SUSPENSION AND AXLE

TROUBLESHOOTING

Problem	Possible cause	Remedy	Page	
			Front	Rear
Wanders/pulls	Tires worn or improperly inflated	Replace tire or inflate tires to proper pressure	SA-3	SA-3
	Wheel alignment incorrect	Check wheel alignment	SA–4	SA–6
	Hub bearing worn	Replace hub bearing	SA–8	SA–59, 67
	Front or rear suspension parts loose or broken	Tighten or replace suspension parts	SA–46	SA–112,122
	Steering gear out of adjustment or broken	Adjust or repair steering gear	SR–66	–
Bottoming	Vehicle overloaded	Check loading		
	Shock absorber worn out	Replace shock absorber	SA–46	SA–112, 122
	Spring weak	Replace spring	SA–46	SA–112, 122
Sways/pitches	Tires improperly inflated	Inflate tires to proper pressure	SA–3	SA–3
	Stabilizer bar bent or broken	Inspect stabilizer bar	SA–57	SA–112, 122
	Shock absorber worn out	Replace shock absorber	SA–46	SA–112, 122
Front wheel shimmy	Tires worn or improperly inflated	Replace tire or inflate tires to proper pressure	SA-3	–
	Wheels out of balance	Balance wheels		
	Shock absorber worn out	Replace shock absorber	SA–46	–
	Wheel alignment incorrect	Check front wheel alignment	SA–4	–
	Hub bearings worn	Replace hub bearings	SA–8	–
	Ball joints or bushings worn	Inspect ball joints and bushings	SA–51	–
	Steering gear out of adjustment or broken	Adjust or repair steering gear	SR–66	–
Abnormal tire wear	Tires improperly inflated	Inflate tires to proper pressure	SA–3	SA–3
	Shock absorber worn out	Replace shock absorber	SA–46	SA–112, 122
	Wheel alignment incorrect	Check wheel alignment	SA–4	SA–6
	Suspension parts worn	Replace suspension parts	SA–46	SA–112, 122

WHEEL ALIGNMENT

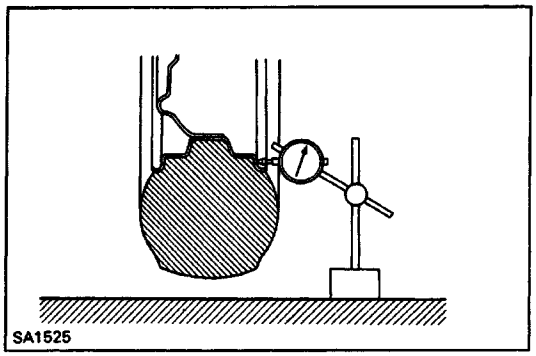
1. MAKE FOLLOWING CHECKS AND CORRECT ANY PROBLEMS

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

Cold tire inflation pressure:

kPa (kgf/cm2, psi)

Tire size	Front	Rear
185/65 R14 85S	200 (2.0, 29)	190 (1.9, 28)
205/60 R14 87H	200 (2.0, 29)	190 (1.9, 28)
205/55 R15 87V	230 (2.3, 33)	220 (2.2, 32)
215/50 R15 88V (2WD)	210 (2.1, 30)	190 (1.9, 28)
215/50 R15 88V (4WD)	220 (2.2, 32)	210 (2.1, 30)


SA1525

(b) Check the wheel runout.

Lateral runout: Less than 1.0 mm (0.039 in.)

(c) Check the front wheel bearings for looseness.

(d) Check the front suspension for looseness.

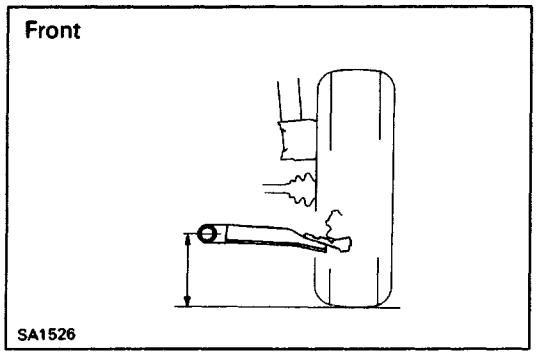
(e) Check the steering linkage for looseness.

(f) Check the ball joint for excessive looseness.

(g) Check that the front shock absorber work properly by using the standard bounce test.

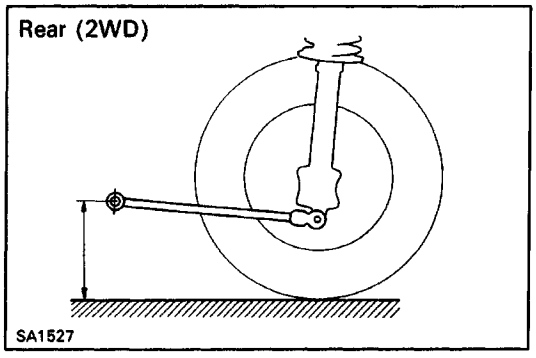
2. MEASURE VEHICLE HEIGHT

Vehicle height:



SA1526

	2WD	4WD
Front	185.0 mm (7.283 in.)	187.5 mm (7.390 in.)
Rear	251.5 mm (9.902 in.)	237.0 mm (9.323 in.)



SA1527

HINT:

- Measuring point

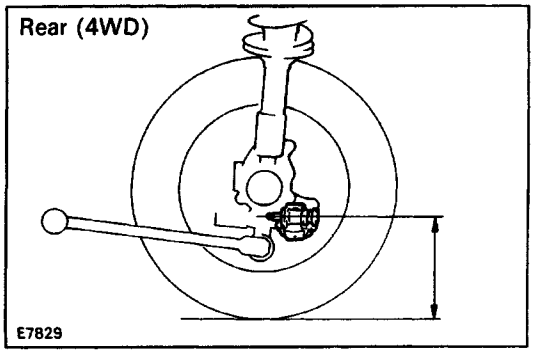
  Front– Measure from the ground to the center of the lower suspension arm mounting bolt.

  Rear – (2WD)

  Measure from the ground to the center of the body side strut rod mounting bolt.

  (4WD)

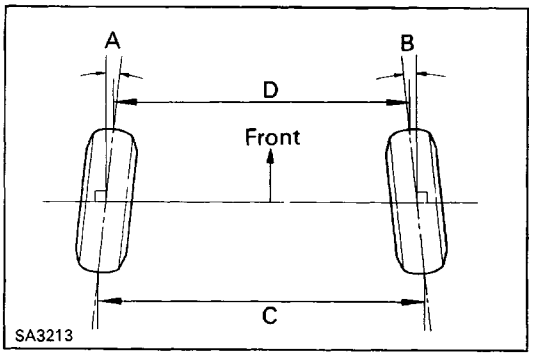
  Measure from the ground to the center of the body side No.2 suspension arm mounting bolt.



E7829

- Before inspecting the wheel alignment, adjust the chassis ground clearance to specification.

  If the clearance of the vehicle is not standard, try to adjust it by pushing down in the body or by lifting the body. If still not correct, check for bad springs or suspension parts.



Front Wheel Alignment

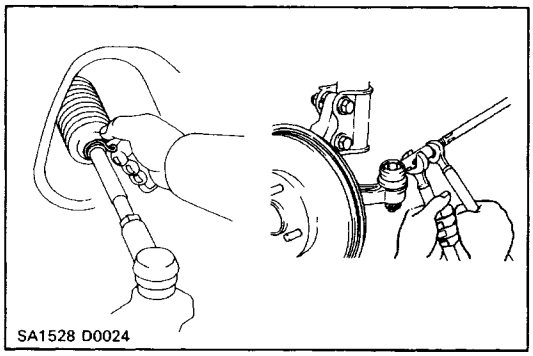
1. INSPECT TOE–IN

Toe–in (total):

A + B 0°± 0.2°

(C – D 5± 2 mm, 0.20 ± 0.08 in.)

If toe–in is not within specification, adjust by the tie rod end.



2. ADJUST TOE–IN

(a) Remove the boot clips.

(b) Loosen the tie rod end lock nut.

(c) Turn the left and right tie rod ends an equal amount to adjust the toe–in.

Toe–in (total):

A + B 0°± 0.2°

(C – D 0± 2 mm, 0 ± 0.08 in.)

HINT: Insure that the lengths of the left and right tie rod ends length are the same.

Tie rod end length left–right error:

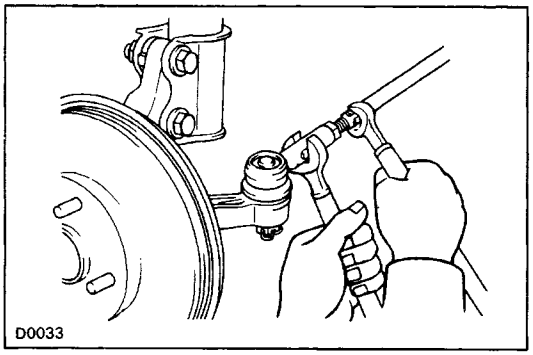
1.0 mm (0.039 in.) or less

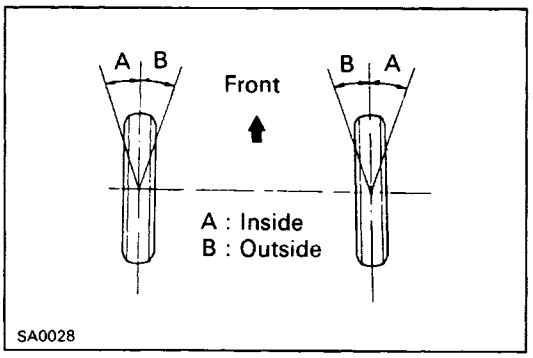
(d) Torque the tie rod end lock nuts.

Torque: 56 N–m (570 kgf–cm, 47 ft–lbf)

(e) Place the boot on the seat and clamp it.

HINT: Insure that the boots are not twisted.



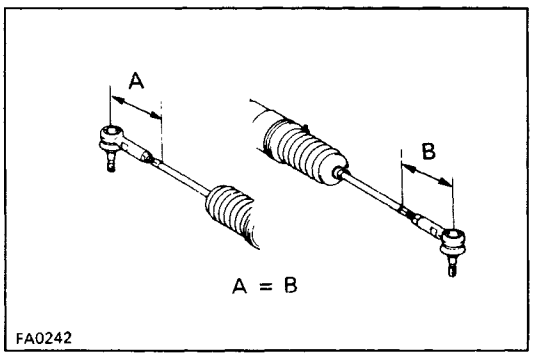


3. CHECK WHEEL ANGLE

Wheel Angle (Maximum):

Inside wheel 33°30'

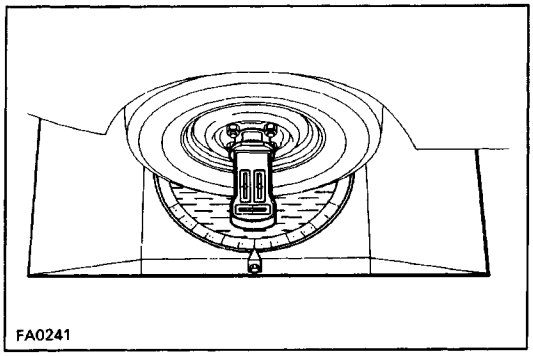
Outside wheel 29°30'



If wheel angles differ from the standard specifications, check to see if the lengths of the left and right tie rods are the same.

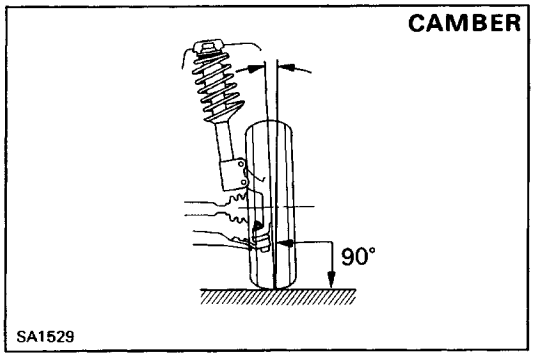
HINT: If the tie rod lengths are not equal, the wheel angle cannot be adjusted properly.

If the tie rod lengths were changed to adjust the wheel angle, inspect the toe–in.



4. INSTALL WHEEL ALIGNMENT EQUIPMENT

Follow the specific instructions of the equipment manufacturer.

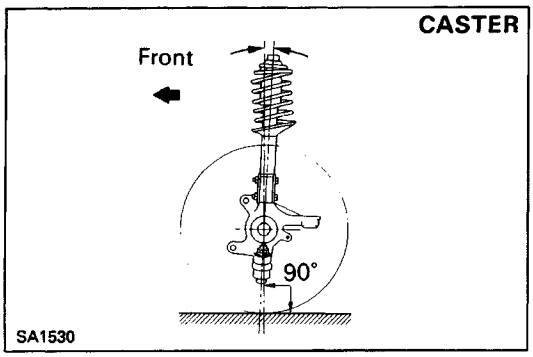


5. CHECK CAMBER

Camber:

Camber	**–10’ ± 45’**
Cross camber	**30’ or less**

HINT: Camber is not adjustable, if measurement is not within specification, inspect and replace the suspension parts as necessary.

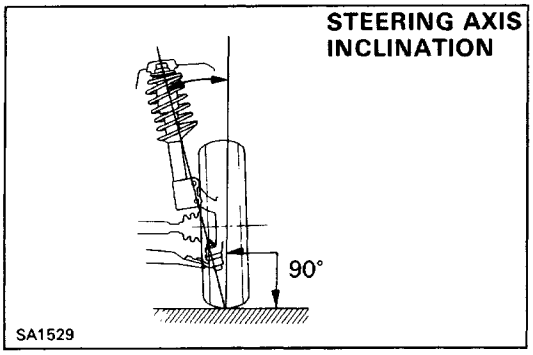


6. CHECK CASTER

Caster:

Caster	**0° 55’± 45’ (2WD)**
	0° 50’± 45’ (4WD)
Cross caster	**30’ or less**

HINT: Caster is not adjustable, if measurement is not within specification, inspect and replace the suspension parts as necessary.

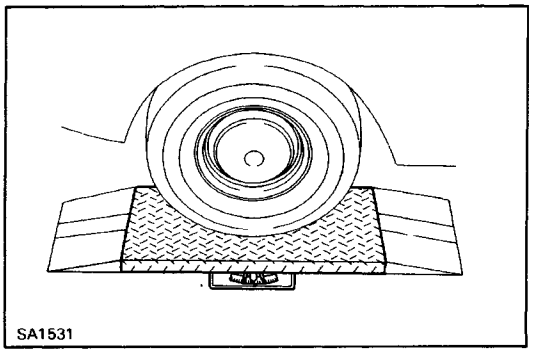


7. CHECK STEERING AXIS INCLINATION

Steering axis inclination:

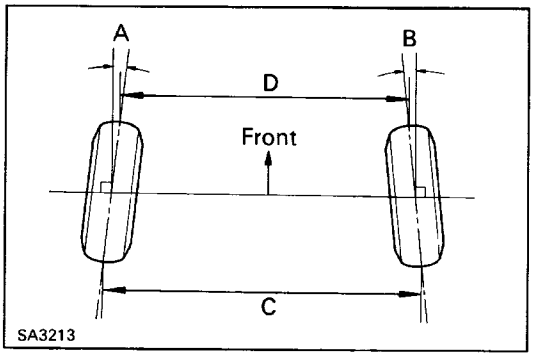
Steering axis inclination 14’10’± 45’

HINT: Steering axis inclination is not adjustable, if measurement is not within specification, inspect and replace the suspension parts as necessary.



8. CHECK SIDE SLIP (REFERENCE ONLY)

Side slip: 3.0 mm/m (0.118 in./3.3 ft) or less



Rear Wheel Alignment

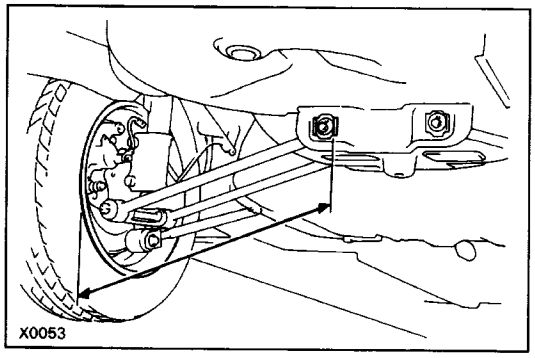
1. INSPECT TOE–IN

Toe–in (total):

A + B 0.5° ± 0.2°

(C – D 5 ± 2 mm, 0.20 ± 0.08 in.)

If toe–in is not within specification, adjust by the cam.



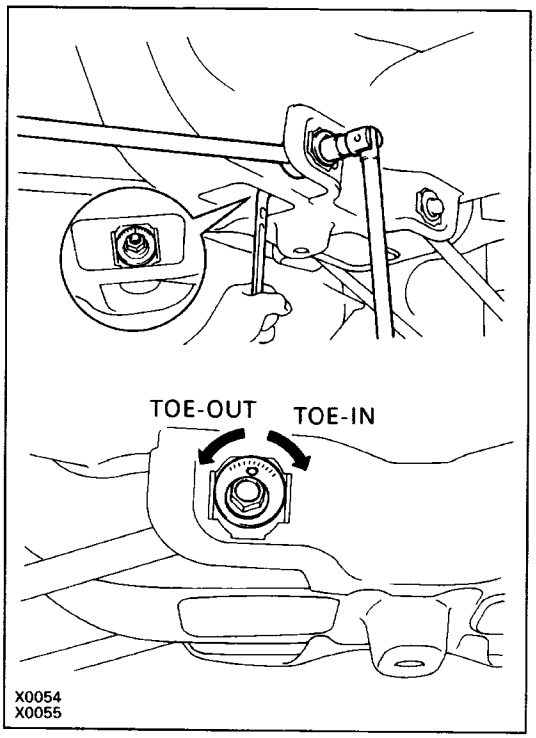
2. ADJUST TOE–IN

(2WD)

(a) Measure the distance between each wheel disc and corner of the cam bracket, then confirm that both are the same.

Left–right error: Less than 3 mm (0.12 in.)

If the left–right error is greater than 3 mm (0.12 in.), adjust following the procedures below.



(b) Remove the cover and loosen the bolt.

(c) If the toe–in is out of the standard toward toe–out side, lengthen the shorter arm by the cam.

(d) If the toe–in is out of the standard toward toe–in side, lengthen the longer arm by the cam.

(e) Measure the toe–in.

Toe–in (total):

A + B 0.5° + 0.2°

(C – D 5 + 2 mm, 0.20 ± 0.08 in.)

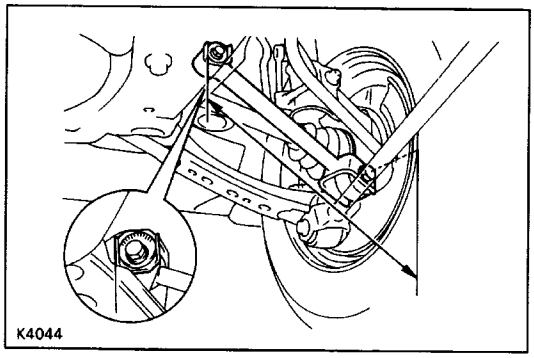
If the left–right error is within specifications but the overall toe–in is not, lengthen or shorten both arms an equal amount by turning the two cams in the opposite direction until the adjustment standard is obtained.

HINT: The toe–in will change about 1.5 mm (0.059 in.) with each graduation of the cam (one side).

(f) Tighten the bolt.

Torque: 113 N–m (1,750 kgf–cm, 83 ft–lbf)

(g) Install the cover.

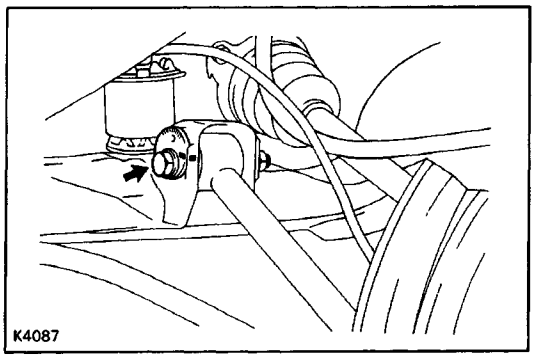


(4WD) .

(a) Measure the distance between each wheel disc and corner of the cam bracket, then confirm that both are the same.

Left–right error: Less than 3 mm (0.12 in.)

If the left–right error is greater than 3 mm (0.12 in.), adjust following the procedures below.



(b) Loosen the bolt.
(c) If the toe–in is out of the standard toward toe–out side, lengthen the longer arm by the cam.
(d) If the toe–in is out of the standard toward toe–in side, lengthen the shorter arm by the cam.
(e) Measure the toe–in.

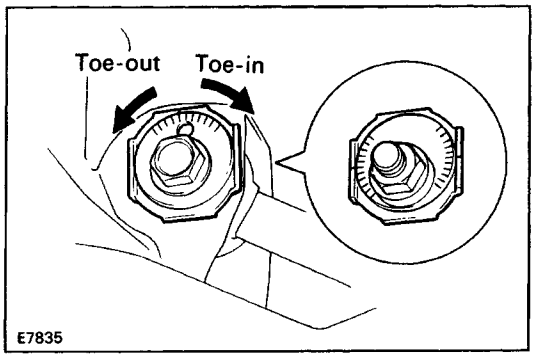
Toe–in: 5 ± 2 mm (0.20 ± 0.08 in.)

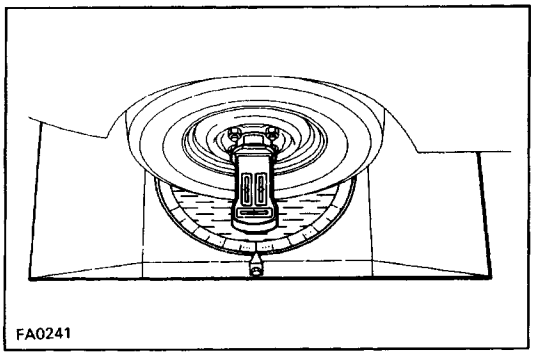
If the left–right error is within specifications but the overall toe–in is not, lengthen or shorten both arms an equal amount by turning the two cams in the opposite direction, until the adjustment standard is obtained.

HINT: The toe– in will change about 4.5 mm (0.177 in.) with each graduation of the cam (one side).

(f) Tighten the bolt.

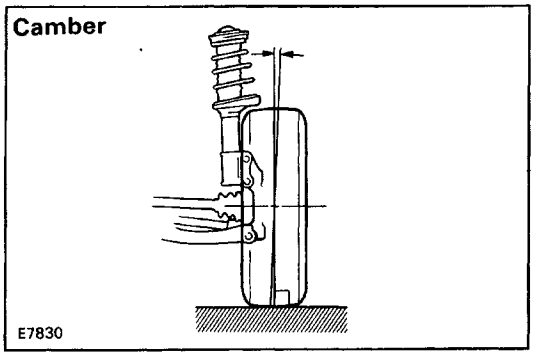
Torque: 113 N–m (1,750 kgf–cm, 83 ft–lbf)





3. INSTALL WHEEL ALIGNMENT EQUIPMENT

Follow the specific instructions of the equipment manufacturer.



4. CHECK CAMBER

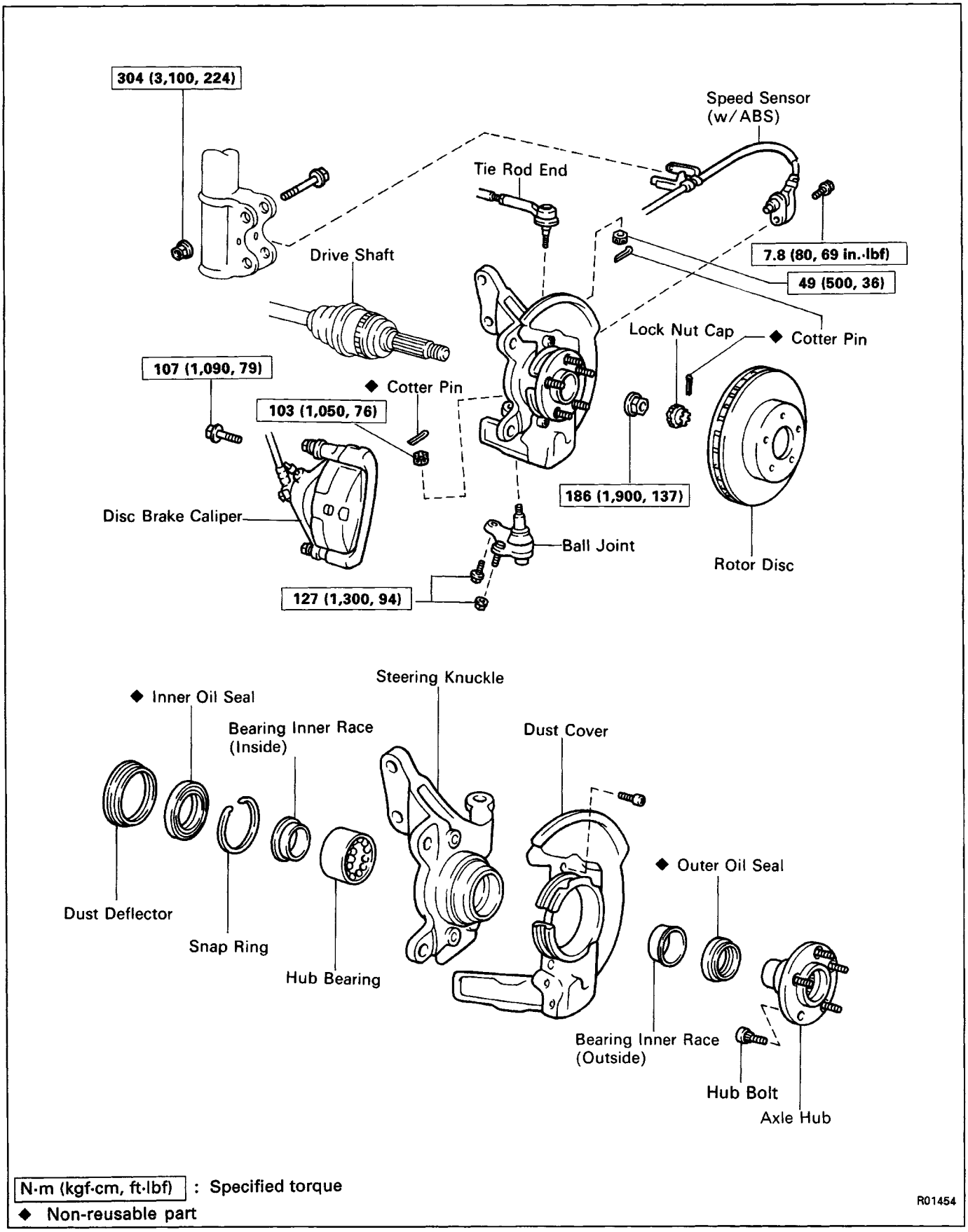
Camber:

Camber	**–1° 15’± 45’**
Cross camber	**30’ or less**

HINT: Camber is not adjustable, if measurement is not within specification, inspect and replace the suspension parts as necessary.

FRONT AXLE HUB

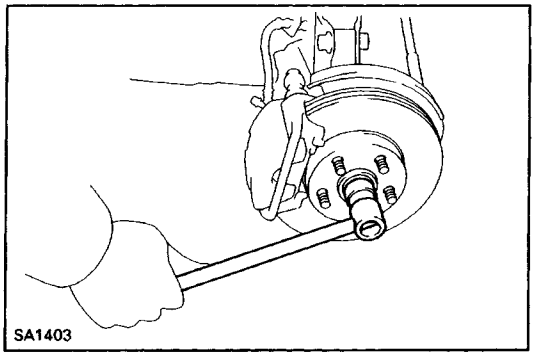
COMPONENTS



N·m (kgf·cm, ft·lbf) : Specified torque
◆ Non-reusable part

R01454

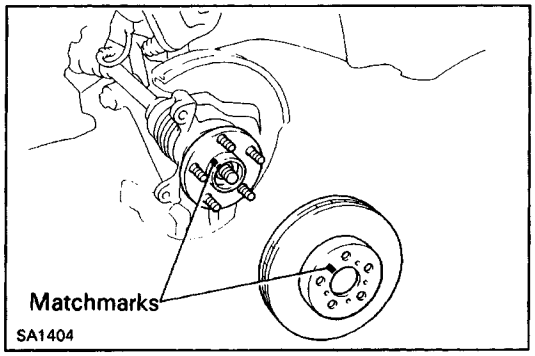
REMOVAL OF FRONT AXLE HUB



1. REMOVE COTTER PIN, LOCK NUT CAP AND BEARING LOCK NUT

(a) Remove the cotter pin and lock nut cap.

(b) Loosen the bearing lock nut while depressing the brake pedal, and remove it.

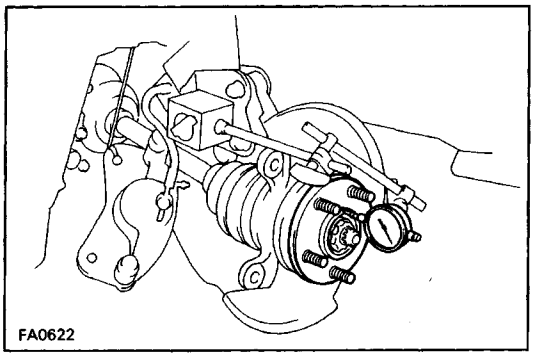


2. REMOVE BRAKE CALIPER AND ROTOR DISC

(a) Remove the brake caliper from the steering knuckle and suspend it with wire.

(b) Remove the rotor disc.

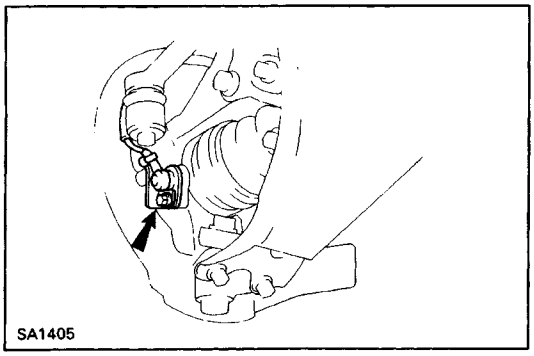
HINT: Before removing the rotor disc, place the matchmarks on the axle hub and rotor disc.



3. CHECK BEARING PLAY IN AXIAL DIRECTION

Bearing play: 0.05 mm (0.0020 in.) or less

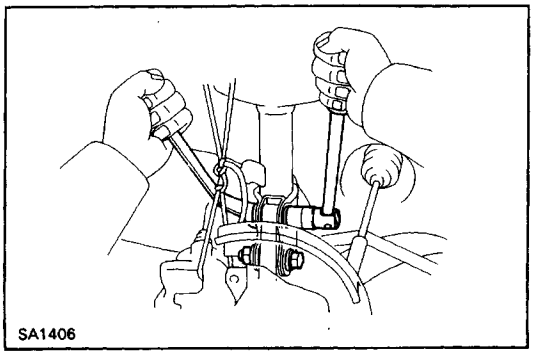
If the bearing play is greater than the maximum, replace the bearing.



4. (w/ ABS)

REMOVE SPEED SENSOR

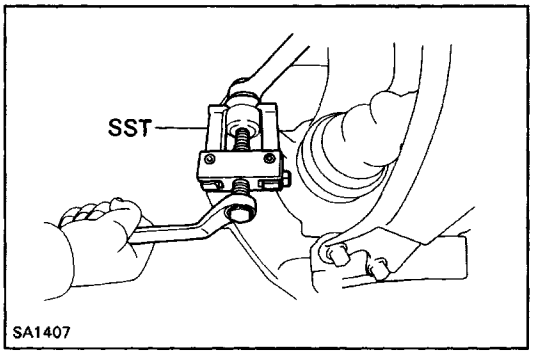
Pull out the wire harness clamp from the steering knuckle with the screwdriver, then remove the bolt and pull out the speed sensor.



5. LOOSEN BOLTS AND NUTS OF SHOCK ABSORBER LOWER BRACKET

Loosen the bolts and nuts, and remove the nuts.

HINT: Leave the bolts not to drop the steering knuckle assembly.

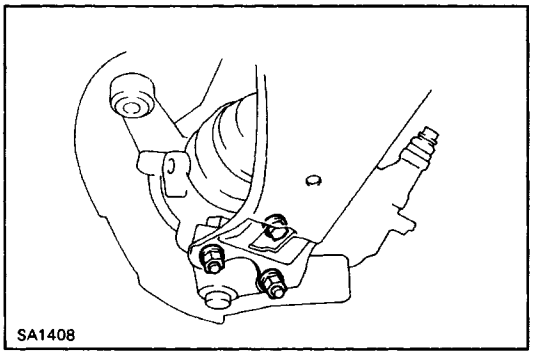


6. DISCONNECT TIE ROD END

(a) Remove the cotter pin and nut from the tie rod end.

(b) Using SST, disconnect the tie rod end from the steering knuckle.

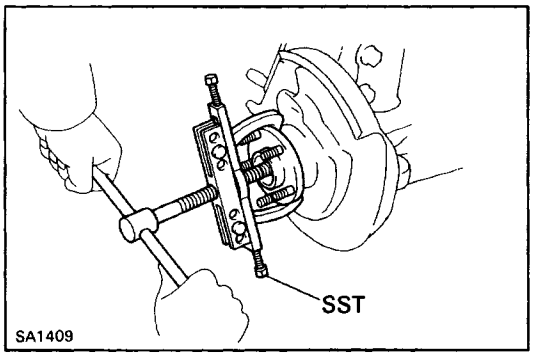
SST 09628–62011



7. DISCONNECT STEERING KNUCKLE FROM LOWER SUSPENSION ARM

(a) Remove the bolt and two nuts from the lower arm.

(b) Disconnect lower arm from the steering knuckle.



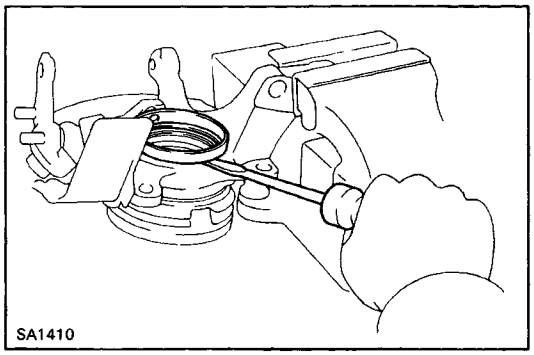
8. REMOVE STEERING KNUCKLE WITH AXLE HUB

(a) Using SST, disconnect the steering knuckle from the drive shaft.

SST 09950–20017

NOTICE: Cover the drive shaft boot with cloth to protect it from damage.

(b) Remove the two upper axle hub bolts and remove the steering knuckle assembly.



DISASSEMBLY OF FRONT AXLE HUB

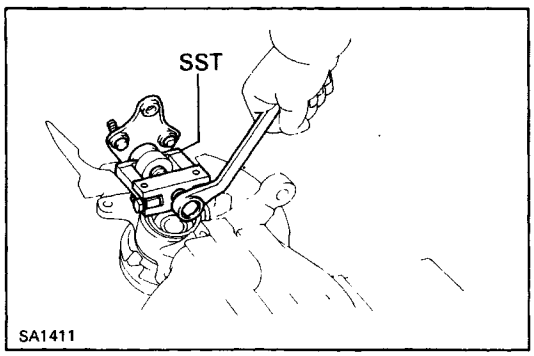
(See page SA–8)

1. REMOVE DUST DEFLECTOR

(a) Clamp the steering knuckle in a vise.

HINT: Use a set of soft jaws in the vise to protect the steering knuckle.

(b) Using a screwdriver, remove the dust deflector.



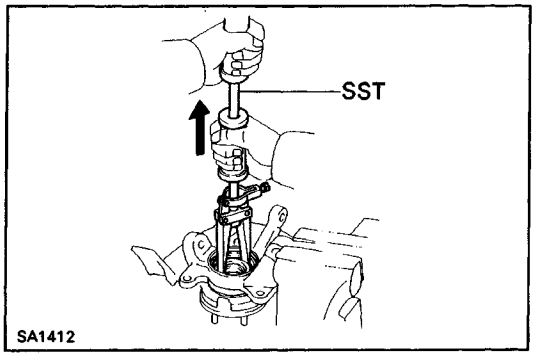
2. REMOVE BALL JOINT FROM STEERING KNUCKLE

(a) Remove the cotter pin.

(b) Remove the nut holding the ball joint to the steering knuckle.

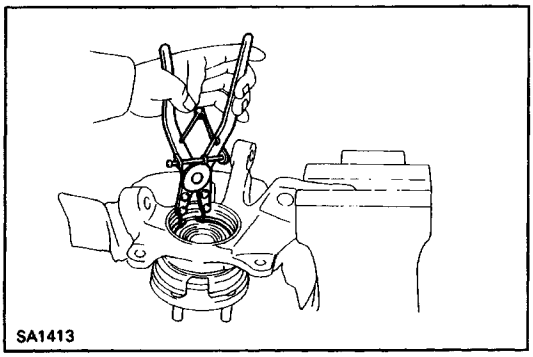
(c) Using SST, remove the ball joint from the steering knuckle.

SST 09628–62011



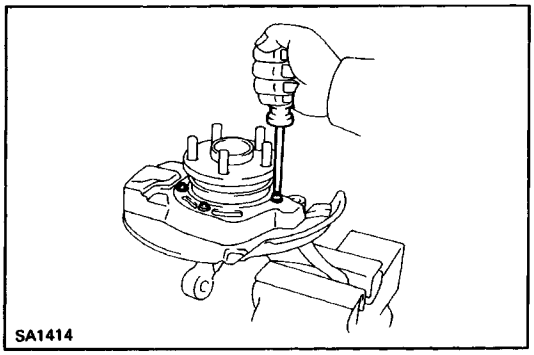
3. REMOVE INNER OIL SEAL

Using SST, remove the oil seal from the steering knuckle.
SST 09308–00010



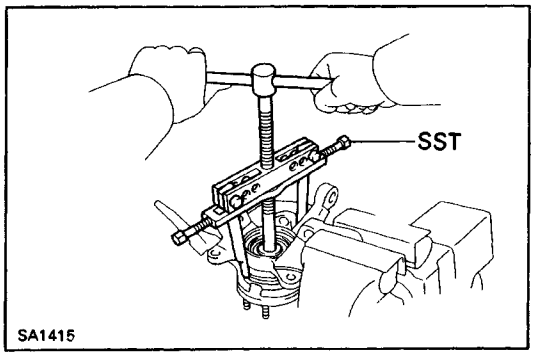
4. REMOVE HOLE SNAP RING

Using snap ring pliers, remove the hole snap ring.



5. REMOVE DUST COVER INSTALLATION BOLTS

Using a torx driver, remove the four bolts holding the dust cover to the steering knuckle.



6. REMOVE AXLE HUB FROM STEERING KNUCKLE

(a) Using SST, remove the axle hub from the steering knuckle.
SST 09950–20017

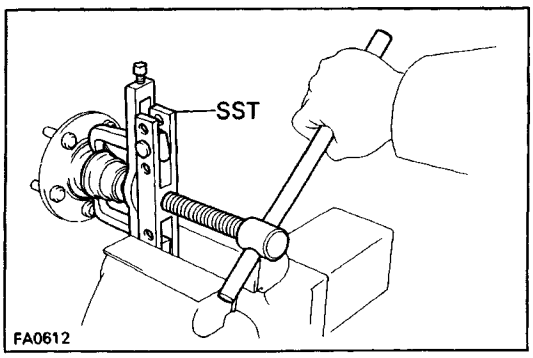
HINT: If the axle hub has been removed, be sure to replace the outer oil seal.

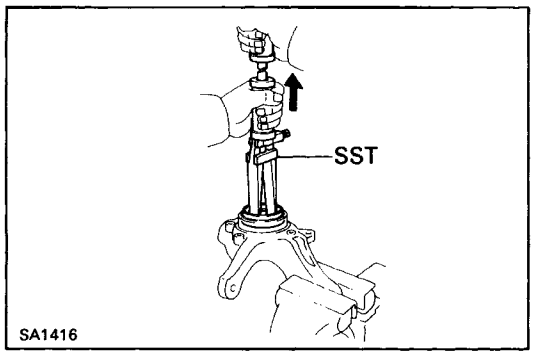
(b) Remove the dust cover.

7. REMOVE BEARING INNER RACE (INSIDE)

8. REMOVE BEARING INNER RACE (OUTSIDE)

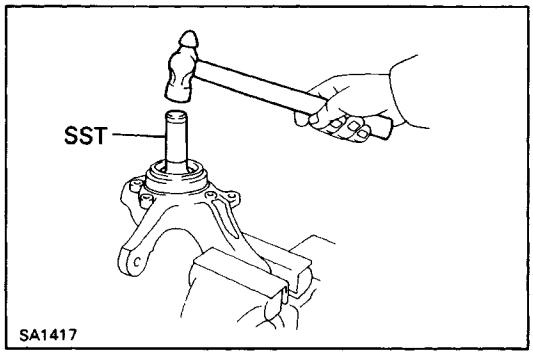
Using SST, remove the inner race (outside) from the axle hub.
SST 09950–20017





9. REMOVE OUTER OIL SEAL

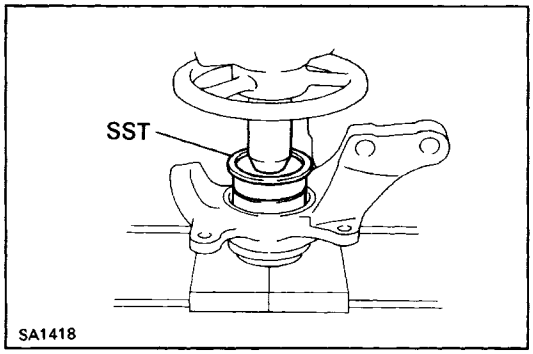
Using SST, remove the oil seal from the steering knuckle.
SST 09308–00010



10. REMOVE HUB BEARING

(a) First, place the removed inner race (outside) onto the bearing.
(b) Using SST and a hammer, tap out the bearing with the race.
SST 09605–60010

NOTICE: Always replace the bearing as an assembly.

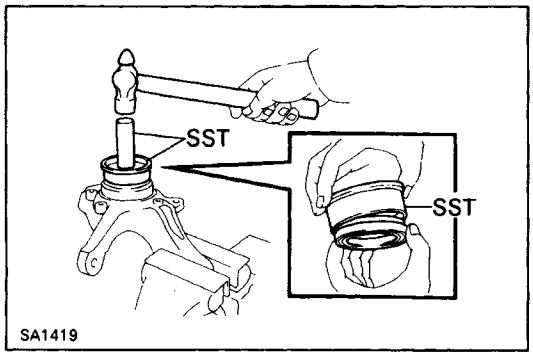


ASSEMBLY OF FRONT AXLE HUB

(See page SA–8)

1. INSTALL HUB BEARING

Using SST and press, press a new bearing into the steering knuckle.
SST 09608–32010

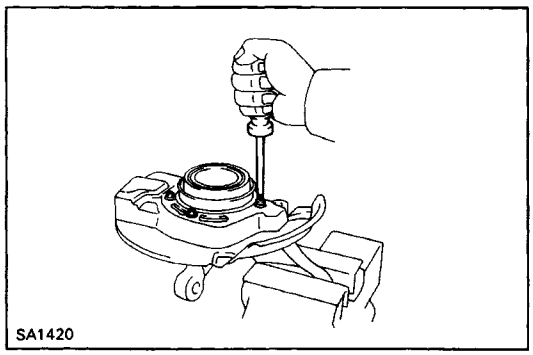


2. INSTALL OUTER OIL SEAL

(a) Place a new bearing inner race (outside) on the hub bearing.
(b) Using SST and a hammer, drive the oil seal into the steering knuckle.
SST 09608–32010, 09710–14012 (09710–00050)

HINT: Insert the side lip of a new oil seal into the SST.

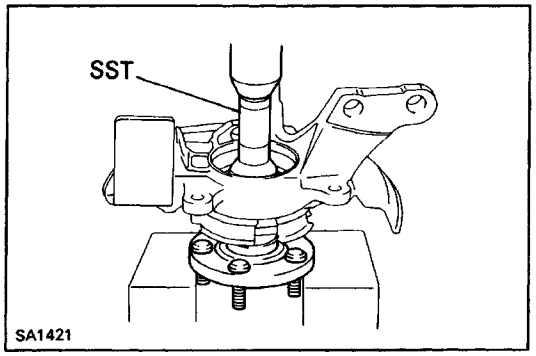
(c) Apply MP grease to the oil seal lip.



3. INSTALL DISC BRAKE DUST COVER

HINT: Apply liquid sealant to the dust cover and steering knuckle connection before assemble.

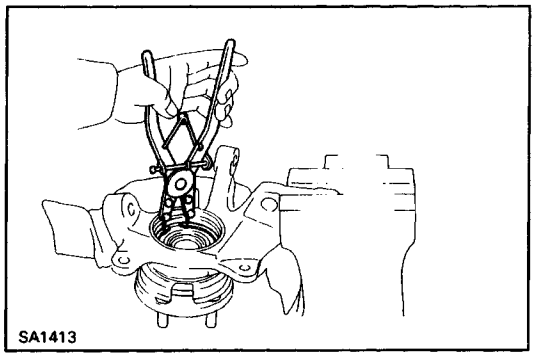
(a) Install the dust cover in place.
(b) Using a torx driver, install and torque the four bolts.



4. INSTALL AXLE HUB

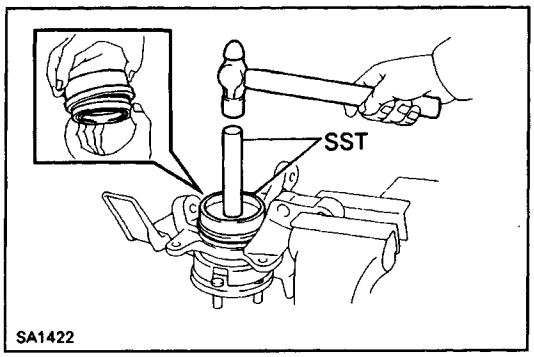
(a) Place a new bearing inner race (inside) on the hub bearing.

(b) Using SST, press the hub into the steering knuckle.
SST 09310–35010



5. INSTALL HOLE SNAP RING

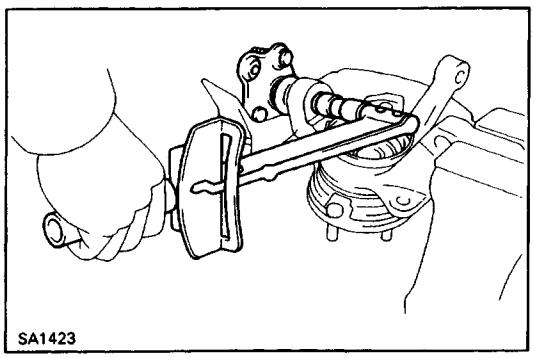
Using snap ring pliers, install the hole snap ring into the steering knuckle.



6. INSTALL INNER OIL SEAL

(a) Using SST, drive in a new oil seal to the steering knuckle surface as shown.
SST 09608–32010, 09710–14012 (09710–00050)

(b) Apply MP grease to the contact surfaces of the oil seal lip and drive shaft.



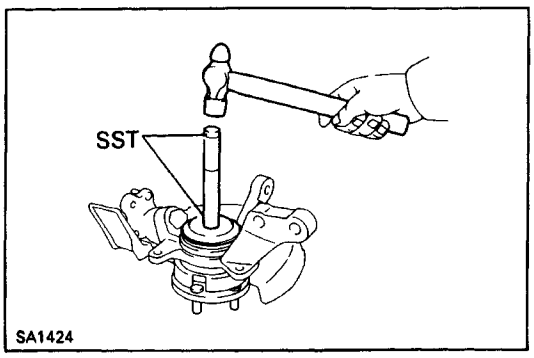
7. INSTALL BALL JOINT TO STEERING KNUCKLE

(a) Temporarily tighten the conventional nut.
Torque: 20 N–m (200 kgf–cm, 14 ft–lbf)

(b) Remove the nut.

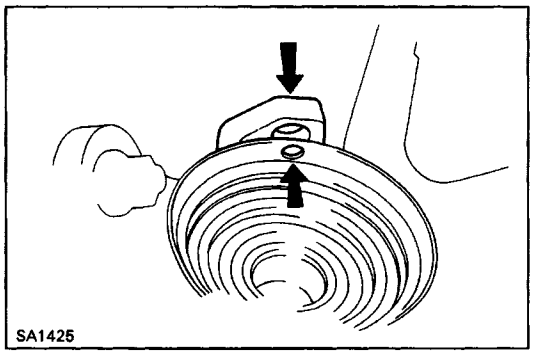
(c) Install and torque the new nut.
Torque: 703 N–m (1,050 kgf–cm, 76 ft–lbf)

(d) Install a new cotter pin.

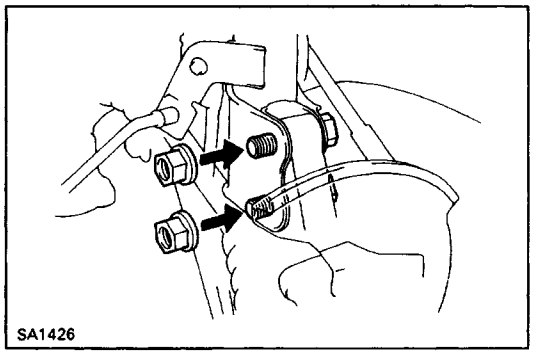


8. INSTALL DUST DEFLECTOR

Place the dust deflector on the steering knuckle as the cutting portion pointed the ball joint installation hole and, using SST, drive the deflector into the steering knuckle.
SST 09608–35014 (09608–06020, 09608–06180)



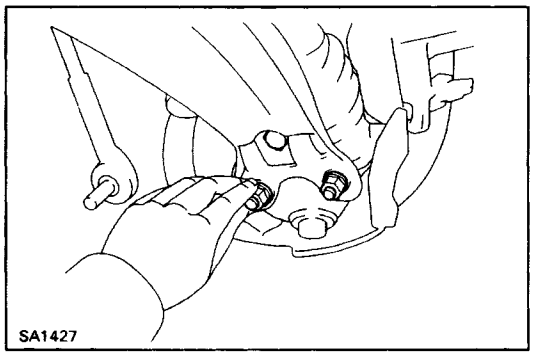
HINT: (w/ ABS)
Before driving into the dust deflector, align the centers of the dust deflector hole and speed sensor installation hole of the steering knuckle as shown.



INSTALLATION OF FRONT AXLE HUB
(See page SA–8)

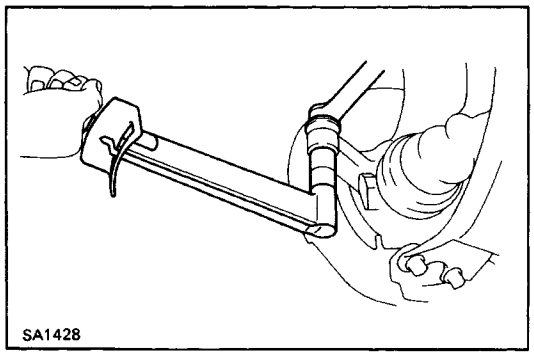
1. TEMPORARILY INSTALL STEERING KNUCKLE WITH AXLE HUB TO SHOCK ABSORBER

(a) Connect the steering knuckle to the shock absorber lower bracket.
(b) Install the two bolts from the rear side.
(c) Temporarily install and torque the two nuts.



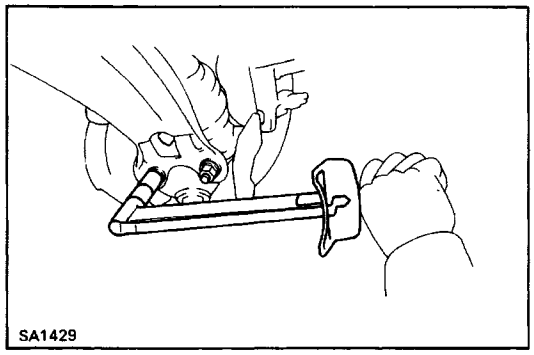
2. INSTALL STEERING KNUCKLE TO LOWER SUSPENSION ARM

Temporarily install the steering knuckle to the lower suspension arm with the bolt and two nuts.



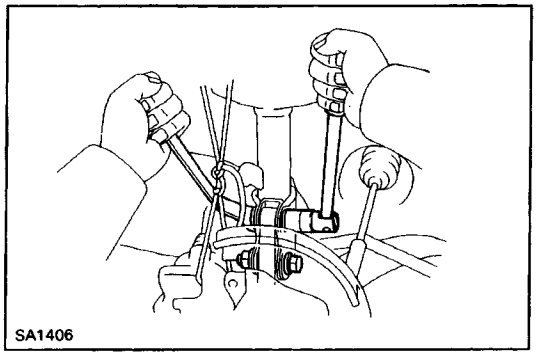
3. CONNECT TIE ROD END TO STEERING KNUCKLE

Torque the castle nut and secure it with a new cotter pin.
Torque: 49 N–m (500 kgf–cm, 36 ft–lbf)



4. TORQUE BALL JOINT TO LOWER ARM

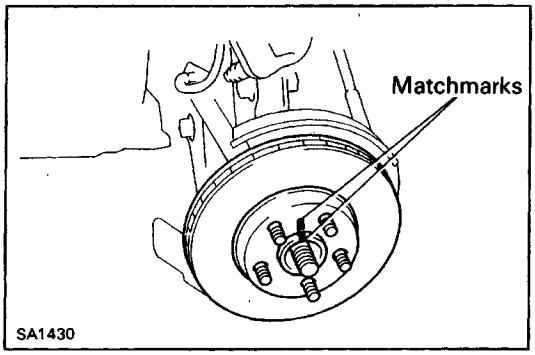
Torque the bolt and two nuts.
Torque: 127 N–m (1,300 kgf–cm, 94 ft–lbf)



5. TORQUE BOLTS AND NUTS

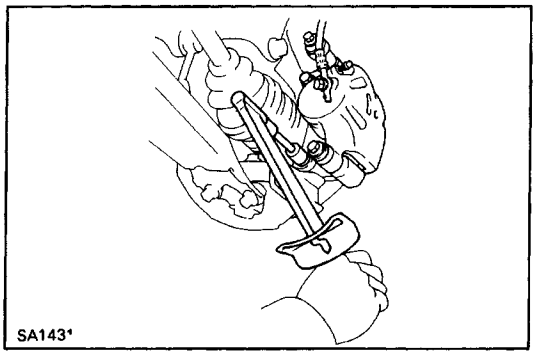
Torque the two bolts and nuts of the shock absorber lower bracket.

Torque: 304 N–m (3,100 kgf–cm, 224 ft–lbf)



6. INSTALL ROTOR DISC TO AXLE HUB

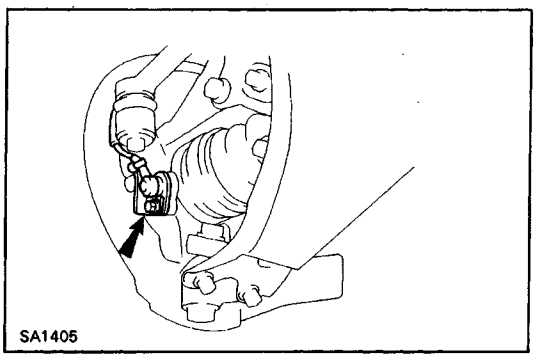
Align the matchmarks and install the rotor disc to the axle hub.



7. INSTALL BRAKE CALIPER TO STEERING KNUCKLE

Torque the two bolts.

Torque: 107 N–m (1,090 kgf–cm, 79 ft–lbf)

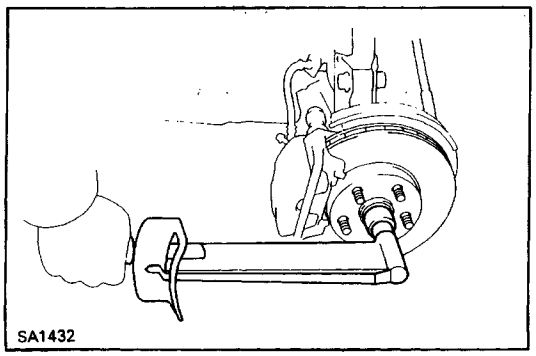


8. (w/ ABS)

INSTALL SPEED SENSOR

Install the speed sensor in place, then install and torque the bolt.

Torque: 7.8 N–m (80 kgf–cm, 69 In.–lb)



9. INSTALL BEARING LOCK NUT, LOCK NUT CAP AND COTTER PIN

(a) Torque the bearing lock nut while depressing the brake pedal.

Torque: 226 N–m (2,300 kgf–cm, 166 ft–lbf)

(b) Install the lock nut cap and, using pliers, install a new cotter pin.

10. CHECK FRONT WHEEL ALIGNMENT

(See page SA–4)

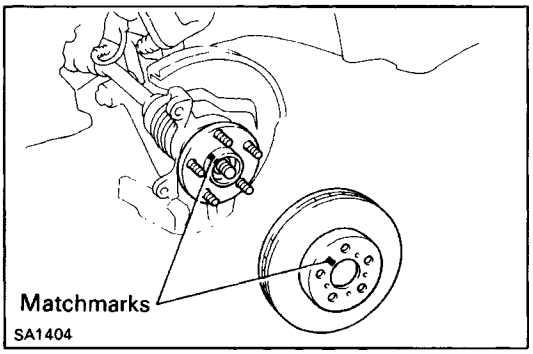
REPLACEMENT OF FRONT AXLE HUB BOLT

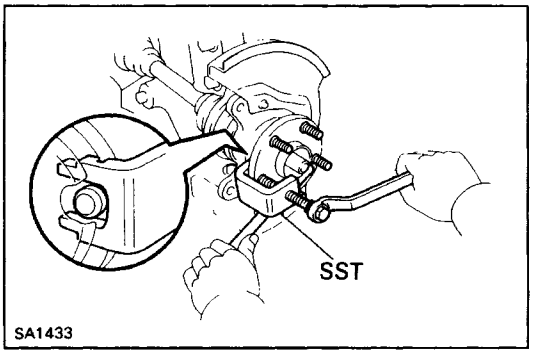
1. REMOVE BRAKE CALIPER

Remove the disc brake caliper from the steering knuckle and suspend it with wire.

2. REMOVE ROTOR DISC

HINT: Before removing the rotor disc, place the matchmarks on the axle hub and rotor disc.



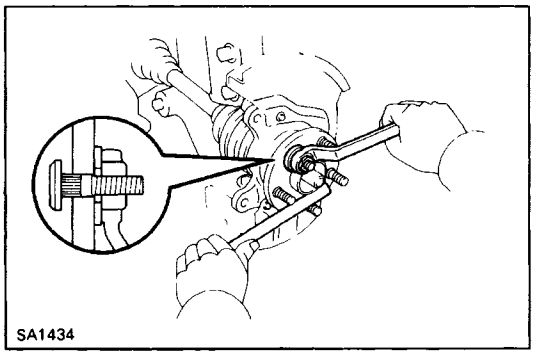


3. REMOVE FRONT AXLE HUB BOLT

(a) Align the disc brake dust cover cutting portion and axle hub bolt.

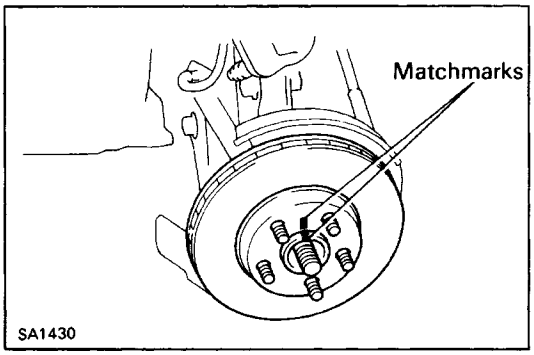
(b) Using SST, remove the axle hub bolt.

SST 09650–17011



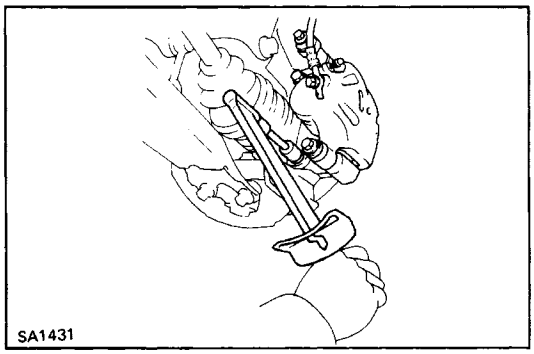
4. INSTALL NEW AXLE HUB BOLT

Hold the axle hub, and install a new axle hub bolt.



5. INSTALL ROTOR DISC

Align the matchmarks, and install the rotor disc to the axle hub.

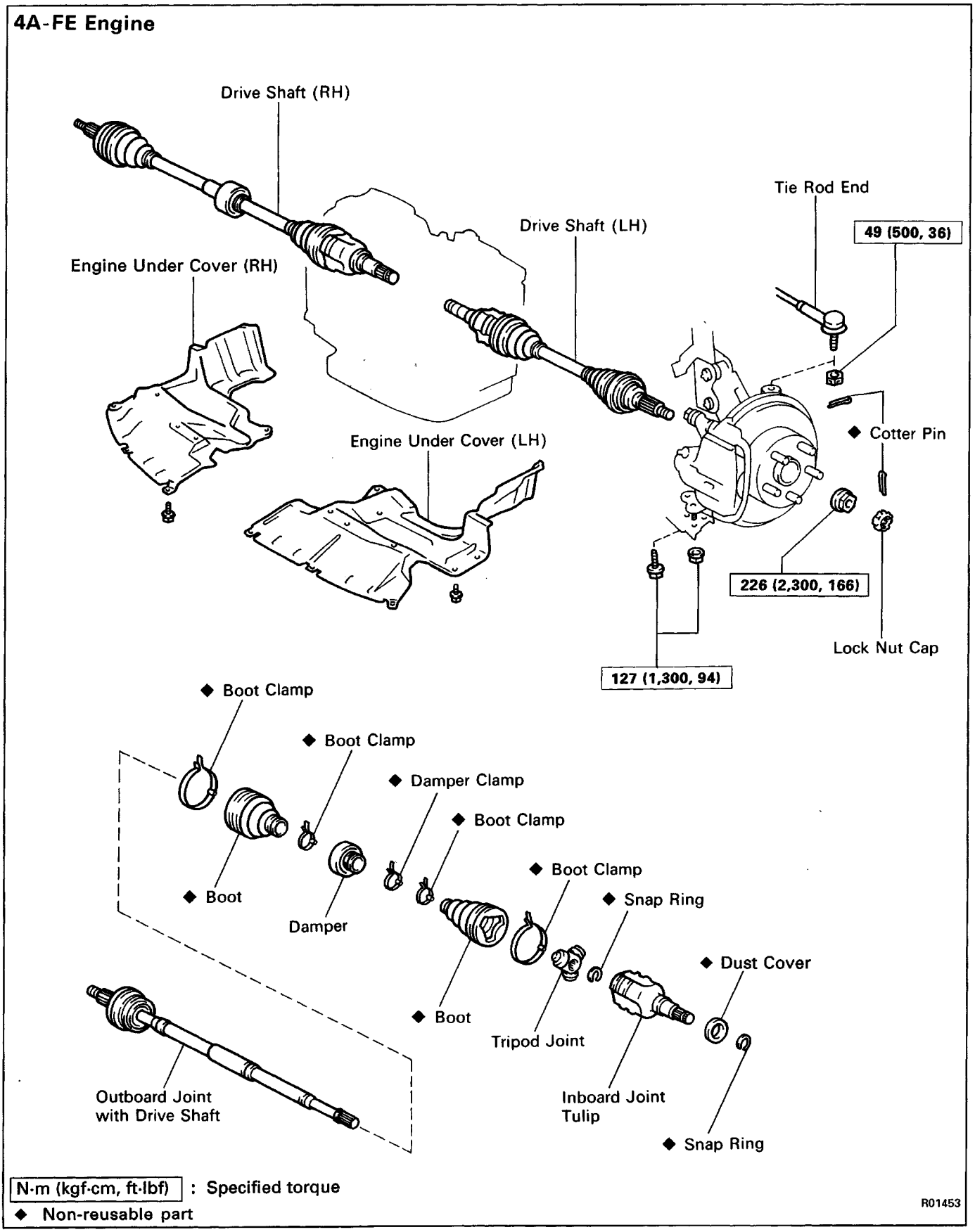


6. INSTALL DISC BRAKE CALIPER TO STEERING KNUCKLE

Torque: 107 N–m (1,090 kgf–cm, 79 ft–lbf)

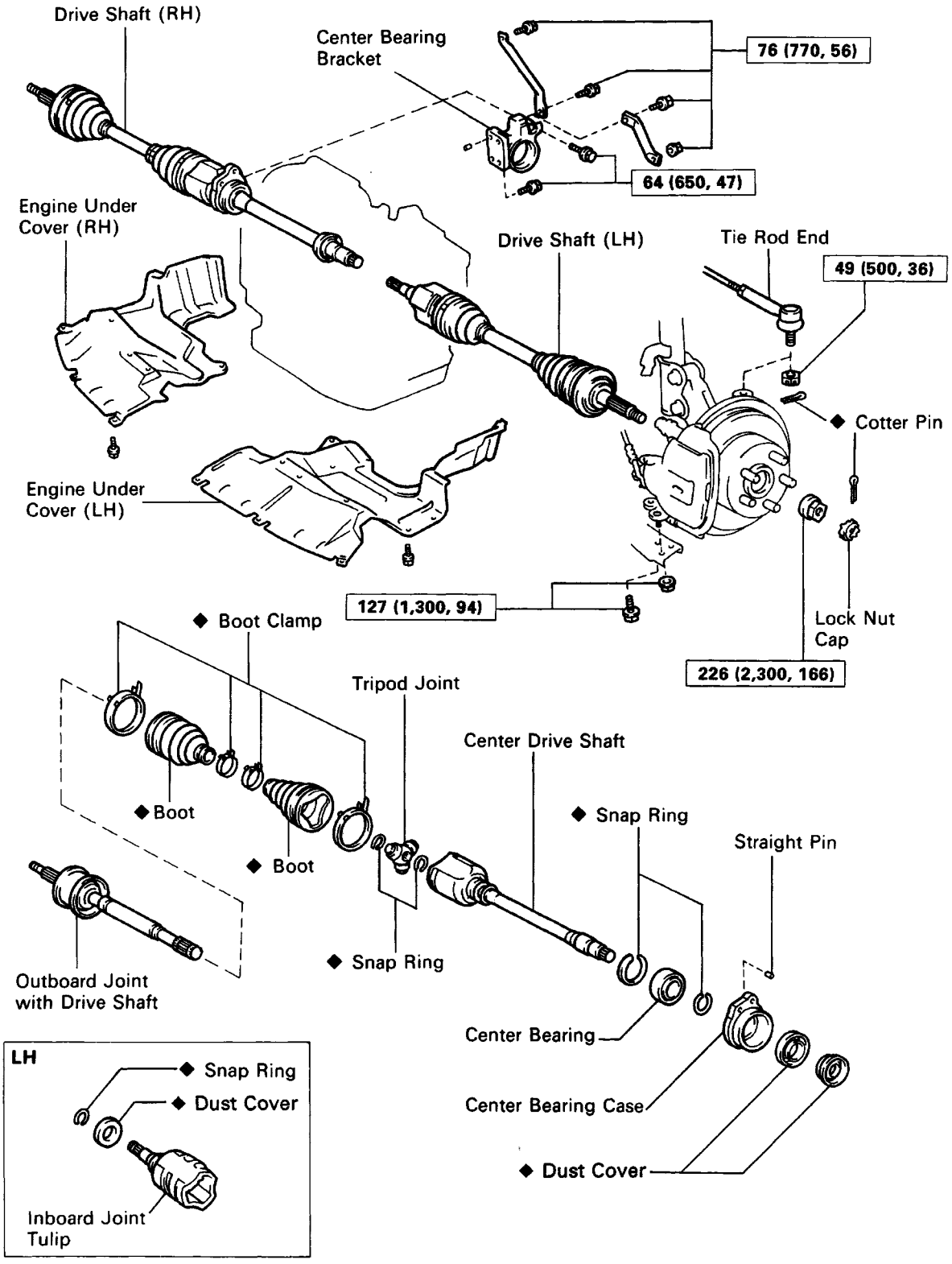
FRONT DRIVE SHAFT (2WD)

COMPONENTS



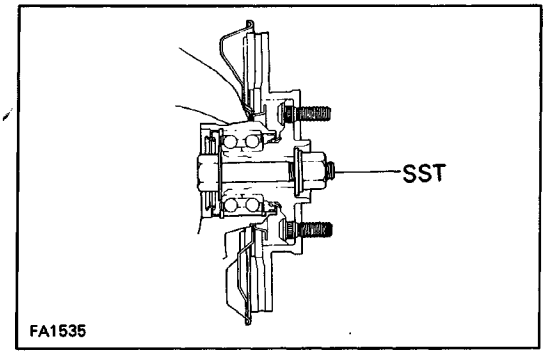
COMPONENTS (Cont'd)

5S-FE Engine



N·m (kgf·cm, ft·lbf) : Specified torque
◆ Non-reusable part

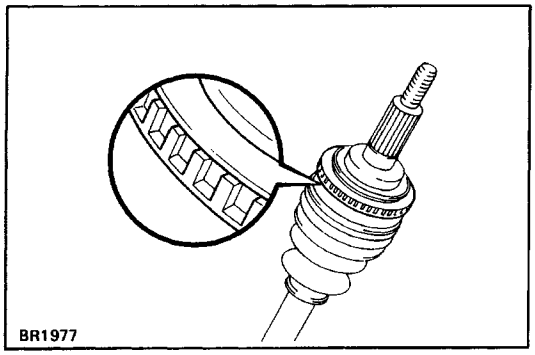
R01452



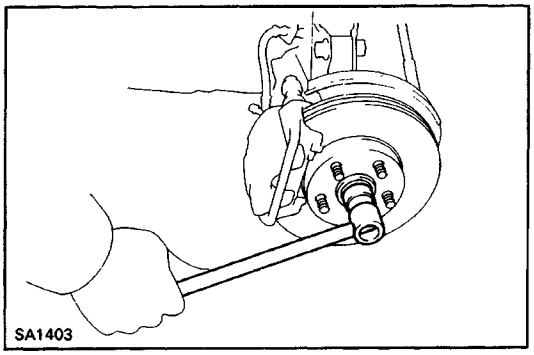
NOTICE:

- **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 09608–16041 (09608–02020, 09608–02040)



- **(w/ABS)**
  After disconnecting the drive shaft from the axle hub, work carefully so as not to damage the sensor rotor serrations on the drive shaft.



REMOVAL OF FRONT DRIVE SHAFT

1. REMOVE COTTER PIN, LOCK NUT CAP AND BEARING LOCK NUT

(a) Remove the cotter pin and lock nut cap.

(b) Loosen the bearing lock nut while depressing the brake pedal.

2. REMOVE ENGINE UNDER COVER

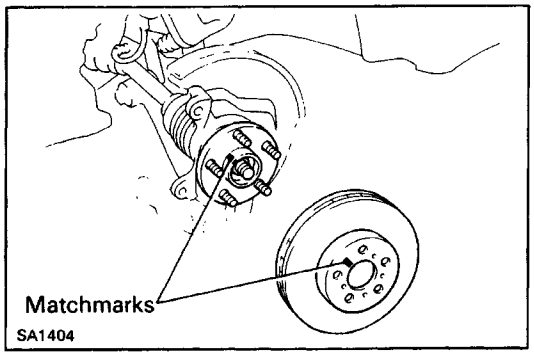
3. DRAIN TRANSAXLE OIL

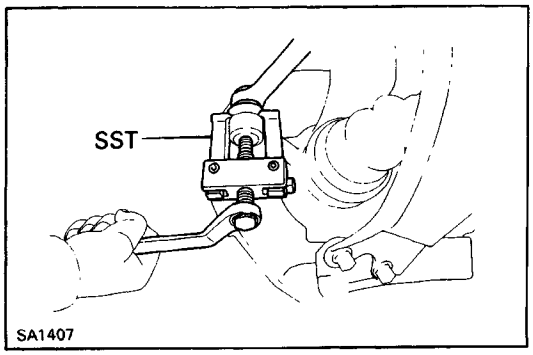
4. REMOVE BRAKE CALIPER

Remove the brake caliper from the steering knuckle and suspend it with wire.

5. REMOVE ROTOR DISC

HINT: Before removing the rotor disc, place the matchmarks on the axle hub and rotor disc.

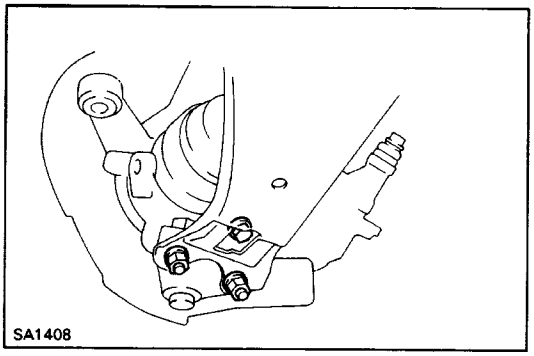




6. DISCONNECT TIE ROD END FROM STEERING KNUCKLE

(a) Remove the cotter pin and nut from the steering knuckle.

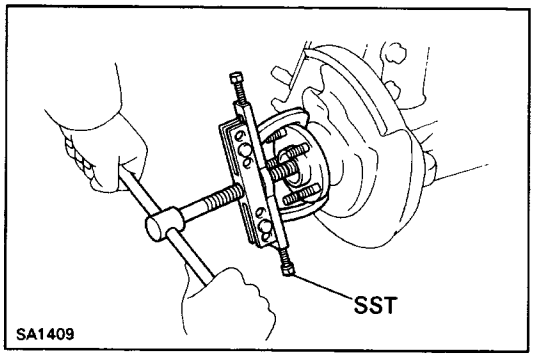
(b) Using SST, disconnect the tie rod end from the steering knuckle.
SST 09628–62011



7. DISCONNECT LOWER ARM FROM STEERING KNUCKLE

(a) Remove the bolt and two nuts.

(b) Disconnect the lower arm from the steering knuckle.

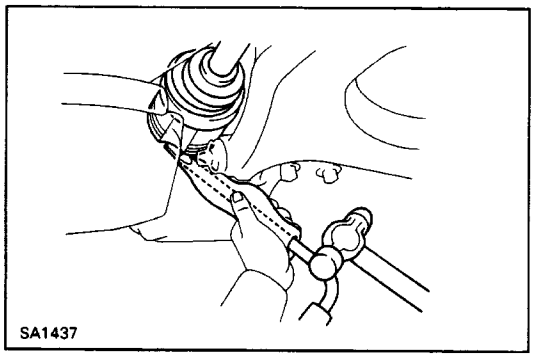


8. DISCONNECT DRIVE SHAFT FROM AXLE HUB

Using SST, disconnect the drive shaft from the steering knuckle.

NOTICE: Cover the drive shaft boot with cloth to protect it from damage.

SST 09950–20017

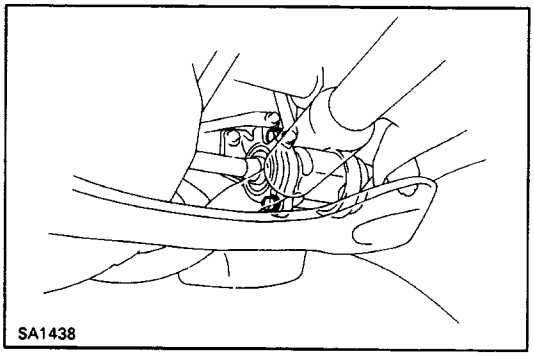


9. REMOVE LH DRIVE SHAFT

Using a hammer and hub nut wrench or an equivalent, remove the LH drive shaft.

NOTICE:

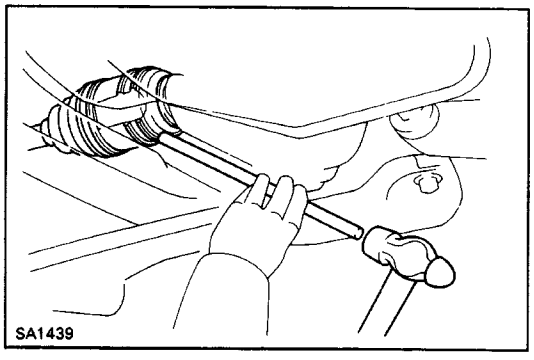
- **Be careful not to damage the dust cover.**
- **Cover the hub nut wrench or an equivalent with cloth so as not to damage the transaxle body.**



10. REMOVE RH DRIVE SHAFT

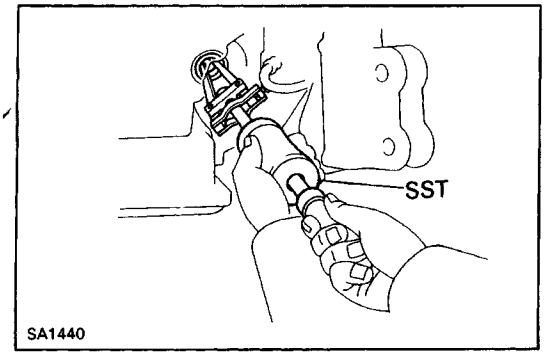
(a) (5S–FE Engine)

Remove the two bolts of the center bearing bracket, and pull out the RH drive shaft together with the center bearing case and center drive shaft.



(b) (4A–FE Engine)

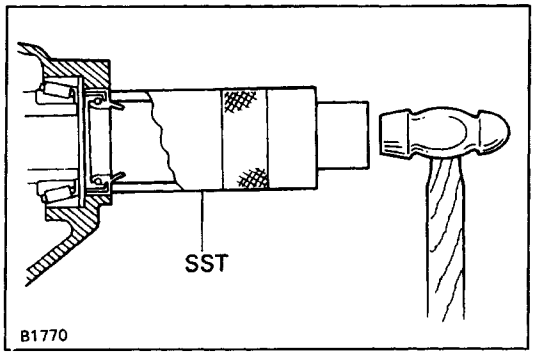
Using a hammer and brass bar, tap out the RH drive shaft.



REPLACEMENT OF OIL SEAL

1. REMOVE OIL SEAL

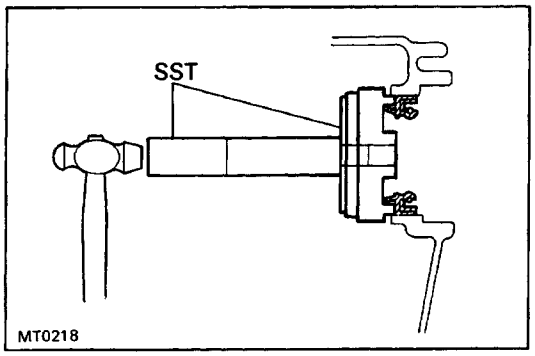
Using SST, pull out the oil seal.
SST 09308–00010



2. INSTALL NEW OIL SEAL

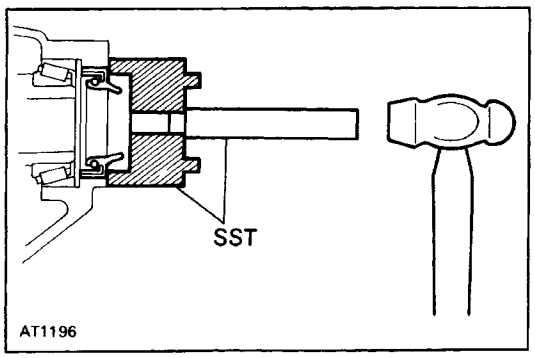
(M/T w/5S–FE Engine)

Using SST and a hammer, tap in a new oil seal.
SST 09316–60010 (09316–00010)
HINT: Coat the oil seal lip with MP grease.

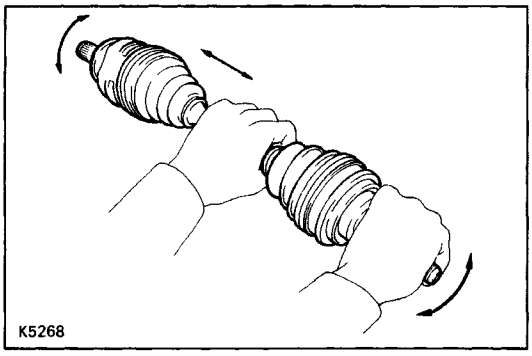


(M/T w/4A–FE Engine, A/T)

(a) Using SST and a hammer, tap in a new LH oil seal.
SST 09350–32014 (09351–32111, 09351–32130)
HINT: Coat the oil seal lip with M P grease.



(b) Using SST and a hammer, tap in a new RH oil seal.
SST 09350–32014 (09351–32130, 09351–32150)
HINT: Coat the oil seal lip with MP grease.



DISASSEMBLY OF FRONT DRIVE SHAFT

(See page SA–17)

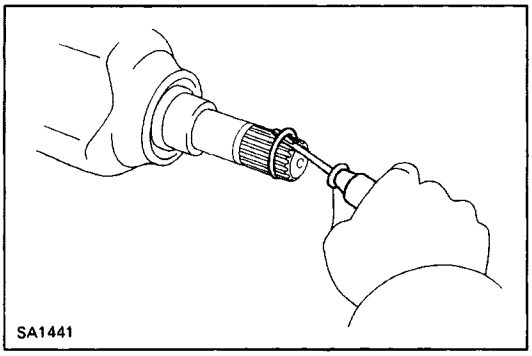
1. CHECK DRIVE SHAFT

(a) Check to see that there is no play in the outboard joint.

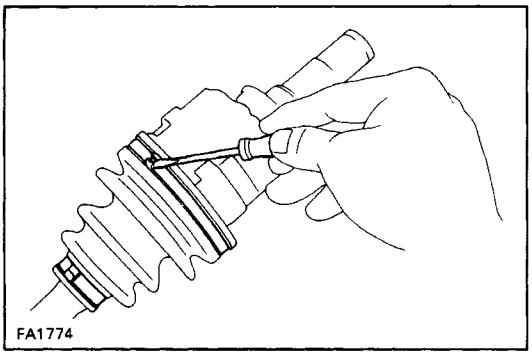
(b) Check to see that the inboard joint slides smoothly in the thrust direction.

(c) Check to see that there is no remarkable play in the radial direction of the inboard joint.

(d) Check for damage to boots.



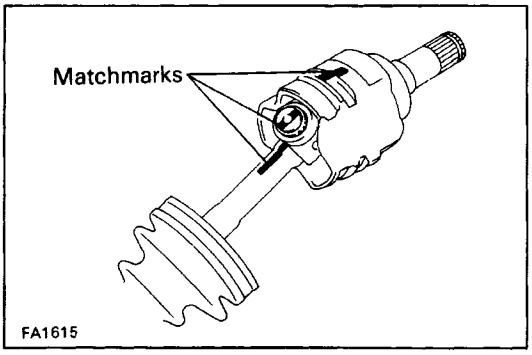
2. (EXCEPT RH DRIVE SHAFT w/5S–FE ENGINE) REMOVE SNAP RING FROM INBOARD JOINT SHAFT



3. REMOVE INBOARD JOINT BOOT CLAMPS

(a) Using a screwdriver, remove the two boot clamps.

(b) Slide the inboard joint boot toward the outboard joint,

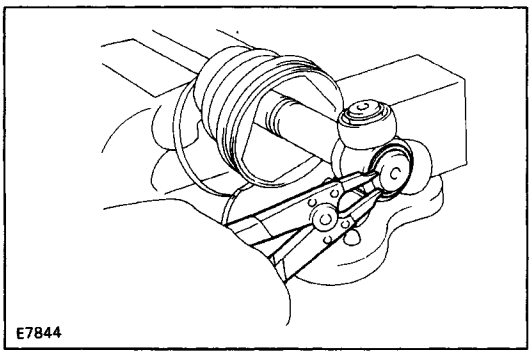


4. REMOVE INBOARD JOINT TULIP OR CENTER DRIVE SHAFT

(a) Place the matchmarks on the tripod and inboard joint tulip or center drive shaft.

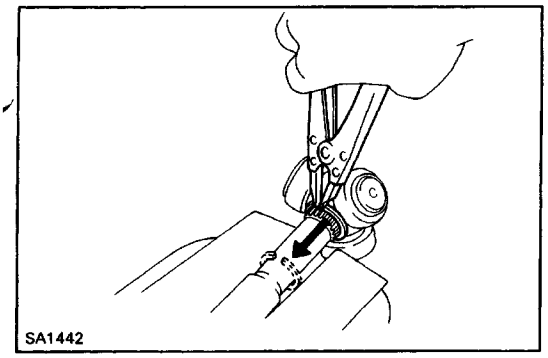
NOTICE: Do not punch the marks.

(b) Remove the inboard joint tulip or center drive shaft from the drive shaft.

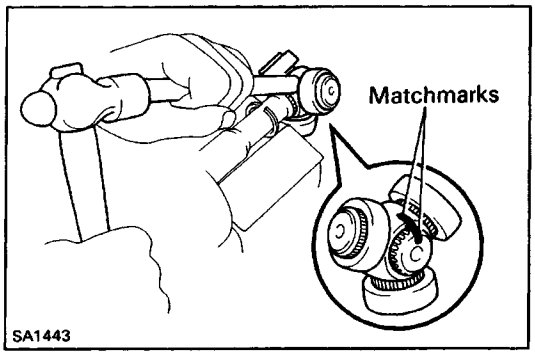


5. REMOVE TRIPOD JOINT

(a) Using a snap ring expander, remove the snap ring.

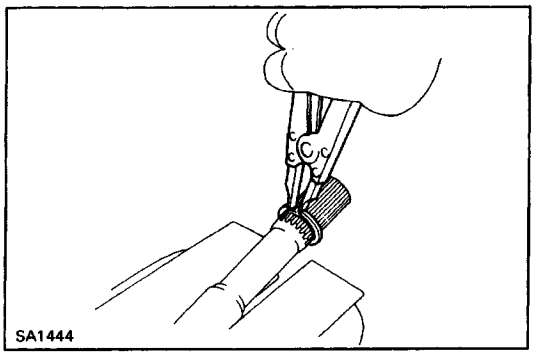


(b) Using a snap ring expander, temporarily slide the snap ring toward the outboard joint side.



(c) Place the matchmarks on the drive shaft and tripod.
(d) Using a brass bar and a hammer, remove the tripod joint from the drive shaft.

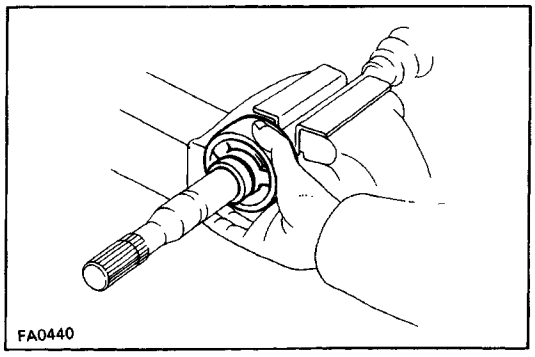
NOTICE: Do not tap the roller.



(e) Using a snap ring expander, remove the snap ring.

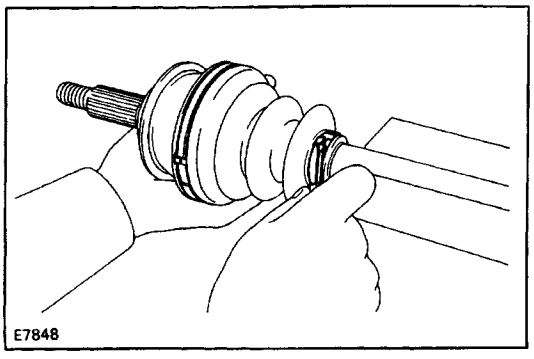
6. REMOVE INBOARD JOINT BOOT

Slide out the inboard joint boot.



7. (RH DRIVE SHAFT w/4A–FE ENGINE)
REMOVE DAMPER

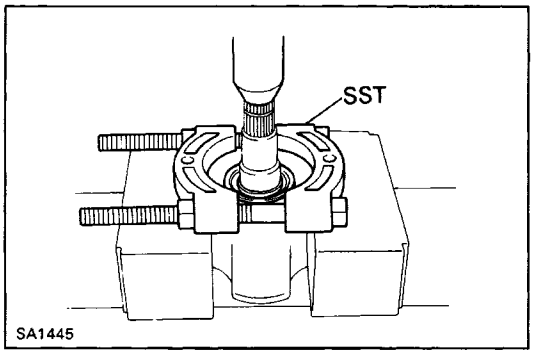
(a) Using a screwdriver, remove the damper clamp.
(b) Slide out the damper.



8. REMOVE OUTBOARD JOINT BOOT

(a) Using a screwdriver, remove the two boot clamps of the outboard joint boot.
(b) Slide out the boot from the outboard joint.

NOTICE: Do not disassemble the outboard joint.

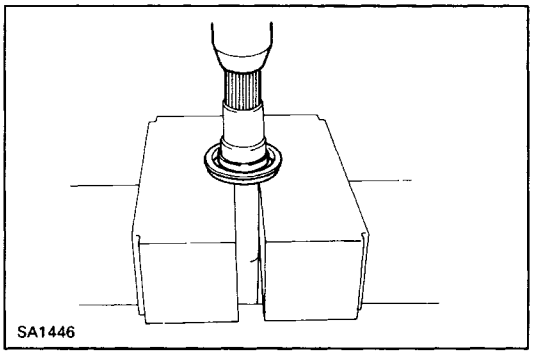


9. REMOVE DUST COVER

(Except RH Drive Shaft w/5S–FE Engine)

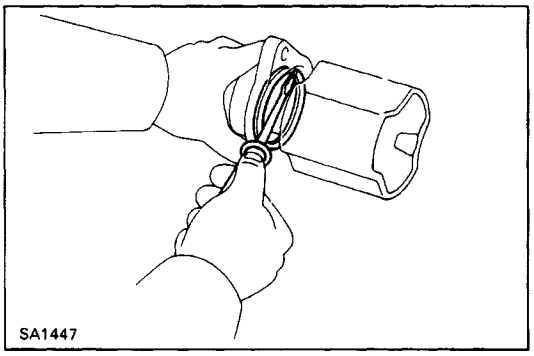
Using SST and a press, press out the dust cover from the inboard joint tulip.

SST 09950–00020



(RH Drive Shaft w/5S–FE Engine)

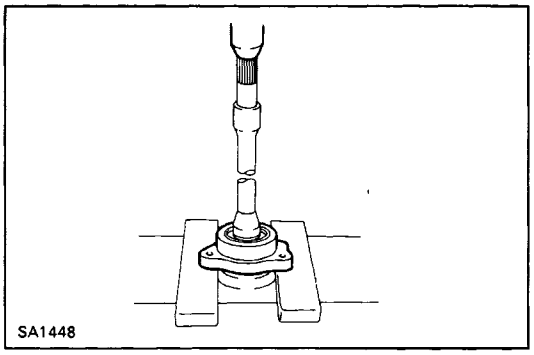
Using a press, press out the dust cover from the center drive shaft.



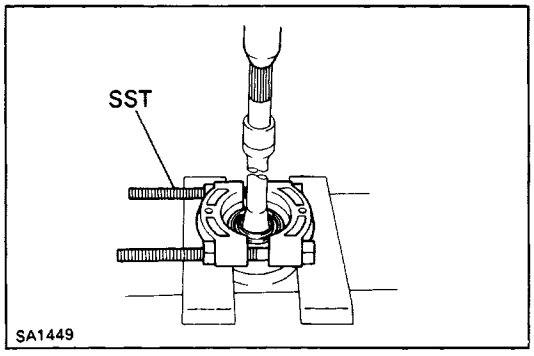
10. (RH DRIVE SHAFT w/5S–FE ENGINE)

DISASSEMBLE CENTER DRIVE SHAFT

(a) Using a screwdriver, remove the snap ring.

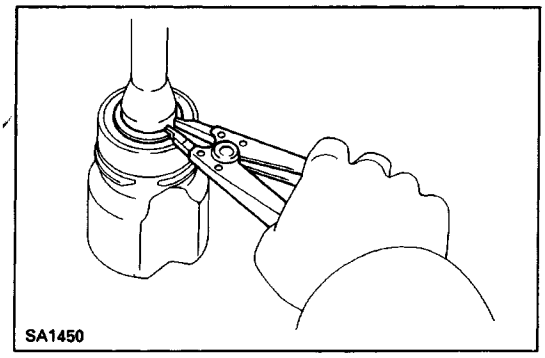


(b) Using a press, press out the bearing case.

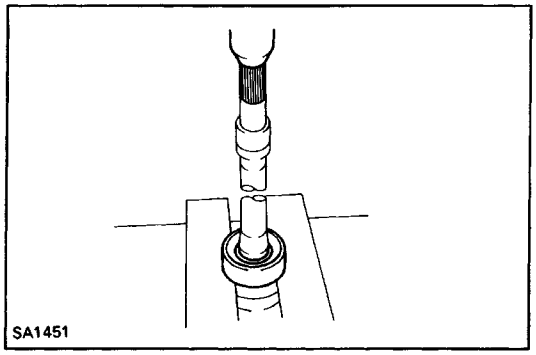


(c) Using SST and a press, press out the dust cover.

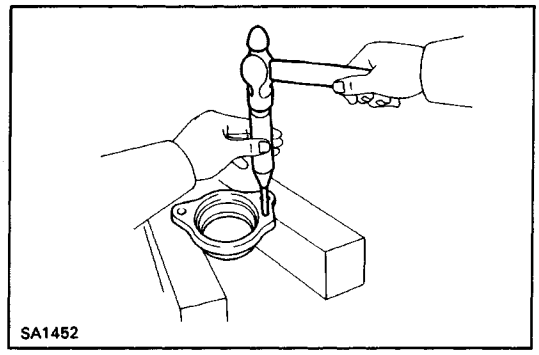
SST 09950–00020



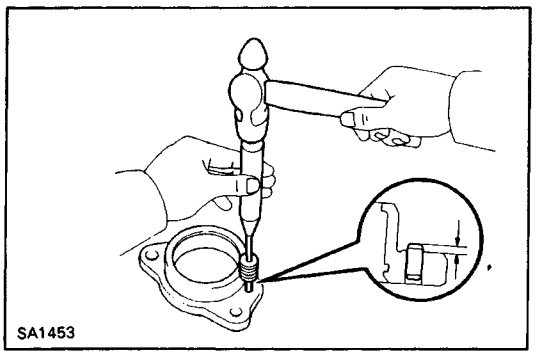
(d) Using a snap ring expander, remove the snap ring.



(e) Using a press, press out the bearing.
(f) Remove the snap ring.



(g) Using a punch and a hammer, tap out the straight pin.



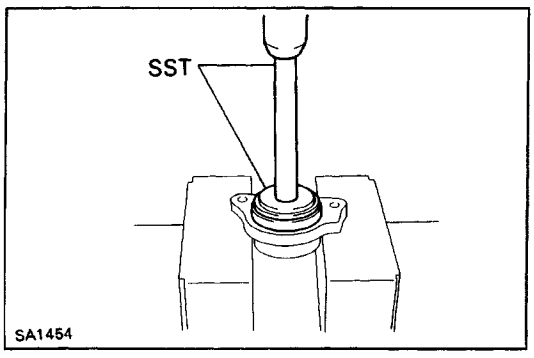
ASSEMBLY OF FRONT DRIVE SHAFT

(See page SA–17)

1. **(RH DRIVE SHAFT w/5S–FE ENGINE)**

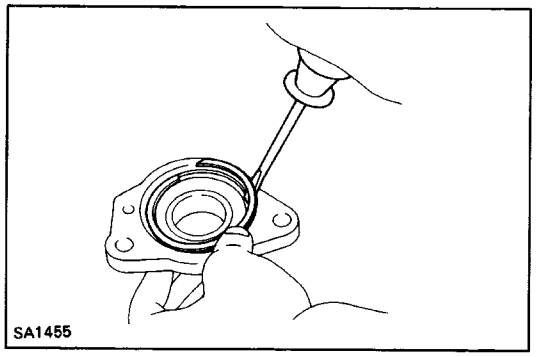
ASSEMBLE CENTER DRIVE SHAFT

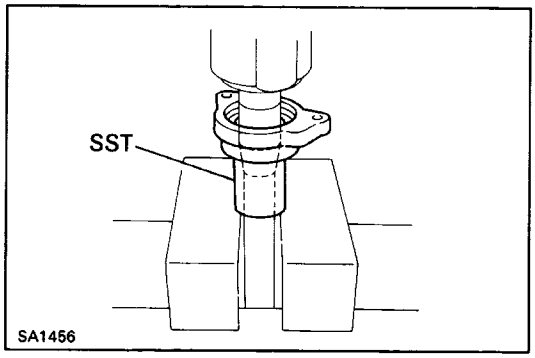
(a) Install the straight pin into the bearing case.



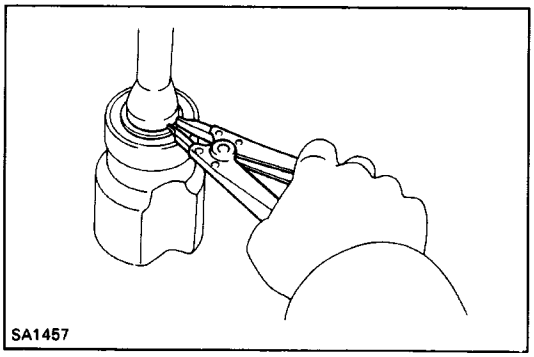
(b) Using SST and a press, press the new bearing into the bearing case.
SST 09608–12010 (09608–00020, 09608–00060)

(c) Using a screwdriver, install a new snap ring.

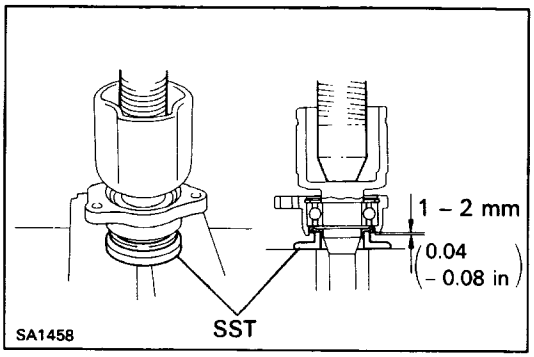




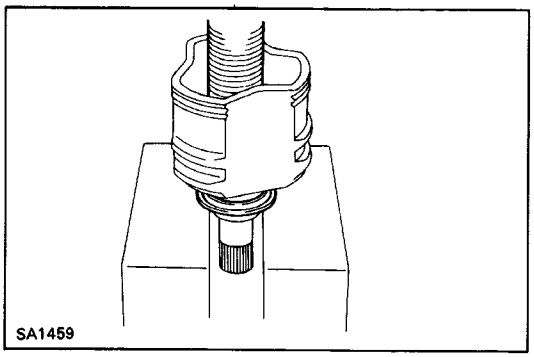
(d) Using SST and a press, install the bearing case assembly to the center drive shaft.
SST 09710–30020 (09710–03140)



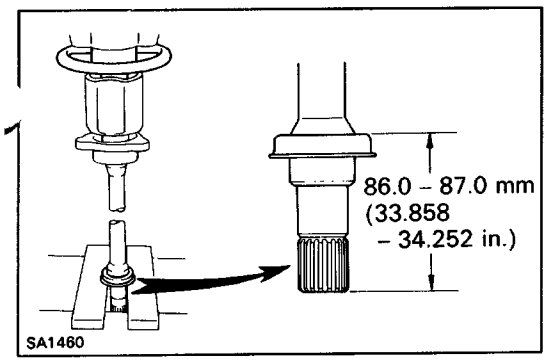
(e) Using a snap ring expander, install a new snap ring.



(f) Using SST and a press, press into a new dust cover.
SST 09506–35010
HINT: The clearance between the dust cover and the bearing should be kept in the ranges shown in the illustration.

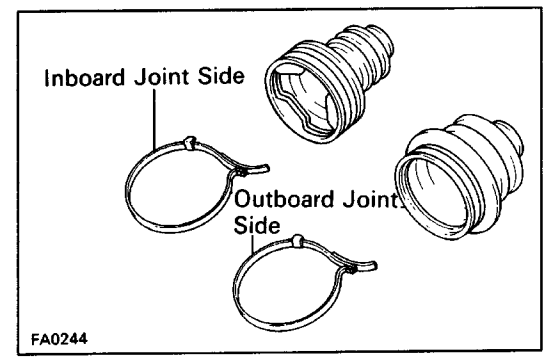


2. INSTALL DUST COVER
(Except RH Drive Shaft wl 5S–FE Engine)
Using a press, press into a new dust cover.



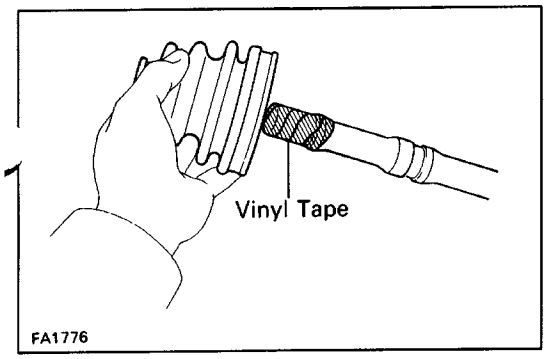
(RH Drive Shaft w/5S–FE Engine)

Using a press, press in a new dust cover until the distance from the tip of the center drive shaft to the dust cover reaches the specification as shown in the illustration.



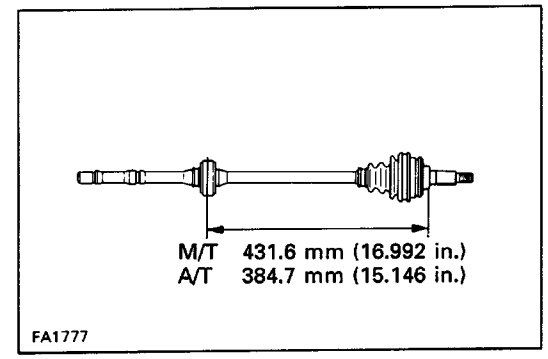
3. TEMPORARILY INSTALL OUTBOARD JOINT BOOT AND NEW BOOT CLAMPS

NOTICE: The boot and clamp of the outboard joint are smaller than those of the inboard joint.



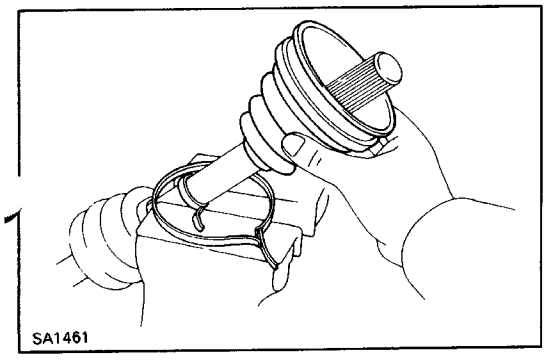
Temporarily install the boot and two new boot clamps for the outboard joint to the drive shaft.

HINT: Before installing the boot, warp vinyl tape around the spline of the drive shaft to prevent damaging the boot.



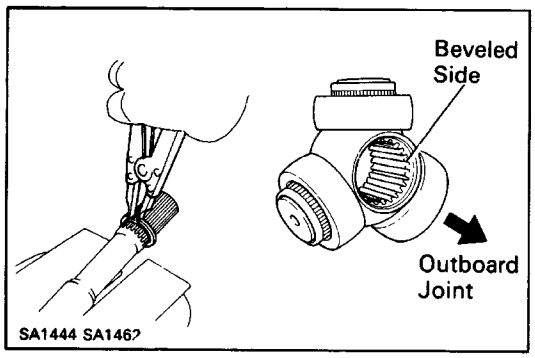
4. (RH DRIVE SHAFT w/4A–FE ENGINE) TEMPORARILY INSTALL DAMPER AND NEW DAMPER CLAMP

HINT: Fix the clamp position in line with the groove of the drive shaft.



5. TEMPORARILY INSTALL INBOARD JOINT BOOT AND NEW BOOT CLAMPS

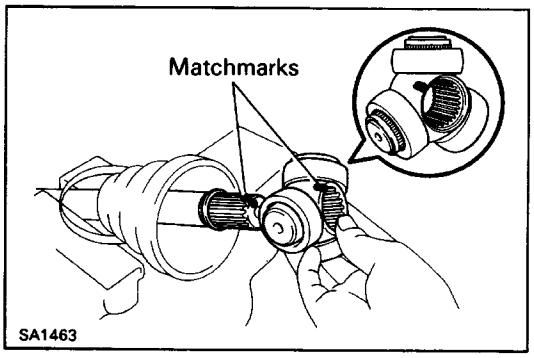
Temporarily install the boot and two new boot clamps for the inboard joint to the drive shaft.



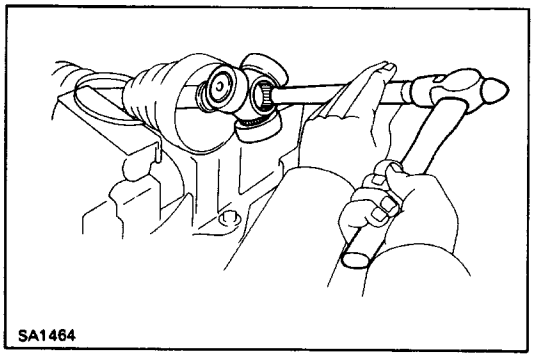
6. INSTALL TRIPOD JOINT

(a) Using a snap ring expander, install a new snap ring.

(b) Place the beveled side of the tripod joint axial spline toward the outboard joint.

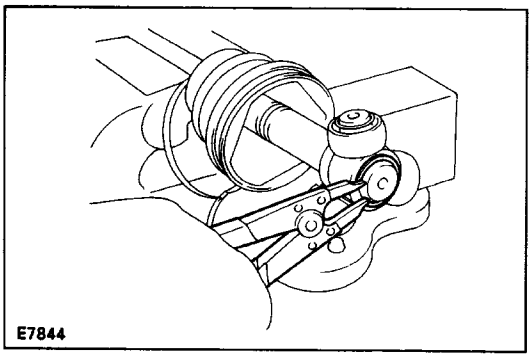


(c) Align the matchmarks placed before remove.

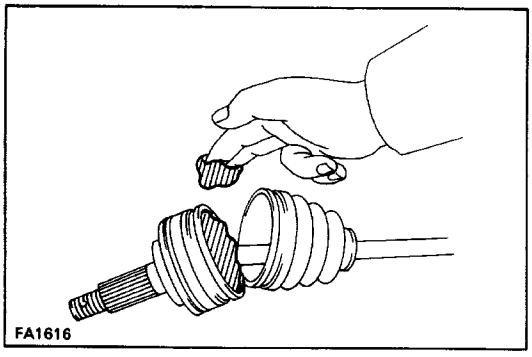


(d) Using a brass bar and hammer, tap in the tripod joint to the drive shaft.

NOTICE: Do not tap the roller.



(e) Using a snap ring expander, install a new snap ring.



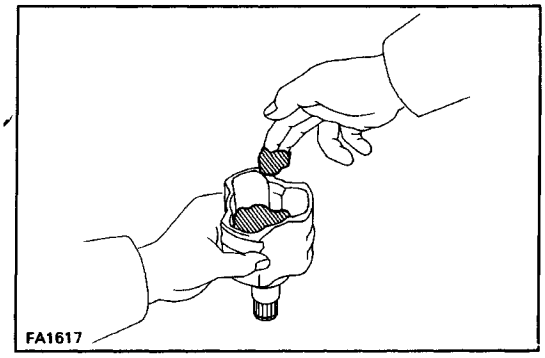
7. INSTALL BOOT TO OUTBOARD JOINT

Before assembling the boot, fill grease into the outboard joint and boot.

HINT: Use the grease supplied i n the boot kit.

Grease capacity: 120 – 130 g (0.26 – 0.29 lb)

Grease color: Black



8. INSTALL INBOARD JOINT TULIP OR CENTER DRIVE SHAFT TO FRONT DRIVE SHAFT

(a) Pack in the grease to the boot and inboard joint tulip or center drive shaft.

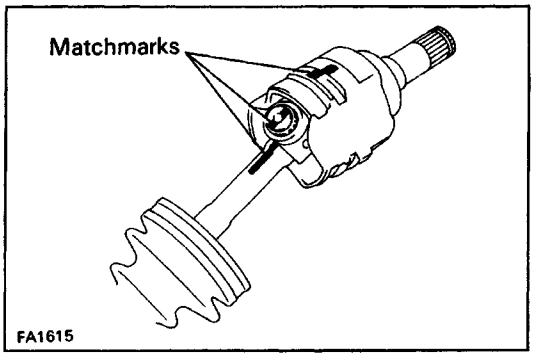
HINT: Use the grease supplied in the boot kit.

Grease capacity:

4A–FE Engine: 180 – 190 g (0.40 – 0.42 lb)

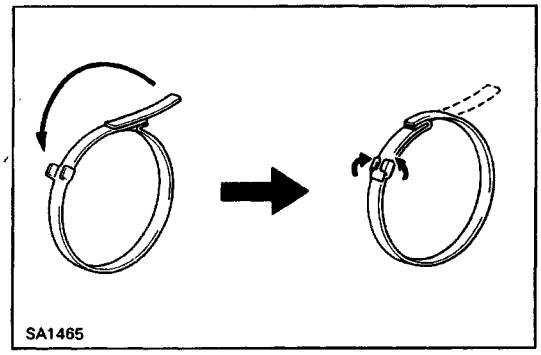
5S–FE Engine: 232 – 242 g (0.51 – 0.53 lb)

Grease color: Yellow ocher



(b) Align the matchmarks placed before remove, and install the inboard joint tulip or center drive shaft to the drive shaft.

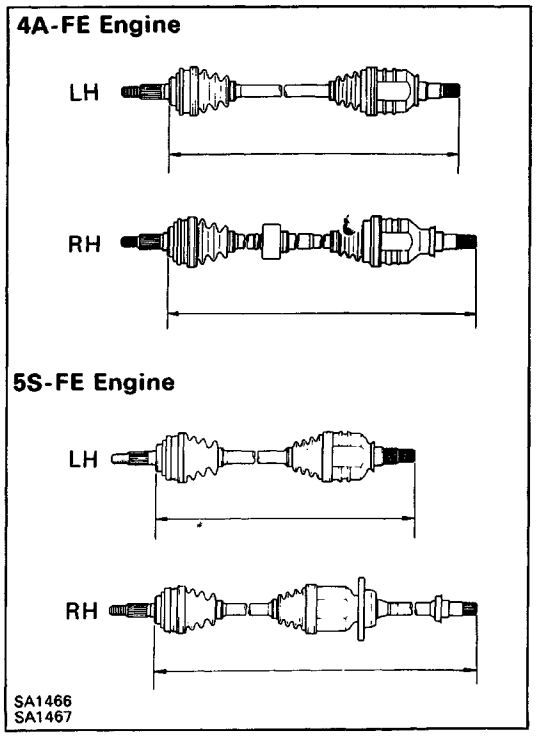
(c) Install the boot to the inboard joint tulip or center drive shaft.



9. ASSEMBLE BOOT CLAMPS AND DAMPER CLAMP

(a) Be sure the boot is on the shaft groove.

(b) Using a screwdriver, bend the band and lock it as shown in the illustration.



(c) Insure that the boot is not stretched or contracted when the drive shaft is at standard length.

Drive shaft standard length:

4A–FE Engine

(A/T)

L H 539.7 ± 5.0 mm (21.248 ± 0.197 in.)

R H 855.8 ± 5.0 mm (33.693 ± 0.197 in.)

(M/T)

L H 541.04 ± 5.0 mm (21.301 ± 0.197 in.)

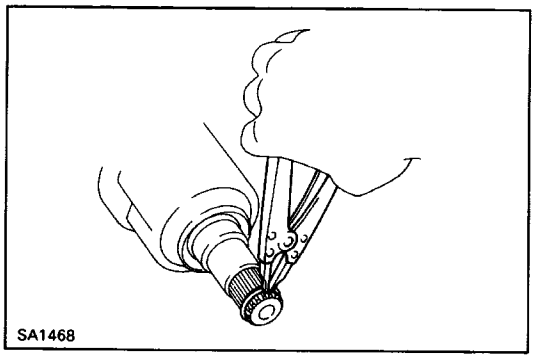
R H 862.8 ± 5.0 mm (33.968 ± 0.197 in.)

5S–FE Engine

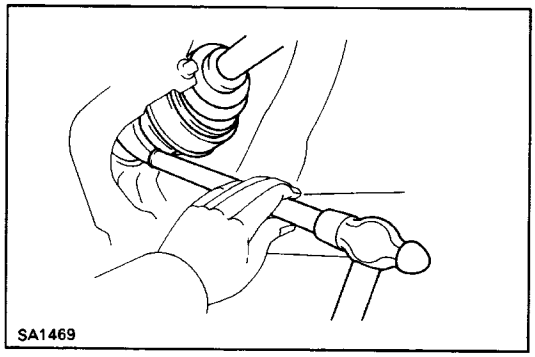
(A/T and (M/T)

L H 558.7 ± 5.0 mm (21.996 ± 0.197 in.)

R H 845.2 ± 5.0 mm (33.276 ± 0.197 in.)



(d) (Except RH Drive Shaft w/5S–FE Engine)
Using a snap ring expander, install a new snap ring.



INSTALLATION OF FRONT DRIVE SHAFT

(See page SA–17)

1. INSTALL LH DRIVE SHAFT

(a) Coat the oil seal lip with MP grease.

(b) Using a brass bar and a hammer, tap in the drive shaft until it makes contact with the pinion shaft.

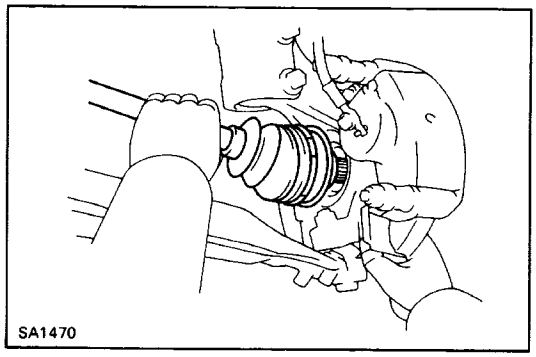
NOTICE: Be careful not to damage the boots.

HINT:

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

(c) Install the outboard joint side of the drive shaft to the axle hub.

NOTICE: Be careful not to damage the boots.



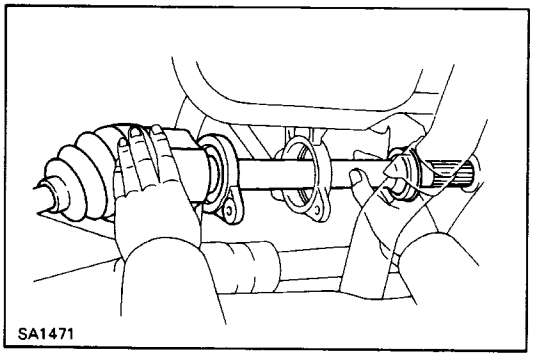
2. INSTALL RH DRIVE SHAFT

(5S–FE Engine)

(a) Coat the oil seal lip with MP grease.

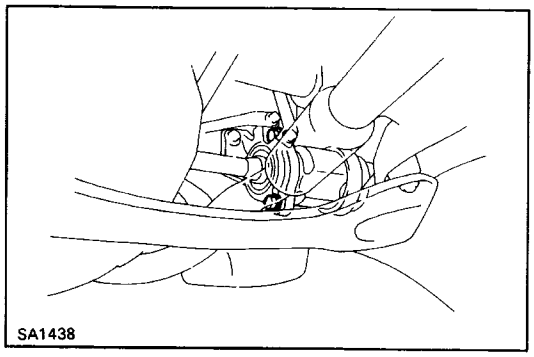
(b) Install the center drive shaft with the RH drive shaft to the transaxle through the bearing bracket.

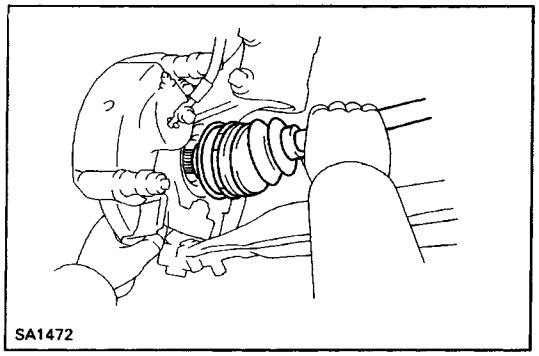
HINT: When installing the drive shaft, install so the straight pin on the center bearing case aligns with the hole on the bearing bracket.



(c) Install the two bolts and tighten them.

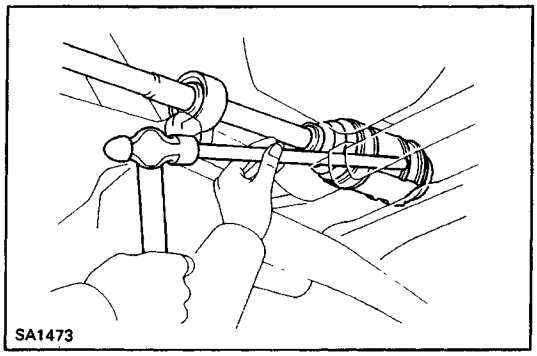
Torque: 64 N–m (650 kgf–cm, 47 ft–lbf)





(d) Install the outboard joint side of the drive shaft to the axle hub.

NOTICE: Be careful not to damage the boots.



(4A–FE Engine)

(a) Coat the oil seal lip with MP grease.

(b) Using a brass bar and a hammer, tap in the drive shaft until it makes contact with the pinion shaft.

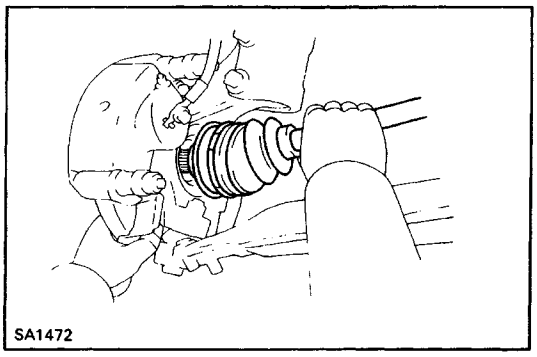
NOTICE: Be careful not to damage the boots.

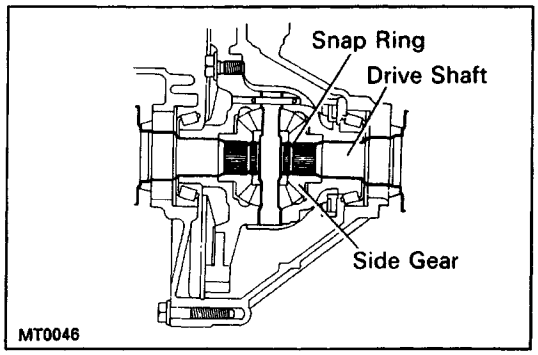
HINT:

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

(c) Install the outboard joint side of the drive shaft to the axle hub.

NOTICE: Be careful not to damage the boots.



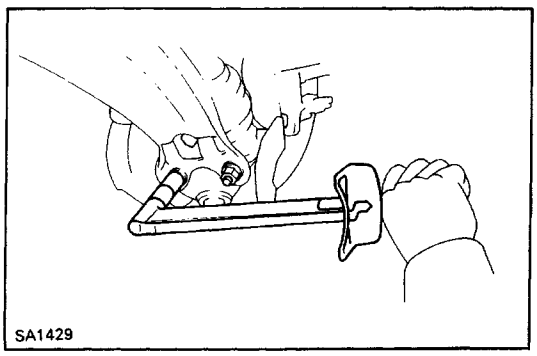


3. (EXCEPT RH DRIVE SHAFT w/5S–FE ENGINE) CHECK INSTALLATION OF FRONT DRIVE SHAFT

(a) Check that there is 2–3 mm (0.08–0.12 in.) of play in axial direction.

(b) Check that the drive shaft will not come out by trying to pull it completely out by hand.

HINT: When checking pull the inboard joint so as not to damage the boots.

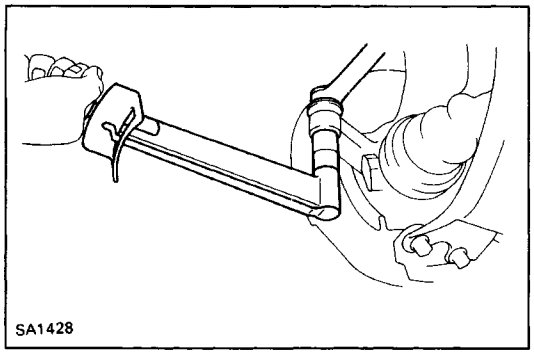


4. CONNECT LOWER ARM TO STEERING KNUCKLE

(a) Connect the lower arm to steering knuckle.

(b) Install and tighten the bolt and two nuts.

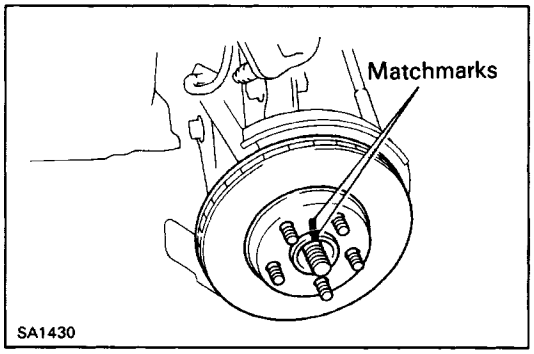
Torque: 127 N–m (1,300 kgf–cm, 94 ft–lbf)



5. CONNECT TIE ROD END TO STEERING KNUCKLE

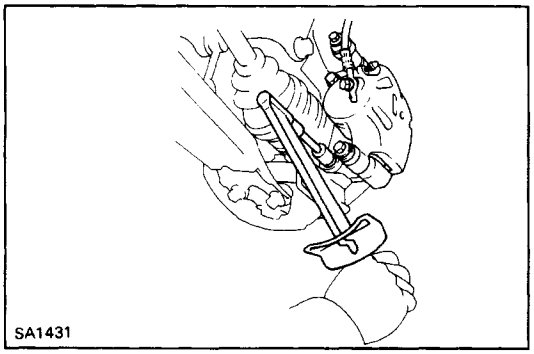
Install and torque the nut, and secure it with a new cotter pin.

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



6. INSTALL ROTOR DISC TO AXLE HUB

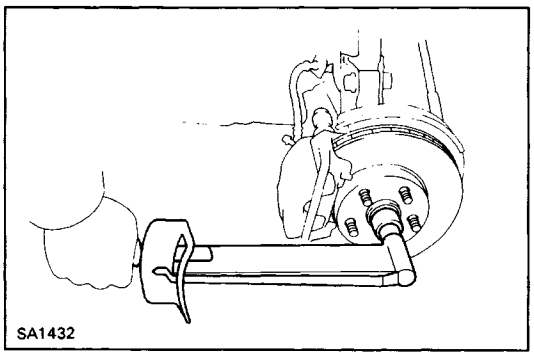
Align the matchmarks and install the rotor disc to the axle hub.



7. INSTALL BRAKE CALIPER TO STEERING KNUCKLE

Torque the two bolts.

Torque: 107 N–m (1,090 kgf–cm, 79 ft–lbf)



8. INSTALL BEARING LOCK NUT, LOCK NUT CAP AND COTTER PIN

(a) Torque the bearing lock nut while depressing the brake pedal.

Torque: 226 N–m (2,300 kgf–cm, 166 ft–lbf)

(b) Install the lock nut cap and, using pliers, install a new cotter pin.

9. FILL TRANSAXLE OIL

M/T w/4A–FE Engine

Oil grade: API GL–4 or GL–5

Viscosity: SAE 75W–90 or 80W–90

M/T w/5S–FE Engine, A/T

Fluid type: ATF DEXRON® II

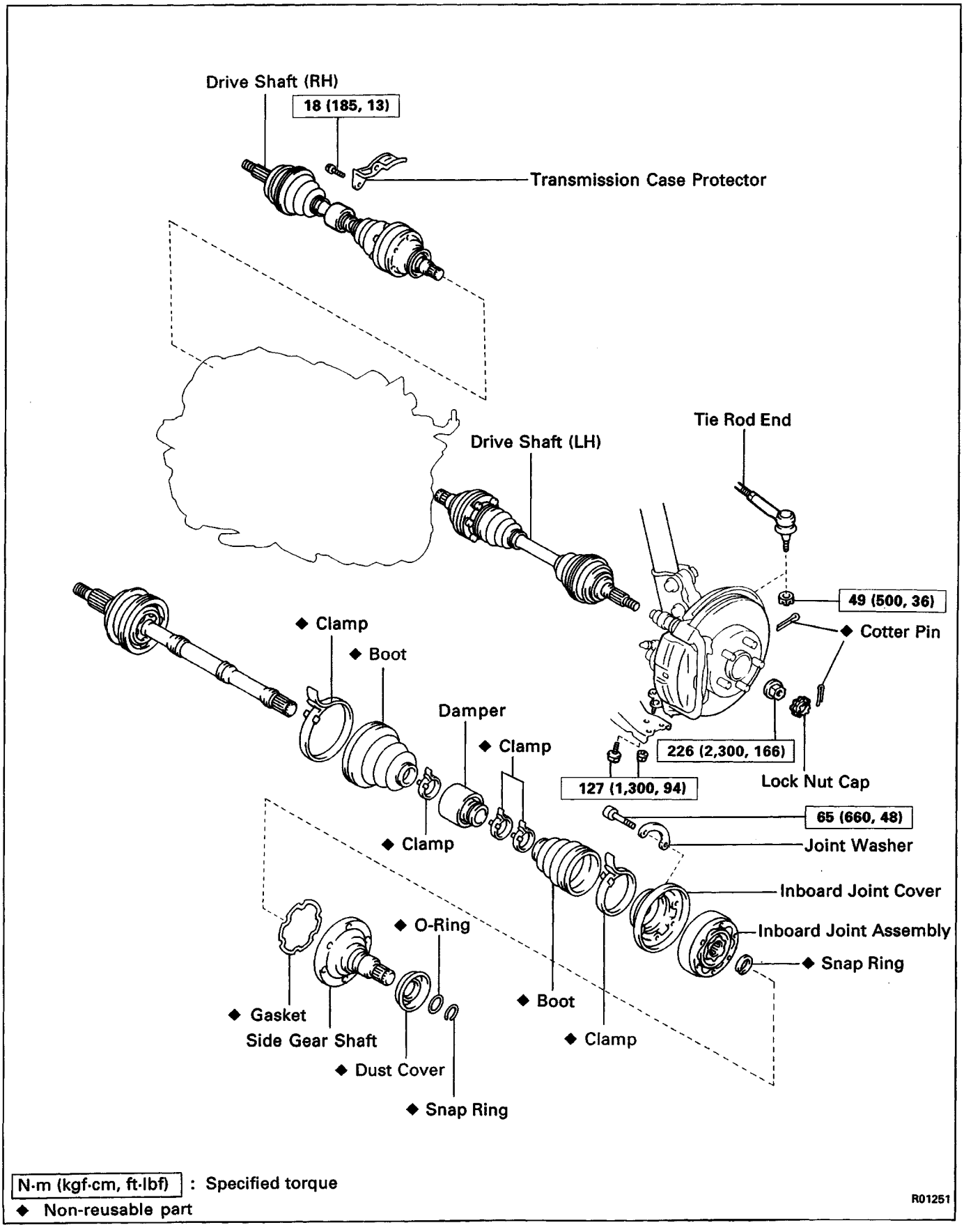
10. INSTALL ENGINE UNDER COVER

11. CHECK FRONT WHEEL ALIGNMENT

(See page SA–4)

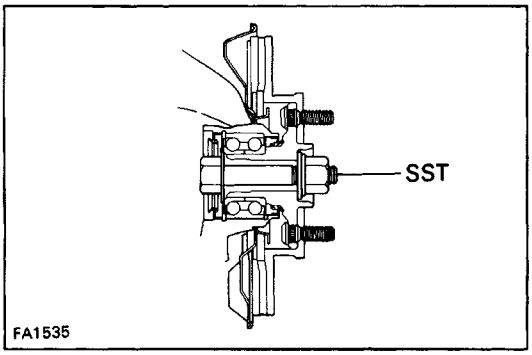
FRONT DRIVE SHAFT (4WD)

COMPONENTS



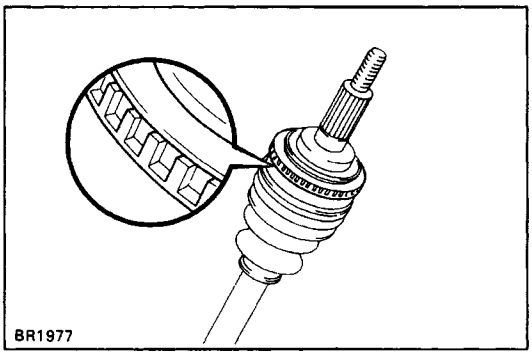
N·m (kgf·cm, ft·lbf) : Specified torque
◆ Non-reusable part

R01251

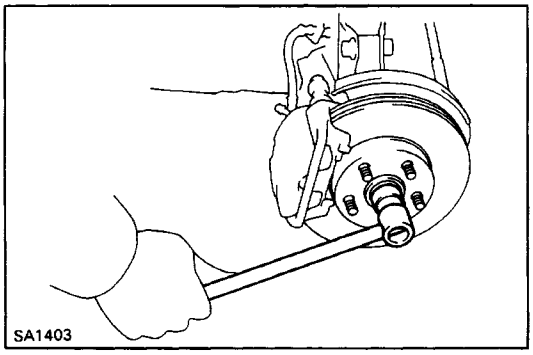


NOTICE:

- **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 09608–16041 (09608–02020, 09608–02040)



- **(w/ ABS)**
  After disconnecting the drive shaft from the axle hub, work carefully so as not to damage the sensor rotor serrations on the drive shaft.



REMOVAL OF FRONT DRIVE SHAFT
(See page SA–33)

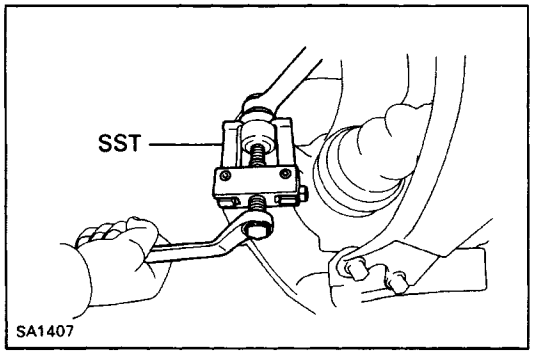
1. REMOVE FRONT WHEELS

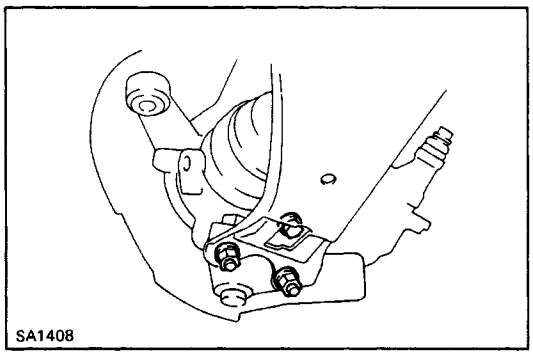
2. REMOVE COTTER PIN, LOCK NUT CAP AND LOCK NUT

(a) Remove the cotter pin and lock nut cap.
(b) Loosen the bearing lock nut while depressing the brake pedal.
(c) Remove the bearing lock nut.

3. DISCONNECT TIE ROD END

(a) Remove the cotter pin and nut from the tie rod end.
(b) Using SST, disconnect the tie rod end from the steering knuckle.
SST 09628–62011

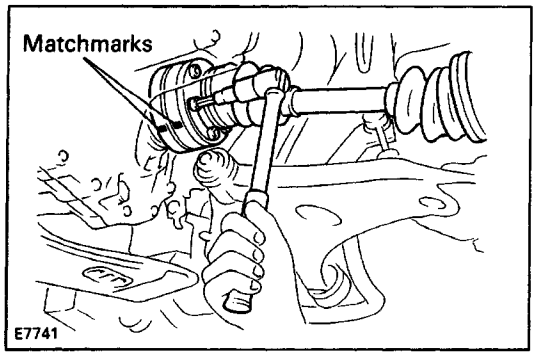




4. DISCONNECT STEERING KNUCKLE FROM LOWER ARM

Remove the bolt and two nuts and disconnect the steering knuckle from the lower arm.

5. DRAIN TRANSAXLE OIL



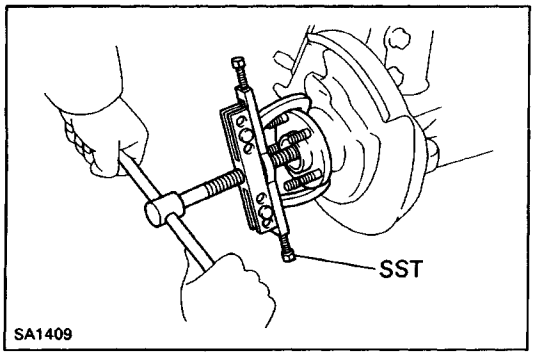
6. REMOVE DRIVE SHAFT

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

NOTICE: Do not use a punch to mark the match–marks. Use paint, etc.

(b) Using SST, loosen the six hexagon bolts while depressing the brake pedal.

SST 09043–88010

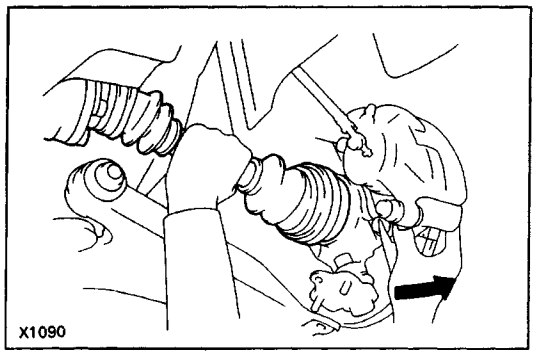


(c) Using SST,' disconnect the drive shaft from the steering knuckle.

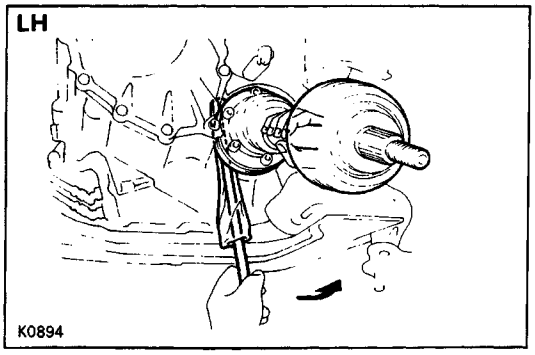
SST 09950–20017

NOTICE:

- **Before removing the drive shaft, map vinyl tape around the threads of the drive shaft to prevent damaging the oil seal.**
- **Cover the drive shaft boot with cloth to protect it from damage.**



(d) Push the front axle carrier towards the outside of the vehicle, and separate the drive shaft from the steering knuckle.

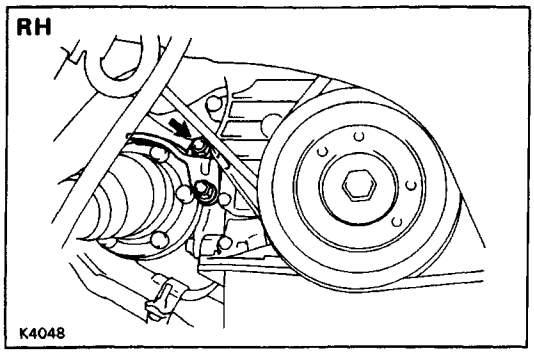


(e) (LH drive shaft)

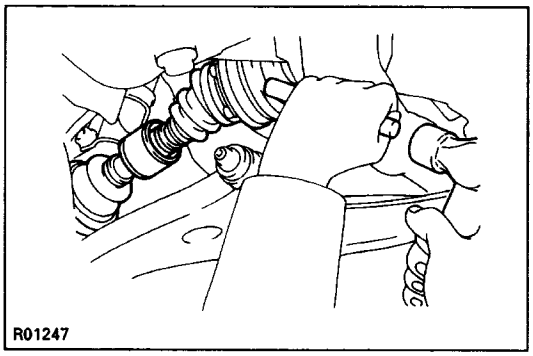
Using a hub nut wrench or equivalent, pry out the LH drive shaft.

NOTICE:

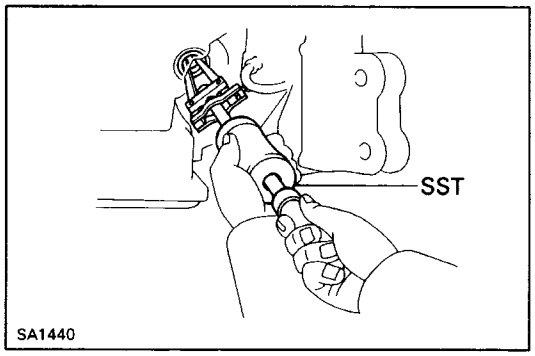
- **Be careful not to damage the dust cover.**
- **Cover the hub nut wrench or an equivalent with cloth so as not to damage the transaxle body.**



(f) Remove the two bolts and transmission case protector.



(g) Using a brass bar and hammer, drive out the drive shaft.



ON–VEHICLE REPLACEMENT OF SIDE GEAR SHAFT OIL SEAL

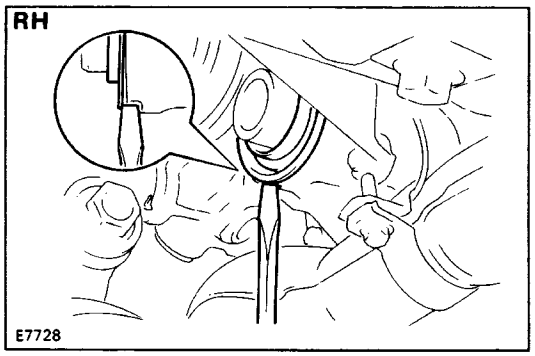
1. REMOVE DRIVE SHAFT

(See page SA–33)

2. REMOVE LH OIL SEAL

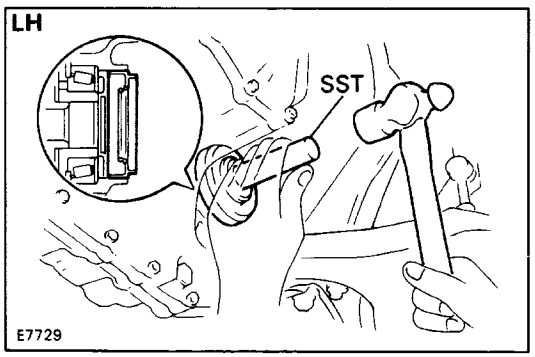
Using SST, drive out the oil seal from the case.

SST 09308–00010



REMOVE RH OIL SEAL

Using a screwdriver, remove the oil seal as shown.

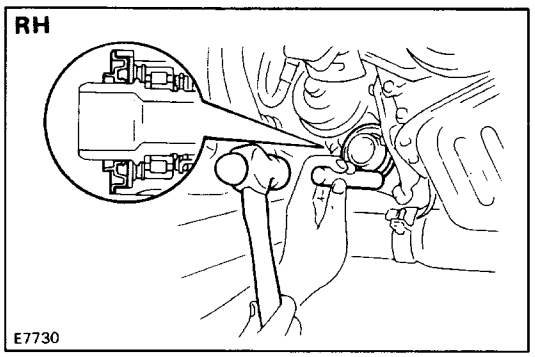


4. INSTALL LH OIL SEAL

Using SST and hammer, tap in a new oil seal.

SST 09223–15010

HINT: Coat the oil seal lip with MP grease.



5. INSTALL RH OIL SEAL

Using a brass bar and hammer, tap in a new oil seal.

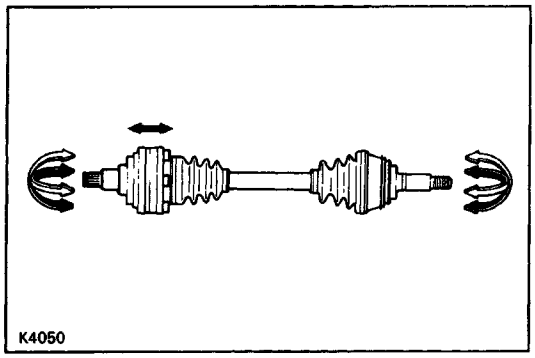
HINT: Coat the oil seal lip with MP grease.

6. INSTALL DRIVE SHAFT

(See page SA–44)

DISASSEMBLY OF FRONT DRIVE SHAFT

(See page SA–33)



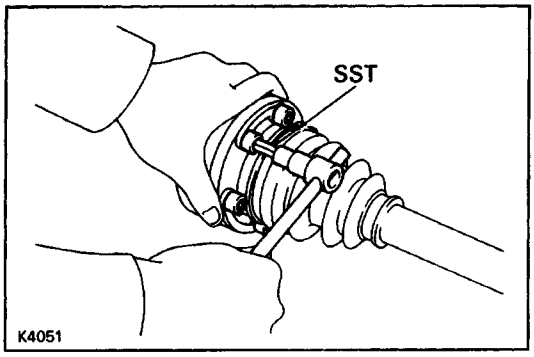
1. CHECK DRIVE SHAFT

(a) Check to see that there is no play in the outboard joint.

(b) Check to see that the inboard joint slides smoothly in the thrust direction.

(c) Check to see that there is no remarkable play in the radial direction of the inboard joint.

(d) Check for damage to boots.

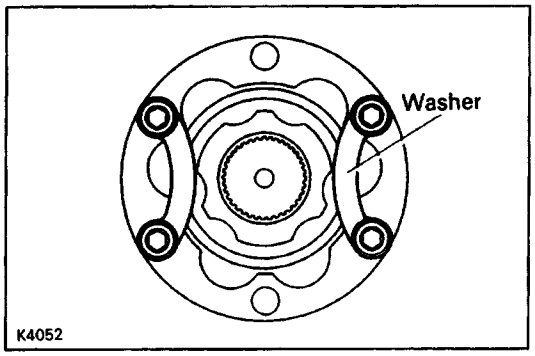


2. DISCONNECT SIDE GEAR SHAFT

(a) Using SST, remove the six hexagon bolts and the three washers.

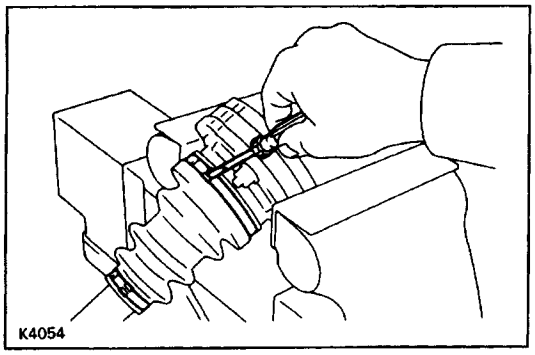
SST 09043–88010

(b) Disconnect the side gear shaft from the drive shaft.



(c) Use bolts, nuts and washers to keep the inboard joint together.

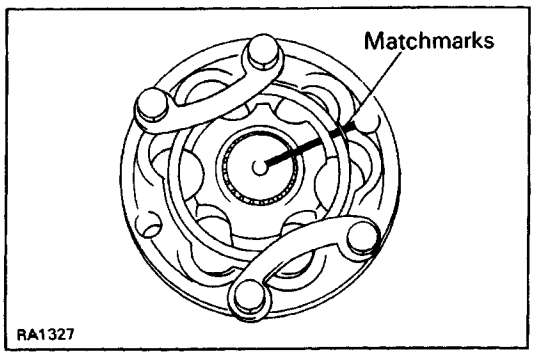
NOTICE: Tighten the bolts by hand to avoid scratching the flange surface.



3. REMOVE BOOT CLAMPS

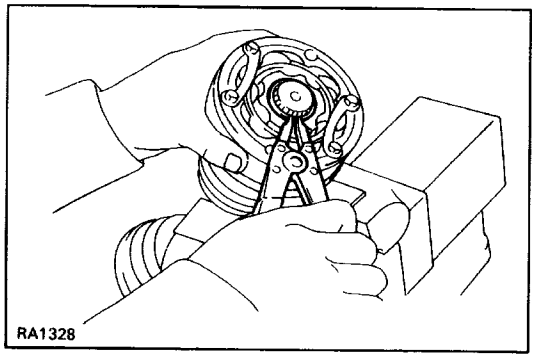
(a) Using a screwdriver, remove the four boot clamps from the inboard joint and outboard joint.

(b) Remove the inboard joint boot from the inboard joint cover.

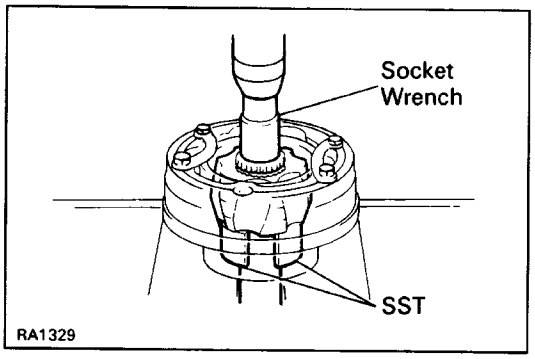


4. DISASSEMBLE INBOARD JOINT

(a) Place the matchmarks on– the inboard joint and drive shaft.

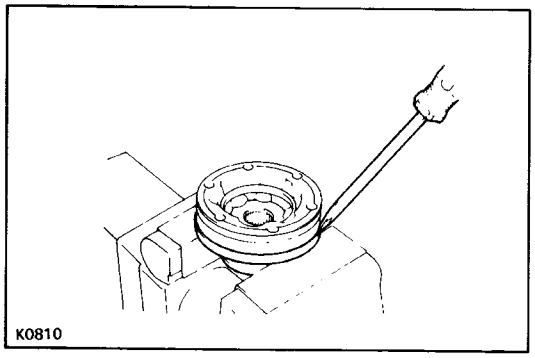

RA1328

(b) Using a snap ring expander, remove the snap ring.

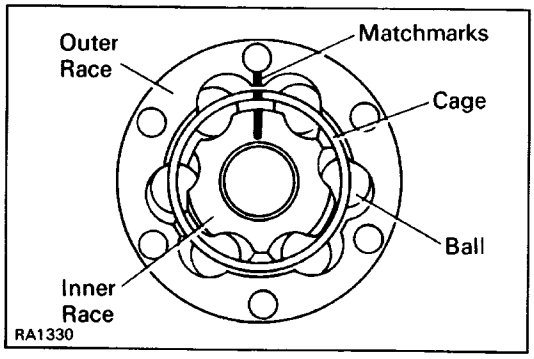


RA1329

(c) Using SST, a socket wrench and a press, remove the inboard joint from the drive shaft.
SST 09726–10010 (09726–00030)
(d) Remove the four bolts and two washers from the inboard joint.

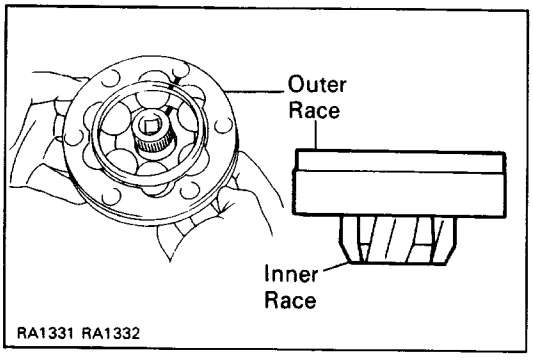

K0810

(e) Using a screwdriver, unstake the inboard joint cover.
(f) Using a screwdriver, pry out the inboard joint from the inboard joint cover.
NOTICE: When lifting the inboard joint, hold onto the inner race and outer race.



RA1330

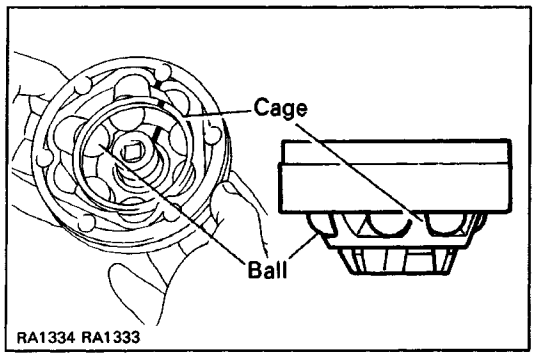
HINT: Should the joint become disassembled, reassemble it in the way shown.



RA1331 RA1332

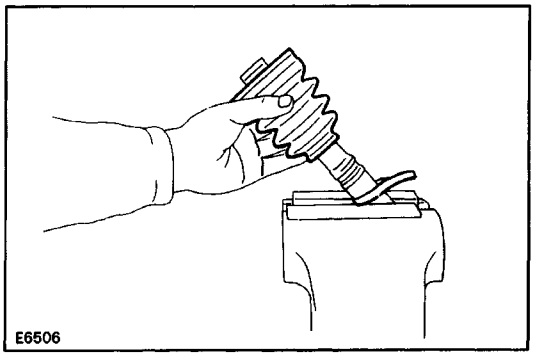
SERVICE HINT

(a) Align the matchmarks placed before disassembly.
(b) Install the spark plug wrench into the inner race.
(c) Lift the outer race and cage, and insert the six balls.



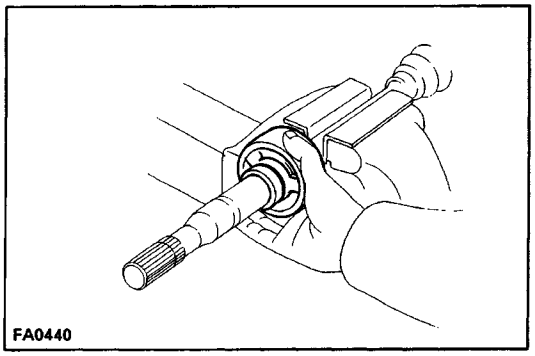
(d) Jiggle the outer race and cage as shown to place the balls in their respective grooves.
(e) Lower the outer race and cage so that they fit tightly with the inner race.

5. REMOVE INBOARD JOINT BOOT



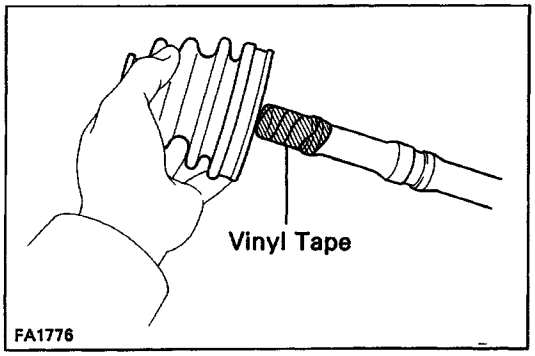
6. REMOVE DAMPER

(a) Using a screwdriver, remove the damper clamp.
(b) Slide out the damper.



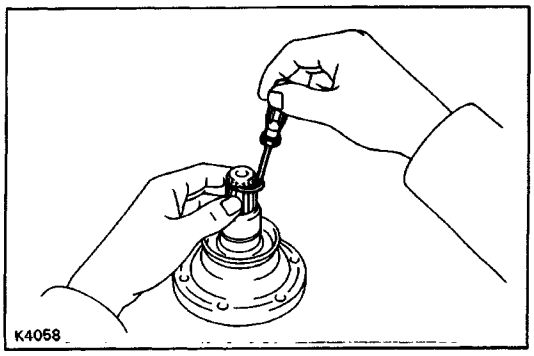
7. REMOVE OUTBOARD JOINT BOOT

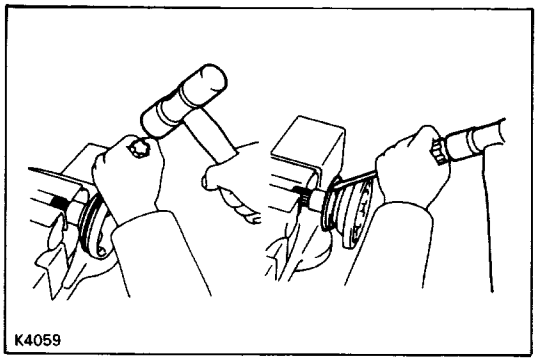
NOTICE: Do not disassemble the outboard joint.



8. REPLACE SIDE GEAR SHAFT SNAP RING

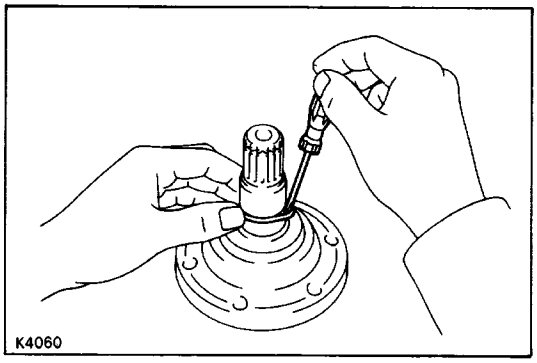
(a) Using a screwdriver, pry out the snap ring.
(b) Using snap ring pliers, install a new snap ring.





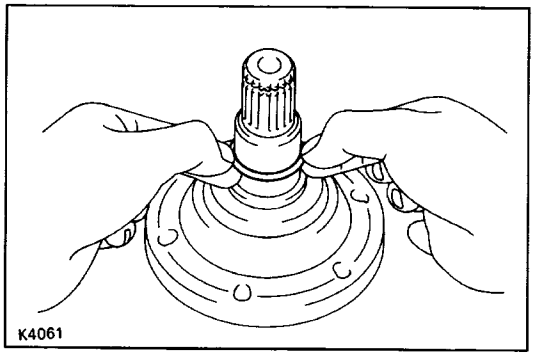
9. REMOVE DUST COVER FROM SIDE GEAR SHAFT

Using a screwdriver and hammer, tap out the dust cover.



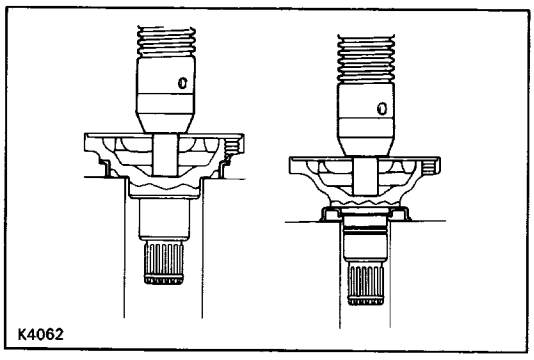
10. REPLACE SIDE GEAR SHAFT O–RING

(a) Using a screwdriver, remove the O–ring.



(b) Coat O–ring with MP grease.

(c) Install a new O–ring.



11. INSTALL DUST COVER TO SIDE GEAR SHAFT

Using a press, install a new dust cover.

ASSEMBLY OF FRONT DRIVE SHAFT

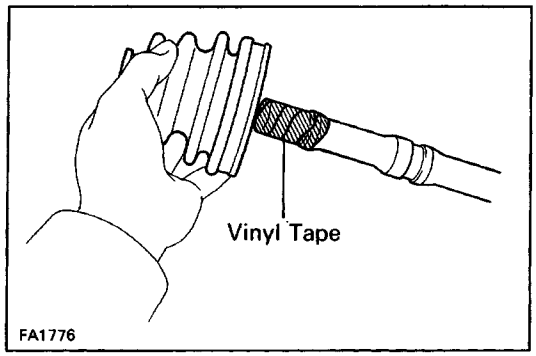
(See page SA–33)

1. TEMPORARILY NEW OUTBOARD JOINT BOOT AND NEW BOOT CLAMPS

HINT: Before installing the boot, wrap vinyl tape around the spline of the shaft to prevent damaging the boot.

NOTICE: The boot and clamp of the outboard joint are smaller than those of the inboard joint.

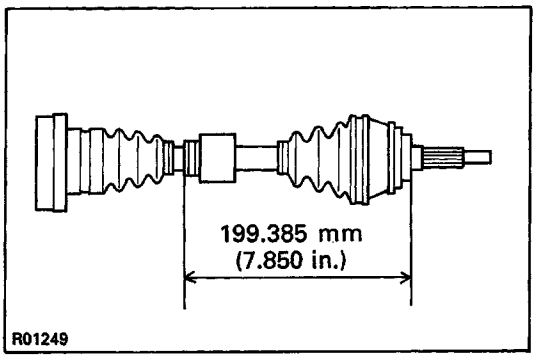
Temporarily install a new inboard joint boot and clamps.



2. (RH DRIVE SHAFT)

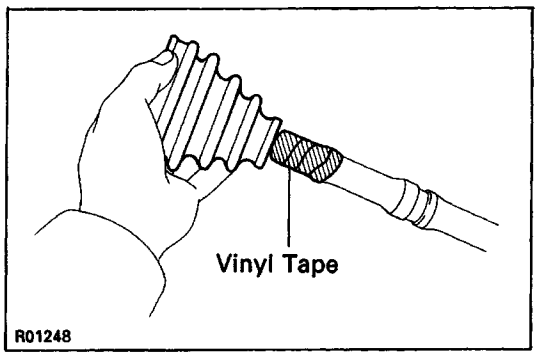
TEMPORARILY INSTALL DAMPER AND NEW DAMPER CLAMP

HINT: Fix the clamp position in line with the groove of the drive shaft.



3. TEMPORARILY INSTALL NEW INBOARD JOINT BOOT AND NEW BOOT CLAMPS

Temporarily install a new boot and boot clamps to the drive shaft.

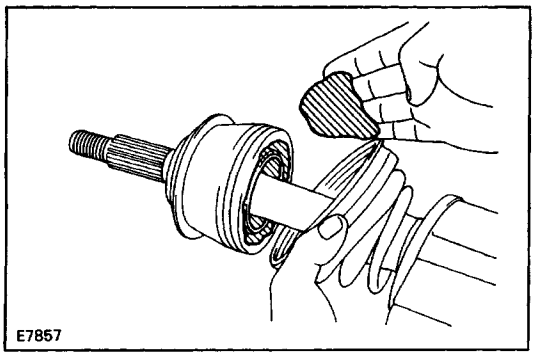


4. INSTALL BOOT TO OUTBOARD JOINT

Before assembling the boots, pack in grease.

HINT: Use the grease supplied in the boot kit.

Grease capacity: 120 g (0.26 lb)



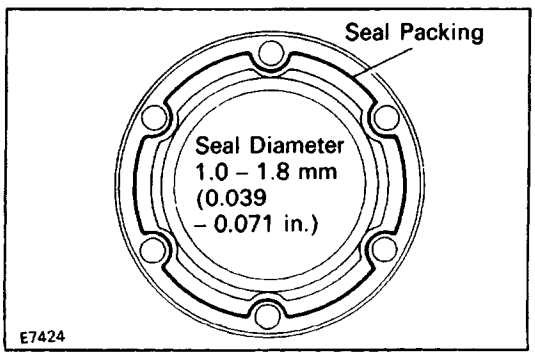
5. INSTALL INBOARD JOINT COVER

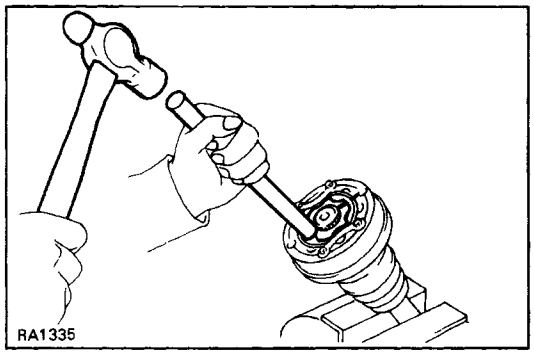
(a) Clean contacting surfaces of any residual packing material using gasoline or alcohol.

(b) Apply seal packing to the inboard joint cover as shown.

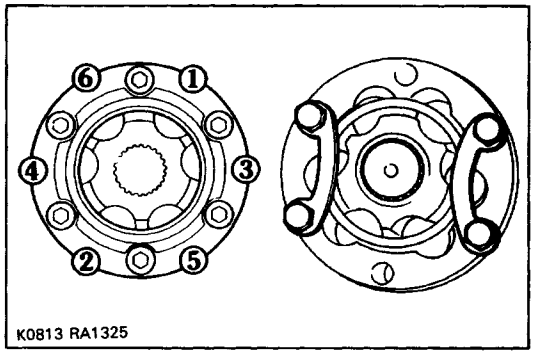
Seal packing: Part No.08826–00801, THREE BOND 1121 or equivalent

HINT: Avoid applying an excess amount to the surface.



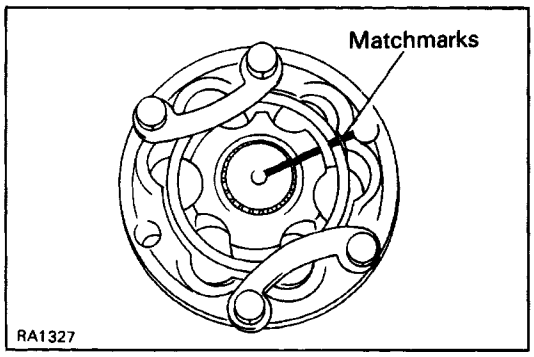


(c) Align the bolt holes of the cover with those of the inboard joint, then insert the hexagon bolts.
(d) Using a hammer and brass bar, tap the rim of the inboard joint cover into place. Do this in the order shown, and repeat several times.



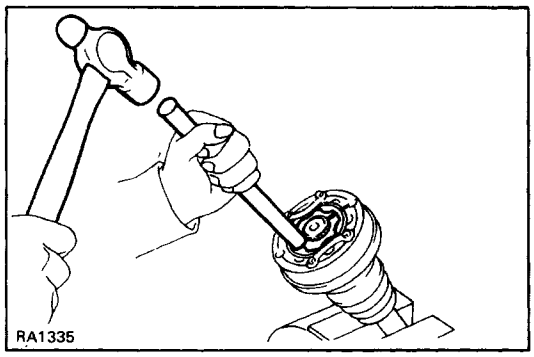
(e) Use bolts, nuts and washers to keep the inboard joint together.

NOTICE: Tighten the bolts by hand to avoid scratching the flange surface.



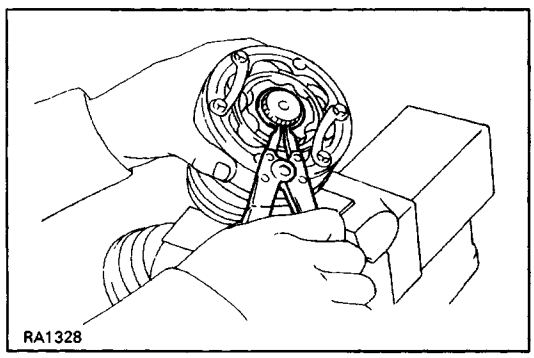
6. ASSEMBLE INBOARD JOINT

(a) Align the matchmarks placed before disassembly.

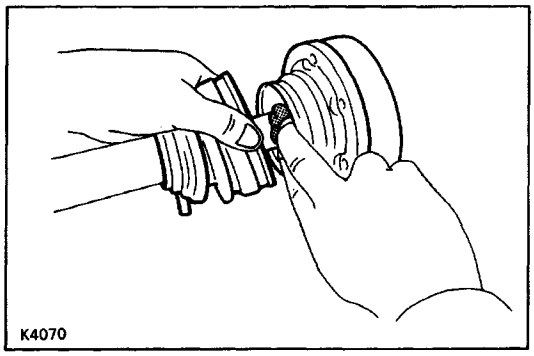


(b) Using a brass bar and hammer, tap the inboard joint onto the drive shaft.

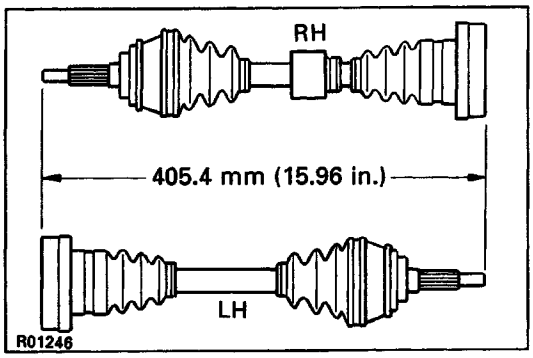
NOTICE: Make sure that the brass bar is touching the inner race, and not the cage.



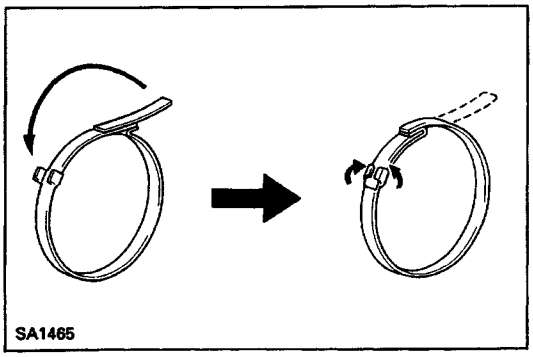
(e) Using a snap ring expander, install a new snap ring.



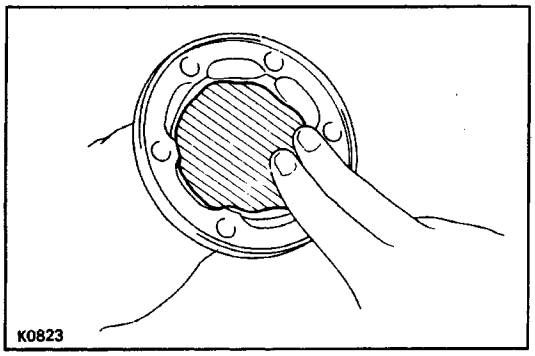
(d) Pack in grease to the inboard tulip and boot.
HINT: Use the grease supplied in the boot kit.
Grease capacity: 90 g (0.20 lb)



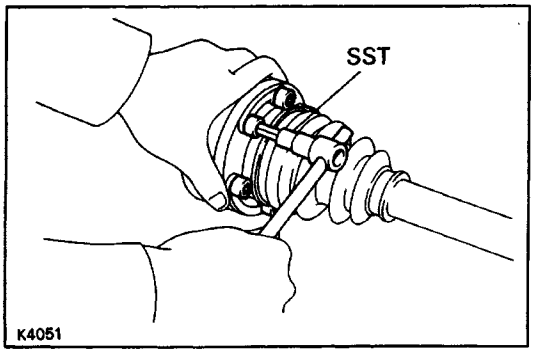
(e) Be sure the boot is on the shaft groove.
(f) Insure that the boot is not stretched or contracted when the drive shaft is at standard length.
Drive shaft length: 405.4 mm (15.96 in.)



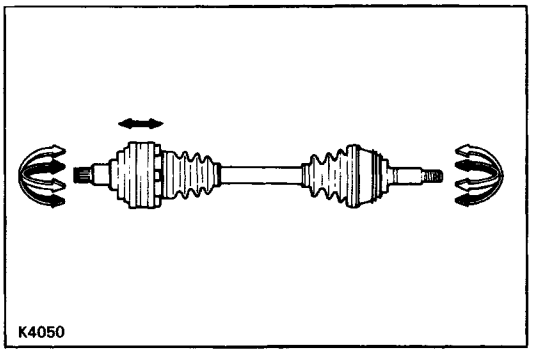
7. ASSEMBLE BOOT CLAMPS AND DAMPER CLAMP
(a) Be sure the boot is on the shaft groove.
(b) Using a screwdriver, bend the band and lock it as shown in the illustration.



8. INSTALL SIDE GEAR SHAFT
(a) Pack in grease to the side gear shaft.
HINT: Use the grease supplied in the boot kit.
Grease capacity: 43 g (0.09 lb)
(b) Remove the two washers and four bolts from the drive shaft.



(c) Align the matchmarks and install the side gear shaft with a new gasket to the drive shaft.
(d) Using SST, finger tighten the six hexagon bolts with three washers.
SST 09043–88010



9. CHECK DRIVE SHAFT

(a) Check to see that there is no play in the inboard joint and outboard joint.

(b) Check to see that the inboard joint slide smoothly in the thrust direction.

INSTALLATION OF FRONT DRIVE SHAFT

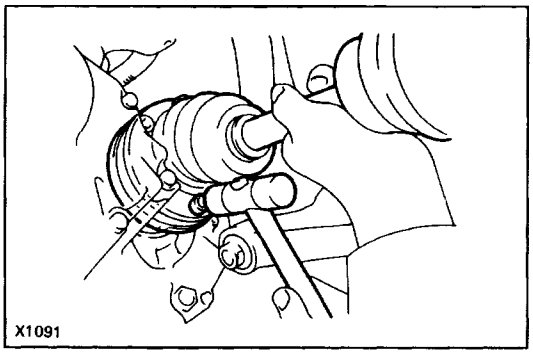
(See page SA–33)

1. INSTALL DRIVE SHAFT

(a) Temporarily install the drive shaft with a plastic hammer.

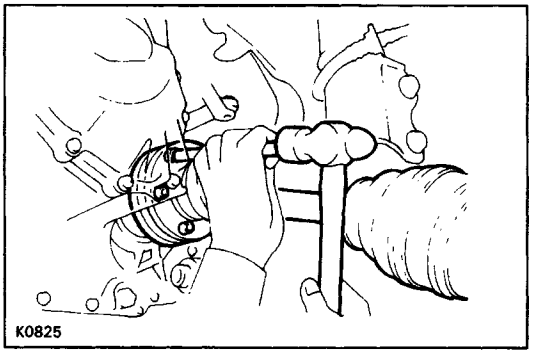
HINT: Before installing the drive shaft, set the snap ring opening side facing downward.

NOTICE: Be careful not to damage the boot, oil seal and deflector.



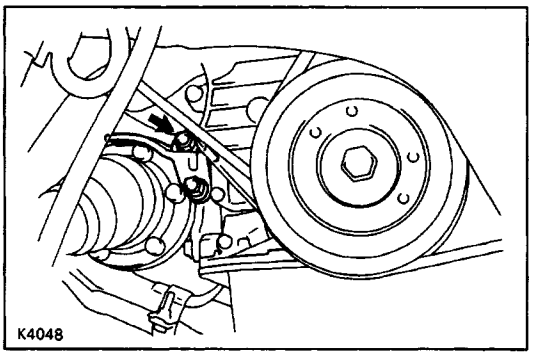
(b) Using a brass bar and hammer, tap in the hexagon bolt head of the drive shaft until it makes contact with the pinion shaft.

HINT: Whether or not the drive shaft is making contact with the pinion shaft can be known by sound or feeling when driving it in.



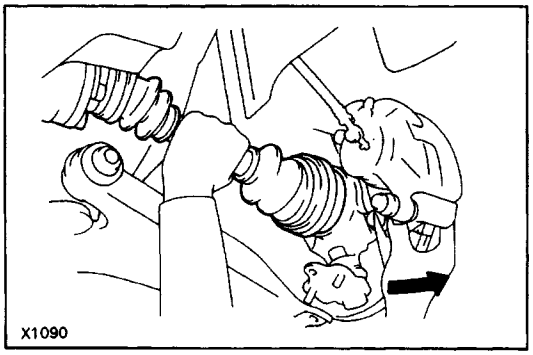
(c) Install the transmission case protector with two bolts.

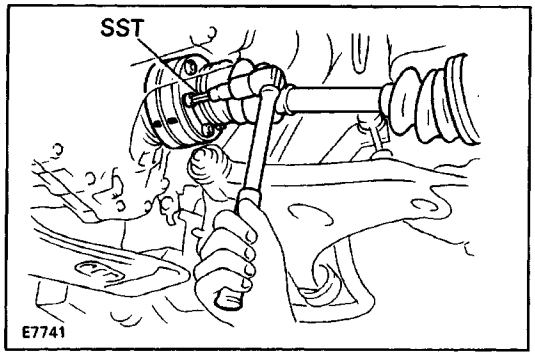
Torque: 18 N–m (185 kgf–cm, 13 ft–lbf)



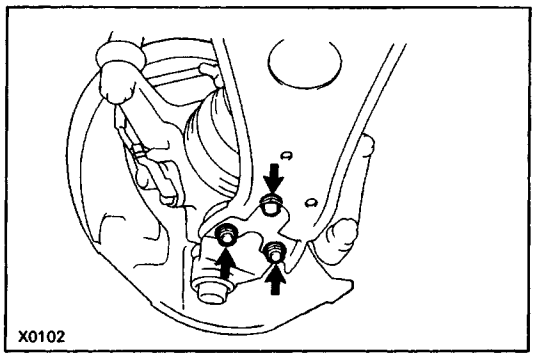
(d) Install the outboard joint side of the drive. shaft to the axle hub.

NOTICE: Be careful not to damage the oil seal and boot.

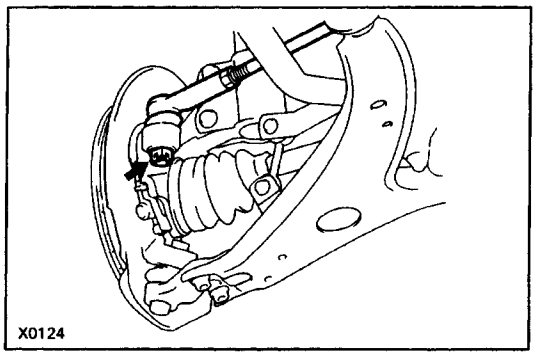




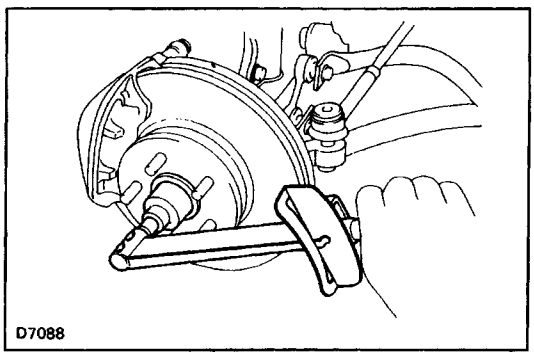
(e) Using SST, torque the six hexagon bolts while depressing the brake pedal.
SST 09043–88010
Torque: 65 N–m (660 kgf–cm, 48 ft–lbf)



2. CONNECT STEERING KNUCKLE TO LOWER ARM
(a) Install the steering knuckle to the lower arm.
(b) Install and torque the bolt and two nuts.
Torque: 127 N–m (1,300 kgf–cm, 94 ft–lbf)



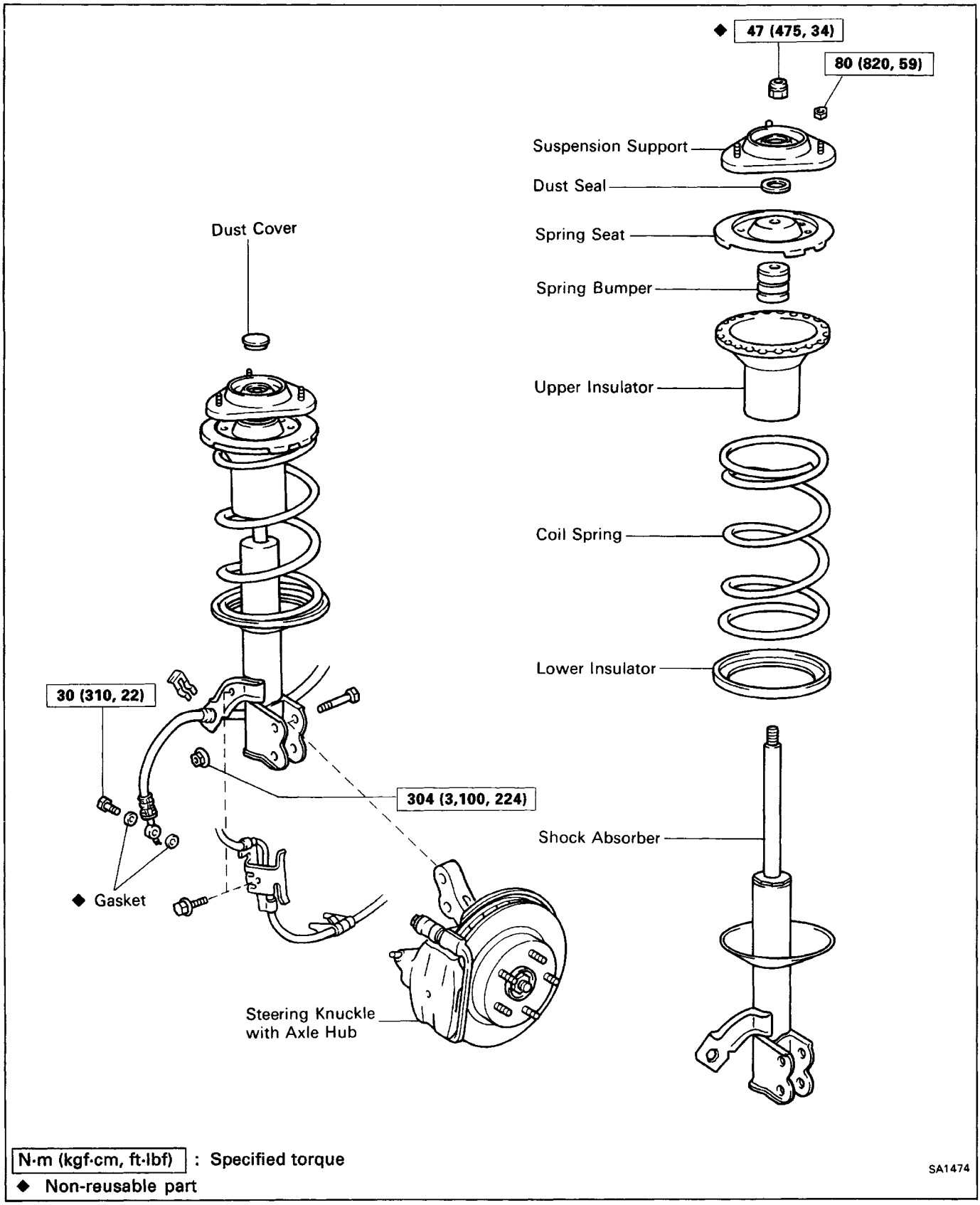
3. CONNECT TIE ROD END TO STEERING KNUCKLE
(a) Install the tie rod end to the steering knuckle with a nut.
(b) Torque the nut.
Torque: 49 N–m (500 kgf–cm, 36 ft–lbf)
(c) Install a new cotter pin.
HINT: If the cotter pinhole does not lineup, correct by tightening the nut by the smallest amount possible.



4. INSTALL BEARING LOCK NUT, LOCK NUT CAP AND NEW COTTER PIN
(a) Install the lock nut.
(b) Torque the lock nut while depressing the brake pedal.
Torque: 226 N–m (2,300 kgf–cm, 166 ft–lbf)
(c) Install the lock nut cap, and using pliers, install a new cotter pin.

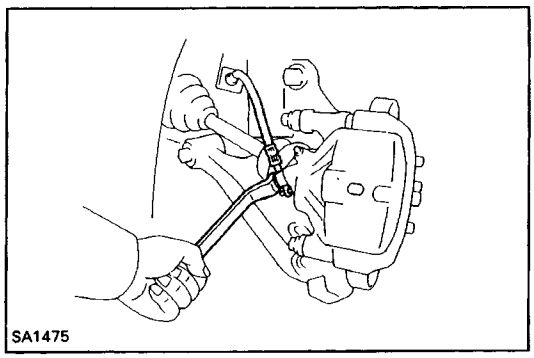
5. INSTALL FRONT WHEELS
6. FILL TRANSAXLE WITH GEAR OIL
7. CHECK FRONT WHEEL ALIGNMENT
(See page SA–3)

FRONT SUSPENSION
Front Shock Absorber
COMPONENTS



N·m (kgf·cm, ft·lbf) : Specified torque
◆ Non-reusable part

SA1474

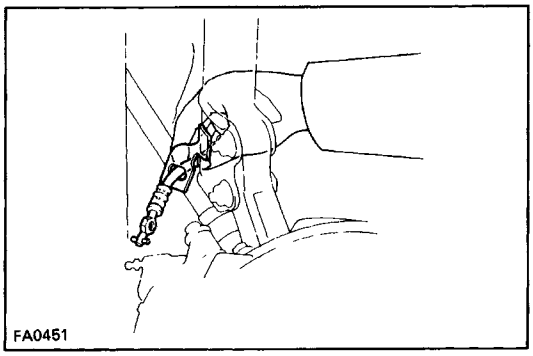

SA1475

REMOVAL OF SHOCK ABSORBER ASSEMBLY

1. DISCONNECT BRAKE HOSE

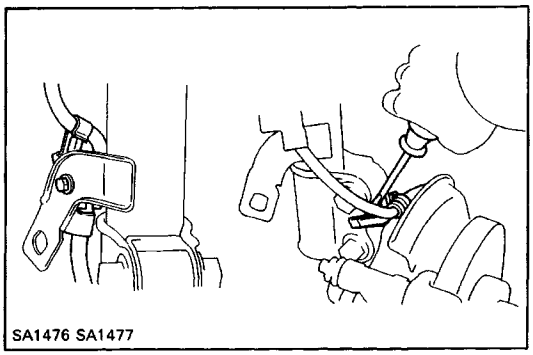
(a) Remove the union bolt and two gaskets, and disconnect the brake hose from the disc brake caliper.

(b) Drain the brake fluid into a container.


FA0451

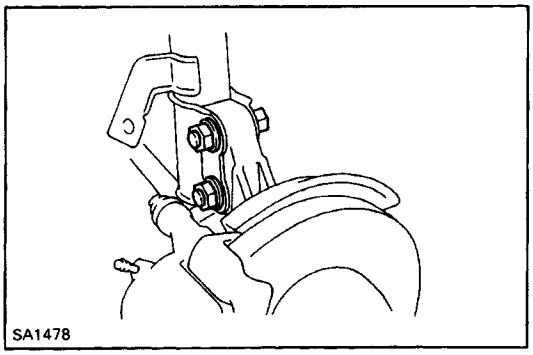
(c) Remove the clip from the brake hose.

(d) Pull off the brake hose from the brake hose bracket.


SA1476 SA1477

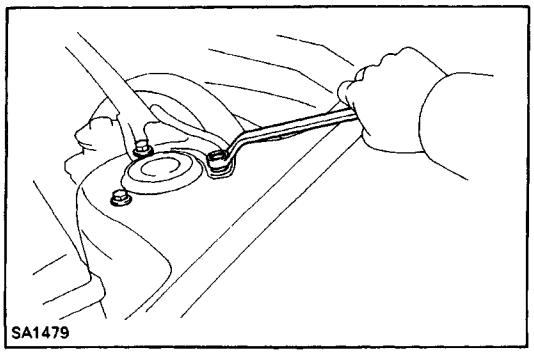
(e) (w/ABS)

Remove the speed sensor wire harness clamp bracket bolt and disconnect the wire harness clamp.


SA1478

2. DISCONNECT SHOCK ABSORBER FROM STEERING KNUCKLE

Remove the bolts and nuts, and disconnect the shock absorber from the steering knuckle.

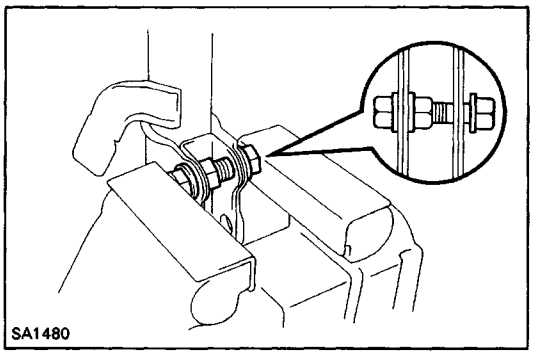

SA1479

3. REMOVE SHOCK ABSORBER FROM BODY

(a) Remove the three nuts holding the top of the suspension support.

(b) Remove the shock absorber from the body.

NOTICE: Cover the drive shaft boot with cloth to avoid damaging it.

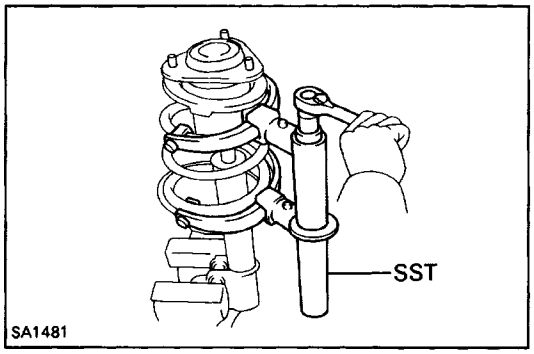


DISASSEMBLY OF SHOCK ABSORBER ASSEMBLY

(See page SA–46)

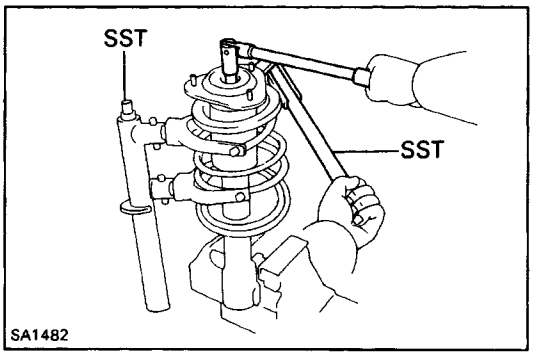
1. CLAMP SHOCK ABSORBER IN VISE

Install a bolt and two nuts to the bracket at the lower portion of the shock absorber shell and secure it in a vise.

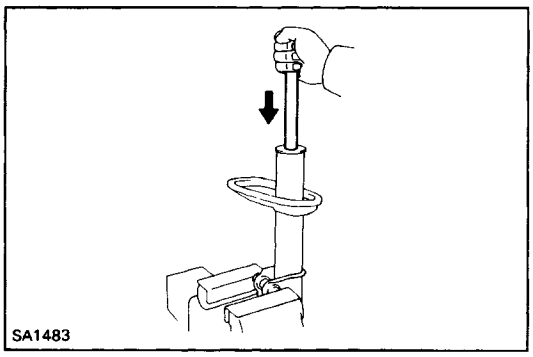


2. REMOVE COIL SPRING

(a) Using SST, compress the coil spring.
SST 09727–30020
(b) Remove the dust cover.



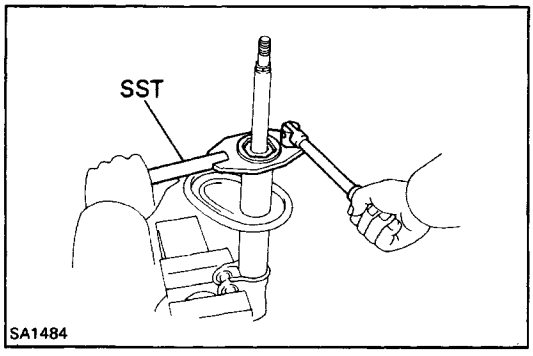
(c) Using SST, hold the spring seat so that it will not turn, and remove the nut.
SST 09729–22031
(d) Remove the suspension support, dust seal, spring seat, spring, insulators and bumper.



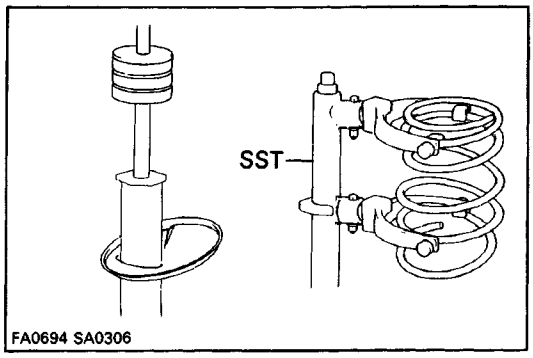
INSPECTION AND REPLACEMENT OF SHOCK ABSORBER

INSPECT OPERATION OF SHOCK ABSORBER

(a) While pushing the piston rod, check that the pull throughout the stroke is even, and there is no abnormal resistance or noise.
(b) Push the piston rod in fully and release it. Check that it returns at a constant speed throughout.



If the shock absorber operation is defective, replace the shock absorber as an assembly.
NOTICE: Before discarding the shock absorber, first loosen the ring nut 2 or 3 turn with SST to release the gas completely.
SST 09720–00012 (09721–00071)

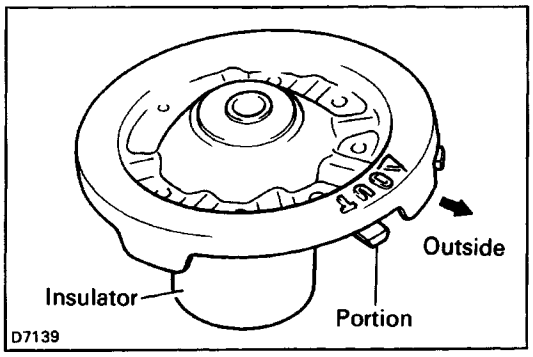


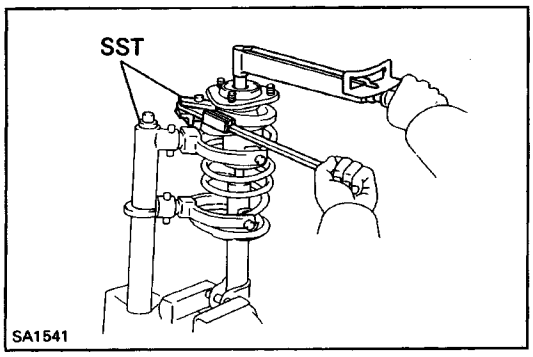
ASSEMBLY OF SHOCK ABSORBER ASSEMBLY

(See page SA–46)

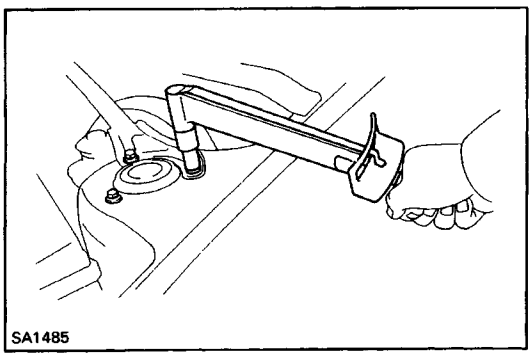
ASSEMBLE SHOCK ABSORBER ASSEMBLY

(a) Install the spring bumper to piston rod.
(b) Using SST, compress the coil spring.
SST 09727–30020
(c) Install the lower insulator.
(d) Align the coil spring end with the lower seat hollow and install.
(e) Install the upper insulator.
(f) Face the "OUT" mark of the spring seat toward the outside of the vehicle, and install it.
(g) Install the dust seal on the spring seat.
(h) Install the suspension support.





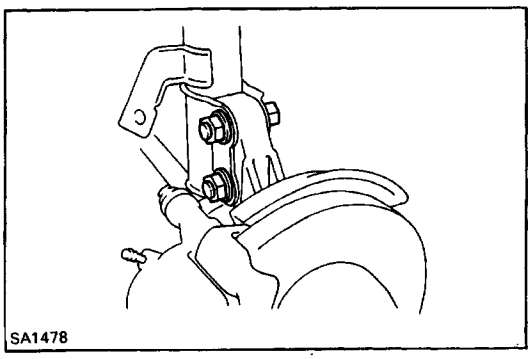
(i) Using SST, install and torque a new suspension support nut.
SST 09729–22031
Torque: 47 N–m (475 kgf–cm, 34 ft–lbf)



INSTALLATION OF SHOCK ABSORBER ASSEMBLY

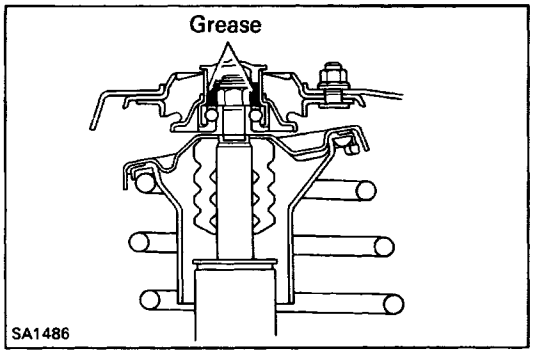
1. INSTALL SHOCK ABSORBER TO BODY

Install the three nuts holding the shock absorber to the body. Torque the nuts.
Torque: 80 N–m (820 kgf–cm, 59 ft.–lbf)
NOTICE: Be careful not to damage the drive shaft boot.



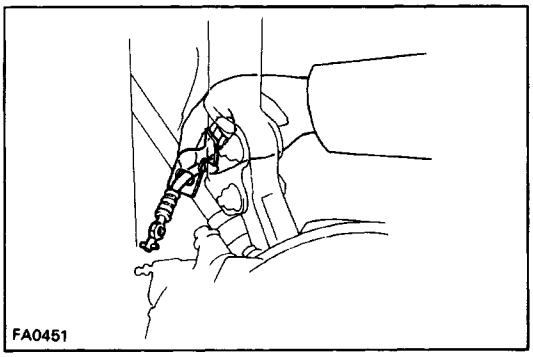
2. CONNECT SHOCK ABSORBER TO STEERING KNUCKLE

(a) Connect the steering knuckle to the shock absorber lower bracket.
(b) Install the two bolts from the rear side.
(c) Install and torque the two nuts.
Torque: 304 N–m (3,700 kgf–cm, 224 ft–lbf)



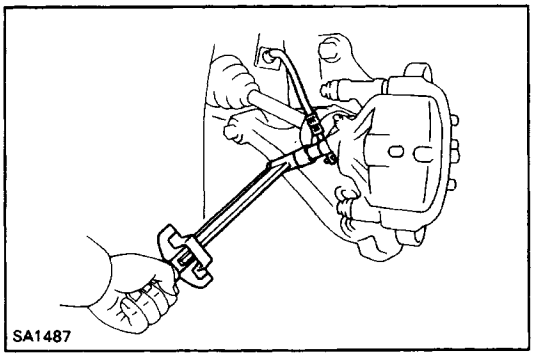
3. INSTALL DUST COVER

Pack the suspension support bearing with MP grease.
Install the dust cover.



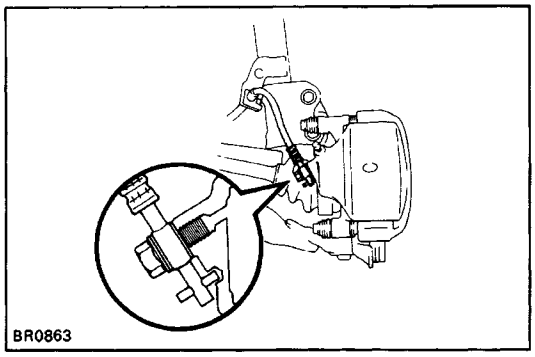
4. CONNECT BRAKE HOSE

(a) Run the brake hose through the brake hose bracket.



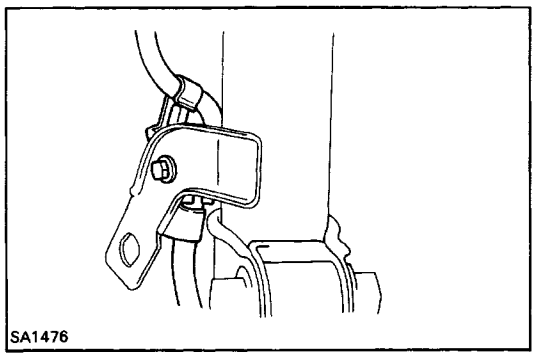
(b) Connect the brake hose through the disc brake caliper with the union and new gaskets.

Torque: 30 N–m (370 kgf–cm, 22 ft–lbf)



HINT: When connecting the brake hose to the caliper, connect so the peg aligns with the hole.

(c) Install the clip.



5. (w/ABS)

CONNECT SPEED SENSOR WIRE HARNESS TO SHOCK ABSORBER

Clamp the speed sensor wire harness to the steering nuckle and install the wire harness clamp bracket to the shock absorber with a bolt.

6. BLEED BRAKE SYSTEM

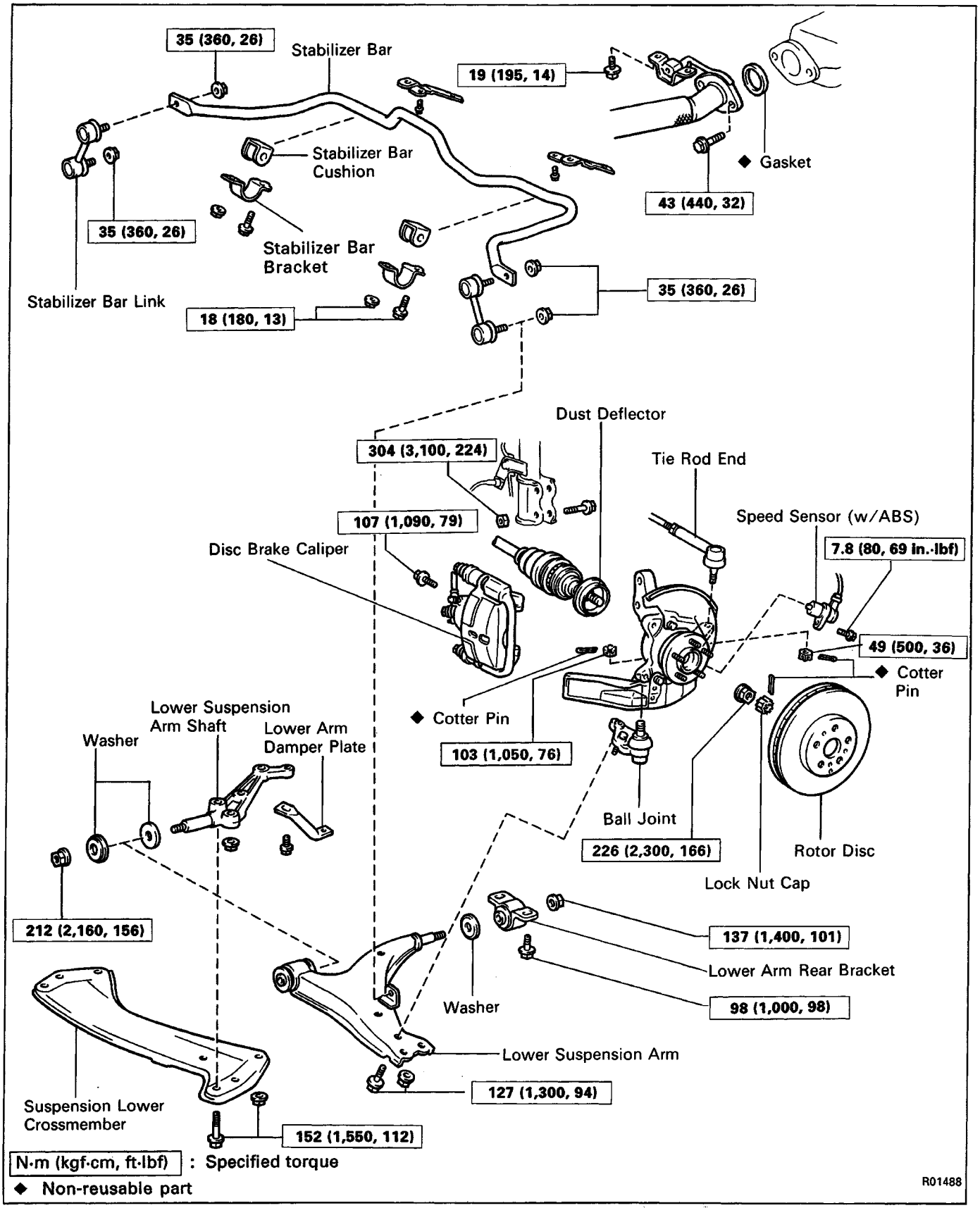
(See page BR–7**)**

7. INSPECT FRONT WHEEL ALIGNMENT

(See page SA–4**)**

Ball Joints Lower Arm and Stabilizer Bar

COMPONENTS



(Ball Joints)

INSPECTION OF BALL JOINT

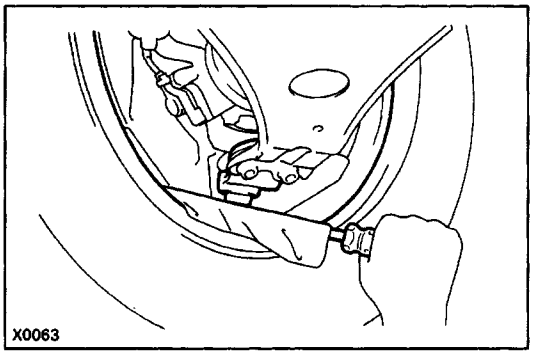
1. INSPECT BALL JOINT FOR EXCESSIVE LOOSENESS

(a) Jack up the front of the vehicle and place a wooden block with a height of 180–200 mm (7.09–7.87 in.) under one front tire.

(b) Lower the jack until there is about half a load on one front coil spring. Place stands under the vehicle for safety.

(c) Make sure the front wheels are in a straightforward position and block the wheel with chocks.

(d) Move the lower arm up and down, and check that the ball joint has no excessive play.
Ball joint vertical play: 0 mm (0 in.)



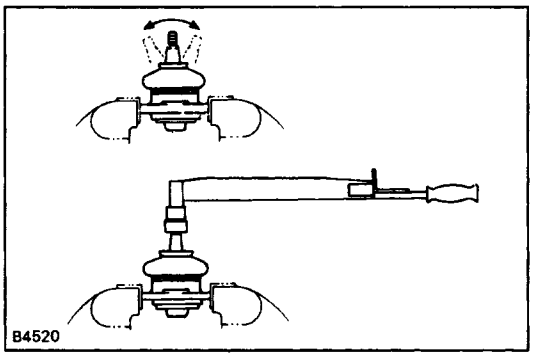
2. INSPECT BALL JOINT FOR ROTATION CONDITION

(a) Remove the ball joint. (See page SA–8)

(b) Flip the ball joint stud back and forth 5 times as shown in the illustration, before installing the nut.

(c) Using a torque gauge, turn the nut continuously one turn every 2–4 seconds and take the torque reading on the fifth turn.
Torque (turning): 1.0 – 2.9 N–m
(10 – 30 kgf–cm, 9 – 26 in.–lbf)
If not within specification, replace the ball joint.

(d) Install the ball joint.

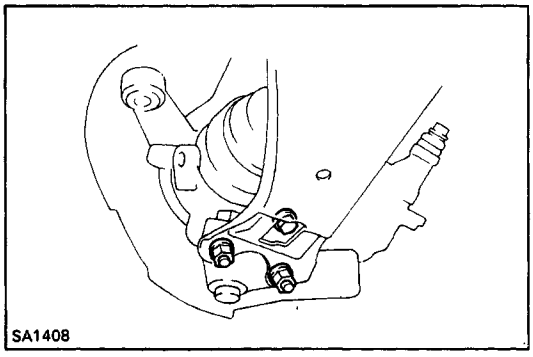


(Lower Arm)

REMOVAL OF LOWER SUSPENSION ARM

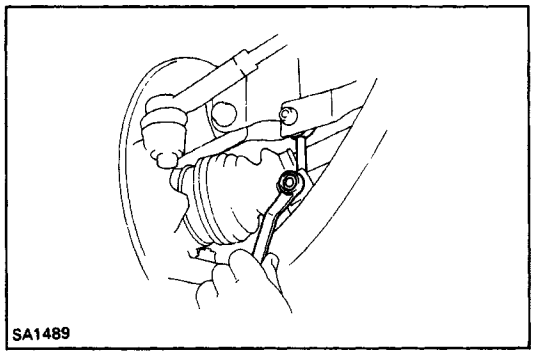
1. DISCONNECT LOWER ARM FROM STEERING KNUCKLE

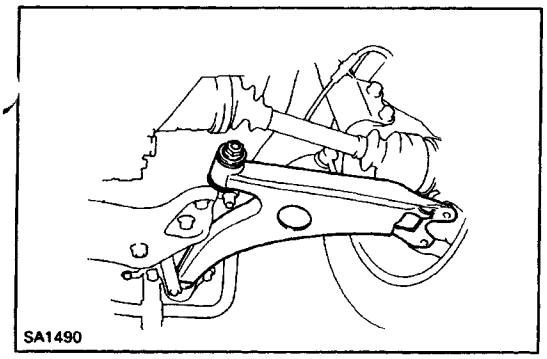
Remove the bolt and two nuts holding the steering knuckle to the lower suspension arm.



2. DISCONNECT STABILIZER LINK FROM LOWER SUSPENSION ARM

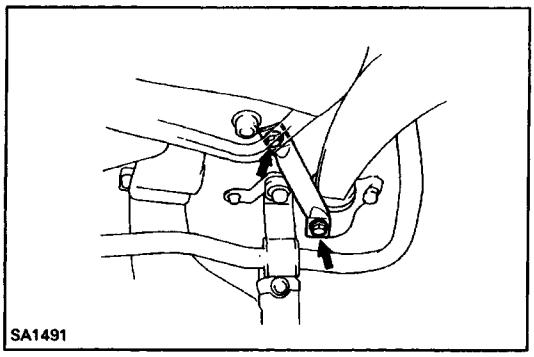
Remove the nut and disconnect the stabilizer link from the lower suspension arm.
HINT: If the ball joint stud turns together with the nut, use a hexagon wrench 5 mm (0.197 in.) to hold the stud.





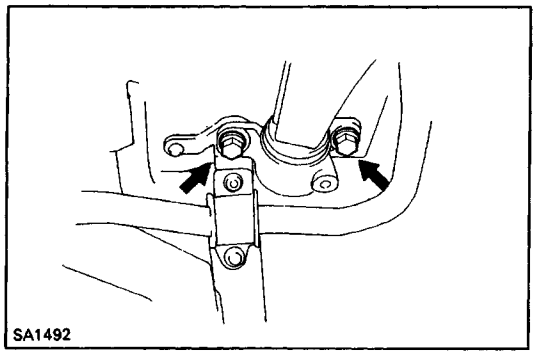
3. REMOVE LOWER SUSPENSION ARM FRONT SETTING NUT

Remove the lower suspension arm front setting nut and washer.



4. REMOVE LOWER SUSPENSION ARM
(Except LH Arm w/ A/T)

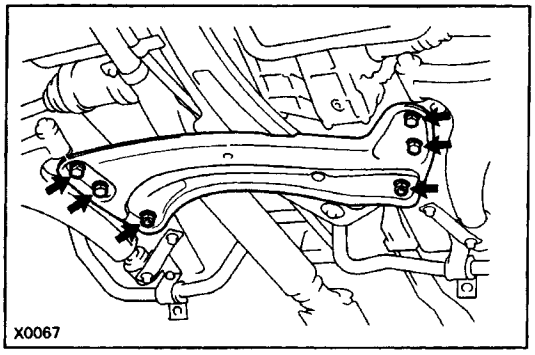
(a) Remove the two bolts and remove the lower arm damper plate.



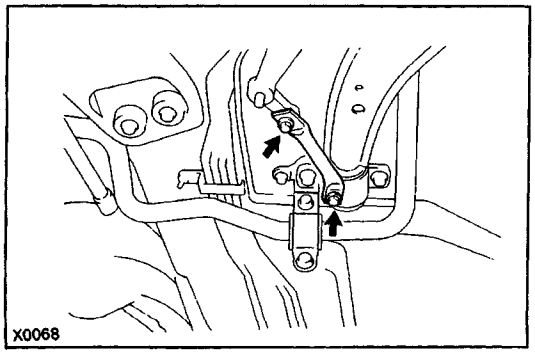
(b) Remove the lower suspension arm rear bracket bolts.

(c) Remove the lower suspension arm.

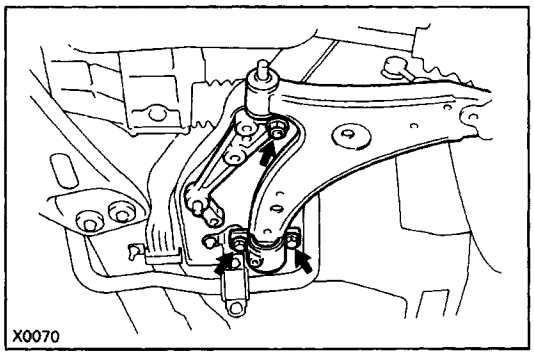
(LH Arm w/ A/T)



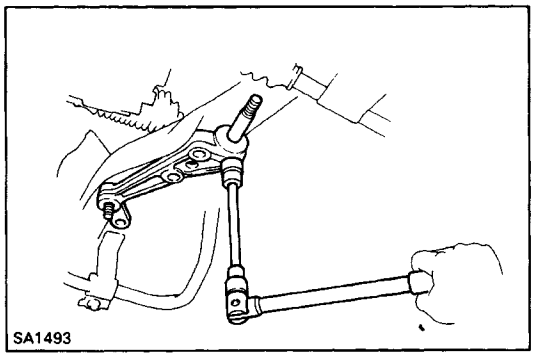
(a) Remove the four bolts and two nuts, then remove the suspension lower crossmember.



(b) Remove the two bolts and remove the lower arm damper plate.



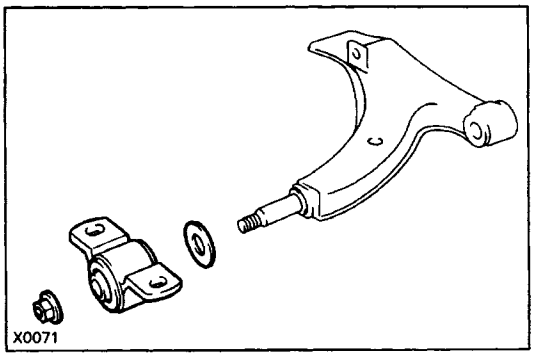
(c) Remove the two bolts and nut, then remove the lower suspension arm with the lower arm shaft.
(d) Remove the lower arm shaft from the lower suspension arm.



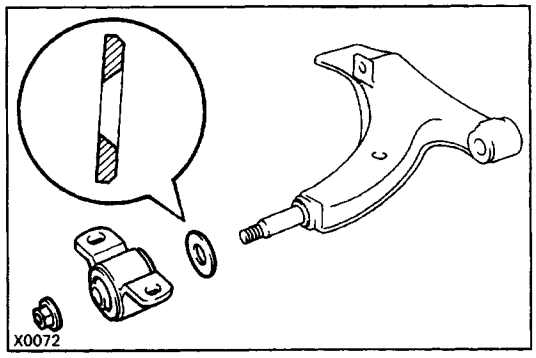
5. (EXCEPT LH ARM w/ A/T)
IF NECESSARY, REMOVE LOWER SUSPENSION ARM SHAFT
(a) Remove the four bolts and two nuts, then remove the suspension lower crossmember.
(b) Remove the nut and remove the lower suspension arm shaft.

REPLACEMENT OF LOWER SUSPENSION ARM REAR BUSHING

1. REMOVE NUT AND BUSHING
Remove the nut, then remove the bushing and washer.

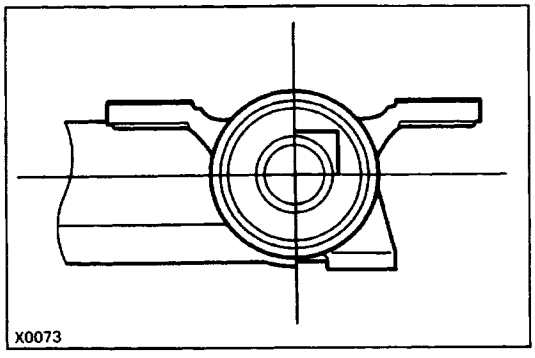


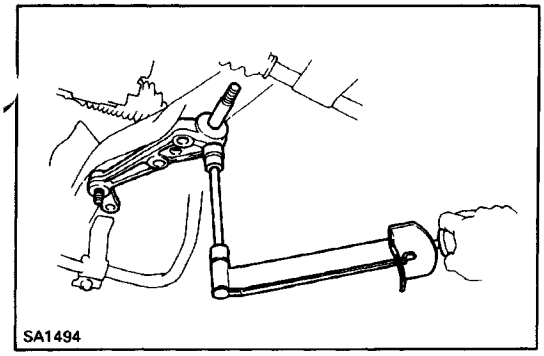
2. INSTALL NEW BUSHING
(a) Install the washer with the tapered side towards the lower suspension arm body as shown in the illustration.



(b) Install the new bushing to the lower suspension arm as shown in the illustration.

3. TEMPORARILY INSTALL NUT





INSTALLATION OF LOWER SUSPENSION ARM

(See page SA–51)

1. (EXCEPT LH ARM w/ A/T)

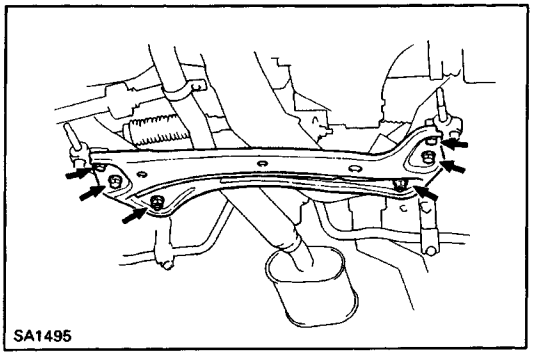
IF NECESSARY, INSTALL LOWER SUSPENSION ARM SHAFT

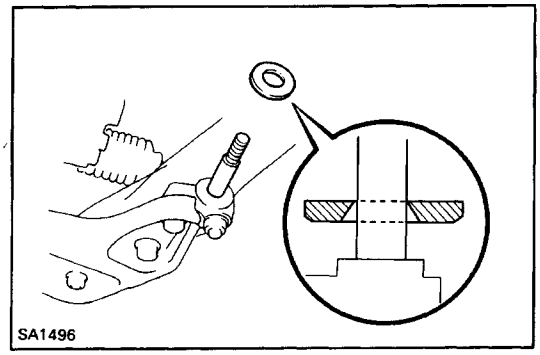
(a) Install the lower suspension arm shaft in place, then install and torque the front side nut.

Torque: 152 N–m (1,550 kgf–cm, 112 ft–lbf)

(b) Install the suspension lower crossmember in place, then install and torque the four bolts and two nuts.

Torque: 152 N–m (1,550 kgf–cm, 112 ft–lbf)

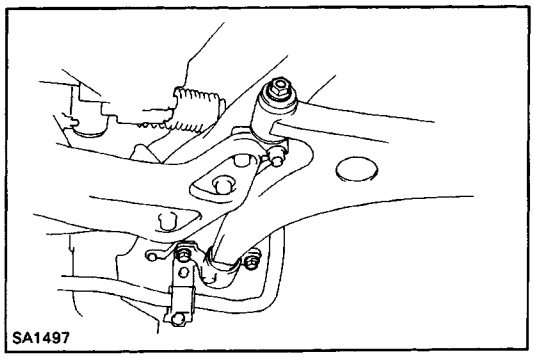




2. INSTALL LOWER SUSPENSION ARM

(Except LH Arm w/ A/T)

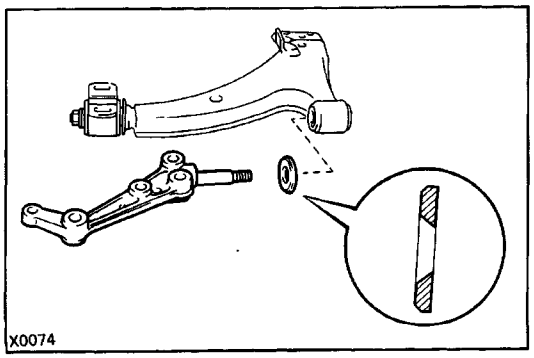
(a) Install the washer to the lower suspension arm shaft with the tapered side towards the body.



(b) Install the lower suspension arm in place, then temporarily install the rear bracket bolts, front washer and nut.

(c) Torque the rear bracket bolts.

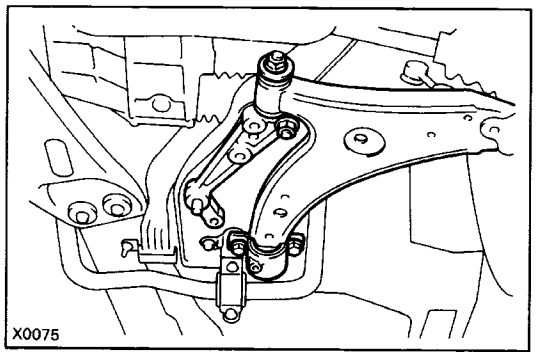
Torque: 98 N–m (1,000 kgf–cm, 72 ft–lbf)



(LH Arm w/ A/T)

(a) Install the washer to the lower suspension arm shaft with the tapered side towards the shaft body.

(b) Install the lower suspension arm shaft with washer to the lower suspension arm, then temporarily install the front washer and nut.

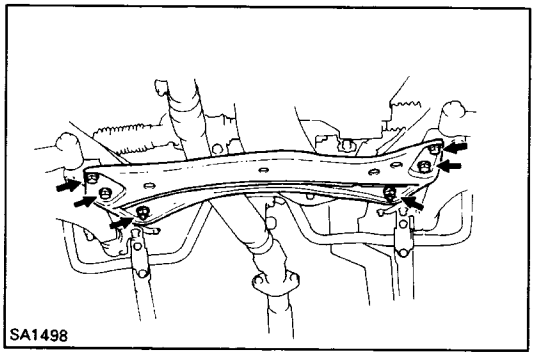


(c) Install the lower suspension arm to the body i place, then install and torque the front side arm shaft installation nut.

Torque: 152 N–m (1,550 kgf–cm, 712 ft–lbf)

(d) Install and torque the rear bracket bolts.

Torque: 98 N–m (1,000 kgf–cm, 72 ft–lbf)



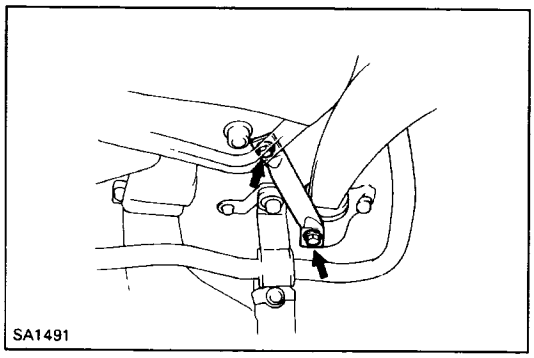
(e) Install the suspension lower crossmember in place, then install and torque the four bolts and two nuts.

Torque: 152 N–m (7,550 kgf–cm, 112 ft–lbf)

3. INSTALL LOWER ARM DAMPER PLATE

Install the lower arm damper plate with the two bolts.

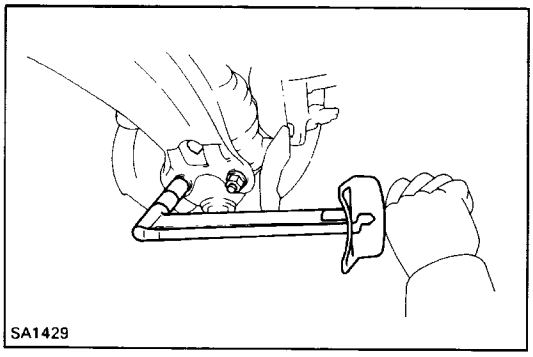
Torque: 65 N–m (660 kgf–cm, 48 ft–lbf)



4. CONNECT LOWER SUSPENSION ARM TO STEERING KNUCKLE

Connect the lower suspension arm to the steering knuckle, then install and torque the bolt and two nuts.

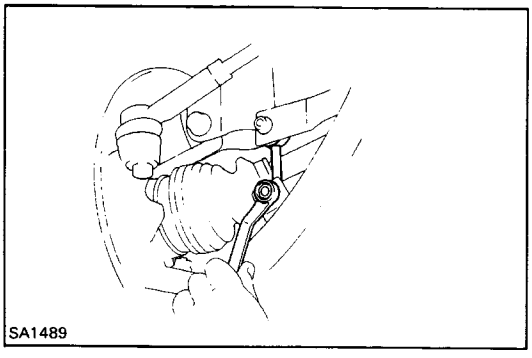
Torque: 127 N–m (1,300 kgf–cm, 94 ft–lbf)

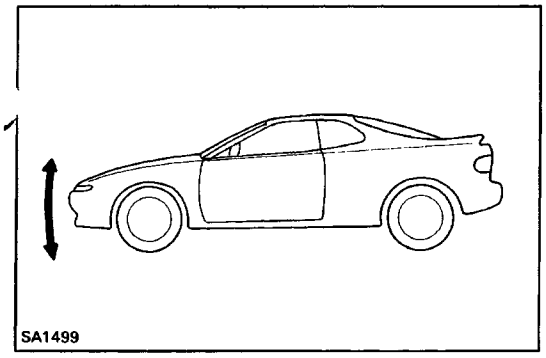


5. CONNECT STABILIZER LINK

Connect the stabilizer link to the lower suspension arm and torque the nut.

Torque: 35 N–m (366 kgf.crn, 26 ft–lbf)

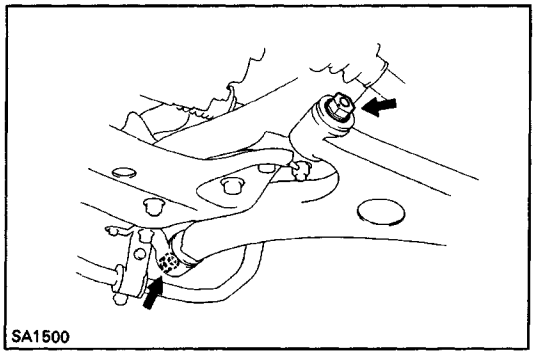



SA1499

6. INSTALL WHEEL AND LOWER VEHICLE

(a) Install the wheel and lower the vehicle.

(b) Bounce the vehicle up and down to stabilize the suspension.


SA1500

7. TORQUE FRONT SETTING NUT AND REAR NUT

Torque:

Front setting nut

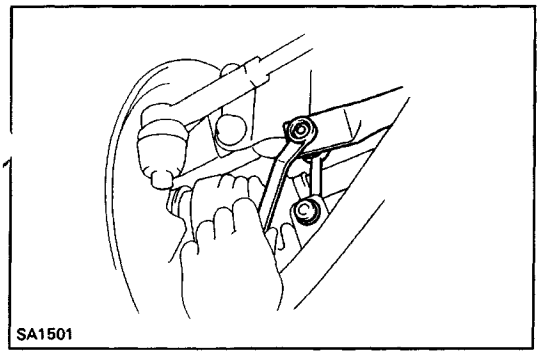
212 N–m (2,160 kgf–cm, 156 ft–lbf)

Rear nut

137 N–m (1,400 kgf–cm, 101 ft–lbf)

8. CHECK FRONT WHEEL ALIGNMENT

(See page SA–4)


SA1501

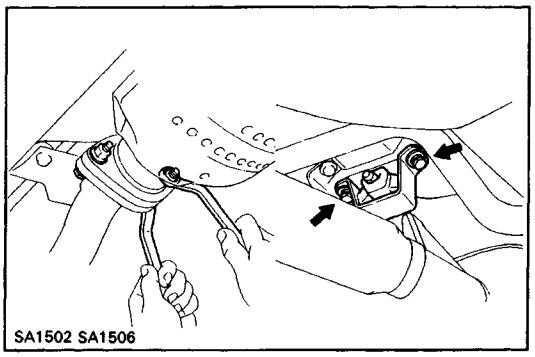
(Stabilizer Bar)

(See page SA–51)

REMOVAL OF STABILIZER BAR

1. REMOVE STABILIZER BAR LINK

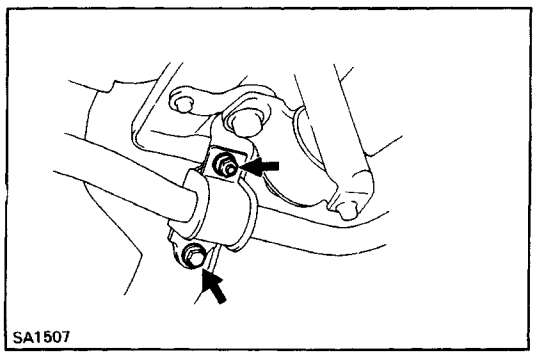
HINT: If the ball joint stud turns together with the nut, use a hexagon wrench 5 mm (0.197 in.) to hold the stud.


SA1502 SA1506

2. DISCONNECT FRONT EXHAUST PIPE FROM REAR EXHAUST PIPE

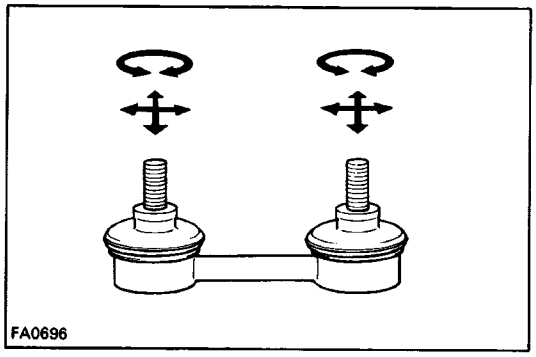
3. DISCONNECT FRONT EXHAUST PIPE FROM BODY

Remove the two bolts and disconnect the exhaust pipe from the body.


SA1507

4. REMOVE BOTH STABILIZER BAR BRACKETS AND CUSHION FROM BODY

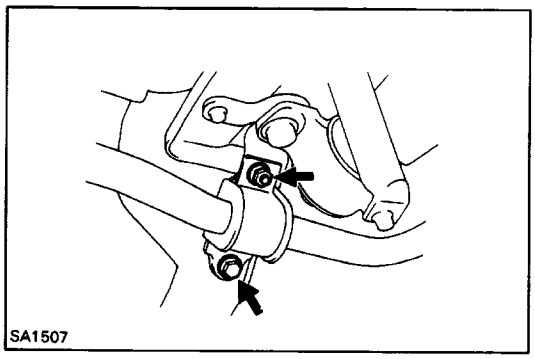
5. REMOVE STABILIZER BAR



INSPECTION OF STABILIZER LINK

INSPECT STABILIZER LINK

Rotate ball joint arm in all direction. If the movement is not smooth and free, replace the stabilizer link.



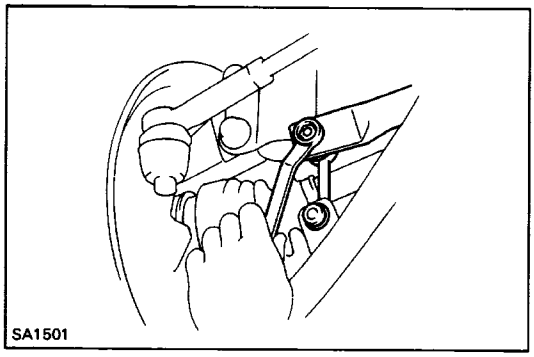
INSTALLATION OF STABILIZER BAR

1. INSTALL STABILIZER BAR

(a) Install the cushions on the painted portions of the stabilizer bar.

(b) Install the stabilizer bar in place, then install the both stabilizer brackets with the bolts and nuts.

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

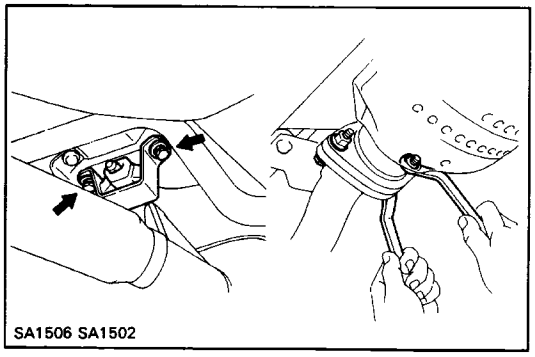


2. INSTALL STABILIZER BAR LINK

Install the stabilizer bar link with the nuts.

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

HINT: If the ball joint stud turns together with the nut, use a hexagon wrench 5 mm (0.197 in.) to hold the stud.



3. CONNECT FRONT EXHAUST PIPE TO BODY

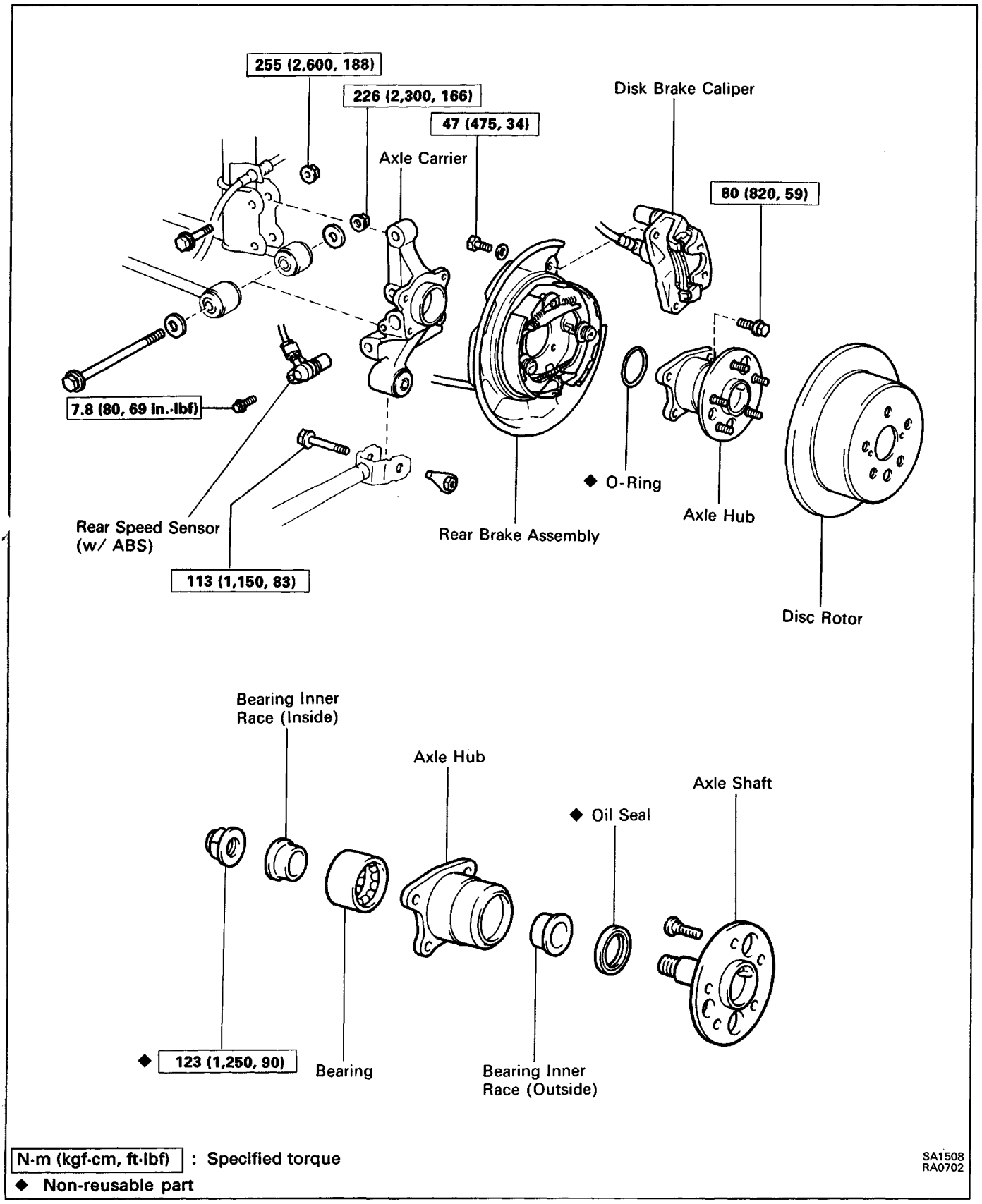
Torque: 19 N–m (195 kgf–cm, 14 ft–lbf)

4. CONNECT FRONT EXHAUST PIPE TO REAR EXHAUST PIPE

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

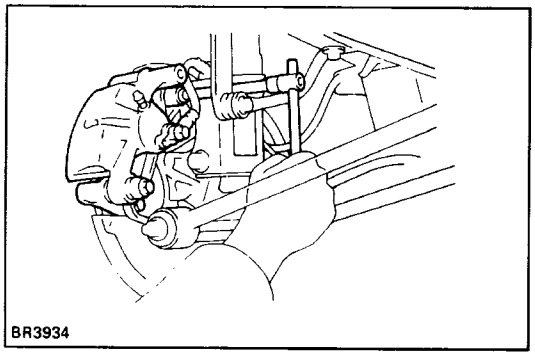
REAR AXLE HUB AND CARRIER (2WD)

COMPONENTS



N·m (kgf·cm, ft·lbf) : Specified torque
◆ Non-reusable part

SA1508
RA0702


BR3934

INSPECTION OF AXLE HUB BEARING

1. REMOVE WHEEL

2. (DISC BRAKE TYPE)

REMOVE DISC BRAKE CALIPER

Remove the brake caliper from the axle carrier and suspend it with wire.

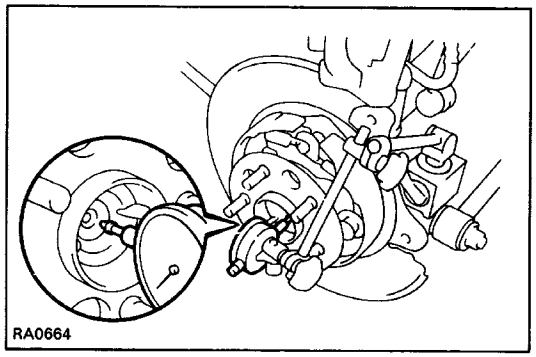
3. ROTATE BRAKE DRUM OR DISC ROTOR

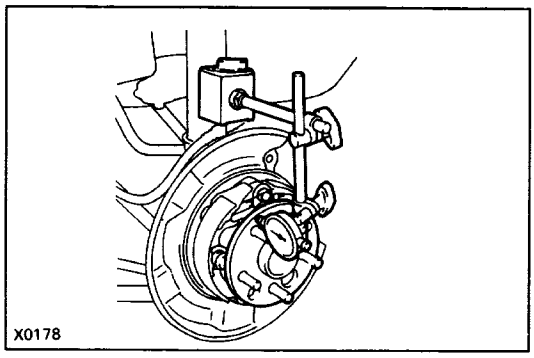
Rotate the drum or disc rotor by hand, if the movement is not smooth and free, replace the axle hub bearing.

4. CHECK BEARING PLAY IN AXIAL DIRECTION

Limit: 0.05 mm (0.0020 in.)

If not within specification, replace the bearing.

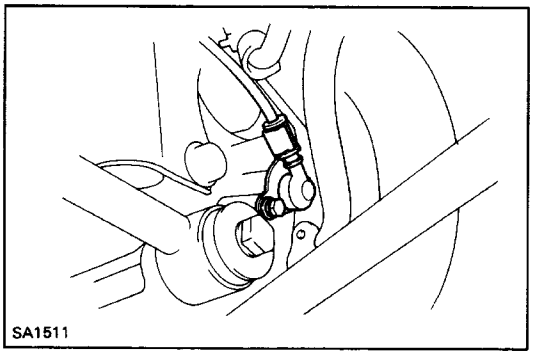

RA0664


X0178

5. CHECK AXLE HUB RUN4UT

Maximum runout: 0.07 mm (0.0028 in.)

If not within specification, replace the bearing.

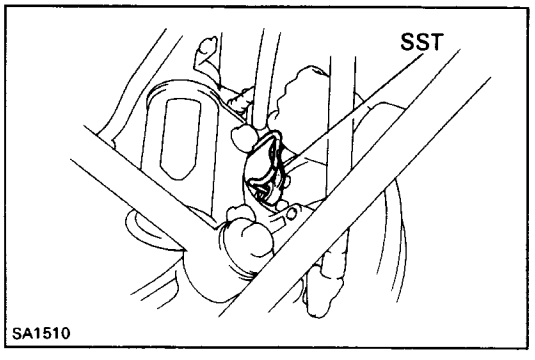

SA1511

REMOVAL OF REAR AXLE HUB AND CARRIER

1. (W/ ABS)

REMOVE REAR SPEED SENSOR

2. REMOVE BRAKE DRUM OR DISC ROTOR



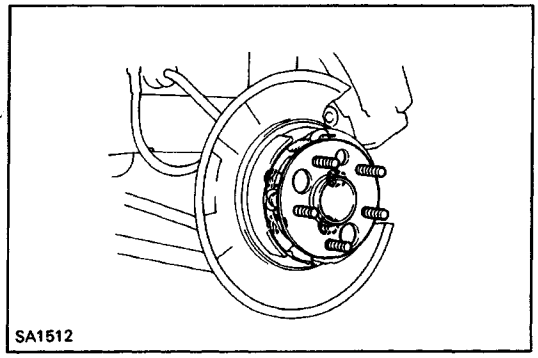
SA1510

3. (DRUM BRAKE TYPE)

DISCONNECT BRAKE TUBE FROM BACKING PLATE

Using SST, disconnect the brake tube from the backing plate.

SST 09751–36011

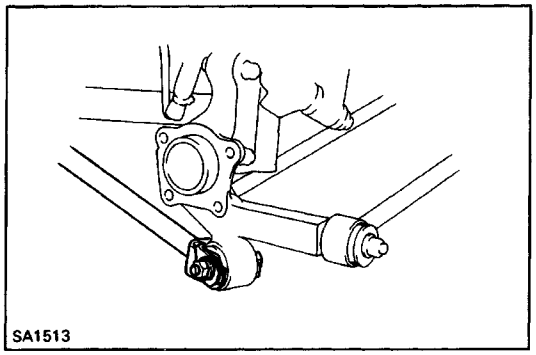


4. REMOVE REAR AXLE HUB

(a) Remove the four axle hub and carrier mounting bolts.

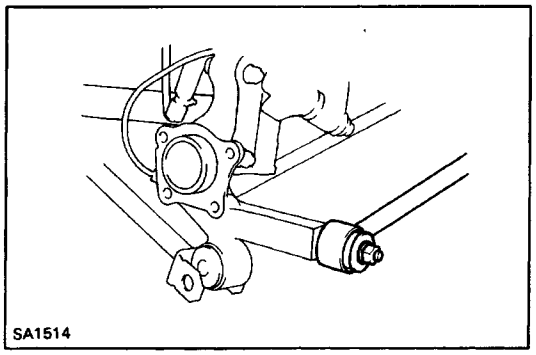
(b) Remove the axle hub and brake assembly.

(c) Remove the O–ring from the axle carrier.

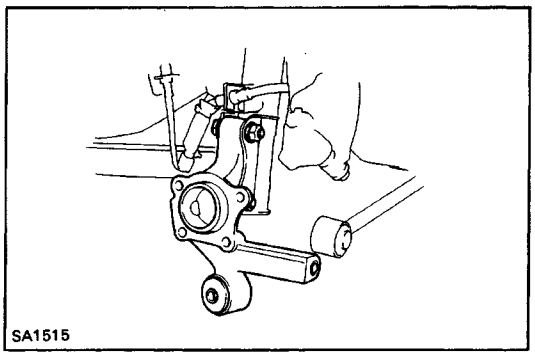


5. REMOVE REAR AXLE CARRIER

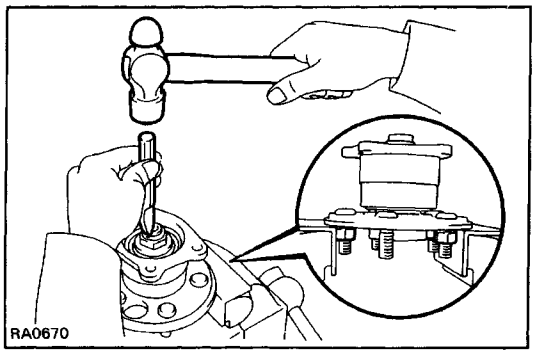
(a) Remove the strut rod mounting bolt and nut from the axle carrier.



(b) Remove the No.1 and No.2 suspension arm mounting bolt and nut from the axle carrier.



(c) Remove the two axle carrier mounting bolts and nuts from the shock absorber.

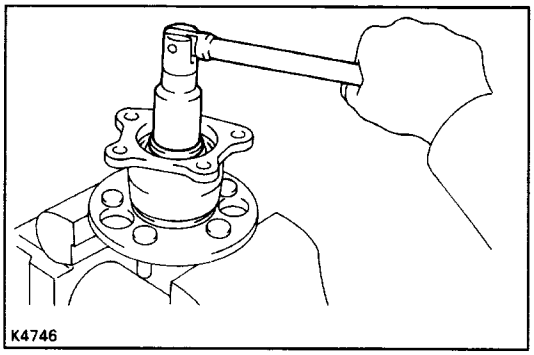


REPLACEMENT OF REAR AXLE HUB AND BEARING (W/O ABS VEHICLE)

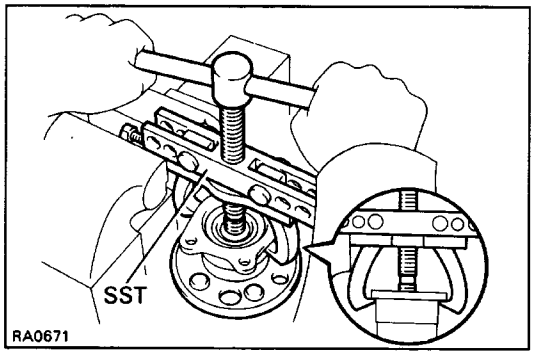
(See page SA–59)

1. REMOVE NUT

(a) Using a hammer and chisel, unstake the nut.



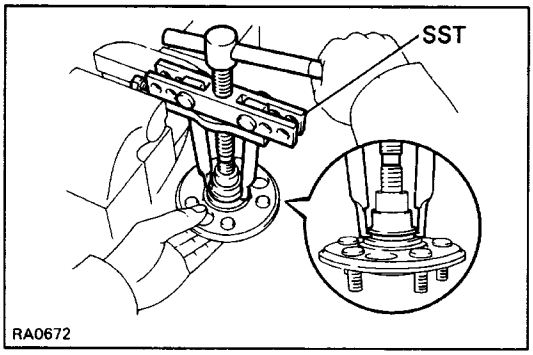
(b) Remove the nut.



2. REMOVE AXLE SHAFT FROM AXLE HUB

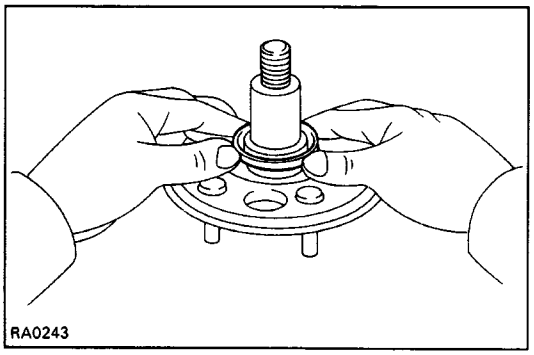
Using SST, push the rear axle shaft off the rear axle hub.
SST 09950–20017

3. REMOVE BEARING INNER RACE (INSIDE)

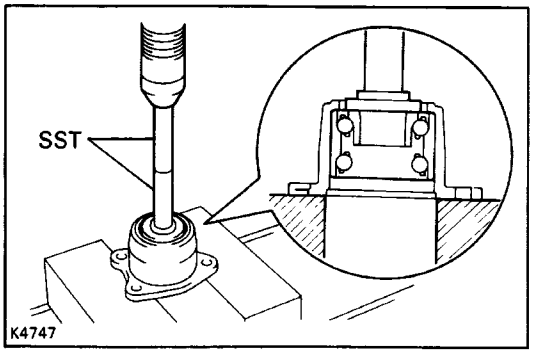


4. REMOVE BEARING INNER RACE (OUTSIDE)

Using SST, pull off the bearing inner race (outside) from the axle shaft.
SST 09950–20017

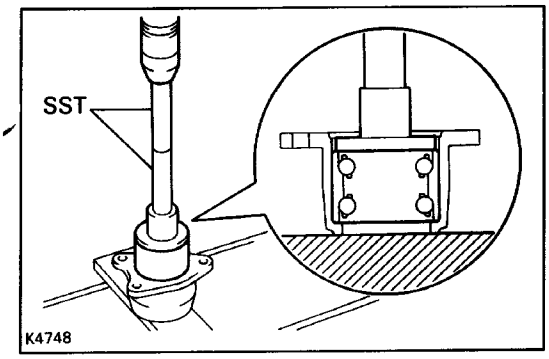


5. REMOVE OIL SEAL



6. REMOVE BEARING

(a) Remove the inner race (inside).
(b) Install the inner race to the outside of bearing.
(c) Using SST, press out the bearing.
SST 09550–10012 (09552–10010, 09558–10010)
NOTICE: Always replace the bearing as an assembly.



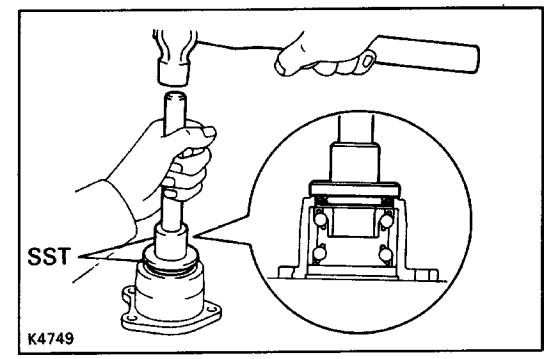
7. INSTALL BEARING

(a) Apply MP grease around the outer race of a new bearing.

(b) Using SST, press the bearing into the axle hub.

SST 09550–10012 (09552–10010, 09555–10010)

(c) Install a new bearing inner race (outside).

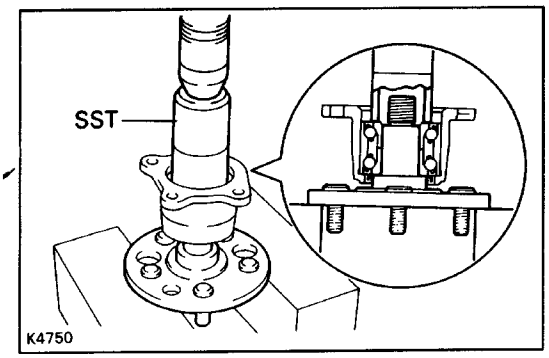


8. INSTALL OIL SEAL

(a) Using SST, drive a new oil seal into the axle hub.

SST 09550–10012 (09552–10010, 09554–10010)

(b) Apply MP grease to the oil seal lip.

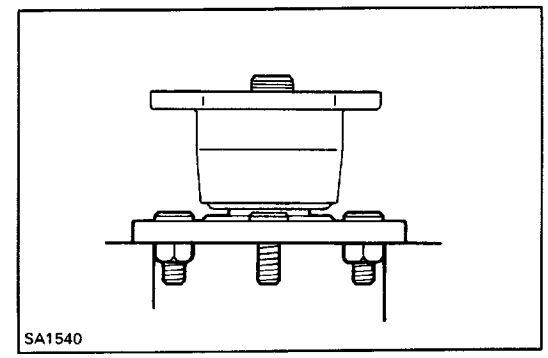


9. INSTALL AXLE SHAFT

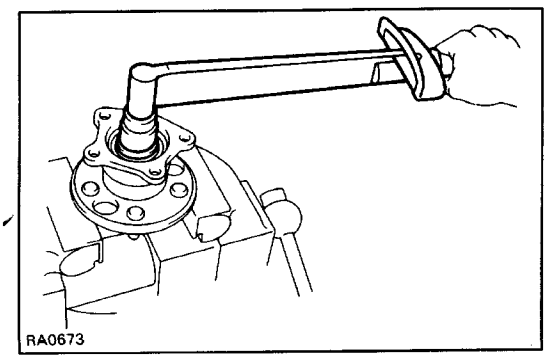
(a) Install a new bearing inner race (inside).

(b) Using SST, press the inner races onto the axle shaft.

SST 09636–20010

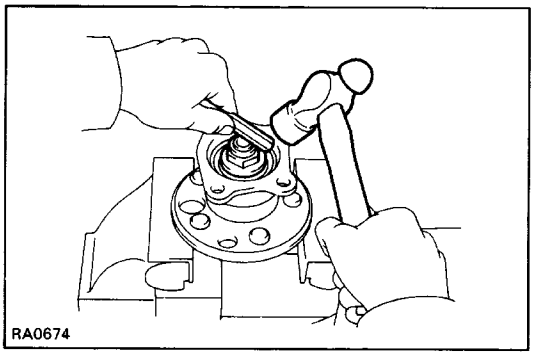


(c) Finger tighten the three nuts to the axle hub bolts.

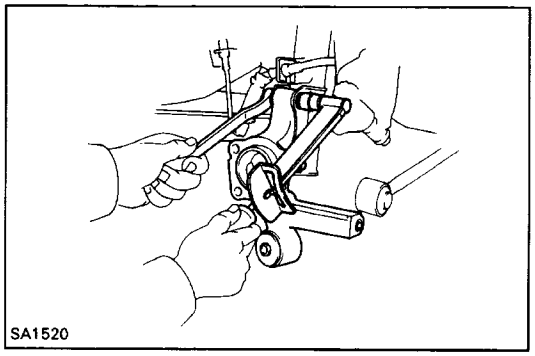


(d) Torque the nut.

Torque: 123 N–m (1,250 kgf–cm, 90 ft–lbf)



(e) Stake the nut.



INSTALLATION OF REAR AXLE HUB AND CARRIER

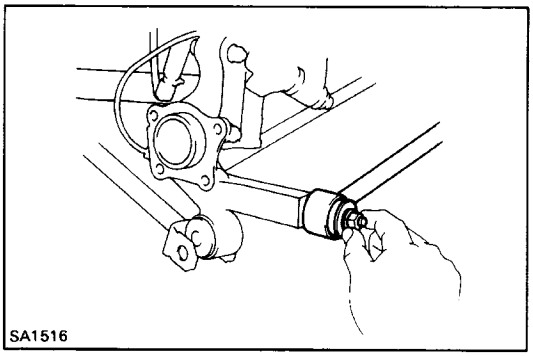
(See page SA–59)

1. INSTALL REAR AXLE CARRIER

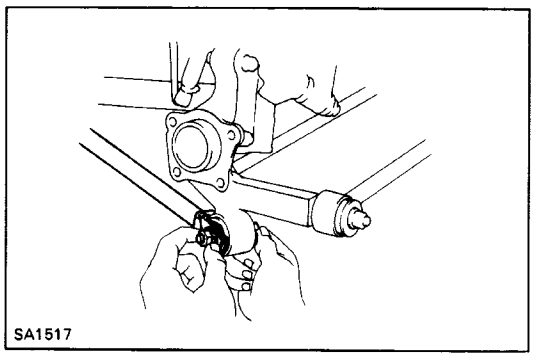
(a) Place the axle carrier in position.

(b) Install and torque the axle carrier mounting bolts and nuts to the shock absorber.

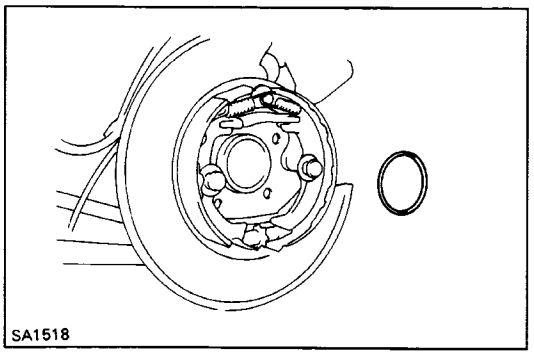
Torque: 255 N–m (2,600 kgf–cm, 188 ft–lbf)



(c) Temporarily install the No.1 and No.2 suspension arm mounting bolt and nut to the axle carrier.



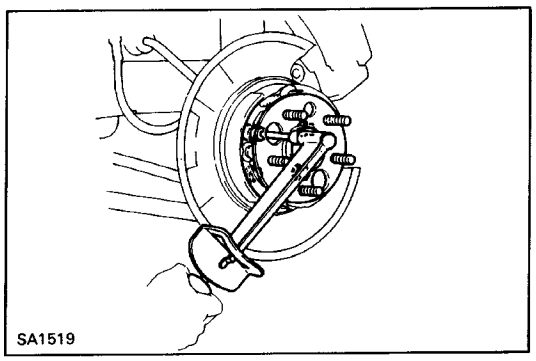
(d) Temporarily install the strut rod mounting bolt and nut to the axle carrier.



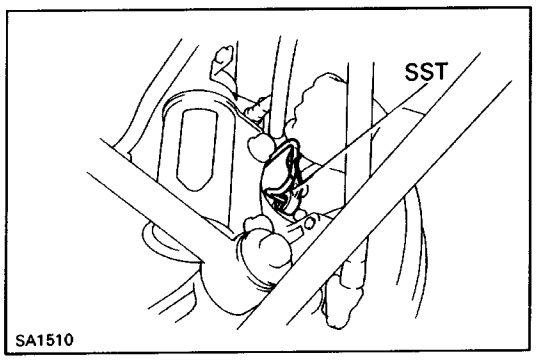
2. INSTALL REAR AXLE HUB

(a) Install the brake assembly to the axle carrier and hold it.

(b) Install a new O–ring to the axle carrier.

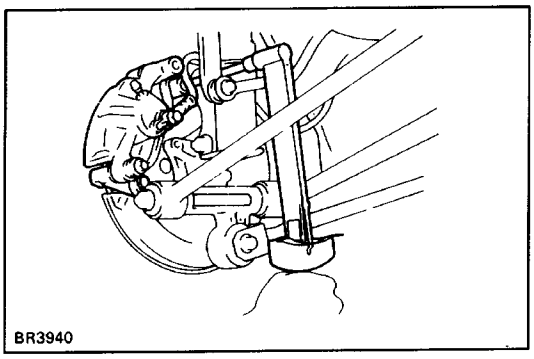


(c) Install the axle hub with the four bolts.
Torque the bolts.
Torque: 80 N–m (820 kgf–cm, 59 ft–lbf)



3. (DRUM BRAKE TYPE)
CONNECT BRAKE TUBE
Using SST, connect the brake tube to the axle carrier.
SST 09751–36011
Torque: 15 N–m (155 kgf–cm, 11 ft–lbf)

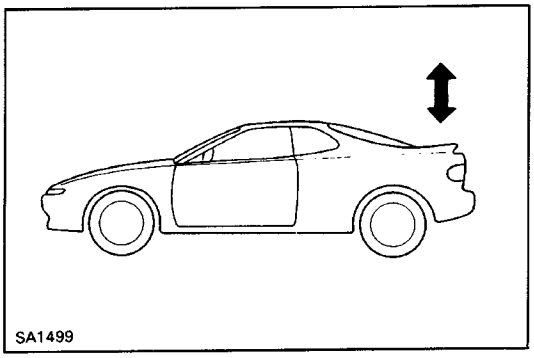
4. INSTALL BRAKE DRUM OR DISC ROTOR



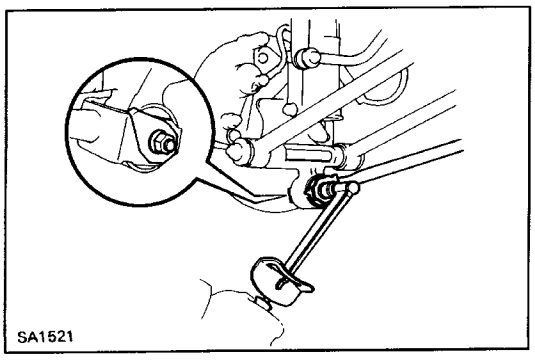
5. (DISC BRAKE TYPE)
INSTALL BRAKE CALIPER
Torque: 47 N–m (475 kgf–cm, 34 ft–lbf)

6. BLEED BRAKE SYSTEM
(See page BR–7)

7. INSTALL WHEEL

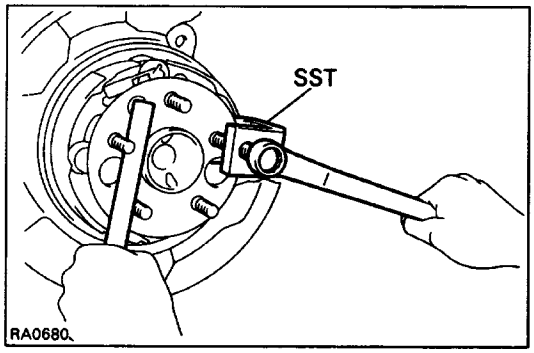


8. TORQUE EACH MOUNTING BOLTS AND NUTS
(a) Remove the stands and bounce the vehicle to stabilize the suspension.



(b) Torque the mount bolts and nuts with the vehicle weight on the suspension.
Torque: 113 N–m (7,150 kgf–cm, 83 ft–1bf) Strut rod
226 N–m (2,300 kgf–cm, 166 ft–1bf) Suspension arm

9. CHECK REAR WHEEL ALIGNMENT
(See page SA–6)



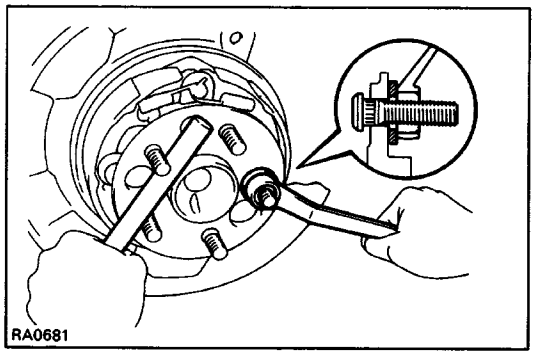
REPLACEMENT OF REAR AXLE HUB BOLT

1. REMOVE DISC ROTOR OR BRAKE DRUM

2. REMOVE HUB BOLT

Using SST, remove the hub bolt.

SST 09628–10011



3. INSTALL HUB BOLT

Using a washer and nut (10 mm), install the new hub bolt.

4. INSTALL BRAKE DRUM OR DISC ROTOR

(a) Install the brake drum or disc rotor.

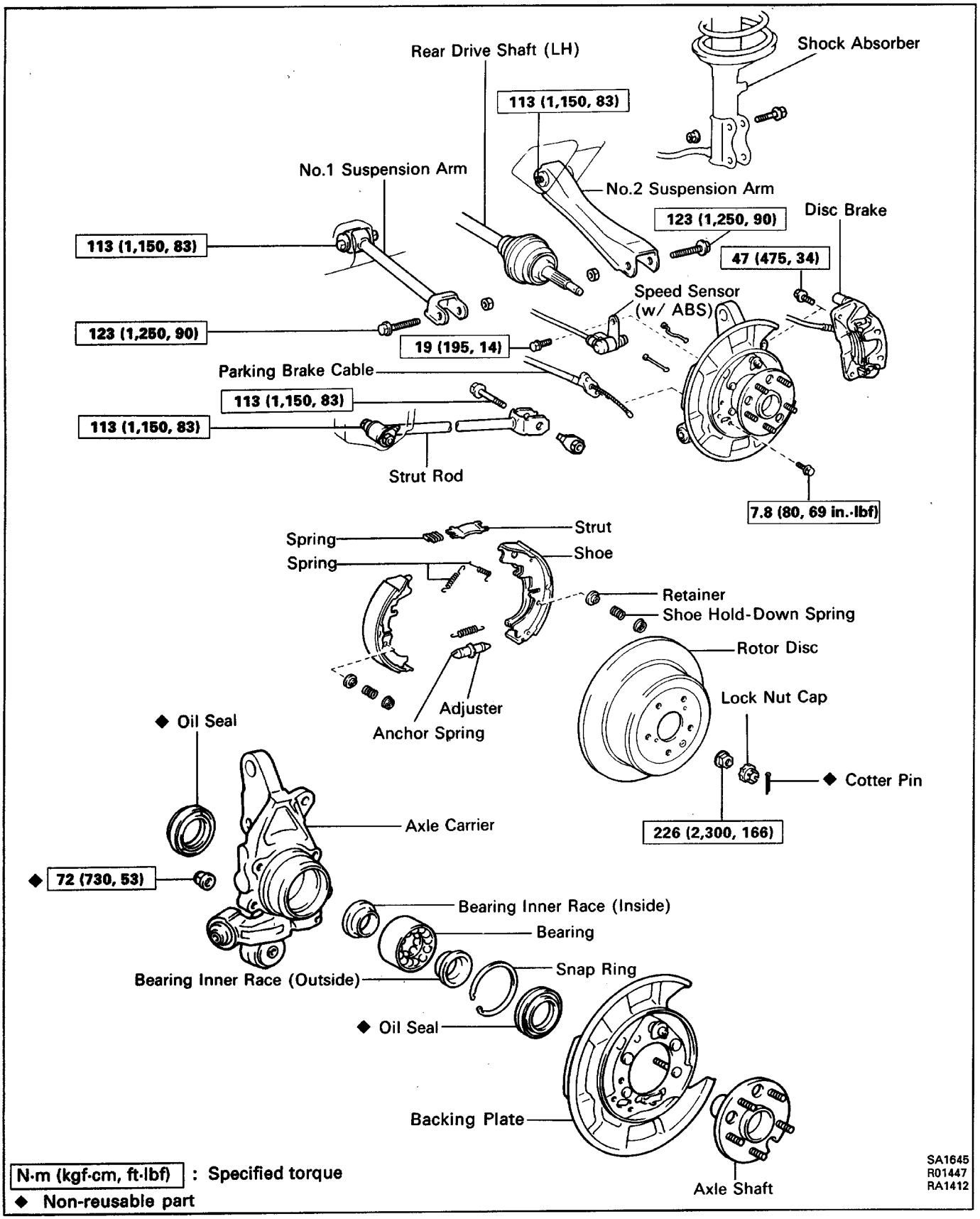
(b) (Disc brake type)

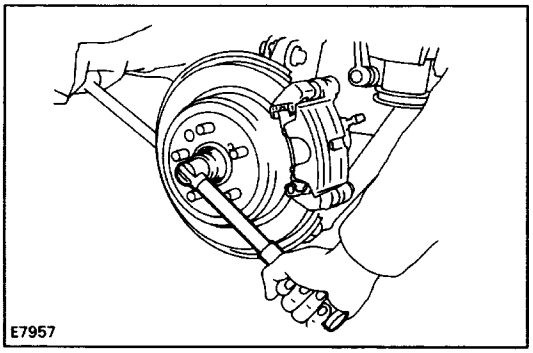
Install the brake caliper.

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

REAR AXLE HUB AND CARRIER (4WD)

COMPONENTS





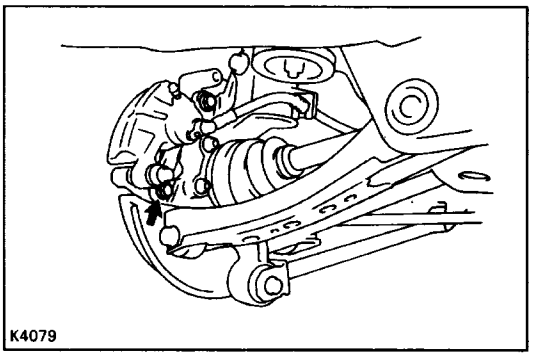
REMOVAL OF REAR AXLE HUB AND CARRIER

(see page SA–67)

1. REMOVE COTTER PIN, BEARING LOCK NUT CAP AND BEARING LOCK NUT

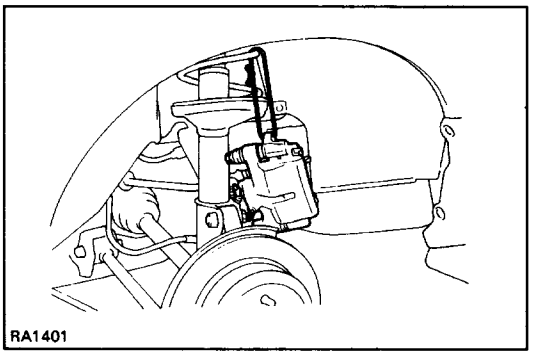
(a) Remove the cotter pin and bearing lock nut cap.

(b) With the parking brake engaged, remove the bearing lock nut.

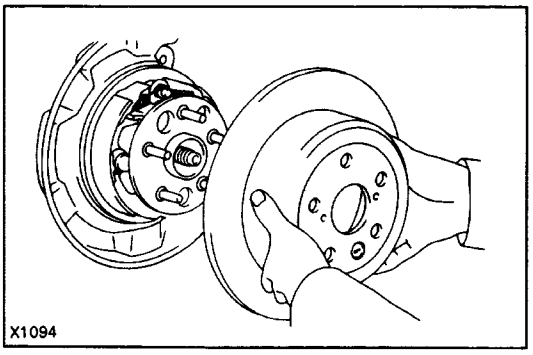


2. REMOVE BRAKE CALIPER

(a) Remove the two bolts.



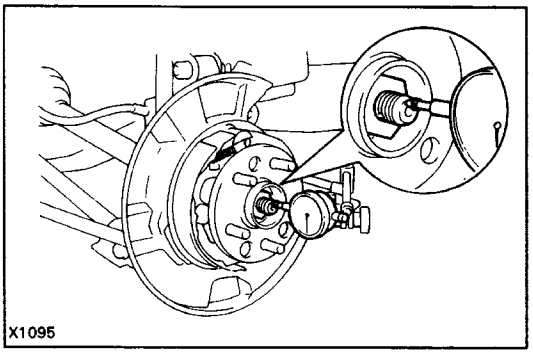
(b) Remove the brake caliper from the rear axle carrier and suspend it with wire.



3. REMOVE ROTOR DISC

(a) Place the matchmarks on the rotor disc and axle hub.

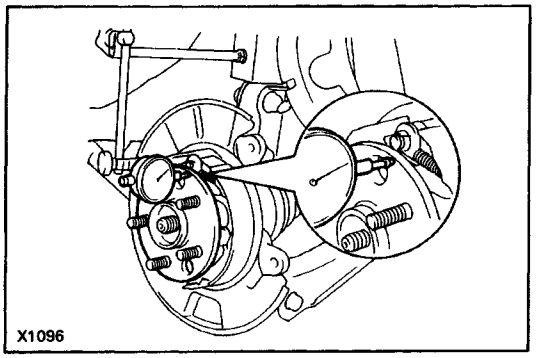
(b) Disengage the parking brake, and remove the rotor disc.



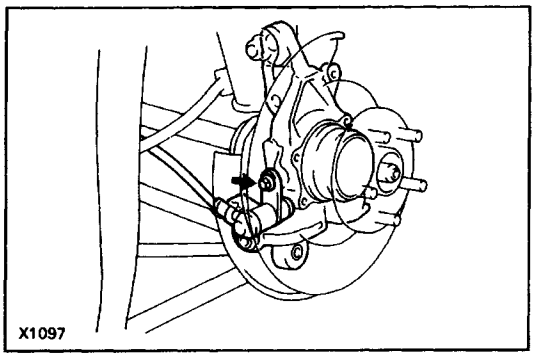
4 CHECK BEARING PLAY IN AXIAL DIRECTION

Bearing play: 0.05 mm (0.0020 in.) or less

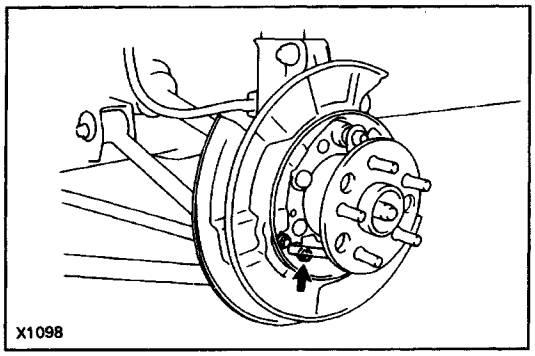
If the bearing play is greater than the maximum, replace the bearing.



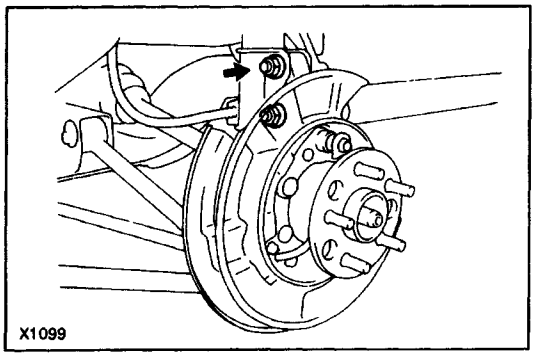
5. CHECK AXLE SHAFT FLANGE RUNOUT
Maximum flange runout: 0.07 mm (0.0028 in.) or less



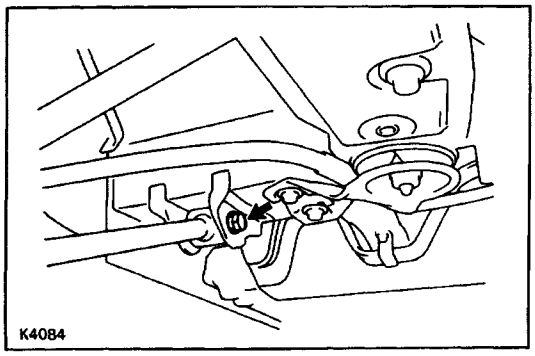
6. REMOVE PARKING BRAKE ASSEMBLY
7. (w/ ABS)
REMOVE REAR SPEED SENSOR



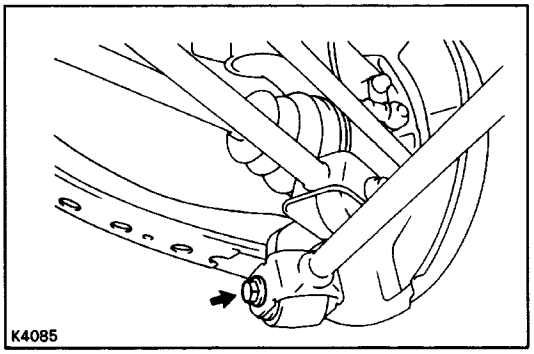
8. REMOVE PARKING BRAKE CABLE
Remove the two bolts and pull out the parking brake cable.



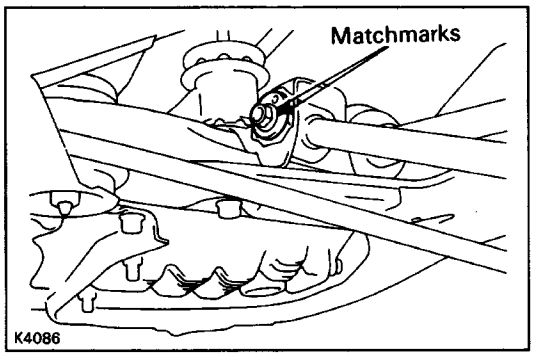
9. LOOSEN TWO AXLE CARRIER MOUNTING NUTS



10. DISCONNECT STRUT ROD
(a) Loosen the strut rod mounting nut (body side).

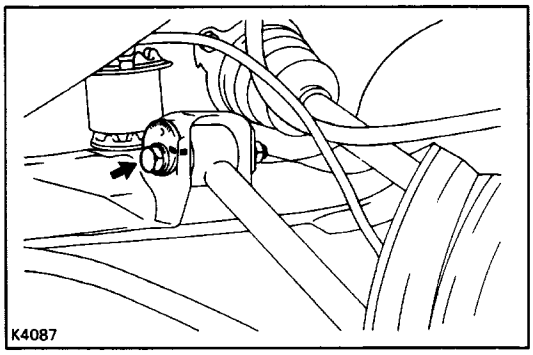


(b) Remove the strut rod mounting bolt and nut from the axle carrier.

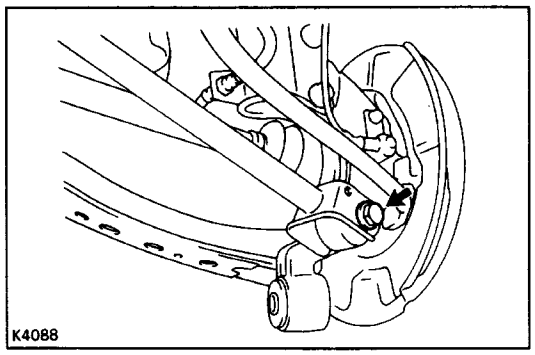


11. DISCONNECT NO.1 SUSPENSION ARM

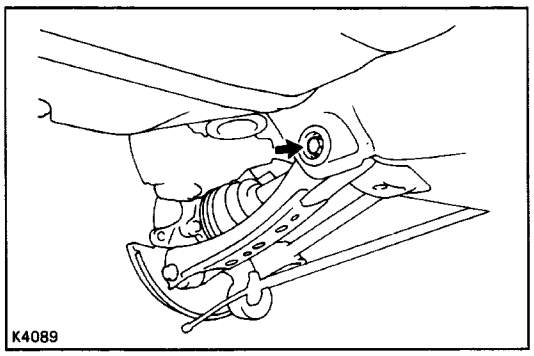
(a) Place the matchmarks on the toe adjusting cam and control arm retainer.



(b) Loosen the No.1 suspension arm mounting bolt (rear suspension member side).

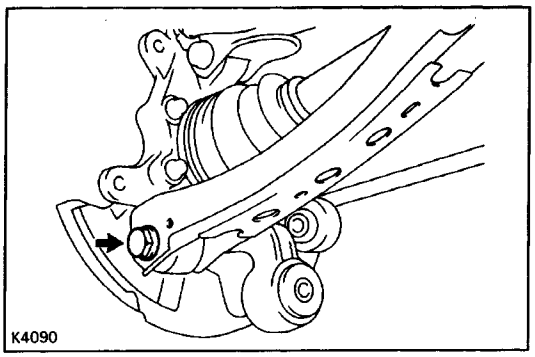


(c) Remove the No.1 suspension arm mounting bolt and nut from the axle carrier.



12. DISCONNECT NO.2 SUSPENSION ARM

(a) Loosen the No.2 suspension arm mounting bolt (rear suspension member side).



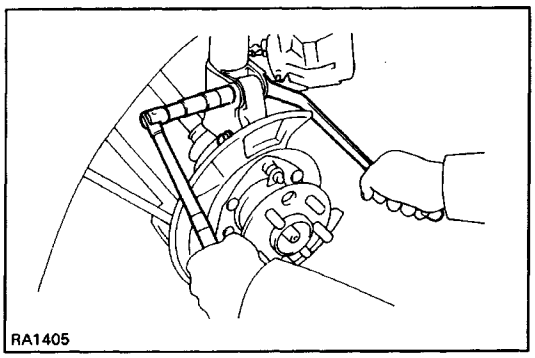
(b) Remove the bolt and nut from the axle carrier.

13. REMOVE AXLE CARRIER WITH AXLE HUB

(a) Remove the two axle carrier mounting bolts and nuts.

(b) Remove the axle carrier with axle hub.

NOTICE: Cover the drive shaft boot with cloth to protect it from damage.

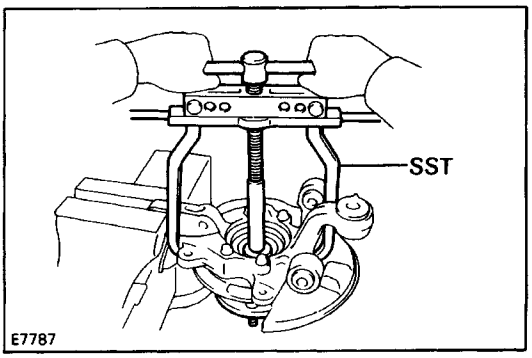


REPLACEMENT OF AXLE HUB AND BEARING

1. REMOVE AXLE SHAFT FROM AXLE HUB

Using SST, push the axle shaft off the axle hub.

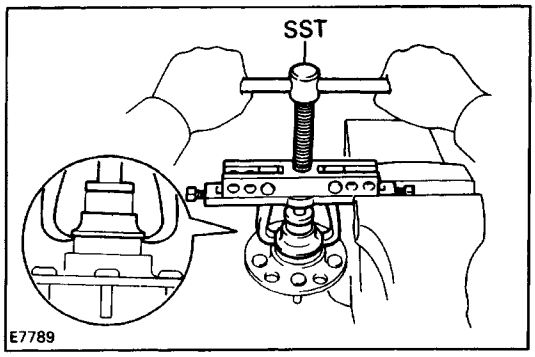
SST 09950–20017



2. REMOVE BEARING INNER RACE (OUTSIDE) FROM AXLE SHAFT

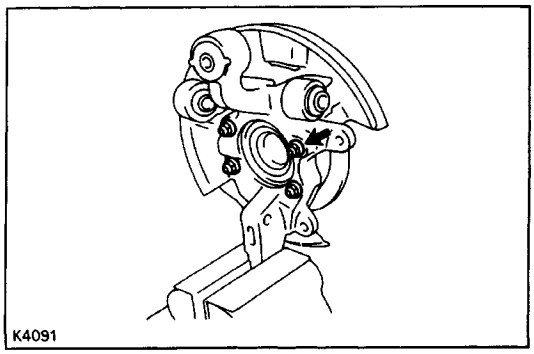
Using SST, pull off the bearing inner race (outside) from the axle shaft.

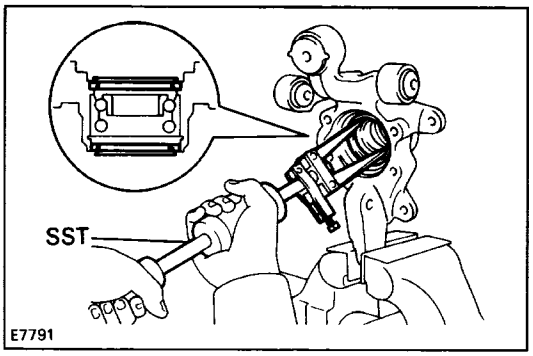
SST 09950–20017



3. REMOVE BACKING PLATE

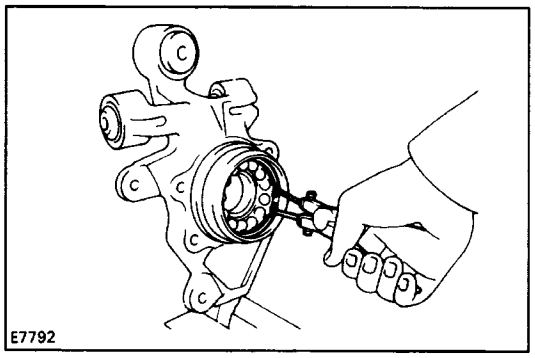
Remove the four nuts and backing plate.





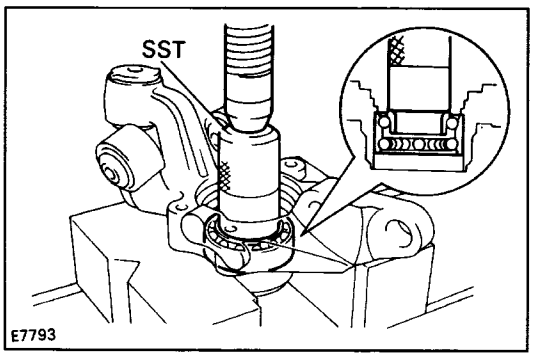
4. REMOVE INNER AND OUTER OIL SEAL

Using SST, remove the oil seal from the axle carrier.
SST 09308–00010



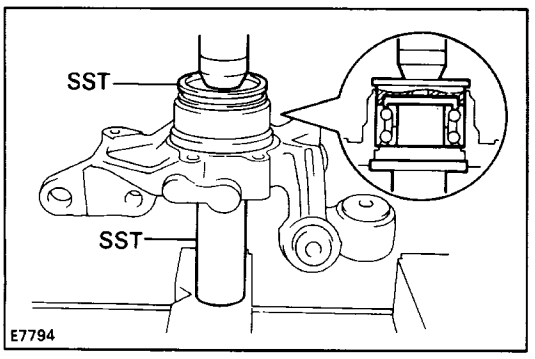
5. REMOVE SNAP RING

Using snap ring pliers, remove the snap ring from the axle carrier.



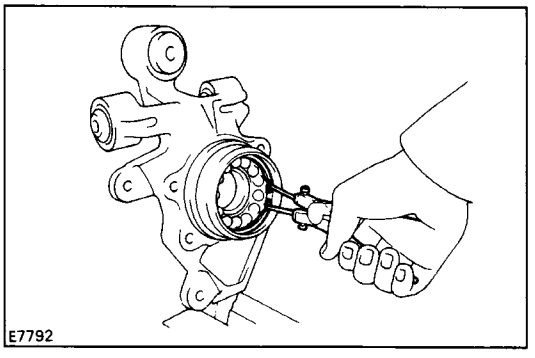
6. REMOVE BEARING

Using SST, press out the bearing from the axle carrier.
SST 09636–20010



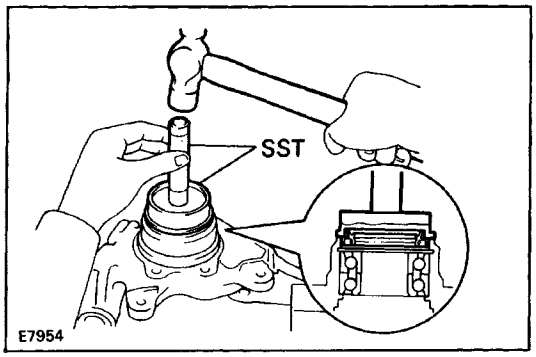
7. INSTALL BEARING

Using SST, press the bearing into the axle hub.
SST 09309–36010, 09608–32010



8. INSTALL SNAP RING

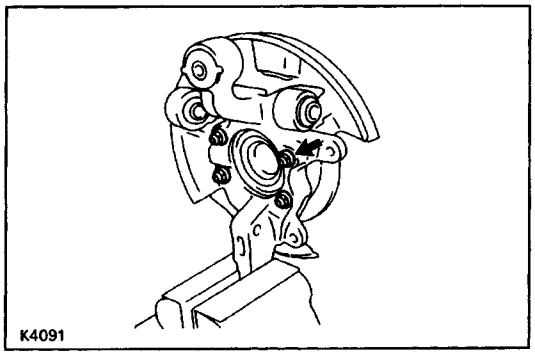
Using snap ring pliers, install a snap ring into the axle carrier.



9. INSTALL OUTER OIL SEAL

(a) Using SST, drive in a new oil seal to the axle carrier.
SST 09608–30012 (09608–04020), 09608–32010

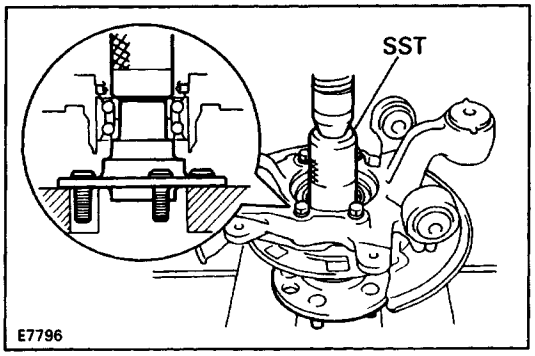
(b) Apply MP grease to the oil seal lip.



10. INSTALL BACKING PLATE

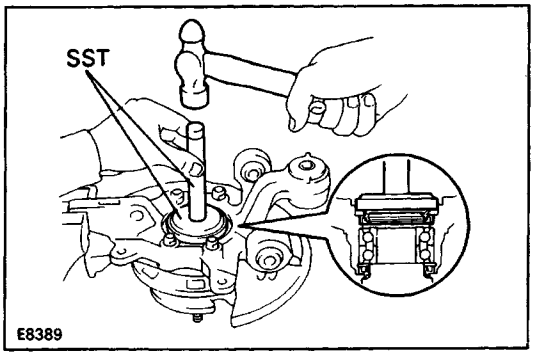
Install the backing plate to the axle carrier with new four nuts.

Torque: 72 N–m (730 kgf–cm, 53 ft–lbf)



11. INSTALL AXLE SHAFT

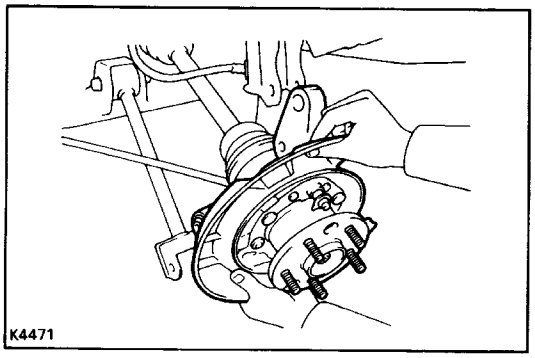
Using SST, press in the axle shaft to the axle carrier.
SST 09636–20010



12. INSTALL INNER OIL SEAL

(a) Using SST, drive in a new oil seal to the axle carrier.
SST 09608–30012 (09608–04020, 09608–04110)

(b) Apply MP grease to the oil seal lip.



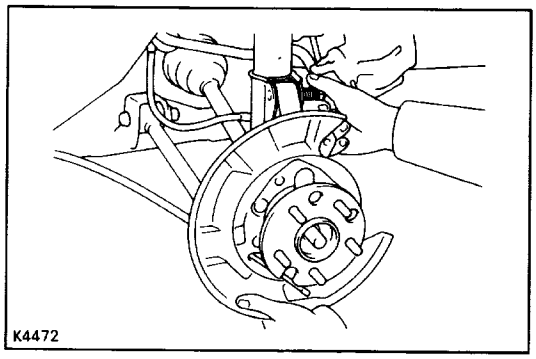
INSTALLATION OF REAR AXLE HUB AND CARRIER

1. INSTALL AXLE CARRIER WITH AXLE HUB

(a) Install the axle carrier to the drive shaft.

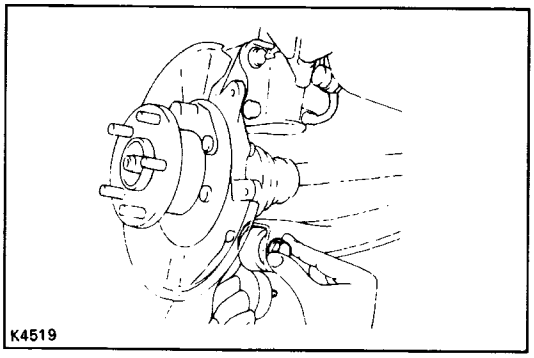
NOTICE: Be careful not to damage the oil seal.

(b) Connect the No.2 suspension arm with a bolt to the axle carrier.



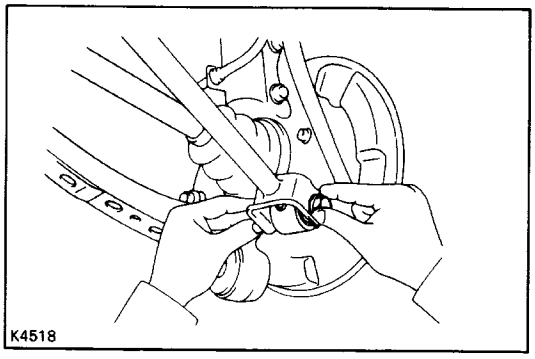
(c) Install the axle carrier to the shock absorber with two bolts.

(d) Install and finger tighten the two nuts.



2. INSTALL NO.2 SUSPENSION ARM NUT

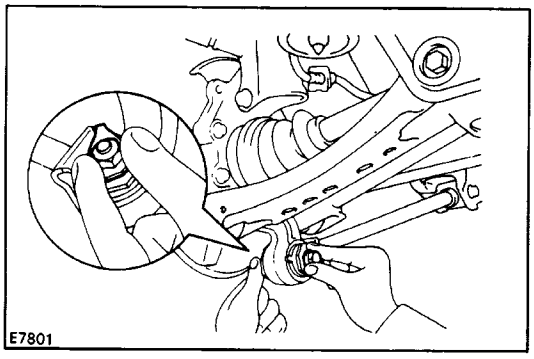
Install and finger tighten the nut.



3. CONNECT NO.1 SUSPENSION ARM

(a) Connect No.1 suspension arm with a bolt to the axle carrier.

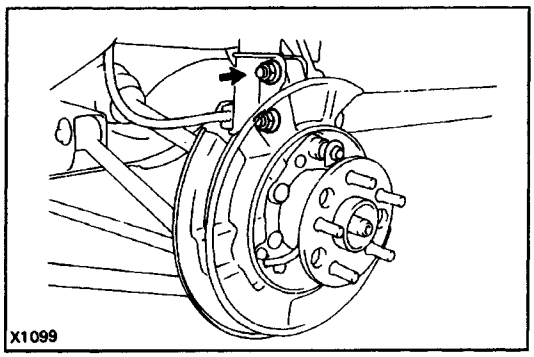
(b) Install and finger tighten the nut.



4. CONNECT STRUT ROD

(a) Connect strut rod with a bolt to the axle carrier.

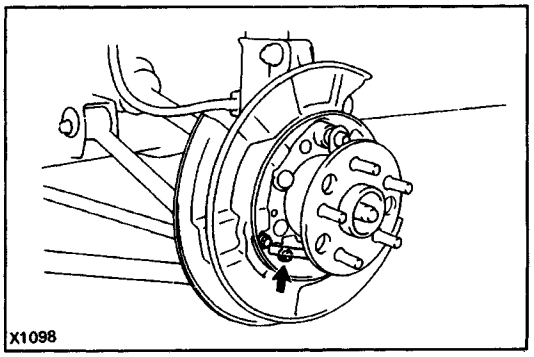
(b) Install and finger tighten the nut.



5. TORQUE AXLE CARRIER NUTS

Torque the two bolts and nuts.

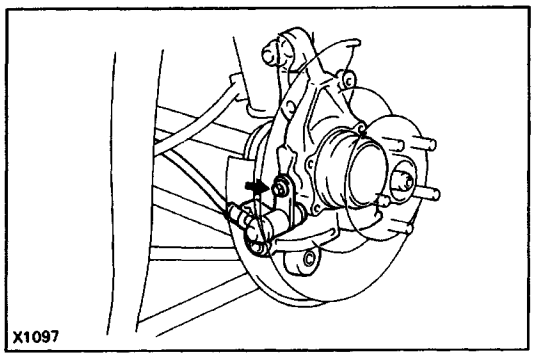
Torque: 255 N–m (2,600 kgf–cm, 188¿¿–lbf)



6. INSTALL PARKING BRAKE CABLE

Install the parking brake cable with two bolts to the backing plate.

Torque: 7:8 N–m (80 kgf–cm, 69 in.–lbf)



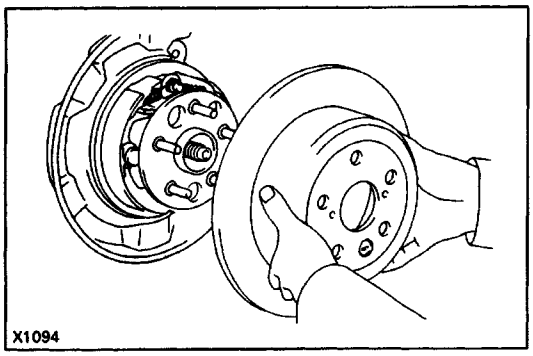
7. (w/ ABS)

INSTALL REAR SPEED SENSOR

Install the rear speed sensor with the bolt.

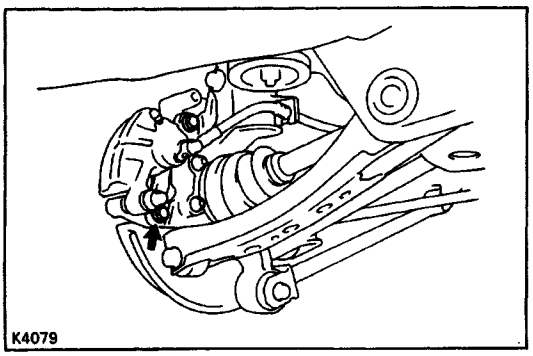
Torque: 19 N–m (195 kgf–cm, 14 ft–lbf)

8. INSTALL PARKING BRAKE ASSEMBLY



9. INSTALL ROTOR DISC

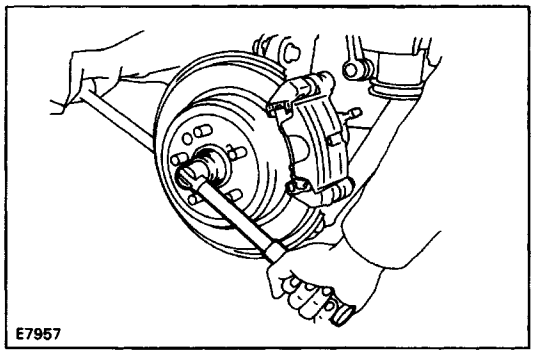
Align the matchmarks on the axle hub and rotor disc, and install the rotor disc.



10. INSTALL BRAKE CALIPER

Install the brake caliper with two bolts and torque the two bolts.

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



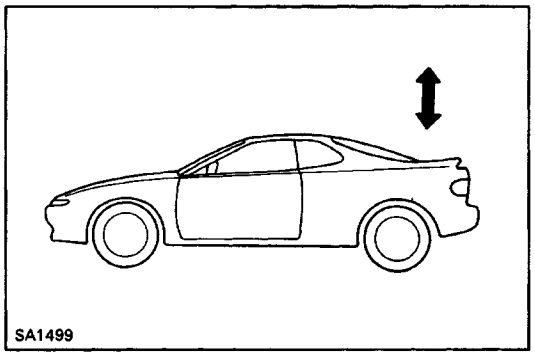
11. INSTALL PLATE WASHER, BEARING LOCK NUT, BEARING LOCK NUT CAP AND NEW COTTER PIN

(a) Install the lock nut.

(b) With the parking brake engaged, and torque the nut.

Torque: 226 N–m (2,300 kgf–cm, 166 ft–lbf)

(c) Install the lock nut cap and a new cotter pin.

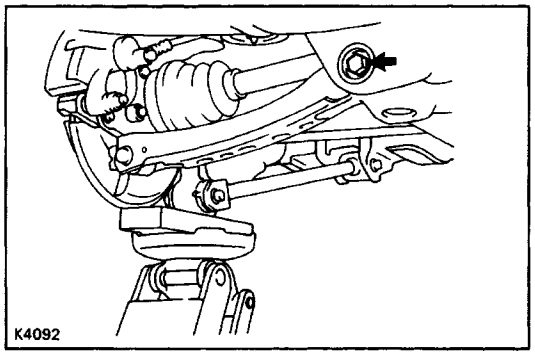


12. STABILIZE SUSPENSION

(a) Temporarily install wheels.

(b) Remove stands and bounce the vehicle up and down to stabilize the suspension.

13. JACK UP VEHICLE AND REMOVE WHEELS



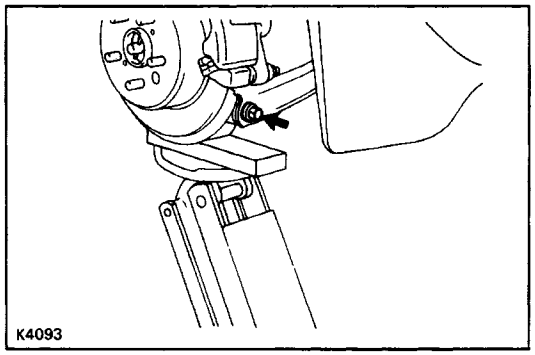
14. JACK UP AXLE CARRIER

Place wooden block on the jack and jack up axle carrier.

15. TORQUE NO.2 SUSPENSION ARM MOUNTING BOLT

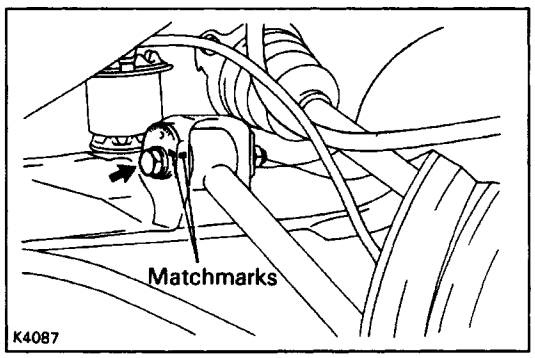
(a) Torque the No.2 suspension arm body side bolt.

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



(b) Torque the No.2 suspension arm axle carrier side bolt.

Torque: 123 N–m (1,250 kgf–cm, 90 ft–lbf)

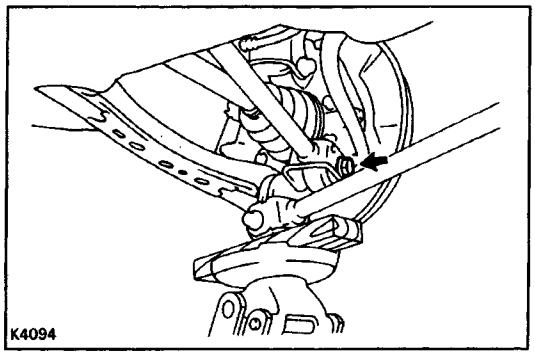


16. TORQUE NO.1 SUSPENSION ARM MOUNTING BOLT

(a) Align the matchmarks on the adjusting cam and control arm retainer.

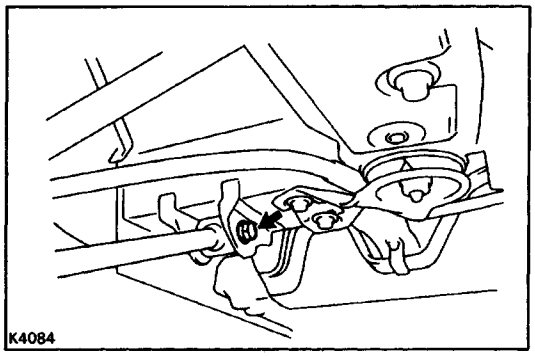
(b) Torque the No. 1 suspension arm mounting bolt.

Torque: 113 N–m (1,750 kgf–cm, 83 ft–lbf)



(c) Torque the No.1 suspension arm axle carrier side bolt.

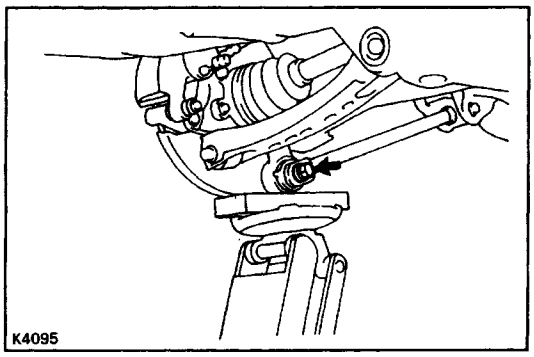
Torque: 123 N–m (1,250 kgf–cm, 90 ft–lbf)



17. TORQUE STRUT ROD MOUNTING BOLT

(a) Torque the strut rod body side bolt.

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



(b) Torque the strut rod axle carrier side bolt.

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

18. INSTALL AND TORQUE WHEELS

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

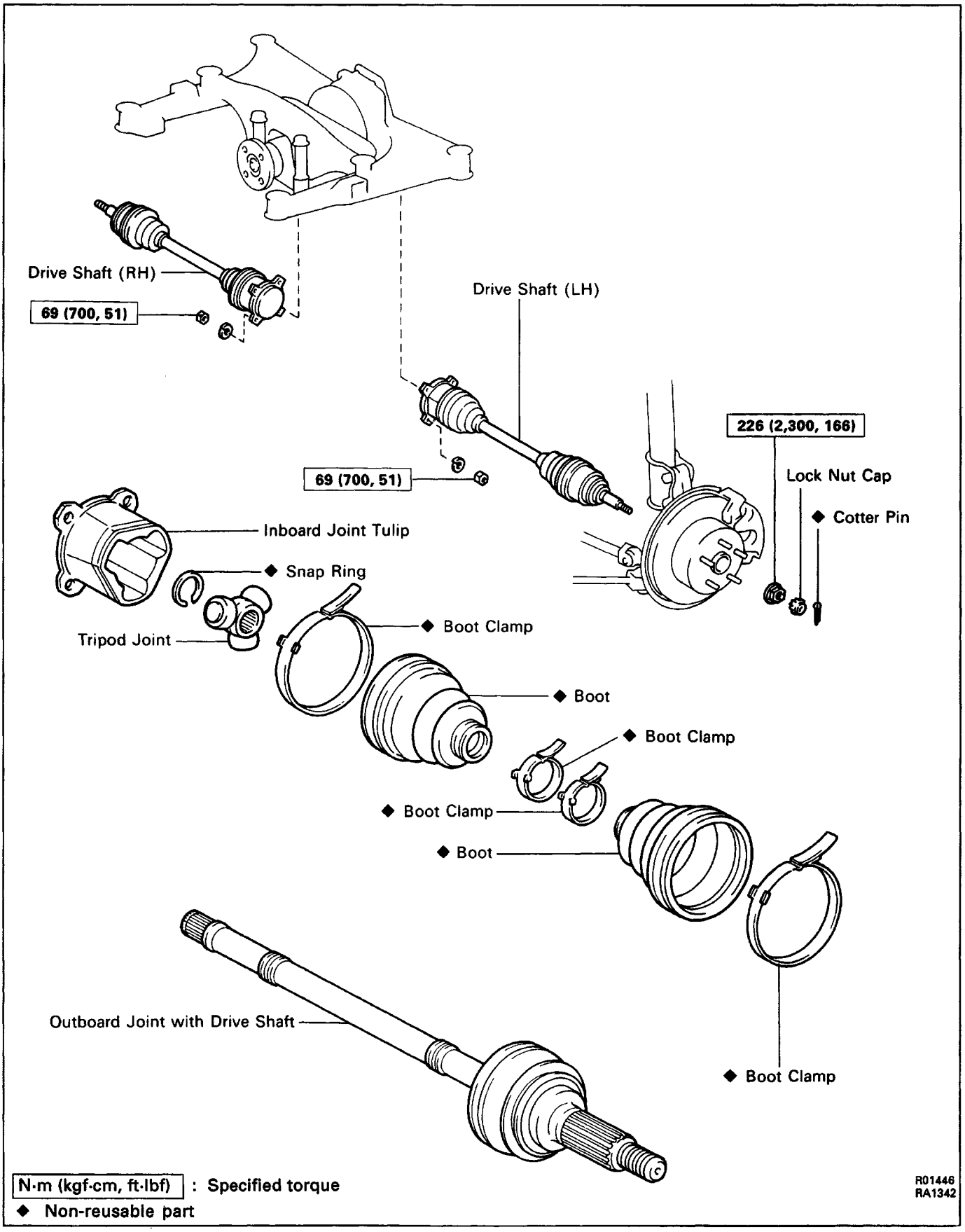
19. BLEED BRAKE SYSTEM

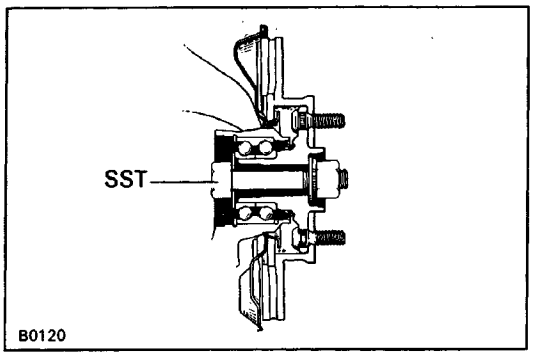
20. CHECK REAR WHEEL ALIGNMENT

(See page SA–5)

REAR DRIVE SHAFT (4WD)

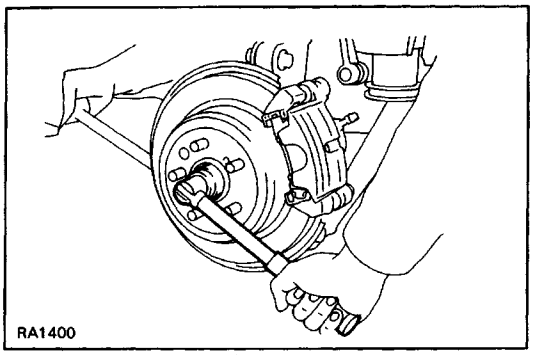
COMPONENTS





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 09608–16041 (09608–02020, 09608–02040)



REMOVAL OF REAR DRIVE SHAFT

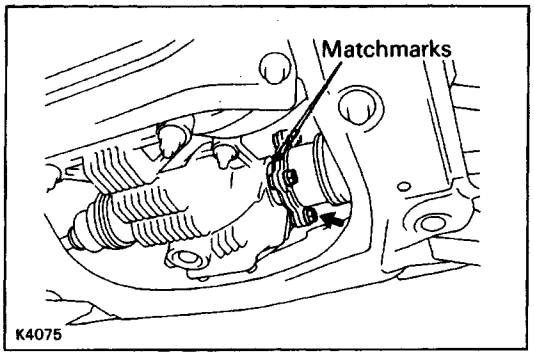
(See page SA–78)

1. REMOVE REAR WHEELS

2. REMOVE COTTER PIN, LOCK NUT CAP AND LOCK NUT

(a) Remove the cotter pin and lock nut cap.

(b) With the parking brake engaged, loosen the bearing lock nut.

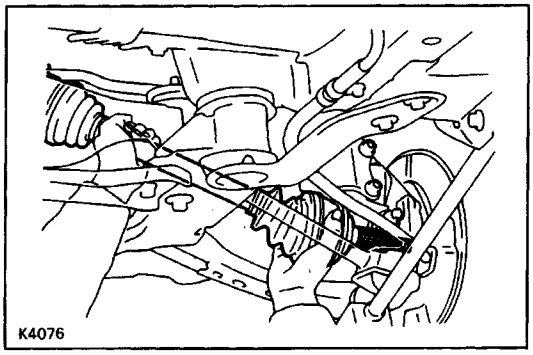


3. REMOVE DRIVE SHAFT

(a) Place the matchmarks on the inboard joint tulip and the side gear shaft flange.

(b) With the parking brake engaged, remove the four nuts and washers.

(c) Disconnect the drive shaft from the side gear shaft.



(d) Remove the drive shaft from the axle carrier.

HINT: Push the axle carrier towards the outside of vehicle, and separate the drive shaft from the axle carrier.

DISASSEMBLY OF REAR DRIVE SHAFT

(See page SA–78)

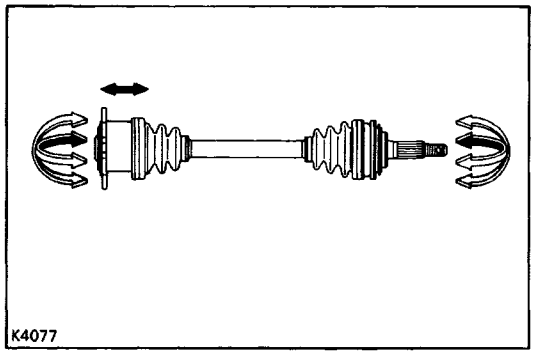
1. CHECK DRIVE SHAFT

(a) Check to see that there is no play in the inboard and outboard joints.

(b) Check to see that the inboard joint slide smoothly in the thrust direction.

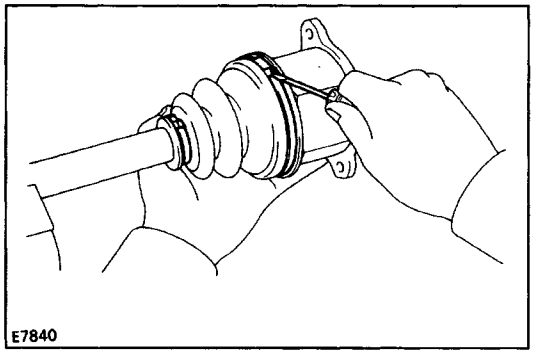
(c) Check to see that there is no remarkable play in the radial direction of the inboard joint.

(d) Check the damage of boot.

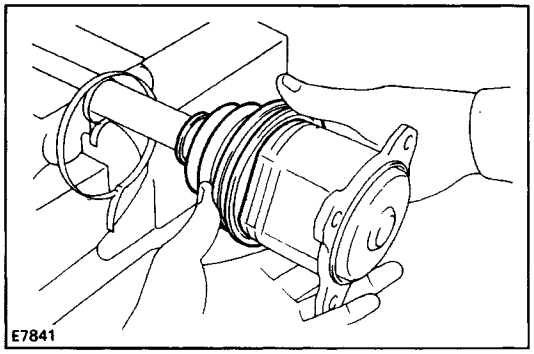


2. REMOVE INBOARD JOINT BOOT

(a) Using a screwdriver, remove the two boot clamps.



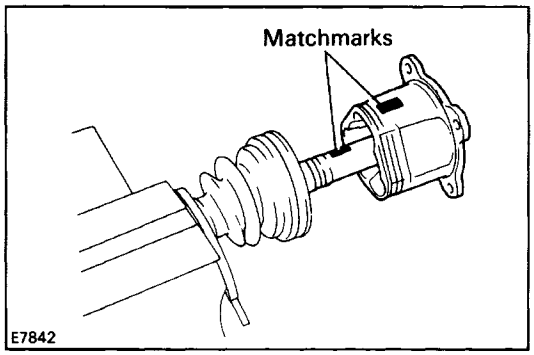
(b) Slide the inboard joint boot toward the outboard joint.



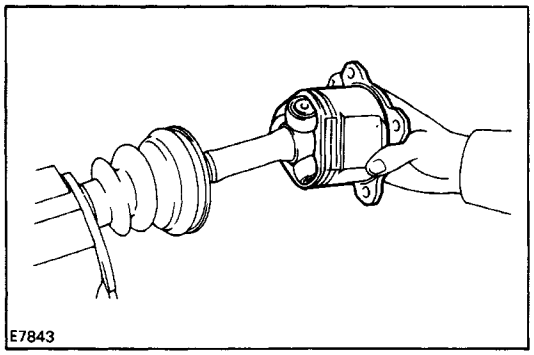
3. REMOVE INBOARD JOINT OUTER RACE

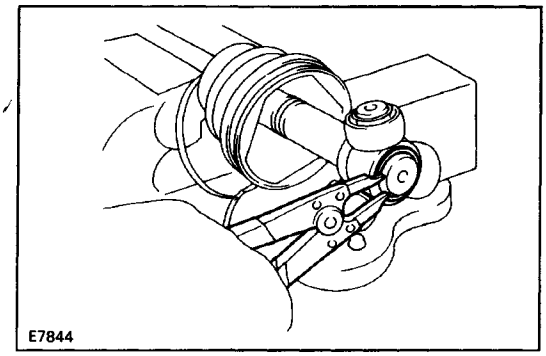
(a) Place the matchmarks on the inboard joint tulip and drive shaft.

NOTICE: Do not punch the marks.



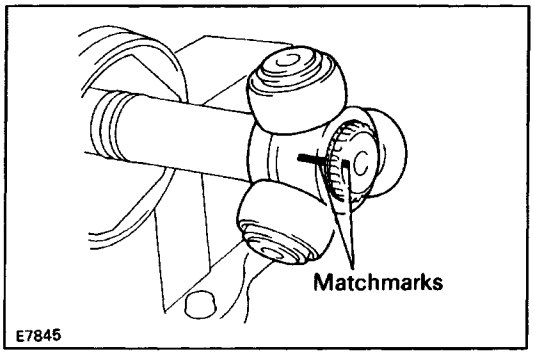
(b) Remove the inboard joint tulip from the drive shaft.





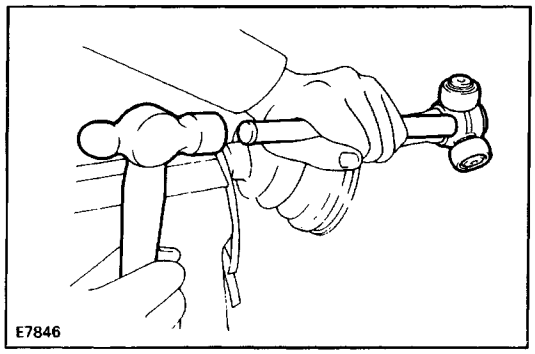
4. REMOVE TRIPOD JOINT

(a) Using a snap ring expander, remove the snap ring.



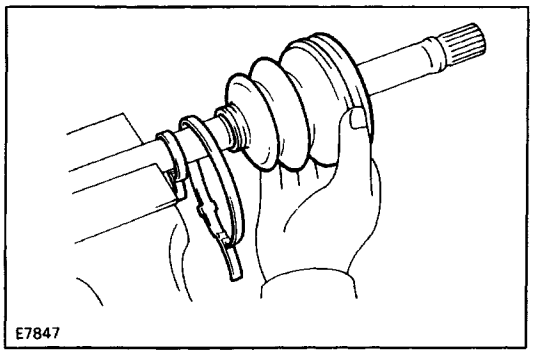
(b) Place the matchmarks on the shaft and the tripod joint.

NOTICE: Do not use a punch to mark the matchmarks. Use paint, etc.

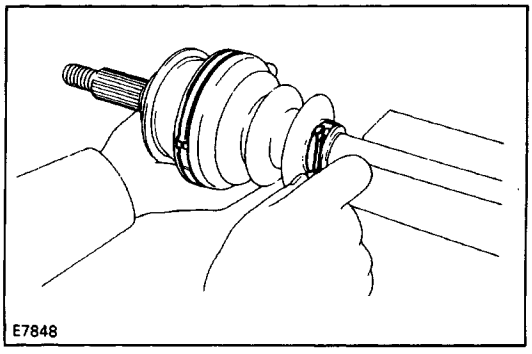


(c) Using a hammer and brass bar, drive out the tripod joint from the drive shaft.

NOTICE: Do not tap the roller.



5. REMOVE INBOARD JOINT BOOT AND CLAMPS

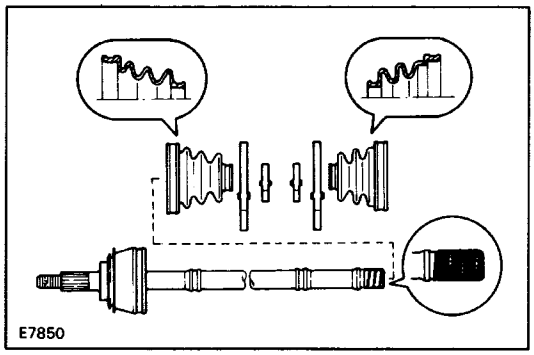


6. REMOVE OUTBOARD JOINT BOOT

(a) Using a screwdriver, remove the two boot clamps of the outboard joint boot.

(b) Remove the boot from the outboard joint.

NOTICE: Do not disassemble the outboard joint.



ASSEMBLY OF REAR DRIVE SHAFT

(See page SA–78)

1. TEMPORARILY INSTALL NEW BOOTS AND BOOT CLAMPS

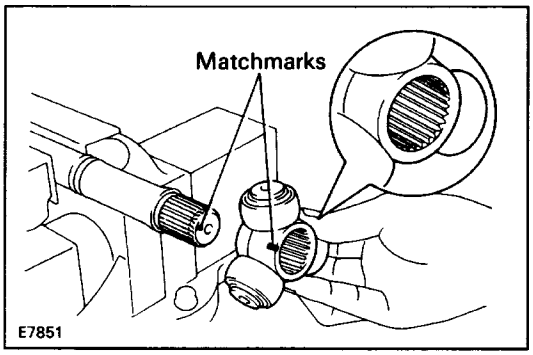
NOTICE: The boot and clamp of the outboard joint are smaller than those of the inboard joint.

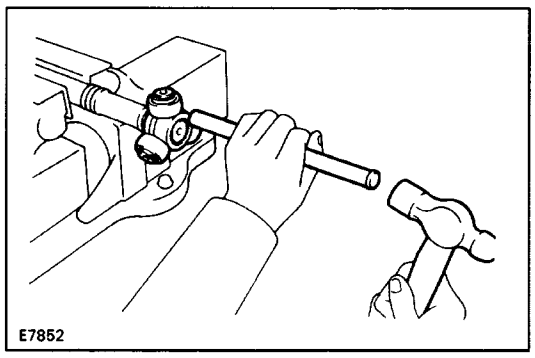
HINT: Before installing the boot, wrap vinyl tape around the spline of the shaft to prevent damaging the boot.

Temporarily install the boots and new clamps to the drive shaft.

2. INSTALL TRIPOD JOINT

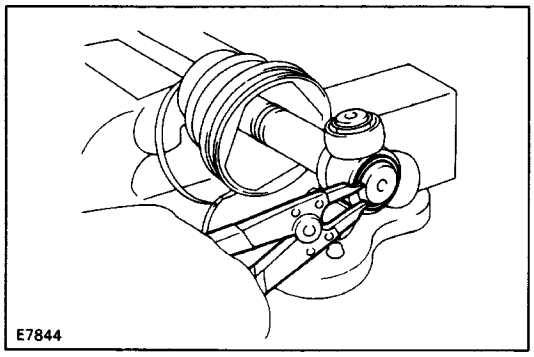
(a) Align the matchmarks placed before remove.



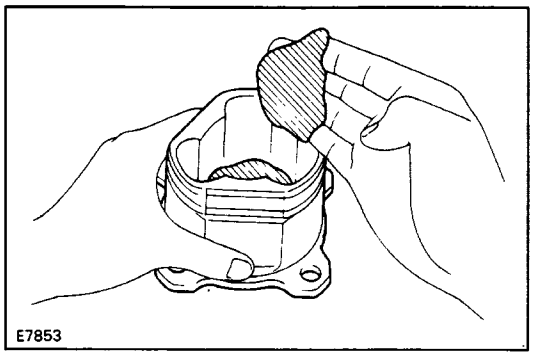


(b) Using a brass bar and hammer, tap in the tripod joint to the drive shaft.

NOTICE: Do not tap the roller.



(c) Using a snap ring expander, install a new snap ring.

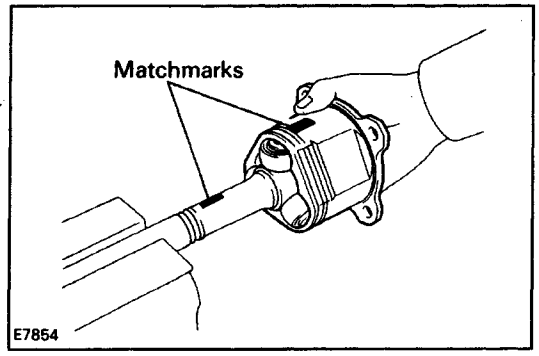


3. INSTALL INBOARD JOINT TULIP TO DRIVE SHAFT

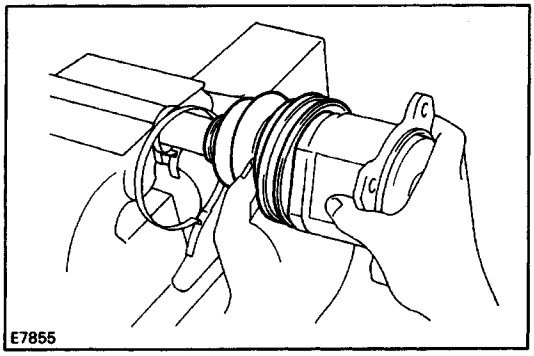
(a) Pack in the grease to the inboard tulip.

HINT: Use the grease supplied in the boot kit.

Grease capacity: 180 g (0.40 lb)



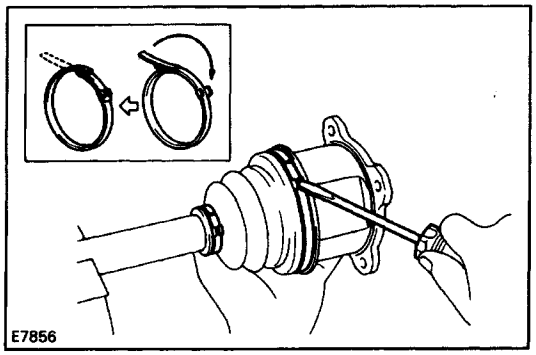
(b) Align the matchmarks placed before remove, and install the inboard joint tulip to the drive shaft.



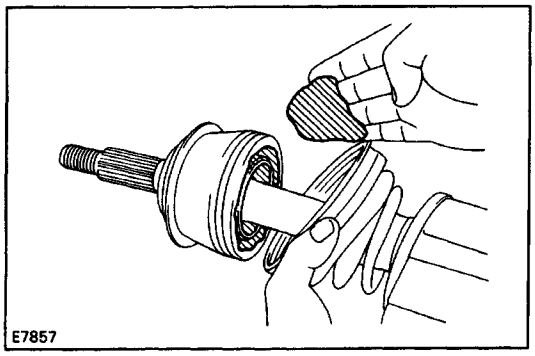
4. INSTALL INBOARD JOINT BOOT

NOTICE: The clamps of the inboard joint are smaller than those of the outboard joint.

(a) Be sure the boot is on the shaft groove.



(b) Using a screwdriver, bend the boot clamp and lock it as shown.



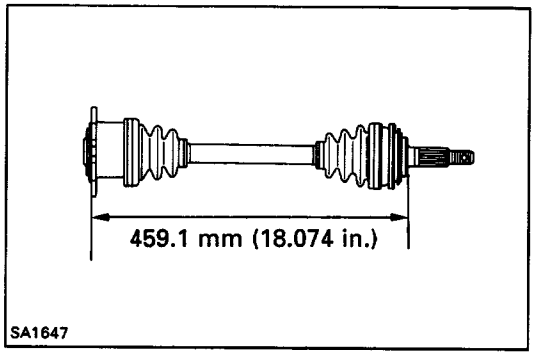
5. INSTALL OUTBOARD JOINT BOOT

(a) Before installing the boot, pack in grease.

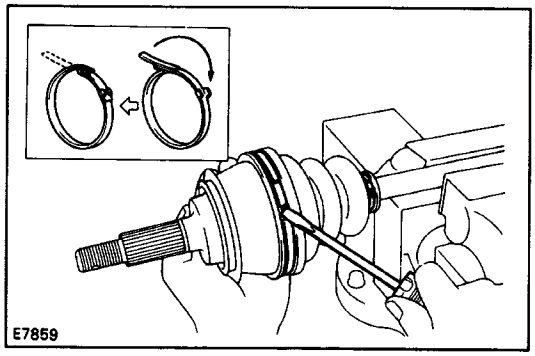
HINT: Use the grease supplied in the boot kit.

Grease capacity: 120 g (0.26 lb)

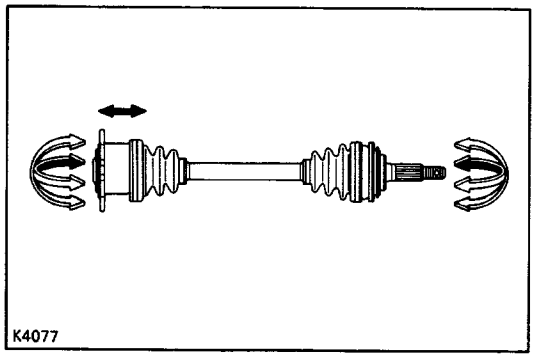
(b) Be sure the boot is on the shaft groove.



(c) Insure that the boot is not stretched or contracted when drive shaft is at standard length.
Drive shaft length: 459.1 mm (18.074 in.)



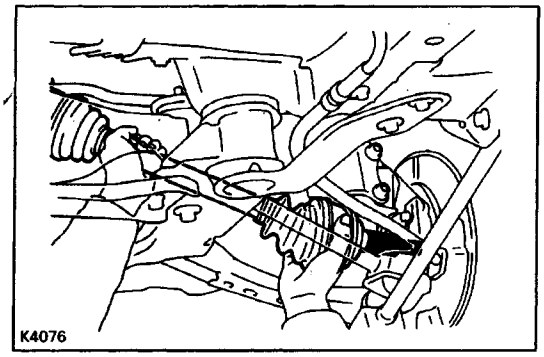
(d) Using a screwdriver, bend the boot clamp and lock it as shown.



6. CHECK DRIVE SHAFT

(a) Check to see that there is no play in the inboard joint and outboard joint.

(b) Check to see that the inboard joint side smoothly in the thrust direction.



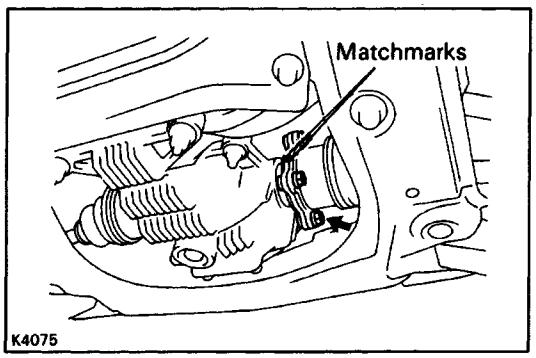
INSTALLATION OF REAR DRIVE SHAFT

(See page SA–76)

1. INSTALL DRIVE SHAFT

(a) Install the drive shaft to the axle carrier.

HINT: Be careful not to damage the boot.

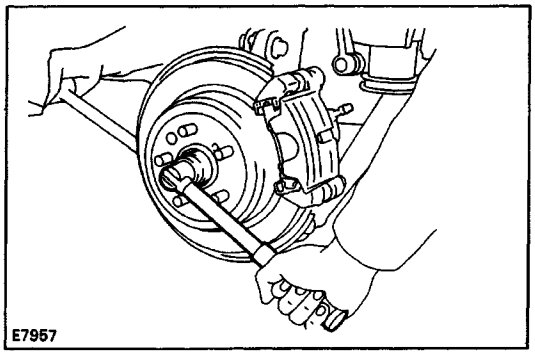


(b) Align the matchmarks on the inboard joint tulip and the side gear shaft flange.

(c) Connect the drive shaft with the four bolts and washer to the side gear shaft.

(d) With the parking brake engaged, torque the four bolts.

Torque: 69 N–m (700 kgf–cm, 51 ft–lbf)



2. INSTALL BEARING LOCK NUT, LOCK NUT CAP AND COTTER PIN

(a) Install the lock nut.

(b) With the parking brake engaged, torque the lock nut.

Torque: 226 N–m (2,300 kgf–cm, 166 ft–lbf)

(c) Install the lock nut cap, and using pliers, install a new cotter pin.

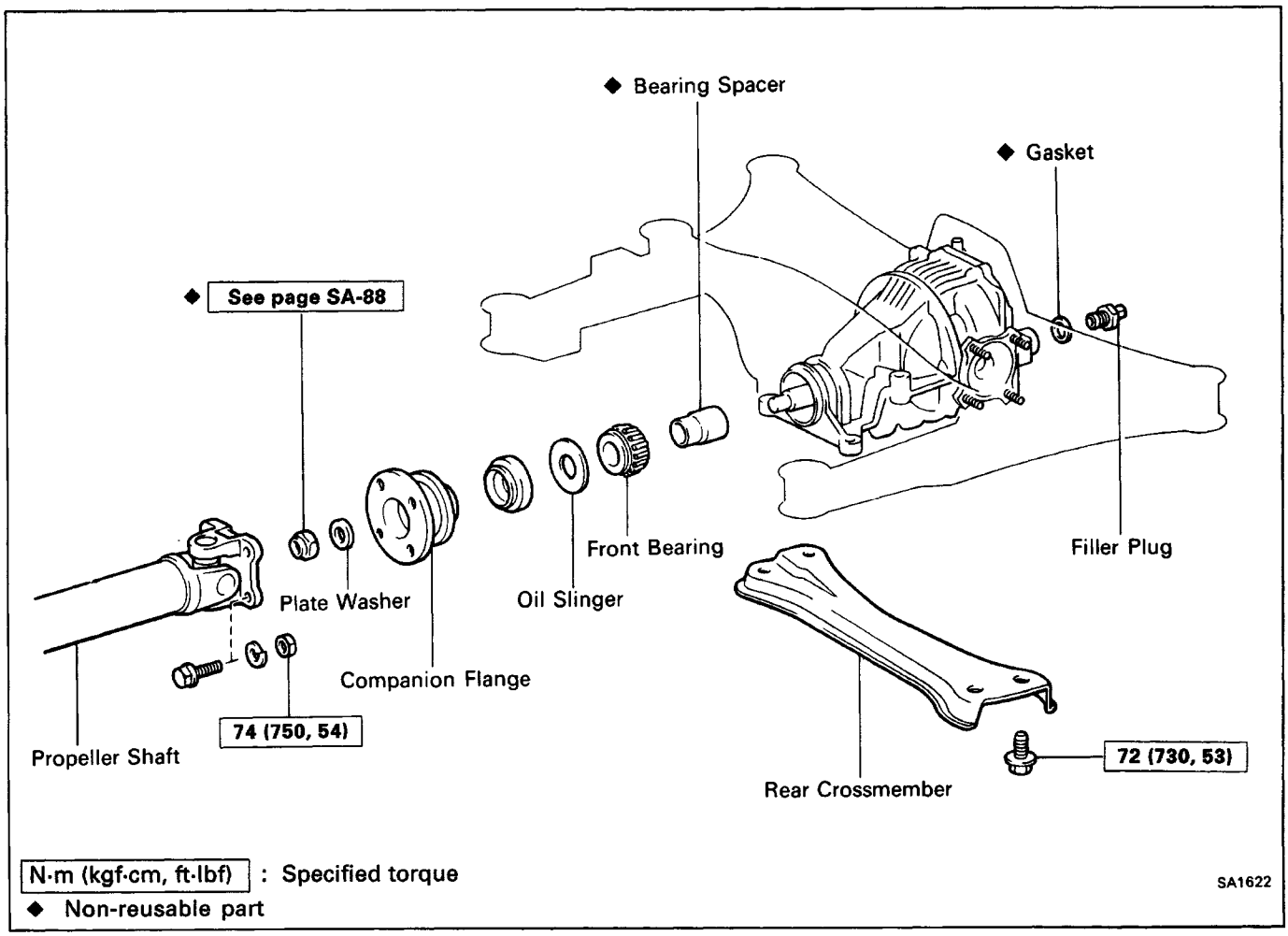
3. INSTALL REAR WHEELS

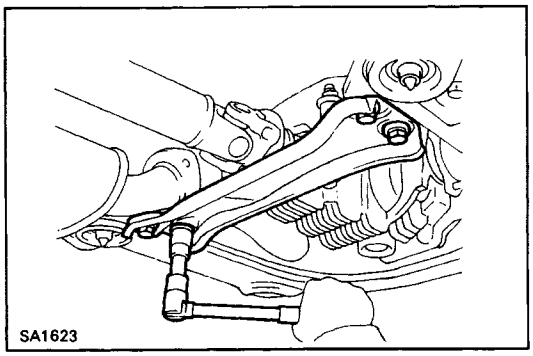
4. CHECK REAR WHEEL ALIGNMENT

(See page SA–5)

DIFFERENTIAL (4WD)

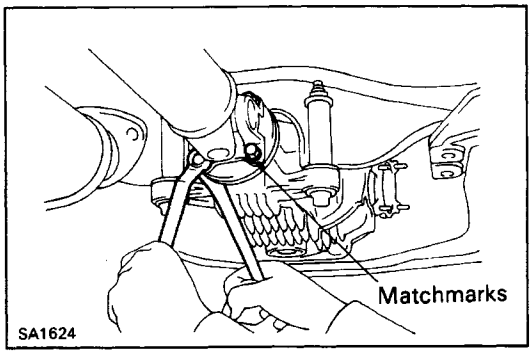
On–Vehicle Repair





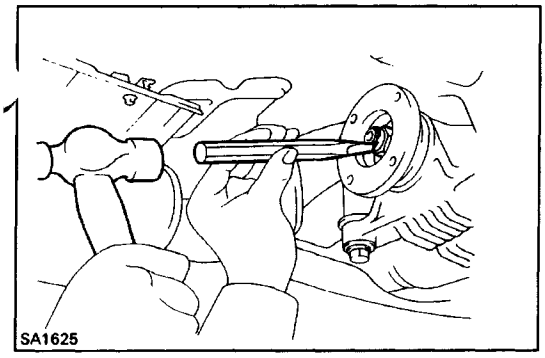
REPLACEMENT OF FRONT OIL SEAL

1. REMOVE REAR CROSSMEMBER



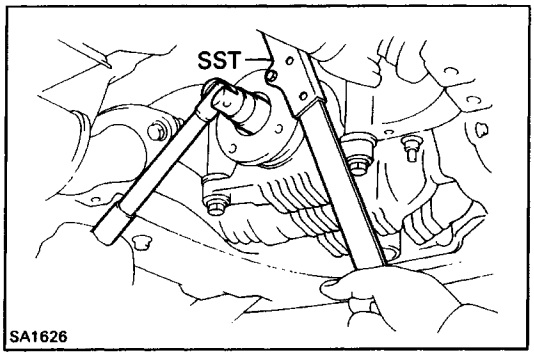
2. DISCONNECT PROPELLER SHAFT

(a) Place the matchmarks on the both flanges.
(b) Remove the four bolts, washers and nuts.
(c) Disconnect the propeller shaft from the differential.

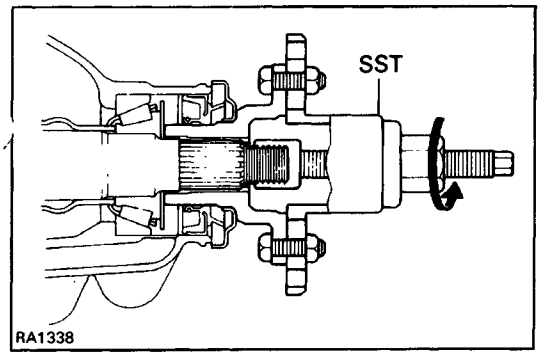


3. REMOVE COMPANION FLANGE

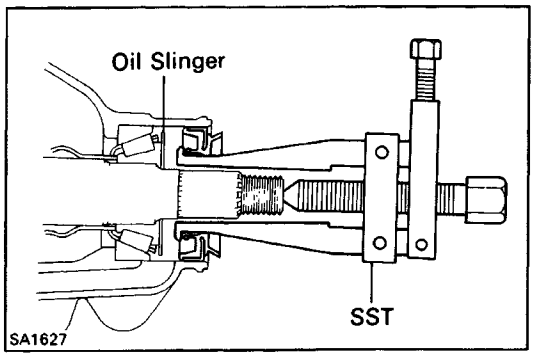
(a) Using a hammer and chisel, loosen the staked part of the nut.



(b) Using SST to hold the flange, remove the nut.
SST 09330–00021
(c) Remove the plate washer.

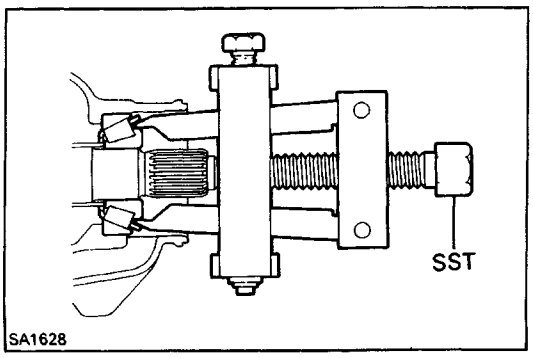


(d) Using SST, remove the companion flange.
SST 09557–22022



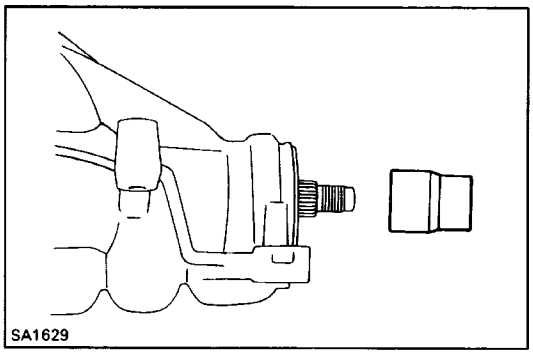
4. REMOVE FRONT OIL SEAL AND OIL SINGER

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



5. REMOVE FRONT BEARING AND BEARING SPACER

(a) Using SST, remove the front bearing.
SST 09556–22010

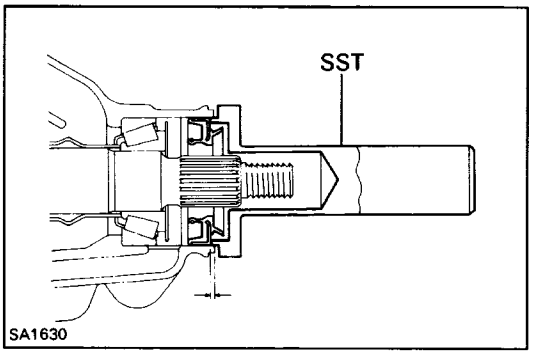


(b) Remove the bearing spacer.

6. INSTALL NEW BEARING SPACER AND FRONT BEARING

(a) Install a new bearing spacer on the shaft.

(b) Install the front bearing on the shaft.



7. INSTALL OIL SLINGER AND NEW OIL SEAL

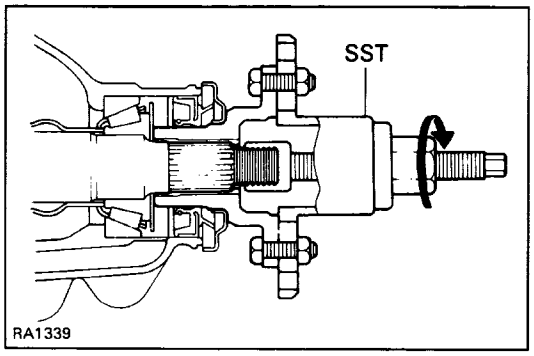
(a) Install the oil slinger on the shaft.

(b) Using SST, drive in a new oil seal.

SST 09554–22010

Oil seal drive in depth: 2.0 mm (0.079 in.)

(c) Apply MP grease to the oil seal lip.



8. INSTALL COMPANION FLANGE

(a) Using SST, install the companion flange.

SST 09557–22022

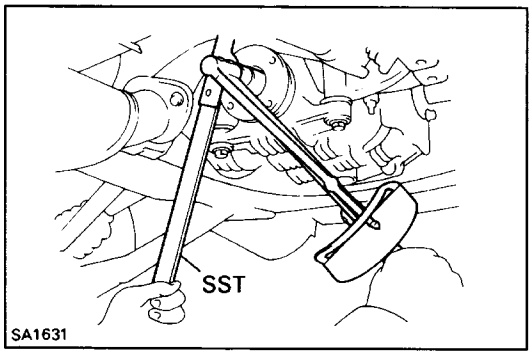
(b) Install the plate washer.

(c) Coat the threads of a new nut with gear oil.

(d) Using SST to hold the flange, tighten the nut.

SST 09330–00021

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



9. CHECK DRIVE PINION BEARING PRELOAD

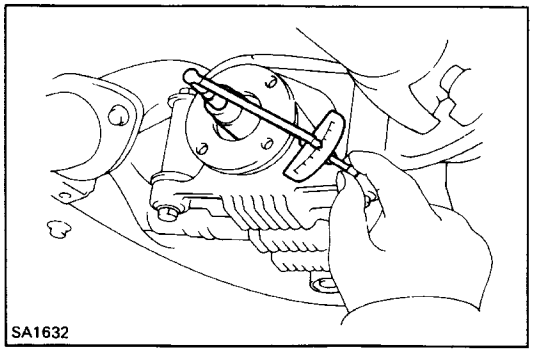
Using a torque wrench, measure the preload of the backlash between the drive pinion and ring gear.

Preload (at starting):

New bearing 1.0 – 1.6 N–m
(10 – 16 kgf–cm, 8.7 – 13.9 in.–lbf)

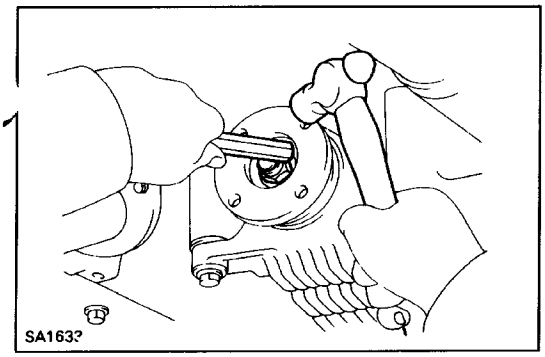
Reused bearing 0.5 – 0.8 N–m
(5 – 8 kgf–cm, 4.3 – 6.9 in.¿lbf)

- If preload is greater than specification, replace the bearing spacer.
- If preload is less than specification, retighten the nut 13 N–m (130 kgf–cm, 9 ft–lbf) at a time until the specified preload is reached.

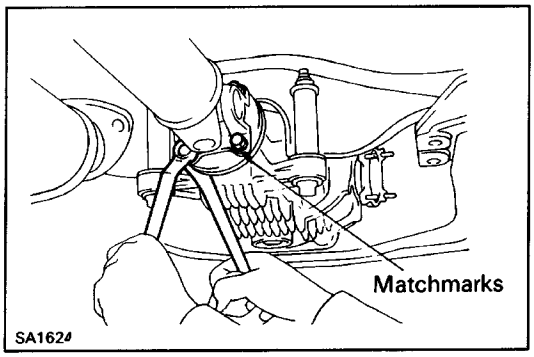


If the maximum torque is exceed while retightening the nut, replace the bearing spacer and repeat the preload procedure. Do not back off the pinion nut to reduce the preload.

Maximum torque: 235 N–m (2,400 kgf–cm, 174 ft–lbf)



10. STAKE DRIVE PINION NUT

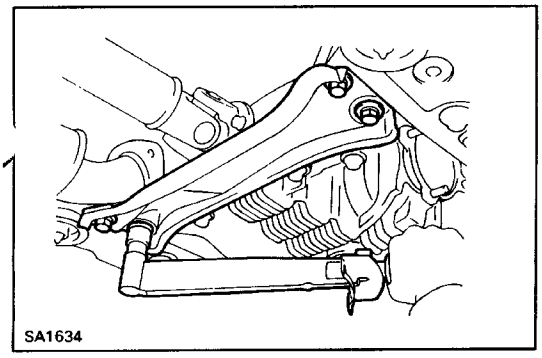


11. CONNECT PROPELLER SHAFT

(a) Align the matchmarks on the flanges and connect the propeller shaft with the four bolts, washers and nuts.

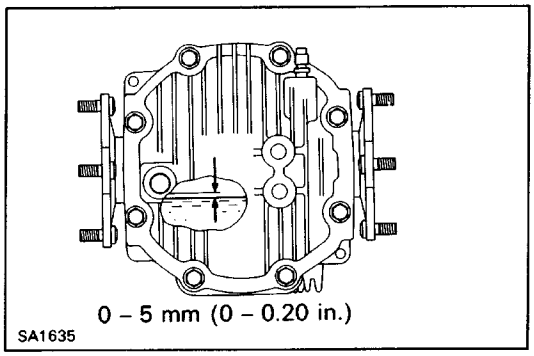
(b) Torque the bolts and nuts.

Torque: 74 N–m (750 kgf–cm, 54 ft–lbf)



12. INSTALL REAR CROSSMEMBER

Torque: 72 N–m (730 kgf–cm, 53 ft–lbf)



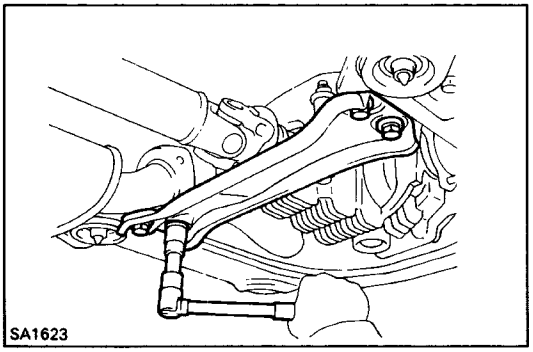
13. CHECK OIL LEVEL

Oil grade: API GL–5 hypoid gear oil

Viscosity: Above –18˚C (0˚F) SAE 90

Below –18˚C (0˚F) SAE 80W–90

Capacity: 1.1 liters (1.2 US qts, 1.0 Imp.qts)



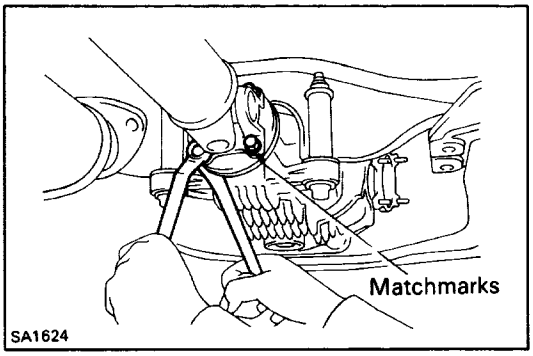
REMOVAL OF DIFFERENTIAL

(See page SA–86)

1. DRAIN DIFFERENTIAL OIL

2. REMOVE DRIVE SHAFTS (See page SA–79)

3. REMOVE REAR CROSSMEMBER

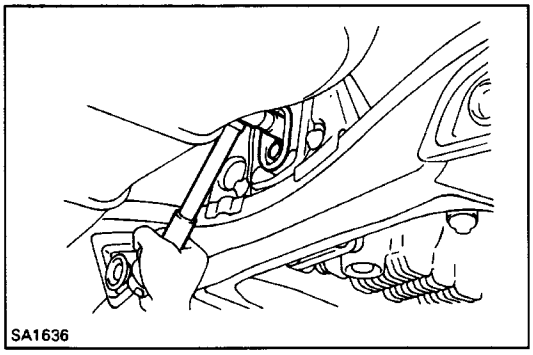


4. DISCONNECT PROPELLER SHAFT

(a) Place the matchmarks on the both flanges.

(b) Remove the four bolts, washers and nuts.

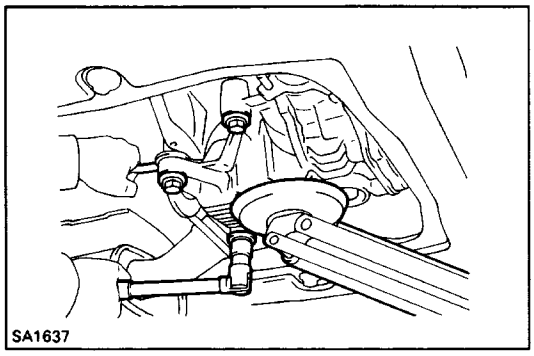
(c) Disconnect the propeller shaft from the differential.



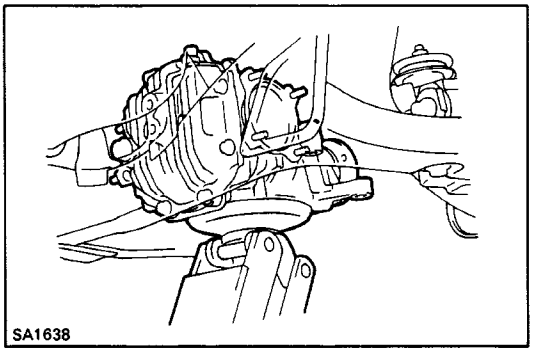
5. REMOVE DIFFERENTIAL

(a) Jack up the differential slightly.

(b) Remove the two bolts.

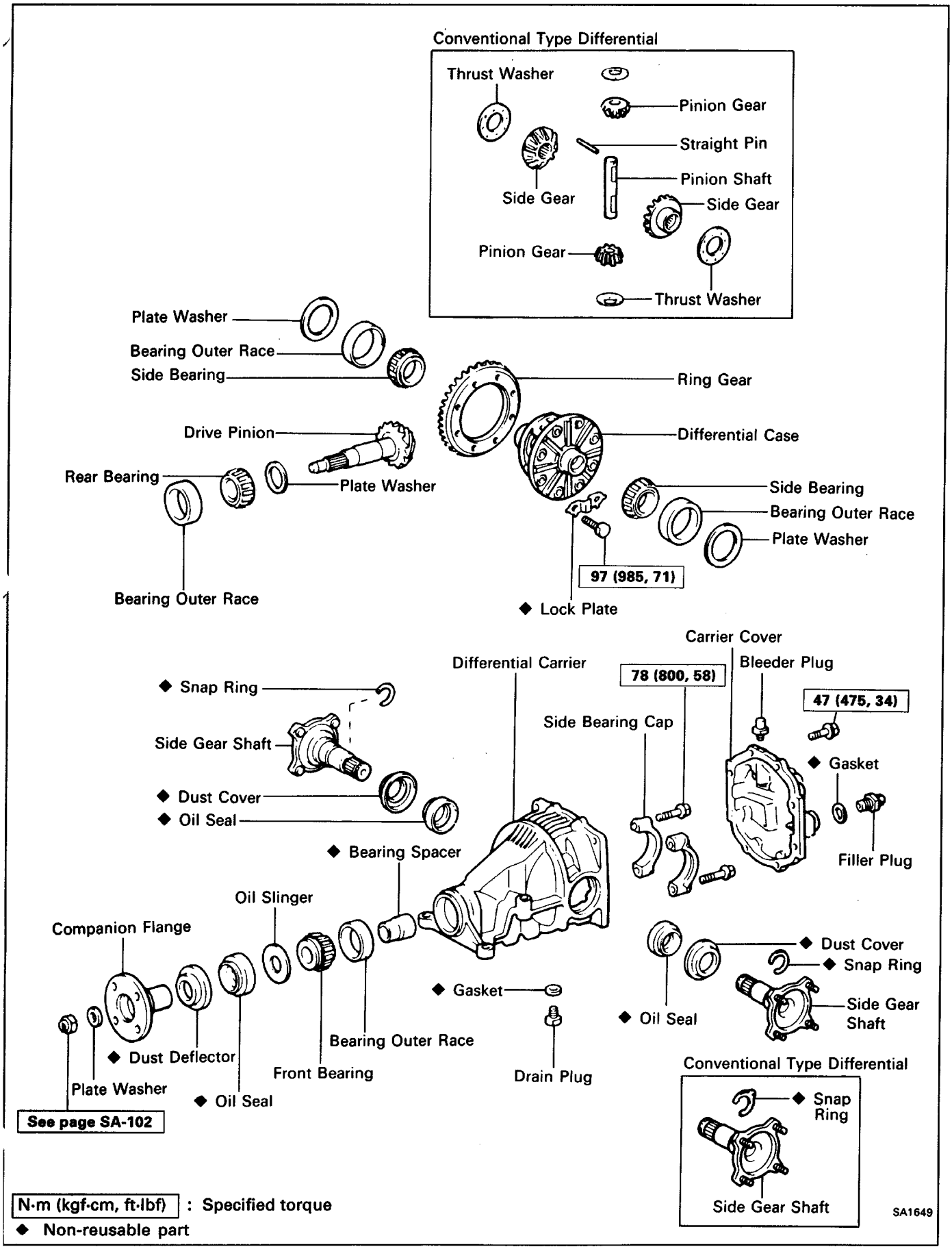


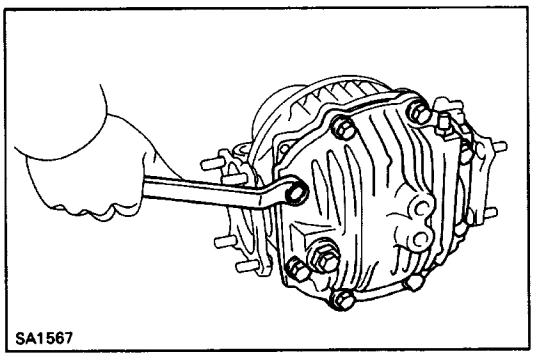
(c) Remove the four nuts and bolts.



(d) Remove the differential from the body.

DIFFERENTIAL CARRIER

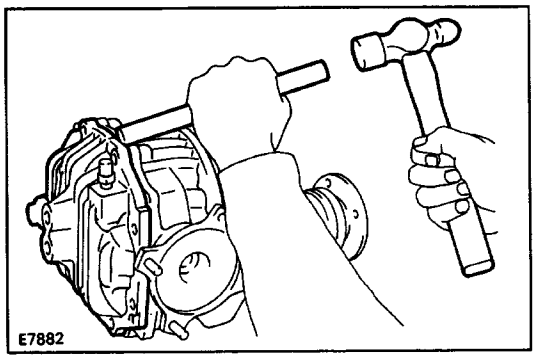




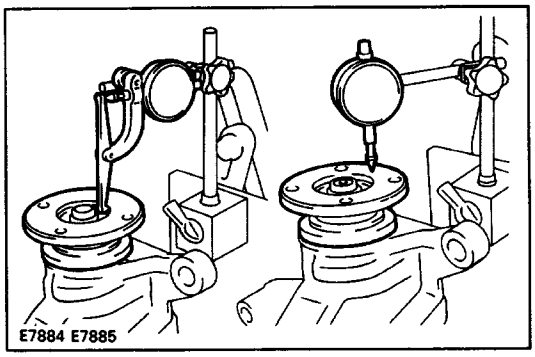
PRE–INSPECTION OF DIFFERENTIAL CARRIER

1. REMOVE DIFFERENTIAL CARRIER COVER

(a) Remove the eight bolts.



(b) Using a brass bar and hammer, separate the cover and carrier.



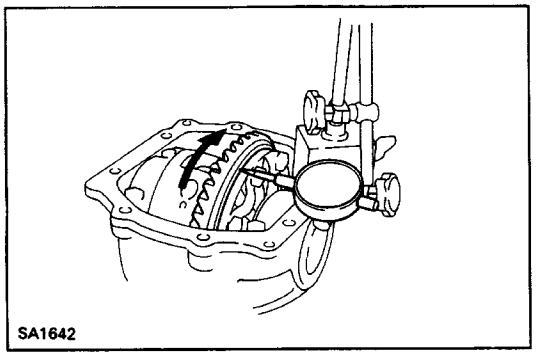
2. CHECK COMPANION FLANGE RUNOUT

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

Maximum lateral runout: 0.10 mm (0.039 in.)

Maximum radial runout: 0.10 mm (0.039 in.)

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

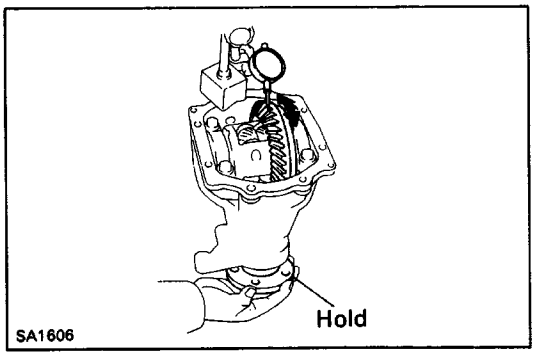


3. CHECK RING GEAR RUNOUT

Using a dial indicator, measure the runout of the ring gear.

Maximum runout: 0.07 mm (0.0028 in.)

If the runout is greater than the maximum, replace the ring gear.

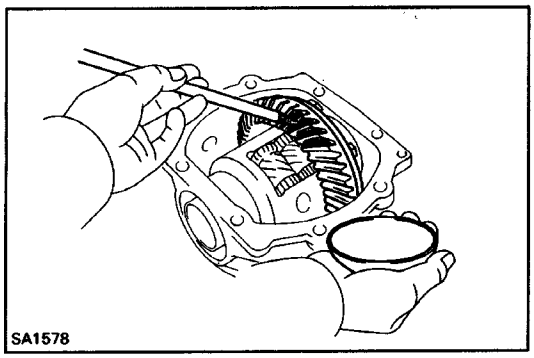


4. CHECK RING GEAR BACKLASH

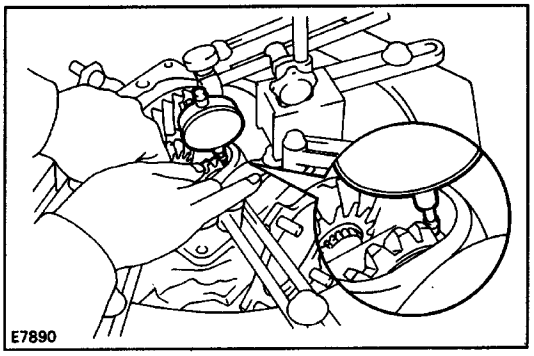
Using a dial indicator, check the backlash of the ring gear.

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

If the backlash is not within specification, adjust the side bearing preload.



5. CHECK TOOTH CONTACT (See page SA–103)

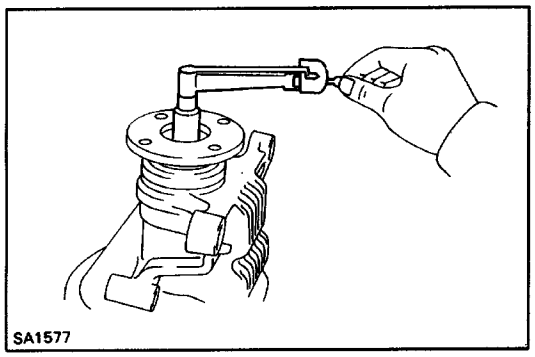


6. (CONVENTIONAL TYPE DIFFERENTIAL)
CHECK SIDE GEAR BACKLASH

Using a dial indicator, check the backlash of the side gear 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 specification, install the side gear thrust washers of different thickness.



7. MEASURE DRIVE PINION PRELOAD

Using a torque wrench, measure the preload of the backlash between 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.

Total preload (at starting):

In addition to drive pinion preload

0.3 – 0.5 N–m (3 – 5 kgf–cm, 2.6 – 4.3 in.–lbf)

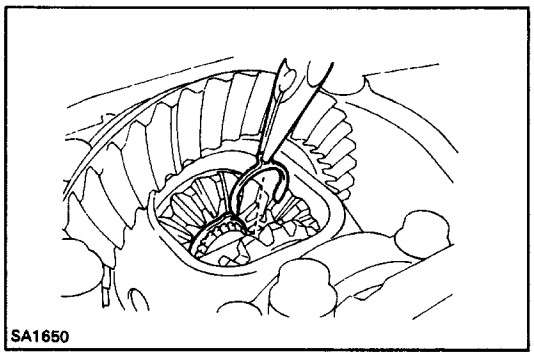
If necessary disassemble and inspect a differential.

DISASSEMBLY OF DIFFERENTIAL CARRIER

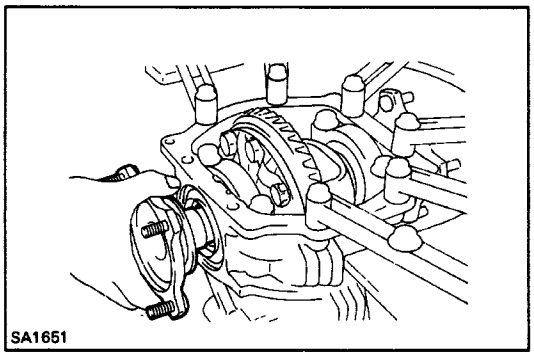
1. REMOVE SIDE GEAR SHAFTS

(Conventional Type Differential)

(a) Using needle nose pliers, remove the two snap ring.

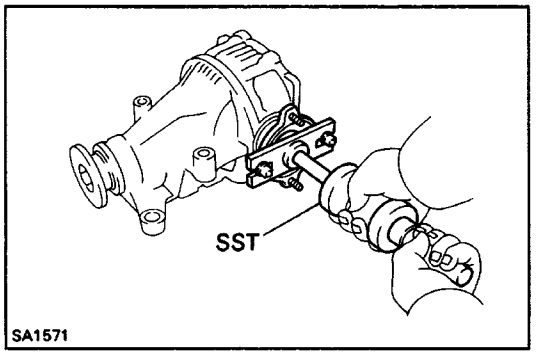


(b) Pull out the two side gear shafts.

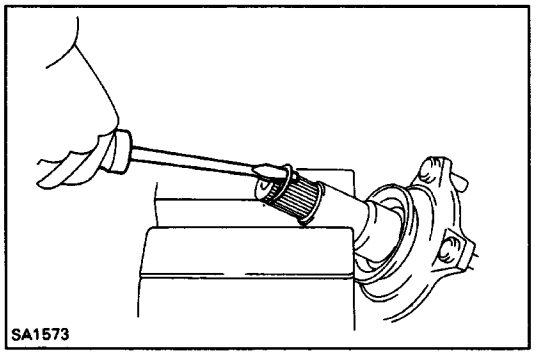


(Torque Sensing Limited Slip Differential)

(a) Using SST, drive out the side gear shaft.
SST 09520–24010

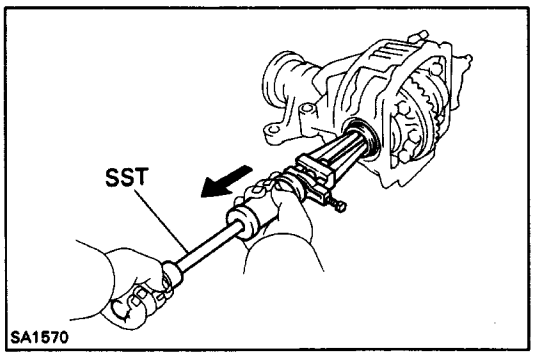


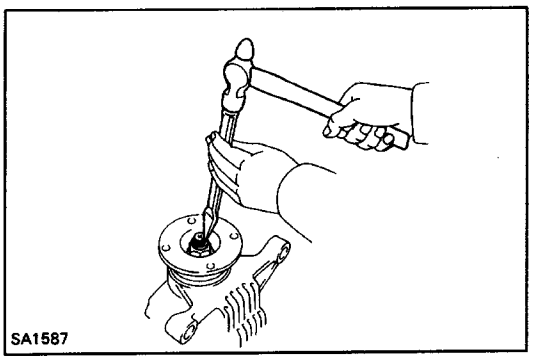
(b) Remove the snap ring from the side gear shaft.
HINT: Use a soft jaw vise.



2. REMOVE SIDE GEAR SHAFT OIL SEALS

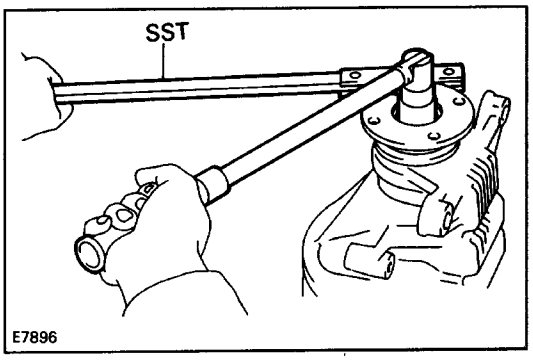
Using SST, remove the two oil seals form the housing.
SST 09308–00010





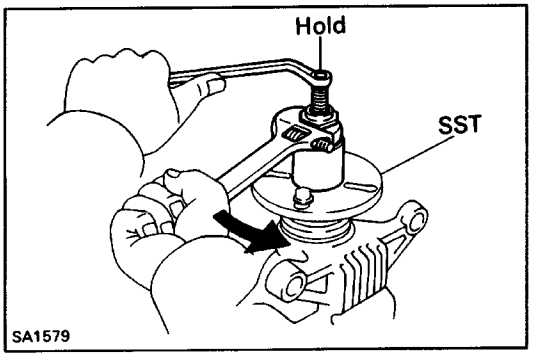
3. REMOVE COMPANION FLANGE

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

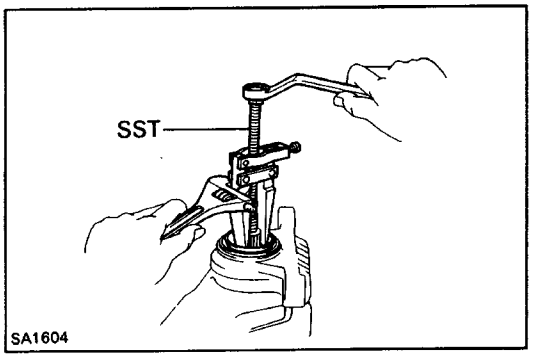


(b) Using SST to hold the flange, remove the nut.
SST 09330–00021

(c) Remove the plate washer.



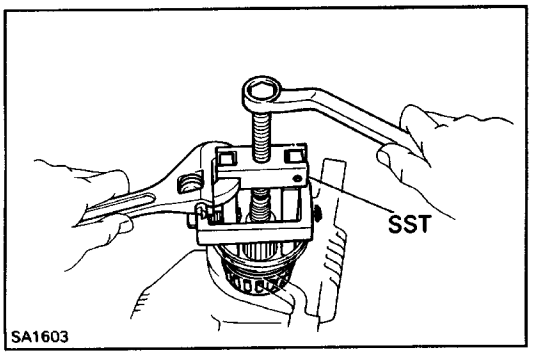
(d) Using SST, remove the companion flange.
SST 09557–22022 (09557–22040)



4. REMOVE FRONT OIL SEAL AND OIL SLINGER

(a) Using SST, remove the oil seal from the housing.
SST 09308–10010

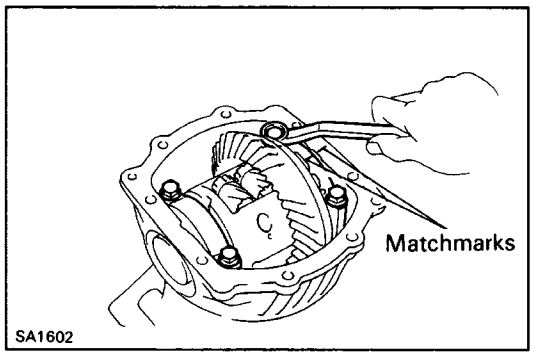
(b) Remove the oil slinger:



5. REMOVE FRONT BEARING AND BEARING SPACER

(a) Using SST, remove the bearing from the housing.
SST 09556–22010

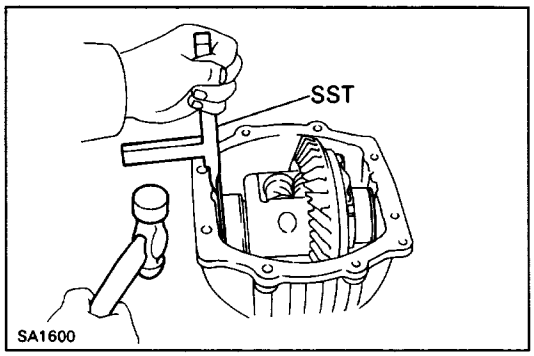
(b) Remove the bearing spacer.



6. REMOVE DIFFERENTIAL CASE

(a) Place the matchmarks on the bearing cap and differential carrier.

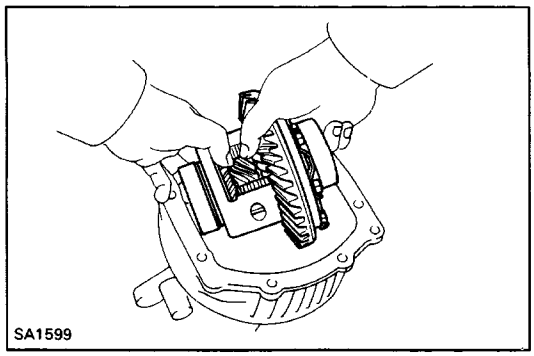
(b) Remove the two bearing caps.



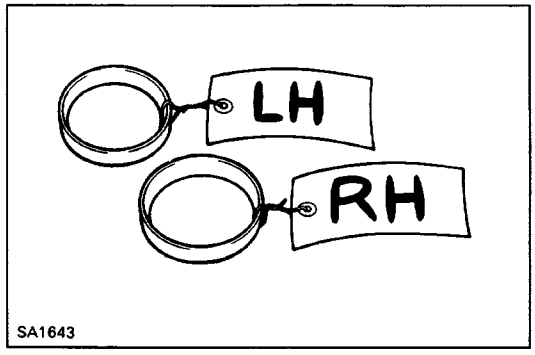
(c) Using SST, remove the two side bearing preload adjusting plate.

SST 09504–22011

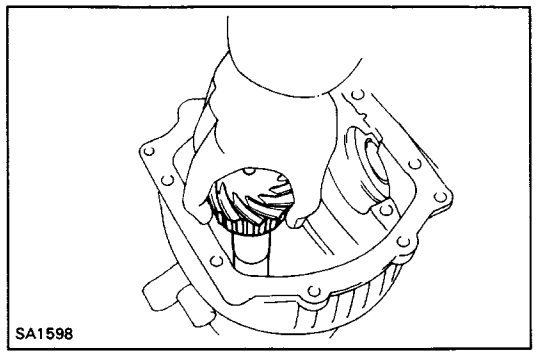
HINT: Measure the adjusting plate washer and note the thickness.



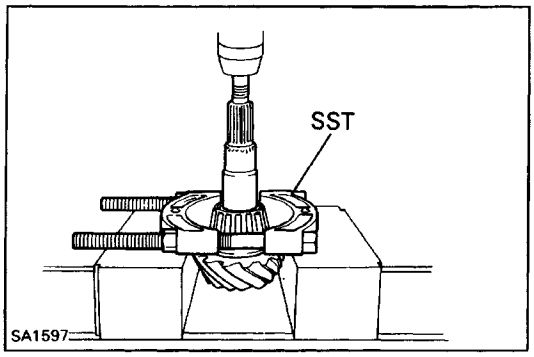
(d) Remove the differential case and bearing outer race from the carrier.



HINT: Tag the bearing outer races to show the location for reassembly.



7. REMOVE DRIVE PINION FROM DIFFERENTIAL CARRIER

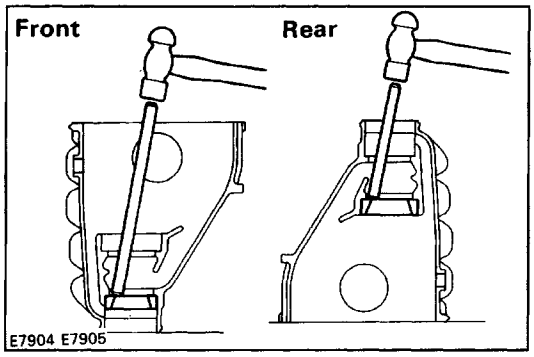


8. REMOVE DRIVE PINION REAR BEARING

(a) Using SST and a press, remove the bearing from the drive pinion.
SST 09950–00020

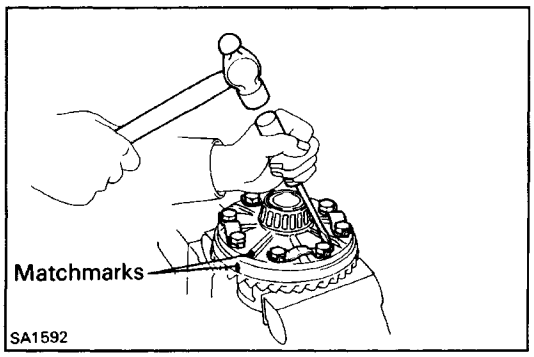
HINT: If the drive pinion or ring gear are damaged replace them a set.

(b) Remove the plate washer.



9. REMOVE FRONT AND REAR BEARING OUTER RACES

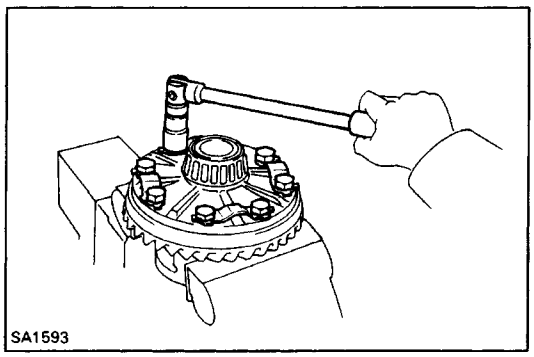
Using a hammer and brass bar, drive out the outer races from the carrier.



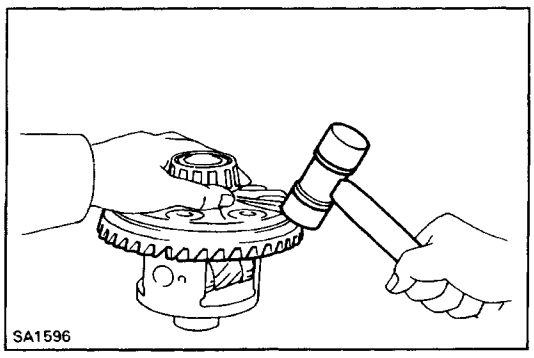
10. REMOVE RING GEAR

(a) Place the matchmarks on the ring gear and differential case.

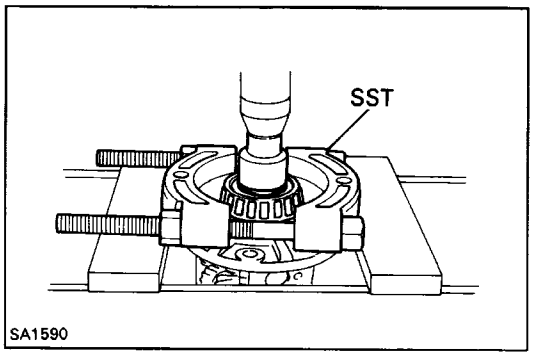
(b) Unstake the lock plates.



(c) Remove the eight bolts and four lock plates.



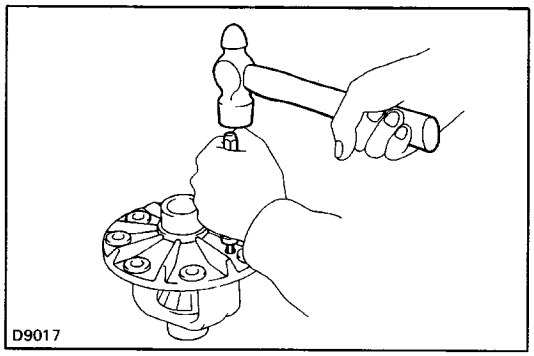
(d) Using a plastic hammer, tap on the ring gear to separate it from differential case.



11. REMOVE SIDE BEARINGS

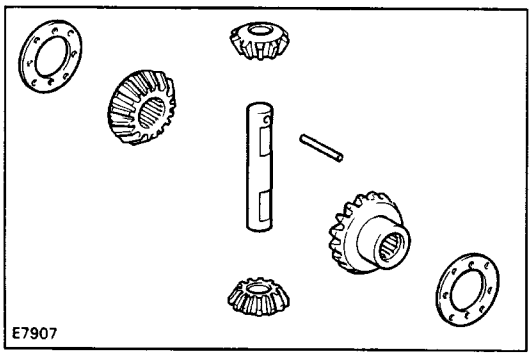
Using SST, press out two side bearings from differential case.

SST 09950–00020



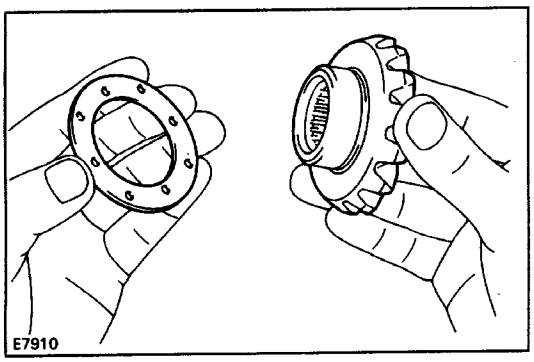
12. (CONVENTIONAL TYPE DIFFERENTIAL)
DISASSEMBLE DIFFERENTIAL CASE

(a) Using a hammer and punch, drive out the straight pin.



(b) Remove the following parts from the differential case:

- **Pinion shaft**
- **Two pinion gears**
- **Two side gears**
- **Four thrust washers**

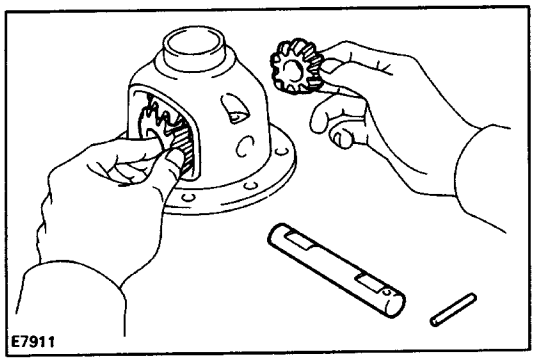


ASSEMBLY OF DIFFERENTIAL CARRIER

1. (CONVENTIONAL TYPE DIFFERENTIAL)

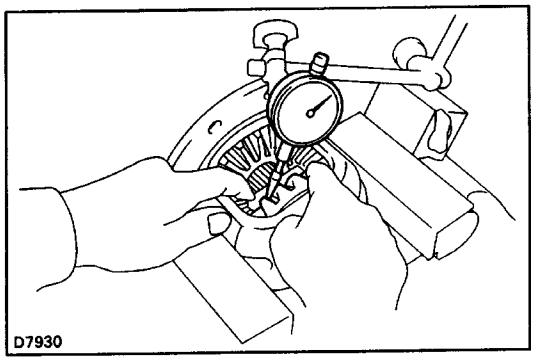
ASSEMBLE DIFFERENTIAL CASE

(a) Install the thrust washers to the side gears.



(b) Install the side gears with thrust washers and pinion
gears with thrust washers.

(c) Install the pinion shaft.



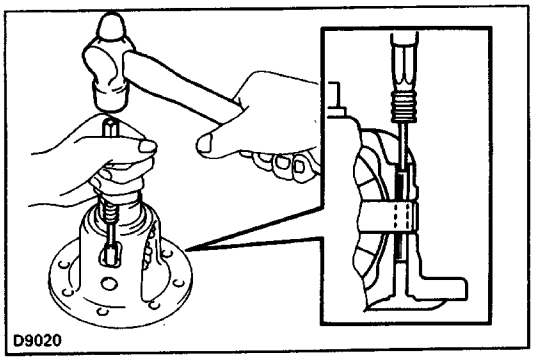
(d) Check the side gear backlash.
Measure the side gear backlash while holding one pinion gear toward the case.

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

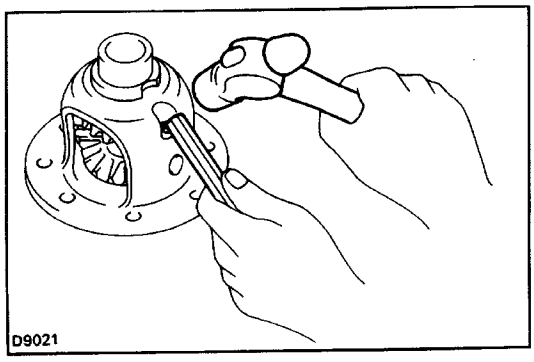
If the backlash is not within specification, install the side gear thrust washers of different thickness.

Thrust washer thickness	mm (in.)
0.95 (0.0374) 1.00 (0.0394) 1.05 (0.0413)	1.10 (0.0433) 1.15 (0.0453) 1.20 (0.0472)

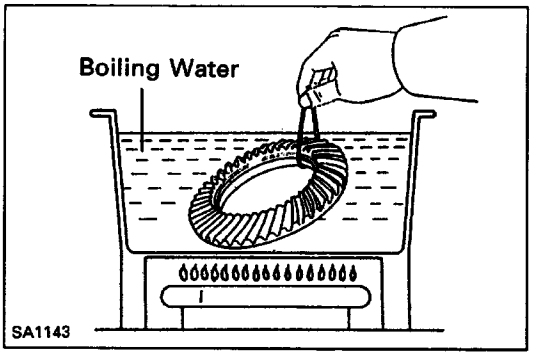
HINT: Use washers of same thickness on both the right and left sides.



(e) Using a hammer and punch, drive in the straight pin through the case and hole in the pinion shaft.



(f) Stake the case.

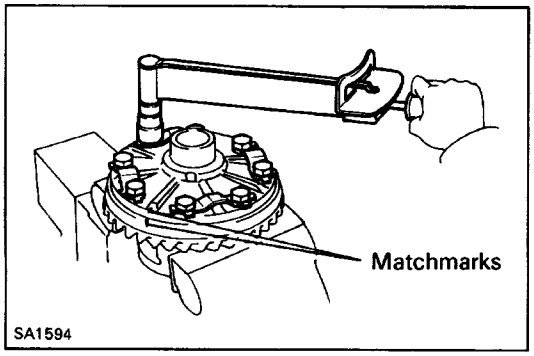


2. INSTALL RING GEAR ON DIFFERENTIAL CASE

(a) Clean the contact surface of the differential case and ring gear.

(b) Heat the ring gear in boiling water.

(c) After the moisture on the ring gear has completely evaporated, quickly install the ring gear to the differential case.

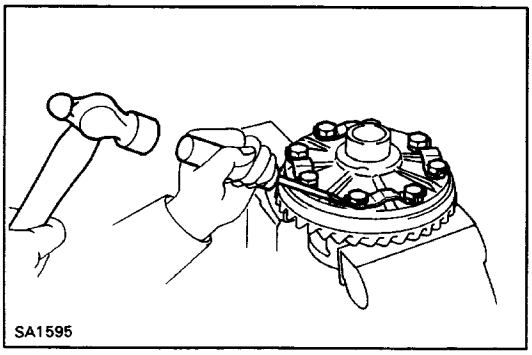


(d) Align the matchmarks on the ring gear and differential case.

(e) Temporarily install the lock plates and set bolts.

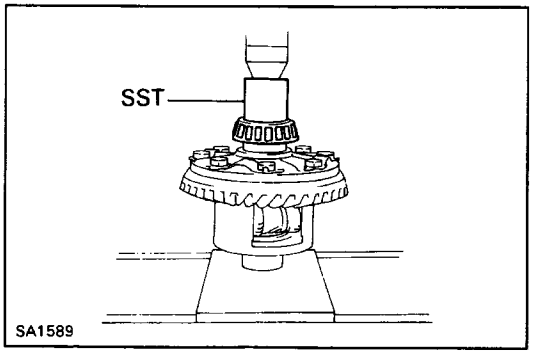
(f) After the ring gear cools down enough, tighten the set bolts uniformly and a little at a time.

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



(g) Using a hammer and drift punch, stake the lockplates.

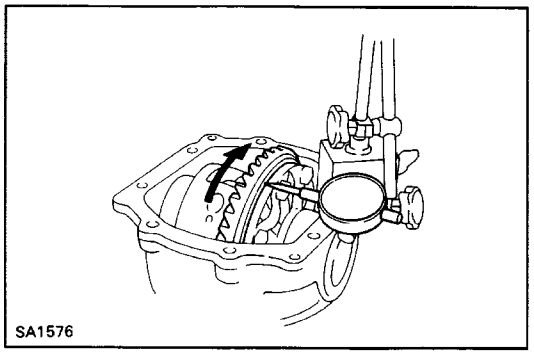
HINT: Stake one claw flush with the flat surface of the nut. For the claw contacting the protruding portion of the nut, stake only the half on the tightening side.



3. INSTALL SIDE BEARINGS

Using a press and SST, press in the bearings into the differential case.

SST 09710–22020 (09710–01030)



4. CHECK RING GEAR RUNOUT

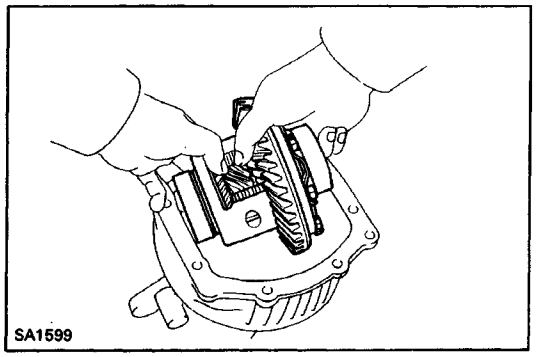
(a) Install the differential case onto the carrier and install the plate washers to where there is no play in the bearing. (See page SA–102)

(b) Install bearing caps. (See page SA–104)

(c) Using a dial indicator, measure the runout of ring gear.

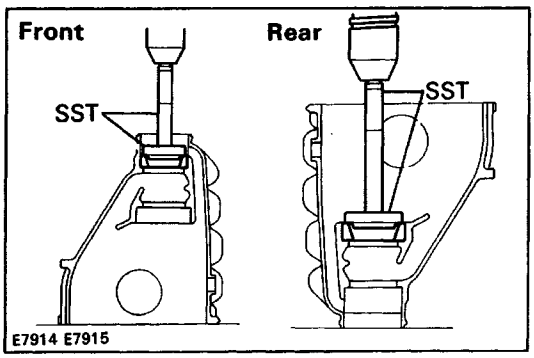
Maximum runout: 0.07 mm (0.0028 in.)

5. REMOVE DIFFERENTIAL CASE



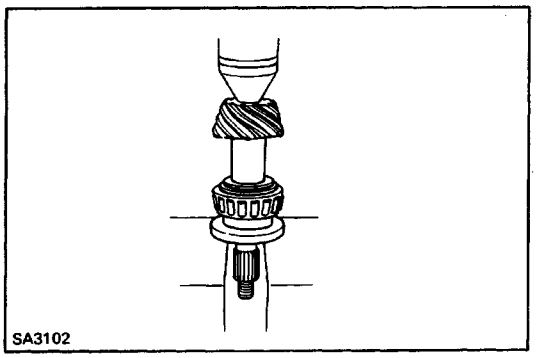
(a) Remove the four bolts and two bearing caps.
(b) Remove the two plate washers.
(c) Remove the differential case with bearing outer races.

6. INSTALL FRONT AND REAR BEARING OUTER RACES



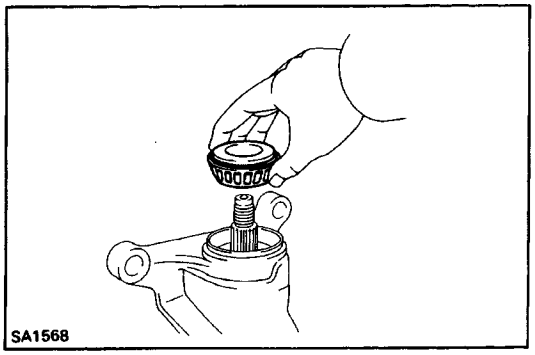
Using a press and SST, press in the front and rear bearing outer races.
SST 09608–30012
Front (09608–04020, 09608–00060)
Rear (09608–04020,09608–04100)

7. INSTALL REAR BEARING TO DRIVE PINION



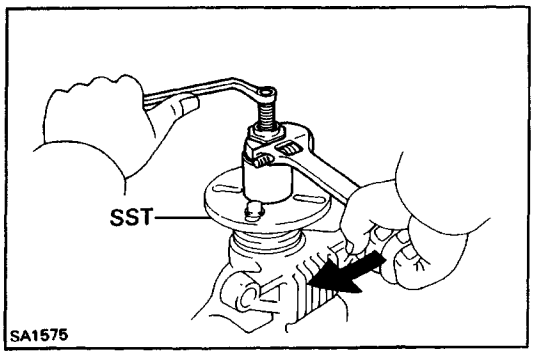
(a) Install the plate washer on the drive pinion.
(b) Using a press and SST, install the rear bearing onto the drive pinion.
SST 09506–30012

8. TEMPORARILY ADJUST DRIVE PINION PRELOAD

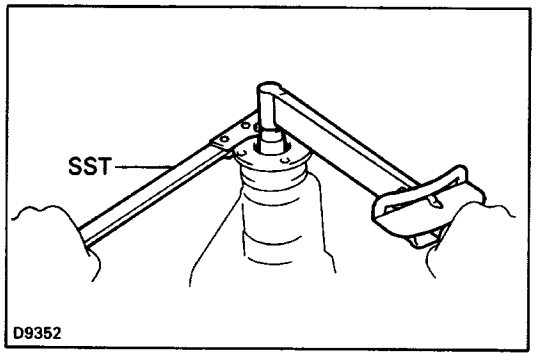


(a) Install the following parts:
- Drive pinion
- Front bearing

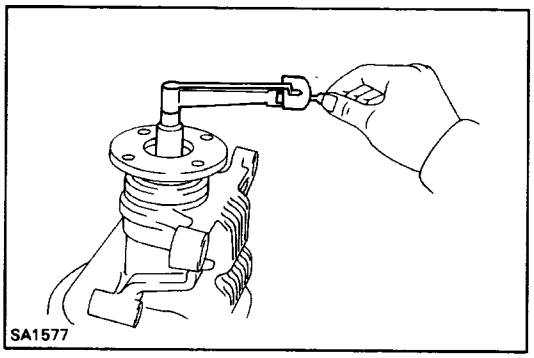
HINT: Assemble the spacer, oil slinger and oil seal after adjusting the gear contact pattern.



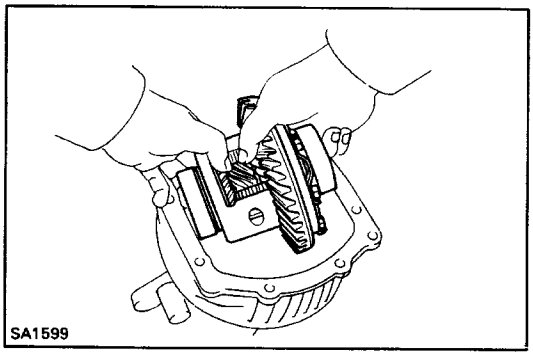
(b) Install the companion flange with SST.
SST 09557–22022



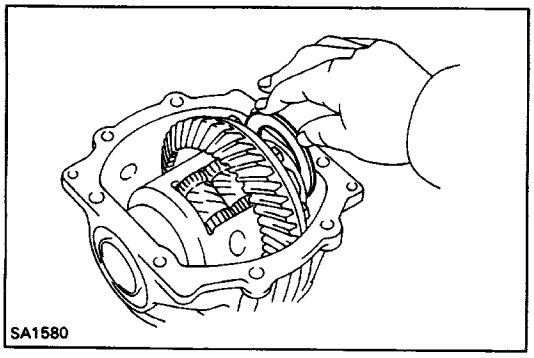
(c) Adjusting the drive pinion preload by tightening the companion flange nut.
Using SST to hold the flange, tighten the nut.
SST 09330–00021



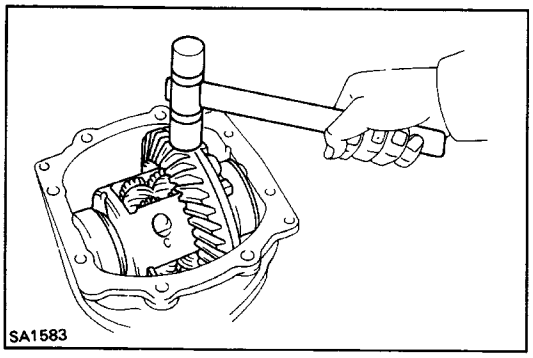
(d) Using a torque meter, measure the preload.
Preload (at starting)
New bearing
1.0 – 1.6 N–m (10 – 16 kgf–cm, 8.7 – 13.9 in.–lbf)
Reused bearing
0.5 – 0.8 N–m (5 – 8 kgf–cm, 4.3 – 6.9 MAW)



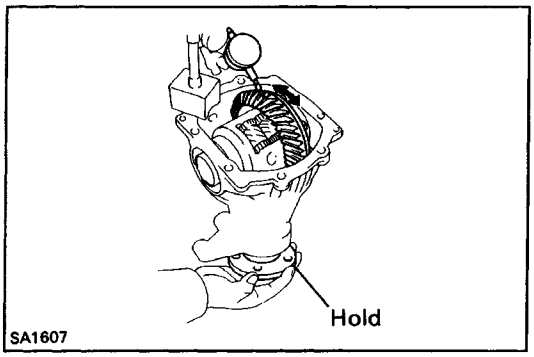
9. INSTALL DIFFERENTIAL CASE IN CARRIER
(a) Place the bearing outer races on their respective bearings. Make sure the left and right outer races are not interchanged.
(b) Install the differential case in the carrier.



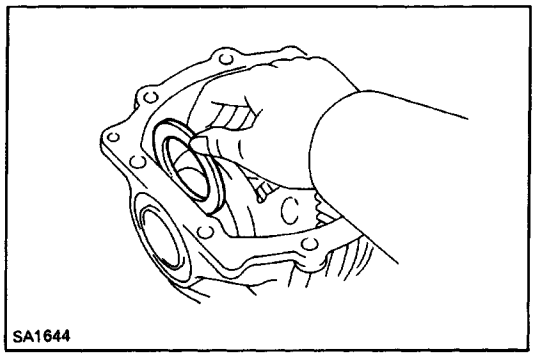
10. ADJUST RING GEAR BACKLASH
(a) Install only the plate washer on the ring gear back side.
HINT: Insure that the ring gear has backlash.



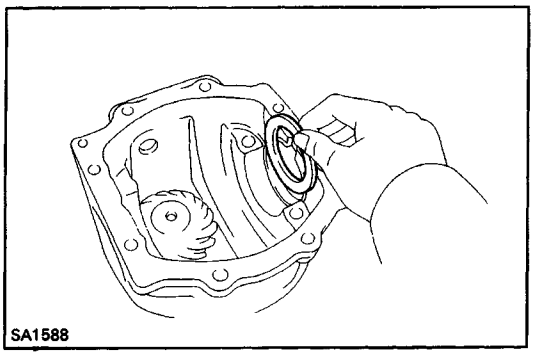
(b) Snug down the washer and bearing by tapping on the ring gear with a plastic hammer.



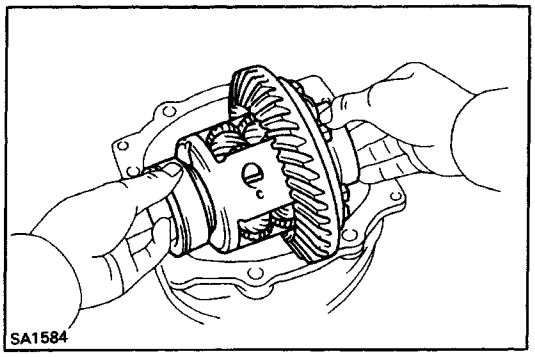
(c) Using a dial indicator, measure the backlash.
(d) Select a ring gear back side plate washer so that the backlash is 0.13 mm (0.0051 in.).



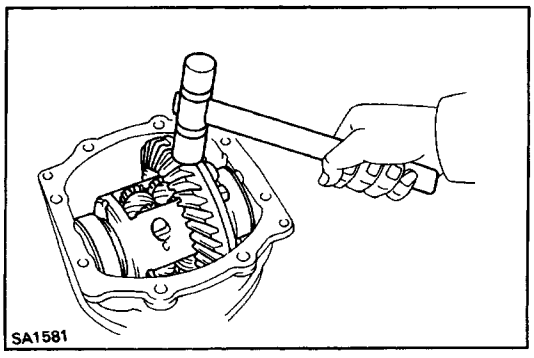
(e) Select a ring gear teeth side washer with a thickness: which eliminates any clearance between the outer race and case.
(f) Remove the plate washer and differential case.



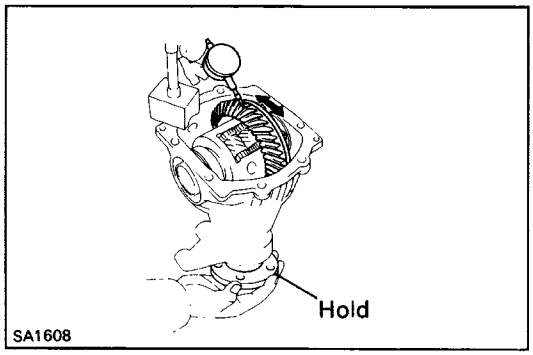
(g) Install the plate washer into the ring gear back side



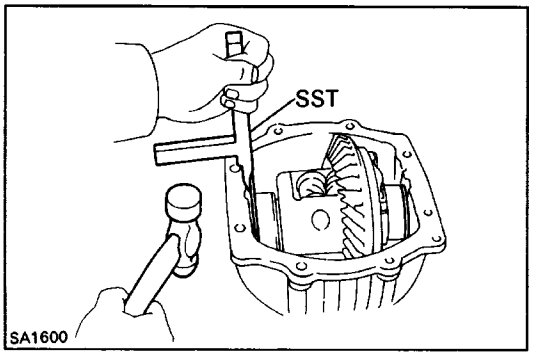
(h) Place the other plate washer onto the differential case together with the outer race, and install the differential case with the outer race into the carrier.



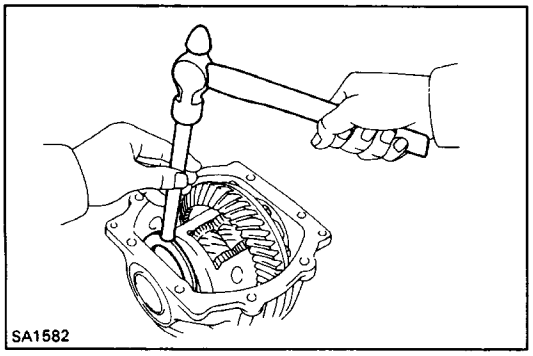
(i) Using a plastic hammer, snug down the washer and bearing by tapping the ring gear.



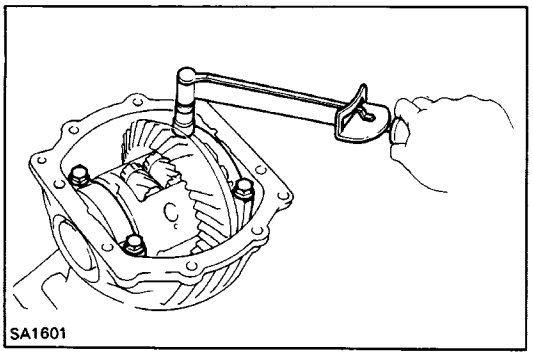
(j) Using a dial indicator, measure the ring gear backlash.
Backlash: 0.13 – 0.18 mm (0.0051 – 0.0071 in.)
(k) If not within the specification, adjust by either increasing on decreasing the number of washers on both sides by an equal amount.
HINT: There should be clearance between the plate washer and case.
Insure that there is ring gear backlash.



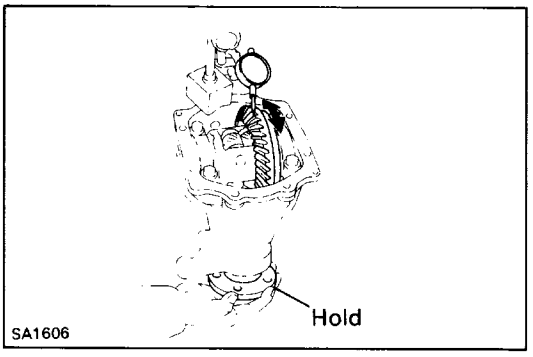
11. ADJUST SIDE BEARING PRELOAD
(a) Using SST, remove the ring gear teeth side plate washer and measure the thickness.
SST 09504–22011



(b) Install a new washer of 0.06 – 0.09 mm (0.0024 –0.0035 in.) thicker than the removed washer.
HINT: Select a washer which can be pressed in 2/3 of the way by finger.
(c) Using a hammer and brass bar, tap in the side gear thrust washer.



(d) Install the side bearing caps.
HINT: Align the matchmarks on the cap and carrier.
Torque: 78 N–m (800 kgf–cm, 58 ft–lbf)

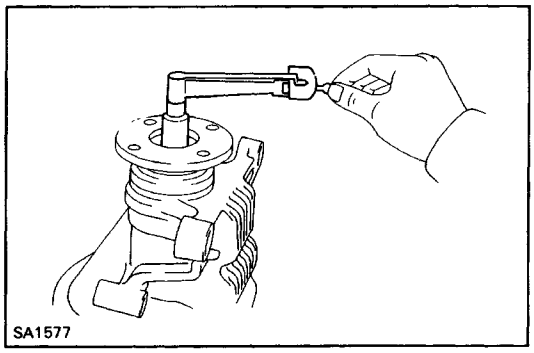


(e) Recheck the ring gear backlash.
Backlash: 0.13 – 0.18 mm (0.0051 – 0.0071 in.)

(f) If not within the standard, adjust by either increasing or decreasing the washers on both sides by equal amount.

HINT: The backlash will change about 0.02 mm (0.0008 in.) with 0.03 mm (0.0012 in.) alteration of the side gear thrust washer.

Washer thickness mm (in.)	
2.21-2.23 (0.0870-0.0878)	2.72-2.74 (0.1071-0.1079)
2.24-2.26 (0.0882-0.0890)	2.75-2.77 (0.1083-0.1091)
2.27-2.29 (0.0894-0.0902)	2.78-2.80 (0.1094-0.1102)
2.30-2.32 (0.0906-0.0913)	2.81-2.83 (0.1106-0.1114)
2.33-2.35 (0.0917-0.0925)	2.84-2.86 (0.1118-0.1126)
2.36-2.38 (0.0929-0.0937)	2.87-2.89 (0.1130-0.1138)
2.39-2.41 (0.0941-0.0949)	2.90-2.92 (0.1142-0.1150)
2.42-2.44 (0.0953-0.0961)	2.93-2.95 (0.1154-0.1161)
2.45-2.47 (0.0965-0.0972)	2.96-2.98 (0.1165-0.1173)
2.48-2.50 (0.0976-0.0984)	2.99-3.01 (0.1171-0.1185)
2.51-2.53 (0.0988-0.0996)	3.02-3.04 (0.1189-0.1197)
2.54-2.56 (0.1000-0.1008)	3.05-3.07 (0.1201-0.1209)
2.57-2.59 (0.1012-0.1020)	3.08-3.10 (0.1213-0.1220)
2.60-2.62 (0.1024-0.1031)	3.11-3.13 (0.1224-0.1232)
2.63-2.65 (0.1035-0.1043)	3.14-3.16 (0.1236-0.1244)
2.66-2.68 (0.1047-0.1055)	3.17-3.19 (0.1248-0.1256)
2.69-2.71 (0.1059-0.1067)	3.20-3.22 (0.1260-0.1268)


SA1577

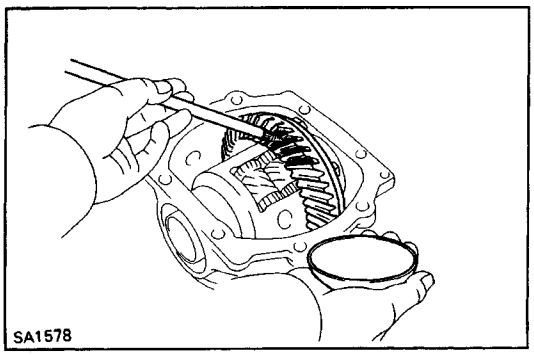
12. MEASURE TOTAL PRELOAD

Using a torque meter, measure the total preload**.**

Total preload (at starting):

Add drive pinion preload

0.3 – 0.5 N–m (3 – 5 kgf–cm, 2.6 – 4.3 in.–lbf)

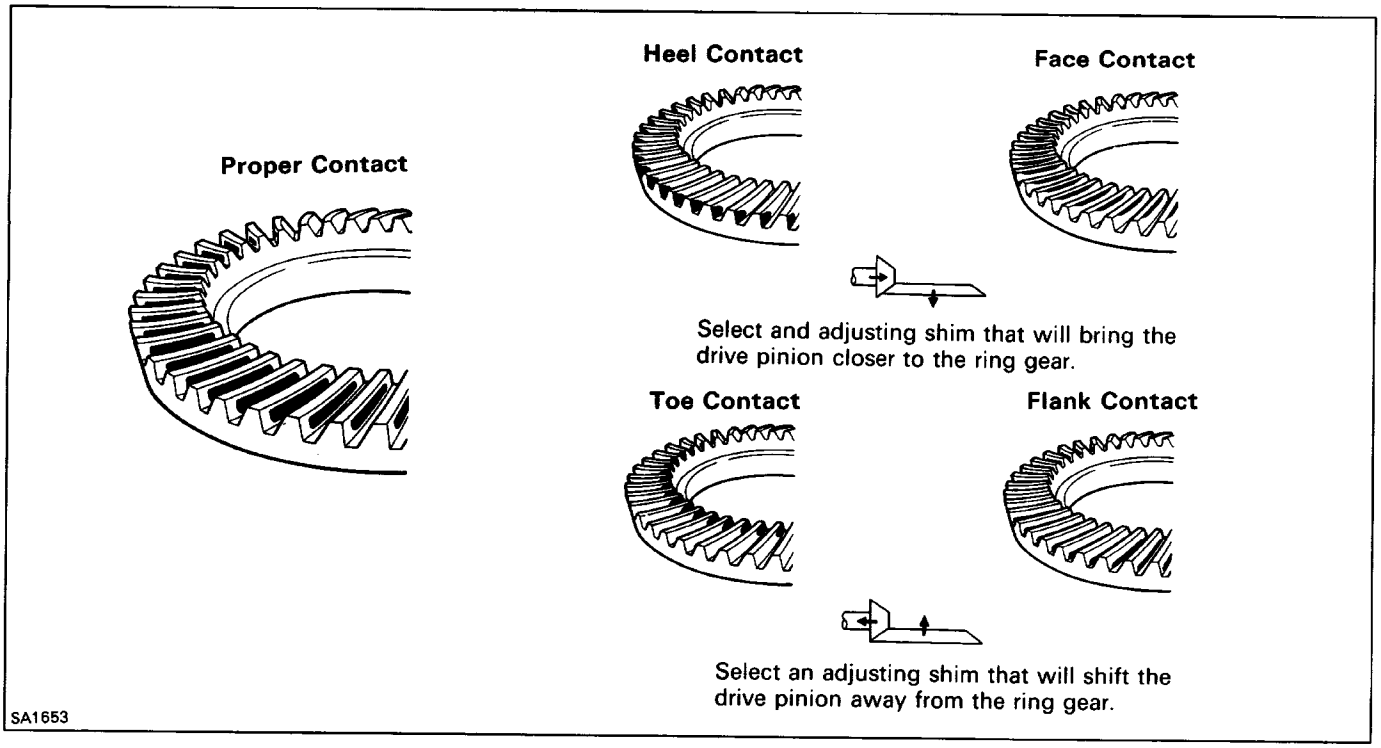

SA1578

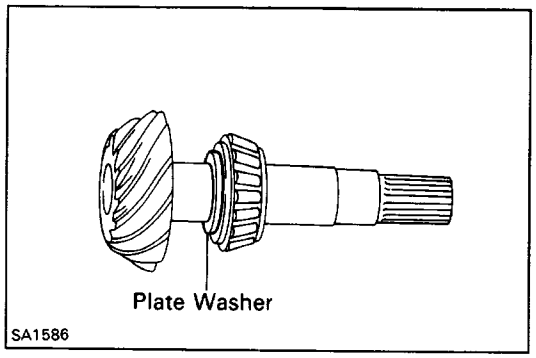
13. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION

(a) Coat 3 or 4 teeth at three different positions on the ring gear with red lead.

(b) Hold the companion flange firmly and rotate the ring gear in both directions.

(c) Inspect the tooth contact.



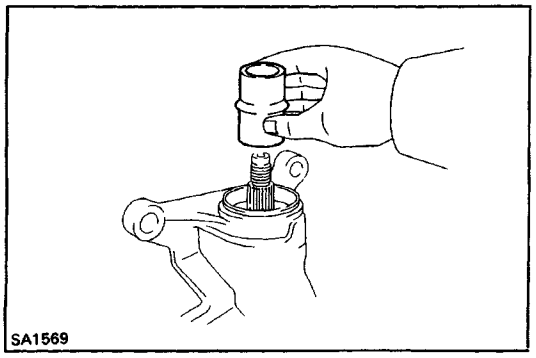


If the teeth are not contacting properly, use the following chart to select a proper washer for correction.

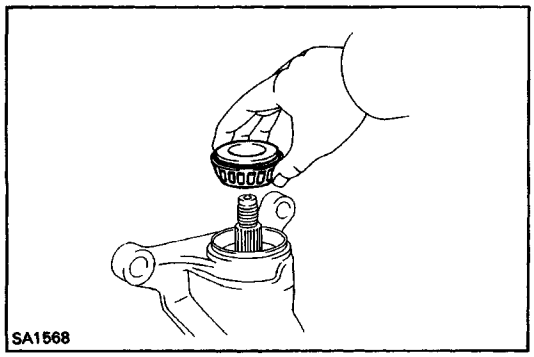
Thickness mm (in.)	
2.30 (0.0905)	2.51 (0.0989)
2.31 (0.0909)	2.52 (0.0992)
2.32 (0.0913)	2.53 (0.0996)
2.33 (0.0917)	2.54 (0.1000)
2.34 (0.0921)	2.55 (0.1004)
2.35 (0.0925)	2.56 (0.1008)
2.36 (0.0929)	2.57 (0.1012)
2.37 (0.0933)	2.58 (0.1016)
2.38 (0.0937)	2.59 (0.1020)
2.39 (0.0941)	2.60 (0.1024)
2.40 (0.0945)	2.61 (0.1028)
2.41 (0.0949)	2.62 (0.1032)
2.42 (0.0953)	2.63 (0.1035)
2.43 (0.0957)	2.64 (0.1039)
2.44 (0.0961)	2.65 (0.1043)
2.45 (0.0965)	2.66 (0.1047)
2.46 (0.0969)	2.67 (0.1051)
2.47 (0.0972)	2.68 (0.1055)
2.48 (0.0976)	2.69 (0.1059)
2.49 (0.0980)	2.70 (0.1063)
2.50 (0.0984)	2.71 (0.1067)

14. REMOVE COMPANION FLANGE
(See step 3 on page SA–95)
15. REMOVE FRONT BEARING
(See step 5 on page SA–95)

16. INSTALL NEW BEARING SPACER AND FRONT BEARING

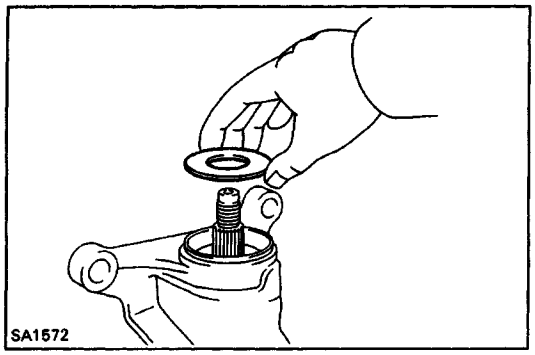


(a) Install a new bearing spacer on the drive pinion.

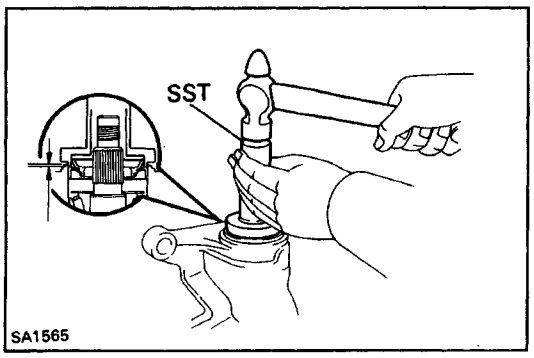


(b) Install the front bearing on the drive pinion.

17. INSTALL OIL SLINGER

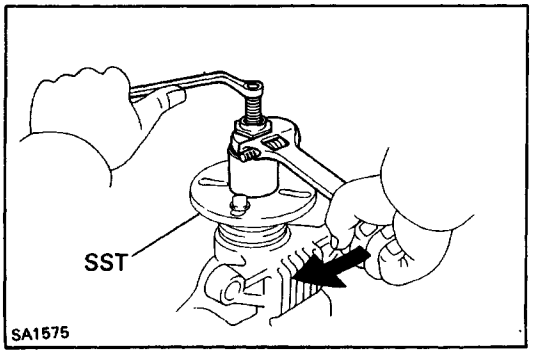


18. INSTALL NEW OIL SEAL

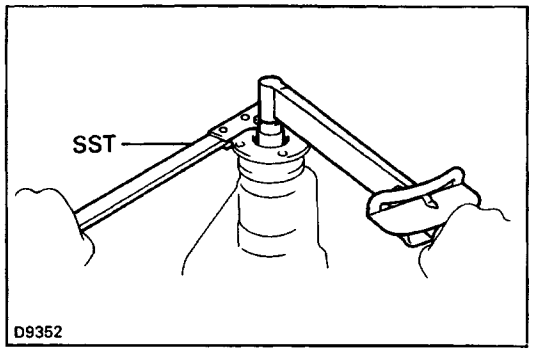


(a) Using SST, drive in a new oil seal.
SST 09554–22010
Oil seal drive in depth: 2.0 mm (0.079 in.)
(b) Apply MP grease to oil seal lip.

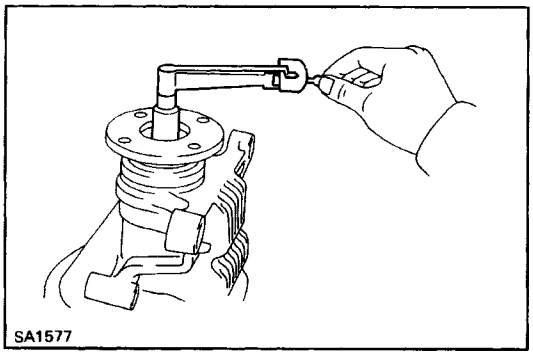
19. INSTALL COMPANION FLANGE



(a) Using SST, install the companion flange on the shaft.
SST 09557–22022



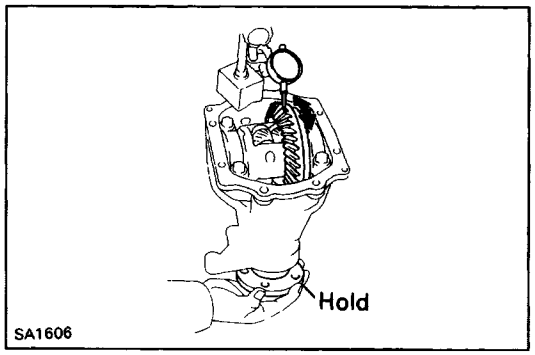
(b) Install the plate washer.
(e) Coat the threads of a new nut with gear oil.
(d) Using SST to hold the flange, tighten the nut.
SST 09330–00021
Torque: 108 N–m (1,700 kgf–cm, 80 ft–lbf)



20. CHECK DRIVE PINION BEARING PRELOAD
Using a torque wrench, measure the preload of the backlash between the drive pinion and ring gear.
Preload (at starting):
New bearing 1.0 – 1.6 N–m
(10 – 16 kgf–cm, 8.7 – 13.9 in–lbf)
Reused bearing 0.5 – 0.8 N–m
(5 – 8 kgf–cm, 4.3 – 6.9 in.–lbf)

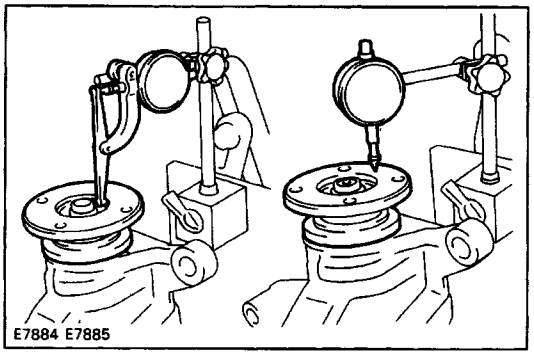
- If preload is greater than specification, replace the bearing spacer.
- If preload is less than specification, retighten the nut 13 N–m (130 kgf–cm, 9 ft–lbf) at a time until the specified preload is reached.

If the maximum torque is exceed while retighten the nut, replace the bearing spacer and repeat the preload procedure. Do not back off the pinion nut to reduce the preload.
Maximum torque: 235 N–m (2,400 kgf–cm, 177 ft–lbf)



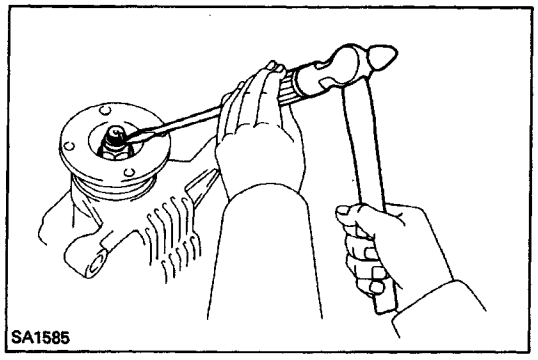
21. CHECK TOTAL PRELOAD
Total preload (at starting):
Add drive pinion preload
0.3 – 0.5 N–m (3 – 5 kgf–cm, 2.6 – 4.3 in.–lbf)

22. CHECK RING GEAR BACKLASH
Using a dial indicator, check the backlash of the ring gear.
Backlash: 0.13 – 0.18 mm (o.0051 – 0.0071 in.)
If the backlash is not within specification, adjust the side bearing preload.

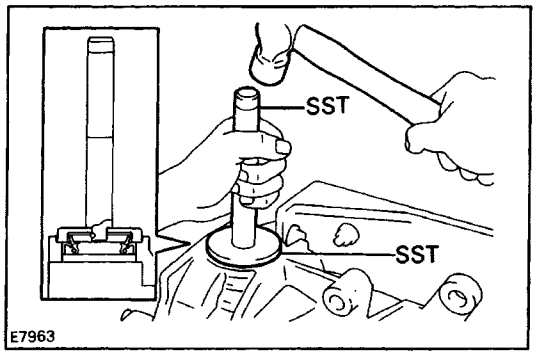


23. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION (See page SA–105)

24. CHECK COMPANION FLANGE RUNOUT
Using a dial indicator, measure the lateral and radial runout of the companion flange.
Maximum lateral runout: 0.10 mm (0.0039 in.)
Maximum radial runout: 0.10 mm (0.0039 in.)



25. STAKE DRIVE PINION NUT

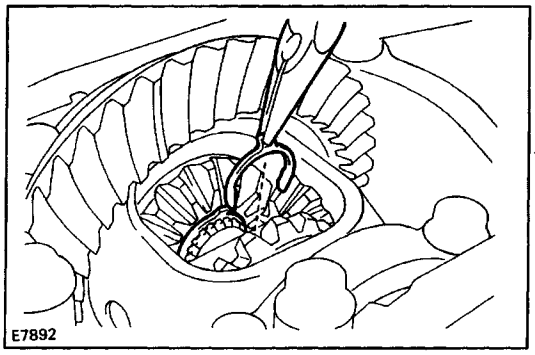


26. INSTALL NEW SIDE GEAR SHAFT OIL SEALS

(a) Using SST, drive in two new oil seals until they are flush with the carrier end surface.

SST 09550–22011 (09550–00020,09550–00031)

(b) Coat the oil seal lips with MP grease.

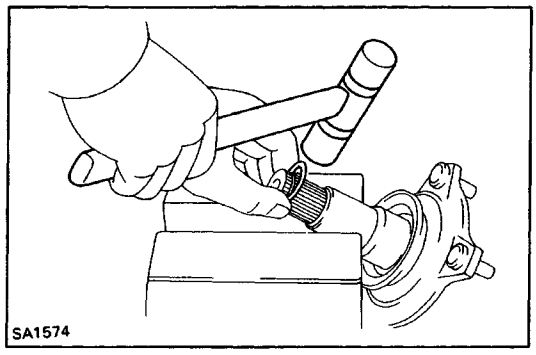


27. INSTALL SIDE GEAR SHAFTS

(Conventional Type Differential)

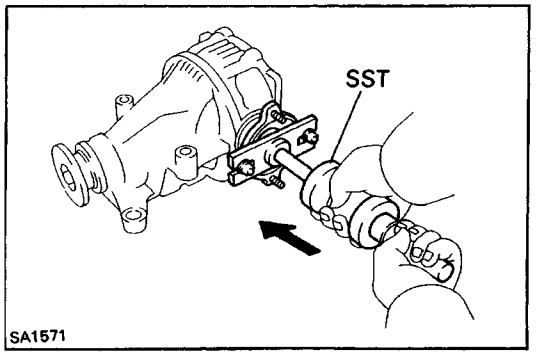
(a) Install the two side gear shafts to the differential case.

(b) Install two new shaft snap rings to the side gear shafts.



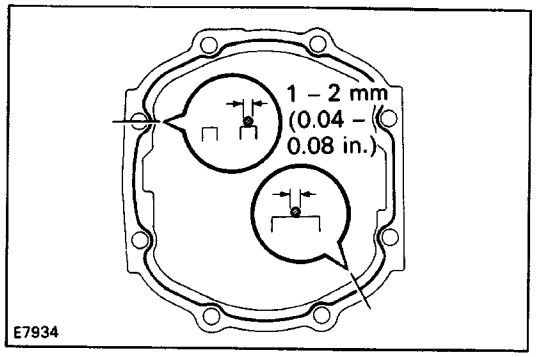
(Torque Sensing Limited Slip Differential)

(a) Install a new snap ring to the side gear shaft.



(b) Using SST, drive in the side gear shaft.

SST 09520–24010



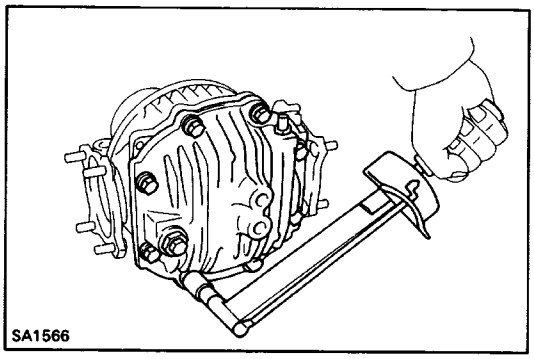
28. INSTALL DIFFERENTIAL CARRIER COVER

(a) Clean contacting surfaces of any residual packing material using gasoline or alcohol.

(b) Apply seal packing to the carrier.

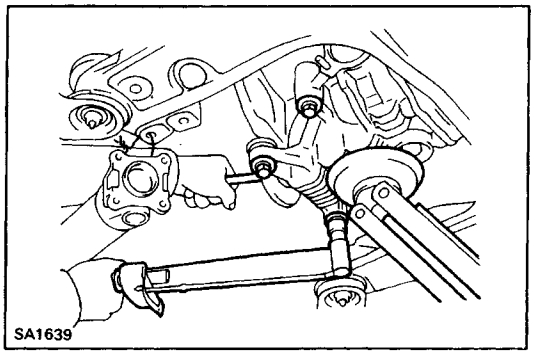
Seal packing: Part No.08826–00090, THREE BOND 1281 or equivalent

HINT: Install the carrier cover within 3 minutes after applying seal packing.



(c) Install and torque the eight set bolts.

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

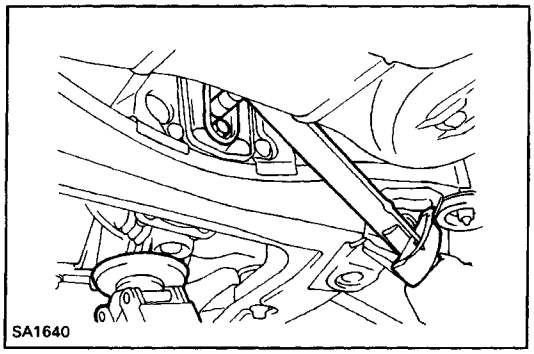


INSTALLATION OF DIFFERENTIAL

1. INSTALL DIFFERENTIAL

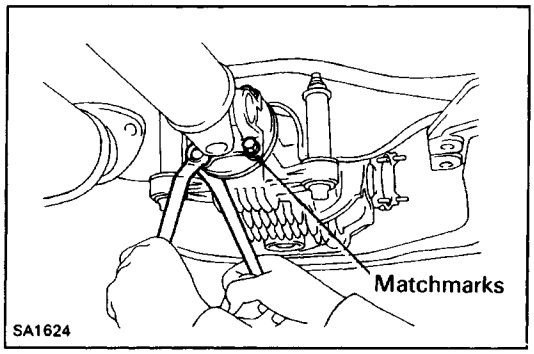
(a) Position the differential and torque the four bolts and nuts.

Torque: 95 N–m (970 kgf–cm, 70 ft–lbf)



(b) Install and torque the two bolts.

Torque: 147 N–m (1,500 kgf–cm, 108 ft–lbf)

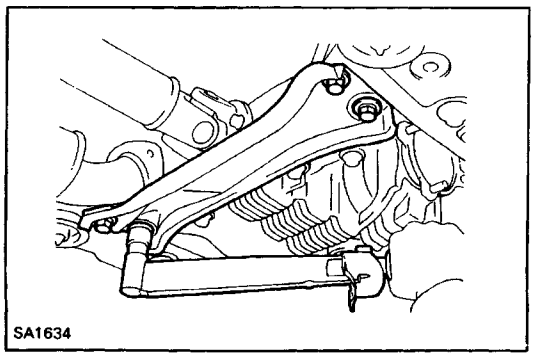


2. CONNECT PROPELLER SHAFT

(a) Align the matchmarks on the flanges and connect the flanges with four bolts, nuts and washers.

(b) Torque the four bolts and nuts.

Torque: 74 N–m (750 kgf–cm, 54 ft–lbf)



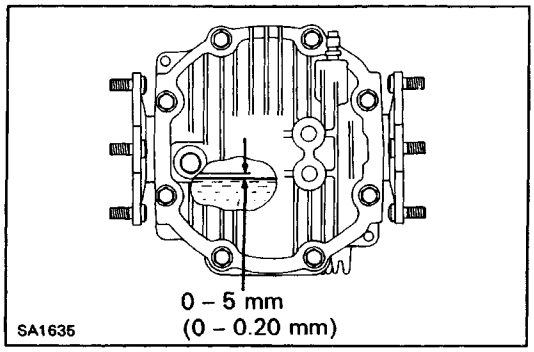
3. INSTALL REAR CROSSMEMBER

Install the rear crossmember with four bolts.

Torque: 72 N–m (730 kgf–cm, 53 ft–lbf)

4. CONNECT DRIVE SHAFTS

(See page SA–78)



5. FILL DIFFERENTIAL WITH GEAR OIL

(a) Install the drain plug with new gasket.

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

(b) Fill the differential with gear oil.

Oil grade: API GL–5 hypoid gear oil

Viscosity: Above –18˚C (0˚F) SAE 90

Below –18˚C (0˚F) SAE 80W–90

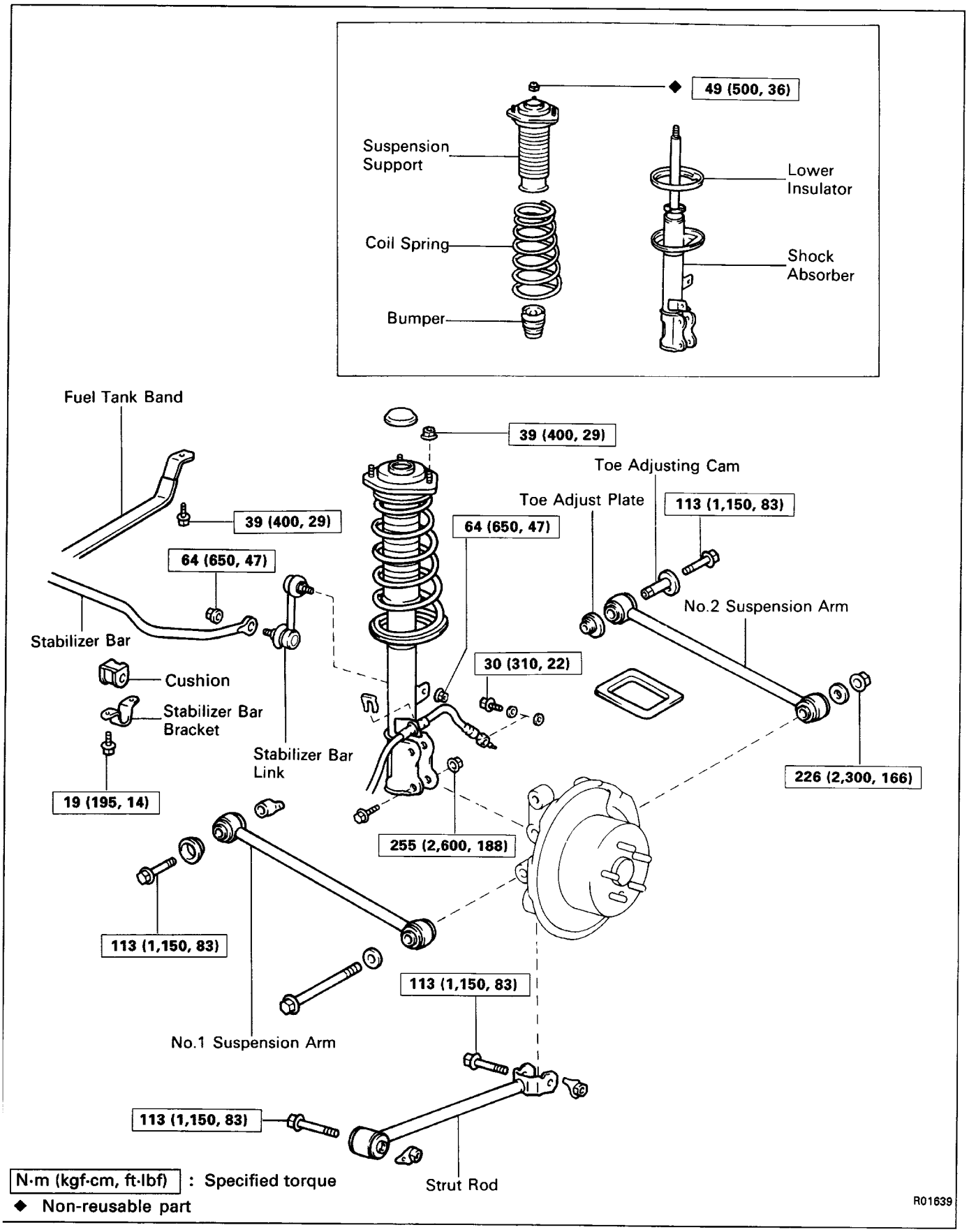
Capacity: 1.1 liters (1.2 US qts., 1.0 Imp.qts)

(c) Install the filler plug with new gasket.

Torque: 39 N–m (400 kgf–cm, 29 ft–lbf)

REAR SUSPENSION (2WD)

COMPONENTS



Rear Shock Absorber

REMOVAL OF REAR SHOCK ABSORBER

1. (LIFT–BACK)

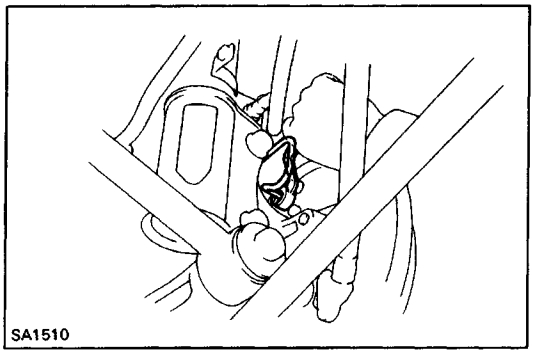
REMOVE SPEAKER GRILLE

(COUPE)

REMOVE SPEAKER BOARD

2. (W/ ABS)

DISCONNECT SPEED SENSOR WIRE FROM SHOCK ABSORBER


SA1510

3. REMOVE BRAKE HOSE FROM SHOCK ABSORBER

(Drum brake type)

(a) Using SST, disconnect the brake tube from the backing plate.

SST 09751–36011

(b) Remove the clip and E–ring from the shock absorber.

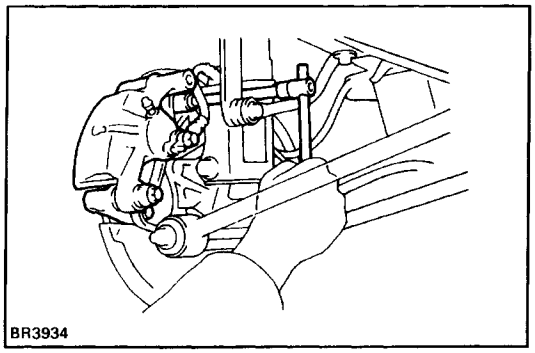
(c) Remove the brake hose and tube from the shock absorber.

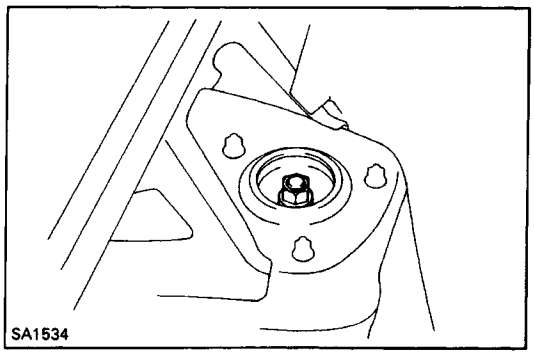
(Disc brake type)

(a) Remove the union bolts and two gasket and disconnect the brake hose from the brake cylinder.

(b) Remove the clip from the shock absorber.

(c) Remove the brake hose from the shock absorber.


BR3934

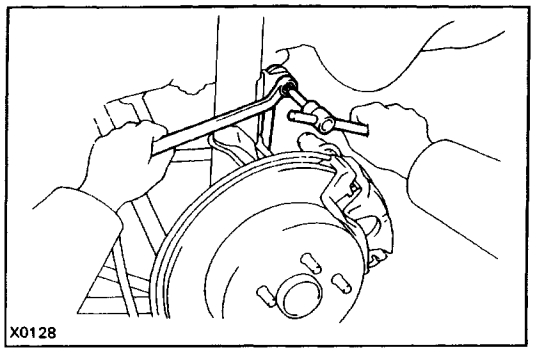

SA1534

4. LOOSEN NUT HOLDING SUSPENSION SUPPORT TO SHOCK ABSORBER

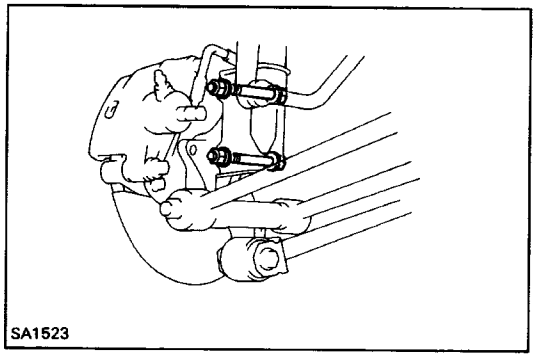
(a) Remove the cover from the suspension support.

(b) Loosen the nut.

NOTICE: Do not remove the nut.

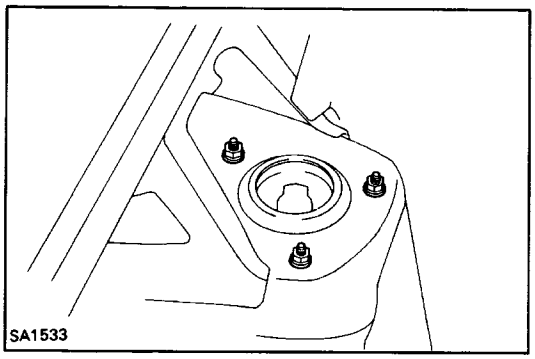

X0128

5. DISCONNECT STABILIZER BAR LINK FROM SHOCK ABSORBER



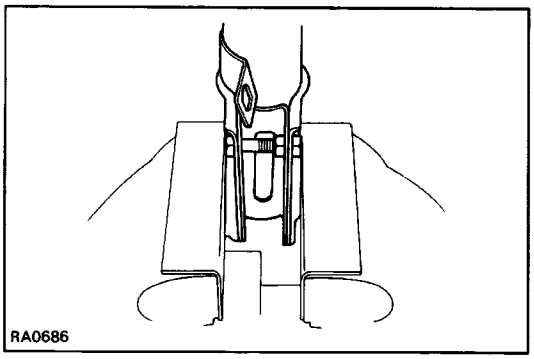
6. DISCONNECT AXLE CARRIER FROM SHOCK ABSORBER

Remove the axle carrier mounting bolts and nuts and disconnect the shock absorber.



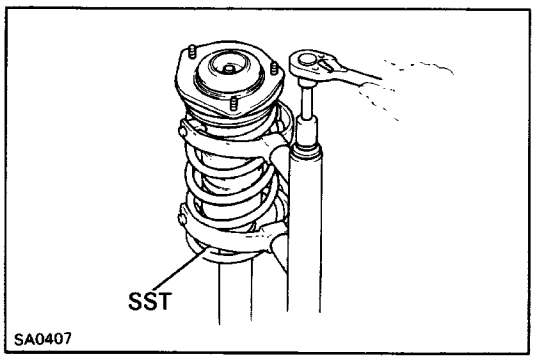
7. REMOVE SHOCK ABSORBER ASSEMBLY FROM BODY

Remove the three shock absorber mounting nuts from the body and remove the shock absorber assembly.

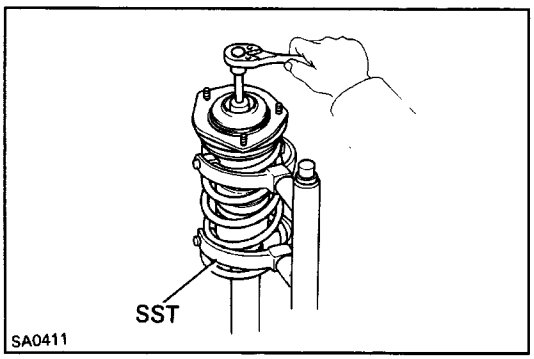


8. REMOVE COIL SPRING

(a) Mount the shock absorber in a vise.

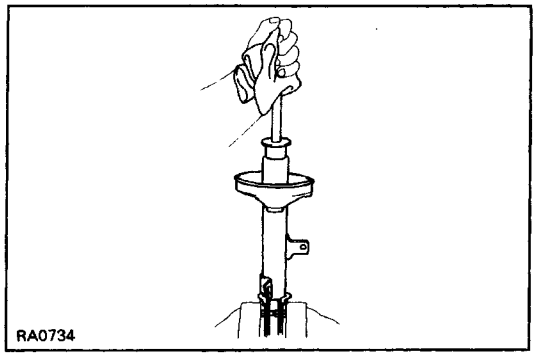


(b) Using SST, compress the coil spring.
SST 09727–30020



(c) Remove the nut.

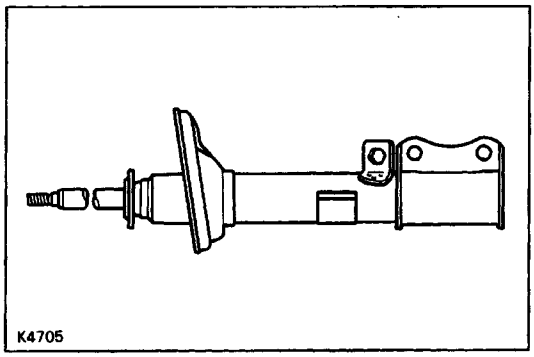
(d) Remove the suspension support, coil spring, upper insulator, bumper, and lower insulator.



9. INSPECT OPERATION OF SHOCK ABSORBER

(a) While pushing the piston rod, check that the pull throughout the stroke is even, and there is no abnormal resistance or noise.

(b) Push the piston rod in fully and release it. Check that it returns at a constant speed throughout.

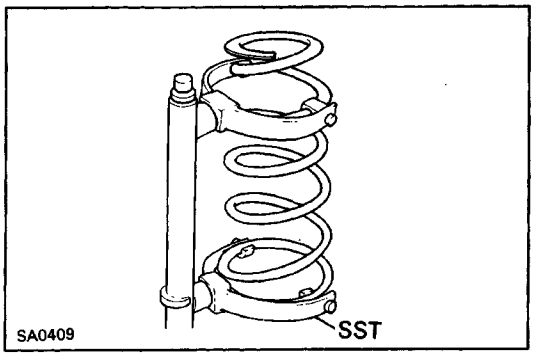


10. DISCARD SHOCK ABSORBER

Before discarding the absorber, drill a hole 2 – 3 mm (0.079 – 0.118 in.) in diameter at the location shown in the figure to release the gas inside.

NOTICE:

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



INSTALLATION OF REAR SHOCK ABSORBER

1. INSTALL SPRING BUMPER, INSULATOR, COIL SPRING. AND SUSPENSION SUPPORT

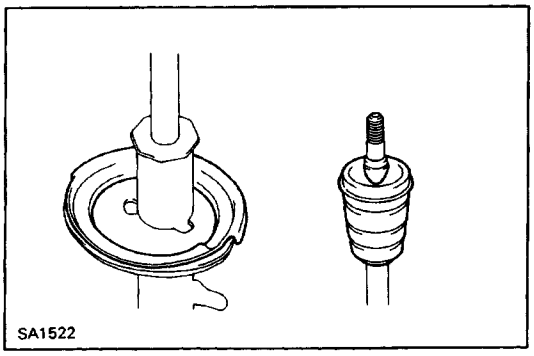
(a) Mount the shock absorber in a vise.

(b) Using SST, compress the coil spring.

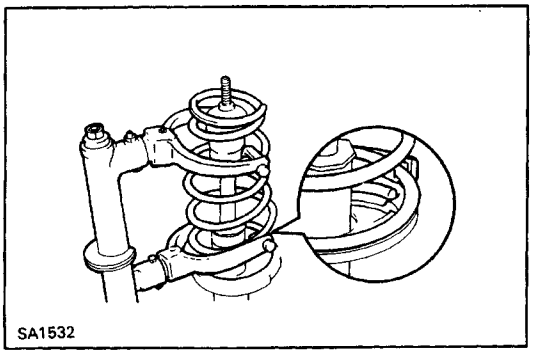
SST 09727–30020

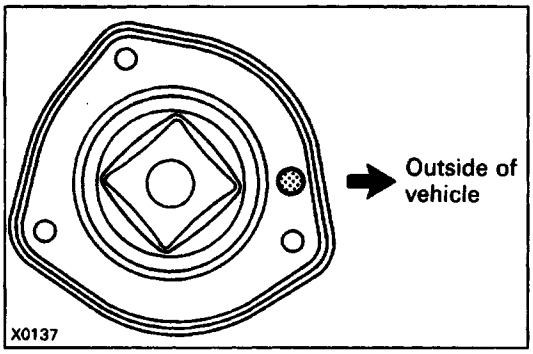
(c) Install the lower insulator to the shock absorber.

(d) Install the spring bumper to the shock absorber piston rod.

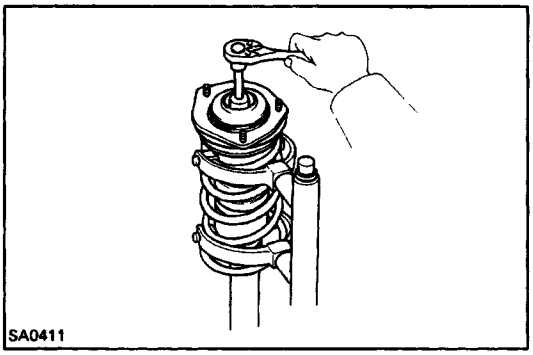


(e) Align the coil spring end with the lower seat hollow and install the coil spring.

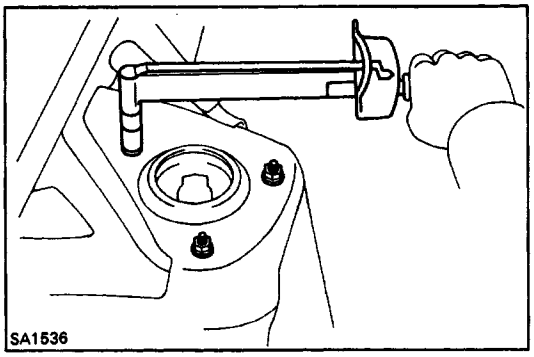




(f) Align the suspension support with the piston rod and install it.
(g) Align the suspension support with the sock absorber lower bracket as shown.



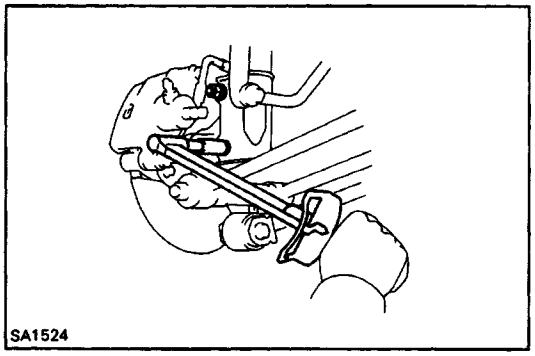
(h) Temporarily install a new nut.



2. CONNECT SHOCK ABSORBER TO BODY

Connect the shock absorber with the three nuts. Torque the nuts.

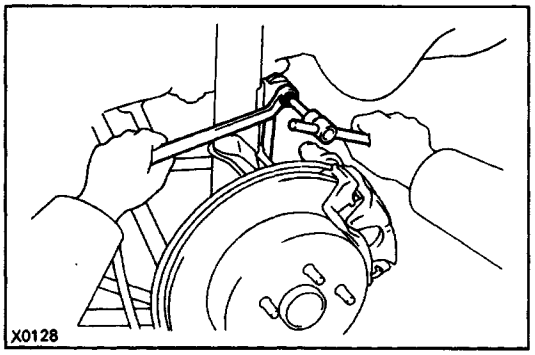
Torque: 39 N–m (400 hgf.cm, 29 ft–lbf)



3. INSTALL SHOCK ABSORBER TO AXLE CARRIER

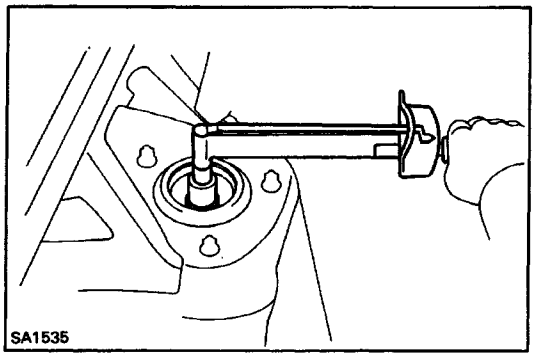
Install the shock absorber with the two bolts and nuts. Torque the nuts.

Torque: 255 N–m (2,600 kgf–cm, 188 ft–lbf)



4. CONNECT STABILIZER BAR LINK TO SHOCK ABSORBER

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

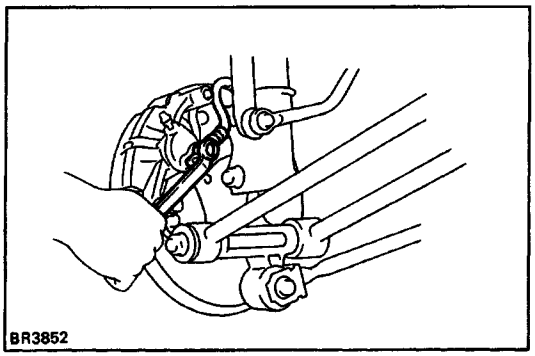


5. TORQUE SHOCK ABSORBER HOLDING NUT

(a) Torque the nut.

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

(b) Install the dust cover on the suspension support.



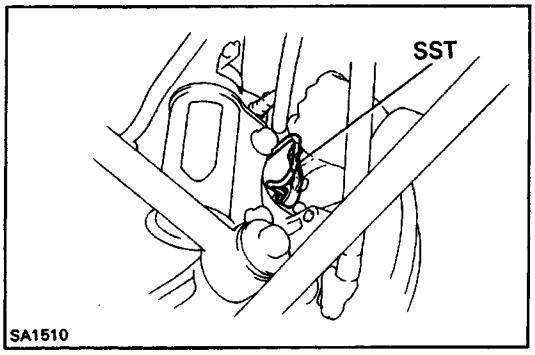
6. INSTALL BRAKE HOSE AND TUBE

(Disc brake type)

(a) Connect brake hose to the shock absorber and install the clip.

(b) Connect the brake hose to the brake caliper with the union bolt and two new gaskets.

Torque: 30 N–m (310 kgf–cm, 22 ft–lbf)



(Drum brake type)

(a) Connect the brake hose to the shock absorber and install the E–ring and clip.

(b) Using SST, connect the brake tube to the backing plate.

SST 09751–36011

Torque: 15 N–m (155 kgf–cm, 11 ft–lbf)

7. (W/ ABS)

CONNECT SPEED SENSOR WIRE TO SHOCK ABSORBER

8. (LIFT–BACK)

INSTALL SPEAKER GRILLE

(COUPE)

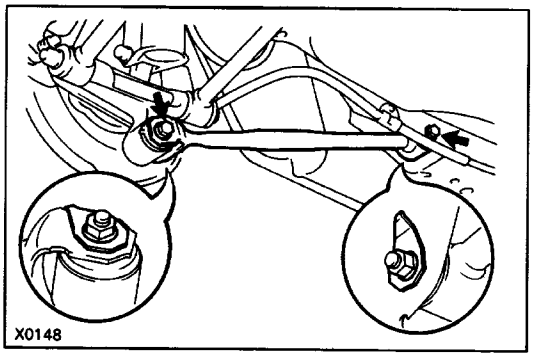
INSTALL SPEAKER BOARD

9. FILL BRAKE RESERVOIR WITH BRAKE FLUID AND BLEED BRAKE SYSTEM

(See page BR–7)

10. CHECK REAR WHEEL ALIGNMENT

(See page SA–6)

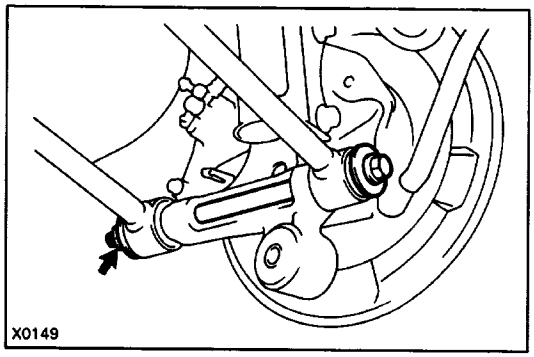


Strut Rod and Suspension Arm

REMOVAL OF STRUT ROD AND SUSPENSION ARM

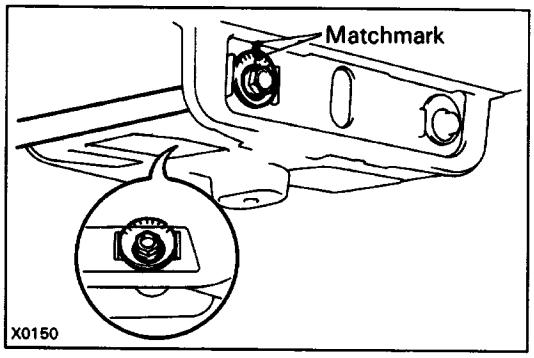
1. REMOVE STRUT ROD

(a) Remove the bolt and nut from the axle carrier.
(b) Remove the bolt, nut and strut rod.

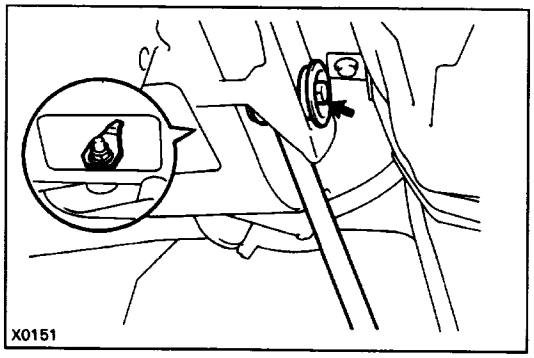


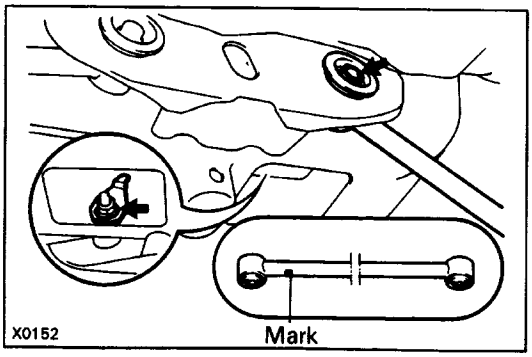
2. REMOVE REAR SUSPENSION ARM NO.1 AND NO.2

(a) Remove the nut from the axle carrier of the No.2 suspension arm.



(b) Place the matchmarks to the toe adjust cam and suspension member.
(c) Remove the service hole cover.
(d) Loosen the bolt and remove the toe adjust plate No.2.
(e) Remove the bolt with toe adjust cam and disconnect the No.2 suspension arm from the suspension member.
(f) Remove the No.2 suspension arm.
(g) Remove the bolt, washer and nut, and disconnect the No.1 suspension arm from suspension member.
(h) Remove the bolt from the axle carrier, and disconnect the No.1 suspension arm from the axle carrier.



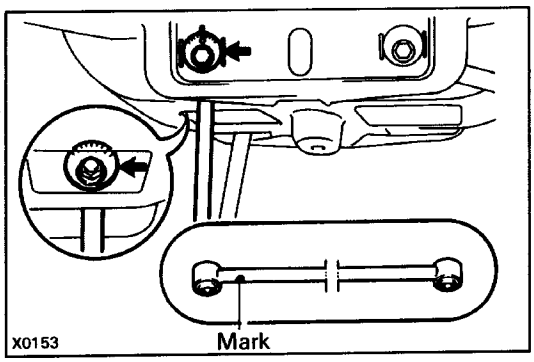


INSTALLATION OF STRUT ROD AND SUSPENSION ARM

1. INSTALL SUSPENSION ARM NO.1 AND NO.2

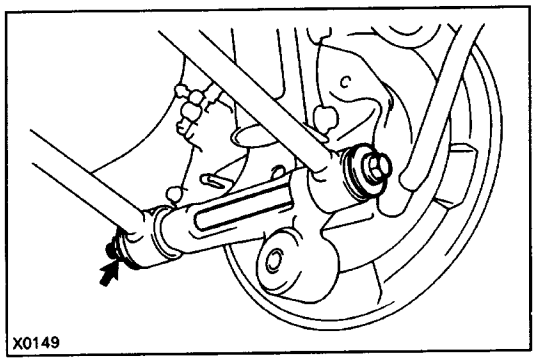
(a) Temporarily install the suspension arm No.1 with a bolt, washer and nut.

HINT: Face the mark to the rearward.

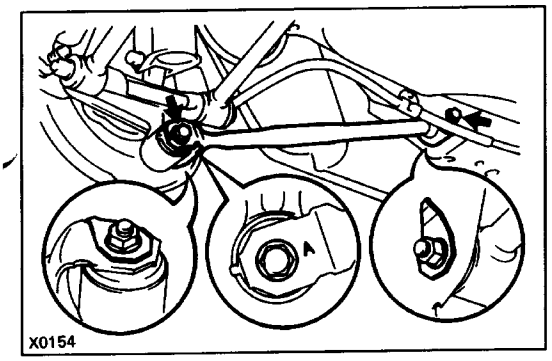


(b) Temporarily install the suspension arm No.2 with a bolt, toe adjust cam and toe adjust plate.

HINT: Face the mark to the rearward.



(c) Assemble the suspension arm No.1 and No.2 with a bolt to the axle carrier.

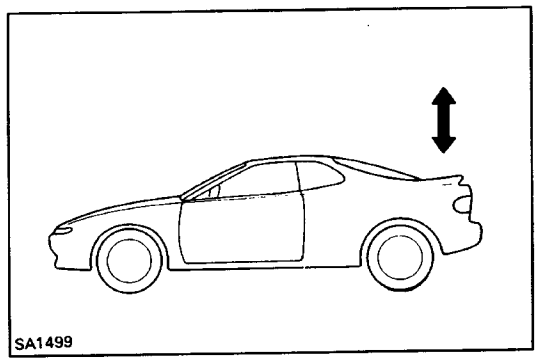


2. INSTALL STRUT ROD

(a) Temporarily install the strut rod to the axle carrier.

(b) Using a jack, raise the axle carrier.

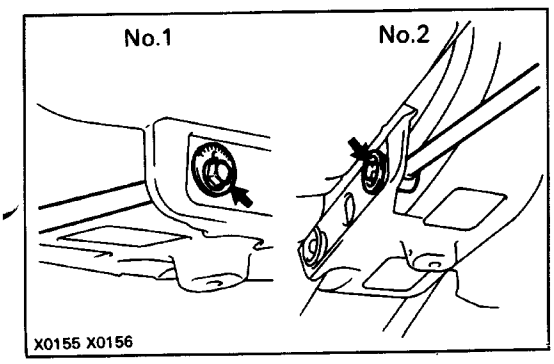
(c) Temporarily install the strut rod.



3. INSTALL REAR WHEELS AND LOWER VEHICLE

(a) Install the wheels.

(b) Remove the stands and bounce the vehicle up and down to stabilize the suspension.



4. TORQUE BOLTS AND NUT

(a) Torque the bolt of No.1 lower suspension arm.

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

(b) Torque the bolt and nut of the No.2 lower suspension arm.

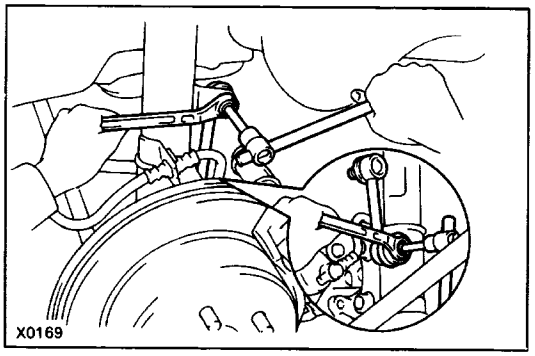
Torque:

Bolt: 113 N–m (1,150 kgf–cm, 83 ft–lbf)

Nut: 226 N–m (2,300 kgf–cm, 166 ft–lbf)

(b) Remove the stands.

5. CHECK WHEEL ALIGNMENT



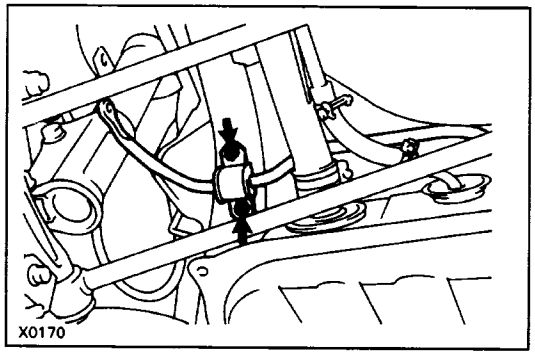
Stabilizer Bar

REMOVAL OF STABILIZER BAR

1. REMOVE REAR WHEELS

2. REMOVE STABILIZER LINK

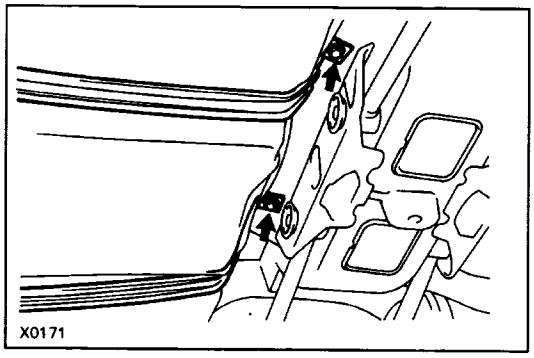
Using a hexagon wrench 5.0 mm (0.197 in.), remove the four nuts and right and left links.



3. REMOVE STABILIZER BRACKET AND BUSHING

(a) Remove the four nuts.

(b) Remove two bracket and bushing.



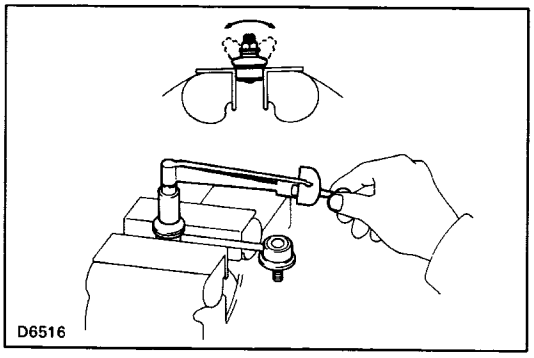
4. REMOVE FUEL TANK BAND

(a) Using a wooden blocks or equivalent, support the tank with the jack.

(b) Remove the two bolts and the band.

(c) Lower the fuel tank slightly.

5. REMOVE STABILIZER BAR



INSPECTION OF STABILIZER BAR LINK BALL JOINT

1. INSPECT BALL JOINT FOR ROTATION CONDITION

(a) Flip the ball joint stud back and forth 5 times as shown in the figure, before installing the nut.

(b) Using a torque gauge, turn the nut continuously one turn each 2 – 4 seconds and take the torque reading on the fifth turn.

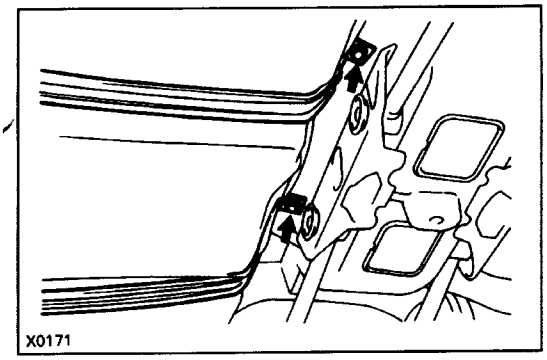
Torque (turning): 0.049 – 0.981 N–m
(0.5 – 10.0 kgf–cm, 0.434 – 8.680 ft–lbf)

If not within specification, replace the stabilizer bar link.

2. INSPECT BOOTS

Inspect the boots for cracks.

INSTALLATION OF STABILIZER BAR

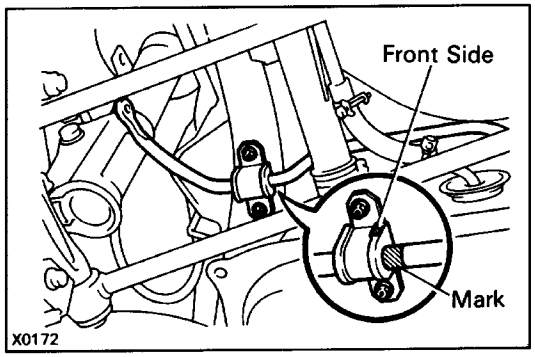


1. INSTALL STABILIZER BAR

2. INSTALL FUEL TANK BAND

Install the band and torque the two bolts.

Torque: 39 N–m (400 kgf–cm, 29 ft–lbf)

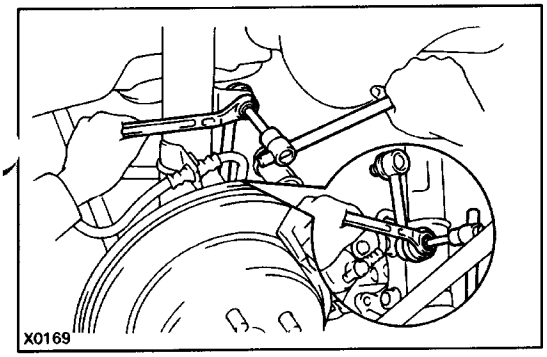


3. INSTALL STABILIZER BUSHING AND BRACKET

(a) Align the marks and install the bushing as shown in the figure.

(b) Install the bracket and torque the two nuts.

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



4. INSTALL STABILIZER LINK

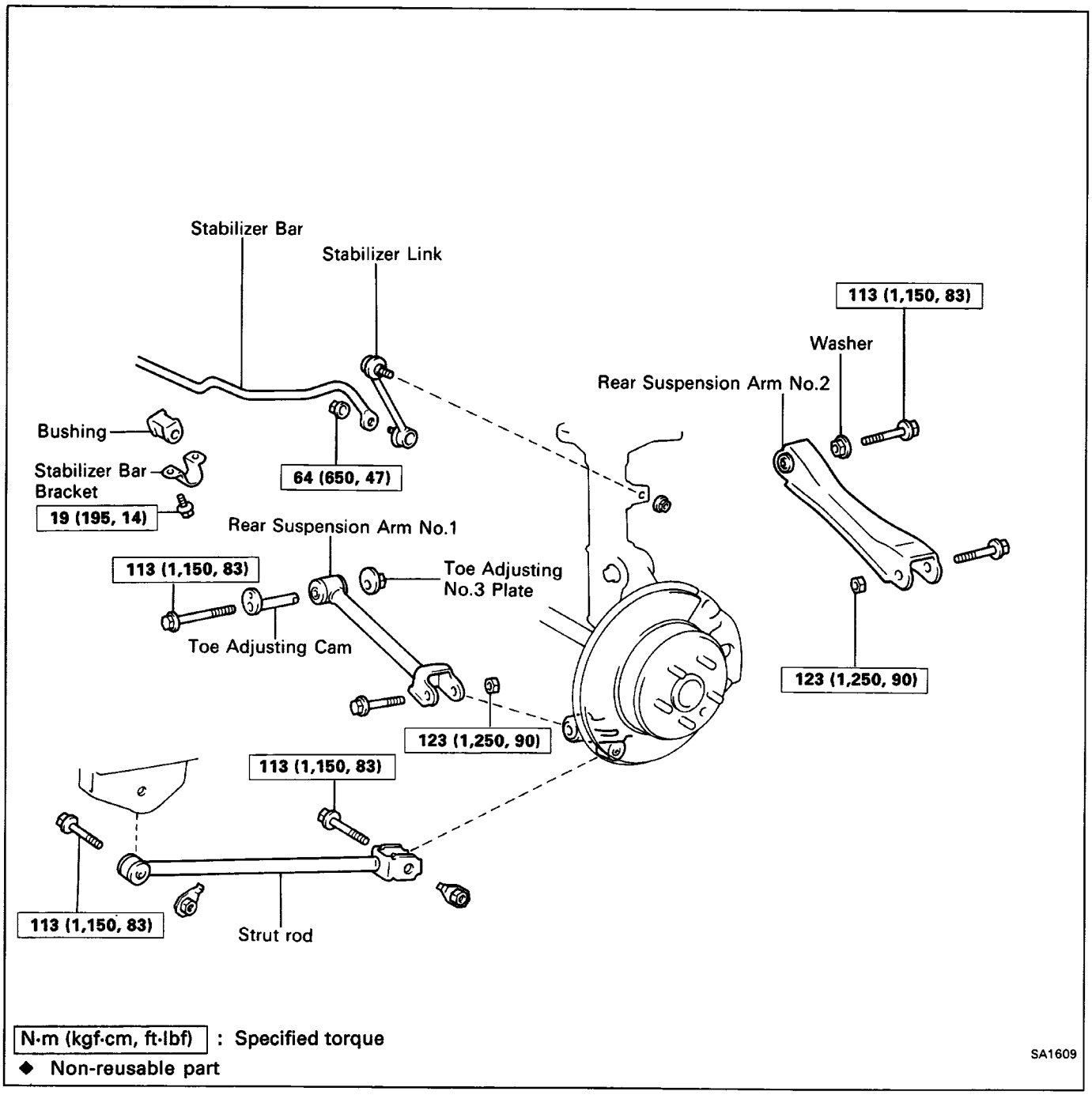
While holding the stud bolt with hexagon wrench 5.0 mm (0.197 in.), install the right and left stabilizer links and torque the four nuts.

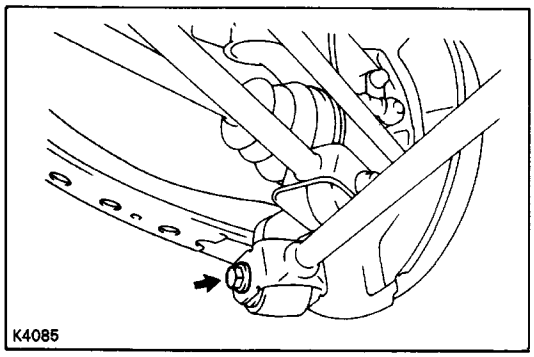
Torque: 64 N–m (650 kgf–cm, 47 ft–lbf)

5. INSTALL REAR WHEELS

REAR SUSPENSION (4WD)

COMPONENTS





Rear Shock Absorber

(See page SA–113)

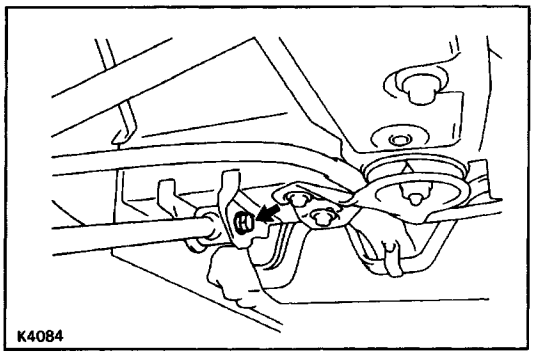
Strut Rod and Suspension Arm

REMOVAL OF STRUT ROD AND SUSPENSION ARM

1. REMOVE REAR WHEELS

2. REMOVE STRUT ROD

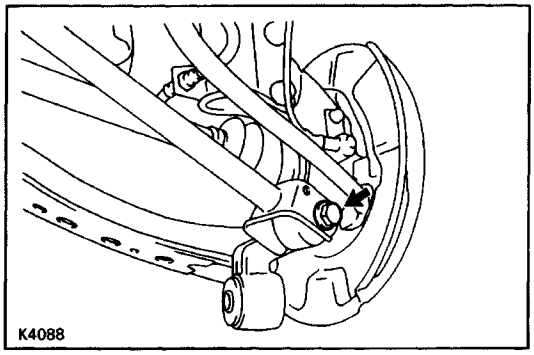
(a) Remove the bolt and nut from the axle carrier.

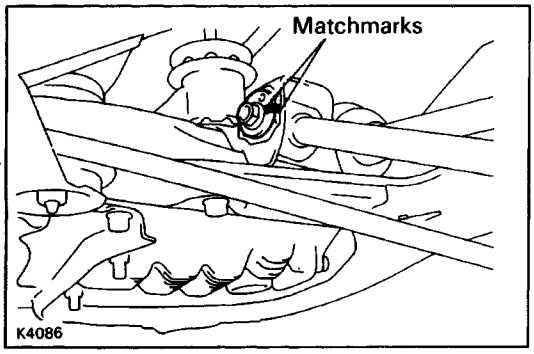


(b) Remove the bolt, nut and strut rod from body.

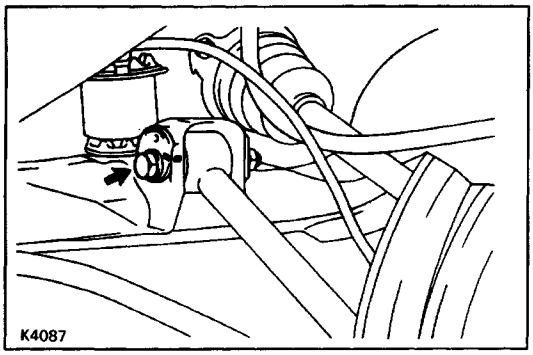
3. REMOVE NO.1 SUSPENSION ARM

(a) Remove the bolt and nut from the axle carrier.



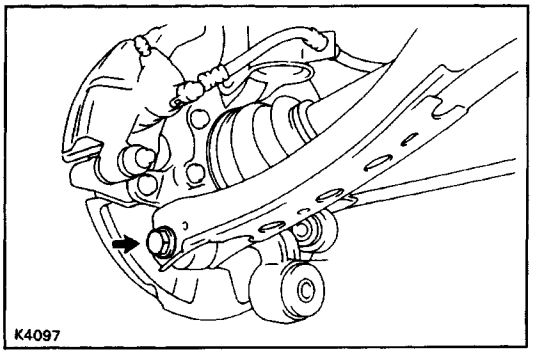


(b) Place the matchmarks on the toe adjusting cam and control arm retainer.



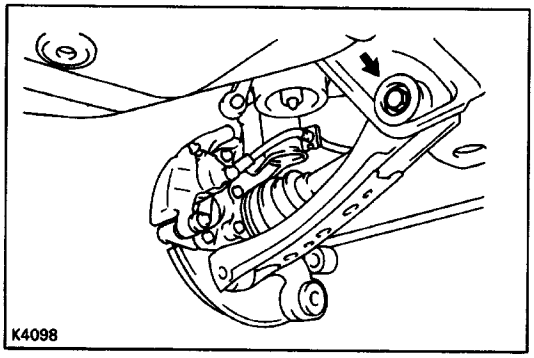
(c) Remove the bolt, toe adjusting cam and toe adjusting plate No.2.

(d) Remove the No.1 suspension arm.

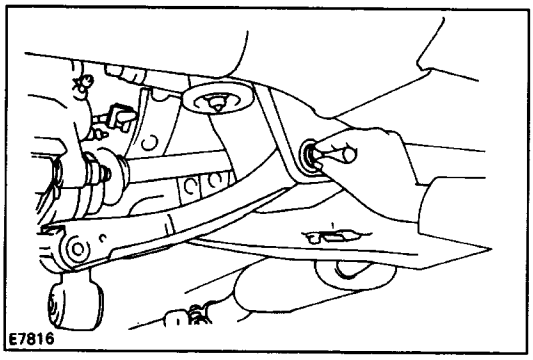


4. REMOVE NO.2 SUSPENSION ARM

(a) Remove the bolt and nut from the axle carrier.



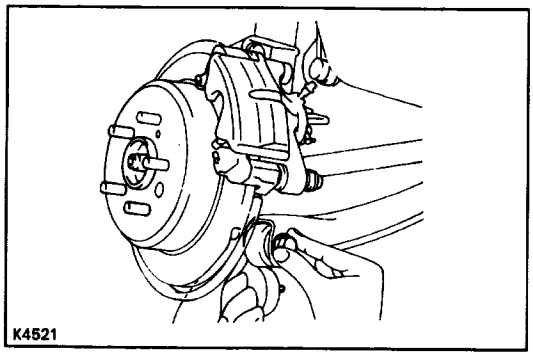
(b) Remove the bolt, washer and No.2 suspension arm.



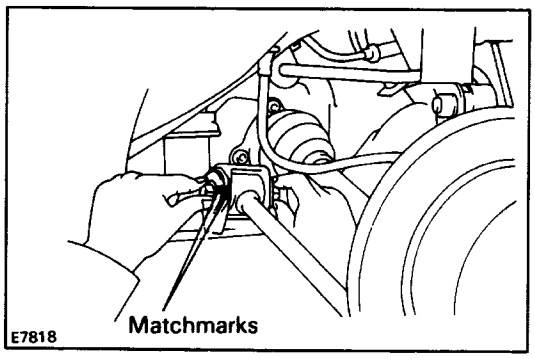
INSTALLATION OF STRUT ROD AND SUSPENSION ARM

1. INSTALL NO.2 SUSPENSION ARM

(a) Install the No.2 suspension arm to the rear suspension member and finger tighten the bolt with washer.



(b) Install the No.2 suspension arm to the axle carrier and finger tighten the bolt and nut.

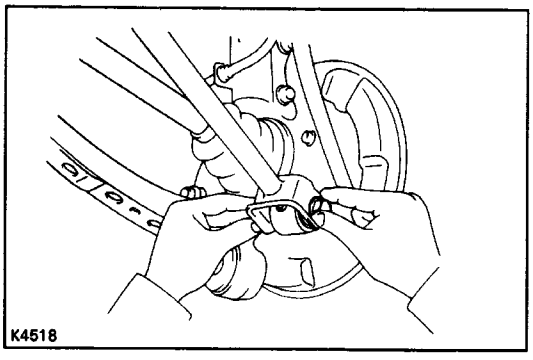


2. INSTALL NO.1 SUSPENSION ARM

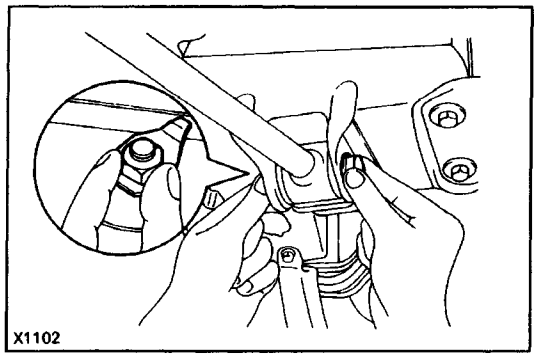
(a) Install the No.1 suspension arm to the rear suspension member.

(b) Align the matchmarks on the toe adjusting cam and control arm retainer.

(c) Install the toe adjusting plate No.2 and finger tighten the bolt.

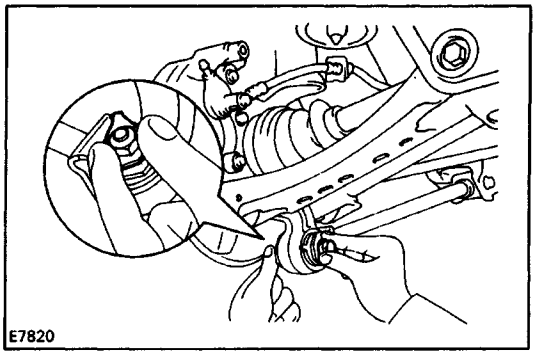


(d) Install the No.1 suspension arm to the axle carrier and finger tighten the bolt.



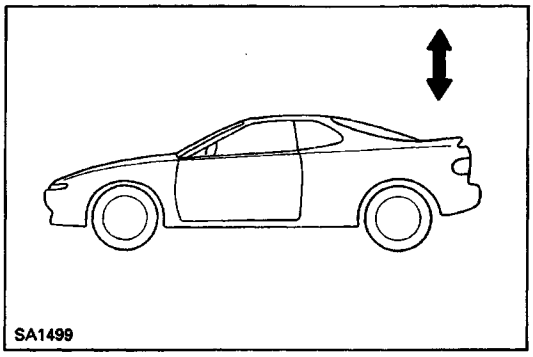
3. INSTALL STRUT ROD

(a) Install the strut rod to the body and finger tighten the bolt.



(b) Install the strut rod to the axle carrier and finger tighten the bolt.

4. TEMPORARILY INSTALL REAR WHEELS



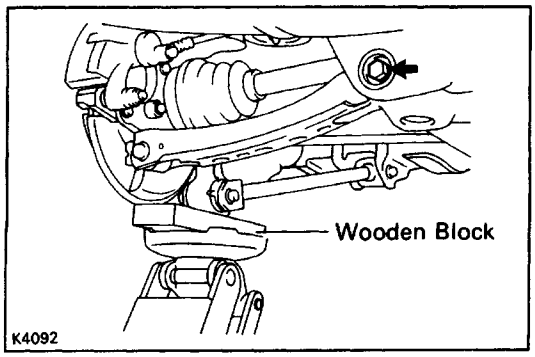
5. LOWER VEHICLE

Remove the stands and bounce the vehicle up and down to stabilize the suspension.

6. REMOVE WHEELS

(a) Jack up vehicle and install stands.

(b) Remove the rear wheels.

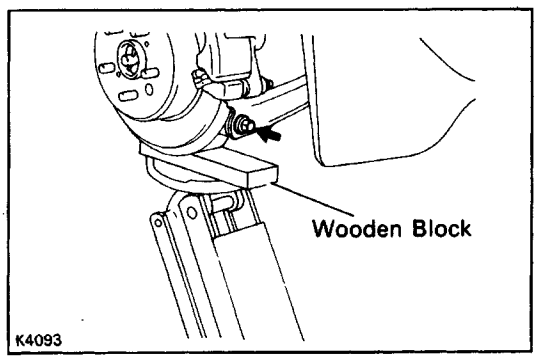


7. TORQUE NO.2 SUSPENSION ARM

(a) Jack up the rear axle.

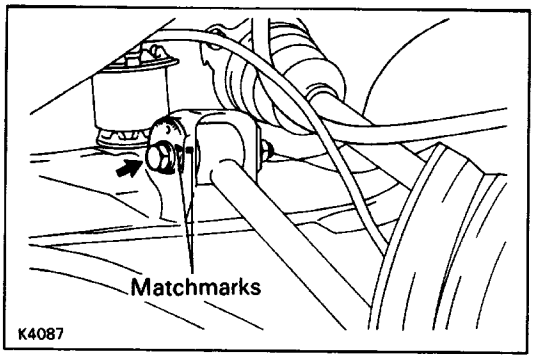
(b) Torque the No.2 suspension arm bolt of suspension member side.

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



(c) Torque the No.2 suspension arm bolt of axle carrier side.

Torque: 123 N–m (1,250 kgf–cm, 90 ft–lbf)

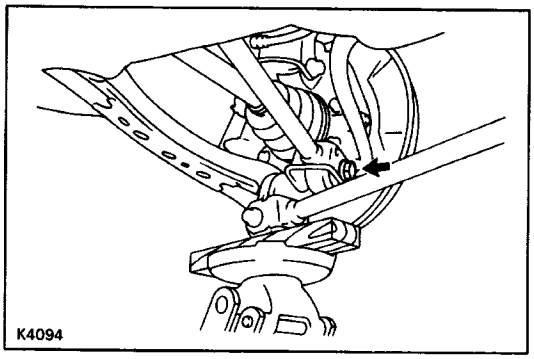


8. TORQUE NO.1 SUSPENSION ARM

(a) Align the matchmarks on the toe adjusting cam and control arm retainer.

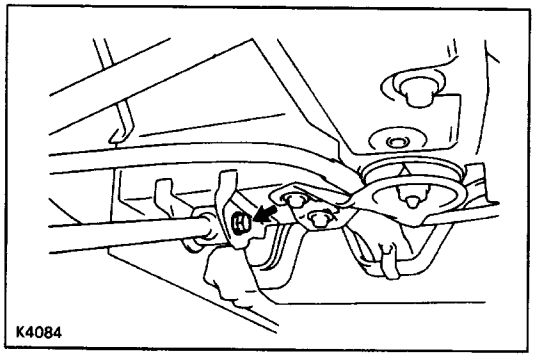
(b) Torque the No.1 suspension arm bolt of the suspension member side.

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



(c) Torque the No.1 suspension arm bolt of the axle carrier side.

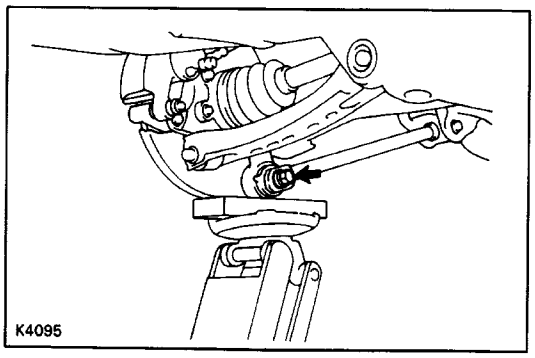
Torque: 123 N–m (1,250 kgf–cm, 90 ft–lbf)



9. TORQUE STRUT ROD

(a) Torque the strut rod bolt of the body side.

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

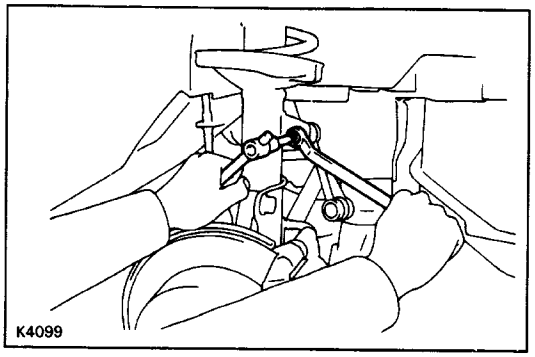


(b) Torque the strut rod bolt of the axle carrier side.

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

10. INSTALL REAR WHEELS

11. CHECK REAR WHEEL ALIGNMENT



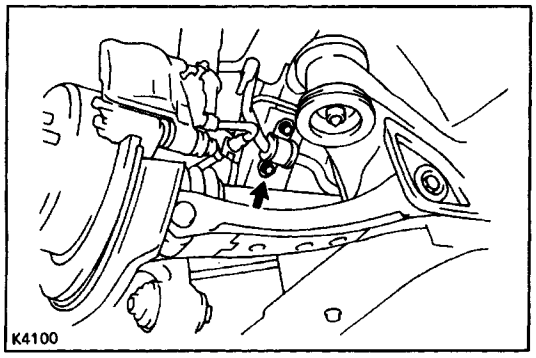
Stabilizer– Bar

REMOVAL OF STABILIZER BAR

1. REMOVE REAR WHEELS

2. REMOVE STABILIZER LINK

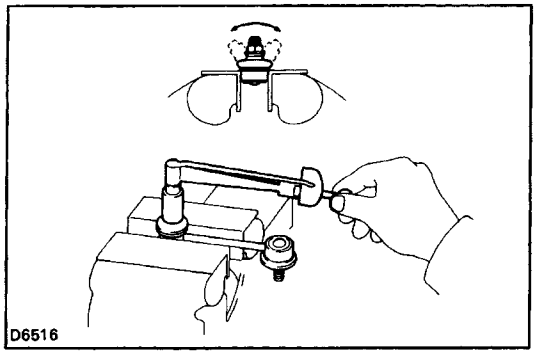
Using a hexagon wrench and offset wrench, remove the two nut and stabilizer link.



3. REMOVE STABILIZER BRACKET WITH BUSHING

Remove the four bolts and stabilizer bracket with bushings.

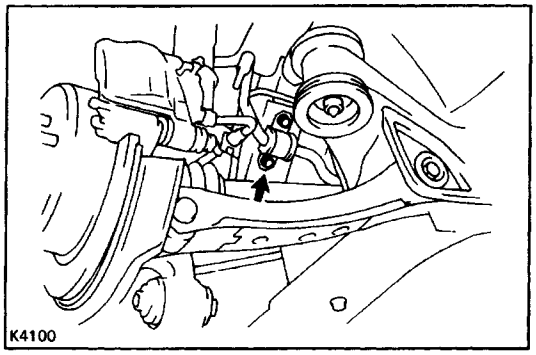
4. REMOVE STABILIZER BAR



INSPECTION OF STABILIZER LINK

INSPECT STABILIZER LINK

Rotate ball joint arm in all direction. If the movement is not smooth and free, replace the stabilizer link.



INSTALLATION OF STABILIZER BAR

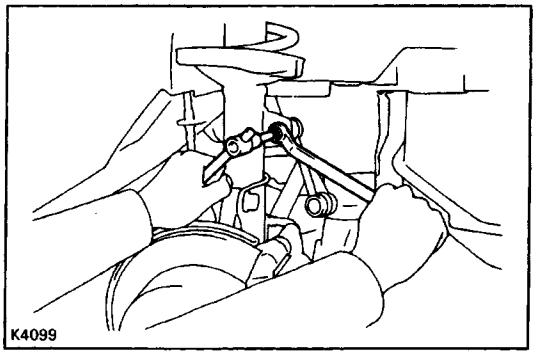
1. INSTALL STABILIZER BAR

2. INSTALL STABILIZER BRACKET WITH BUSHING

(a) Install the two bushings to the stabilizer bar.

(b) Install the two brackets with four bolts to the stabilizer bar.

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



3. INSTALL STABILIZER LINK

(a) Install the stabilizer link to the stabilizer bar and finger tighten the nut.

(b) Install the stabilizer link to the shock absorber bracket and finger tighten the nut.

(c) Using a hexagon wrench, torque the two nuts.

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

4. INSTALL REAR WHEELS