DRIVE SHAFT, PROPELLER SHAFT, AXLE

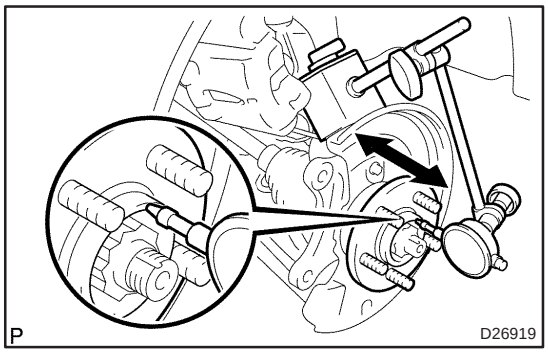
3005C–02

PROBLEM SYMPTOMS TABLE

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

Symptom	Suspect Area	See page
Wander	5. Wheel	28–1
	6. Front wheel alignment	26–6
	7. Rear wheel alignment	27–4
	8. Hub bearing (Worn)	30–2
	9. Front shock absorber	26–10
	10. Rear shock absorber	27–8
Front wheel shimmy	1. Wheel (Imbalance)	28–1
	2. Hub bearing (Worn)	30–2
	3. Lower suspension arm ATM:	26–16
	4. Lower suspension arm MTM:	26–21
	5. Lower ball joint (Worm)	26–24
	6. Front shock absorber	26–10
Noise (Front)	1. Front drive shaft	30–6
	2. Front shock absorber	26–10
	3. Hub bearing (Worn)	30–2
	4. Lower ball joint (Worm)	26–24
Noise (Rear)	1. Hub bearing (Worn)	30–2
	2. Rear shock absorber	27–8

ON–VEHICLE INSPECTION

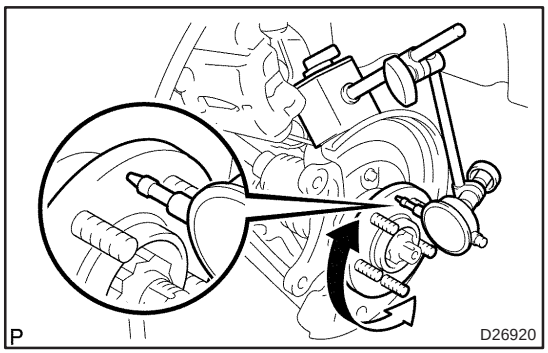


1. INSPECT FRONT AXLE HUB BEARING BACKLASH

(a) Using a dial indicator, check the backlash near the center of the axle hub.

Maximum: 0.05 mm (0.0020 in.)

If the backlash exceeds the maximum, replace the bearing.

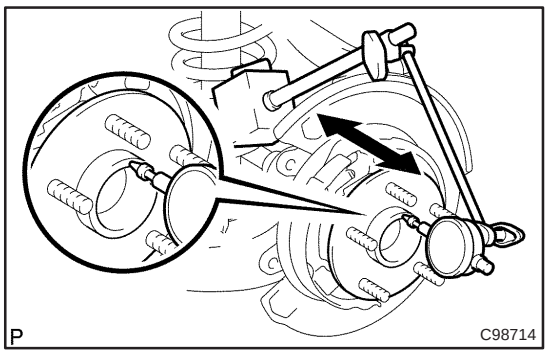


2. INSPECT FRONT AXLE HUB DEVIATION

(a) 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 backlash exceeds the maximum, replace the axle hub.

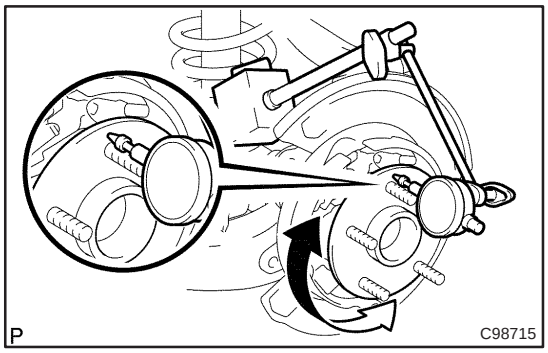


3. INSPECT REAR AXLE HUB BEARING BACKLASH

(a) Using a dial indicator, check the backlash near the center of the axle hub.

Maximum: 0.05 mm (0.0020 in.)

If the backlash exceeds the maximum, replace the axle hub assembly.



4. INSPECT REAR AXLE HUB DEVIATION

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

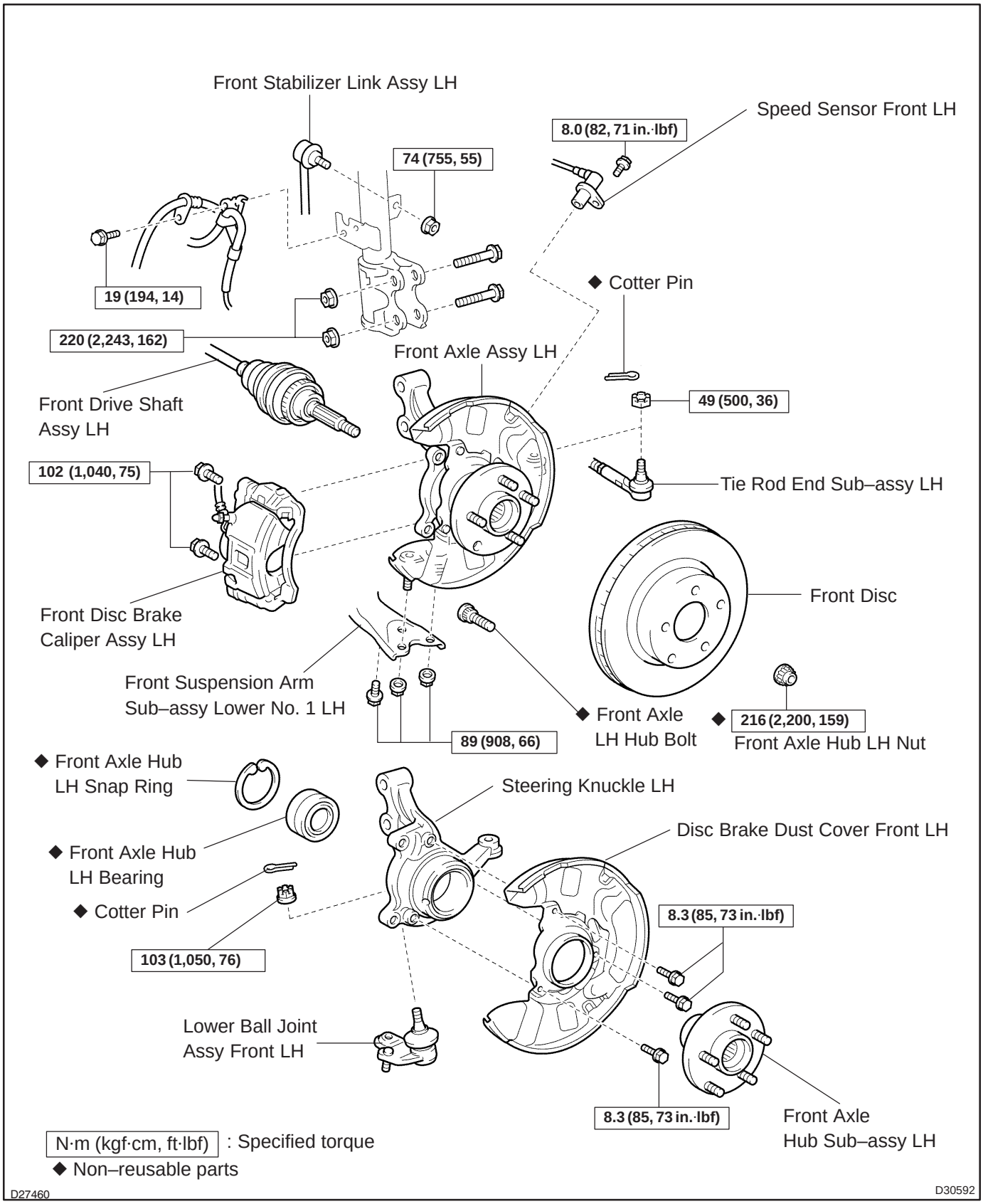
Maximum: 0.07 mm (0.0028 in.)

If the backlash exceeds the maximum, replace the axle hub assembly.

FRONT AXLE HUB SUB–ASSY LH

30091–02

COMPONENTS



300JY–01

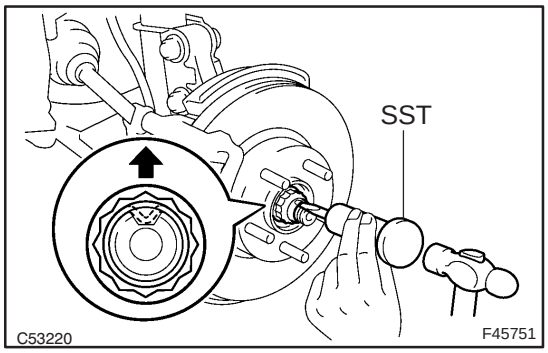
REPLACEMENT

HINT:

Replace the RH side by the same procedures as the LH side.

1. REMOVE FRONT WHEEL

2. SEPARATE FRONT STABILIZER LINK ASSY LH (See page 30–6)

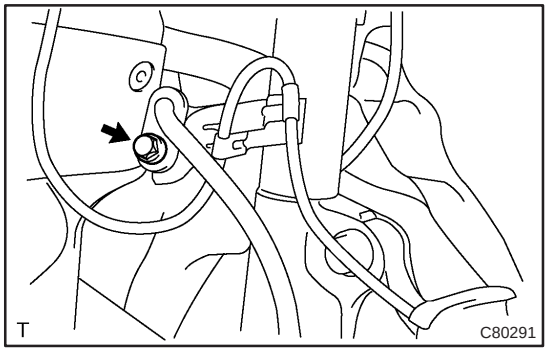


3. REMOVE FRONT AXLE HUB LH NUT

(a) Using SST and a hammer, unstake the staked part of the axle hub LH nut.

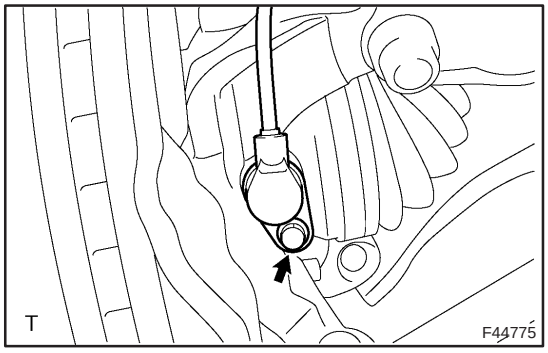
SST 09930–00010

(b) While applying the brakes, remove the axle hub LH nut.



4. DISCONNECT SPEED SENSOR FRONT LH

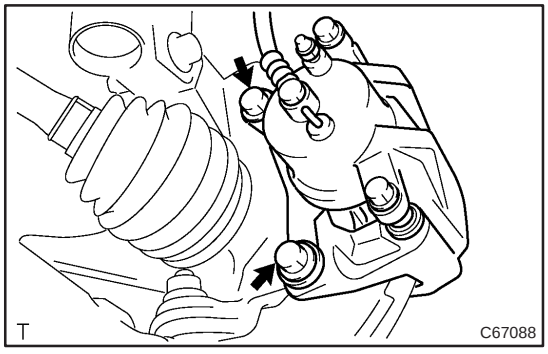
(a) Remove the bolt, and disconnect the speed sensor wire and flexible hose from the shock absorber.



(b) Remove the bolt, separate the speed sensor front LH from the steering knuckle.

NOTICE:

- **Be careful not to damage the speed sensor.**
- **Prevent foreign matter from attaching to the speed sensor.**



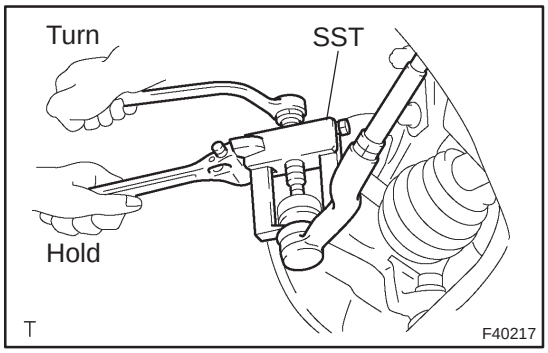
5. SEPARATE FRONT DISC BRAKE CALIPER ASSY LH

(a) Removing the 2 bolts, separate the disc brake caliper assy LH from the steering knuckle.

NOTICE:

Use a string or other device to keep the brake caliper from hanging down.

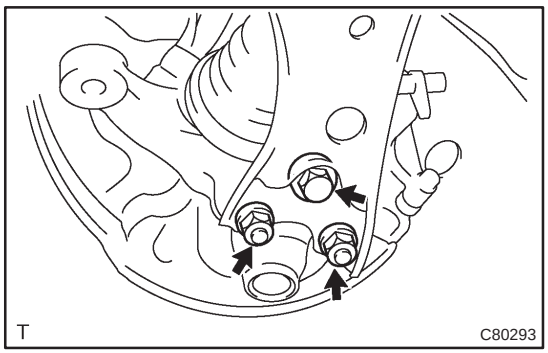
6. REMOVE FRONT DISC



7. SEPARATE TIE ROD END SUB–ASSY LH

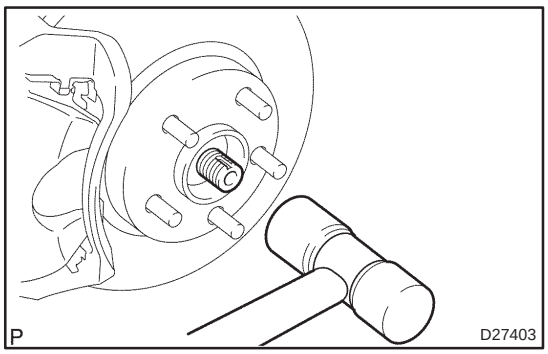
(a) Remove the cotter pin and nut.

(b) Using SST, separate the tie rod end sub–assy LH from the steering knuckle.
SST 09628–62011



8. SEPARATE FRONT SUSPENSION ARM SUB–ASSY LOWER NO.1 LH

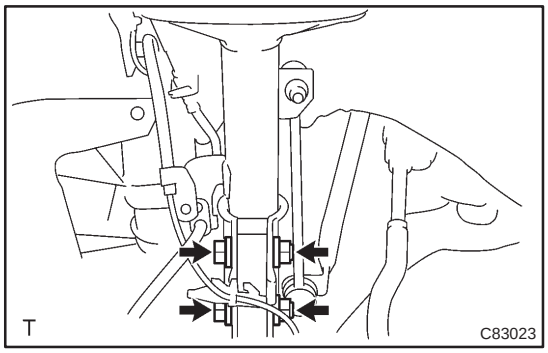
(a) Remove the bolt and 2 nuts, and separate the suspension arm sub–assy lower No.1 LH from the lower ball joint.



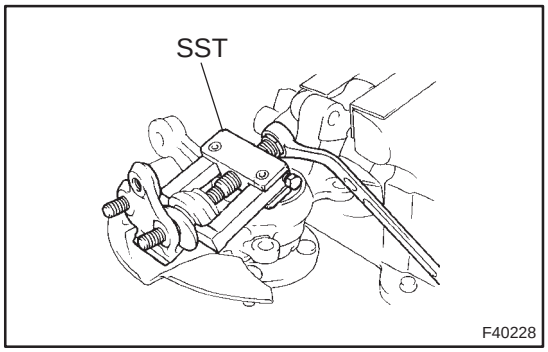
9. REMOVE FRONT AXLE ASSY LH

(a) Using a plastic hammer, separate the drive shaft assy LH from the axle hub.

NOTICE:
Be careful not to damage the boot and ABS speed sensor rotor.



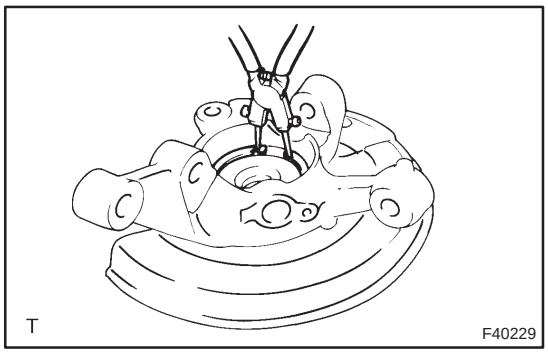
(b) Remove the 2 bolts, nuts and steering knuckle with the shock absorber.



10. REMOVE LOWER BALL JOINT ASSY FRONT LH

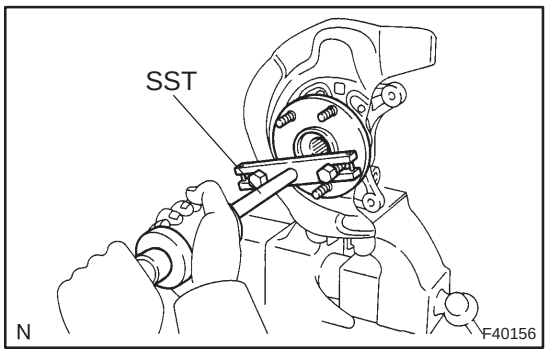
(a) Remove the cotter pin and nut.

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



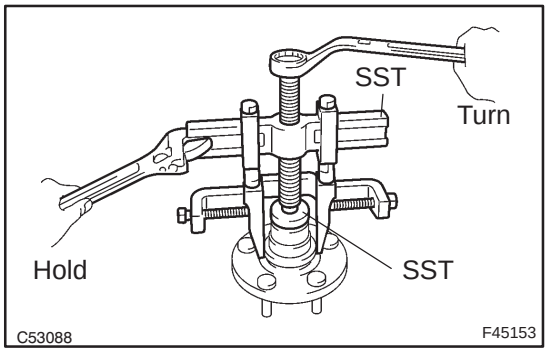
11. REMOVE FRONT AXLE HUB LH HOLE SNAP RING

(a) Using snap ring pliers, remove the hole snap ring.



12. REMOVE FRONT AXLE HUB SUB–ASSY LH

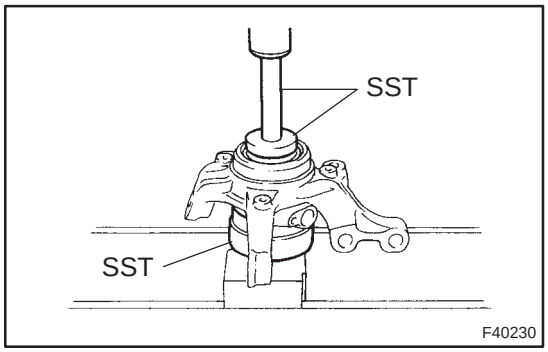
(a) Using SST, remove the axle hub sub–assy.
SST 09520–00031



(b) Using SST, remove the bearing inner race (outside) from the axle hub sub–assy.
SST 09950–40011 (09951–04020, 09952–04010, 09953–04030, 09954–04010, 09955–04061, 09957–04010, 09958–04010), 09950–60010 (09951–00370)

13. REMOVE DISC BRAKE DUST COVER FRONT LH

(a) Remove the 3 bolts and disc brake dust cover front LH.

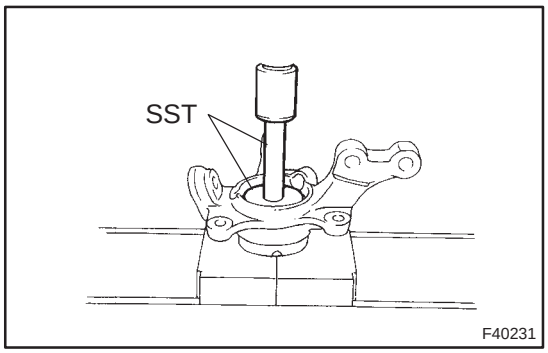


14. REMOVE FRONT AXLE HUB LH BEARING

(a) Place the bearing inner race (outside) on the axle hub LH bearing.

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

SST 09527–17011, 09950–60010 (09951–00640), 09950–70010 (09951–07100)



15. INSTALL FRONT AXLE HUB LH BEARING

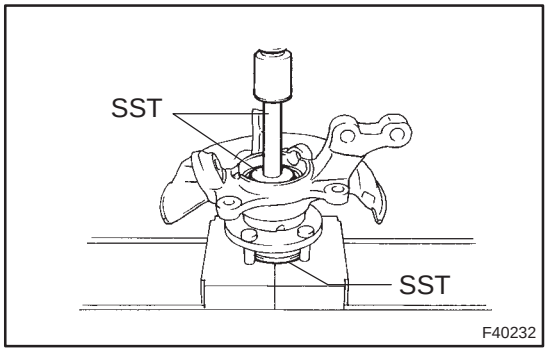
(a) Using SST and a press, install a new axle hub LH bearing to the steering knuckle.

SST 09950–60020 (09951–00720), 09950–70010 (09951–07100)

16. INSTALL DISC BRAKE DUST COVER FRONT LH

(a) Install the disc brake dust cover with the 3 bolts.

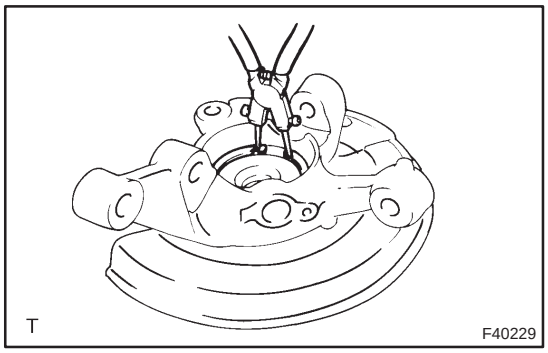
Torque: 8.3 N·m (85 kgf·cm, 73 in.·lbf)



17. INSTALL FRONT AXLE HUB SUB–ASSY LH

(a) Using SST and a press, install the axle hub sub–assy.

SST 09608–32010, 09950–60010 (09951–00600), 09950–70010 (09951–07100)



18. INSTALL FRONT AXLE HUB LH HOLE SNAP RING

(a) Using snap ring pliers, install the hole snap ring.

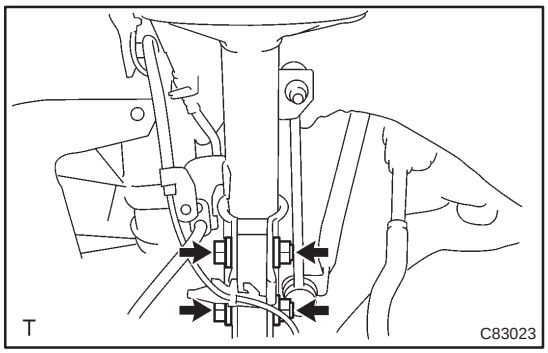
19. INSTALL LOWER BALL JOINT ASSY FRONT LH

(a) Install the lower ball joint and torque the nut.
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

(b) Install a new cotter pin.

NOTICE:

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



20. INSTALL FRONT AXLE ASSY LH

(a) Install the 2 bolts, nuts and steering knuckle with 2 bolts and nuts to the shock absorber.
Torque: 220 N·m (2,243 kgf·cm, 162 ft·lbf)

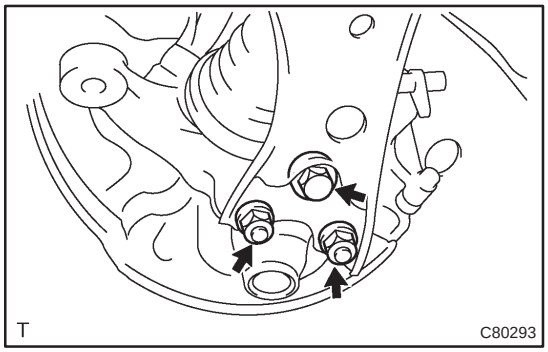
NOTICE:

Only when reusing the bolts and nuts, apply engine oil to the screw part of the nuts.

(b) Push the front axle assy toward the outside of the vehicle, fit the splined part of the drive shaft assy to that of the front axle assy and insert the drive shaft assy into the front axle assy.

NOTICE:

- **Do not push out the front axle assy excessively.**
- **Be careful not to damage the drive shaft outboard joint boot.**
- **Be careful not to damage the speed sensor rotor.**



21. INSTALL FRONT SUSPENSION ARM SUB–ASSY LOWER NO.1 LH

(a) Install the front suspension arm sub–assy lower No.1 LH and lower ball joint with the 2 nuts and bolt.
Torque: 89 N·m (908 kgf·cm, 66 ft·lbf)

22. INSTALL TIE ROD END SUB–ASSY LH

(a) Install the tie rod end sub–assy LH to the steering knuckle.

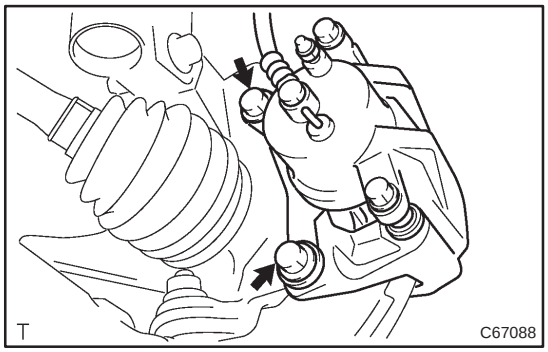
(b) Install the nut and a new cotter pin.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

NOTICE:

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

23. INSTALL FRONT STABILIZER LINK ASSY LH (See page 30–6)

24. INSTALL FRONT DISC



25. INSTALL FRONT DISC BRAKE CALIPER ASSY LH

(a) Install the disc brake caliper assy with the 2 bolts to the steering knuckle.
Torque: 104 N·m (1,040 kgf·cm, 75 ft·lbf)

26. INSTALL FRONT AXLE HUB LH NUT

(a) Using a socket wrench (30 mm), install a new axle hub LH nut.
Torque: 216 N·m (2,200 kgf·cm, 159 ft·lbf)

27. SEPARATE FRONT DISC BRAKE CALIPER ASSY LH

(a) Removing the 2 bolts, separate the disc brake caliper assy from the steering knuckle.

NOTICE:

Use a string or other device to keep the brake caliper from hanging down.

28. REMOVE FRONT DISC

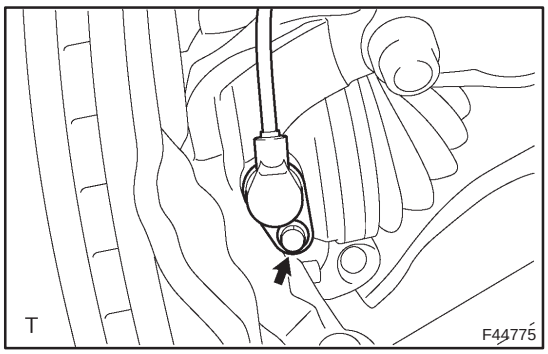
29. INSPECT BEARING BACKLASH (See page 30–2)

30. INSPECT AXLE HUB DEVIATION (See page 30–2)

31. INSTALL FRONT DISC

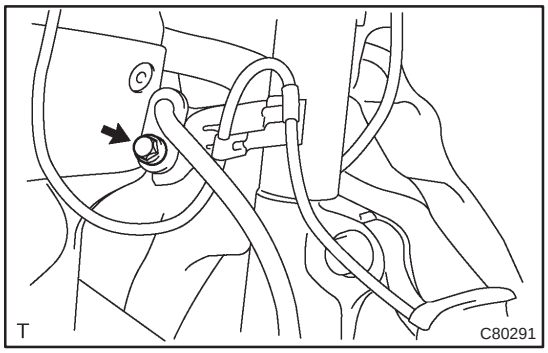
32. INSTALL FRONT DISC BRAKE CALIPER ASSY LH

(a) Install the disc brake caliper assy with the 2 bolts to the steering knuckle.
Torque: 104 N·m (1,040 kgf·cm, 75 ft·lbf)



33. CONNECT SPEED SENSOR FRONT LH

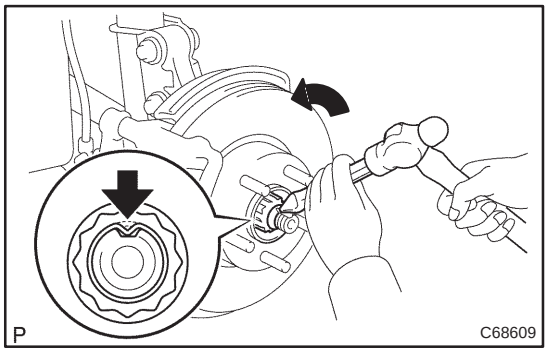
(a) Install the speed sensor front LH to the steering knuckle with the bolt.
Torque: 8.0 N·m (82 kgf·cm, 71 in.·lbf)



(b) Connect the speed sensor wire and flexible hose to the shock absorber with the bolt.
Torque: 19 N·m (194 kgf·cm, 14 ft·lbf)

NOTICE:

- **Be careful not to damage the speed sensor.**
- **Keep the speed sensor clean.**
- **Do not twist the sensor wire when installing the sensor.**



34. INSTALL FRONT AXLE HUB LH NUT

(a) While applying the brakes, install a new axle hub LH nut.
Torque: 216 N·m (2,200 kgf·cm, 159 ft·lbf)

(b) Using a chisel and hammer, stake the axle hub LH nut.

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

36. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT (See page 26–6)

37. CHECK ABS SPEED SENSOR SIGNAL

(a) ABD WITH EBD SYSTEM (See page 05–699)

(b) ABD WITH EBD & BA & TRC & VSC SYSTEM (See page 05–756)

FRONT AXLE LH HUB BOLT

30092–02

REPLACEMENT

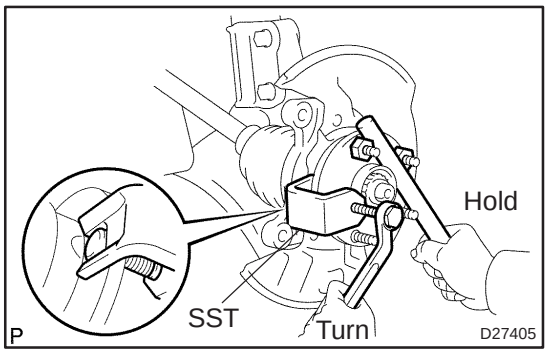
HINT:

- COMPONENTS: See page 30–21
- Replace the RH side by the same procedures as the LH side.

1. REMOVE FRONT WHEEL

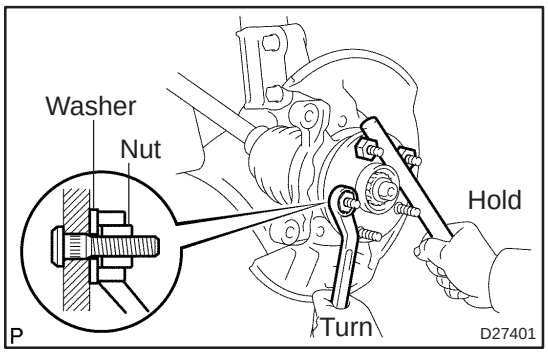
2. SEPARATE FRONT DISC BRAKE CALIPER ASSY LH (See page 30–22)

3. REMOVE FRONT DISC



4. REMOVE FRONT AXLE LH HUB BOLT

(a) Using SST and a hammer handle or an equivalent to hold the axle hub sub–assy LH, remove the LH hub bolt.
SST 09628–10011



5. INSTALL FRONT AXLE LH HUB BOLT

(a) Install a washer and nut to a new LH hub bolt as shown in the illustration.

(b) Using a hammer handle or an equivalent to hold the axle hub sub–assy LH, install the LH hub bolt by tightening the nut.

6. INSTALL FRONT DISC

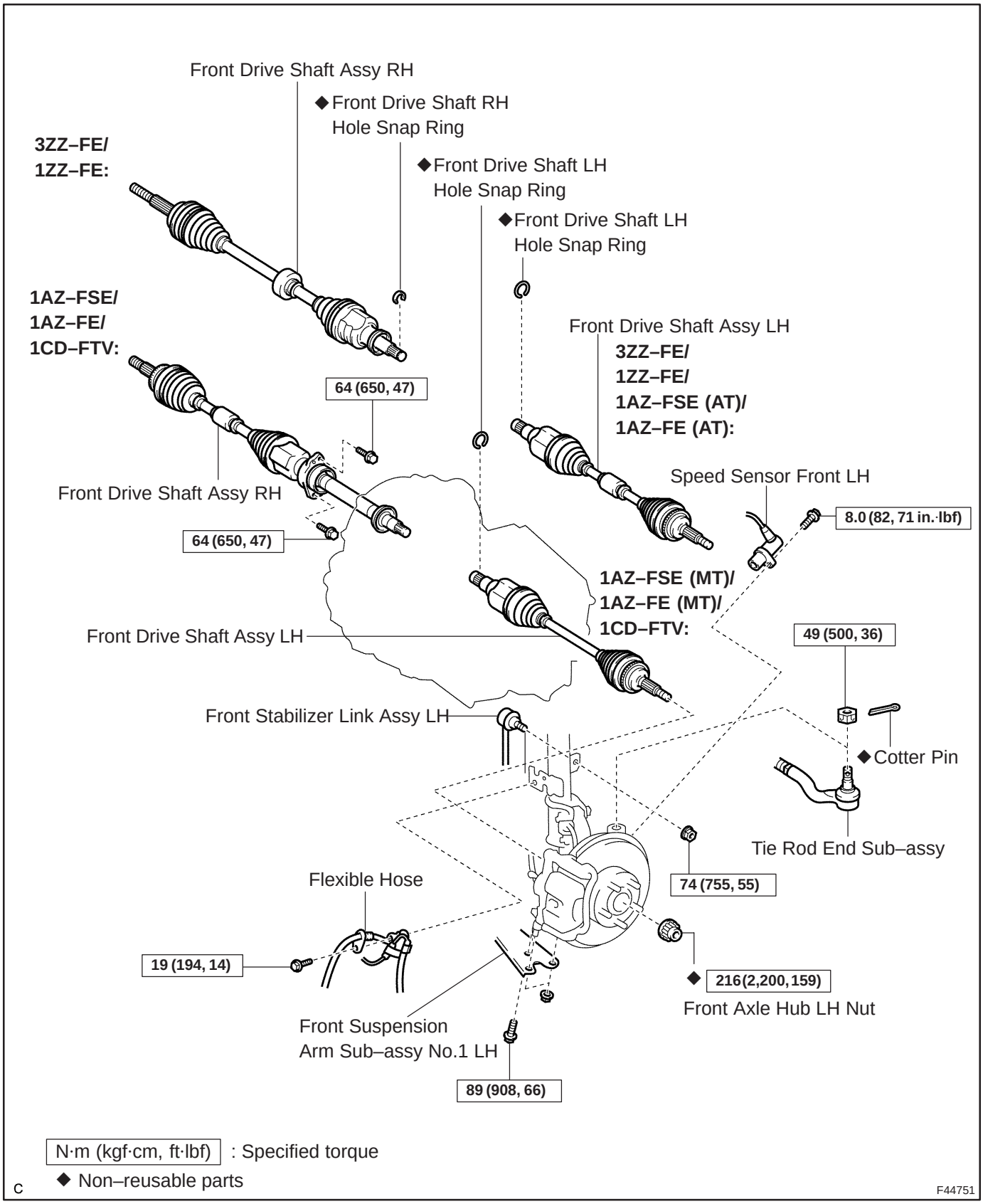
7. INSTALL FRONT DISC BRAKE CALIPER ASSY LH (See page 30–22)

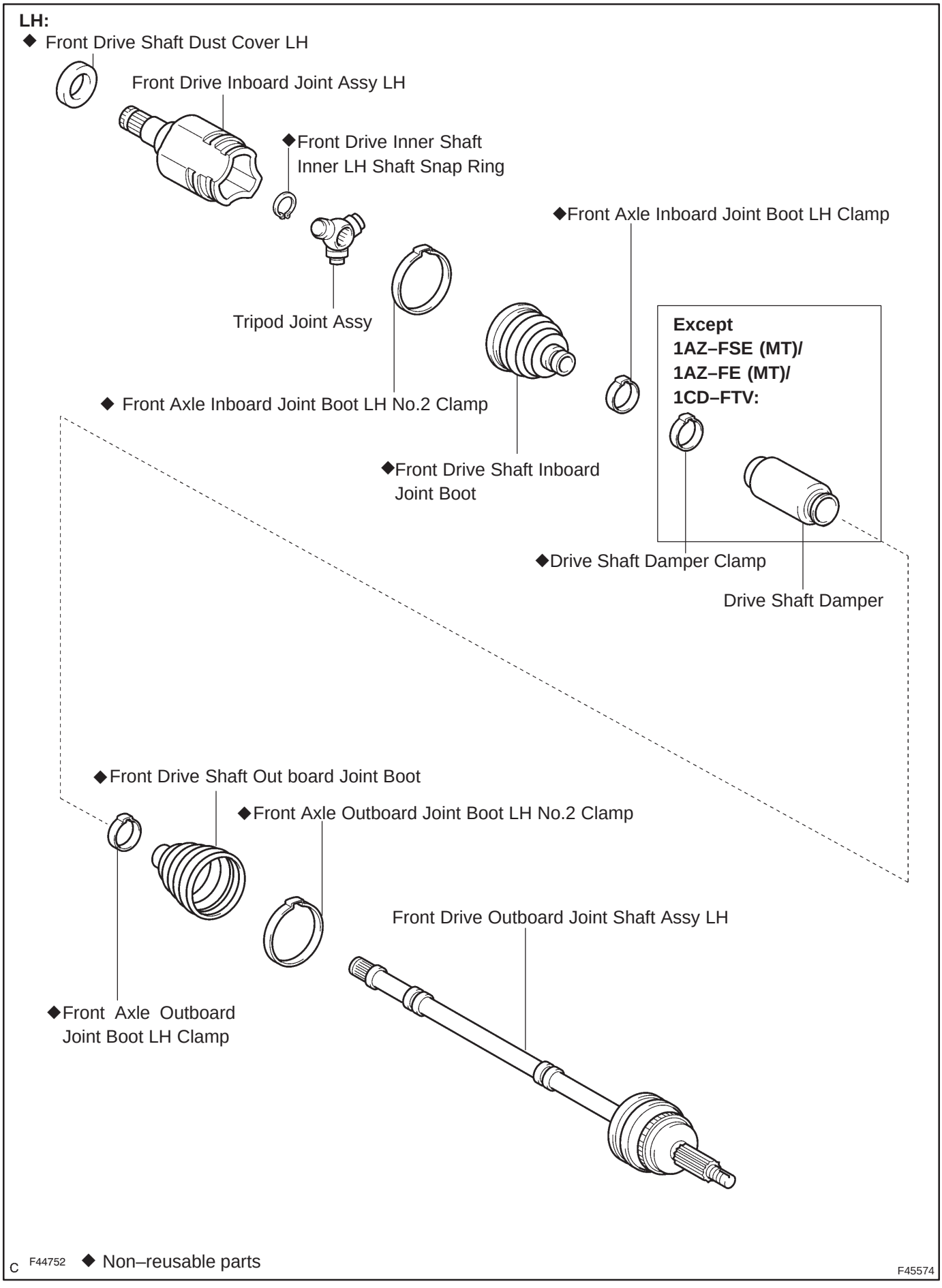
8. INSTALL FRONT WHEEL
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

FRONT DRIVE SHAFT

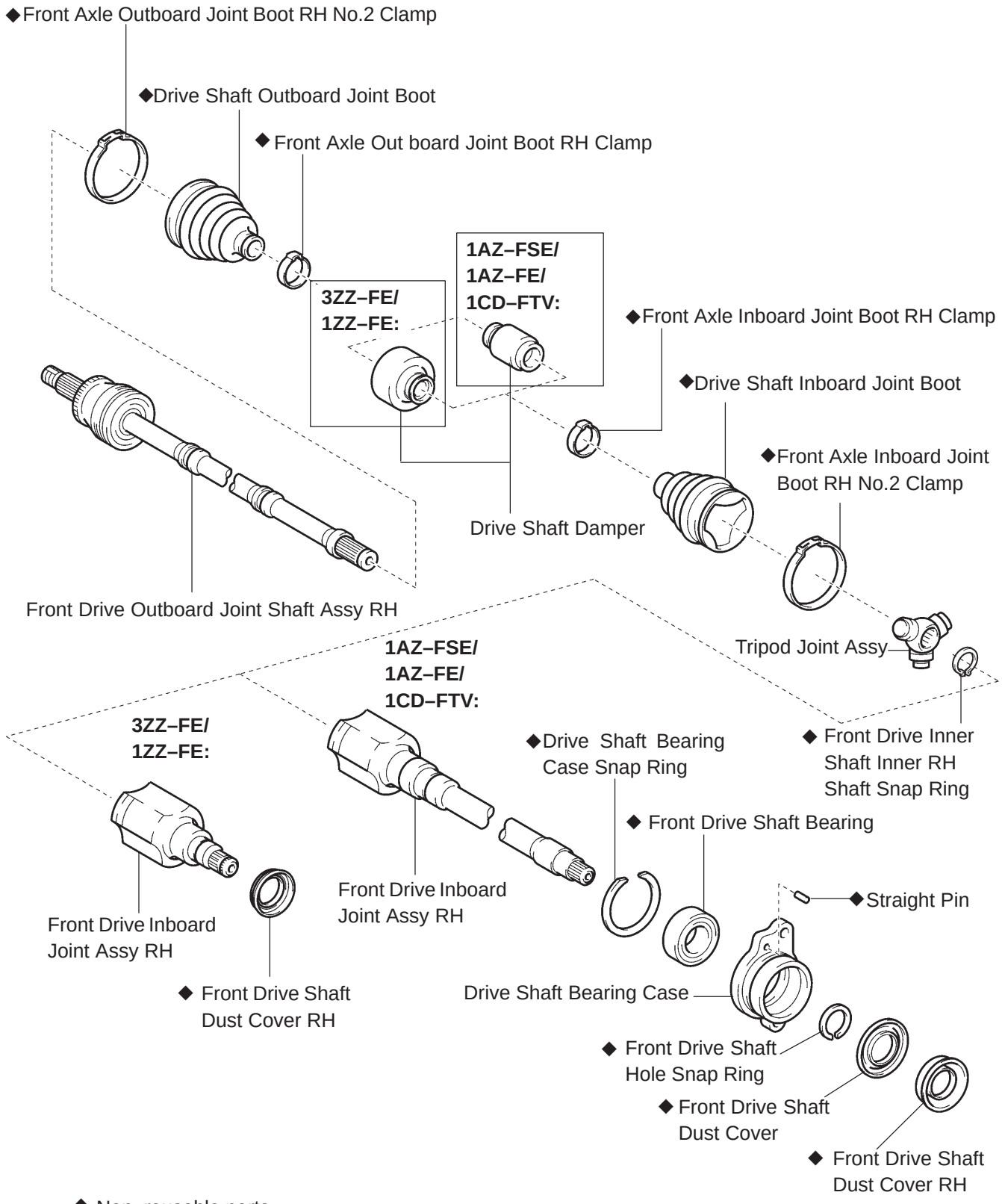
COMPONENTS

300JW–01




LH:
◆ Front Drive Shaft Dust Cover LH
Front Drive Inboard Joint Assy LH
◆Front Drive Inner Shaft
Inner LH Shaft Snap Ring
◆Front Axle Inboard Joint Boot LH Clamp
Tripod Joint Assy
◆ Front Axle Inboard Joint Boot LH No.2 Clamp
◆Front Drive Shaft Inboard
Joint Boot
Except
1AZ–FSE (MT)/
1AZ–FE (MT)/
1CD–FTV:
◆Drive Shaft Damper Clamp
Drive Shaft Damper
◆Front Drive Shaft Out board Joint Boot
◆Front Axle Outboard Joint Boot LH No.2 Clamp
Front Drive Outboard Joint Shaft Assy LH
◆Front Axle Outboard
Joint Boot LH Clamp
C F44752 ◆ Non–reusable parts
F45574

RH:



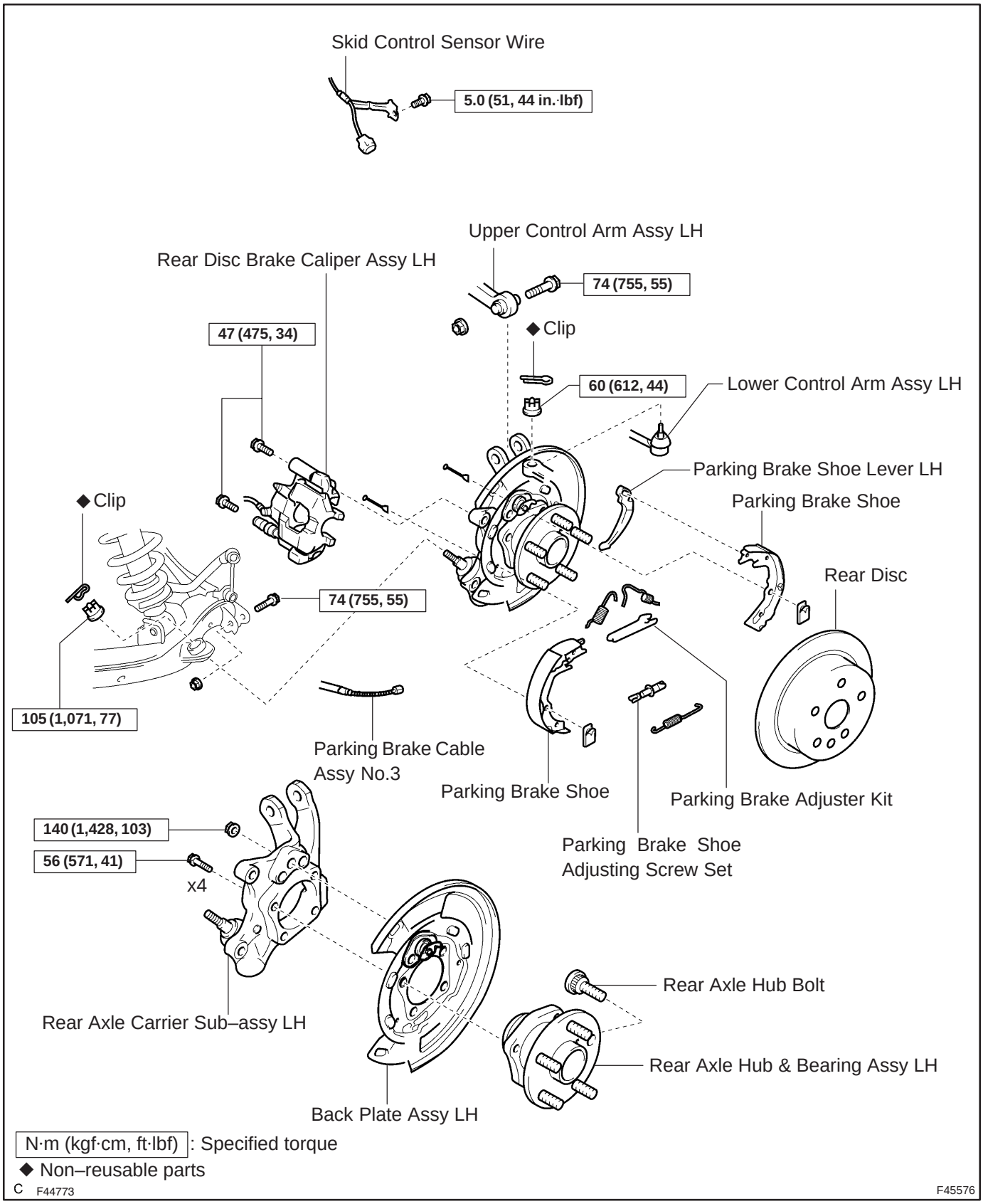
C F44753 ◆ Non–reusable parts

F45575

REAR AXLE CARRIER SUB–ASSY LH

30093–02

COMPONENTS



REPLACEMENT

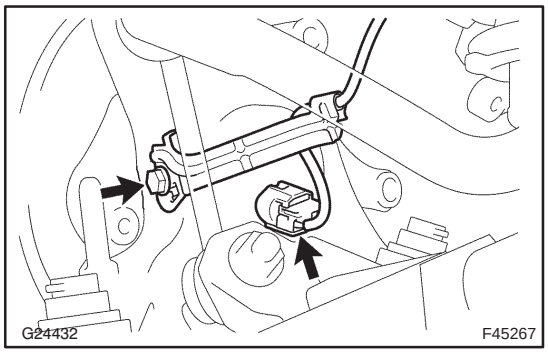
HINT:

Replace the RH side by the same procedures as the LH side.

1. INSPECT REAR AXLE CARRIER SUB–ASSY LH

(a) Check that there is no looseness on the ball joint by shaking the lower arm up and down with a force of 294 N (30kgf, 66 lbf).

2. REMOVE REAR WHEEL



3. DISCONNECT SKID CONTROL SENSOR WIRE

(a) Remove the bolt, disconnect the skid control sensor wire.

(b) Disconnect the connector.

4. SEPARATE REAR DISC BRAKE CALIPER ASSY LH

(a) Removing the 2 bolts and rear disc brake caliper assy.

NOTICE:

Use a string or other device to keep the brake caliper from hanging down.

5. REMOVE REAR DISC

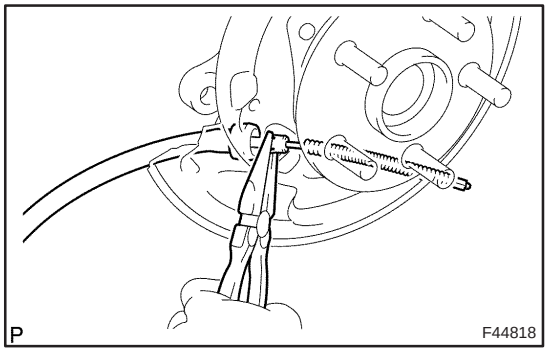
6. REMOVE PARKING BRAKE ADJUSTER KIT (See page 33–14)

7. REMOVE PARKING BRAKE SHOE ADJUSTING SCREW SET (See page 33–14)

8. REMOVE PARKING BRAKE SHOE KIT (See page 33–14)

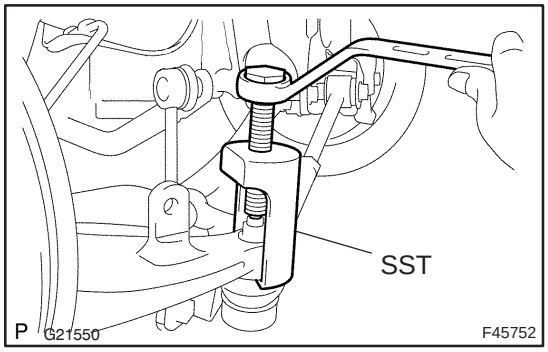
SST 09718–00010

9. REMOVE PARKING BRAKE SHOE LEVER LH (See page 33–14)



10. DISCONNECT PARKING BRAKE CABLE ASSY NO.3

(a) Using needle–nose pliers, and disconnect the parking brake cable assy No.3 from the backing plate.



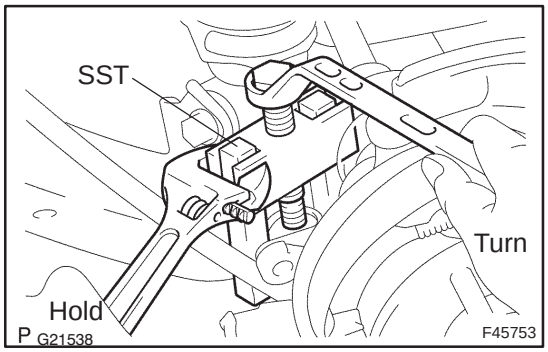
11. SEPARATE LOWER CONTROL ARM ASSY LH

(a) Loosen the lower control arm assy bolt (member side).

(b) Remove the clip and nut.

(c) Using SST, separate the lower control arm assy from the axle carrier.

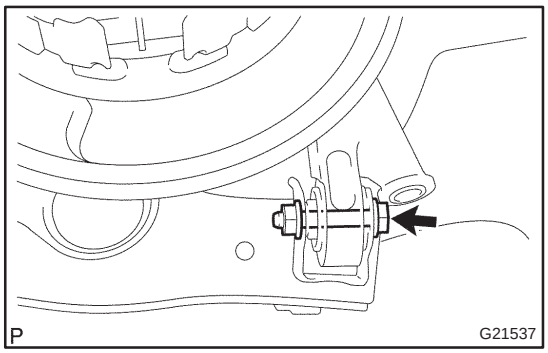
SST 09610–20012



12. SEPARATE REAR SUSPENSION ARM ASSY NO.1 LH

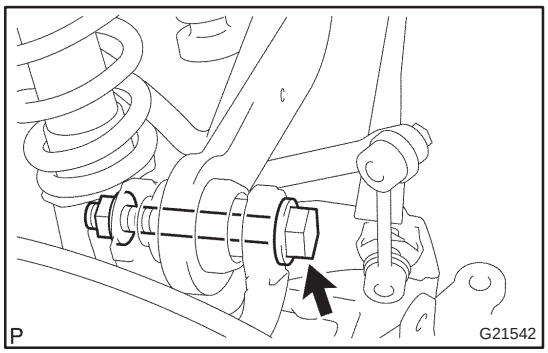
(a) Remove the clip and nut.

(b) Using SST, separate the rear suspension arm assy No.1 (ball joint side).
SST 09628–62011



(c) Remove the bolt and nut, separate the rear suspension arm assy No.1.

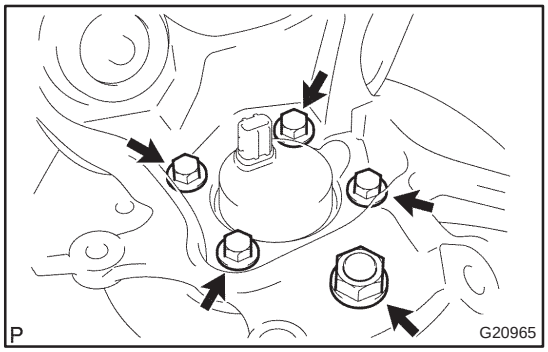
NOTICE:
When removing the bolt, hold the nut not to rotate.



13. SEPARATE UPPER CONTROL ARM ASSY

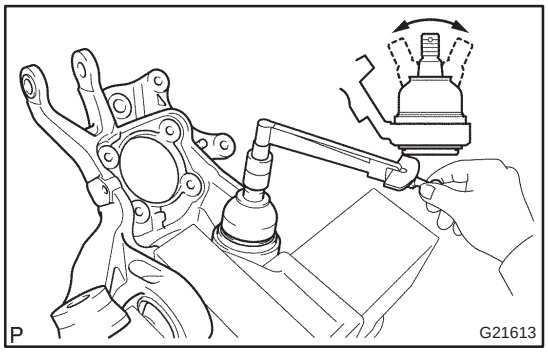
(a) Remove the bolt and nut, separate the upper control arm assy from the axle carrier.

NOTICE:
When removing the bolt, hold the nut not to rotate.



14. REMOVE REAR AXLE CARRIER SUB–ASSY LH

(a) Remove the 4 bolts and nut, hub & bearing assy and axle carrier sub–assy.



15. INSPECT REAR AXLE CARRIER SUB–ASSY LH

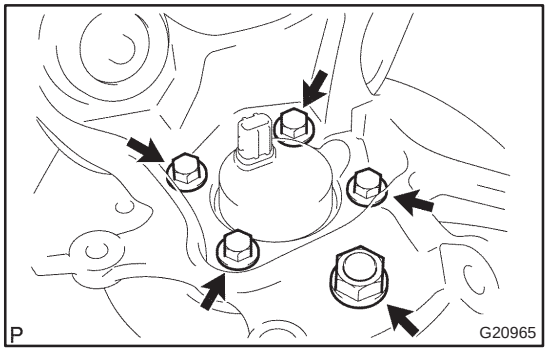
(a) As shown in the illustration, flip the ball joint stud back and forth 5 times, before installing the nut.

(b) Using a torque wrench, turn the nut continuously at a rate of 3 – 5 seconds per turn and take the torque reading on the 5th turn.

Turning torque (Maximum):
3.0 N·m (30 kgf·cm, 27 in.·lbf)

NOTICE:

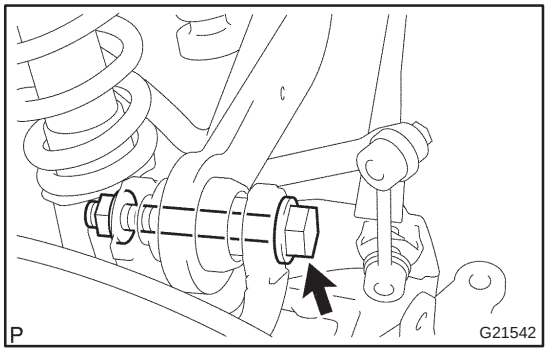
- **Neither abnormal drag nor rattle exists during the rotation.**
- **Neither crack nor grease leakage exists and deformation on the dust cover.**



16. INSTALL REAR AXLE CARRIER SUB–ASSY LH

(a) Install the hub & bearing assy and rear axle carrier sub–assy with the 4 bolts and nut.

Torque:
Bolt: 56 N·m (571 kgf·cm, 41 ft·lbf)
Nut: 140 N·m (1,428 kgf·cm, 103 ft·lbf)

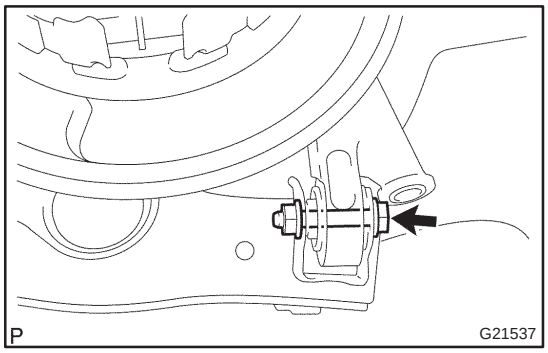


17. TEMPORARILY TIGHTEN UPPER CONTROL ARM ASSY

(a) Temporarily tighten the upper control arm assy with the bolt and nut.

Temporarily tighten torque:
7 – 13 N·m (71 – 133 kgf·cm, 5.1 – 9.6 ft·lbf)

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



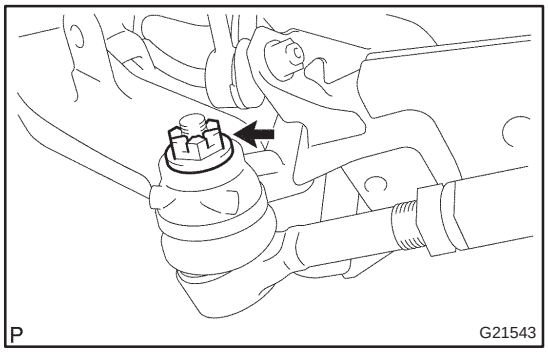
18. TEMPORARILY TIGHTEN REAR SUSPENSION ARM ASSY NO.1 LH

(a) Temporarily tighten the rear suspension arm assy (ball joint side) with the nut.

(b) Temporarily tighten the bolt and nut.

Temporarily tighten torque:
7 – 13 N·m (71 – 133 kgf·cm, 5.1 – 9.6 ft·lbf)

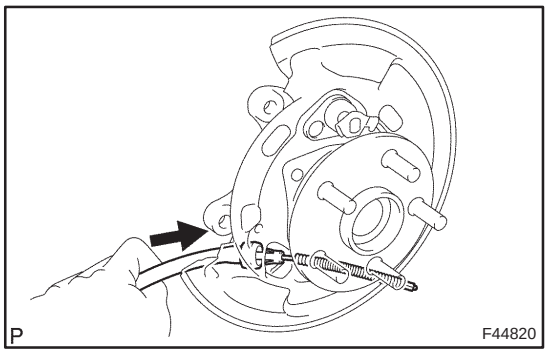
HINT:
Insert the bolt from the rear side of the vehicle and temporarily install the bolt.



19. TEMPORARILY TIGHTEN LOWER CONTROL ARM ASSY LH

(a) Temporarily tighten the lower control arm assy with the nut.

Temporarily tighten Torque:
7 – 13 N·m (71 – 133 kgf·cm, 5.1 – 9.6 ft·lbf)

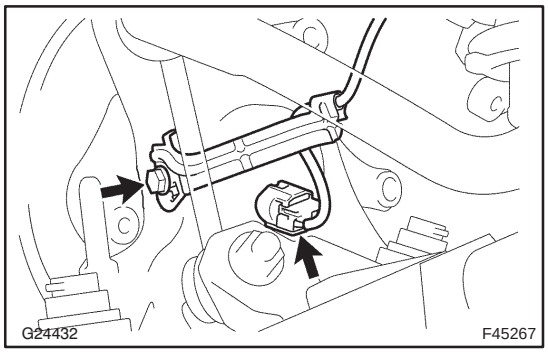


20. CONNECT PARKING BRAKE CABLE ASSY NO.3

(a) Connect the parking brake cable assy No.3 to the backing plate.

21. INSTALL PARKING BRAKE SHOE LEVER LH (See page 33–14)
22. INSTALL PARKING BRAKE SHOE KIT (See page 33–14)
SST 09718–00010
23. INSTALL PARKING BRAKE SHOE ADJUSTING SCREW SET (See page 33–14)
24. INSTALL PARKING BRAKE ADJUSTER KIT (See page 33–14)
25. CHECK PARKING BRAKE INSTALLATION (See page 33–14)
26. INSPECT BEARING BACKLASH (See page 30–2)
27. INSPECT AXLE HUB DEVIATION (See page 30–2)
28. INSTALL REAR DISC
29. ADJUST PARKING BRAKE SHOE CLEARANCE (See page 33–14)
30. INSTALL REAR DISC BRAKE CALIPER ASSY LH

(a) Install the rear disc brake caliper with the 2 bolts.
Torque: 47 N·m (475 kgf·cm, 34 ft·lbf)



31. CONNECT SKID CONTROL SENSOR WIRE

(a) Connect the skid control sensor wire with the bolt.
Torque: 5.0 N·m (51 kgf·cm, 44 in.·lbf)

(b) Connect the connector.

HINT:
Do not twist the sensor wire when installing the sensor.

32. INSTALL REAR WHEEL
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)
33. STABILIZE SUSPENSION (See page 27–8)

34. FULLY TIGHTEN UPPER CONTROL ARM ASSY

(a) Fully tighten the bolt.

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

NOTICE:

When installing the bolt, hold the nut not to rotate.

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

(a) Fully tighten the nut (ball joint side).

Torque: 105 N·m (1,071 kgf·cm, 77 ft·lbf)

(b) Install the clip.

NOTICE:

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

(c) Fully tighten the bolt and nut.

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

NOTICE:

When installing the bolt, hold the nut not to rotate.

36. FULLY TIGHTEN LOWER CONTROL ARM ASSY LH

(a) Fully tighten the nut.

Torque: 60 N·m (612 kgf·cm, 44 ft·lbf)

(b) Install the clip.

NOTICE:

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

(c) Fully tighten the bolt (member side).

Torque: 105 N·m (1,071 kgf·cm, 77 ft·lbf)

NOTICE:

When installing the bolt, hold the nut not to rotate.

37. INSPECT AND ADJUST PARKING BRAKE LEVER TRAVEL (See page 33–2)

38. INSPECT AND ADJUST REAR WHEEL ALIGNMENT (See page 27–4)

39. CHECK ABS SPEED SENSOR SIGNAL

(a) ABD WITH EBD SYSTEM (See page 05–699)

(b) ABD WITH EBD & BA & TRC & VSC SYSTEM (See page 05–756)

REAR AXLE LH HUB BOLT

300K0–01

REPLACEMENT

HINT:

- COMPONENTS: See page 30–30
- Replace the RH side by the same procedures as the LH side.

1. REMOVE REAR WHEEL

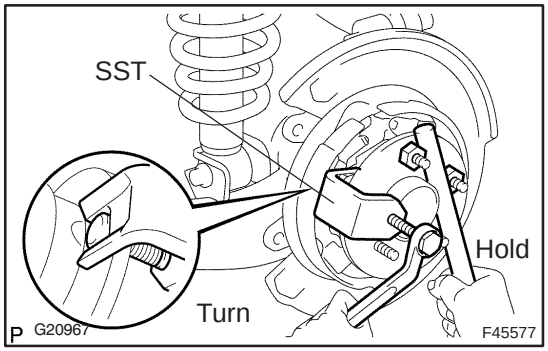
2. SEPARATE REAR DISC BRAKE CALIPER ASSY LH

(a) Removing the 2 bolts and rear disc brake caliper assy.

NOTICE:

Use a string or other device to keep the brake caliper from hanging down.

3. REMOVE REAR DISC



4. REMOVE REAR AXLE LH HUB BOLT

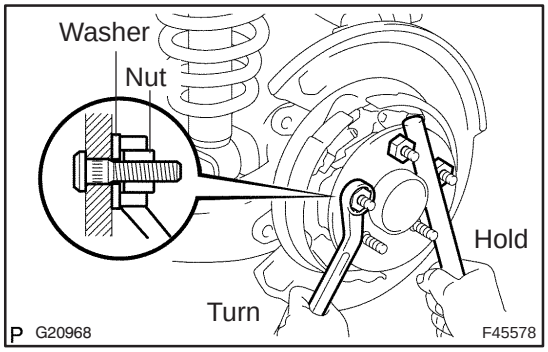
(a) Turn the axle hub to move the LH hub bolt and SST, that are to be removed, to the place shown in the illustration.

NOTICE:

Do not replace the hub bolt in any places other than that in the illustration.

(b) Using SST and a hammer handle or an equivalent to hold the axle hub, remove the LH hub bolt.

SST 09628–10011



5. INSTALL REAR AXLE LH HUB BOLT

(a) Install a washer and nut to a new LH hub bolt as shown in the illustration.

(b) Using a hammer handle or an equivalent to hold the axle hub, install the LH hub bolt by torquing the nut.

6. INSTALL REAR DISC

7. INSTALL REAR DISC BRAKE CALIPER ASSY LH

(a) Install the rear disc brake caliper assy with the 2 bolts.

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

8. INSTALL REAR WHEEL

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