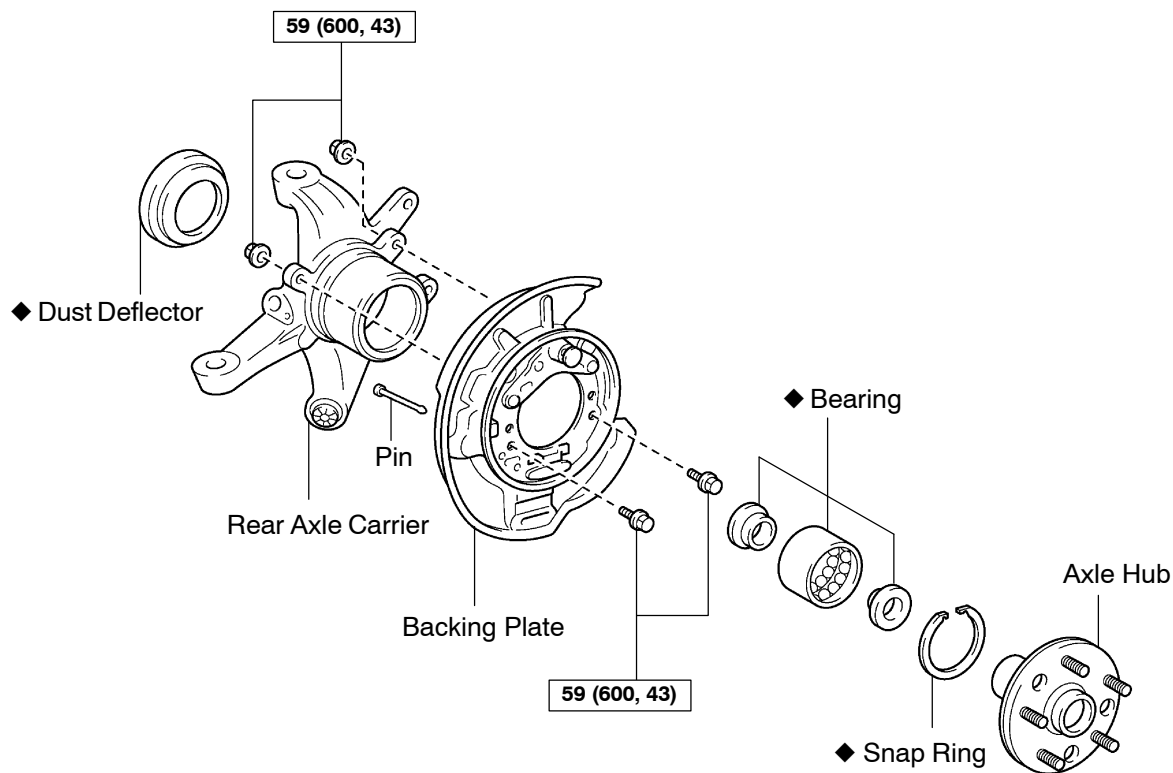
4. INSTALL ENGINE UNDER COVER

REAR AXLE CARRIER COMPONENTS

SA1J0-01



F07673



N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

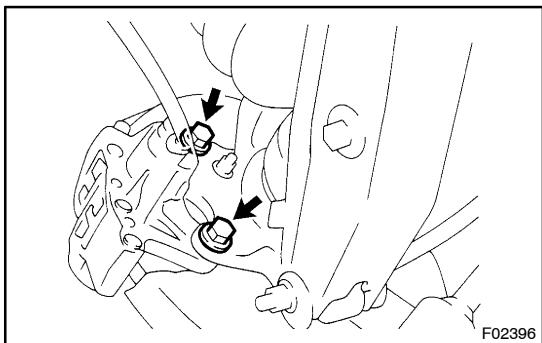
F07674

REMOVAL

1. REMOVE REAR WHEEL

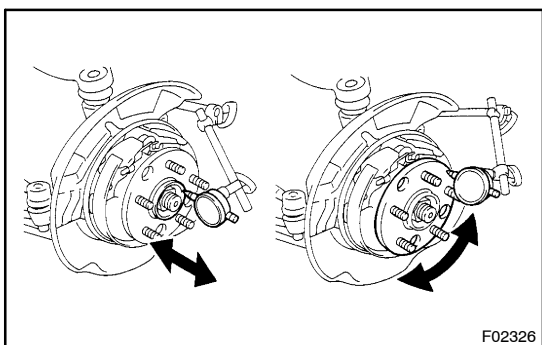
2. DISCONNECT ABS SPEED SENSOR FROM REAR AXLE CARRIER

Remove the bolt and disconnect the ABS speed sensor.



3. CHECK BEARING BACKLASH AND AXLE HUB DEVIATION

- Remove the 2 bolts and brake caliper from the axle carrier.
- Support the brake caliper securely.
- Remove the disc.



- Using a dial indicator near the center of the axle hub and check the backlash in the bearing shaft direction.

Maximum: 0.05 mm (0.0020 in.)

If the backlash exceeds the maximum, replace the bearing.

- Using a dial indicator, check the deviation at the surface of the axle hub outside the hub bolt.

Maximum: 0.07 mm (0.0028 in.)

If the deviation exceeds the maximum, replace the axle hub.

- Install the disc, brake caliper and 2 bolts to the axle carrier.

Torque: 104 N·m (1,065 kgf·cm, 77 ft·lbf)

4. REMOVE DRIVE SHAFT (See page SA-56)

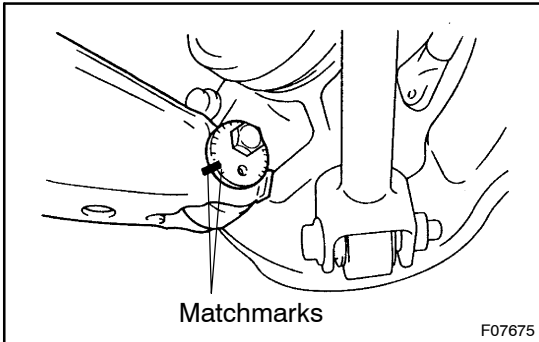
5. REMOVE BRAKE CALIPER AND DISC

- Remove the 2 bolts and brake caliper from the axle carrier.
- Support the brake caliper securely.
- Remove the disc.

6. REMOVE PARKING BRAKE SHOE (See page BR-41)

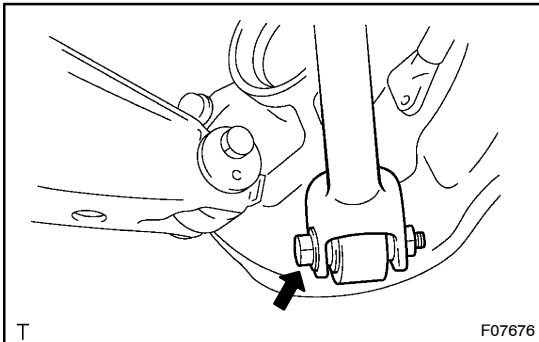
7. DISCONNECT PARKING BRAKE CABLE FROM BACKING PLATE

Remove the 2 bolts and disconnect the parking brake cable.



8. LOOSEN NO. 2 LOWER SUSPENSION ARM MOUNTING NUT (OUTSIDE)

- (a) Place matchmarks on the cam bolt and No. 2 lower suspension arm.
- (b) Loosen the nut of the No. 2 lower suspension arm (outside).

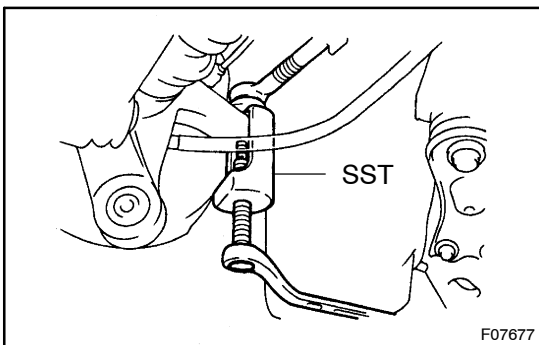


9. DISCONNECT NO. 1 LOWER SUSPENSION FROM REAR AXLE CARRIER

Remove the nut and bolt and disconnect the No. 1 lower suspension arm.

10. DISCONNECT TOE CONTROL LINK FROM AXLE CARRIER

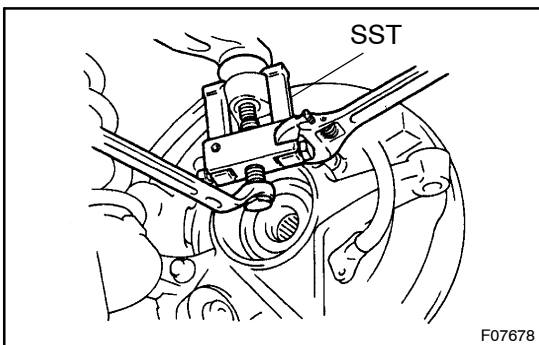
- (a) Remove the nut.



- (b) Using SST, disconnect the toe control link.
SST 09610-20012

11. DISCONNECT UPPER SUSPENSION ARM FROM REAR AXLE CARRIER

- (a) Remove the nut.



- (b) Using SST, disconnect the upper suspension arm.
SST 09628-62011

NOTICE:

Support the axle carrier.

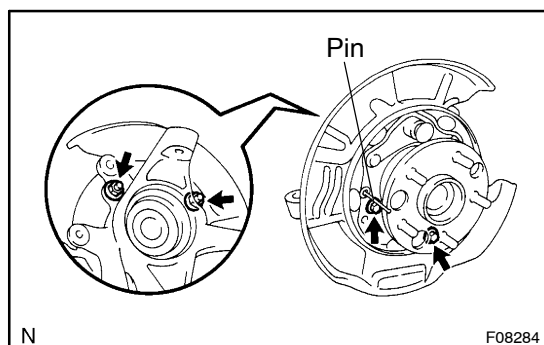
12. REMOVE REAR AXLE CARRIER

Remove the nut, cam plate, cam bolt and axle carrier from the No. 2 lower suspension.

DISASSEMBLY

1. REMOVE DUST DEFLECTOR

Using a screwdriver, remove the dust deflector.



2. REMOVE AXLE HUB

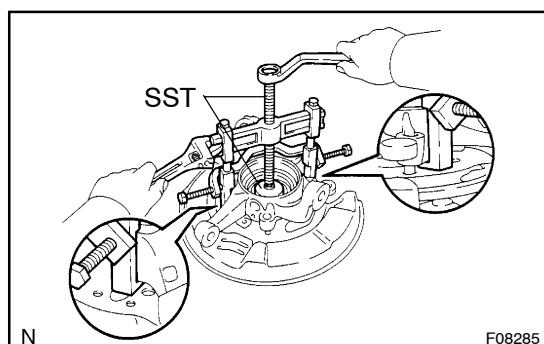
- (a) Remove the 2 bolts, nuts and pin.
- (b) Mount the axle carrier in a vise.

HINT:

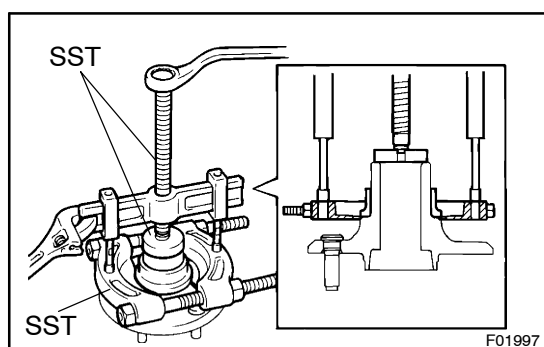
Use a set of soft jaws in the vise to protect the axle carrier.

NOTICE:

Do not tighten the vise too tight.



- (c) Using SST, remove the axle hub from the axle carrier.
SST 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04051, 09957-04010, 09958-04011), 09950-60010 (09951-00480)
- (d) Remove the backing plate.



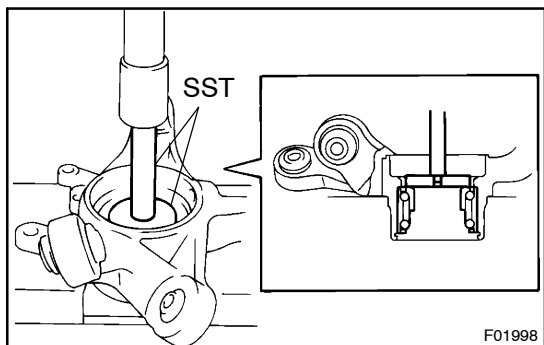
- (e) Using SST, remove the bearing inner race from the axle hub.
SST 09950-00020, 09950-40011 (09951-04020, 09953-04030, 09957-04010), 09950-50012 (09952-05010, 09954-05020, 09955-05040), 09950-60010 (09951-00480)

NOTICE:

Be careful not to damage the axle hub.

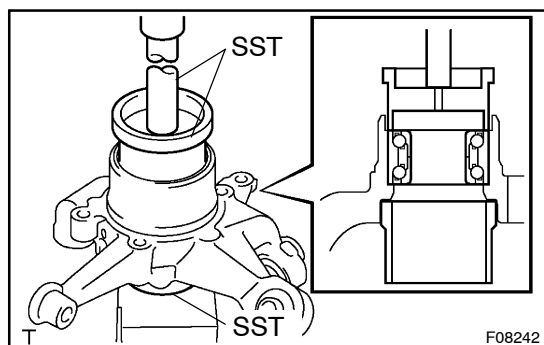
3. REMOVE BEARING

- (a) Using snap ring pliers, remove the snap ring from the axle carrier.



- (b) Using SST and a press, remove the bearing from the axle carrier.

SST 09950-60010 (09951-00650),
09950-70010 (09951-07100)



REASSEMBLY

1. INSTALL BEARING

- (a) Using SST and a press, install a new bearing to the axle carrier.

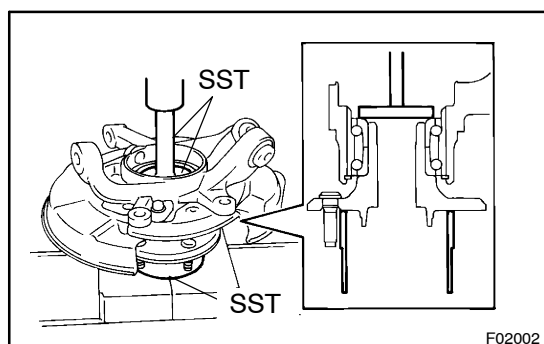
SST 09223-15020, 09527-17011,
09950-70010 (09951-07100)

- (b) Using snap ring pliers, install a new snap ring to the axle carrier.

2. INSTALL AXLE HUB

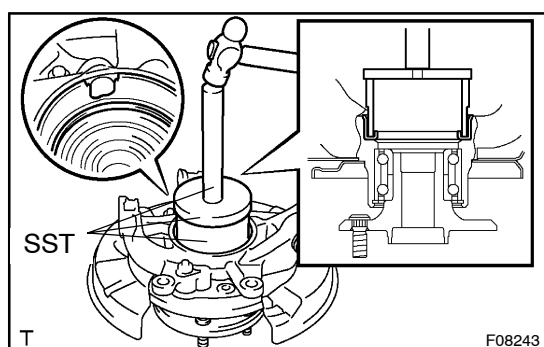
- (a) Install the backing plate, pin, 2 bolts and nuts.

Torque: 59 N·m (600 kgf·cm, 43 ft·lbf)



- (b) Using SST and a press, install the axle hub to the axle carrier.

SST 09527-17011, 09950-60020 (09551-00750),
09950-70010 (09951-07100)



3. INSTALL DUST DEFLECTOR

Using SST and a hammer, install a new dust deflector to the axle carrier.

SST 09527-17011, 09950-60020 (09951-01030),
09950-70010 (09951-07100)

HINT:

Align the speed sensor installation hole of dust deflector and that of axle carrier.

INSTALLATION

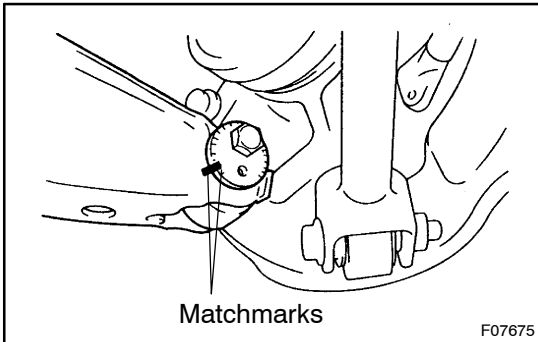
1. INSTALL REAR AXLE CARRIER

- (a) Temporarily install the axle carrier to the upper suspension arm with a new nut.
- (b) Connect the No. 1 lower suspension arm to the axle carrier with the bolt and nut.

Torque: 75 N·m (765 kgf·cm, 55 ft·lbf)

HINT:

After stabilizing the suspension, torque the nut.



- (c) Connect the No. 2 lower suspension arm to the axle carrier with the cam bolt, cam plate and nut.

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

HINT:

After stabilizing the suspension, align the matchmarks on the cam bolt and No. 2 lower suspension arm, torque the nut.

- (d) Connect the toe control link to the axle carrier with a new nut.

Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

- (e) Torque the nut on the upper side of the axle carrier.

Torque: 108 N·m (1,100 kgf·cm, 80 ft·lbf)

2. CONNECT PARKING BRAKE CABLE TO BACKING PLATE

Torque: 7.8 N·m (80 kgf·cm, 69 in·lbf)

3. INSTALL PARKING BRAKE SHOE (See page BR-44)

4. INSTALL DISC AND BRAKE CALIPER

Install the disc, brake caliper and 2 bolts.

Torque: 104 N·m (1,065 kgf·cm, 77 ft·lbf)

5. INSTALL DRIVE SHAFT (See page SA-62)

6. CONNECT ABS SPEED SENSOR TO REAR AXLE CARRIER

Torque: 3.0 N·m (82 kgf·cm, 71 in·lbf)

7. CHECK BEARING BACKLASH AND AXLE HUB DEVIATION (See page SA-47)

8. INSTALL REAR WHEEL

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

9. DEPRESS BRAKE PEDAL SEVERAL TIMES

10. CHECK REAR WHEEL ALIGNMENT

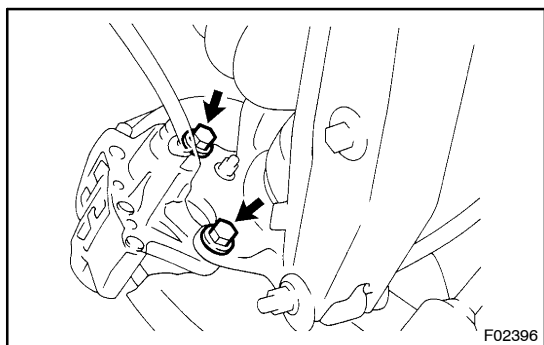
(See page SA-8)

11. CHECK ABS SPEED SENSOR SIGNAL

(See page DI-223)

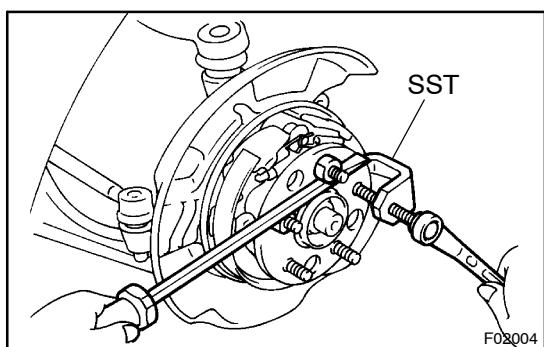
REAR WHEEL HUB BOLT REPLACEMENT

1. REMOVE REAR WHEEL



2. REMOVE BRAKE CALIPER AND DISC

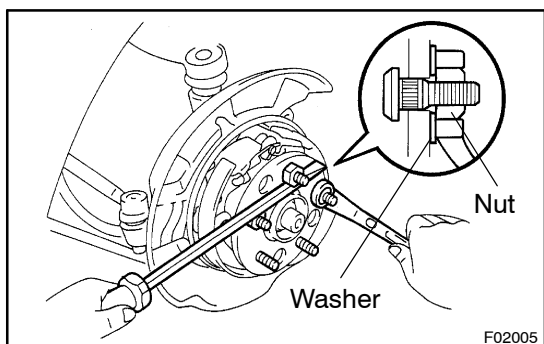
- (a) Remove the 2 bolts and brake caliper from the axle carrier.
- (b) Support the brake caliper securely.
- (c) Remove the disc.



3. REMOVE HUB BOLT

Using SST and a screwdriver or an equivalent to hold, remove the hub bolt.

SST 09628-10011



4. INSTALL HUB BOLT

- (a) Install a washer and nut to a new bolt, as shown in the illustration.
- (b) Using a screwdriver or an equivalent to hold, install the hub bolt by turning the nut.

5. INSTALL DISC AND BRAKE CALIPER

Install the disc, brake caliper and 2 bolts to the axle carrier.

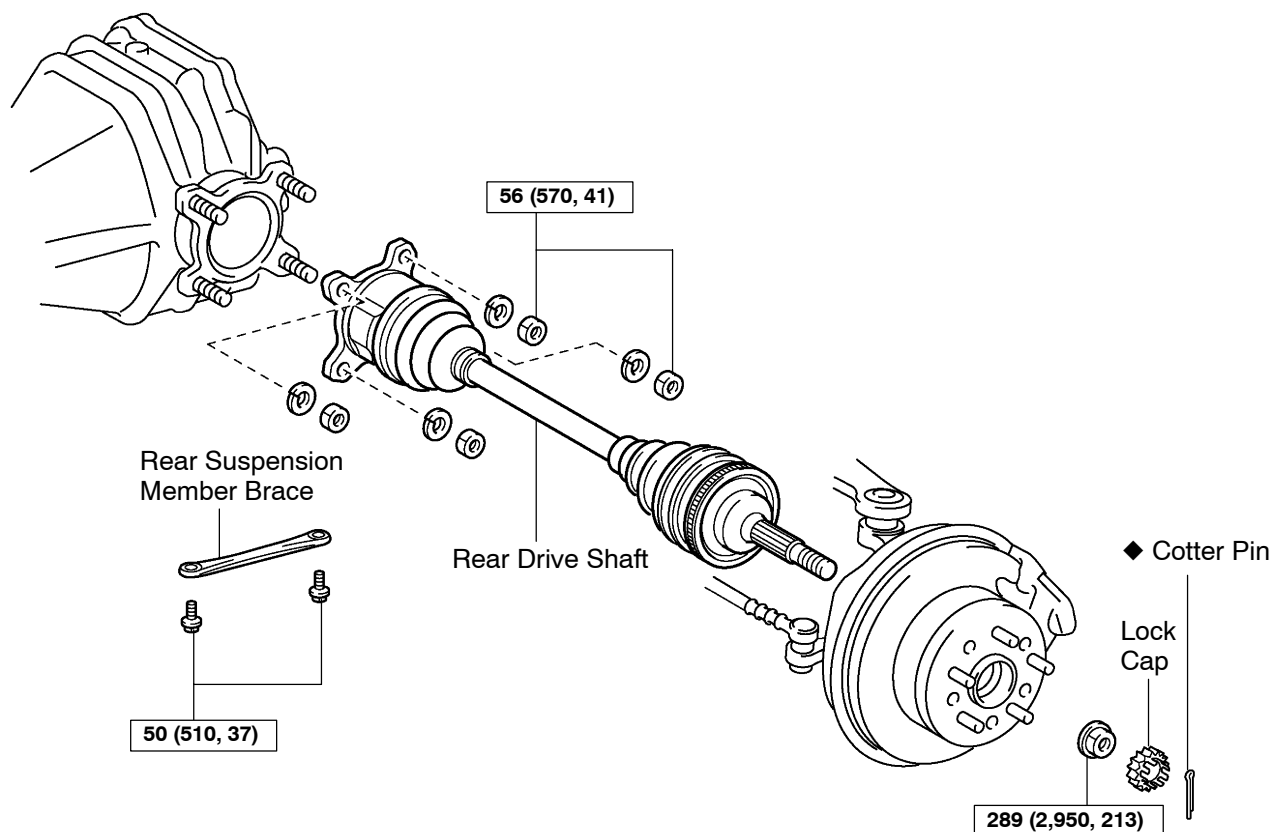
Torque: 104 N·m (1,065 kgf·cm, 77 ft·lbf)

6. INSTALL REAR WHEEL

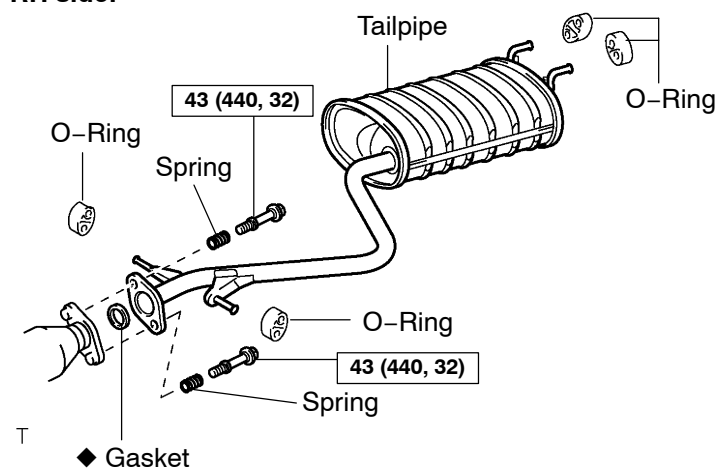
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

REAR DRIVE SHAFT COMPONENTS

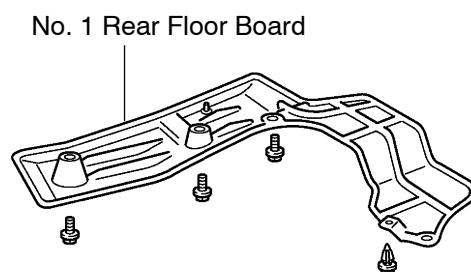
SA1J4-01



RH side:



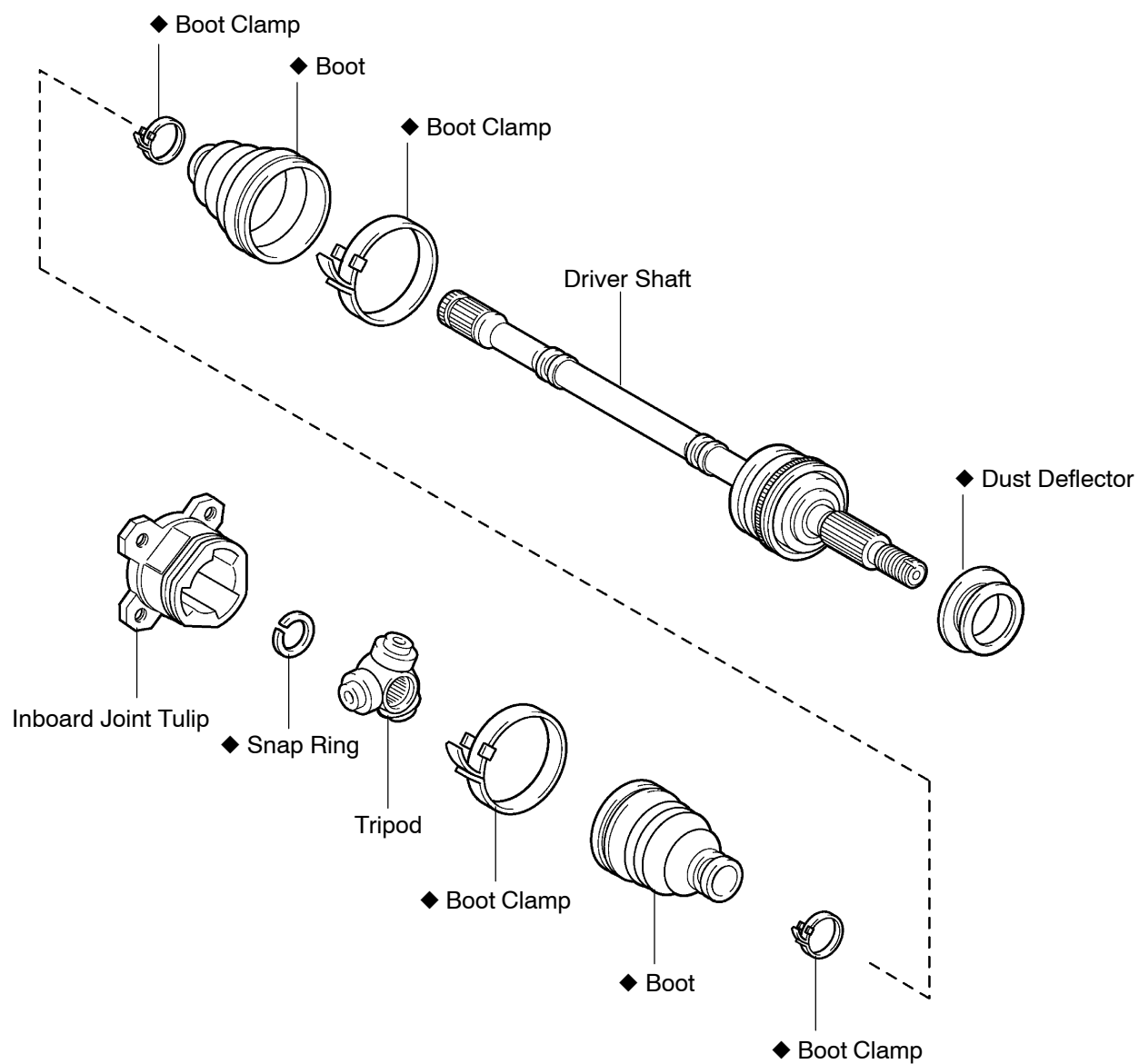
LH side:



N·m (kgf·cm, ft·lbf) : Specified torque

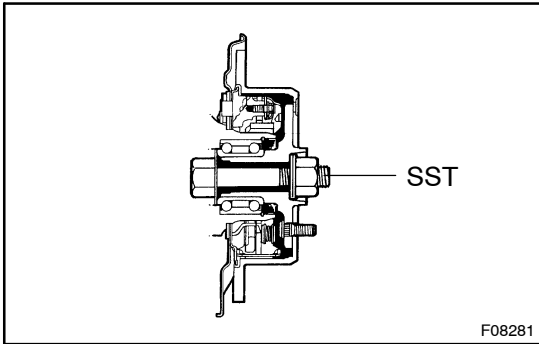
◆ Non-reusable part

F08283



◆ Non-reusable part

F08278

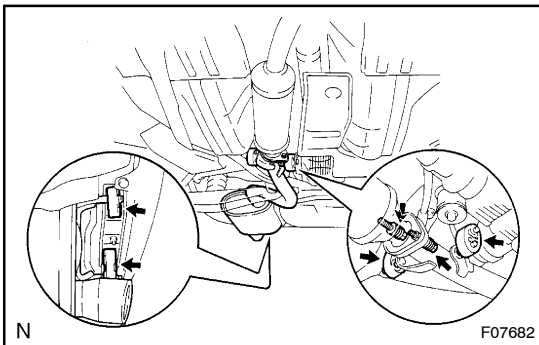


REMOVAL

NOTICE:

- The hub bearing could be damaged if it is subjected to the vehicle weight, such as when moving the vehicle with the drive shaft removed. Therefore, if it is absolutely necessary to place the vehicle weight on the hub bearing, first support it with SST.
- SST 09608-16042 (09608-02021, 09608-02041)
- After disconnecting the drive shaft from the axle hub, work carefully so as not to damage the ABS speed sensor rotor serration on the drive shaft.

1. REMOVE REAR WHEEL



2. RH side:

REMOVE TAILPIPE

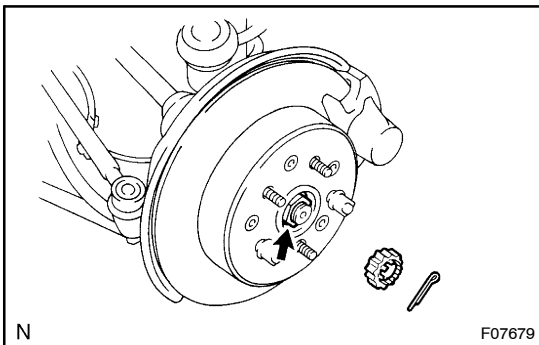
- Remove the 2 bolts, springs and disconnect the tailpipe from the center exhaust pipe.
- Disconnect the 4 O-rings from the tailpipe and remove the tailpipe.
- Support the center exhaust pipe securely.
- Remove the gasket.

3. LH side:

REMOVE NO. 1 REAR FLOOR BOARD

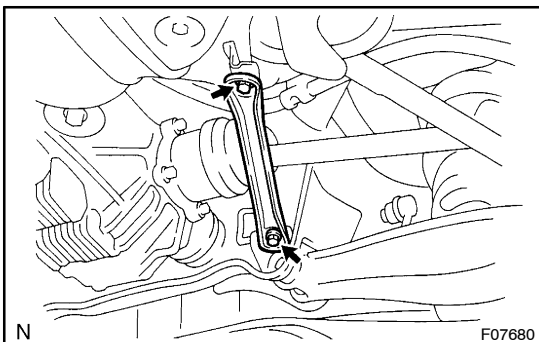
4. REMOVE COTTER PIN, LOCK CAP AND LOCK NUT

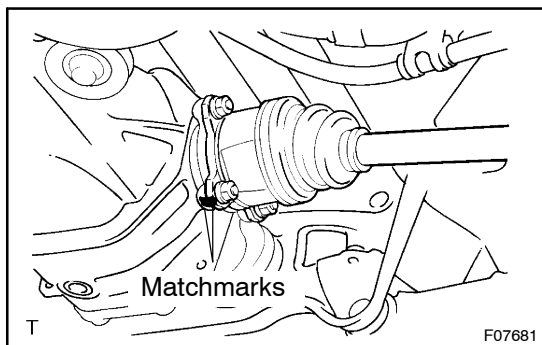
- Remove the cotter pin and lock cap.
- While depressing the brake pedal, using a socket wrench (32 mm), remove the nut.



5. REMOVE REAR SUSPENSION MEMBER BRACE

Remove the 2 bolts and suspension member brace.





6. REMOVE REAR DRIVE SHAFT

- (a) Place matchmarks on the drive shaft and side gear shaft.

NOTICE:

Do not punch to marks.

- (b) Remove the 4 nuts and washers while depressing the brake pedal.
- (c) Push and compress the inboard joint and disconnect the drive shaft from the side gear shaft.

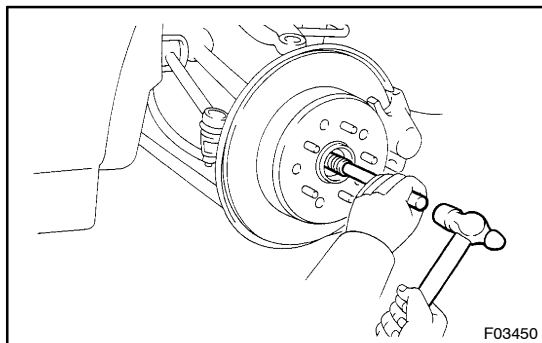
NOTICE:

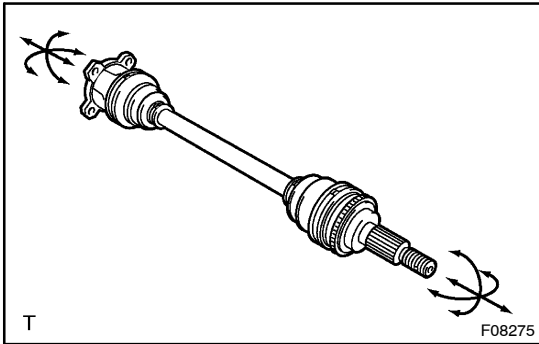
Be careful not to damage the boots and end cover.

- (d) Using a brass bar and hammer, lightly tap the end of the drive shaft to disengage the axle hub and remove the drive shaft.

NOTICE:

Be careful not to damage the boots, ABS speed sensor rotor of the drive shaft and oil seal of the axle hub bearing.





DISASSEMBLY

1. CHECK DRIVE SHAFT

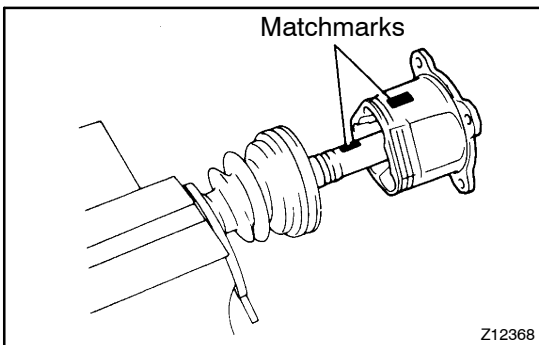
- Check that operation of the joint is smooth within the sliding region in the axial direction.
- Check that the boots are not cracked, damaged or leaking.
- Check that there are no scratches on the ABS speed sensor rotor.

2. REMOVE INBOARD AND OUTBOARD JOINT BOOT CLAMPS

Using a screwdriver, loosen the 4 boot clamps.

3. REMOVE INBOARD JOINT TULIP

- Slide the inboard joint boot toward the outboard.



- Place matchmarks on the inboard joint tulip and drive shaft.

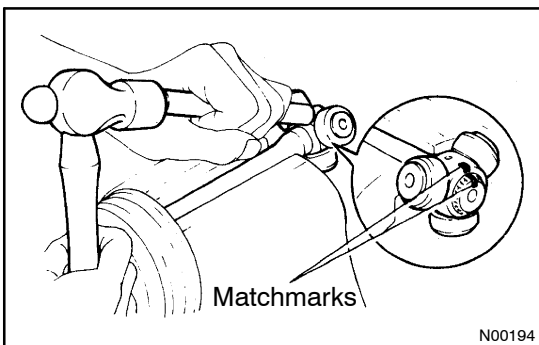
NOTICE:

Do not punch the marks.

- Remove the inboard joint tulip from the drive shaft.

4. REMOVE TRIPOD

- Using a snap ring expander, remove the snap ring.



- Place matchmarks on the drive shaft and tripod.

NOTICE:

Do not punch the marks.

- Using a brass bar and hammer, remove the tripod from the drive shaft.

NOTICE:

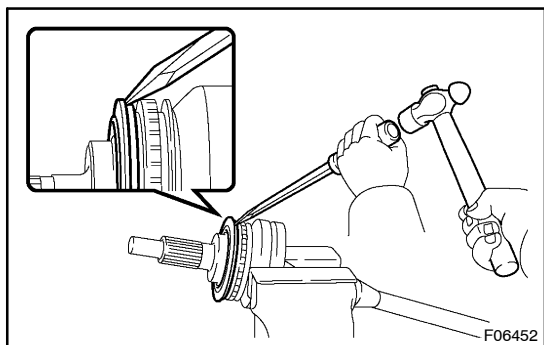
Do not tap the roller.

5. REMOVE INBOARD AND OUTBOARD JOINT BOOTS AND CLAMPS

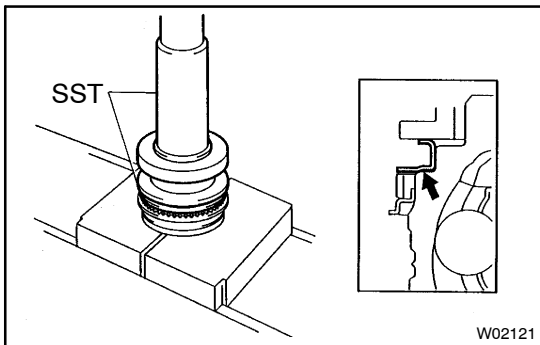
Slide out the 2 boots and 4 clamps.

NOTICE:

Do not disassemble the outboard joint.

**6. REMOVE DUST DEFLECTOR**

Using a screwdriver and hammer, remove the dust deflector.



REASSEMBLY

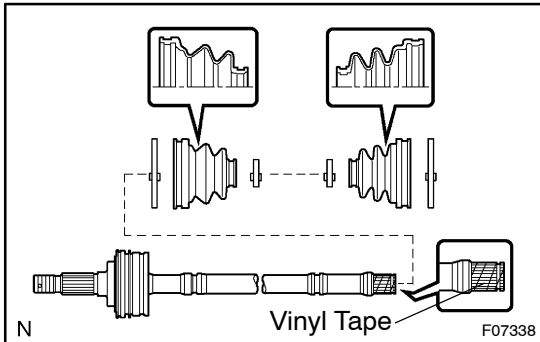
1. INSTALL NEW DUST DEFLECTOR

Using SST and a press, install a new dust deflector.

SST 09309-36010, 09502-12010

NOTICE:

Be careful not to damage the ABS speed sensor rotor.



2. TEMPORARILY INSTALL 2 NEW OUTBOARD AND IN-BOARD JOINT BOOTS AND 4 BOOT CLAMPS

HINT:

Before installing the 2 boots, wrap the spline of the drive shaft with vinyl tape to prevent the boots from being damaged.

3. INSTALL TRIPOD

- Place the beveled side of the tripod axial spline toward the outboard joint.
- Align the matchmarks placed before removal.
- Using a brass bar and hammer, tap in the tripod to the drive shaft.

NOTICE:

Do not tap the roller.

- Using a snap ring expander, install a new snap ring.

4. INSTALL BOOT TO DRIVE SHAFT

Before assembling the boot, pack the outboard joint and boot with grease in the boot kit.

Grease capacity (Color = Black):

Country (Transmission type)	Capacity
Europe	120 – 130 g (4.2 – 4.6 oz.)
Taiwan	
Australia (M/T)	
New Zealand (M/T)	
Hong Kong (M/T)	
Thai Land (M/T)	
Others	107 – 117 g (3.8 – 4.1 oz.)

5. INSTALL INBOARD JOINT TULIP

- (a) Pack the inboard joint and boot with grease in the boot kit.

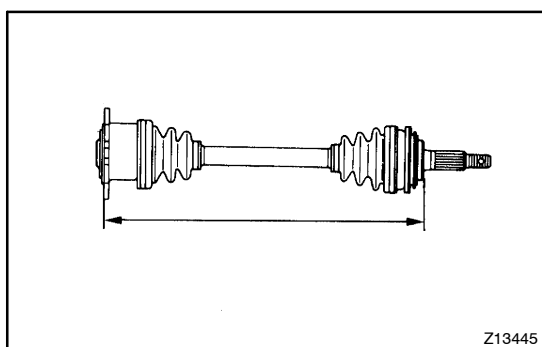
Grease capacity (Color = Yellow Packer):

Country (Transmission type)	Capacity
Europe	215 – 225 g (7.6 – 8.9 oz.)
Taiwan	
Australia (M/T)	
New Zealand (M/T)	
Hong Kong (M/T)	
Thai Land (M/T)	
Others	180 – 190 g (6.3 – 6.7 oz.)

- (b) Align the matchmarks placed before removal, and install the inboard joint tulip to the drive shaft.
- (c) Temporarily install the boot to the inboard joint tulip.

6. CHECK DRIVE SHAFT LENGTH

- (a) Make sure that the 2 boots are on the shaft groove.



- (b) Make sure that the 2 boots are not stretched or contracted when the drive shaft is at standard length.

Standard length:

Country (Transmission type)	Length
Europe	RH: 604.3 ± 5.0 mm (23.791 ± 0.197 in.) LH: 558.3 ± 5.0 mm (21.980 ± 0.197 in.)
Taiwan	
Australia (M/T)	
New Zealand (M/T)	
Hong Kong (M/T)	
Thai Land (M/T)	
Others	RH: 603.3 ± 5.0 mm (23.752 ± 0.197 in.) LH: 558.3 ± 5.0 mm (21.980 ± 0.197 in.)

7. INSTALL BOOT CLAMPS

- (a) Place 4 boot clamps on the 2 boots.
- (b) Bend the band and lock it with a screwdriver.

8. CHECK DRIVE SHAFT (See page SA-58)

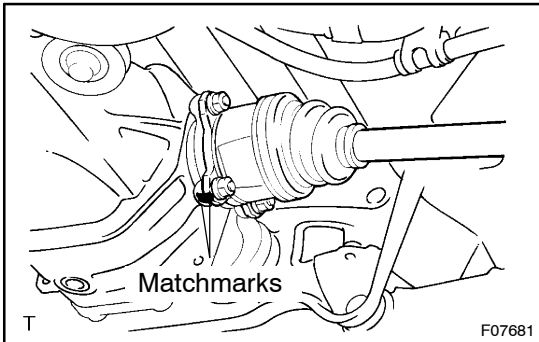
INSTALLATION

1. INSTALL REAR DRIVE SHAFT

- (a) Install the drive shaft to the axle hub.

NOTICE:

- Be careful not to damage the boots and ABS speed sensor rotor of the drive shaft and oil seal of the axle hub bearing.
- Make sure the outboard joint side of the drive shaft does not bend too much.



- (b) Align the matchmarks and push and compress the inboard joint and connect the drive shaft to the side gear shaft.

NOTICE:

Be careful not to damage the boots and inboard joint lip.

- (c) Install the 4 washers and nuts while depressing the brakes pedal.

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

2. INSTALL REAR SUSPENSION MEMBER BRACE

Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)

3. INSTALL LOCK NUT, LOCK CAP AND COTTER PIN

- (a) While applying brakes, using a socket wrench (32 mm), install the nut.

Torque: 289 N·m (2,950 kgf·cm, 213 ft·lbf)

- (b) Install the lock cap and a new cotter pin.

If the holes for the cotter pin are not aligned, tighten the nut further up to 60°.

4. RH side:

INSTALL TAILPIPE

- (a) Install a new gasket.
 (b) Install the tailpipe to the 4 O-rings.
 (c) Connect the tailpipe to the center exhaust pipe with the 2 springs and bolts.

Torque: 43 N·m (440 kgf·cm, 32 ft·lbf)

5. LH side:

INSTALL NO. 1 REAR FLOOR BOARD

6. CHECK REAR WHEEL ALIGNMENT

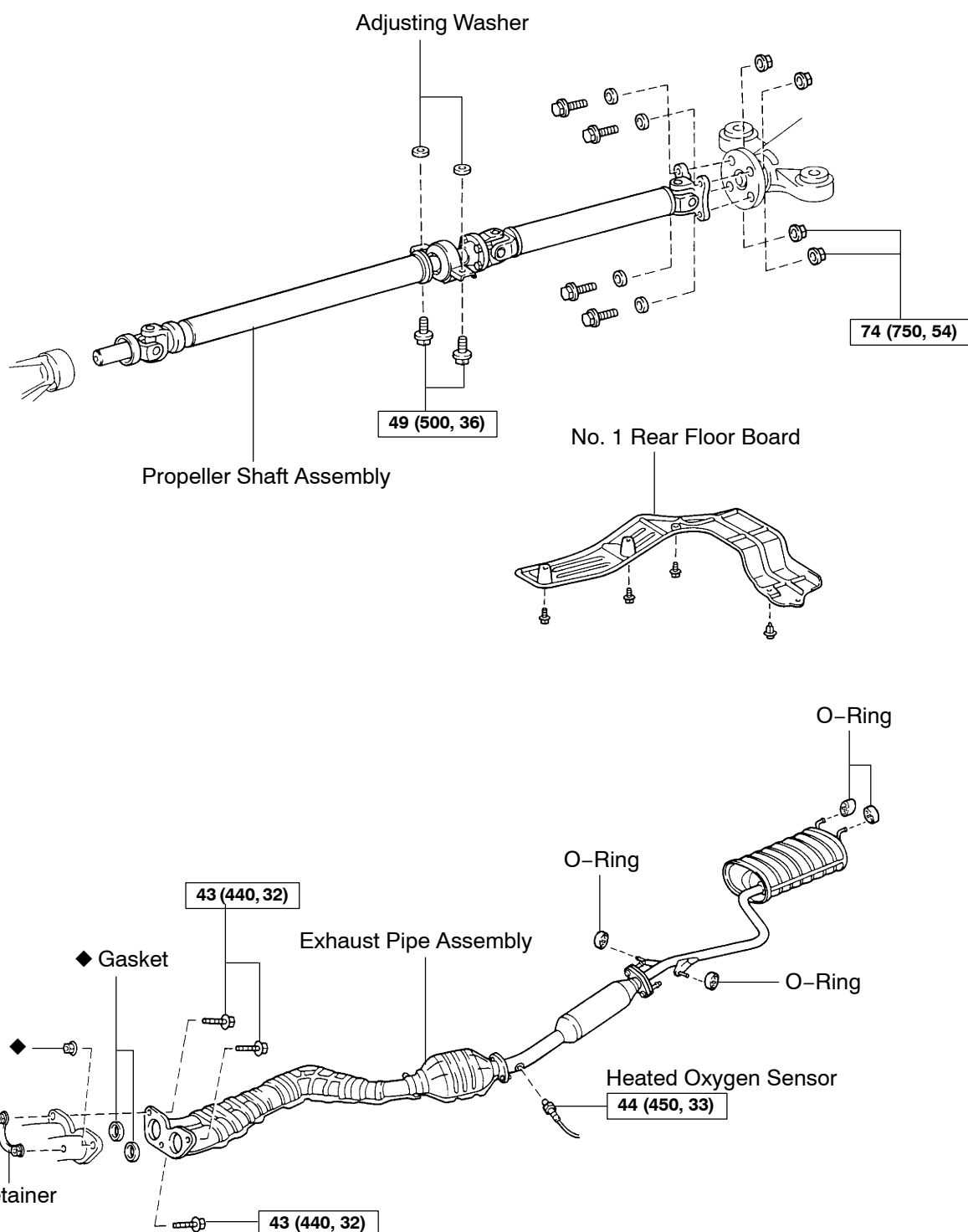
(See [page SA-8](#))

7. CHECK ABS SPEED SENSOR SIGNAL

(See [page DI-223](#))

REAR DIFFERENTIAL FRONT OIL SEAL COMPONENTS

SA1J9-01

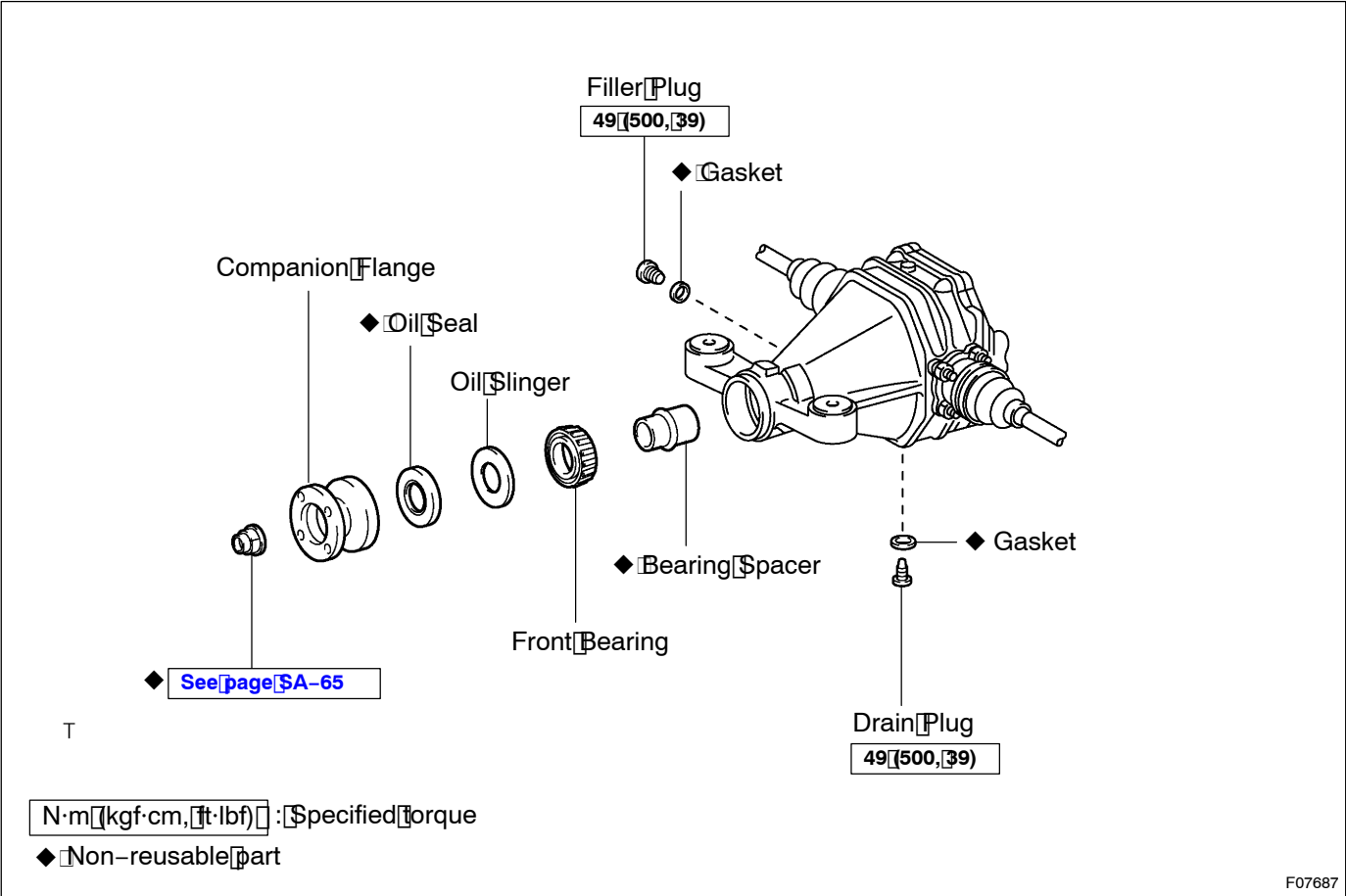


N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

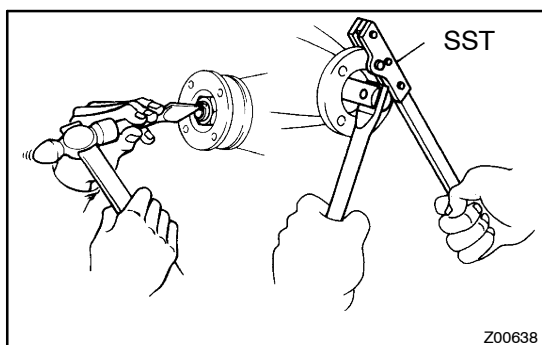
N

F08144



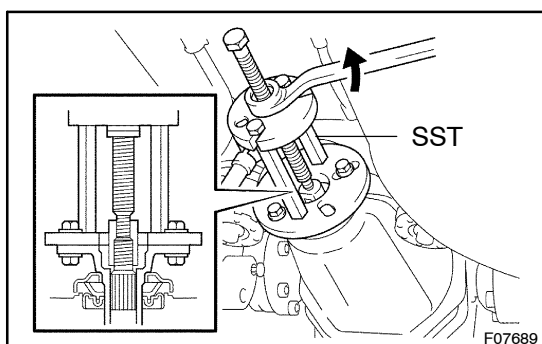
REPLACEMENT

1. REMOVE NO. 1 REAR FLOOR BOARD
2. DRAIN DIFFERENTIAL OIL
3. REMOVE PROPELLER SHAFT (See page PR-4)

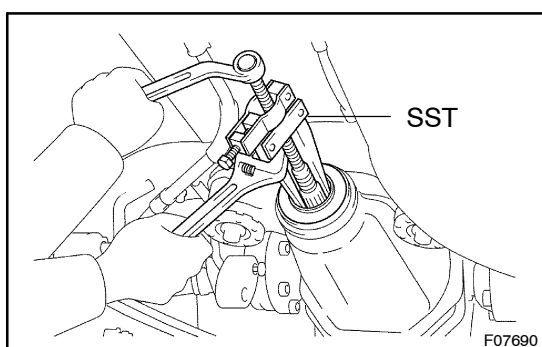


4. REMOVE COMPANION FLANGE

- (a) Using a chisel and hammer, unstick the nut.
- (b) Using SST to hold the flange, remove the nut.
SST 09330-00021

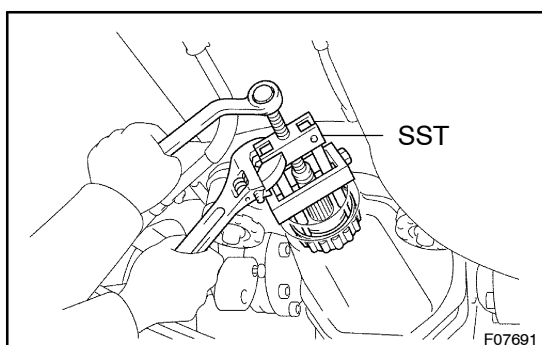


- (c) Using SST, remove the companion flange.
SST 09950-30011 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)



5. REMOVE REAR DIFFERENTIAL FRONT OIL SEAL AND OIL SLINGER

- (a) Using SST, remove the oil seal.
SST 09308-10010
- (b) Remove the oil slinger.



6. REMOVE FRONT BEARING AND BEARING SPACER

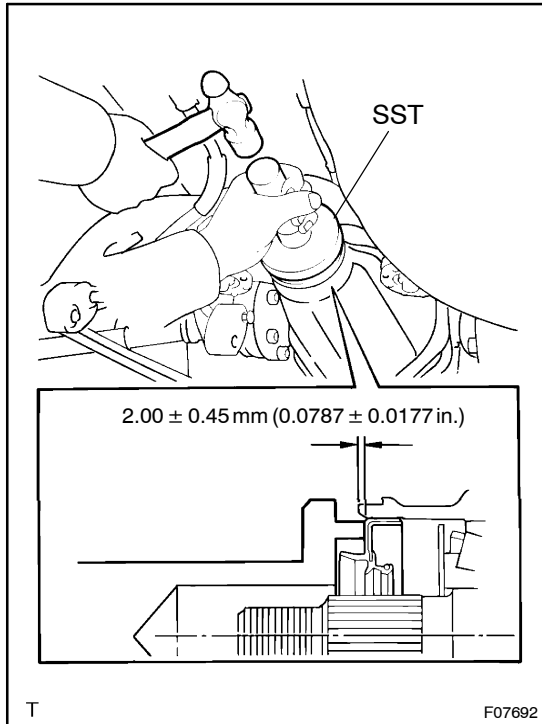
- (a) Using SST, remove the front bearing from the drive pinion.
SST 09556-22010
- (b) Remove the bearing spacer.

7. INSTALL BEARING SPACER, FRONT BEARING AND OIL SLINGER

Install a new bearing spacer, front bearing and oil slinger.

HINT:

- Install the bearing spacer with its larger diameter side facing the rearward.
- Install the oil slinger with the concave surface facing the bearing side.



8. INSTALL REAR DIFFERENTIAL FRONT OIL SEAL

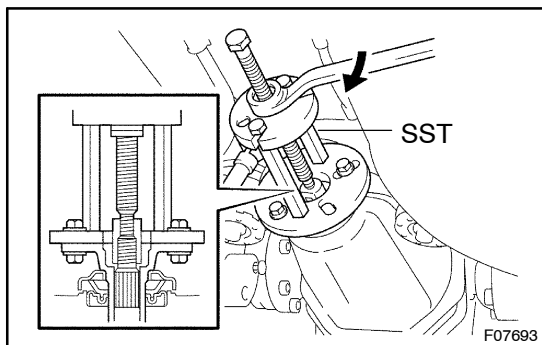
- (a) Using SST and hammer, install a new oil seal.

SST 09554-30011

Oil seal drive in depth:

2.00 ± 0.45 mm (0.0787 ± 0.0177 in.)

- (b) Coat MP grease to the oil seal lip.

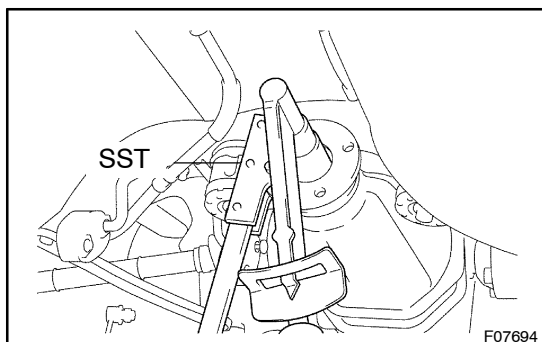


9. INSTALL COMPANION FLANGE

- (a) Using SST, install the companion flange.

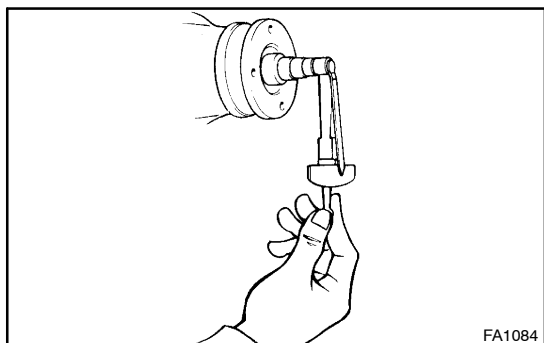
SST 09950-30011 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)

- (b) Coat the threads of a new nut with hypoid gear oil LSD.



- (c) Using SST to hold the flange, torque the nut while checking the preload.

SST 09330-00021



10. ADJUST DRIVE PINION PRELOAD

Using a torque wrench, measure the drive pinion preload of the using the backlash between the drive pinion and ring gear.

Preload (at starting):

New bearing:

1.4 – 2.0 N·m (14 – 20 kgf·cm, 12.4 – 17.7 in.·lbf)

Reused bearing:

0.5 – 0.8 N·m (5 – 8 kgf·cm, 4.3 – 6.9 in.·lbf)

If the preload is greater than the specified value, replace the bearing spacer.

If the preload is less than the specified value, retighten the nut with a force of 13 N·m (130 kgf·cm, 9 ft·lbf) at a time until the specified preload is reached.

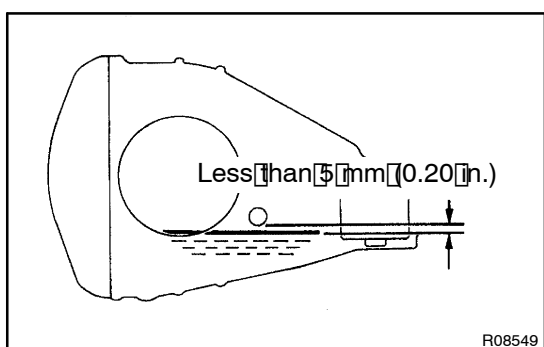
Torque: 223 N·m (2,274 kgf·cm, 164 ft·lbf) or less

If the maximum torque is exceeded while retighten the nut, replace the bearing spacer and repeat the preload procedure. Do not loosen the pinion nut to reduce the preload.

11. STAKE DRIVE PINION NUT

Using a chisel and hammer, stake the nut.

12. INSTALL PROPELLER SHAFT (See page PR-10)



13. FILL AND CHECK DIFFERENTIAL OIL LEVEL

Torque: 49 N·m (500 kgf·cm, 39 ft·lbf)

Oil grade: Hypoid gear oil API GL-5

Viscosity:

Above –18 °C (0 °F) SAE 90

Below –18 °C (0 °F) SAE 80W-90 or 80W

Capacity:

2 pinion defferential:

1.05 liters (1.11 US qts, 0.92 Imp qts)

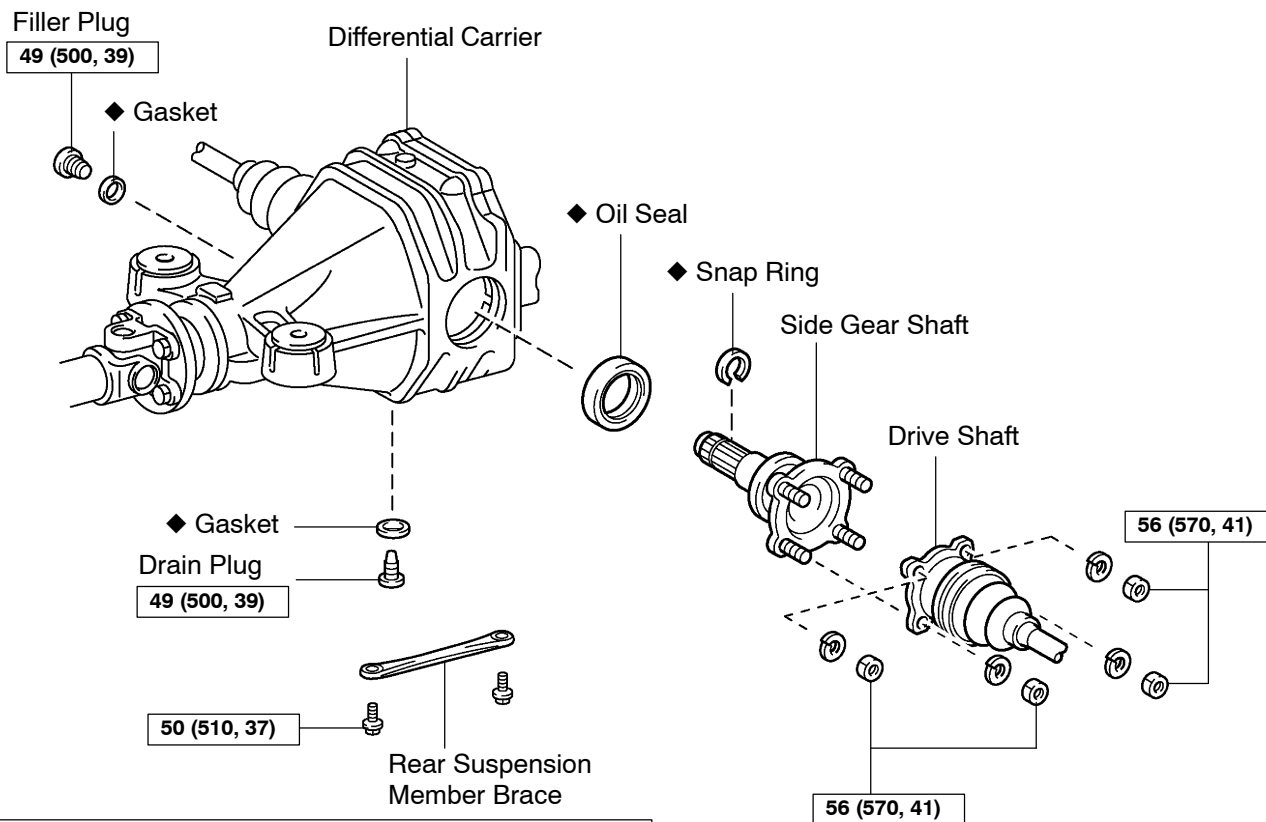
LSD:

1.00 liters (1.06 US qts, 0.88 Imp qts)

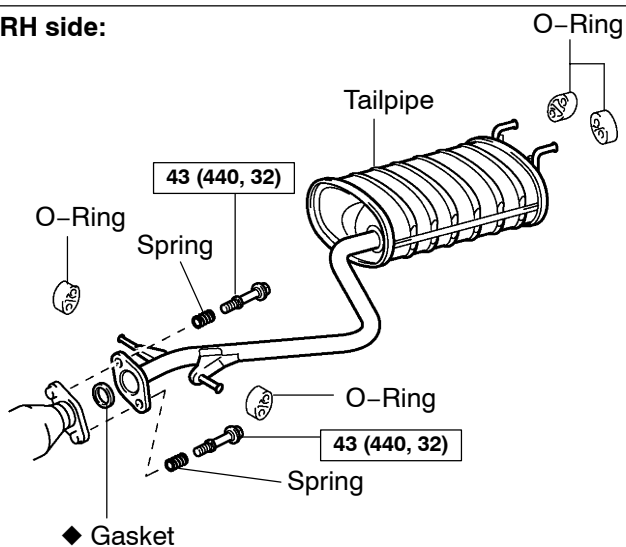
14. INSTALL NO. 1 REAR FLOOR BOARD

REAR DIFFERENTIAL SIDE GEAR SHAFT OIL SEAL COMPONENTS

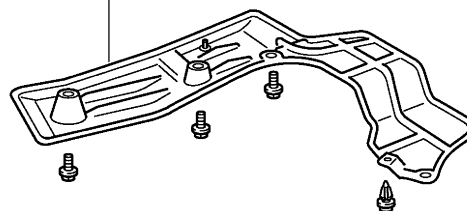
SA059-03



RH side:



No. 1 Rear Floor Board



T

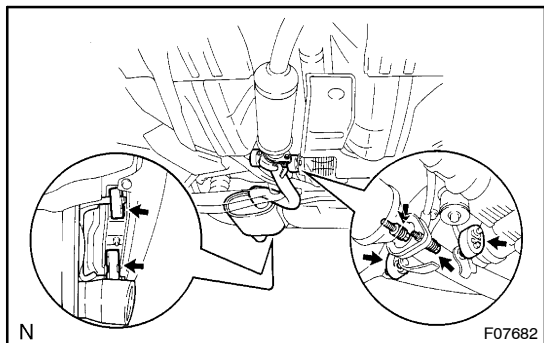
N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

F07683

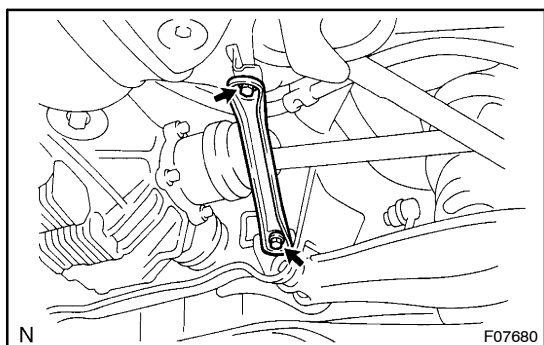
REPLACEMENT

1. REMOVE NO. 1 REAR FLOOR BOARD
2. DRAIN DIFFERENTIAL OIL



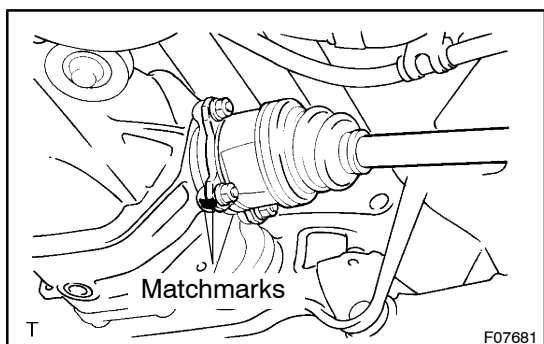
3. RH side: REMOVE TAILPIPE

- (a) Remove the 2 bolts, springs and disconnect the tailpipe from the center exhaust pipe.
- (b) Disconnect the 4 O-rings from the tailpipe and remove the tailpipe.
- (c) Support the center exhaust pipe securely.
- (d) Remove the gasket.



4. REMOVE REAR SUSPENSION MEMBER BRACE

Remove the 2 bolts and suspension member brace.



5. DISCONNECT DRIVE SHAFT FROM SIDE GEAR SHAFT

- (a) Place matchmarks on the drive shaft and side gear shaft.

NOTICE:

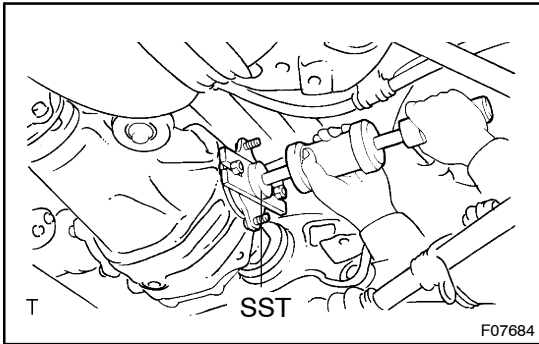
Do not punch to mark the matchmarks. Use paint, etc.

- (b) Remove the 4 nuts and washers while depressing the brake pedal.
- (c) Push and compress the inboard joint and disconnect the drive shaft from the side gear shaft.

NOTICE:

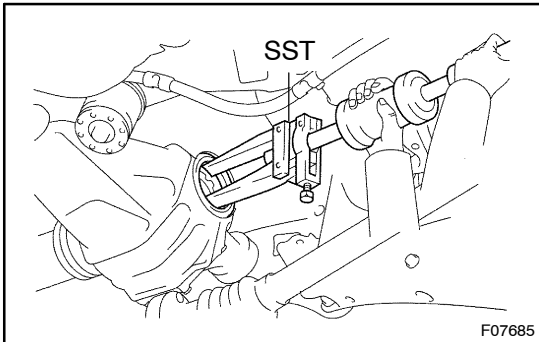
Be careful not to damage the boots and inboard joint tulip.

- (d) Support the drive shaft securely.



6. REMOVE SIDE GEAR SHAFT

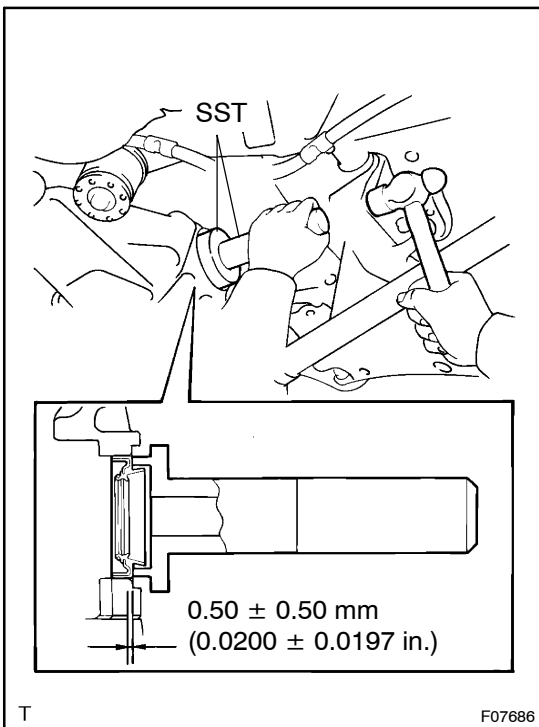
- (a) Using SST and the 2 nuts, remove the side gear shaft.
SST 09520-24010
- (b) Using needle-nose pliers, remove the snap ring from the side gear shaft.



7. REMOVE SIDE GEAR SHAFT OIL SEAL

Using SST, remove the oil seal.

SST 09308-00010



8. INSTALL SIDE GEAR SHAFT OIL SEAL

- (a) Using SST and a hammer, install a new oil seal.
SST 09554-22010

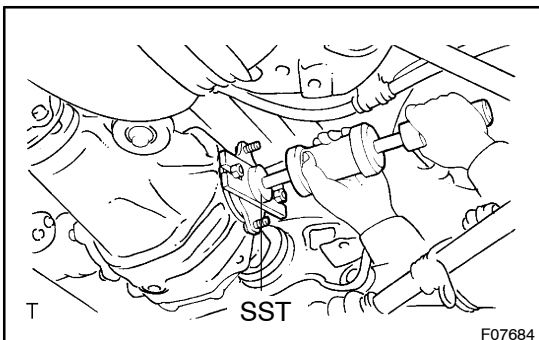
Oil seal drive in depth:

0.50 ± 0.50 mm (0.0200 ± 0.0197 in.)

- (b) Coat MP grease to the oil seal lip.

9. INSTALL SIDE GEAR SHAFT

- (a) Using needle-nose pliers, install a new snap ring to the side gear shaft.
- (b) Coat the snap ring with MP grease.



- (c) Using SST and the 2 nuts, install the side gear shaft.
SST 09520-24010

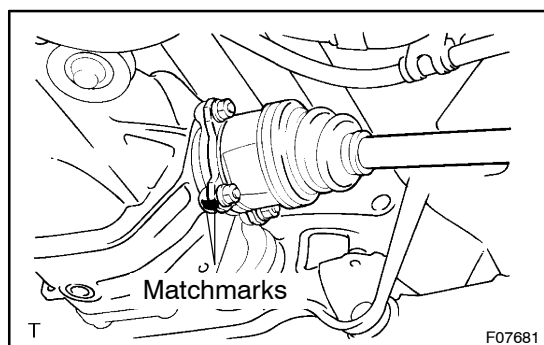
NOTICE:

Be careful not to damage the side gear shaft oil seal.

HINT:

- Before installing the drive shaft, set the snap ring with its opening side facing downward.
- Whether the side gear shaft is in contact with the side gear or not can be known from the sound or feeling when driving it.

- (d) Check that the side gear shaft will not come out by trying to pull it out by hand.



10. CONNECT DRIVE SHAFT TO SIDE GEAR SHAFT

- (a) Align the matchmarks and push and compress the inboard joint and connect the drive shaft to the side gear shaft.

NOTICE:

Be careful not to damage the boots and inboard joint tulip.

- (b) Install the 4 washers and nuts while depressing the brakes pedal.

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

11. INSTALL REAR SUSPENSION MEMBER BRACE

Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)

12. RH side:

INSTALL TAILPIPE

- (a) Install a new gasket.
 (b) Install the tailpipe to the 4 O-rings.
 (c) Connect the tailpipe to the center exhaust pipe with the 2 springs and bolts.

Torque: 43 N·m (440 kgf·cm, 32 ft·lbf)

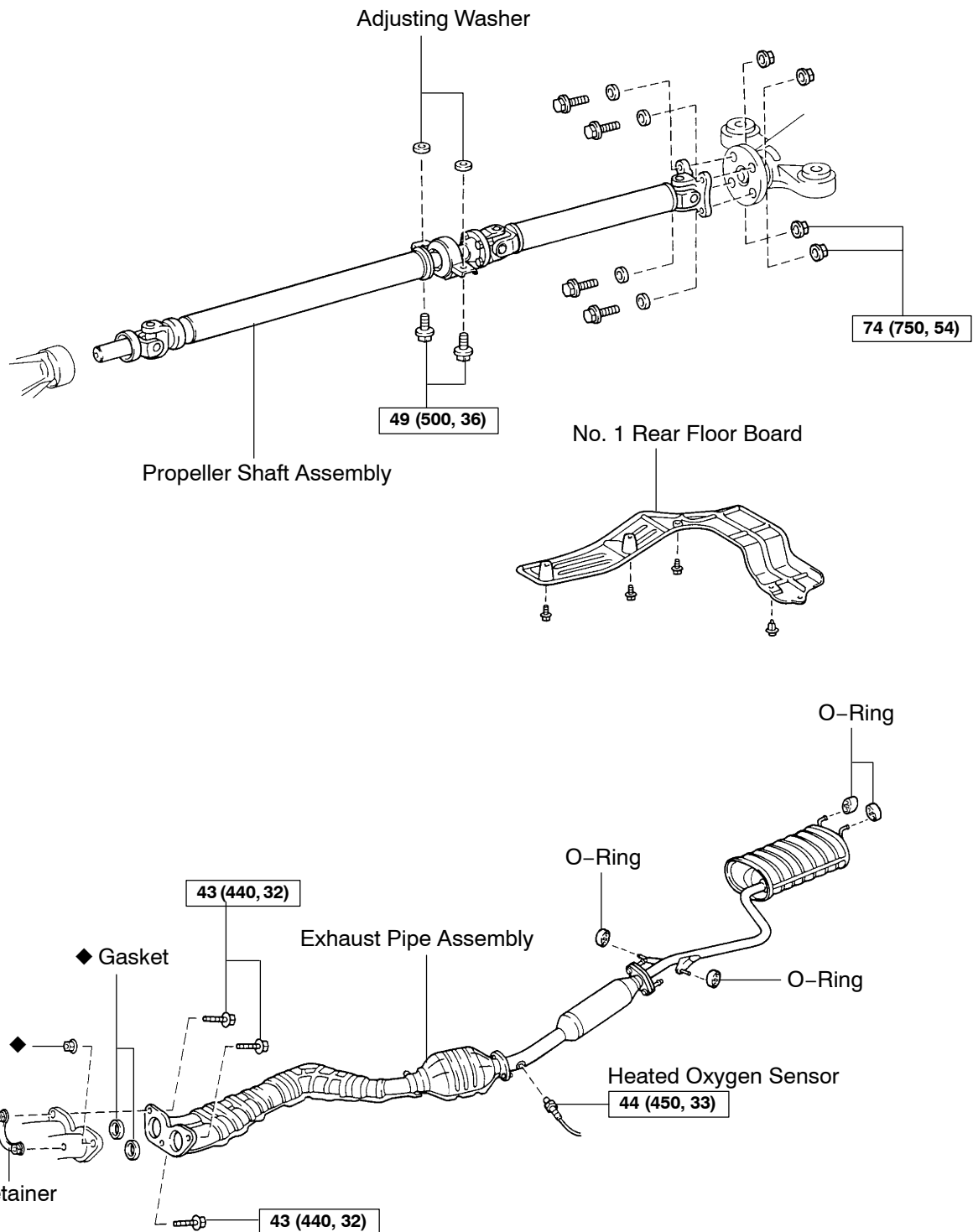
13. FILL AND CHECK DIFFERENTIAL OIL LEVEL

(See [page SA-65](#))

14. INSTALL NO. 1 REAR FLOOR BOARD

REAR DIFFERENTIAL CARRIER COMPONENTS

SA1JC-01

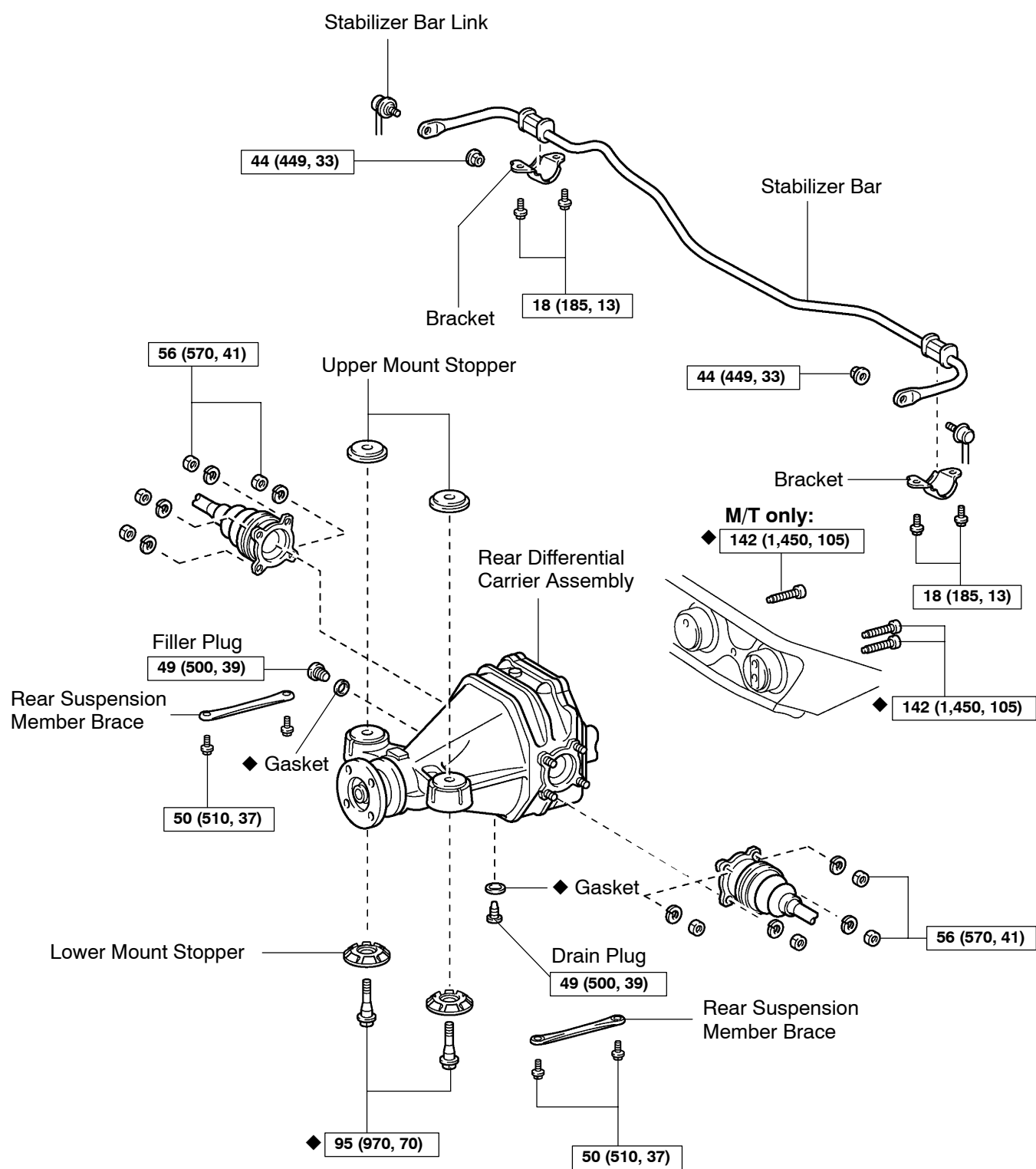


N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

N

F08144

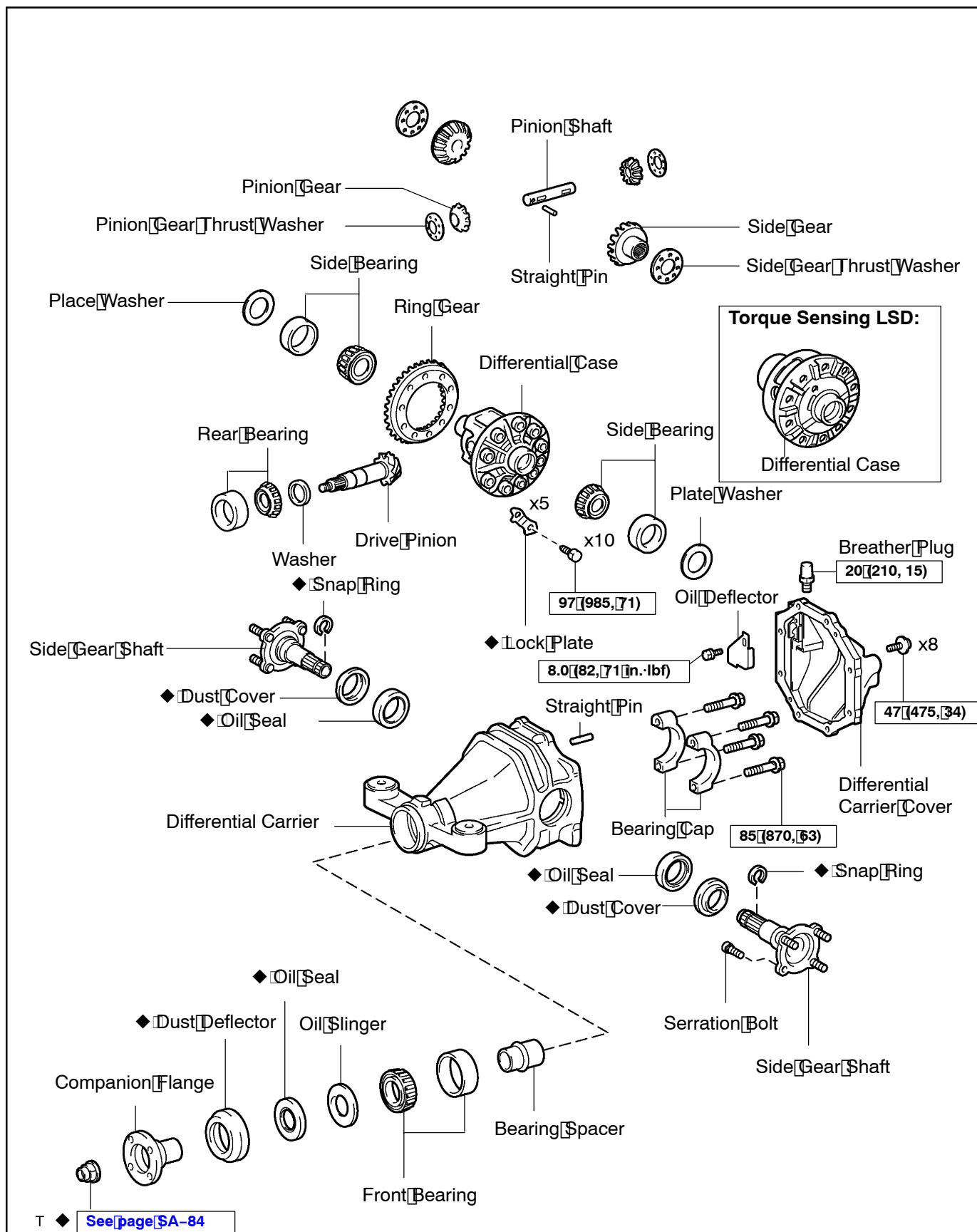


T

N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

F08276



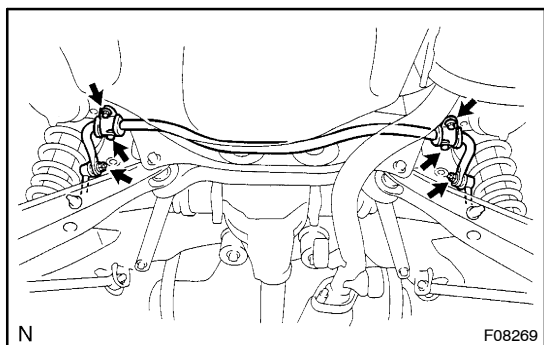
N·m [kgf·cm, ft·lbf] : Specified Torque

◆ Non-reusable part

F08260

REMOVAL

1. REMOVE NO. 1 REAR FLOOR BOARD
2. DRAIN DIFFERENTIAL OIL



3. DISCONNECT 2 STABILIZER BAR BRACKETS

Remove the 4 bolts and 2 brackets from the rear suspension member.

4. DISCONNECT STABILIZER BAR LINK FROM STABILIZER BAR

Remove the 2 nuts and disconnect the stabilizer bar link.

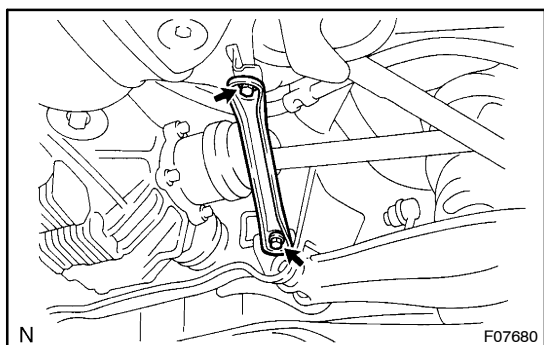
HINT:

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

5. REMOVE PROPELLER SHAFT (See page PR-4)

6. REMOVE RH AND LH REAR SUSPENSION MEMBER BRACES

- (a) Remove the 2 bolts and suspension member brace.
- (b) Employ the same manner described above to the other side.



7. DISCONNECT RH AND LH DRIVE SHAFTS FROM SIDE GEAR SHAFTS

- (a) Place matchmarks on the drive shaft and side gear shaft.

NOTICE:

Do not punch to mark the matchmarks. Use paint, ect.

- (b) Remove the 4 nuts and washers while depressing the brake pedal.
- (c) Push and compress the inboard joint and disconnect the drive shaft from the side gear shaft.

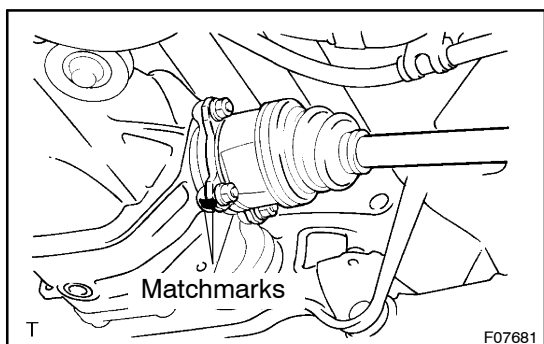
NOTICE:

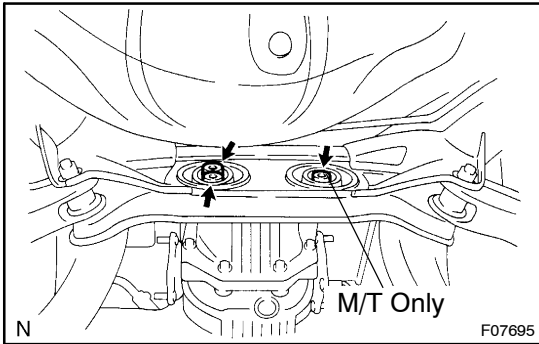
Be careful not to damage the boots and end cover.

- (d) Support the drive shaft securely.
- (e) Employ the same manner described above to the other side.

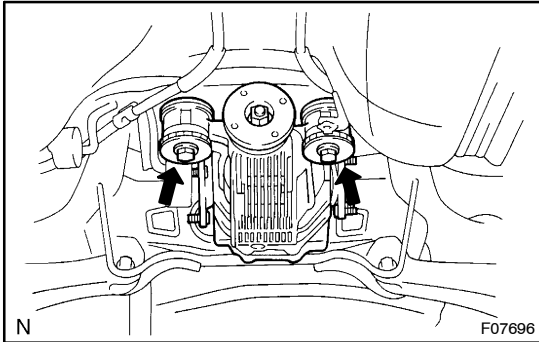
8. REMOVE REAR DIFFERENTIAL CARRIER ASSEMBLY

- (a) Support the rear differential carrier assembly with a jack.





- (b) Using a hexagon wrench (12 mm), remove the 2 (A/T) or 3 (M/T) hexagon bolts.



- (c) Remove the 2 bolts, lower mount stoppers and rear differential carrier assembly from the rear suspension member.

- (d) Lower the rear differential carrier assembly.

NOTICE:

Do not let the rear differential carrier assembly interfere with the drive shaft.

- (e) Remove the 2 upper mount stoppers from the rear differential carrier.

DISASSEMBLY

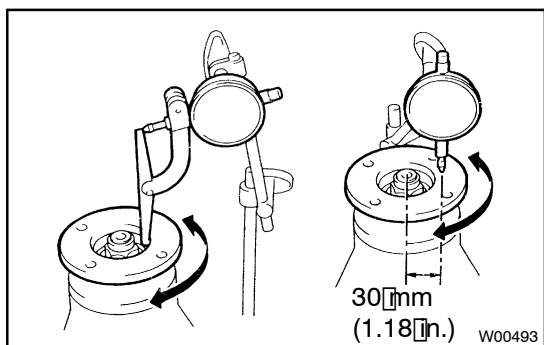
1. REMOVE DIFFERENTIAL CARRIER COVER

- Remove the 3 bolts from the carrier cover.
- Using a brass bar and hammer, separate the cover from the carrier.
- Remove the breather plug from the differential carrier cover.
- Remove the bolt and oil deflector from the differential carrier cover.

2. REMOVE DIFFERENTIAL CARRIER STRAIGHT PIN

Using pliers, remove the straight pin from the differential carrier.

3. SET DIFFERENTIAL CARRIER TO OVERHAUL STAND, ETC.

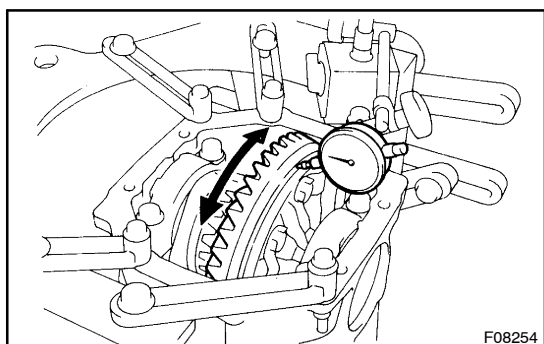


4. CHECK COMPANION FLANGE RUNOUT

Using a dial indicator, measure the vertical and lateral runout of the companion flange.

Maximum runout: 0.09 mm (0.0035 in.)

If the runout is greater than the maximum, replace the companion flange.

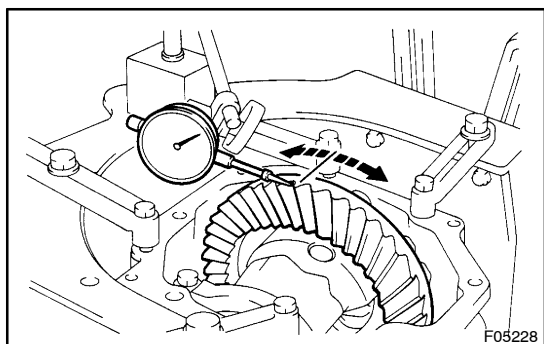


5. CHECK RING GEAR RUNOUT

Using a dial indicator, while turning the companion flange measure the ring gear runout.

Maximum runout: 0.07 mm (0.0028 in.)

If the runout is greater than the maximum, replace the ring gear and drive pinion as a set.



6. CHECK RING GEAR BACKLASH

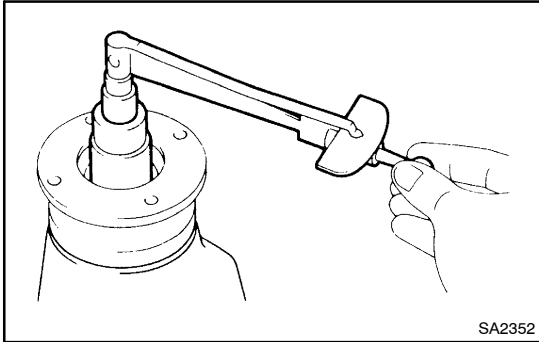
Using a dial indicator, while holding the companion flange measure the ring gear backlash.

Backlash: 0.13 – 0.18 mm (0.0051 – 0.0071 in.)

HINT:

Measure at 3 or more places on the circumference of the ring gear.

If the backlash is not within the specified value, adjust the backlash (See page SA-84).



7. MEASURE DRIVE PINION PRELOAD

Using a torque wrench, measure the drive pinion preload using the backlash of the drive pinion and ring gear.

Preload (at starting):

0.5 – 0.8 N·m (5 – 8 kgf·cm, 4.3 – 6.9 in.·lbf)

8. CHECK TOTAL PRELOAD

Using a torque wrench, measure the total preload with the teeth of the drive pinion and ring gear in contact.

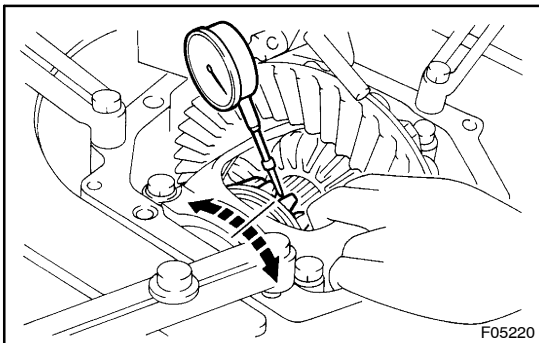
Total preload (at starting):

Drive pinion preload plus

0.4 – 0.6 N·m (4 – 6 kgf·cm, 3.5 – 5.2 in.·lbf)

If necessary, disassemble and inspect the differential.

9. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION (See page SA-84)



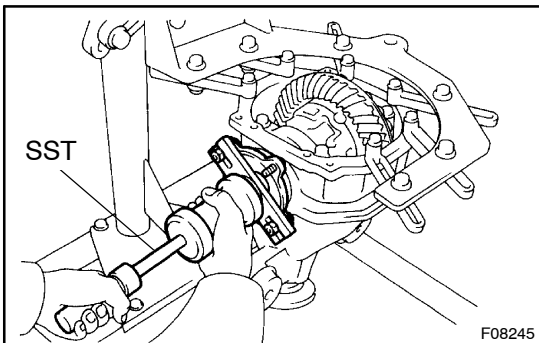
10. 2 pinion differential:

CHECK SIDE GEAR BACKLASH

Using a dial indicator, measure the side gear backlash while holding one pinion gear toward the differential case.

Backlash: 0.05 – 0.20 mm (0.0020 – 0.0079 in.)

If the backlash is not within the specified value, install the correct thrust washers (See page SA-84).

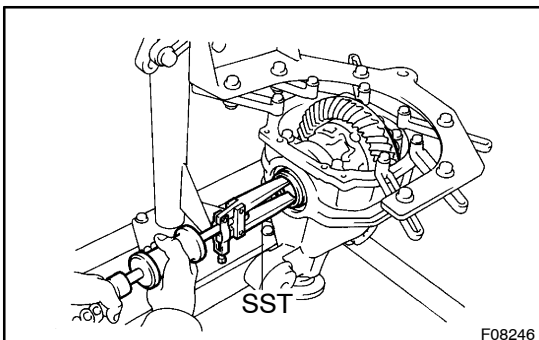


11. REMOVE SIDE GEAR SHAFTS

- Using SST and the 2 nuts, remove the 2 side gear shafts from the differential carrier.

SST 09520-24010

- Using a screwdriver, remove the 2 snap rings from the side gear shafts.



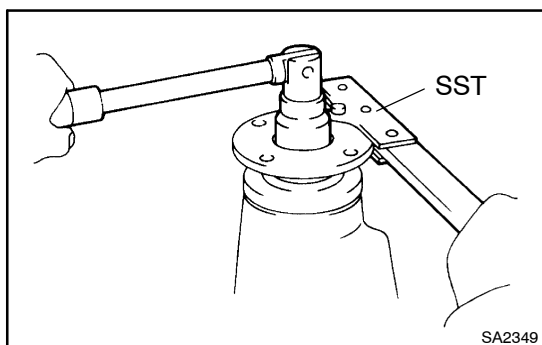
12. REMOVE SIDE GEAR SHAFT OIL SEALS

Using SST, remove the 2 side gear shaft oil seals.

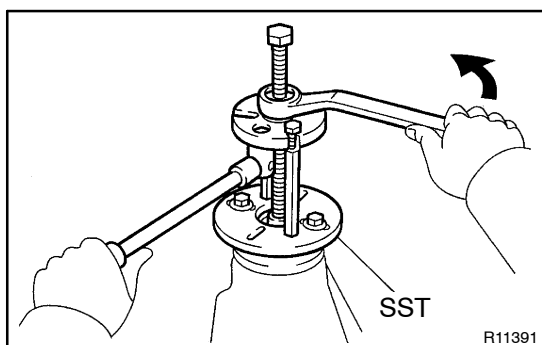
SST 09308-00010

13. REMOVE COMPANION FLANGE

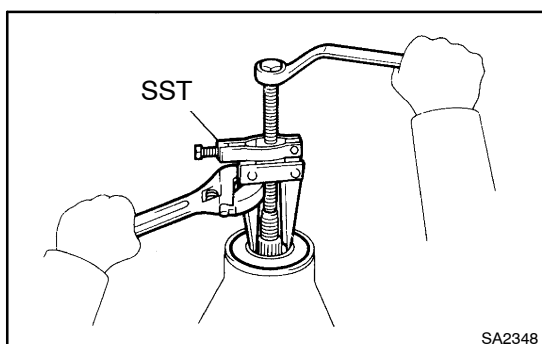
- Using a chisel and hammer, unstake the nut.



- (b) Using SST to hold the flange, remove the nut.
SST 09330-00021

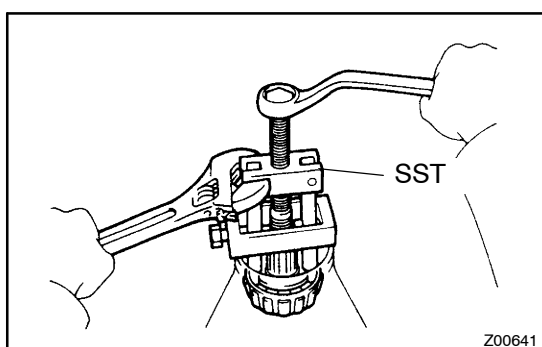


- (c) Using SST, remove the companion flange.
SST 09950-30011 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)



14. REMOVE FRONT OIL SEAL AND OIL SLINGER

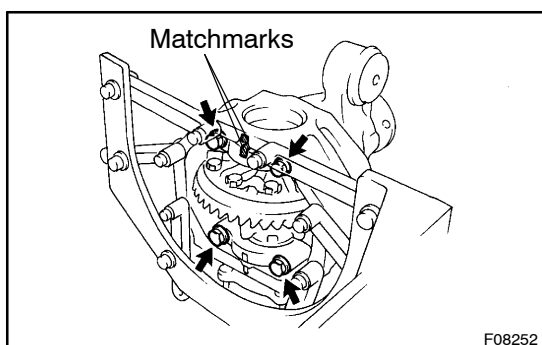
- (a) Using SST, remove the oil seal from the differential carrier.
SST 09308-10010
(b) Remove the oil slinger.



15. REMOVE FRONT BEARING

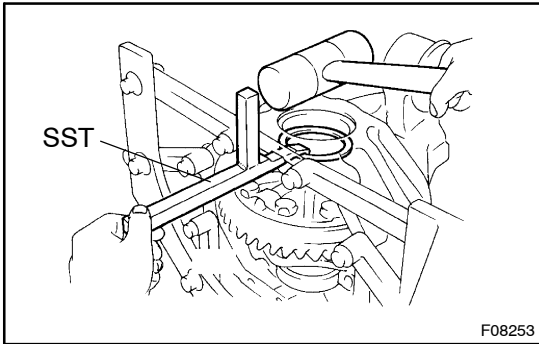
Using SST, remove the front bearing from the drive pinion.
SST 09556-22010

If the front bearing is damaged or worn, replace the front bearing.



16. REMOVE DIFFERENTIAL CASE ASSEMBLY

- (a) Place matchmarks on the bearing cap and differential carrier.
(b) Remove the 4 bolts and 2 bearing caps.



- (c) Using SST and a plastic hammer, remove the 2 plate washers.

SST 09504-22011

HINT:

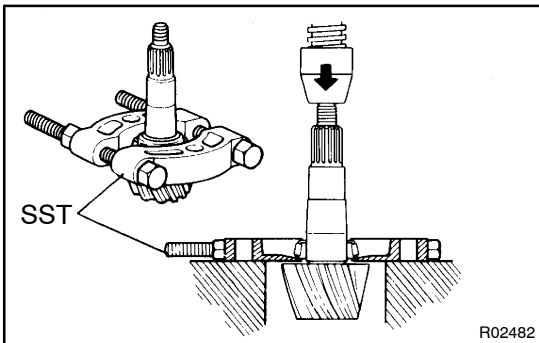
Measure the plate washer and note down the thickness.

- (d) Remove the differential case with the bearing outer races from the differential carrier.

HINT:

Tag the bearing outer races to show the location for reassembling.

17. REMOVE DRIVE PINION AND BEARING SPACER FROM DIFFERENTIAL CARRIER



18. REMOVE REAR BEARING

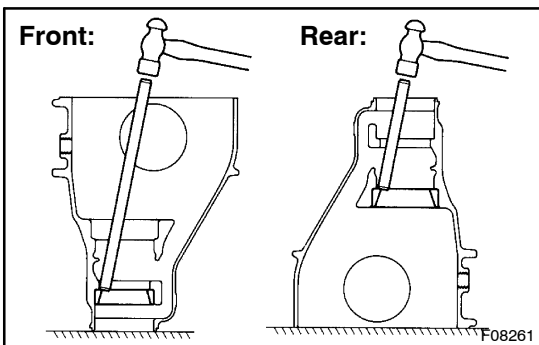
- (a) Using SST and a press, remove the rear bearing from the drive pinion.

SST 09950-00020

HINT:

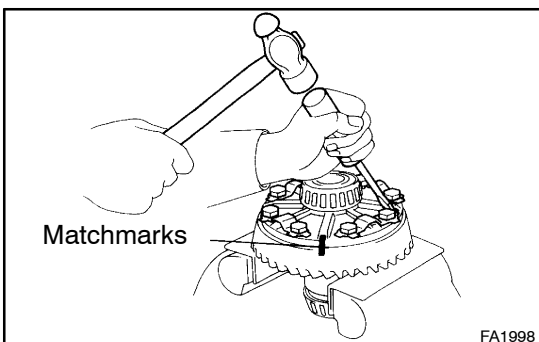
If the drive pinion or ring gear is damaged, replace them as a set.

- (b) Remove the washer.



19. REMOVE FRONT AND REAR BEARING OUTER RACES

Using a brass bar and hammer, remove the front and rear bearing outer races.



20. REMOVE RING GEAR

- (a) Place matchmarks on the ring gear and differential case.
 (b) Using a screwdriver and hammer, unstake the 5 lock plates.
 (c) Remove the 10 bolts and 5 lock plates.
 (d) Using a plastic hammer, tap on the ring gear to separate it from the differential case.

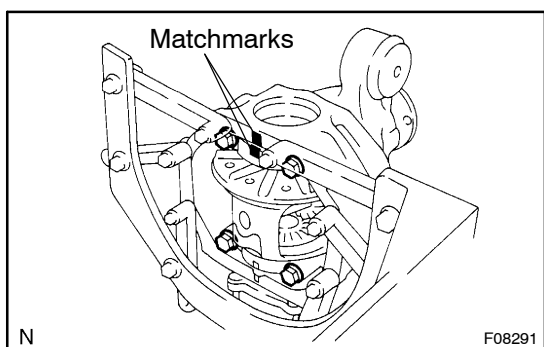
21. CHECK DIFFERENTIAL CASE RUNOUT

- (a) Place the bearing outer races on their respective bearings. Check that the right and left outer races are not interchanged.
- (b) Install the assembled plate washers onto the side bearings.
- (c) Install the differential case in the differential carrier.

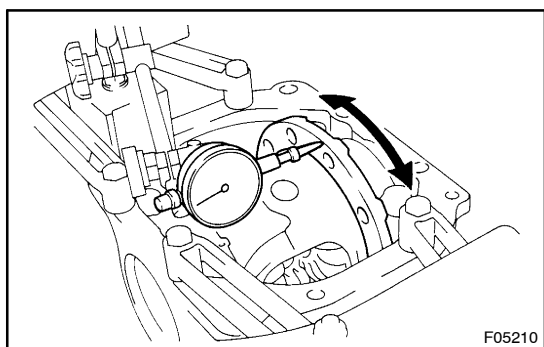
HINT:

If it is difficult to install the differential case into the carrier, replace the plate washer with a thinner one.

However, select a plate washer that allows no clearance between it and the carrier.



- (d) Align matchmarks on the bearing cap and differential carrier.
- (e) Install and uniformly tighten the 4 bolts a little at a time.

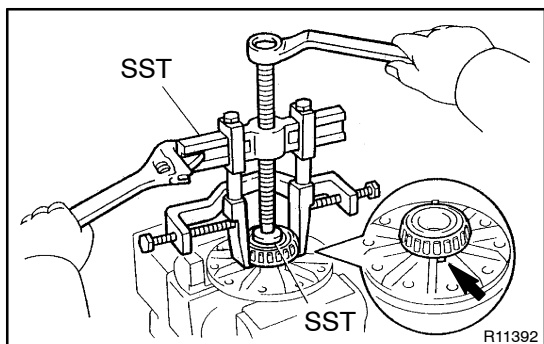


- (f) Using a dial indicator, while turning the companion flange measure the differential case runout.

Maximum runout: 0.07 mm (0.0028 in.)

If the runout is greater than the maximum, replace the differential case and side bearings as a set.

- (g) Remove the differential case.

**22. REMOVE SIDE BEARINGS**

- (a) 2 pinion differential:

Using SST, remove the 2 side bearings from the differential case.

SST 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04061, 09957-04010, 09958-04011), 09950-60010 (09951-00480)

HINT:

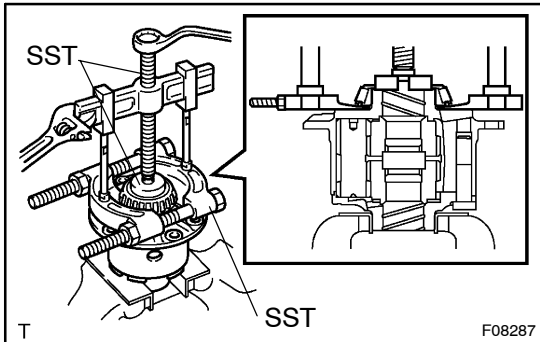
Fix the claws of SST to the notches in the differential case.

- (b) Torque sensing LSD ring gear side:
Using SST, remove the side bearing from the differential case.

SST 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04061, 09957-04010, 09958-04011), 09950-60010 (09951-00480)

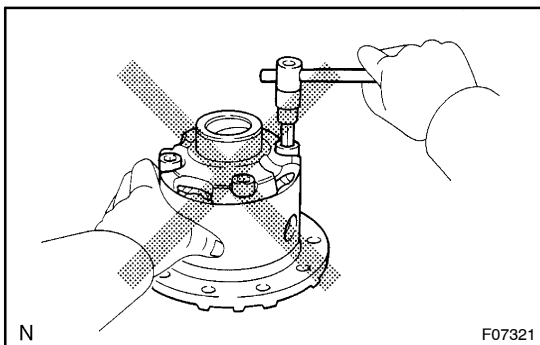
HINT:

Fix the claws of SST to the notches in the differential case.



- (c) Torque sensing LSD ring gear back side:
Using SST, remove the side bearing from the differential case.

SST 09950-00020, 09950-40011 (09951-04020, 09953-04030, 09957-04010), 09950-50012 (09952-05010, 09954-05030, 09955-05040)

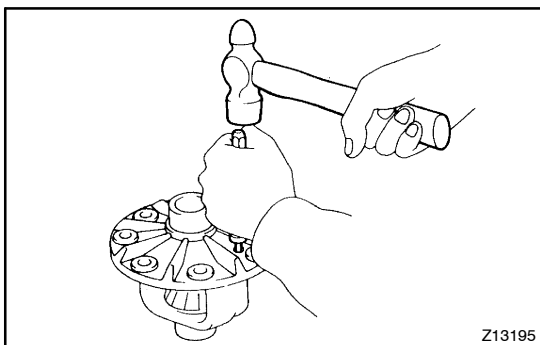


23. 2 pinion differential:

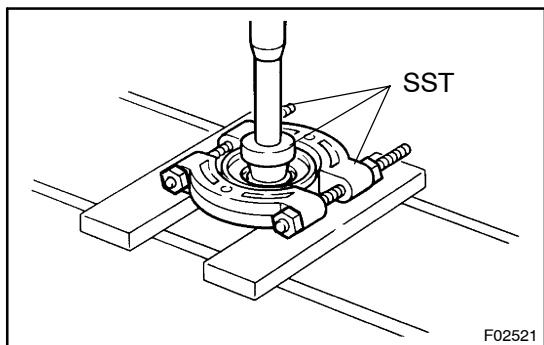
DISASSEMBLE DIFFERENTIAL CASE ASSEMBLY

NOTICE:

If equipped with torque sensing LSD, do not disassemble the differential case.



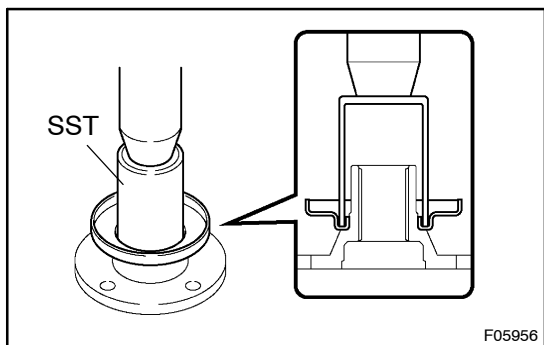
- (a) Using a pin punch (5 mm) and hammer, remove the straight pin.
(b) Remove the pinion shaft, 2 pinion gears, pinion gear thrust washers, side gears and side gear thrust washers from the differential case.



REPLACEMENT

1. REPLACE COMPANION FLANGE DUST DEFLECTOR, IF NECESSARY

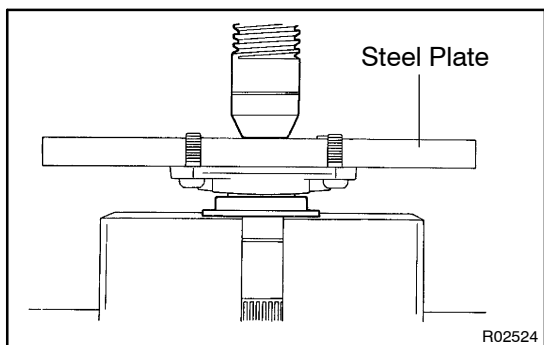
- (a) Using SST and a press, remove the dust deflector.
SST 09950-00020, 09950-60010 (09951-00400),
09950-70010 (09951-07100)



- (b) Using SST and a press, install a new dust deflector.
SST 09223-00010

2. REPLACE SIDE GEAR SHAFT DUST COVER, IF NECESSARY

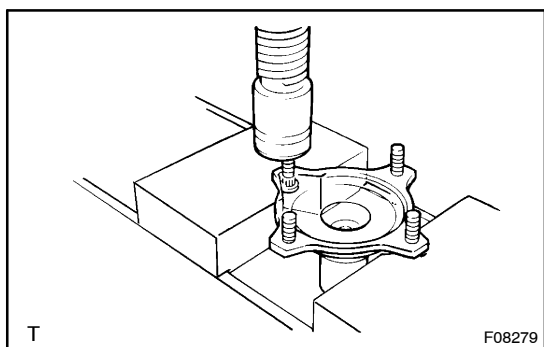
- (a) Using screwdriver and hammer, remove the dust cover.



- (b) Using a steel plate and press, install a new dust cover.

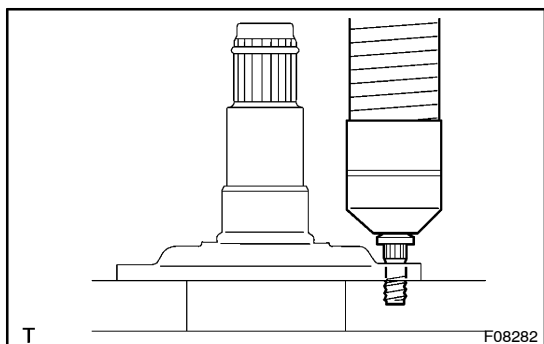
NOTICE:

Be careful not to deform the dust cover.



3. REPLACE SIDE GEAR SHAFT SERRATION BOLT, IF NECESSARY

- (a) Using a press, remove the serration bolt.

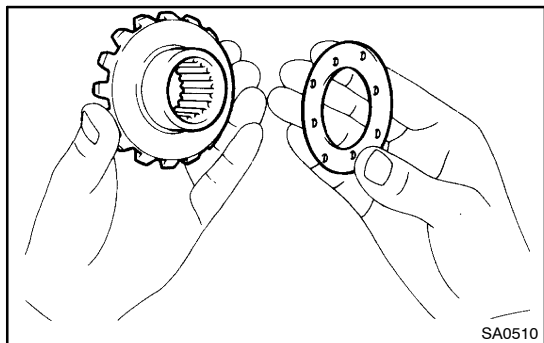


- (b) Using a press, install a new serration bolt.

REASSEMBLY

HINT:

- Using a shop rag, clean off any foreign object from the parts.
- Apply all of the sliding and rotating surfaces with hypoid gear oil.

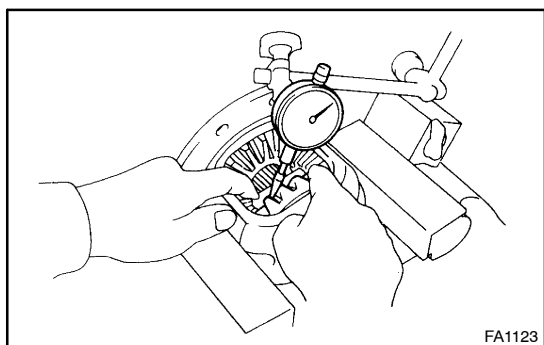


1. 2 pinion differential: MEASURE SIDE GEAR BACKLASH AND REASSEMBLE DIFFERENTIAL CASE

- Install the 2 thrust washers to the 2 side gears.
- Install the 2 side gears, pinion gears, pinion gear thrust washers and pinion shaft in the differential case.

HINT:

Align the holes of the differential case and pinion shaft.



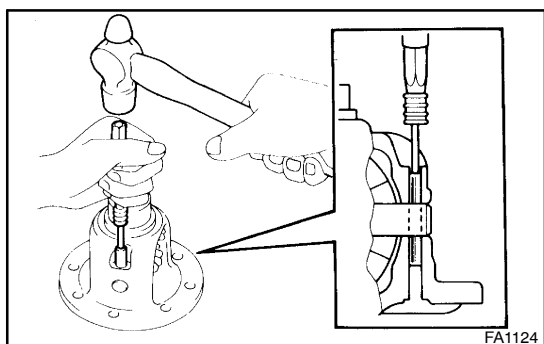
- Using a dial indicator, measure the side gear backlash while holding one pinion gear toward the differential case.

Backlash: 0.05 – 0.20 mm (0.0020 – 0.0079 in.)

If the backlash is not within the specified value, install the side gear thrust washers with different thicknesses.

Thrust washer thickness:

Thickness mm (in.)	Thickness mm (in.)
1.0 (0.039)	1.2 (0.047)
1.1 (0.043)	1.3 (0.051)

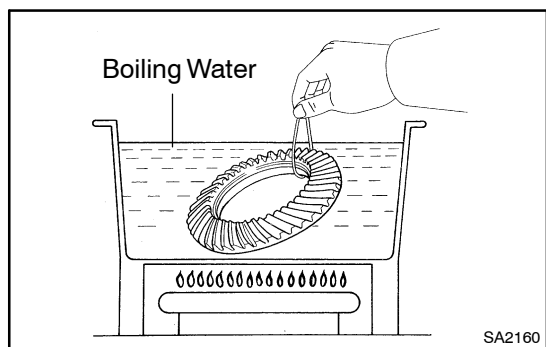


2. 2 pinion differential: INSTALL STRAIGHT PIN AND STAKE DIFFERENTIAL CASE

- Using a 5 mm pin punch and hammer, install the straight pin through the differential case and hole of the pinion shaft.
- Using a chisel and hammer, stake the outside of the differential case pin hole.

3. INSTALL RING GEAR ON DIFFERENTIAL CASE

- Clean the contact surfaces of the differential case and ring gear.



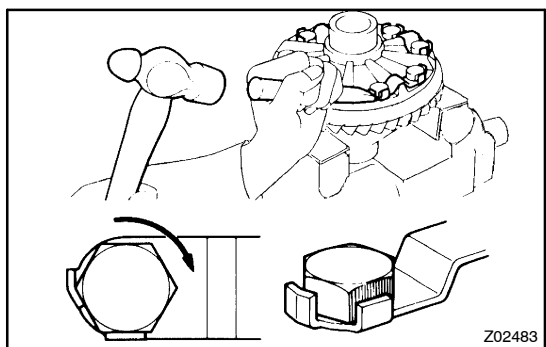
- (b) Heat the ring gear to approx. 100°C (212°F) in boiling water.
- (c) Carefully take the ring gear out of the boiling water.
- (d) After the moisture on the ring gear has completely evaporated, quickly install the ring gear to the differential case.

HINT:

Align the matchmarks on the ring gear and differential case.

- (e) Temporarily install 5 new lock plates and 10 bolts so that the bolt holes in the ring gear and differential case are not misaligned.
- (f) After the ring gear has cooled sufficiently, torque the 10 ring gear set bolts.

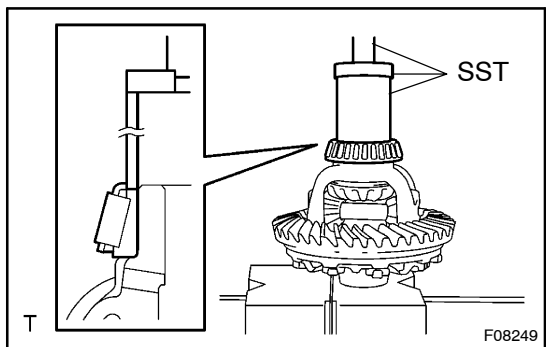
Torque: 97 N·m (985 kgf·cm, 71 ft·lbf)



- (g) Using a chisel and hammer, stake the 5 lock plates.

HINT:

Stake the claws of the lock plates to fix the bolts. For the claw contacting the protruding portion of the bolt, stake only the half of it along the tightening direction.



4. INSTALL SIDE BEARINGS

Using SST and a press, install the 2 bearings to the differential case.

SST 09710-04081, 09950-60010 (09951-00600),
09950-70010 (09951-07100)

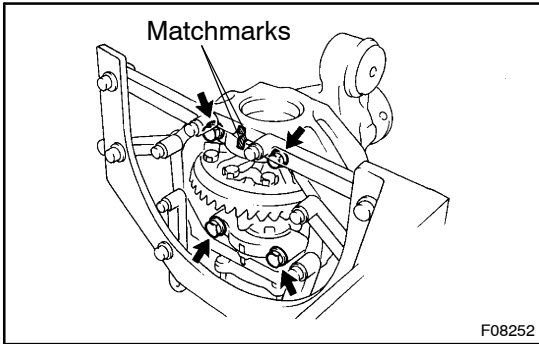
5. CHECK RING GEAR RUNOUT

- (a) Place the bearing outer races on their respective bearings. Check that the right and left outer races are not interchanged.
- (b) Install the assembled plate washers onto the side bearings.
- (c) Install the differential case in the differential carrier.

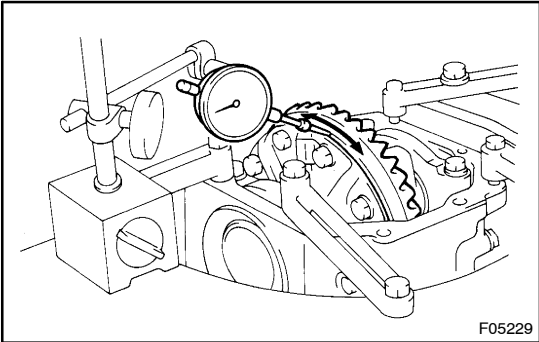
HINT:

If it is difficult to install the differential case into the carrier, replace the plate washer with a thinner one.

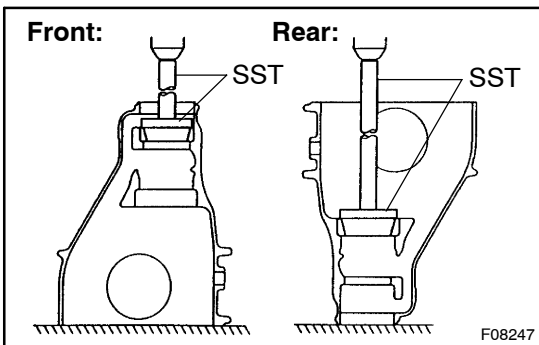
However, select a plate washer that allows no clearance between it and the carrier.



- (d) Align matchmarks on the bearing cap and differential carrier.
- (e) Install and uniformly tighten the 4 bolts a little at a time.



- (f) Using a dial indicator, measure the ring gear runout.
Maximum runout: 0.07 mm (0.0028 in.)
- (g) Remove the differential case.



6. INSTALL FRONT AND REAR BEARING OUTER RACES

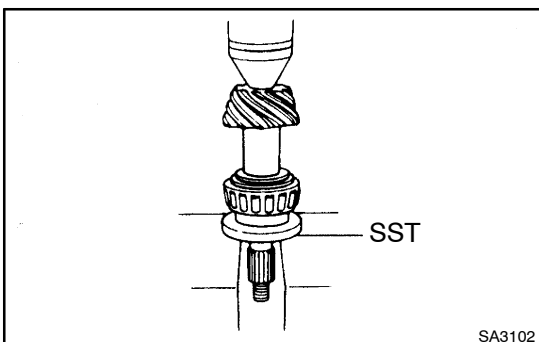
- (a) Using SST and a press, install the front bearing outer race.
SST 09950-60020 (09951-00710), 09950-70010 (09951-07150)
- (b) Using SST and a press, install the rear bearing outer race.
SST 09950-60020 (09951-00790), 09950-70010 (09951-07200)

7. INSTALL REAR BEARING

- (a) Install the washer on the drive pinion.

HINT:

First fit a washer with the same thickness as the washer which was removed, then after checking the tooth contact pattern, replace the washer with one of a different thickness if necessary.



- (b) Using SST and a press, install the rear bearing onto the drive pinion.

SST 09506-30012

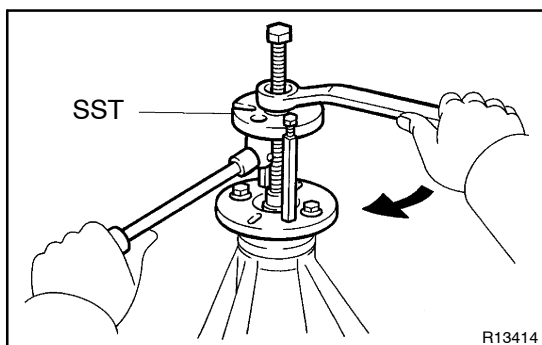
8. TEMPORARILY ADJUST DRIVE PINION PRELOAD

- (a) Install the drive pinion and front bearing.

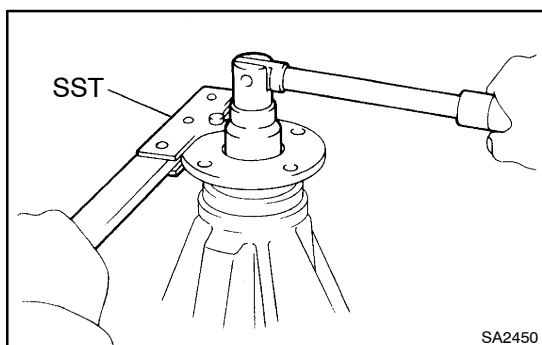
HINT:

Assemble the spacer and oil seal after adjusting the gear contact pattern.

- (b) Install the oil slinger.



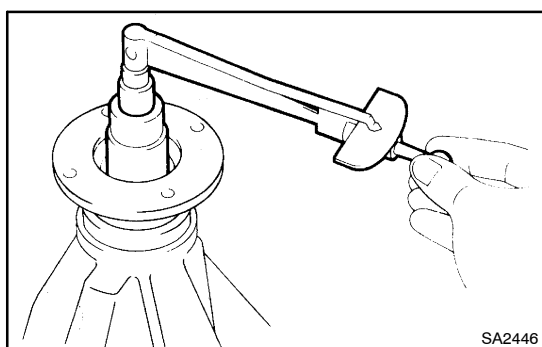
- (c) Using SST, install the companion flange.
SST 09950-30011 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)



- (d) Using SST to hold the flange and adjust the drive pinion preload by tightening the nut.

NOTICE:

- Coat the nut and threads of the drive pinion with hypo-id gear oil LSD.
- As there is no spacer, tighten the nut a little at a time, being careful not to overtighten.



- (e) Using a torque wrench, measure the drive pinion preload using the backlash between the drive pinion and ring gear.

Preload (at starting):**New bearing:**

1.4 – 2.0 N·m (14 – 20 kgf·cm, 12.4 – 17.7 in.·lbf)

Reused bearing:

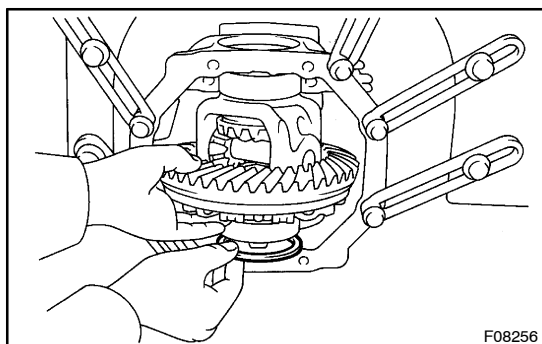
0.5 – 0.8 N·m (5 – 8 kgf·cm, 4.3 – 6.9 in.·lbf)

HINT:

Measure the drive pinion preload after turning the bearing clockwise and counterclockwise several times to make the bearing smooth.

9. INSTALL DIFFERENTIAL CASE IN DIFFERENTIAL CARRIER

- (a) Place the bearing outer races on their respective bearings. Check that the right and left outer races are not interchanged.
- (b) Install the differential case in the differential carrier.

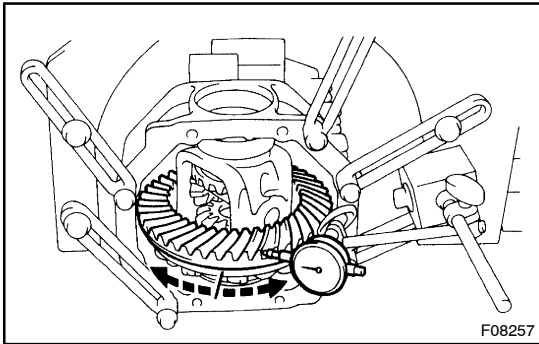
**10. ADJUST RING GEAR BACKLASH**

- (a) Install the plate washer on the ring gear back side.

HINT:

Make sure that the ring gear has backlash.

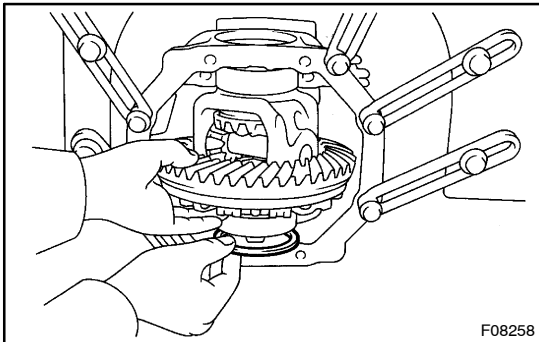
- (b) Tap on the ring gear with a plastic hammer so that the washer fits to the bearing.



- (c) Using a dial indicator, while holding the companion flange, measure the ring gear backlash.

Backlash (Reference):

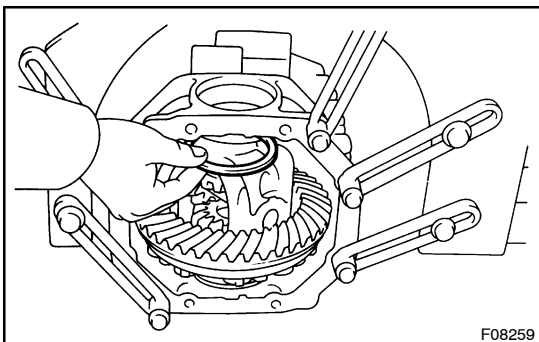
0.13 – 0.18 mm (0.0051 – 0.0071 in.)



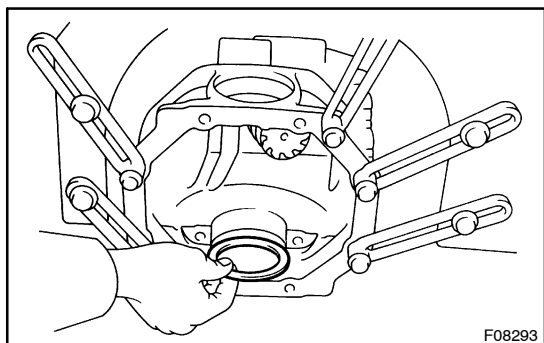
- (d) Select a plate washer for back side ring gear, using the backlash as reference.

Side plate washer thickness:

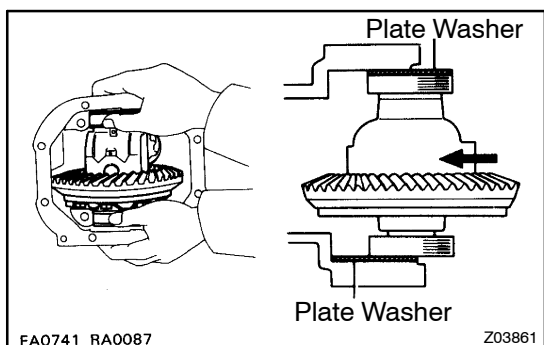
Thickness mm (in.)	Thickness mm (in.)
2.58 (0.1016)	2.92 (0.1150)
2.60 (0.1024)	2.94 (0.1157)
2.62 (0.1031)	2.96 (0.1165)
2.64 (0.1039)	2.98 (0.1173)
2.66 (0.1047)	3.00 (0.1181)
2.68 (0.1055)	3.02 (0.1189)
2.70 (0.1063)	3.04 (0.1197)
2.72 (0.1071)	3.06 (0.1205)
2.74 (0.1079)	3.08 (0.1213)
2.76 (0.1087)	3.10 (0.1220)
2.78 (0.1094)	3.12 (0.1228)
2.80 (0.1102)	3.14 (0.1236)
2.82 (0.1110)	3.16 (0.1244)
2.84 (0.1118)	3.18 (0.1252)
2.86 (0.1126)	3.20 (0.1260)
2.88 (0.1134)	3.22 (0.1268)
2.90 (0.1142)	3.24 (0.1276)



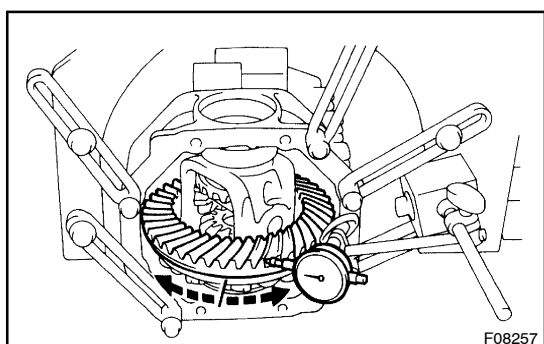
- (e) Select a ring gear teeth side plate washer so that there is no clearance between the outer race and case.
- (f) Remove the plate washers and differential case.



- (g) Install the plate washer into the ring gear back side of the carrier.



- (h) Place the other plate washer onto the differential case together with the outer race, and install the differential case with the outer race into the carrier.
- (i) Tap on the ring gear with a plastic hammer so that the washers fit to the bearing.



- (j) Using a dial indicator, while holding the companion flange measure the ring gear backlash.

Backlash: 0.13 – 0.18 mm (0.0051 – 0.0071 in.)

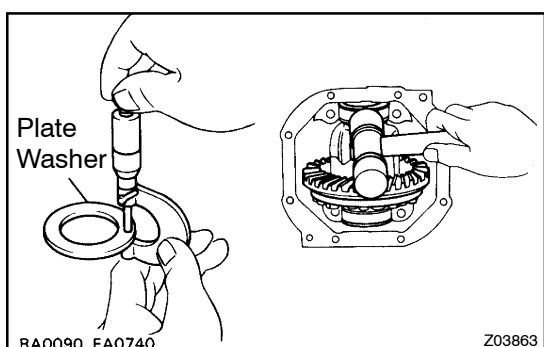
If the backlash is not within the specified value, adjust it by either increasing or decreasing the thickness of washers on both sides by an equal amount.

HINT:

There should be no clearance between the plate washer and case.

Make sure that there is ring gear backlash.

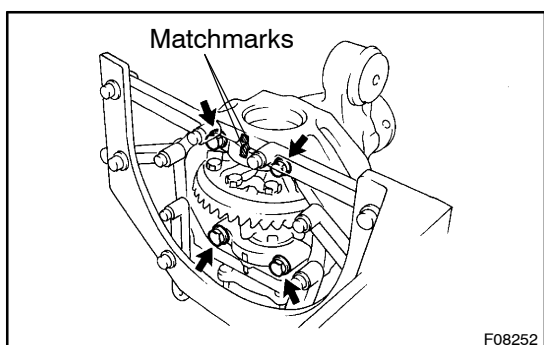
11. ADJUST SIDE BEARING PRELOAD



- (a) Remove the ring gear teeth side plate washer and using a micrometer, measure the thickness.
- (b) Using the backlash as a reference, install a new washer 0.06 – 0.09 mm (0.0024 – 0.0035 in.) thicker than the washer removed.

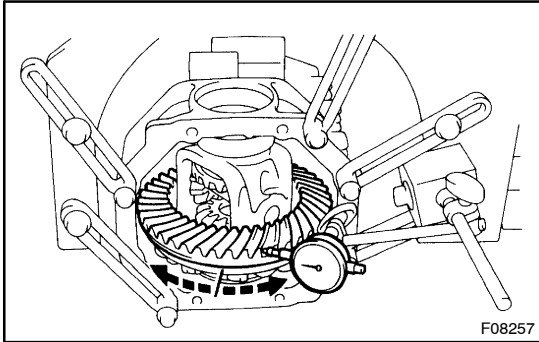
HINT:

Select a washer which can be pressed in 2/3 of the way with your finger.



- (c) Using a plastic hammer, install the plate washer.
- (d) Align matchmarks on the bearing cap and differential carrier.
- (e) Tighten the 4 bolts.

Torque: 85 N·m (870 kgf·cm, 63 ft·lbf)



- (f) Using a dial indicator, while holding the companion flange adjust the ring gear backlash until it is within the specified value.

Backlash: 0.13 – 0.18 mm (0.0051 – 0.0071 in.)

If the backlash is not within the specified value, adjust by either increasing or decreasing the thickness of washers on both sides by an equal amount.

HINT:

The backlash will change by about 0.02 mm (0.0008 in.) corresponding to 0.03 mm (0.0012 in.) change in the plate washer.

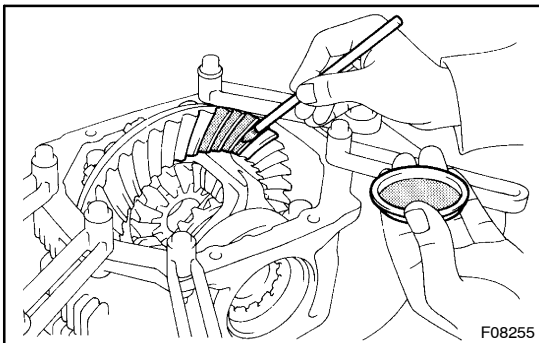
12. MEASURE TOTAL PRELOAD

Using a torque wrench, measure the total preload with the teeth of the drive pinion and ring gear in contact.

Total preload (at starting):

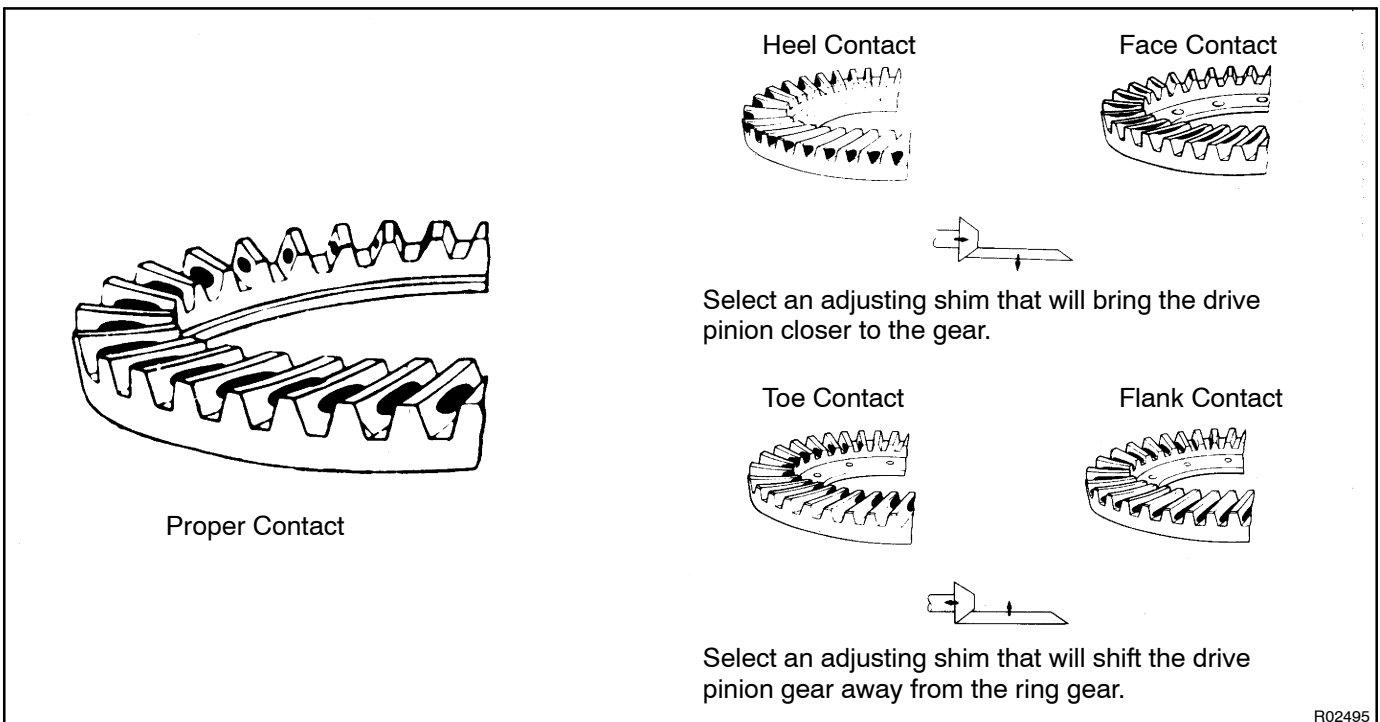
Drive pinion preload plus

0.4 – 0.6 N·m (4 – 6 kgf·cm, 3.5 – 5.2 in.·lbf)

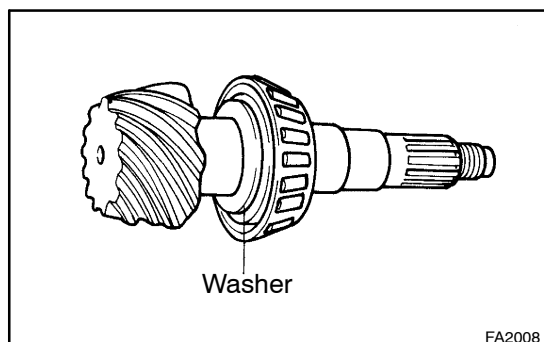


13. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION

- Coat 3 or 4 teeth at 3 different positions on the ring gear with red lead primer.
- Hold the companion flange firmly and rotate the ring gear in both directions.
- Inspect the tooth contact pattern.



R02495



If the teeth are not contacting properly, use the following table to select a proper washer for correction.

Washer thickness:

Thickness mm (in.)	Thickness mm (in.)
1.70 (0.0669)	2.03 (0.0799)
1.73 (0.0681)	2.06 (0.0811)
1.76 (0.0693)	2.09 (0.0822)
1.79 (0.0704)	2.12 (0.0835)
1.82 (0.0717)	2.15 (0.0847)
1.85 (0.0729)	2.18 (0.0858)
1.88 (0.0740)	2.21 (0.0870)
1.91 (0.0752)	2.24 (0.0882)
1.94 (0.0764)	2.27 (0.0894)
1.97 (0.0776)	2.30 (0.0906)
2.00 (0.0787)	2.33 (0.0918)

14. REMOVE COMPANION FLANGE (See page SA-77)

15. REMOVE OIL SLINGER

16. REMOVE FRONT BEARING (See page SA-77)

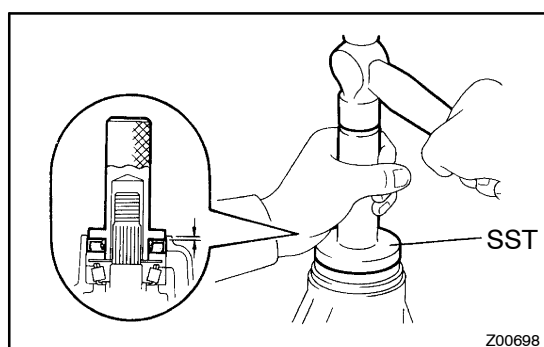
17. INSTALL BEARING SPACER

Install a new bearing spacer.

HINT:

Face the spacer with the large inner diameter to the rear side.

18. INSTALL FRONT BEARING AND OIL SLINGER



19. INSTALL FRONT OIL SEAL

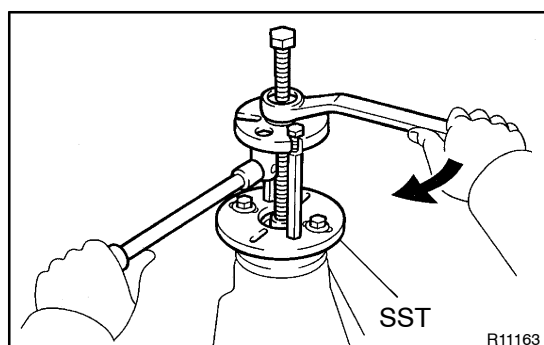
- (a) Using SST and a hammer, install a new oil seal.

SST 09554-30011

Oil seal drive in depth:

2.00 ± 0.45 mm (0.0787 ± 0.0177 in.)

- (b) Coat MP grease to the oil seal lip.

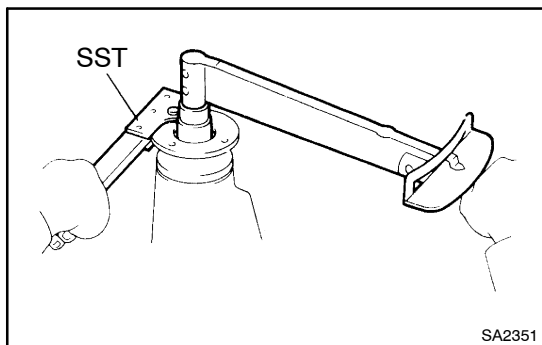


20. INSTALL COMPANION FLANGE

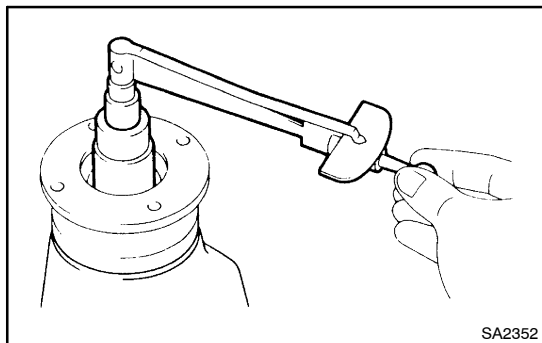
- (a) Using SST, install the companion flange.

SST 09950-30011 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)

- (b) Coat the thread of a new nut with hypoid gear oil LSD.



- (c) Using SST to hold the flange, tighten the nut.
SST 09330-00021



21. ADJUST DRIVE PINION PRELOAD

Using a torque wrench, measure the drive pinion preload using the backlash between the drive pinion and ring gear.

Preload (at starting):

New bearing:

1.4 - 2.0 N·m (14 - 20 kgf·cm, 12.4 - 17.7 in·lbf)

Reused bearing:

0.5 - 0.8 N·m (5 - 8 kgf·cm, 4.3 - 6.9 in·lbf)

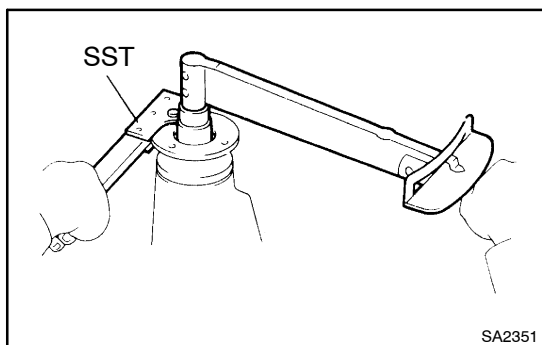
If the preload is greater than the specified value, replace the bearing spacer.

If the preload is less than the specified value, retighten the nut with a force of 13 N·m (130 kgf·cm, 9 ft·lbf) at a time until the specified preload is reached.

SST 09330-00021

Torque: 223 N·m (2,274 kgf·cm, 164 ft·lbf) or less

If the maximum torque is exceeded while retightening the nut, replace the bearing spacer and repeat the preload procedure. Do not loosen the pinion nut to reduce the preload.



22. RECHECK TOTAL PRELOAD (See page SA-77)

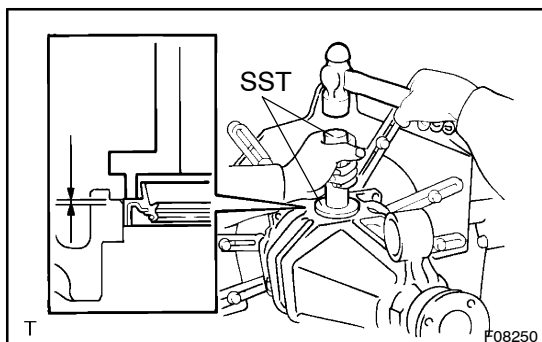
23. RECHECK RING GEAR BACKLASH (See page SA-77)

24. RECHECK TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION (See step. 13)

25. CHECK COMPANION FLANGE RUNOUT (See page SA-77)

26. STAKE DRIVE PINION NUT

Using a chisel and hammer, stake the nut.



27. INSTALL SIDE GEAR SHAFT OIL SEALS

- (a) Using SST and a press, install 2 new oil seals.

SST 09554-22010

Oil seal drive in depth:

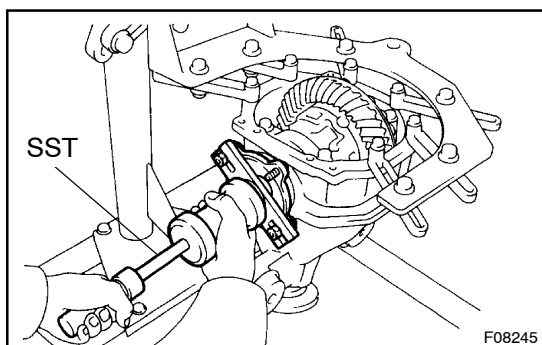
0.50 ± 0.50 mm (0.0200 ± 0.0197 in.)

- (b) Coat MP grease to the oil seal lip.

28. INSTALL SIDE GEAR SHAFTS

- (a) Using needle-nose pliers, install 2 new snap rings to the side gear shafts.

- (b) Coat the MP grease to the snap rings



- (c) Using SST and the 2 nuts, install the 2 side gear shafts to the differential carrier.

SST 09520-24010

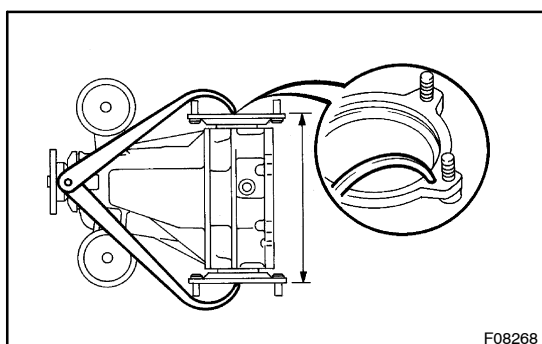
NOTICE:

Be careful not to damage the side gear shaft oil seal.

HINT:

- Before installing the drive shaft, set the snap ring with its opening side facing downward.
 - Whether the side gear shaft is in contact with the side gear or not can be known from the sound or feeling when driving it.
- (d) Check that the side gear shaft will not come out by trying to pull it out by hand.

29. REMOVE DIFFERENTIAL CARRIER FROM OVERHAUL STAND, ETC.



30. INSPECT DIFFERENTIAL CARRIER

Using vernier calipers, measure the distance between the mating surfaces of the right and left side gear shafts, as shown in the illustration.

Standard distance:

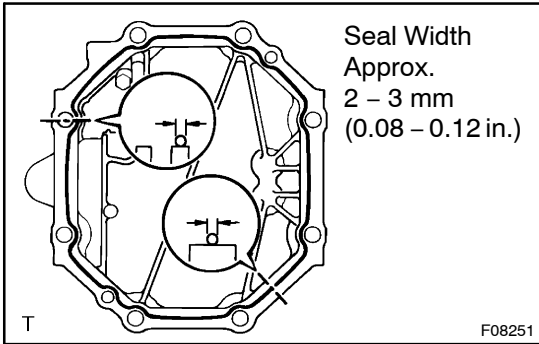
Country (Transmission type)	Standard distance
Europe	2 pinion differential: 244.74 mm (9.6354 in.) or less LSD: 244.30 mm (9.6181 in.) or less
Taiwan	
Australia (M/T)	
New Zealand (M/T)	
Hong Kong (M/T)	
Thai Land (M/T)	
Others	246.74 mm (9.1742 in.) or less

31. INSTALL DIFFERENTIAL CARRIER STRAIGHT PIN

Using a plastic hammer, install the straight pin.

32. INSTALL DIFFERENTIAL CARRIER COVER

- (a) Install the oil deflector with the bolt to the carrier cover.
Torque: 8.0 N·m (82 kgf·cm, 71 in·lbf)
- (b) Install the breather plug to the carrier cover.
Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)
- (c) Remove any old FIPG material and be careful not to drop oil on the contact surfaces of the differential carrier and carrier cover.
- (d) Clean both installation surfaces of loose FIPG and oil material with gasoline or alcohol.



- (e) Apply FIPG to the carrier cover, as shown in the illustration.

FIPG:

**Part No. 08826-00090, THREE BOND 1281
or equivalent.**

HINT:

Install the carrier cover within 10 minutes after applying FIPG.

- (f) Install the differential carrier cover with the 8 bolts.

Torque: 47 N·m (475 kgf·cm, 34 ft·lbf)

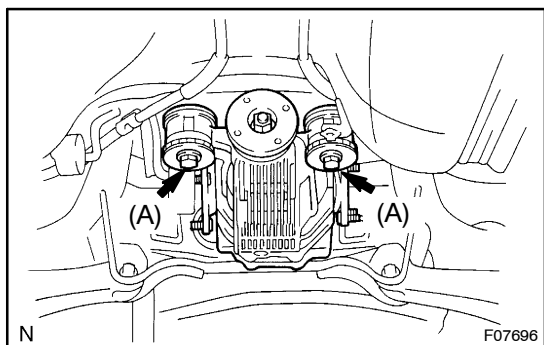
INSTALLATION

1. INSTALL REAR DIFFERENTIAL CARRIER ASSEMBLY

- (a) Install the 2 upper mount stoppers on the rear differential carrier assembly.

HINT:

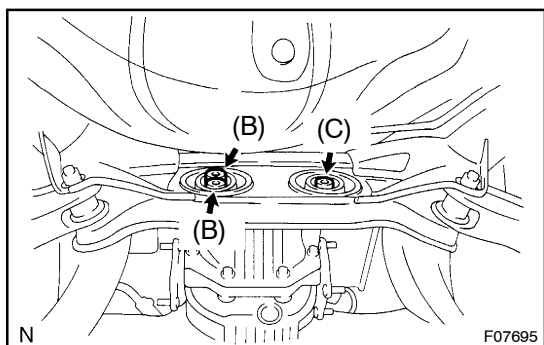
Use the upper mount stopper which was removed.



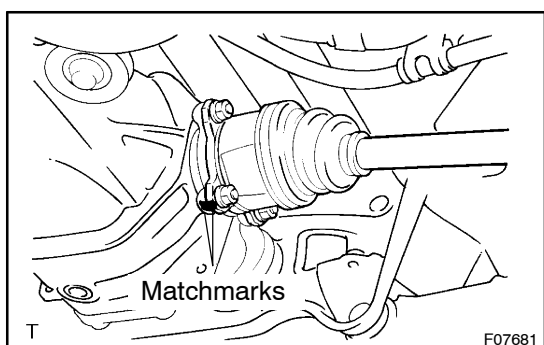
- (b) Support the rear differential carrier assembly with a jack and temporarily install the lower mount stoppers and 2 new bolt (A).

NOTICE:

Do not let the rear differential carrier assembly interfere with the drive shaft.



- (c) Temporarily install 2 new hexagon bolts (B).
- (d) M/T:
Temporarily install a new hexagon bolt (C).
- (e) Using a 12 mm hexagon wrench, torque the 2 hexagon bolts (B).
Torque: 142 N·m (1,450 kgf·cm, 105 ft·lbf)
- (f) M/T:
Using a 12 mm hexagon wrench, torque the hexagon bolt (C).
Torque: 142 N·m (1,450 kgf·cm, 105 ft·lbf)
- (g) Torque the 2 bolts (A).
Torque: 95 N·m (970 kgf·cm, 70 ft·lbf)
- (h) Lower the jack.



2. CONNECT RH AND LH DRIVE SHAFTS TO SIDE GEAR SHAFTS

- (a) Align the matchmarks, and push and compress the in-board joint and connect the drive shaft to the side gear shaft.

NOTICE:

Be careful not to damage the boots and inboard joint tulip.

- (b) Install the 4 washers and nuts while depressing the brakes pedal.

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

(c) Employ the same manner described above to the other side.

3. INSTALL RH AND LH REAR SUSPENSION MEMBER BRACES

Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)

4. INSTALL PROPELLER SHAFT (See page PR-10)

5. CONNECT STABILIZER BAR LINK TO STABILIZER BAR

Torque: 44 N·m (449 kgf·cm, 33 ft·lbf)

HINT:

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

6. CONNECT 2 STABILIZER BAR BRACKETS TO REAR SUSPENSION MEMBER

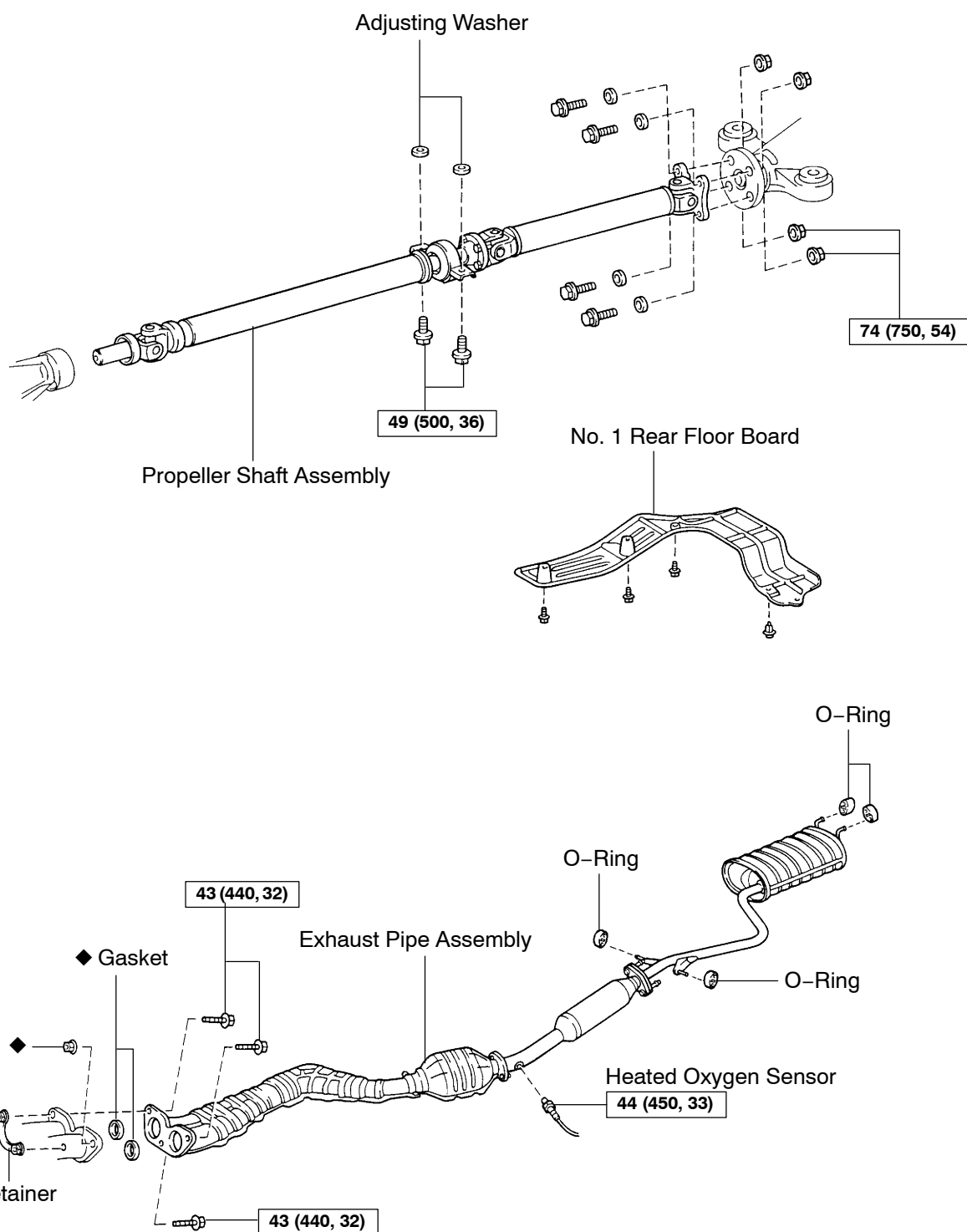
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

7. FILL AND CHECK DIFFERENTIAL OIL LEVEL (See page SA-65)

8. INSTALL NO. 1 REAR FLOOR BOARD

DIFFERENTIAL MOUNTING CUSHION COMPONENTS

SA1JH-01

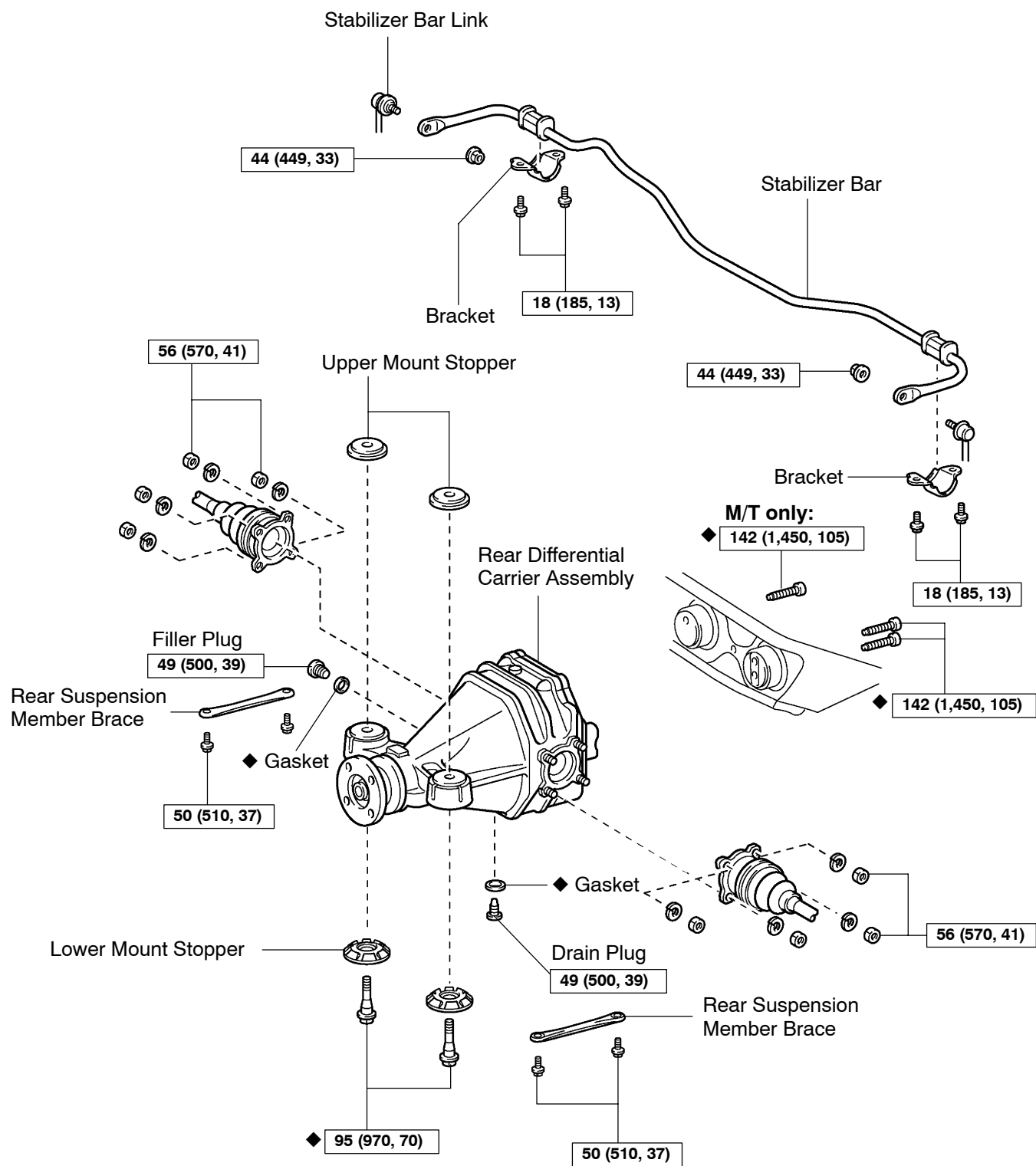


N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

N

F08144

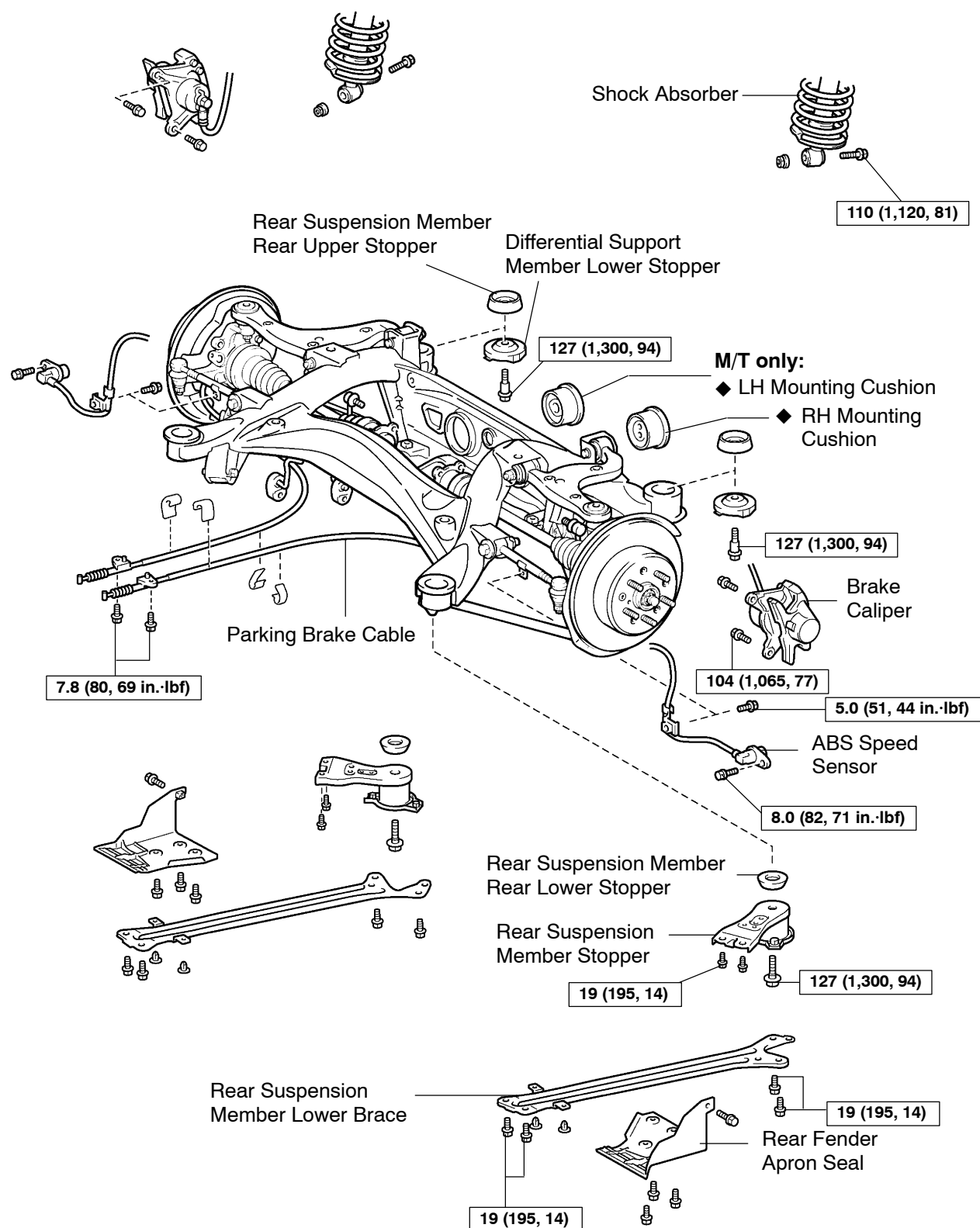


T

N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

F08276



T

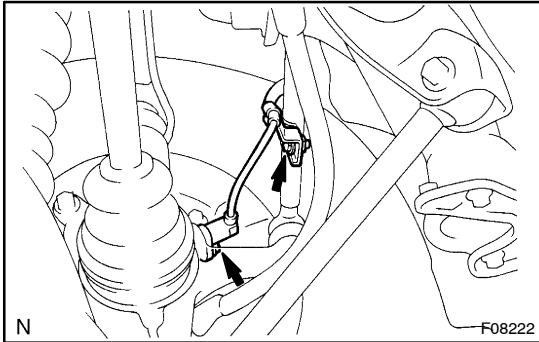
N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

F07707

REPLACEMENT

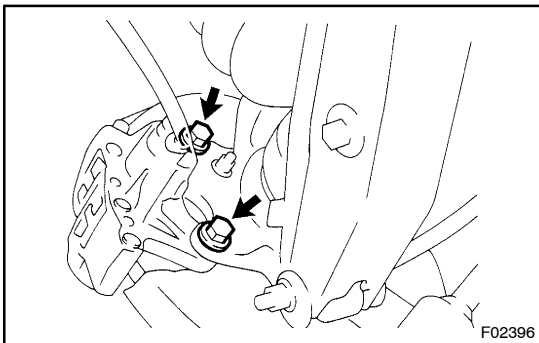
1. REMOVE REAR WHEELS
2. REMOVE REAR DIFFERENTIAL CARRIER ASSEMBLY (See page SA-75)



3. DISCONNECT RH AND LH ABS SPEED SENSORS AND WIRE HARNESS

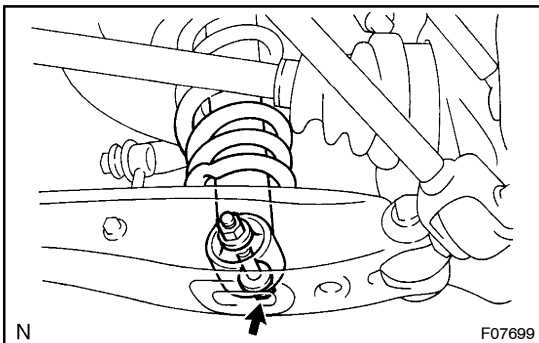
- (a) Remove the bolt and disconnect the ABS speed sensor from the rear axle carrier.
- (b) Remove the bolt and disconnect the ABS speed sensor wire harness clamp from the toe control link.
- (c) Employ the same manner described above to the other side.

4. REMOVE RH AND LH REAR FENDER APRON SEALS



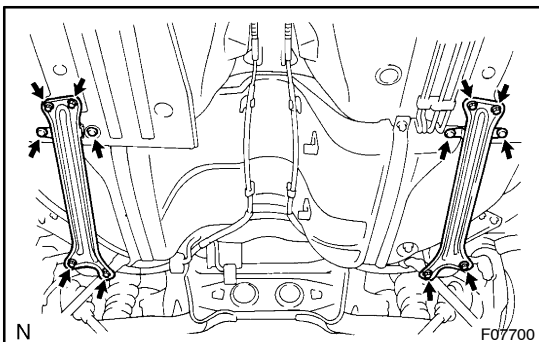
5. REMOVE RH AND LH BRAKE CALIPERS

- (a) Remove the 2 bolts and brake caliper from the axle carrier.
- (b) Support the brake caliper securely.
- (c) Employ the same manner described above to the other side.



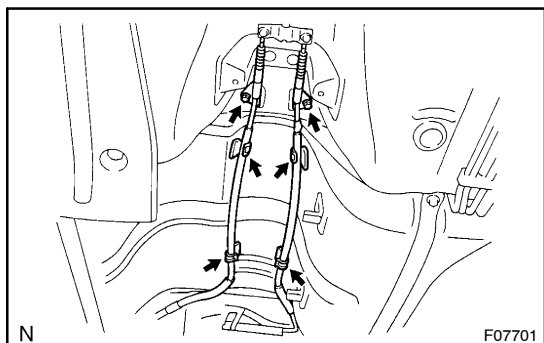
6. DISCONNECT RH AND LH SHOCK ABSORBERS FROM NO. 2 LOWER SUSPENSION ARMS

- (a) Remove the nut and bolt, and disconnect the shock absorber.
- (b) Employ the same manner described above to the other side.

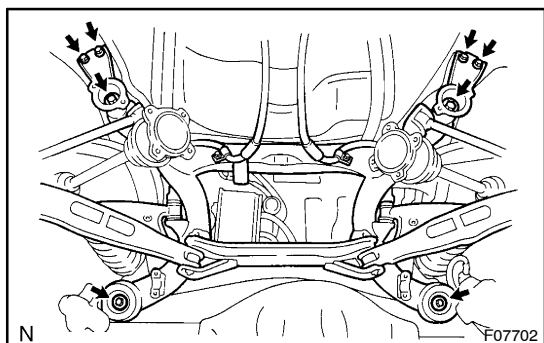


7. REMOVE RH AND LH REAR SUSPENSION MEMBER LOWER BRACES

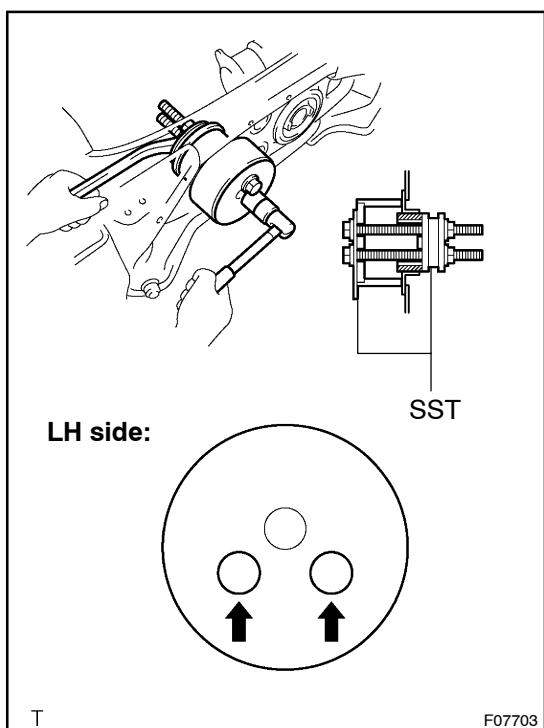
Remove the 8 bolts, 4 clips and 2 lower braces.

**8. DISCONNECT PARKING BRAKE CABLE**

- (a) Disconnect the parking brake cable from the 4 clamps.
- (b) Remove the 2 bolts and disconnect the parking brake cable.

**9. REMOVE REAR SUSPENSION MEMBER**

- (a) Support the rear suspension member with a jack.
- (b) Remove the 8 bolts, 2 rear suspension member stoppers and 2 differential support member lower stoppers.
- (c) Lower the rear suspension member.
- (d) Remove the rear suspension member rear upper and lower stoppers from the rear suspension member.

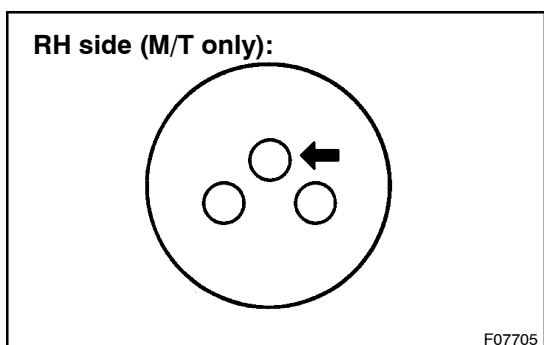
**10. REMOVE DIFFERENTIAL MOUNTING CUSHION**

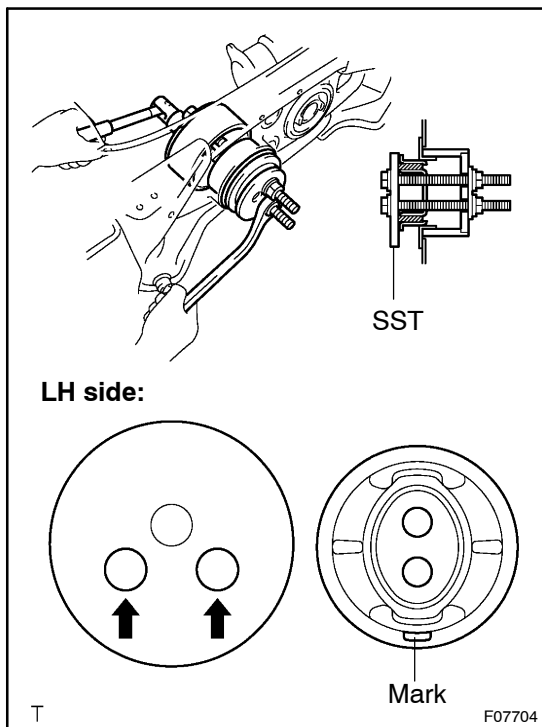
Using SST, remove the differential mounting cushion.

SST 09316-12010, 09570-24010

NOTICE:

- When driving out the mounting cushion, be careful not to touch the suspension member with the SST.
- Align the SST straight so that the bolt of the SST is parallel with the center line of the mounting cushion.
- When installing the bolts to the RH and LH differential mounting cushions, make sure that the bolts are passed through the correct holes in the SST, as shown in the illustration.





11. INSTALL DIFFERENTIAL MOUNTING CUSHION

Using SST, install the cushion so that the marks are positioned, as shown in the illustration.

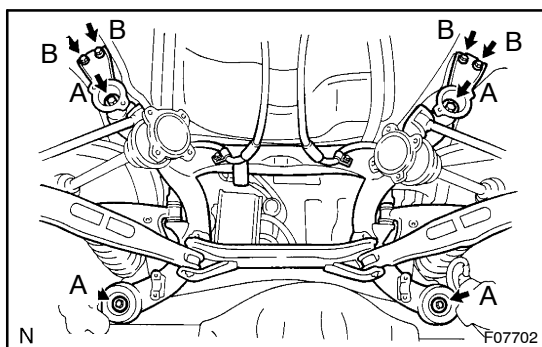
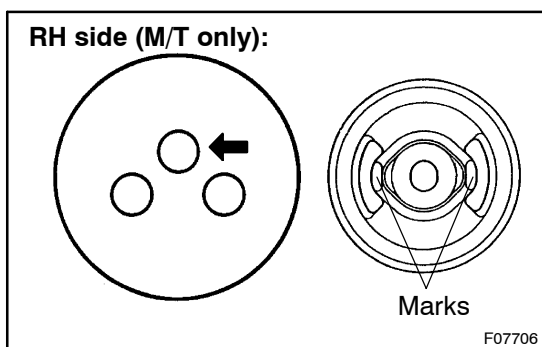
SST 09570-24010

NOTICE:

- Be careful not to confuse RH and LH sides, and its top and bottom.
- Set the SST after temporarily installing the differential mounting cushion into the member so as not to install at an angle.
- To confirm that the differential mounting cushion is aligned straight in relation to the member, check that the SST is fully in contact with all of the cushion.

12. INSTALL REAR SUSPENSION MEMBER

- (a) Install the rear suspension member rear upper and lower stoppers to the rear suspension member.



- (b) Install the 2 differential support member lower stopper, rear suspension member stopper with the 8 bolts.

Torque:

A bolt: 127 N·m (1,300 kgf·cm, 94 ft·lbf)

B bolt: 19 N·m (195 kgf·cm, 14 ft·lbf)

- (c) Lower the jack.

13. CONNECT PARKING BRAKE CABLE

Torque: 7.8 N·m (80 kgf·cm, 69 in·lbf)

14. INSTALL RH AND LH REAR SUSPENSION MEMBER LOWER BRACES

Torque: 19 N·m (195 kgf·cm, 14 ft·lbf)

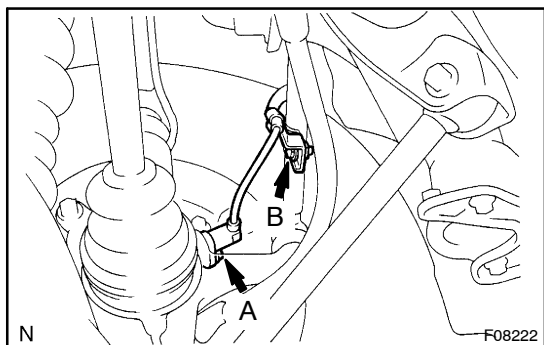
15. CONNECT RH AND LH SHOCK ABSORBERS TO NO. 2 LOWER SUSPENSION ARMS

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

16. INSTALL RH AND LH BRAKE CALIPERS TO STEERING KNUCKLES

Torque: 104 N·m (1,065 kgf·cm, 77 ft·lbf)

17. INSTALL RH AND LH REAR FENDER APRON SEALS



18. CONNECT RH AND LH ABS SPEED SENSORS AND WIRE HARNESS

Torque:

Bolt A: 8.0 N·m (82 kgf·cm, 71 in·lbf)

Bolt B: 5.0 N·m (51 kgf·cm, 44 in·lbf)

19. INSTALL REAR DIFFERENTIAL CARRIER ASSEMBLY
(See page SA-95)

20. INSTALL REAR WHEELS

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

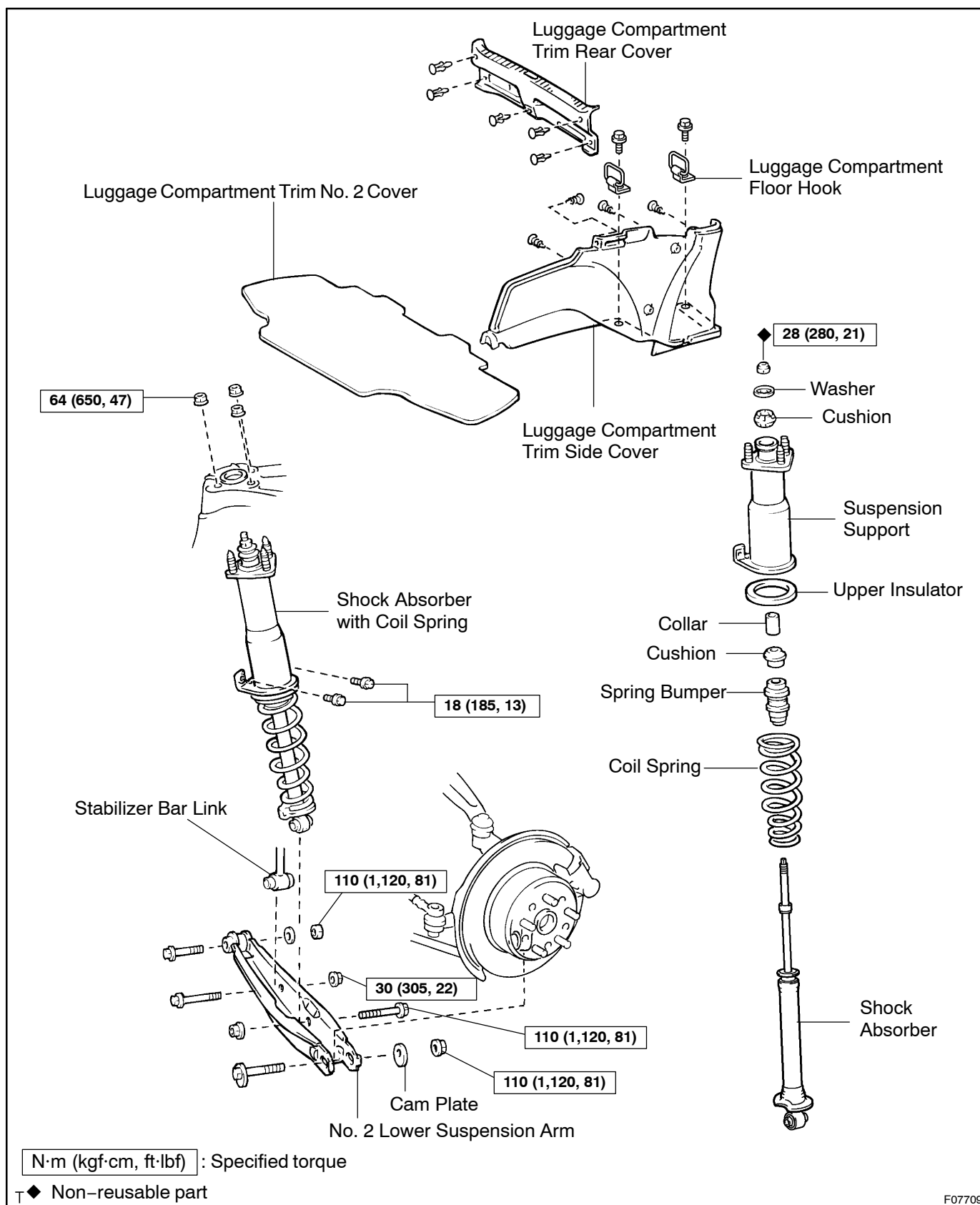
21. DEPRESS BRAKE PEDAL SEVERAL TIMES

22. CHECK REAR WHEEL ALIGNMENT
(See page SA-8)

23. CHECK ABS SPEED SENSOR SIGNAL
(See page DI-223)

REAR SHOCK ABSORBER COMPONENTS

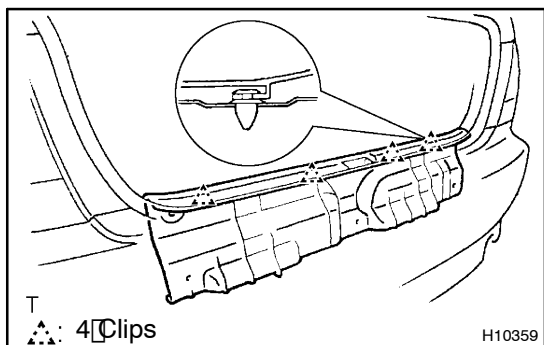
SA05I-04



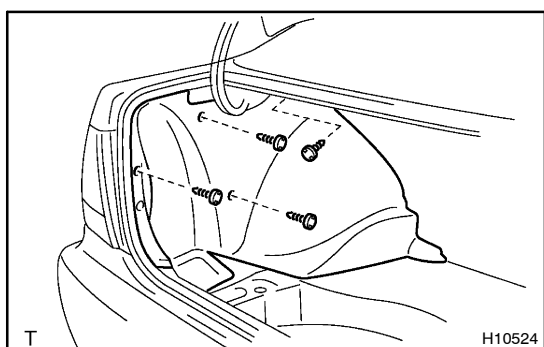
F07709

REMOVAL

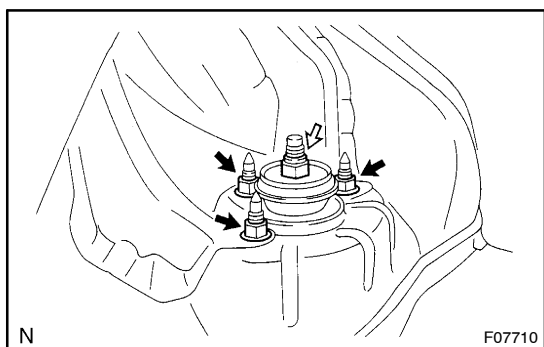
1. REMOVE REAR WHEEL
2. REMOVE LUGGAGE COMPARTMENT TRIM NO. 2 COVER



3. REMOVE LUGGAGE COMPARTMENT TRIM REAR COVER
4. REMOVE LUGGAGE COMPARTMENT FLOOR HOOKS



5. REMOVE LUGGAGE COMPARTMENT TRIM SIDE COVER
6. REMOVE NO. 2 LOWER SUSPENSION ARM (See page SA-116)



7. REMOVE REAR SHOCK ABSORBER WITH COIL SPRING

(a) Loosen the nut in the center of the suspension support.

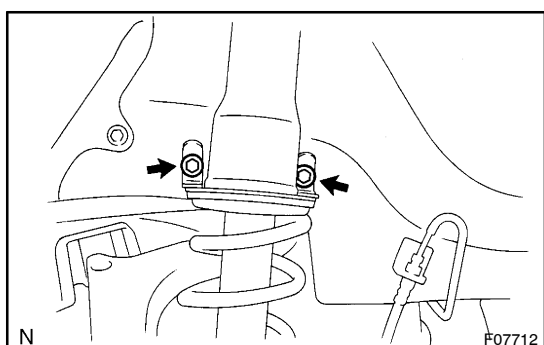
NOTICE:

Do not remove it.

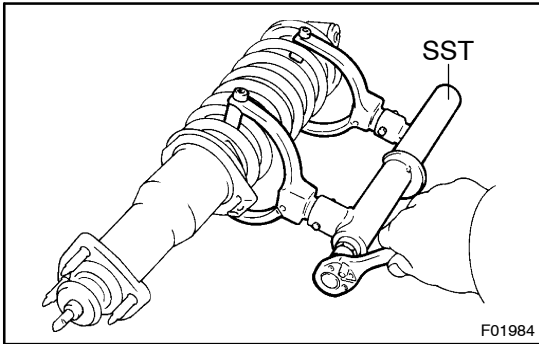
HINT:

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

(b) Remove the 3 nuts from the body.



(c) Remove the 2 bolts and shock absorber with the coil spring from the body.



DISASSEMBLY

REMOVE SUSPENSION SUPPORT AND COIL SPRING

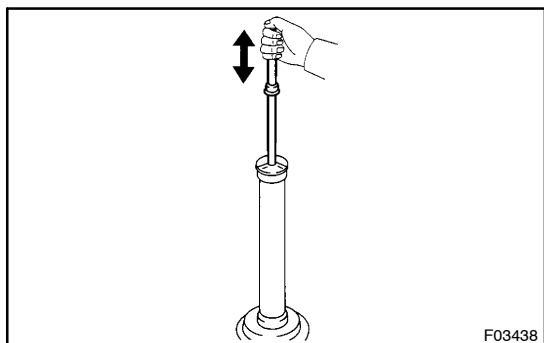
- (a) Using SST, compress the coil spring.

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

NOTICE:

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

- (b) Remove the suspension support nut.
(c) Remove the washer, cushion, suspension support, upper insulator, coil spring, collar, cushion and spring bumper.



INSPECTION

INSPECT SHOCK ABSORBER

Compress and extend the shock absorber rod and check that there is no abnormal resistance or unusual sound during operation.

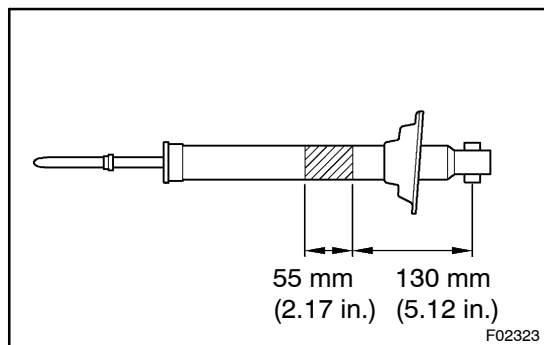
If there is any abnormality, replace the shock absorber with a new one.

NOTICE:

When discarding the shock absorber, see DISPOSAL on [page SA-108](#).

DISPOSAL

1. FULLY EXTEND SHOCK ABSORBER ROD

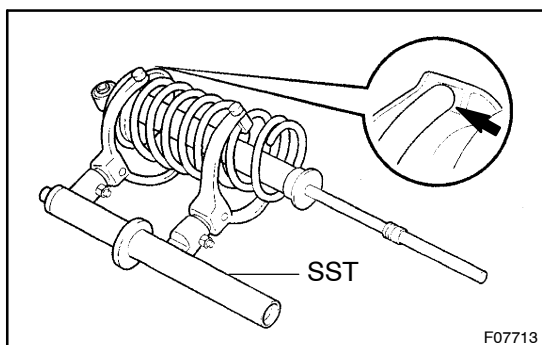


2. DRILL HOLE TO DISCHARGE GAS FROM CYLINDER

Using a drill, make a hole in the cylinder as shown to discharge the gas inside.

CAUTION:

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



REASSEMBLY

INSTALL SUSPENSION SUPPORT AND COIL SPRING

- (a) Using SST, compress the coil spring.

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

NOTICE:

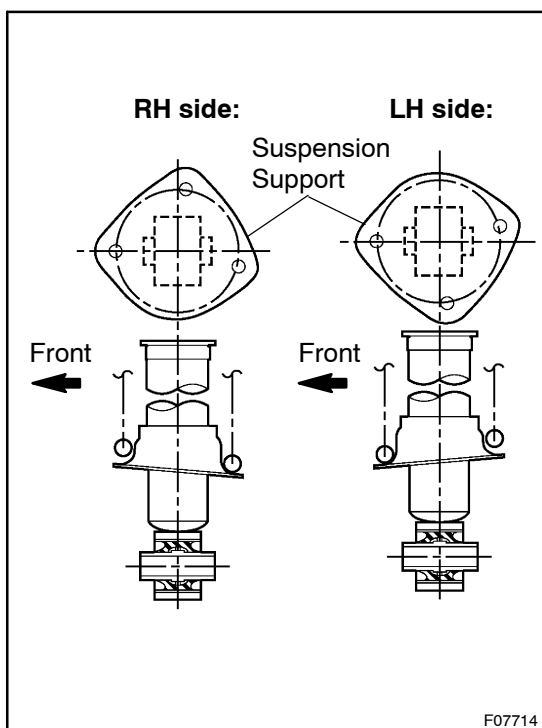
Do not use an impact wrench. It will damage the SST.

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

HINT:

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

- (c) Install the spring bumper, cushion, collar, upper insulator, suspension support, cushion and washer to the shock absorber and temporarily tighten a new nut.



- (d) Rotate the suspension support, as shown in the illustration.

- (e) Remove the SST.

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

HINT:

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

INSTALLATION

1. INSTALL REAR SHOCK ABSORBER WITH COIL SPRING

- (a) Install the suspension support to the body with the 3 nuts.
Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)
- (b) Connect the shock absorber with coil spring to the body with the 2 bolts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)
- (c) Torque the nut in the center of the suspension support.
Torque: 28 N·m (280 kgf·cm, 21 ft·lbf)

HINT:

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

2. □ INSTALL NO. 2 LOWER SUSPENSION ARM (See page SA-11)

3. INSTALL LUGGAGE COMPARTMENT TRIM SIDE COVER

4. INSTALL LUGGAGE COMPARTMENT FLOOR HOOKS

5. INSTALL LUGGAGE COMPARTMENT TRIM REAR COVER

6. INSTALL LUGGAGE COMPARTMENT TRIM NO. 2 COVER

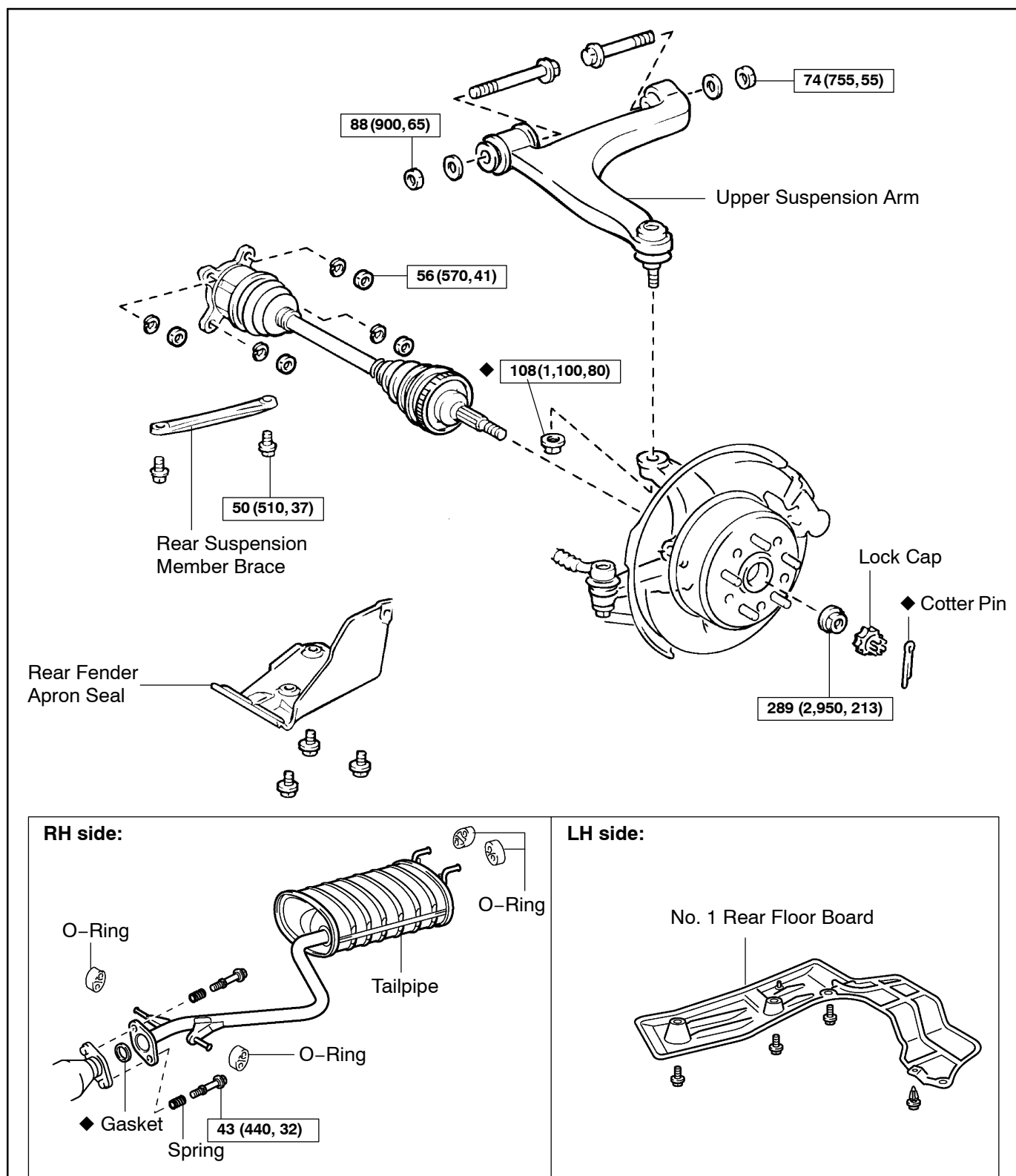
7. INSTALL REAR WHEEL

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

8. □ CHECK REAR WHEEL ALIGNMENT (See page SA-8)

REAR UPPER SUSPENSION ARM COMPONENTS

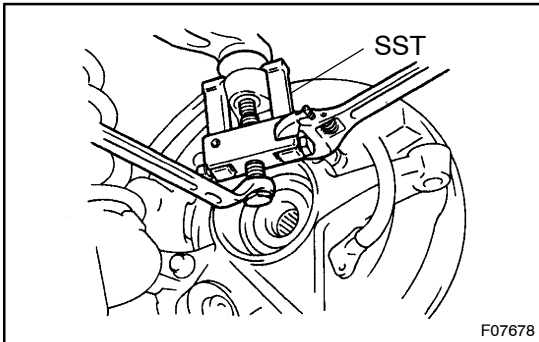
SA0SP-03



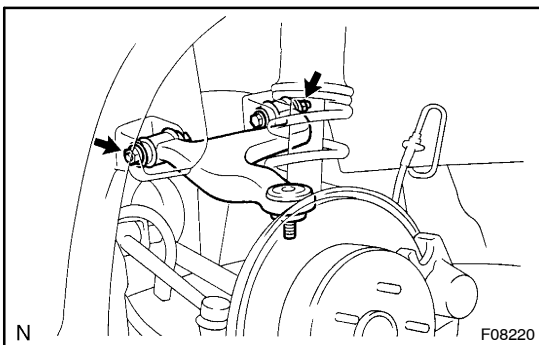
F07715

REMOVAL

1. REMOVE REAR WHEEL
2. REMOVE DRIVE SHAFT (See page SA-56)
3. REMOVE UPPER SUSPENSION ARM
 - (a) Remove the nut.



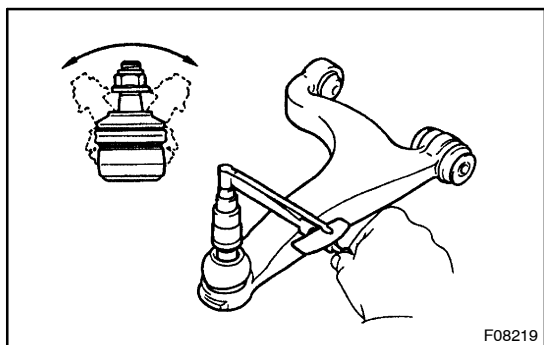
- (b) Using SST, disconnect the upper suspension arm from the axle carrier.
SST 09628-62011
- (c) Support the axle carrier securely.



- (d) Remove the 2 nuts, washers, bolts and upper suspension arm from the body.

INSPECTION

1. INSPECT UPPER SUSPENSION ARM BALL JOINT BOOT FOR DAMAGE

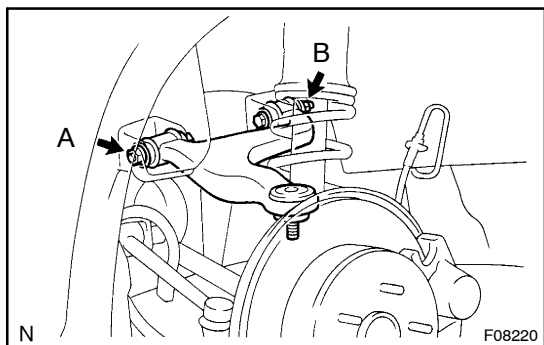


2. INSPECT UPPER SUSPENSION ARM BALL JOINT FOR ROTATION CONDITION

- (a) As shown in the illustration, flip the ball joint stud back and forth 5 times, before installing the nut.
- (b) Using torque wrench, turn the nut continuously 1 turn per 2 – 4 seconds and take the torque reading on the 5th turn.

Turning torque:

1.0 – 2.9 N·m (10 – 30 kgf·cm, 9 – 26 in·lbf)



INSTALLATION

1. INSTALL UPPER SUSPENSION ARM

- (a) Install the upper suspension arm to the body with the 2 bolts, washers and 2 nuts.

Torque:

Nut A: 88 N·m (900 kgf·cm, 65 ft·lbf)

Nut B: 74 N·m (755 kgf·cm, 55 ft·lbf)

HINT:

After stabilizing the suspension arm, torque the nut.

- (b) Connect the upper suspension arm to the axle carrier with a new nut.

Torque: 108 N·m (1,100 kgf·cm, 80 ft·lbf)

2. INSTALL DRIVE SHAFT (See page SA-62)

3. INSTALL REAR WHEEL

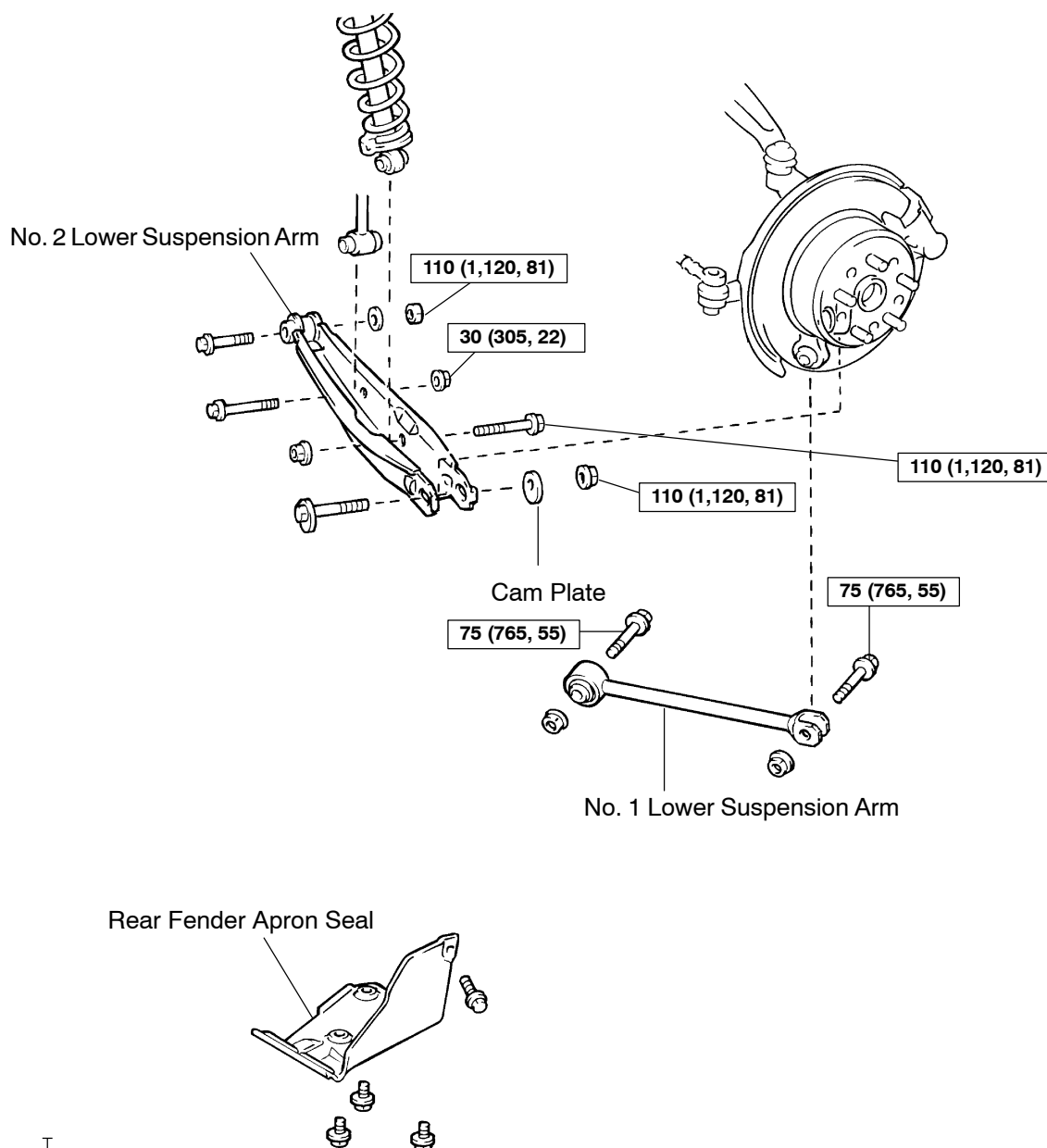
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

4. CHECK REAR WHEEL ALIGNMENT (See page SA-8)

5. CHECK ABS SPEED SENSOR SIGNAL (See page DI-223)

REAR LOWER SUSPENSION ARM COMPONENTS

SA0ST-03

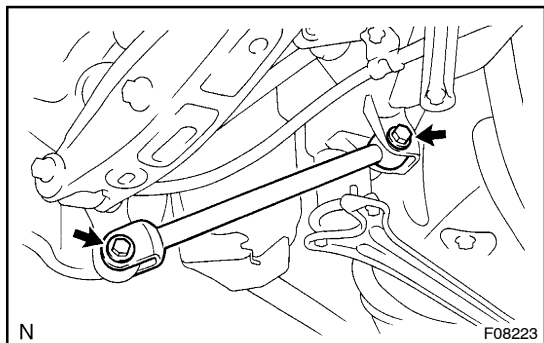


N·m (kgf·cm, ft·lbf) : Specified torque

F08221

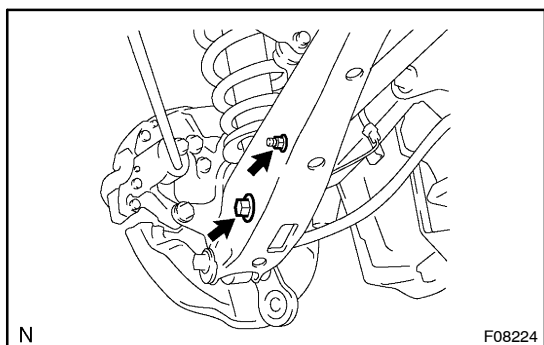
REMOVAL

1. REMOVE REAR WHEEL
2. REMOVE REAR FENDER APRON SEAL



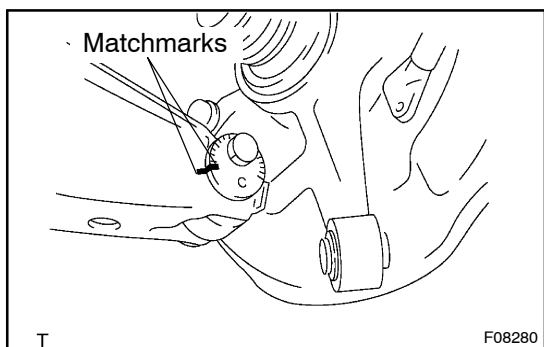
3. REMOVE NO. 1 LOWER SUSPENSION ARM

Remove the 2 bolts, nuts, and No. 1 lower suspension arm.

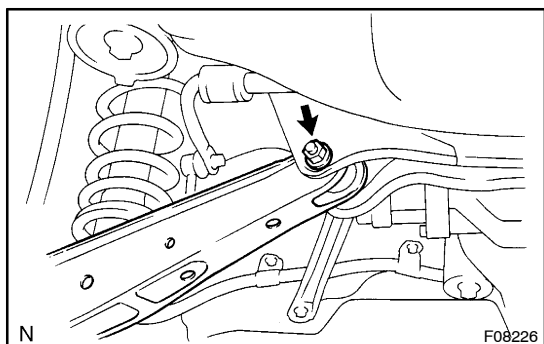


4. REMOVE NO. 2 LOWER SUSPENSION ARM

- (a) Remove the nut and bolt, and disconnect the stabilizer bar link from the No. 2 lower suspension arm.
- (b) Remove the bolt and nut, and disconnect the shock absorber from the No. 2 lower suspension arm.



- (c) Place matchmarks on the cam bolt and No. 2 lower suspension arm.
- (d) Remove the nut, cam plate and cam bolt, and disconnect the axle carrier.



- (e) Remove the nut, washer, bolt and No. 2 lower suspension arm from the rear suspension member.

INSTALLATION

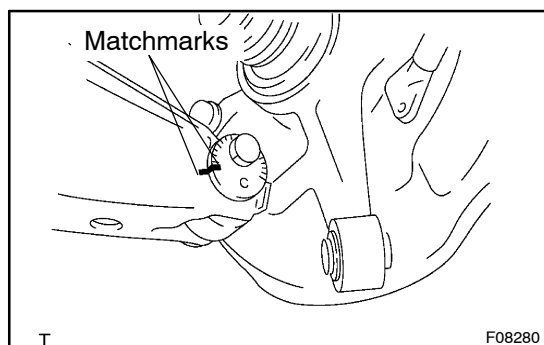
1. INSTALL NO. 2 LOWER SUSPENSION ARM

- (a) Install the No. 2 lower suspension arm to the rear suspension member with bolt, washer and nut.

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

HINT:

After stabilizing the suspension, torque the nut.



- (b) Connect the No. 2 lower suspension arm to the axle carrier with the cam bolt, cam plate and nut.

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

HINT:

After stabilizing the suspension, align the matchmarks on the cam bolt and No. 2 lower suspension arm, and torque the nut.

- (c) Connect the shock absorber to the No. 2 lower suspension arm with the bolt and nut.

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

HINT:

After stabilizing the suspension, torque the nut.

- (d) Connect the stabilizer bar link to the No. 2 lower suspension arm with the bolt and nut.

Torque: 30 N·m (305 kgf·cm, 22 ft·lbf)

2. INSTALL NO. 1 LOWER SUSPENSION ARM

Torque: 75 N·m (765 kgf·cm, 55 ft·lbf)

HINT:

After stabilizing the suspension, torque the bolt.

3. INSTALL REAR FENDER APRON SEAL

4. INSTALL REAR WHEEL

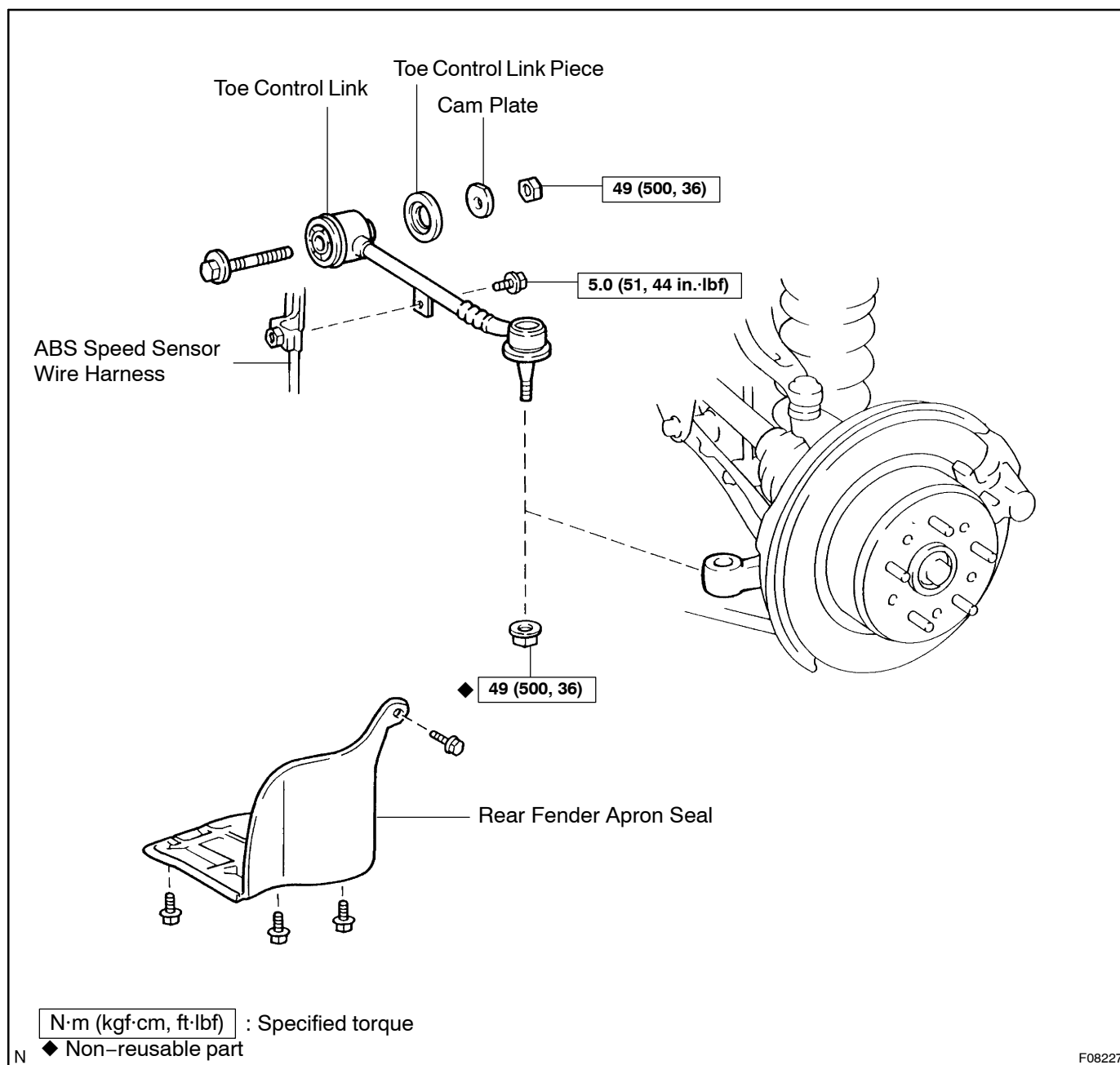
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

5. CHECK REAR WHEEL ALIGNMENT (See page SA-8)

6. CHECK ABS SPEED SENSOR SIGNAL (See page DI-223)

TOE CONTROL LINK COMPONENTS

SA0SW-03



F08227

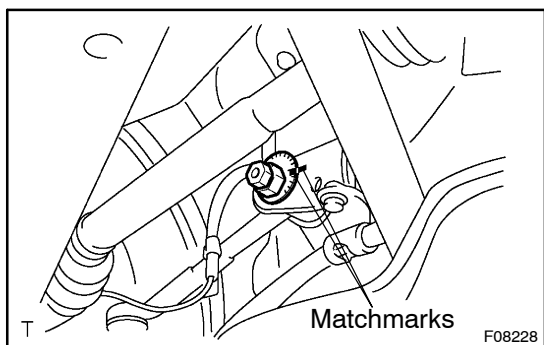
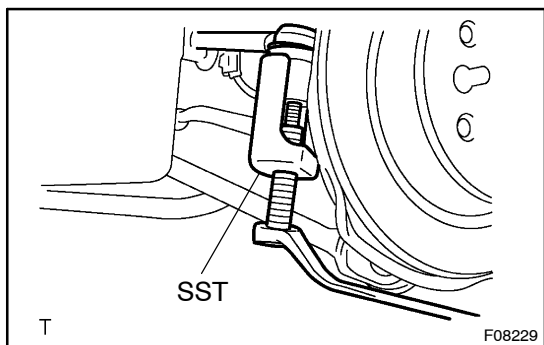
REMOVAL

1. REMOVE REAR WHEEL
2. REMOVE REAR FENDER APRON SEAL
3. DISCONNECT ABS SPEED SENSOR WIRE HARNESS FROM TOE CONTROL LINK

Remove the bolt and disconnect the ABS speed sensor wire harness.

4. REMOVE TOE CONTROL LINK

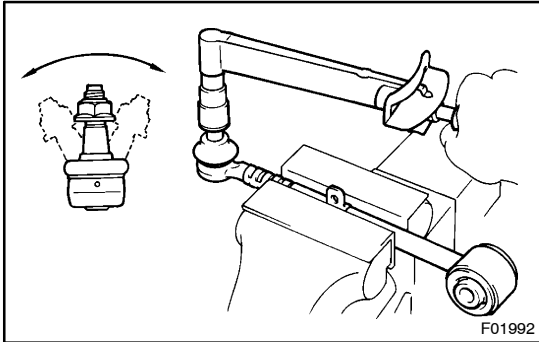
- (a) Remove the nut.
- (b) Using SST, disconnect the toe control link from the axle carrier.
SST 09610-20012



- (c) Place matchmarks on the cam plate and rear suspension member.
- (d) Remove the nut, cam plate, cam bolt, toe control link piece and toe control link from the axle carrier.

INSPECTION

1. INSPECT TOE CONTROL LINK BALL JOINT BOOT FOR DAMAGE

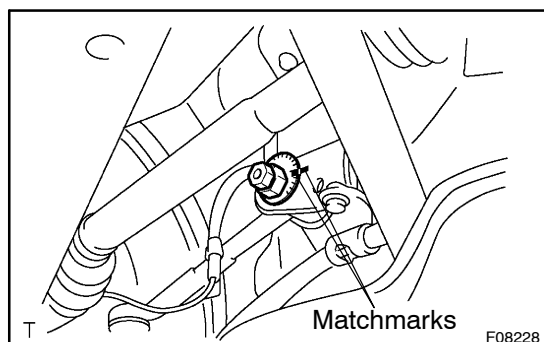


2. INSPECT TOE CONTROL LINK BALL JOINT FOR ROTATION CONDITION

- (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 1 turn per 2 – 4 seconds and take the torque reading on the 5th turn.

Turning torque:

1.0 – 2.5 N·m (10 – 25 kgf·cm, 9 – 22 in.·lbf)



INSTALLATION

1. INSTALL TOE CONTROL LINK

- (a) Install the toe control link, toe control link piece to the rear suspension member with the cam bolt, cam plate and nut.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

HINT:

After stabilizing the suspension arm, align the matchmarks on the cam plate and rear suspension member, and torque the nut.

- (b) Connect the toe control link to the axle carrier with a new nut.

Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

2. CONNECT ABS SPEED SENSOR WIRE HARNESS TO TOE CONTROL LINK

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

3. INSTALL REAR FENDER APRON SEAL

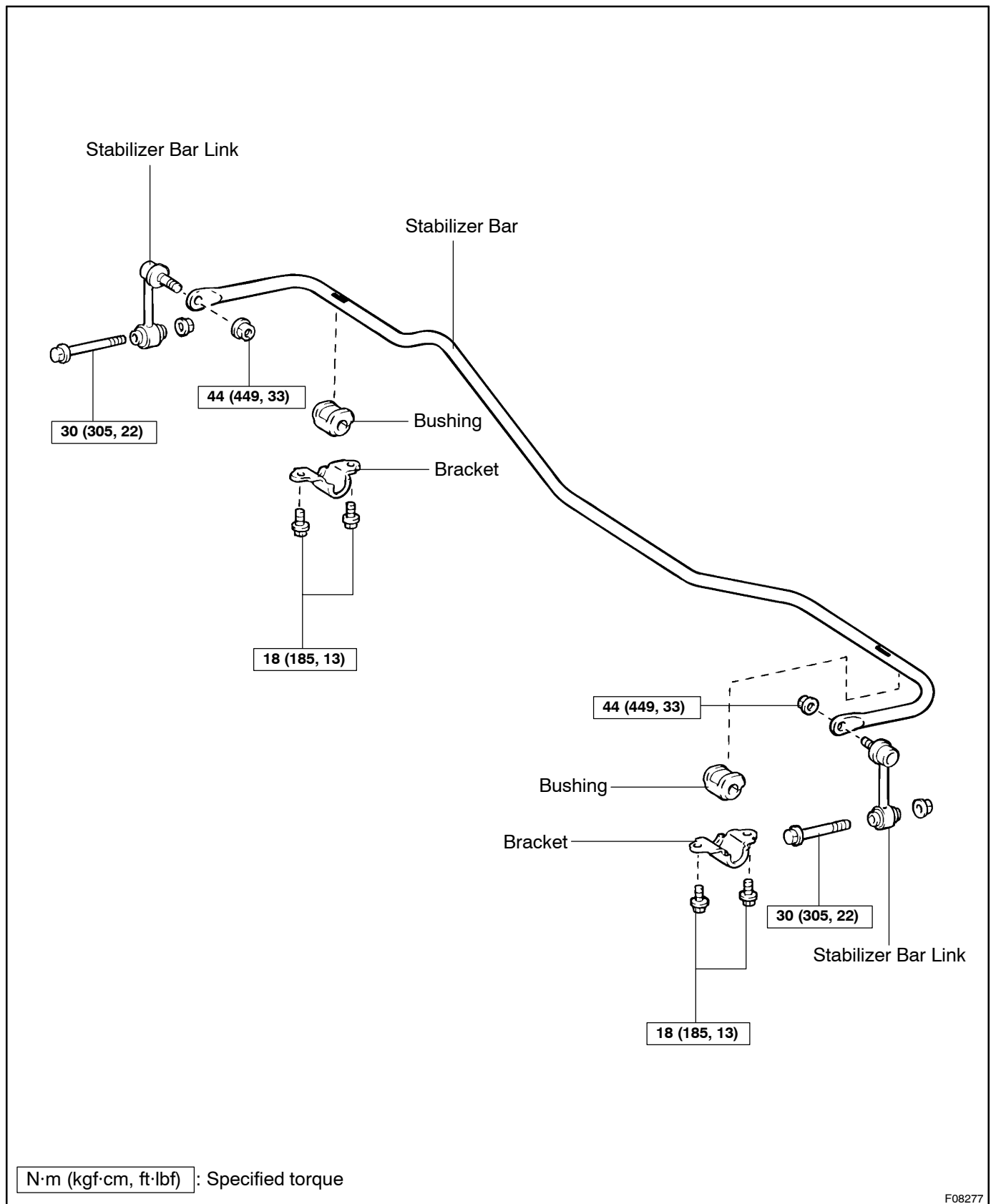
4. INSTALL REAR WHEEL

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

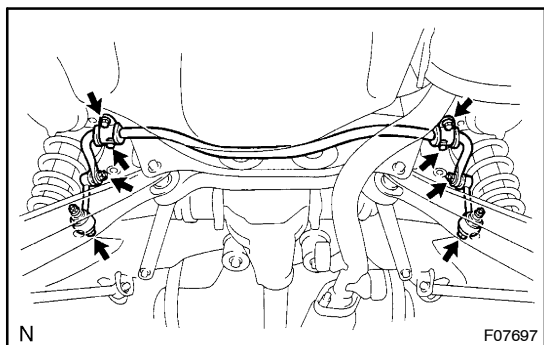
5. CHECK REAR WHEEL ALIGNMENT (See page SA-8)

REAR STABILIZER BAR COMPONENTS

SA0T0-03



F08277



REMOVAL

1. REMOVE STABILIZER BAR

- (a) Remove the 4 nuts, 2 bolts and stabilizer bar links.

HINT:

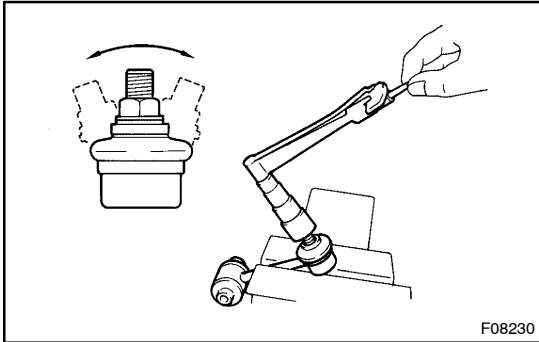
If the ball joint turns together with the nut, use a hexagon wrench (5 mm) to hold the stud.

- (b) Remove the 4 bolts and stabilizer bar.

2. REMOVE 2 BRACKETS AND BUSHINGS FROM STABILIZER BAR

INSPECTION

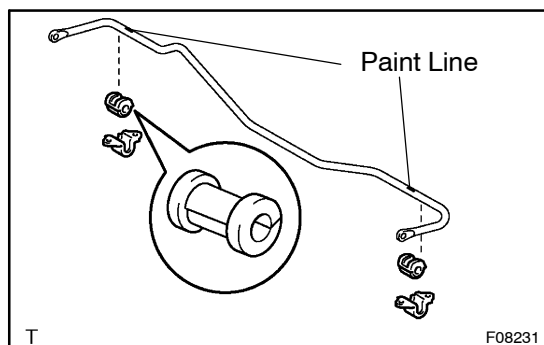
1. INSPECT STABILIZER BAR LINK BALL JOINT BOOT FOR DAMAGE



2. INSPECT STABILIZER BAR LINK BALL JOINT FOR ROTATION CONDITION

- (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 1 turn per 2 – 4 seconds and take the torque reading on the 5th turn.

Turning torque:**0.05 – 1.0 N·m (0.5 – 10 kgf·cm, 0.4 – 9.0 in·lbf)**

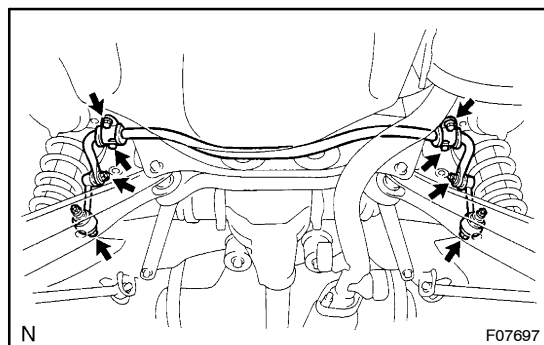


INSTALLATION

1. INSTALL 2 BUSHINGS AND BRACKETS TO STABILIZER BAR

HINT:

- Install the bushing to the outside of the paint line on the stabilizer bar.
- Install the bushing to the stabilizer bar so that the cutout of the bushing faces the rear of the vehicle, as shown in the illustration.



2. INSTALL STABILIZER BAR

- Install the stabilizer bar to the body with the 4 bolts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)
- Install the 2 stabilizer bar links with the 2 bolts and 4 nuts.
Torque:
Bolt: 30 N·m (305 kgf·cm, 22 ft·lbf)
Nut: 44 N·m (449 kgf·cm, 33 ft·lbf)

HINT:

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