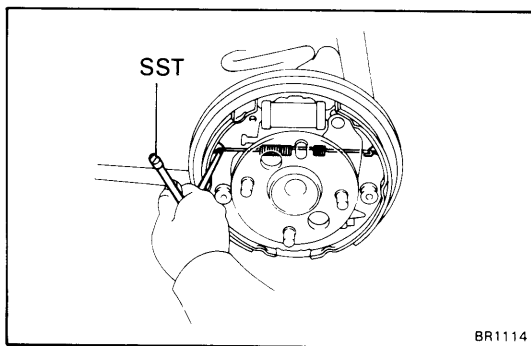
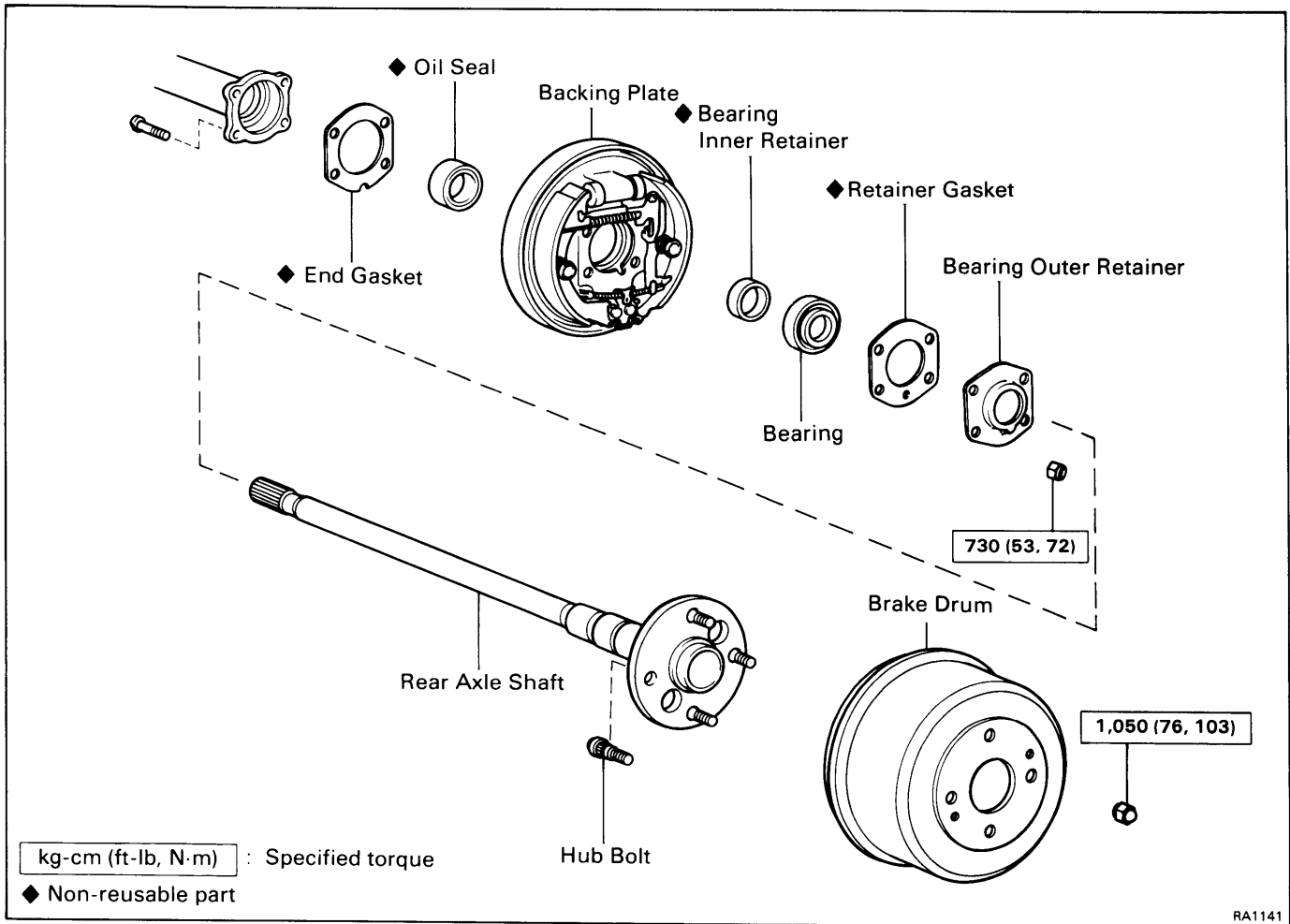

REAR AXLE AND SUSPENSION

| | Page |
|-------------------------------------------|-------|
| TROUBLESHOOTING | RA-2 |
| REAR AXLE SHAFT | RA-3 |
| DIFFERENTIAL | RA-8 |
| 4-LINK TYPE REAR SUSPENSION | RA-26 |
| Coil Spring and Rear Shock Absorber | RA-27 |
| Lateral Control Rod | RA-31 |
| Upper and Lower Control Arms | RA-33 |
| Rear Stabilizer Bar | RA-38 |
| LEAF SPRING TYPE REAR SUSPENSION | RA-39 |
| Leaf Spring and Rear Shock Absorber | RA-39 |

TROUBLESHOOTING

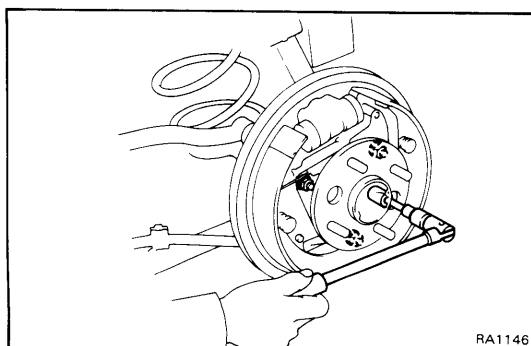
| Problem | Possible cause | Remedy | Page |
|------------------------------------|---------------------------------------------------------|---------------------------|-----------|
| Oil leak at rear axle | Oil seal worn or damaged | Replace oil seal | RA-3 |
| | Bearing retainer loose | Replace retainer | RA-3 |
| | Rear axle housing cracked | Repair as necessary | |
| Oil leak from drive pinion | Oil level too high or wrong grade | Drain or replace oil | |
| | Oil seal worn or damaged | Replace oil seal | RA-8 |
| | Companion flange loose or damaged | Tighten or replace flange | RA-8 |
| Noises in rear axle | Oil level low or wrong grade | Fill or replace oil | |
| | Excessive backlash between pinion and ring or side gear | Check backlash | RA-12 |
| | Ring, pinion or side gears worn or chipped | Inspect gears | RA-12 |
| | Pinion shaft bearing worn | Replace bearing | RA-15 |
| | Axle shaft bearing worn | Replace bearing | RA-3 |
| Differential bearing loose or worn | Tighten or replace bearings | RA-15 | |
| Bottoming | Vehicle overloaded | Check loading | |
| | Shock absorber worn out | Replace shock absorber | RA-26, 39 |
| | Springs weak | Replace spring | RA-26, 39 |

REAR AXLE SHAFT COMPONENTS

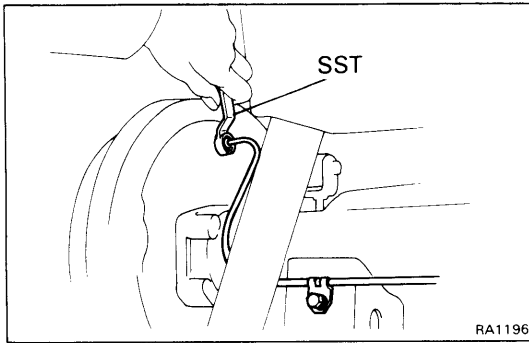


REMOVAL OF REAR AXLE SHAFT

1. JACK UP AND SUPPORT VEHICLE
2. REMOVE WHEEL AND BRAKE DRUM
3. REMOVE BRAKE RETURN SPRING
Using SST, remove the return spring.
SST 09703-30010



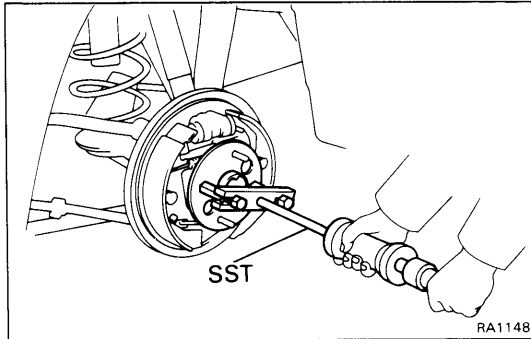
4. REMOVE BACKING PLATE MOUNTING NUTS



5. DISCONNECT BRAKE TUBE

Using SST, disconnect the brake tube. Use a container to catch the backing plate.

SST 09751-36011



6. REMOVE REAR AXLE SHAFT

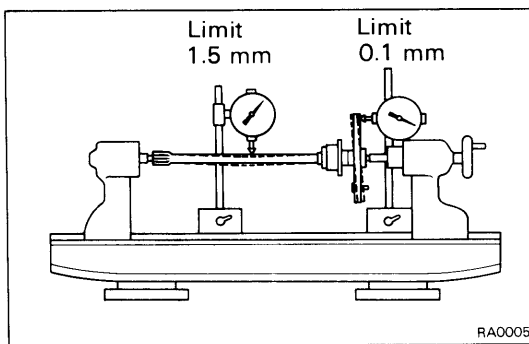
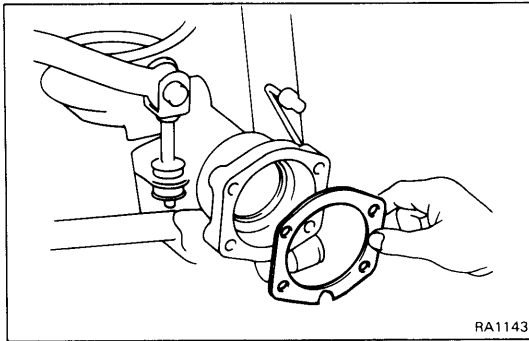
(a) Using SST, pull out the rear axle shaft.

SST 09520-00031

CAUTION: Be careful not to damage the oil seal.

(b) Remove the backing plate assembly.

(c) Remove the end gasket from the rear axle housing.



INSPECTION AND REPAIR OF REAR AXLE SHAFT COMPONENTS

1. INSPECT REAR AXLE SHAFT AND FLANGE FOR WEAR, DAMAGE OR RUNOUT

Maximum shaft runout: 1.5 mm (0.059 in.)

Maximum flange runout: 0.1 mm (0.004 in.)

If the rear axle shaft or flange is damaged or worn, or if runout is greater than maximum, replace the rear axle shaft.

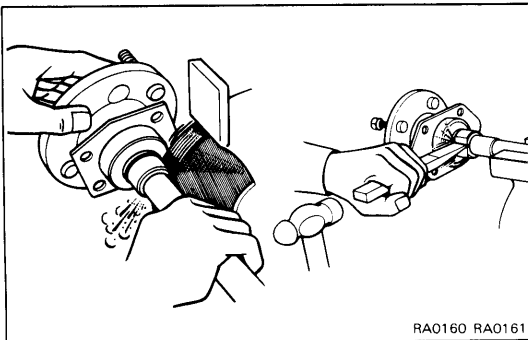
2. INSPECT REAR AXLE BEARING FOR WEAR OR DAMAGE

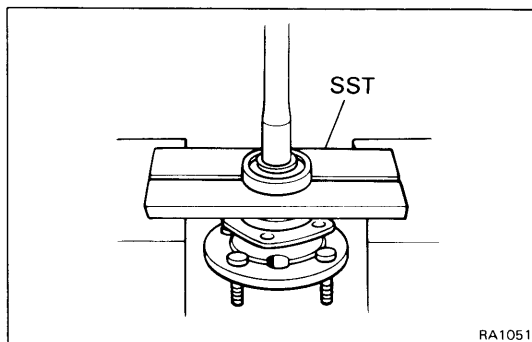
If the bearing is damaged or worn, replace it.

3. REMOVE BEARING INNER RETAINER

(a) Using a grinder, grind down the inner retainer.

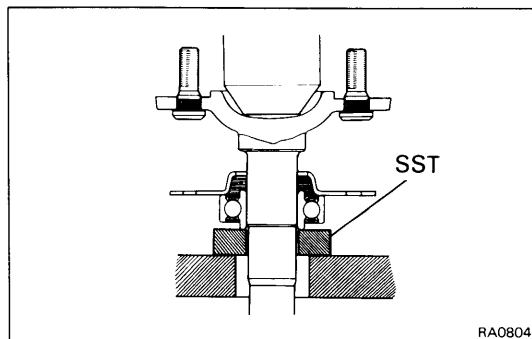
(b) Using a hammer and chisel, cut off the retainer and remove it from the shaft.





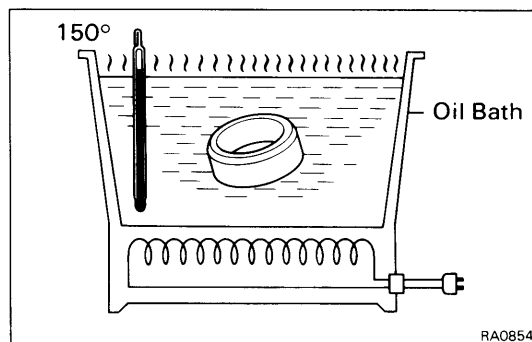
4. REMOVE BEARING AND OUTER RETAINER FROM AXLE SHAFT

- (a) Using SST and a press, press the bearing off the shaft.
SST 09527-21011
- (b) Remove the outer retainer from the shaft.



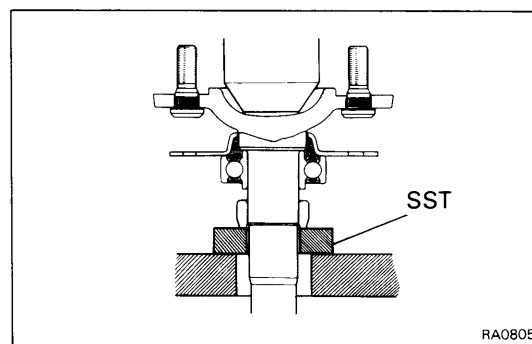
5. INSTALL BEARING OUTER RETAINER AND NEW BEARING ON AXLE SHAFT

- Using SST and a press, press in the bearing outer retainer and a new bearing.
SST 09515-21010



6. INSTALL BEARING INNER RETAINER ON AXLE SHAFT

- (a) Heat the bearing inner retainer to about 150°C (302°F) in an oil bath.

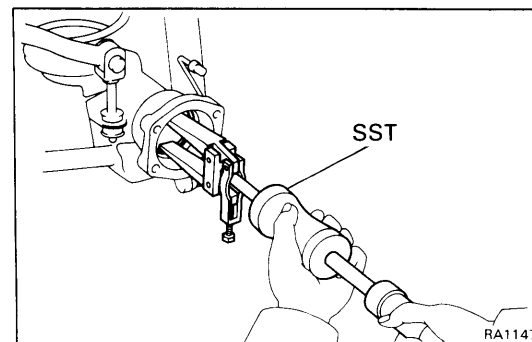


- (b) Using SST and a press, press the inner retainer onto the shaft while the inner retainer is still hot.

SST 09515-21010

NOTE:

- Be sure that there is no oil or grease on the rear axle shaft or retainer.
- Face the non-beveled side of the inner retainer toward the bearing.

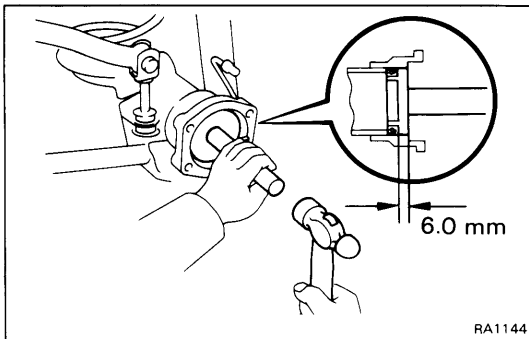


7. INSPECT OIL SEAL FOR WEAR OR DAMAGE

If the seal is damaged or worn, replace it.

8. REMOVE OIL SEAL FROM AXLE HOUSING

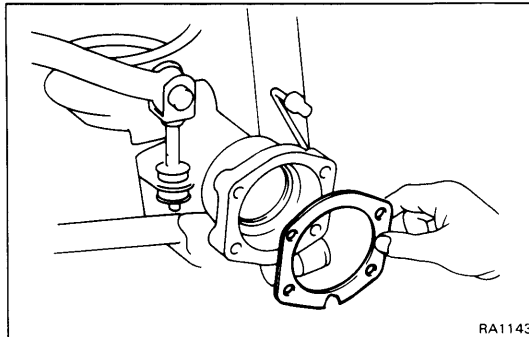
- Using SST, remove the oil seal.
SST 09308-00010



9. INSTALL NEW OIL SEAL IN AXLE HOUSING

- Apply MP grease to a new oil seal lip.
- Using SST and a hammer, tap in the oil seal to a depth of 6.0 mm (0.236 in.).

SST 09517-30010



INSTALLATION OF REAR AXLE SHAFT

(See page RA-3)

1. CLEAN FLANGE OF AXLE HOUSING AND BACKING PLATE

2. INSTALL REAR AXLE SHAFT

- Apply seal packing to both sides of a new end gasket.
Seal packing: Part No. 08826-00090, THREE BOND 1281 or equivalent
- Place the end gasket onto the end of the axle housing with the notch facing downward.
- Install the backing plate to the axle housing.
- Apply seal packing to both sides of a new retainer gasket.

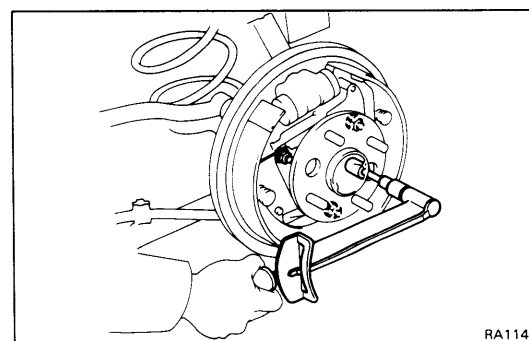
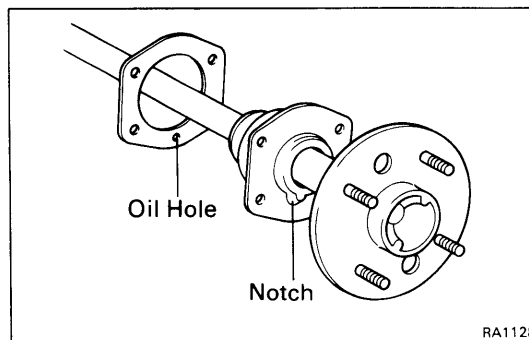
Seal packing: Part No. 08826-00090, THREE BOND 1281 or equivalent

- Align the notch of the outer retainer with the oil hole of the retainer gasket.
- Install the rear axle shaft with the notch of the outer retainer facing downward, and torque the four nuts.

Torque: 730 kg-cm (53 ft-lb, 72 N·m)

NOTE:

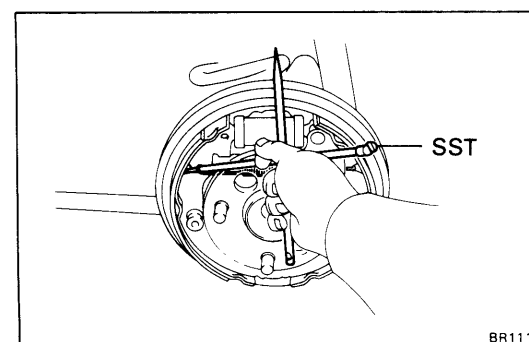
- Be careful not to damage the oil seal.
- When inserting the axle shaft, be careful not to hit or deform the oil deflector inside the axle housing.

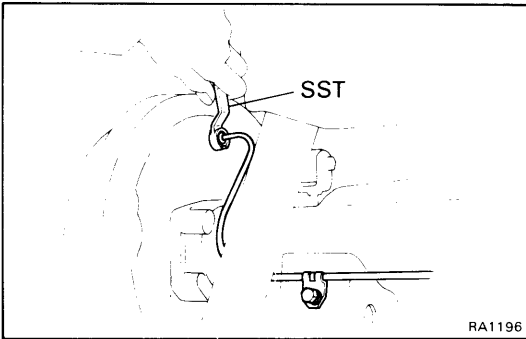


3. INSTALL BRAKE RETURN SPRING

Using SST, install the brake return spring.

SST 09703-30010



**4. CONNECT BRAKE TUBE**

Using SST, connect the brake tube.

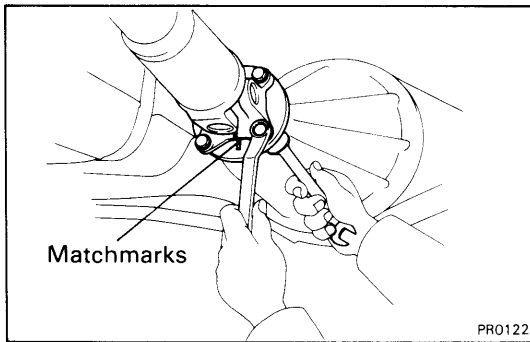
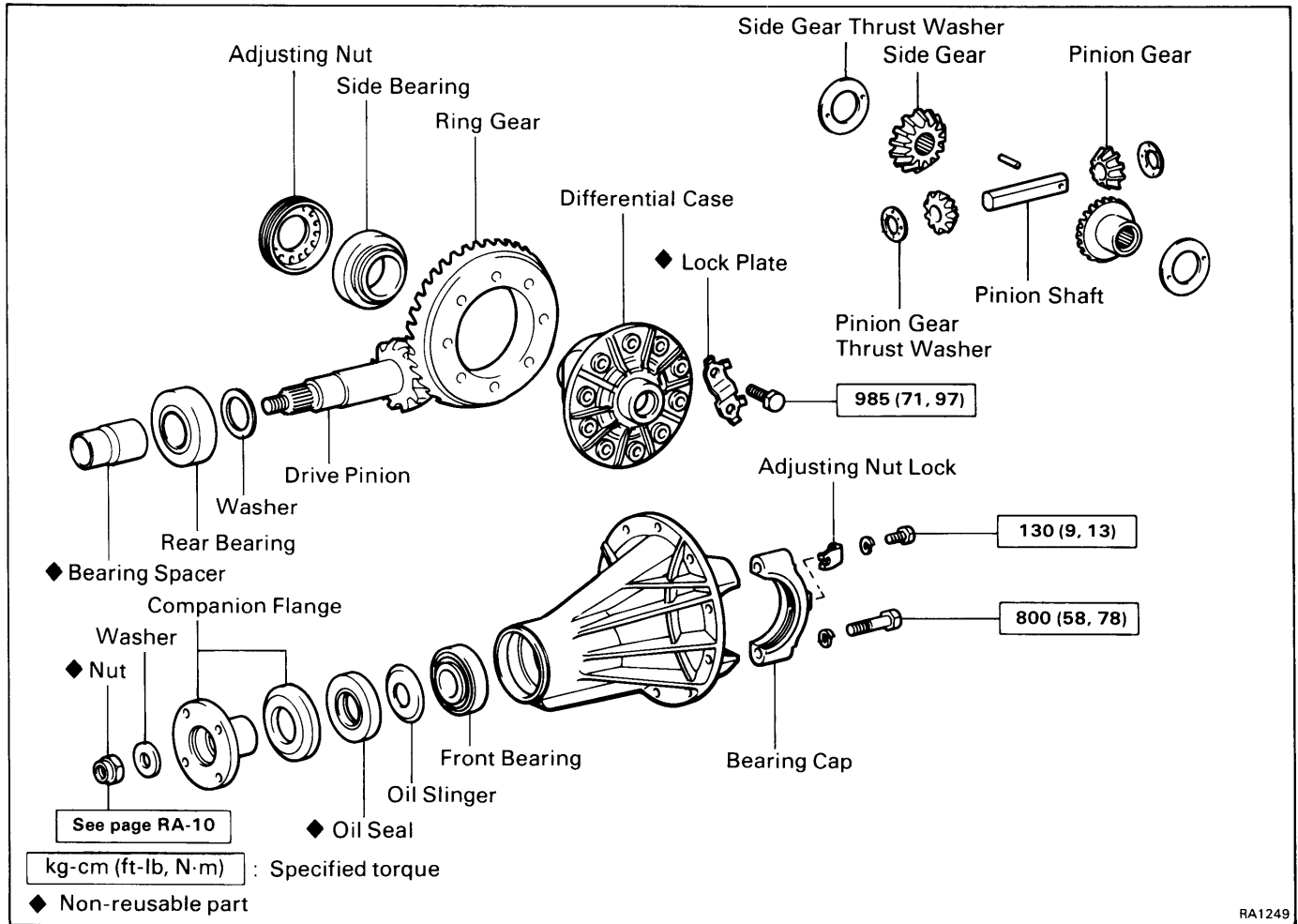
SST 09751-36011

5. INSTALL BRAKE DRUM**6. BLEED BRAKE LINES**

(See page BR-6)

7. INSTALL WHEEL

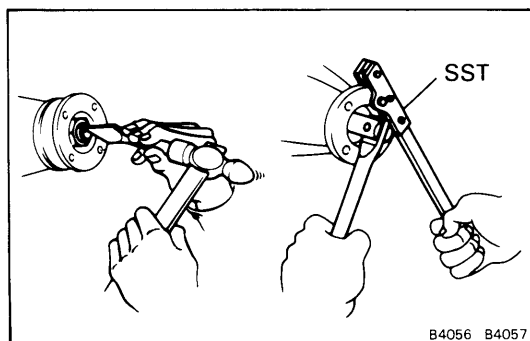
DIFFERENTIAL COMPONENTS



ON-VEHICLE REPLACEMENT OF OIL SEAL

1. DISCONNECT PROPELLER SHAFT

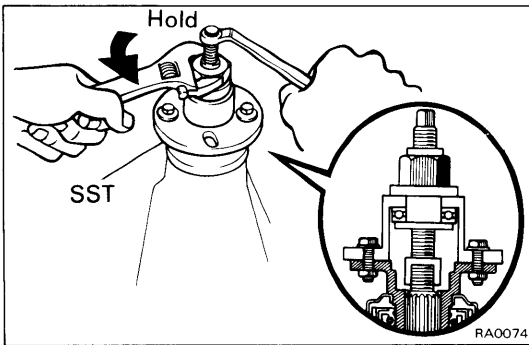
- (a) Place matchmarks on the flanges.
- (b) Remove the four bolts and nuts and disconnect the propeller shaft.



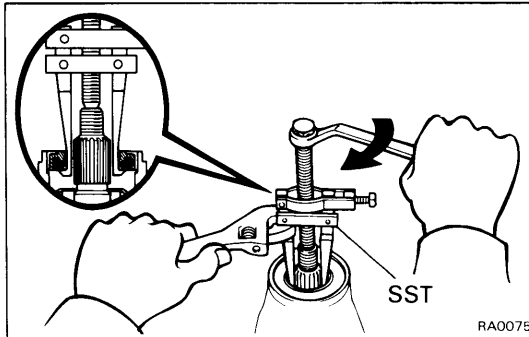
2. REMOVE COMPANION FLANGE

- (a) Using a chisel and hammer, loosen the staked part of nut.
- (b) Using SST, to hold the flange, remove the nut and plate washer.

SST 09330-00021

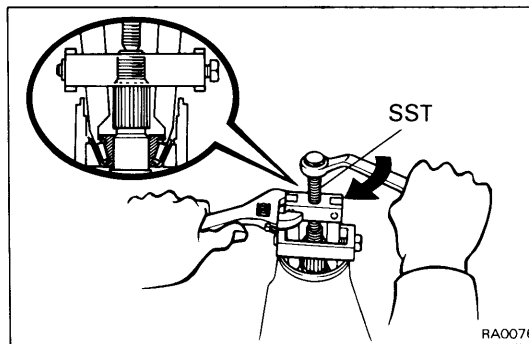


- (c) Using SST, remove the companion flange.
SST 09557-22022



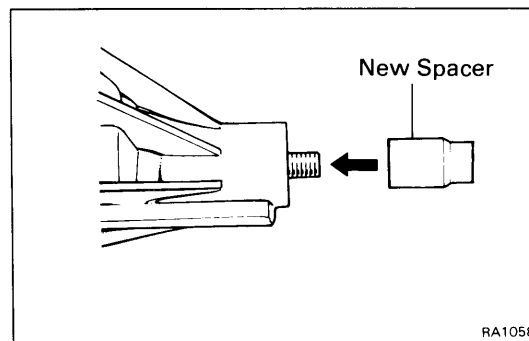
3. REMOVE OIL SEAL AND OIL SLINGER

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



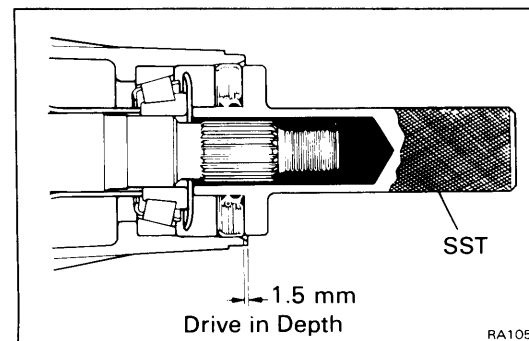
4. REMOVE FRONT BEARING AND BEARING SPACER

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



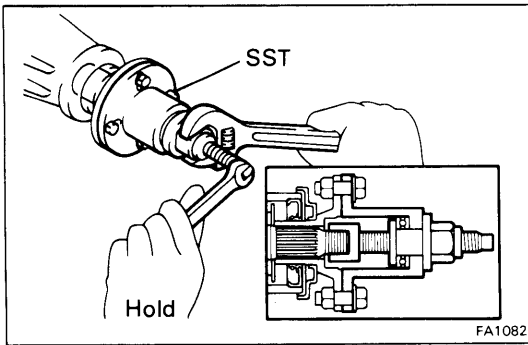
5. INSTALL NEW BEARING SPACER AND FRONT BEARING

- (a) Install a new bearing spacer on the drive pinion with the large end toward the differential carrier.
- (b) Install the front bearing on the drive pinion.



6. INSTALL OIL SLINGER AND NEW OIL SEAL

- (a) Install the oil slinger facing as shown.
- (b) Using SST and a hammer, drive in a new oil seal.
SST 09554-30011
Oil seal drive in depth: 1.5 mm (0.059 in.)
- (c) Apply MP grease to the oil seal lip.

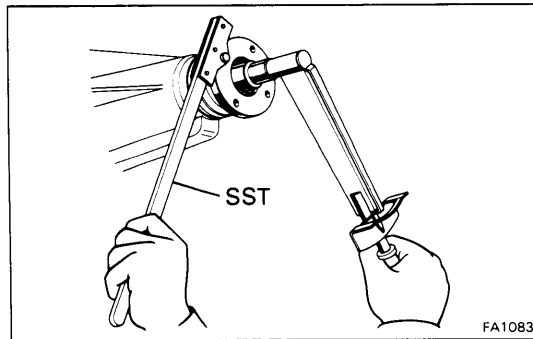


7. INSTALL COMPANION FLANGE

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

SST 09557-22022

- (b) Place the plate washer on the companion flange.

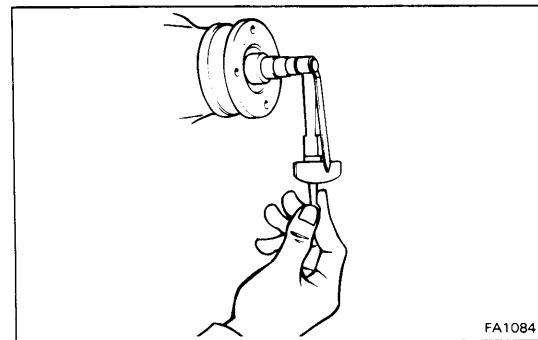


- (c) Apply light coat of gear oil on the threads of a new companion flange nut.

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

SST 09330-00021

Torque: 1,100 kg-cm (80 ft-lb, 108 N·m)



8. ADJUST DRIVE PINION PRELOAD

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

Preload(starting):

6 — 10 kg-cm (5.2 — 8.7 in.-lb, 0.6 — 1.0 N·m)

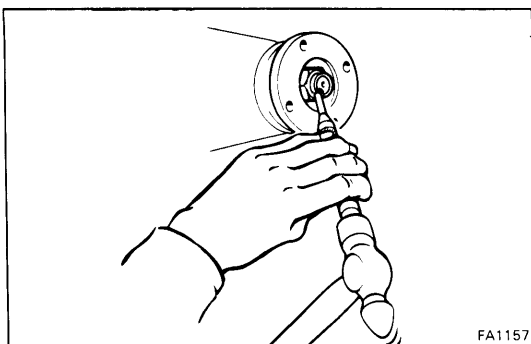
If the preload is greater than specification, replace the bearing spacer.

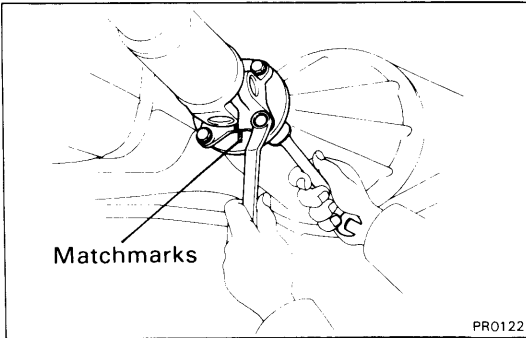
If the preload is less than specification, retighten the nut 130 kg-cm (9 ft-lb, 13 N·m) a little at a time until the specified preload is reached.

If the maximum torque is exceeded 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: 2,400 kg-cm (174 ft-lb, 235 N·m)

9. STAKE DRIVE PINION NUT

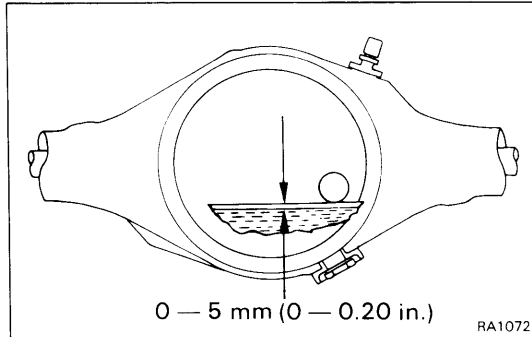




10. CONNECT PROPELLER SHAFT TO COMPANION FLANGE

- (a) Align the matchmarks and connect the propeller shaft to the companion flange with the four bolts, spring washers and nuts.
- (b) Torque the bolts and nuts.

| | | | |
|----------------|------------|------------|-------------------------------------|
| Torque: | 2WD | M/T | 750 kg-cm (54 ft-lb, 74 N·m) |
| | 2WD | A/T | 430 kg-cm (31 ft-lb, 42 N·m) |
| | 4WD | | 750 kg-cm (54 ft-lb, 74 N·m) |



11. CHECK DIFFERENTIAL OIL LEVEL

Fill with hypoid gear oil if necessary.

Oil type: Hypoid gear oil API GL-5

Recommended oil viscosity:

Above — 18°C (0°F) SAE 90

Below — 18°C (0°F) SAE 80W or 80W-90

Capacity:

2WD 1.45 liters (1.53 US qts, 1.28 Imp. qts)

4WD 1.85 liters (1.96 US qts, 1.63 Imp. qts)

REMOVAL OF DIFFERENTIAL

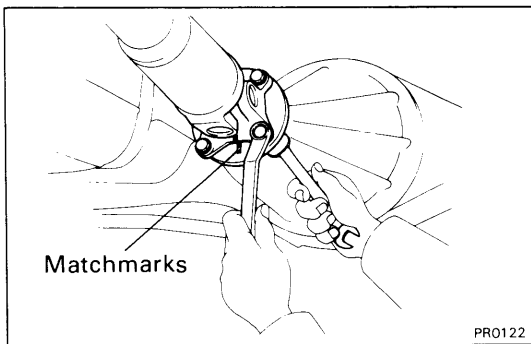
1. DRAIN DIFFERENTIAL OIL

2. REMOVE REAR AXLE SHAFTS

(See page RA-3)

3. DISCONNECT PROPELLER SHAFT

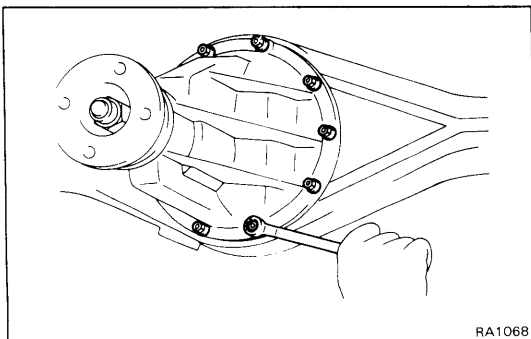
- (a) Place matchmarks on the flanges.
- (b) Remove the four bolts and nuts and disconnect the propeller shaft.

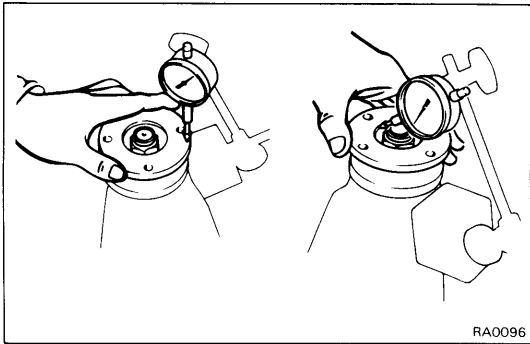


4. REMOVE DIFFERENTIAL CARRIER ASSEMBLY

Remove the nuts, washers and differential carrier assembly.

CAUTION: Be careful not to damage the installation surface.





DISASSEMBLY OF DIFFERENTIAL

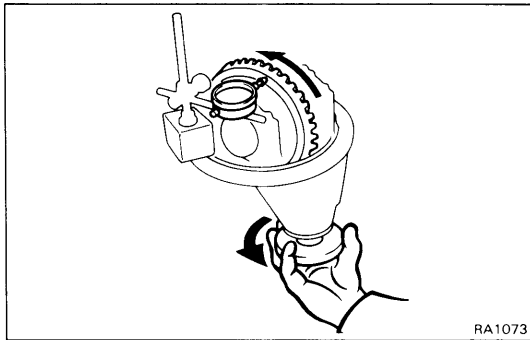
(See page RA-8)

1. CHECK DEVIATION OF COMPANION FLANGE

Using a dial indicator, measure the longitudinal and latitudinal deviation of the companion flange.

Maximum longitudinal deviation: 0.10 mm
(0.0039 in.)

Maximum latitudinal deviation: 0.10 mm
(0.0039 in.)

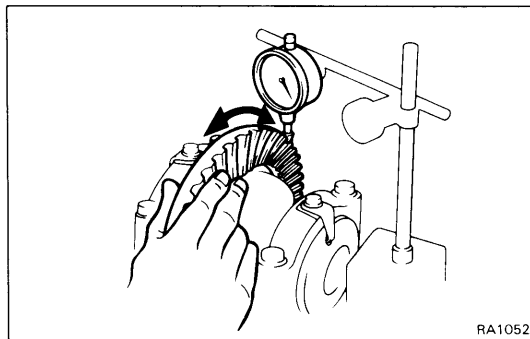


2. CHECK RING GEAR RUNOUT

Using a dial indicator, measure the ring gear runout.

Maximum runout: 0.07 mm (0.0028 in.)

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



3. CHECK RING GEAR BACKLASH

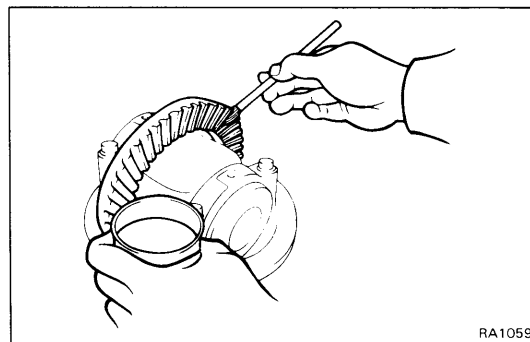
(a) Fix the dial indicator on the tooth surface at a 90° angle.

(b) Holding the drive pinion flange, measure the ring gear backlash.

Ring gear backlash: 0.13 — 0.18 mm
(0.0051 — 0.0071 in.)

If the backlash is not within specification, adjust the ring gear backlash.

NOTE: Measure from three or more places on the circumference of the ring gear.



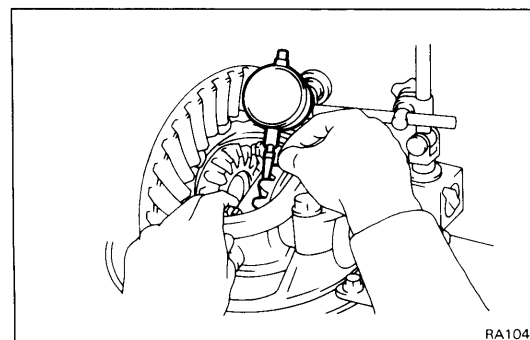
4. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION (See step 7 on page RA-22)

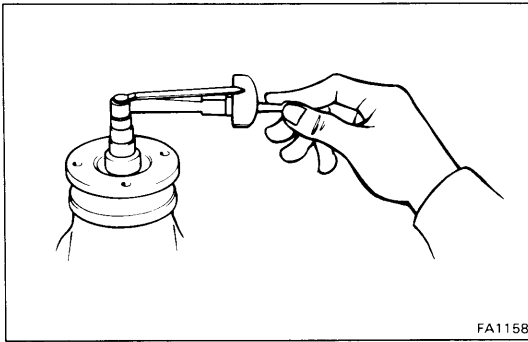
5. CHECK SIDE GEAR BACKLASH

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

Side gear backlash: 0.05 — 0.20 mm
(0.0020 — 0.0079 in.)

If the backlash is not within specification, replace the thrust washers.





6. CHECK DRIVE PINION PRELOAD

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

Preload(starting):

6 — 10 kg-cm (5.2 — 8.7 in.-lb, 0.6 — 1.0 N·m)

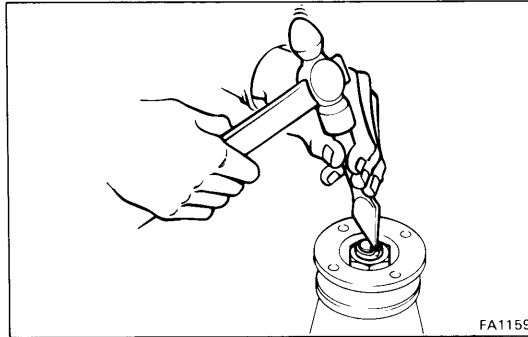
7. CHECK TOTAL PRELOAD

With the drive pinion and ring gear meshed, using a torque meter, measure the total preload.

Total preload(starting):

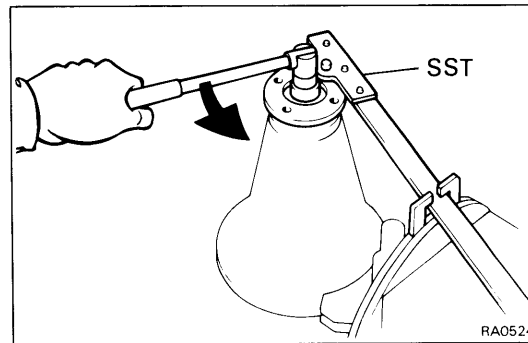
Add drive pinion preload

4 — 6 kg-cm (3.5 — 5.2 in.-lb, 0.4 — 0.6 N·m)



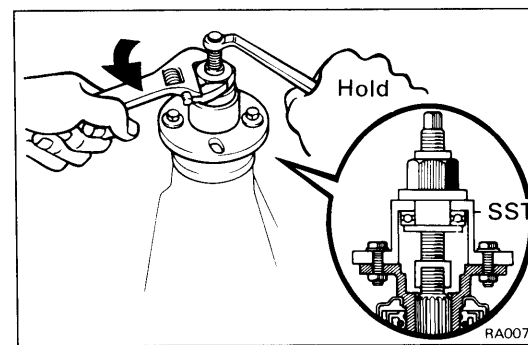
8. REMOVE COMPANION FLANGE

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



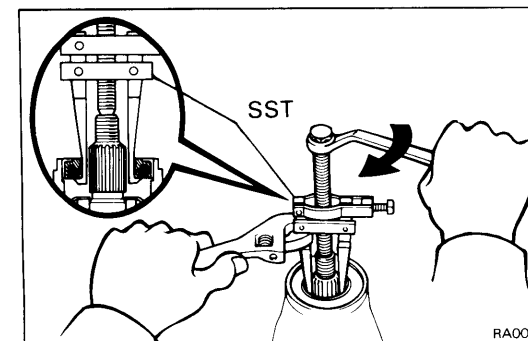
(b) Using SST to hold the flange, remove the nut and plate washer.

SST 09330-00021



(c) Using SST, remove the companion flange.

SST 09557-22022

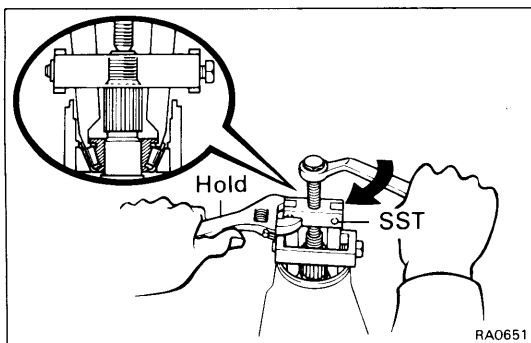


9. REMOVE OIL SEAL AND OIL SLINGER

(a) Using SST, remove the oil seal from the differential carrier.

SST 09308-10010

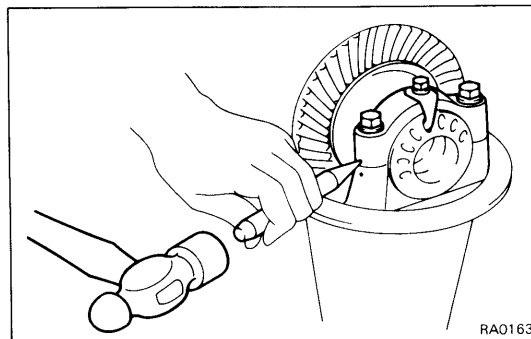
(b) Remove the oil slinger.

**10. REMOVE FRONT BEARING AND BEARING SPACER**

- (a) Using SST, remove the front bearing from the drive pinion.

SST 09556-22010

- (b) Remove the bearing spacer.

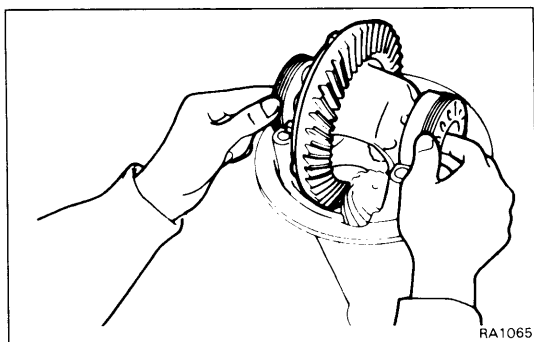
**11. REMOVE DIFFERENTIAL CASE ASSEMBLY AND RING GEAR**

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

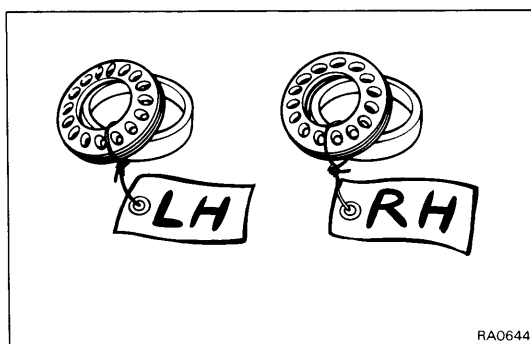
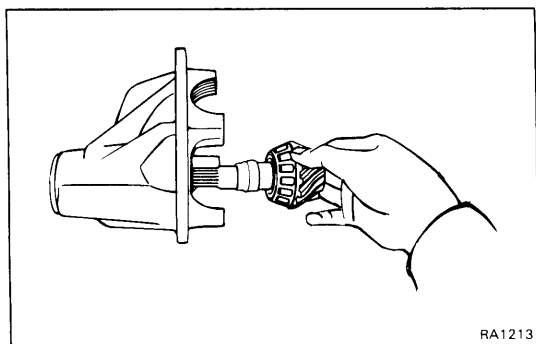
- (b) Remove the two adjusting nut locks.

- (c) Remove the two bearing caps and two adjusting nuts.

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



NOTE: Tag the disassembled parts to show the location for reassembly.

**12. REMOVE DRIVE PINION FROM DIFFERENTIAL CARRIER**

INSPECTION AND REPLACEMENT OF DIFFERENTIAL COMPONENTS

1. REPLACE DRIVE PINION REAR BEARING

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

SST 09950-00020

NOTE: If the drive pinion or ring gear are damaged, replace them as a set.

- (b) Install the reused washer on the drive pinion with the chamfered end facing the pinion gear.

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

SST 09506-30012

2. REPLACE DRIVE PINION FRONT AND REAR BEARING OUTER RACES

- (a) Using a brass bar and hammer, drive out the outer race.

- (b) Using SST and a press, press in a new outer race.

SST 09608-30012

Front outer race (09608-04020,09608-04100)

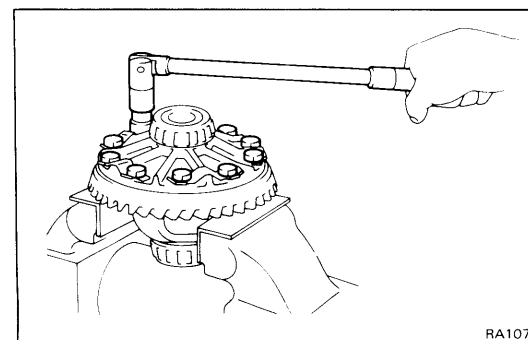
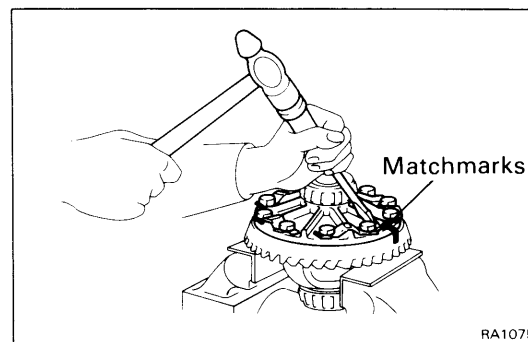
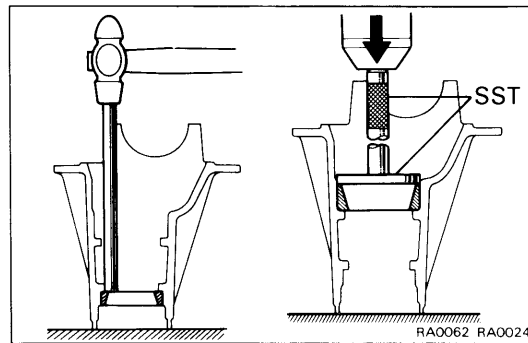
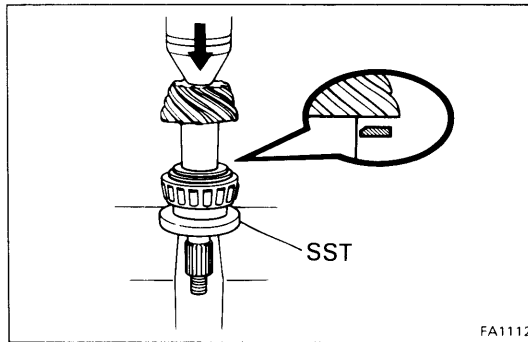
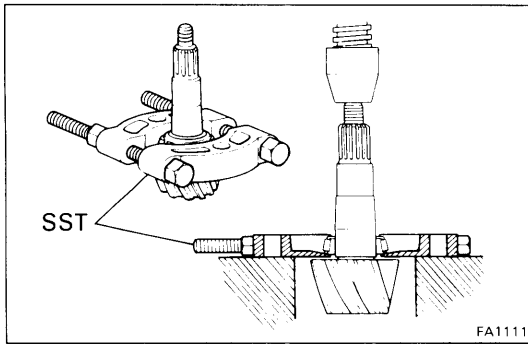
Rear outer race (09608-04020,09608-04110)

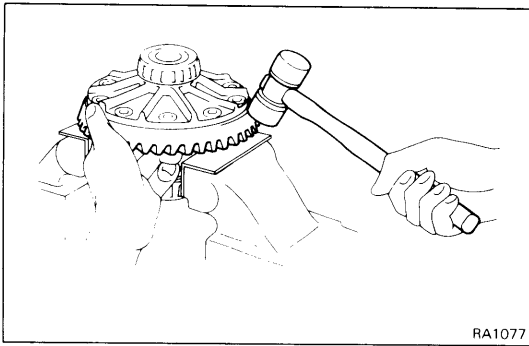
3. REMOVE RING GEAR

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

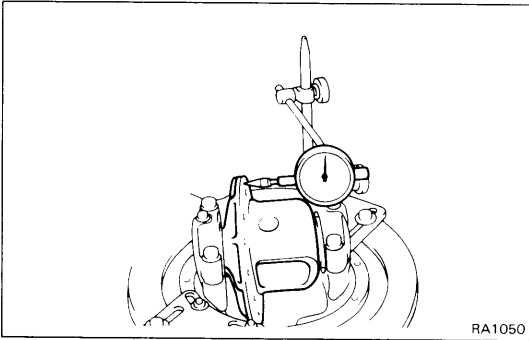
- (b) Using a screwdriver, unstake the lock plates.

- (c) Remove the ten bolts and five lock plates.





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

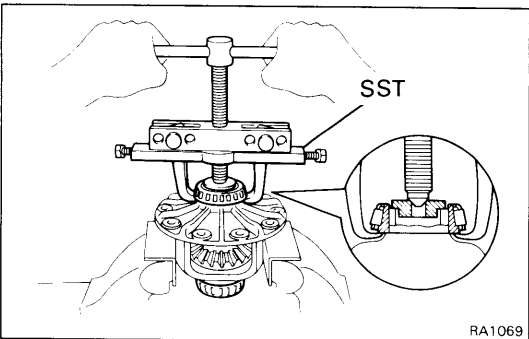


4. CHECK DIFFERENTIAL CASE RUNOUT

- (a) Install the differential case in the differential carrier and tighten the adjusting nut just to where there is no play in the bearing. (See page RA-20)
- (b) Using a dial indicator, measure the differential case runout.

Maximum runout: 0.07 mm (0.0028 in.)

- (c) Remove the differential case.
(See procedure step 11 on page RA-14)

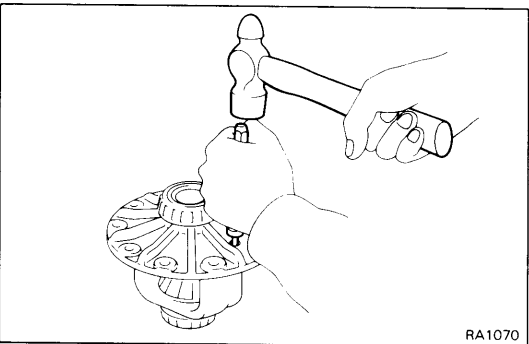


5. REMOVE SIDE BEARINGS

Using SST, remove the side bearing from the differential case.

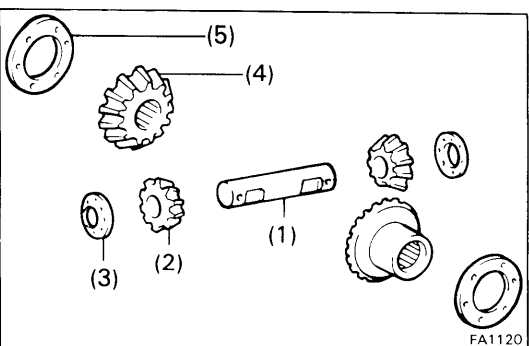
SST 09950-20017

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



6. DISASSEMBLE DIFFERENTIAL CASE ASSEMBLY

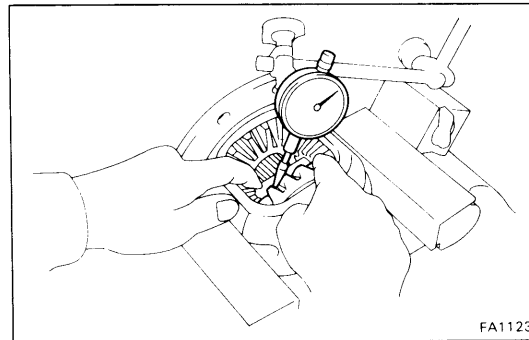
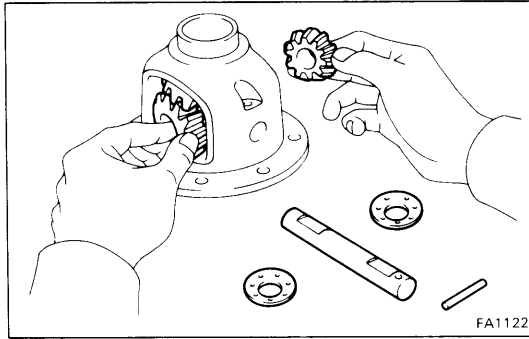
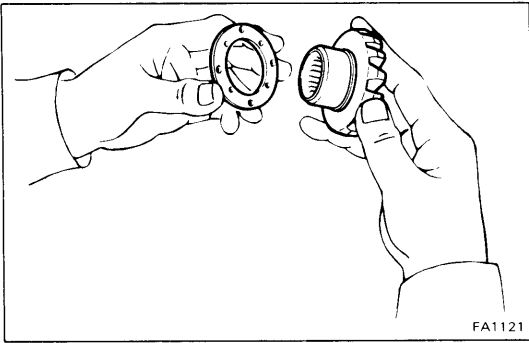
- (a) Using a pin punch and hammer, drive out the straight pin.



- (b) Remove the following parts:

- (1) Pinion shaft
- (2) Pinion gears
- (3) Pinion gear thrust washers
- (4) Side gears
- (5) Side gear thrust washers

7. ASSEMBLE DIFFERENTIAL CASE



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

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

(c) Check the side gear backlash.

- Measure the side gear backlash while holding one pinion gear toward the case.

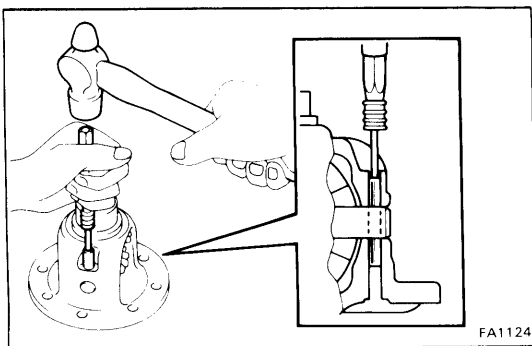
**Side gear backlash: 0.05 — 0.20 mm
(0.0020 — 0.0079 in.)**

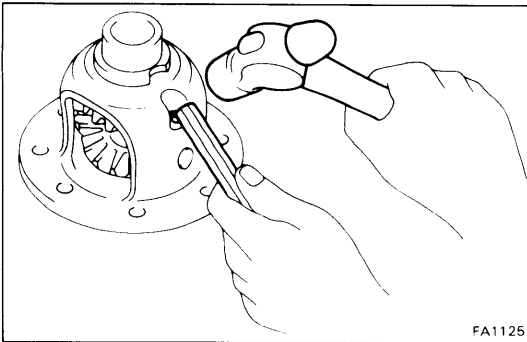
If the backlash is not within specification, replace the thrust washers.

| Thrust washer thickness | mm (in.) |
|-------------------------|-------------------|
| 0.96 — 1.04 | (0.0378 — 0.0409) |
| 1.06 — 1.14 | (0.0417 — 0.0449) |
| 1.16 — 1.24 | (0.0457 — 0.0488) |
| 1.26 — 1.34 | (0.0496 — 0.0528) |

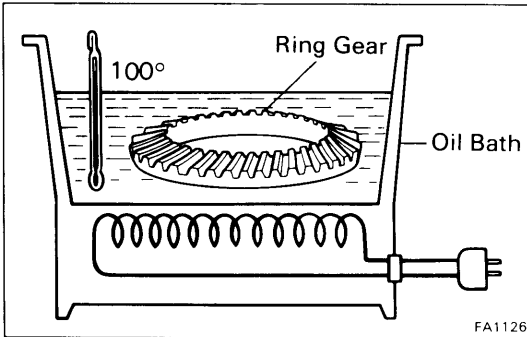
NOTE: Select the same sized thrust washers for both the left and right sides.

(d) Using a pin punch and hammer, drive the straight pin through the holes in the differential case and pinion shaft.





- (e) Using a chisel and hammer, stake the outside of the differential case pin hole.

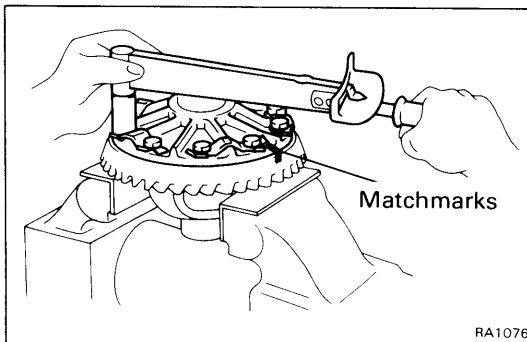


8. INSTALL RING GEAR

- (a) Heat the ring gear to about 100°C (212°F) in an oil bath.

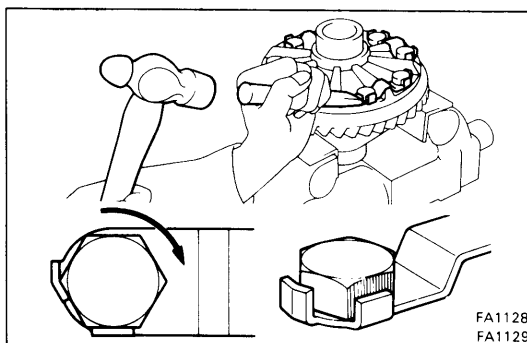
CAUTION: Do not heat the ring gear above 110°C (230°F).

- (b) Clean the contact surface of the differential case.
 (c) Clean the contact surface of the ring gear with cleaning solvent.



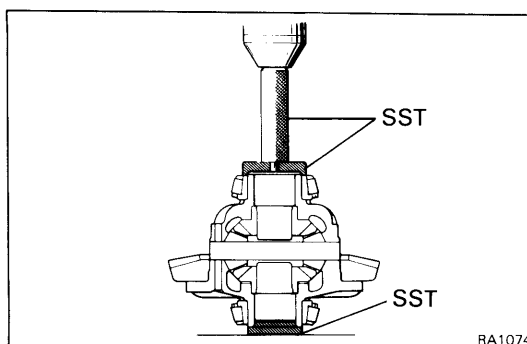
- (d) Align the matchmarks on the ring gear and differential case.
 (e) Then quickly install the ring gear on the differential case.
 (f) Place the five lock plates on the differential case.
 (g) Install and uniformly tighten the ten bolts in several passes.

Torque: 985 kg-cm (71 ft-lb, 97 N·m)



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

NOTE: 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.

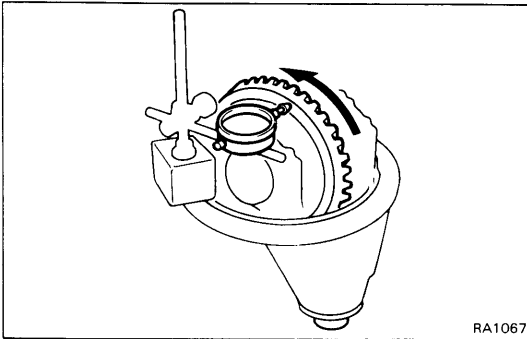


9. INSTALL SIDE BEARINGS

Using SST and a press, press the bearing into the differential case.

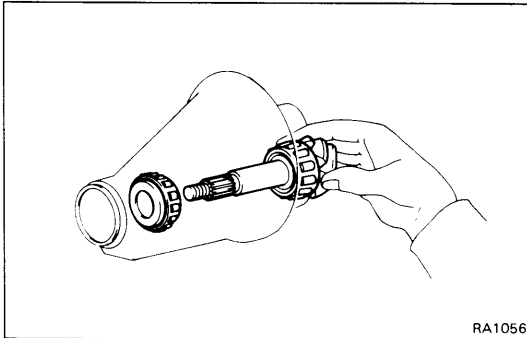
SST 09550-10012

(09252-10010, 09557-10010, 09558-10010)



10. CHECK RING GEAR RUNOUT

- (a) Install the differential case in the differential carrier and tighten the adjusting nut just to where there is no play in the bearing. (See page RA-20)
- (b) Using a dial indicator, measure the ring gear runout.
Maximum runout: 0.07 mm (0.0028 in.)
- (c) Remove the differential case.
(See procedure step 11 on page RA-14)

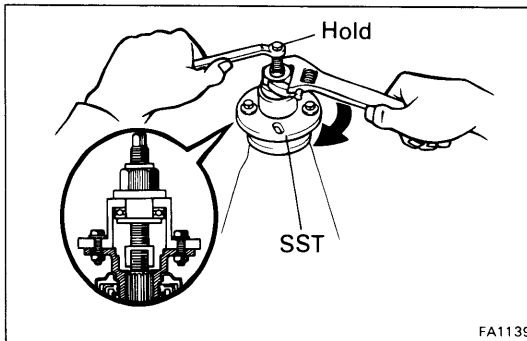


ASSEMBLY OF DIFFERENTIAL

(See page RA-8)

1. TEMPORARILY ADJUST DRIVE PINION PRELOAD

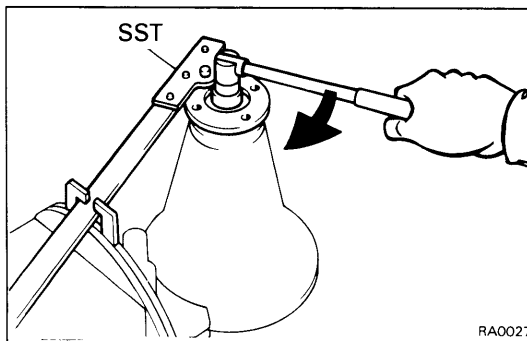
- (a) Install the drive pinion, front bearing and oil slinger.
NOTE: After adjusting the gear tooth contact, assemble the spacer and oil seal.



- (b) As the spacer is not installed, using SST, install the companion flange until a small clearance remains on the drive pinion.

SST 09557-22022

- (c) Place the plate washer on the companion flange.

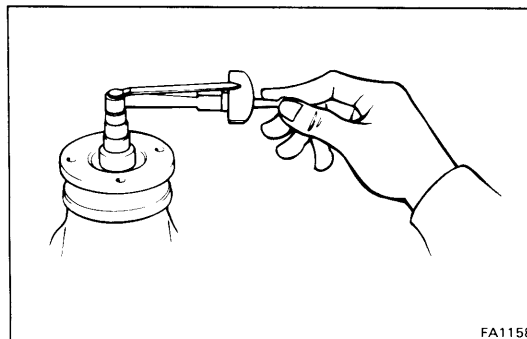


- (d) Apply a light coat of gear oil on the threads of the companion flange nut and drive pinion.

- (e) Using SST to hold the flange, adjust the drive pinion preload by tightening the companion flange.

SST 09330-00021

CAUTION: As there is no spacer, tighten a little at a time, being careful not to overtighten.



- (f) Rotate the flange left and right to seat the bearings.

- (g) Using a torque meter, measure the preload.

Preload(starting):

New bearing

12 — 19 kg-cm

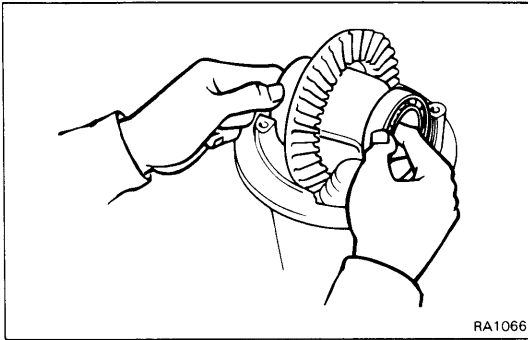
(10.4 — 16.5 in.-lb, 1.2 — 1.9 N·m)

Reused bearing

6 — 10 kg-cm

(5.2 — 8.7 in.-lb, 0.6 — 1.0 N·m)

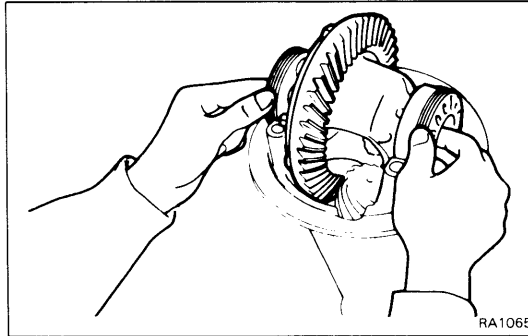
NOTE: In order to measure the total preload, record the preload reading.



RA1066

2. INSTALL DIFFERENTIAL CASE IN DIFFERENTIAL CARRIER

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

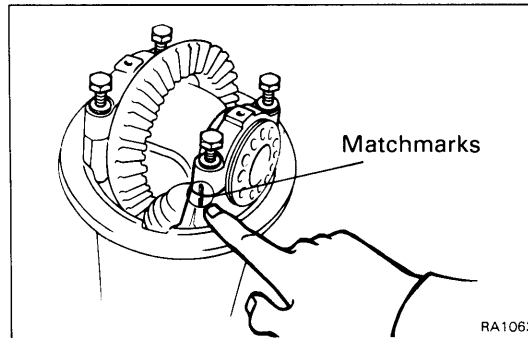


RA1065

3. INSTALL ADJUSTING NUTS

Install the adjusting nuts on their respective carrier, making sure the nuts are threaded properly.

NOTE: Check that there is backlash between the ring gear and drive pinion.

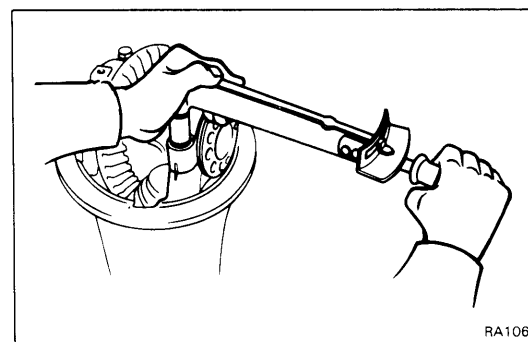


RA1063

4. INSTALL BEARING CAPS

Align the matchmarks on the cap and carrier. Screw in the two bearing cap bolts two or three turns and press down the bearing cap by hand.

NOTE: If the bearing cap does not fit tightly on the carrier, the adjusting nut threads are not threaded properly. Reinstall the adjusting nuts if necessary.



RA1060

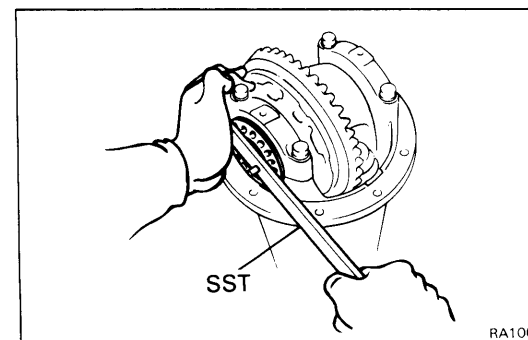
5. ADJUST SIDE BEARING PRELOAD AND RING GEAR BACKLASH

- (a) Torque the bearing cap bolts.

Torque: 800 kg-cm (58 ft-lb, 78 N·m)

- (b) Loosen the bearing cap bolts until the adjusting nuts can be turned with SST.

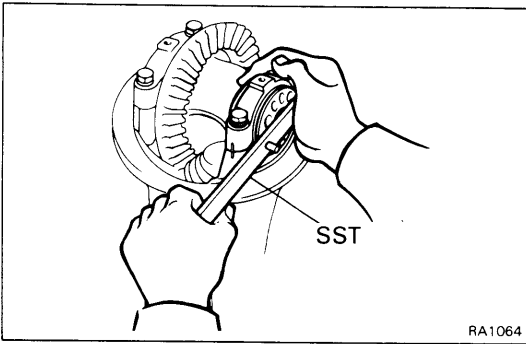
SST 09504-00011



RA1062

- (c) Using SST, tighten the adjusting nut on the ring gear side until the ring gear has a backlash of about 0.2 mm (0.008 in.).

SST 09504-00011

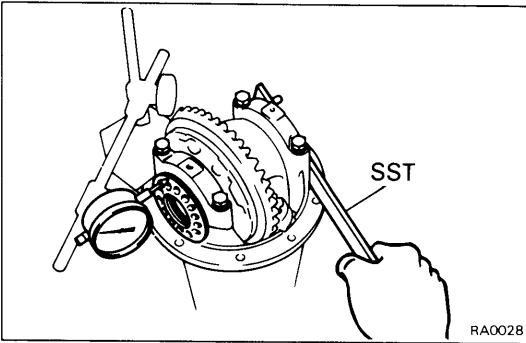


- (d) Using SST, firmly tighten the adjusting nut on the drive pinion side.

SST 09504-00011

- (e) Check that the ring gear has backlash.

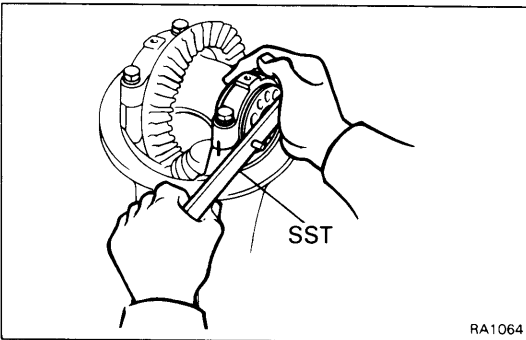
If tightening the adjusting nut creates ring gear backlash, loosen the nut so that backlash is eliminated.



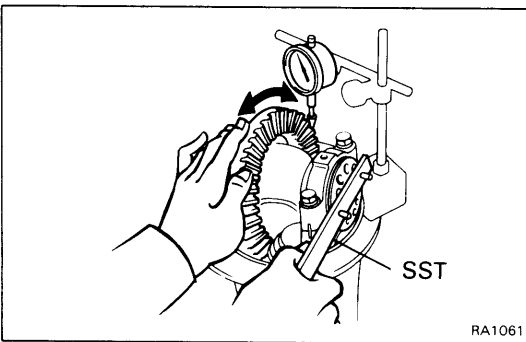
- (f) Place a dial indicator on the top of the adjusting nut on the ring gear side.

- (g) Loosen the adjusting nut on the drive pinion side.

- (h) Adjust the side bearing for zero preload by tightening the other adjusting nut until the pointer on the indicator begins to move.



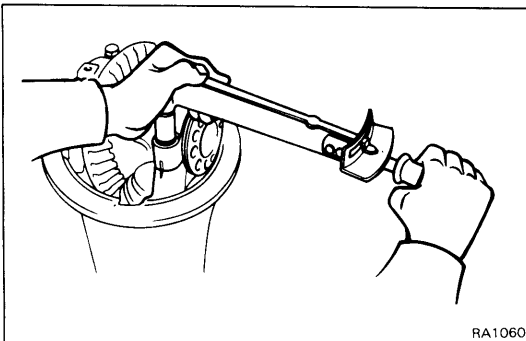
- (i) Tighten the adjusting nut 1 — 1 1/2 notches from the zero preload position



- (j) Using a dial indicator, adjust the ring gear backlash until it is within specification.

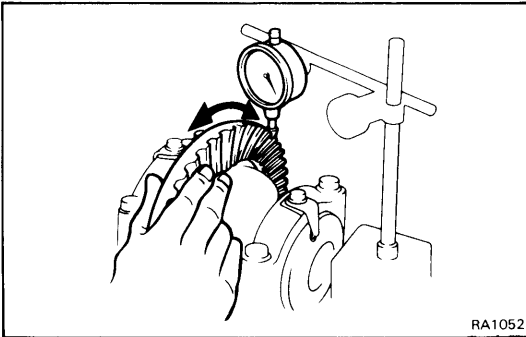
Backlash: 0.13 — 0.18 mm (0.0051 — 0.0071 in.)

NOTE: The backlash is adjusted by turning the left and right adjusting nuts equal amounts. For example, loosen the nut on the left side one notch and tighten the nut on the right side one notch.



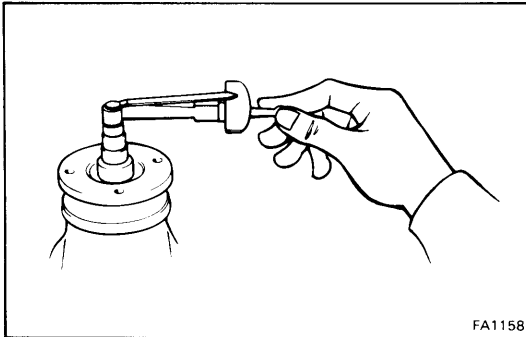
- (k) Torque the bearing cap bolts.

Torque: 800 kg-cm (58 ft-lb, 78 N·m)



(l) Recheck the ring gear backlash.

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



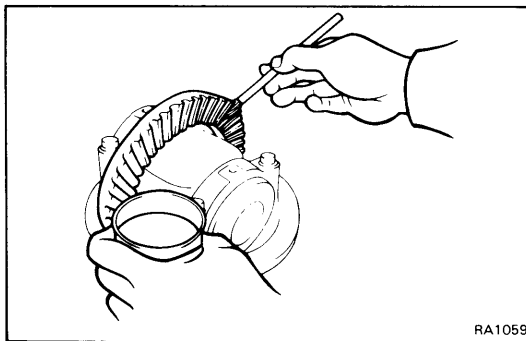
6. CHECK TOTAL PRELOAD

Using a torque meter, with the drive pinion and ring gear meshed, measure the total preload.

Total preload (starting):

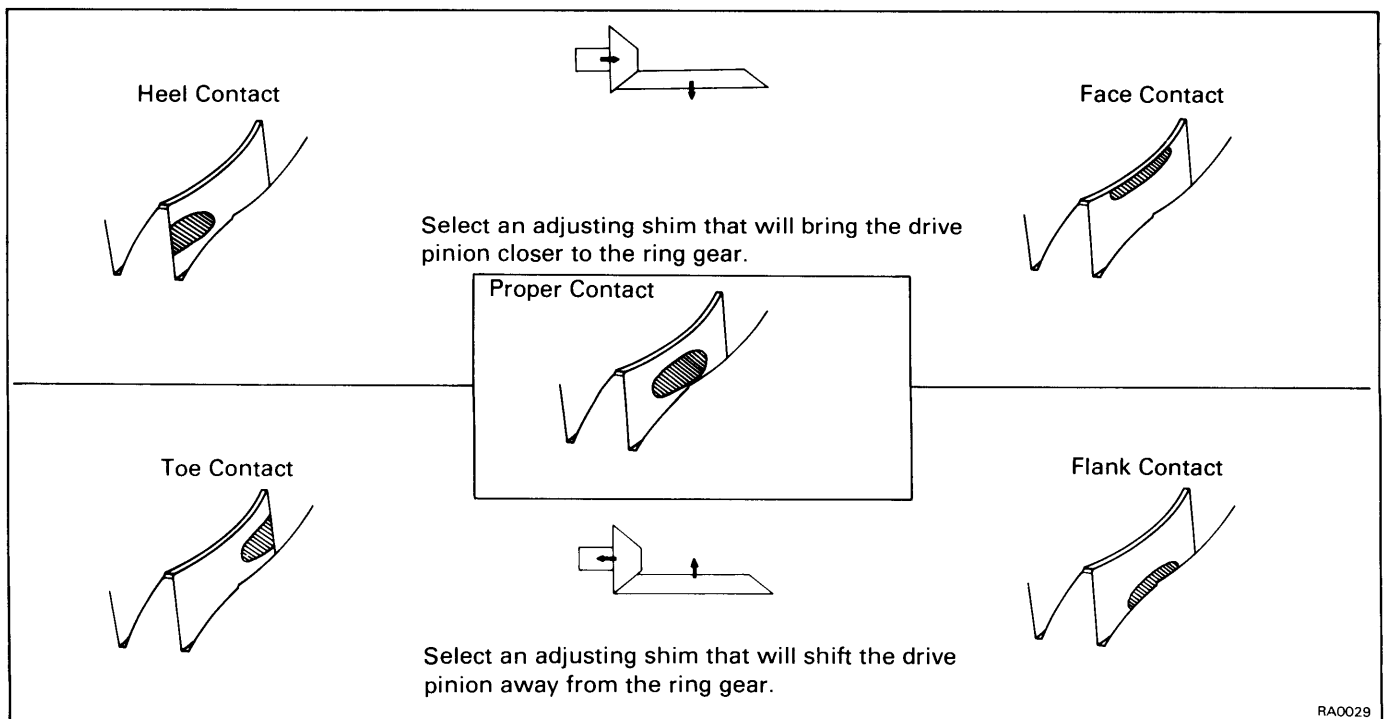
Add drive pinion preload

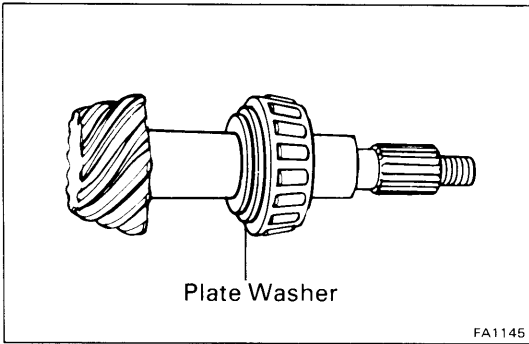
4 — 6 kg-cm (3.4 — 5.2 in.-lb, 0.4 — 0.6 N·m)



7. 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 pattern.



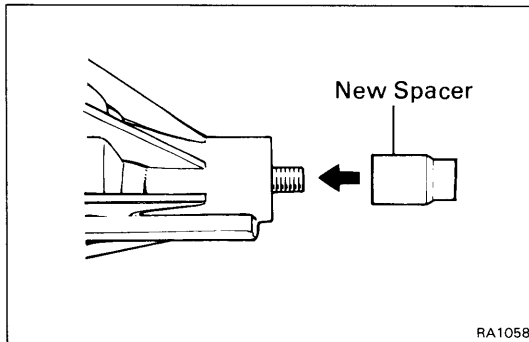


If the tooth pattern is not proper, replace the drive pinion plate washer.

| Plate washer thickness | | mm (in.) |
|-------------------------------|-------------------------------|----------|
| 2.23 — 2.25 (0.0878 — 0.0886) | 2.50 — 2.52 (0.0984 — 0.0992) | |
| 2.26 — 2.28 (0.0890 — 0.0898) | 2.53 — 2.55 (0.0996 — 0.1004) | |
| 2.29 — 2.31 (0.0902 — 0.0909) | 2.56 — 2.58 (0.1008 — 0.1016) | |
| 2.32 — 2.34 (0.0913 — 0.0921) | 2.59 — 2.61 (0.1020 — 0.1028) | |
| 2.35 — 2.37 (0.0925 — 0.0933) | 2.62 — 2.64 (0.1031 — 0.1039) | |
| 2.38 — 2.40 (0.0937 — 0.0945) | 2.65 — 2.67 (0.1043 — 0.1051) | |
| 2.41 — 2.43 (0.0949 — 0.0957) | 2.68 — 2.70 (0.1055 — 0.1063) | |
| 2.44 — 2.46 (0.0961 — 0.0969) | 2.71 — 2.73 (0.1067 — 0.1075) | |
| 2.47 — 2.49 (0.0972 — 0.0980) | | |

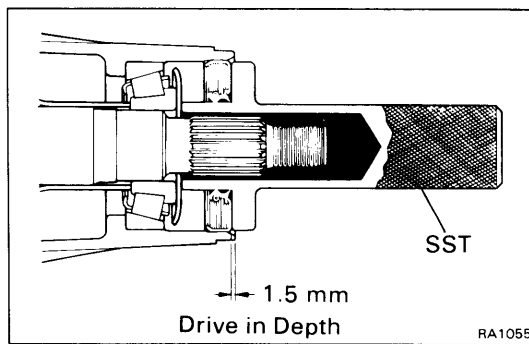
8. REMOVE COMPANION FLANGE AND OIL SLINGER
(See step 8 on page RA-13)

9. REMOVE FRONT BEARING
(See step 10 on page RA-14)



10. INSTALL NEW BEARING SPACER AND FRONT BEARING

- (a) Install a new bearing spacer on the drive pinion with the large end toward the differential carrier.
- (b) Install the front bearing on the drive pinion.



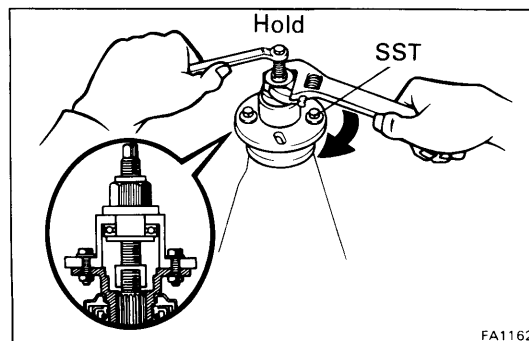
11. INSTALL OIL SLINGER AND NEW OIL SEAL

- (a) Install the oil slinger facing as shown.
- (b) Using SST and a hammer, tap in a new oil seal.

SST 09554-30011

Oil seal drive in depth: 1.5 mm (0.059 in.)

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

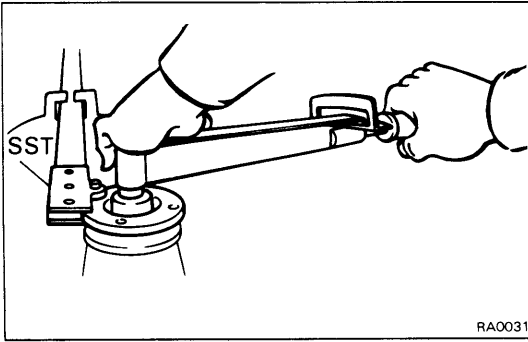


12. INSTALL COMPANION FLANGE

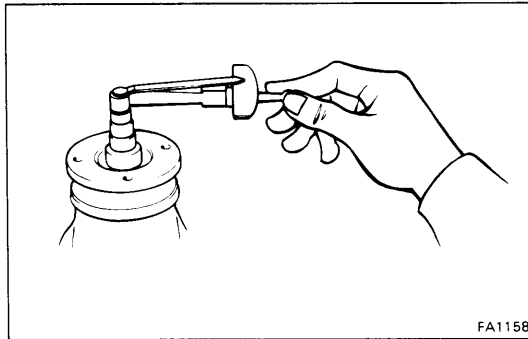
- (a) Using SST, install the companion flange on the drive pinion.

SST 09557-22022

- (b) Place the plate washer on the companion flange.



- (c) Apply light coat of gear oil on the threads of a new companion flange nut and drive pinion.
- (d) Using SST to hold the flange, tighten the nut.
SST 09330-00021
Torque: 1,100 kg-cm (80 ft-lb, 108 N·m)



13. ADJUST DRIVE PINION PRELOAD

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

Preload (starting):

New bearing

12 — 19 kg-cm

(10.4 — 16.5 in.-lb, 1.2 — 1.9 N·m)

Reused bearing

6 — 10 kg-cm

(5.2 — 8.7 in.-lb, 0.6 — 1.0 N·m)

If the preload is greater than specification, replace bearing spacer.

If the preload is less than specification, retighten the nut 130 kg-cm (9 ft-lb, 13 N·m) a little at a time until the specified preload is reached.

If the maximum torque is exceeded 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: 2,400 kg-cm (174 ft-lb, 235 N·m)

14. RECHECK TOTAL PRELOAD

(See step 7 on page RA-13)

Total preload(starting):

Add drive pinion preload

4 — 6 kg-cm (3.4 — 5.2 in.-lb, 0.4 — 0.6 N·m)

15. RECHECK RING GEAR BACKLASH

(See step 3 on page RA-11)

Ring gear backlash:

0.13 — 0.18 mm (0.0051 — 0.0071 in.)

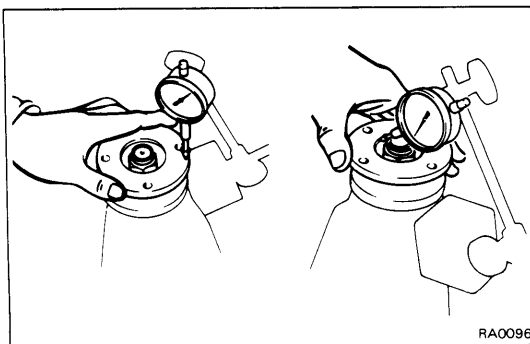
16. RECHECK TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION (See step 7 on page RA-22)

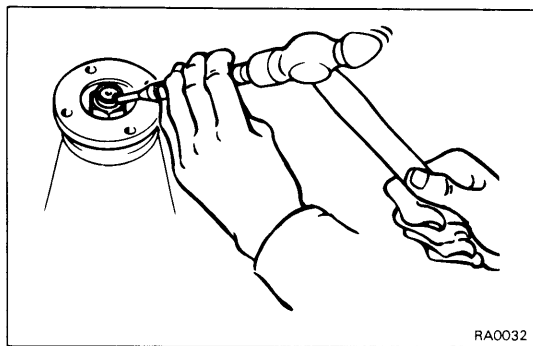
17. CHECK DEVIATION OF COMPANION FLANGE

Using a dial indicator, measure the longitudinal and latitudinal deviation of the companion flange.

Maximum longitudinal deviation: 0.10 mm
(0.0039 in.)

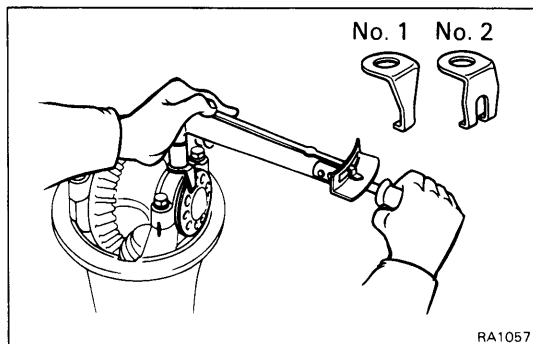
Maximum latitudinal deviation: 0.10 mm
(0.0039 in.)





18. STAKE DRIVE PINION NUT

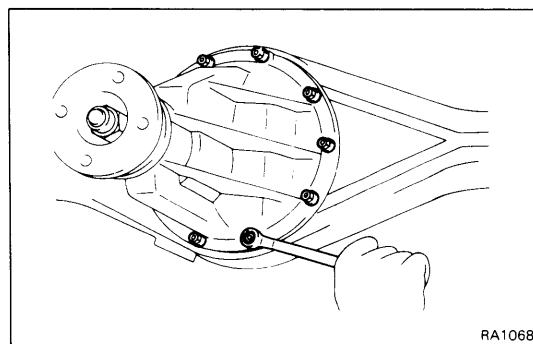
Using a punch and hammer, stake the drive pinion nut.



19. INSTALL ADJUSTING NUT LOCKS

- (a) Select either a lock No. 1 or No. 2, whichever will fit the adjusting nuts.
- (b) Install the lock nut on the bearing caps.

Torque: 130 kg-cm (9 ft-lb, 13 N·m)



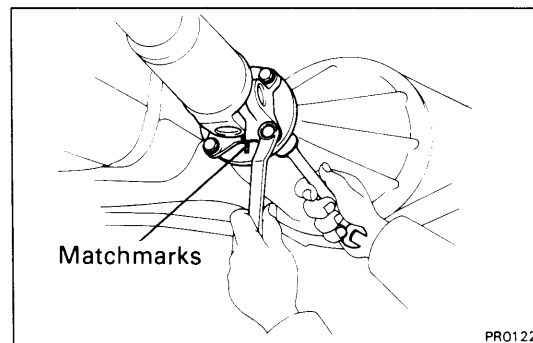
INSTALLATION OF DIFFERENTIAL

1. INSTALL NEW GASKET TO AXLE HOUSING

2. INSTALL DIFFERENTIAL CARRIER ASSEMBLY

Install the differential carrier assembly in the axle housing with the ten nuts.

Torque: 315 kg-cm (23 ft-lb, 31 N·m)

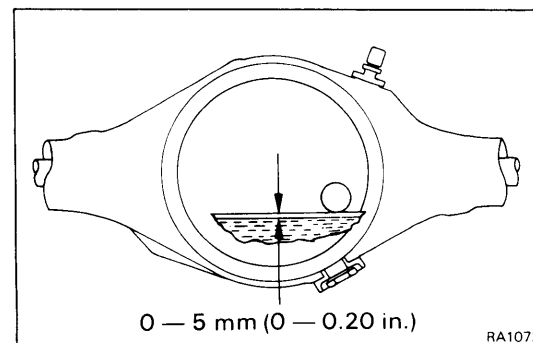


3. CONNECT PROPELLER SHAFT TO COMPANION LANGE

- (a) Align the matchmarks and connect the propeller shaft to the companion flange with the four bolts, spring washers and nuts.
- (b) Torque the bolts and nuts.

Torque:

| | | |
|-----|-----|------------------------------|
| 2WD | M/T | 750 kg-cm (54 ft-lb, 74 N·m) |
| 2WD | A/T | 430 kg-cm (31 ft-lb, 42 N·m) |
| 4WD | | 750 kg-cm (54 ft-lb, 74 N·m) |



4. FILL DIFFERENTIAL WITH GEAR OIL

Fill with hypoid gear oil.

Oil type: Hypoid gear oil API GL-5

Recommended oil viscosity:

Above — 18°C (0°F) SAE 90

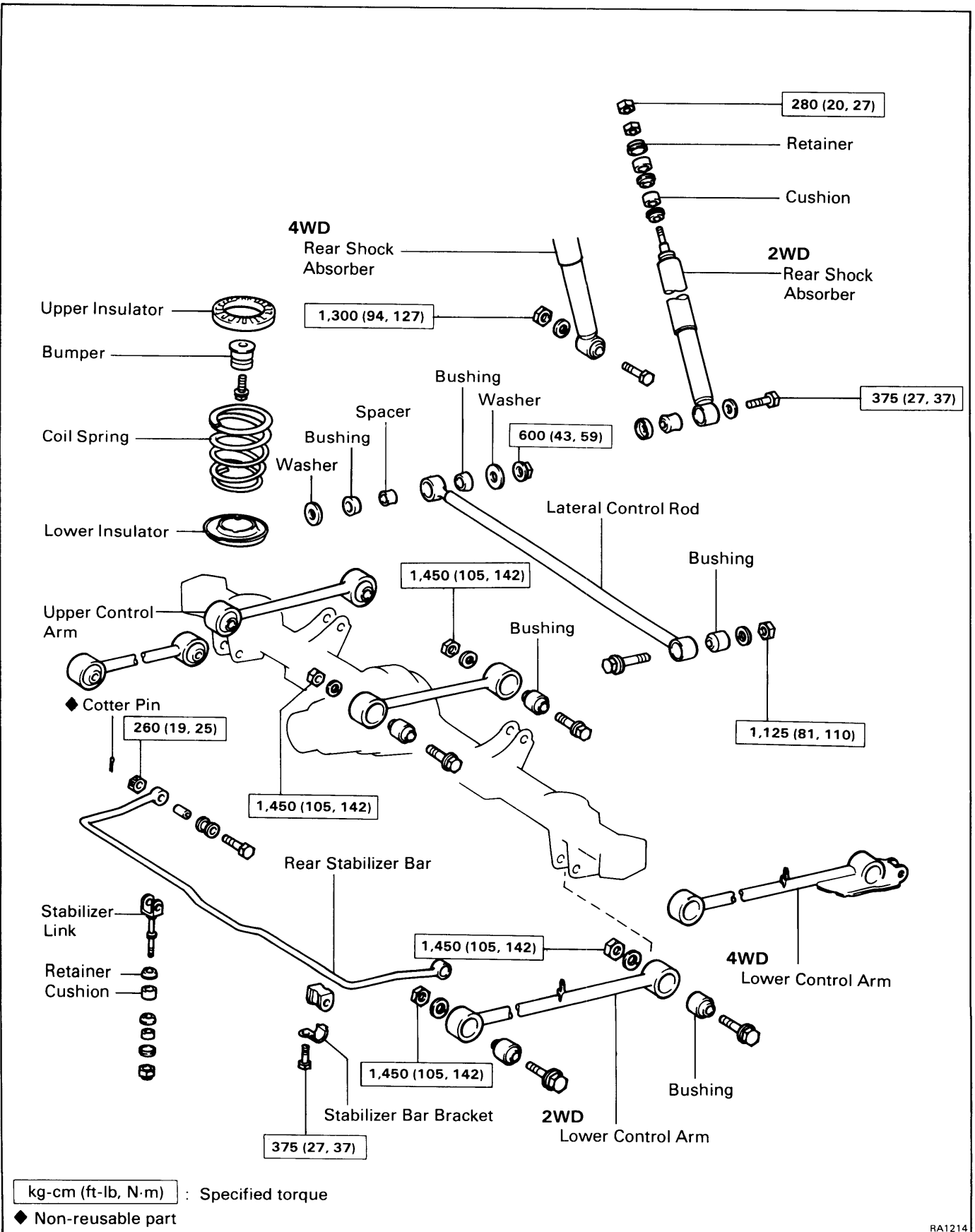
Below — 18°C (0°F) SAE 80W or 80W-90

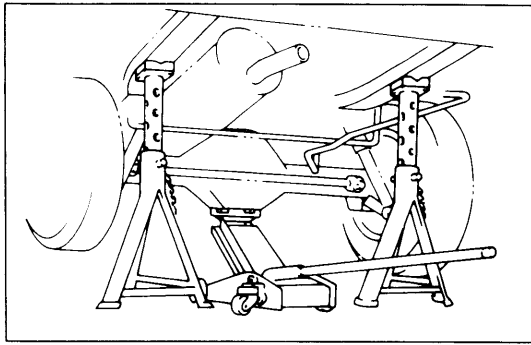
Capacity:

2WD 1.45 liters (1.53 US qts, 1.28 Imp. qts)

4WD 1.85 liters (1.96 US qts, 1.63 Imp. qts)

4-LINK TYPE REAR SUSPENSION COMPONENTS





Coil Spring and Rear Shock Absorber

(See page RA-26)

REMOVAL OF COIL SPRING AND REAR SHOCK ABSORBER

1. JACK UP AND SUPPORT VEHICLE

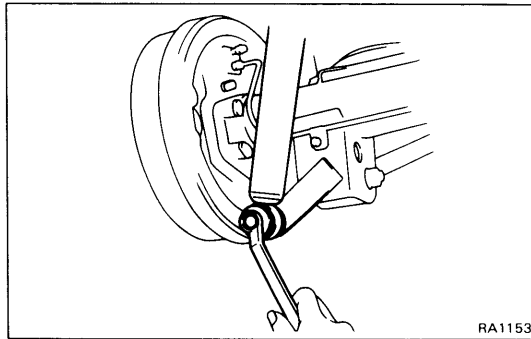
Jack up the rear axle housing and support the body with stands. Leave the jack under the rear axle.

2. REMOVE WHEEL

3. DISCONNECT REAR SHOCK ABSORBER

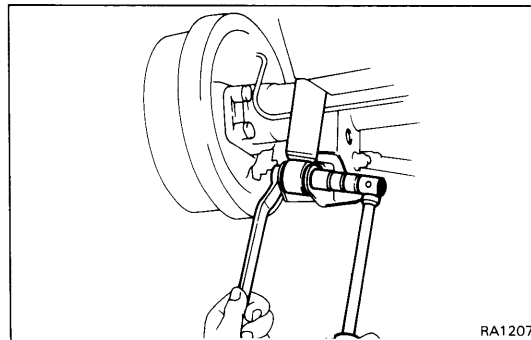
(a) (2WD)

Remove the bolt holding the shock absorber to the rear axle housing and disconnect the shock absorber.



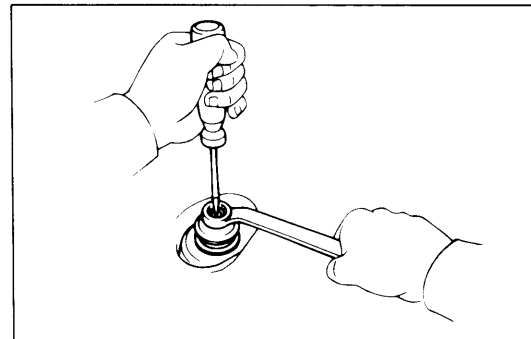
(4WD)

Remove the nut, washer and bolt holding the shock absorber to the lower control arm and disconnect the shock absorber.



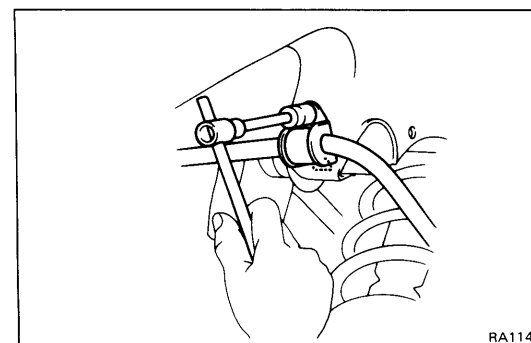
(b) If replacing the shock absorber, remove the nut holding the shock absorber to the body, and remove the shock absorber.

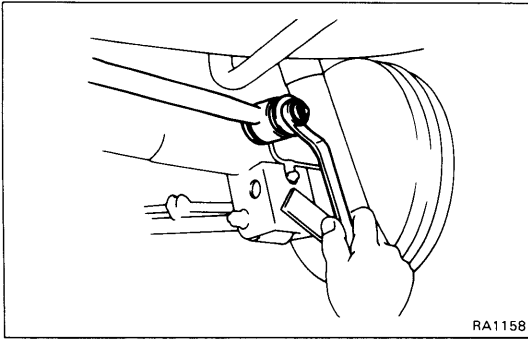
NOTE: Use a screwdriver to keep the shaft from turning.



4. REMOVE STABILIZER BAR BUSHING BRACKETS

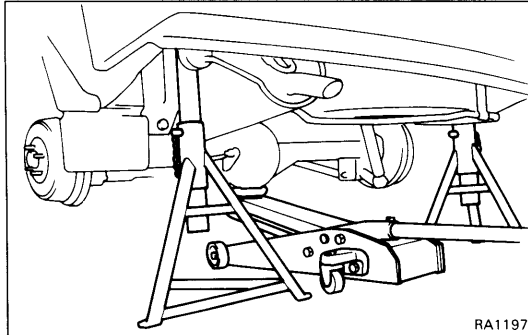
Remove the bolt holding the stabilizer bar bushing to the rear axle housing.





5. DISCONNECT LATERAL CONTROL ROD FROM REAR AXLE HOUSING

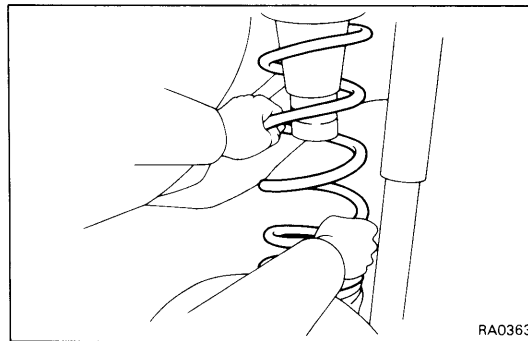
Remove the nut holding the lateral control rod to the rear axle housing and disconnect the lateral control rod.



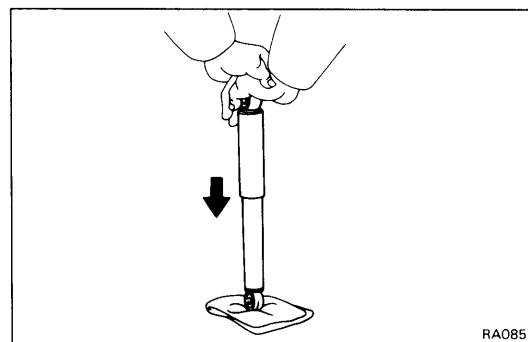
6. REMOVE COIL SPRING

(a) Begin to lower the rear axle housing.

NOTE: Be careful not to snag the brake line and parking brake cable.



(b) While lowering the rear axle housing, remove the coil spring and upper and lower insulators.

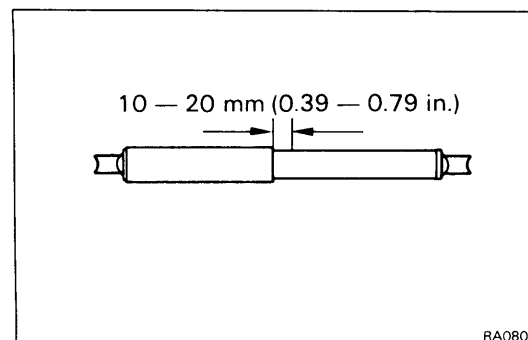


INSPECTION OF REAR SHOCK ABSORBER

1. INSPECT OPERATION OF SHOCK ABSORBER

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

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

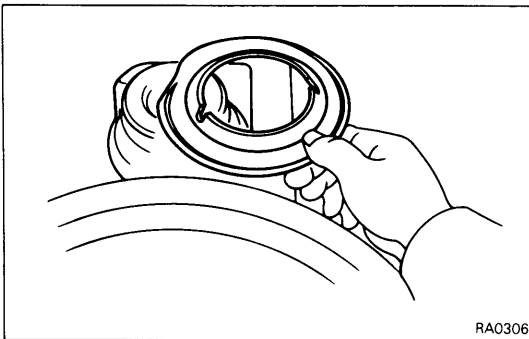


2. DISCARD SHOCK ABSORBER

Before discarding the cartridge, drill a hole 2 — 3 mm (0.08 — 0.12 in.) in diameter at the location shown in the figure to release the gas inside.

CAUTION:

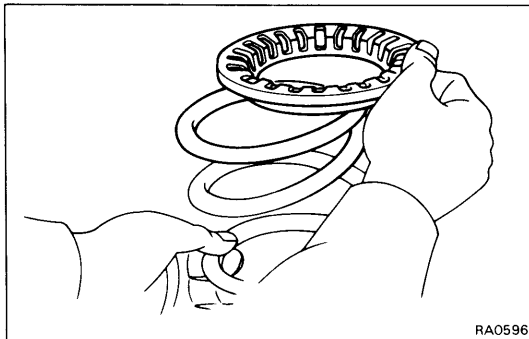
- When drilling, chips may fly out, work carefully.
- The gas is colorless, odorless, and non-poisonous.



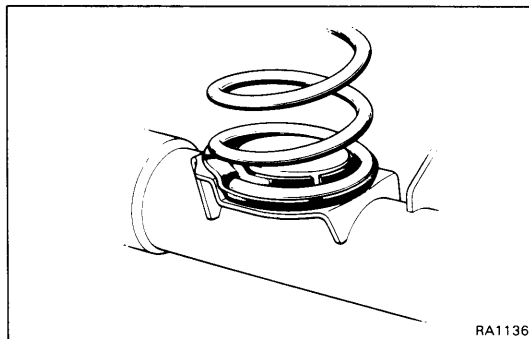
INSTALLATION OF COIL SPRING AND REAR SHOCK ABSORBER

(See page RA-26)

1. PUT LOWER INSULATOR ON AXLE HOUSING



2. PUT UPPER INSULATOR ON COIL SPRING



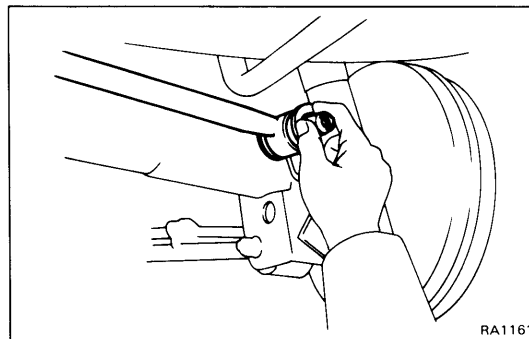
3. INSTALL COIL SPRING

4. JACK UP REAR AXLE HOUSING

5. CHECK POSITION OF LOWER INSULATOR

Check that the lower insulator is installed correctly.

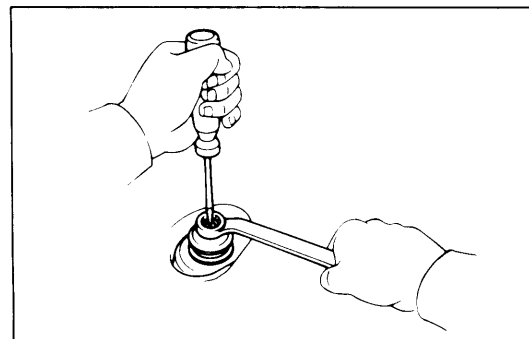
If the insulator is not in correct position, reinstall the coil spring.



6. CONNECT LATERAL CONTROL ROD

In this order, install a washer, bushing, spacer, lateral control rod, bushing, washer and nut on the rear axle housing.

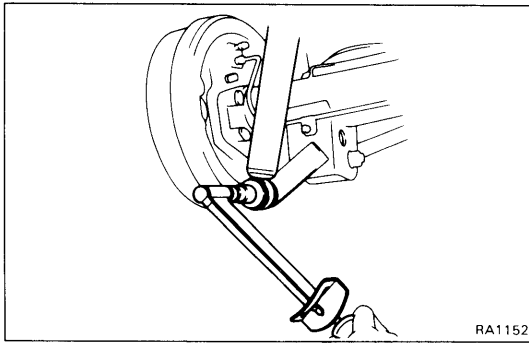
NOTE: Do not tighten the nut.



7. INSTALL SHOCK ABSORBER

- (a) Connect the shock absorber to the body with the nut. Hold the shaft with a screwdriver. Torque the nut.

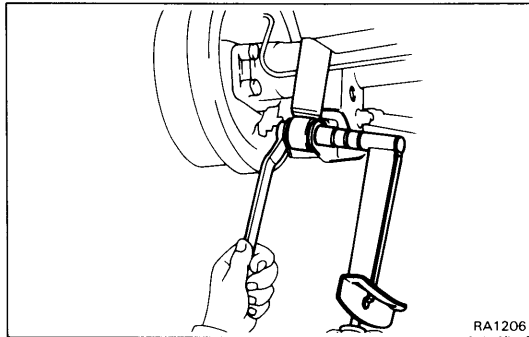
Torque: 280 kg-cm (20 ft-lb, 27 N·m)



(b) (2WD)

Connect the shock absorber to the rear axle housing with the bolt. Torque the bolt.

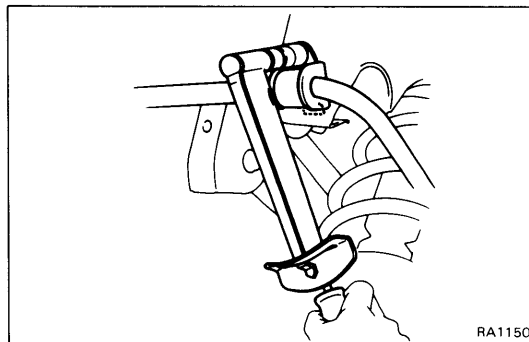
Torque: 375 kg-cm (27 ft-lb, 37 N·m)



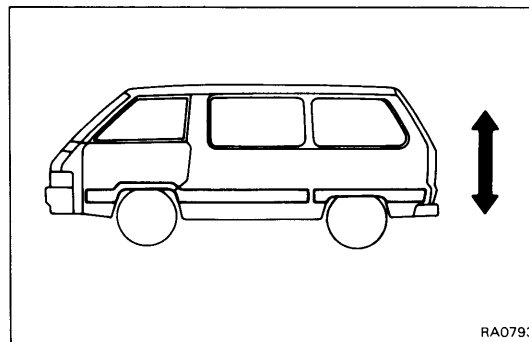
(4WD)

Connect the shock absorber to the lower control arm with the bolt, spring washer and nut.

Torque: 1,300 kg-cm (94 ft-lb, 127 N·m)



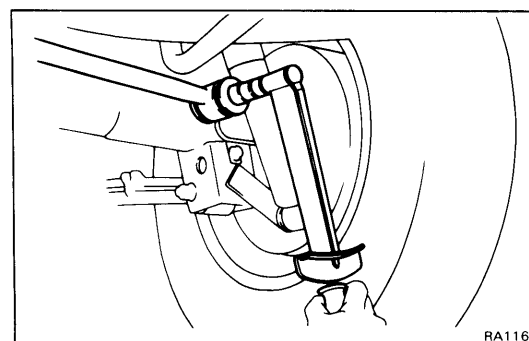
8. INSTALL STABILIZER BAR BUSHING BRACKETS TO REAR AXLE



9. INSTALL WHEEL AND LOWER VEHICLE

10. STABILIZE SUSPENSION

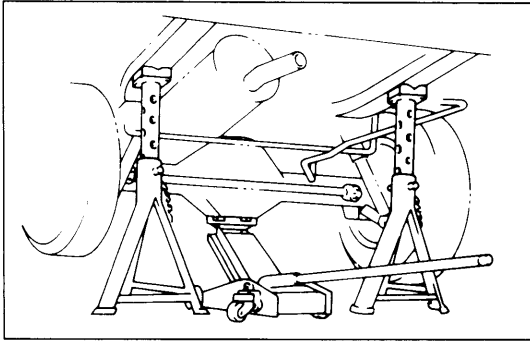
- (a) Install the wheels.
- (b) Bounce the vehicle up and down to stabilize the suspension.



11. TIGHTEN LATERAL CONTROL ROD NUT

- (a) Raise the axle housing until the body is free from the stands.
- (b) Torque the lateral control rod nut.

Torque: 600 kg-cm (43 ft-lb, 59 N·m)



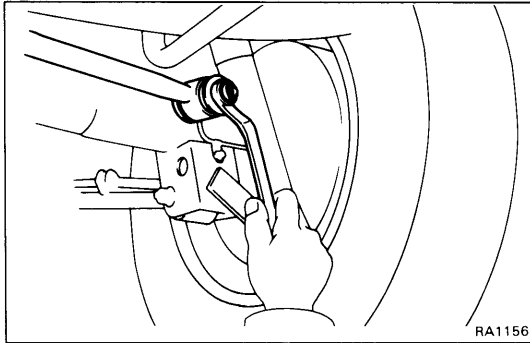
Lateral Control Rod

(See page RA-26)

REMOVAL OF LATERAL CONTROL ROD

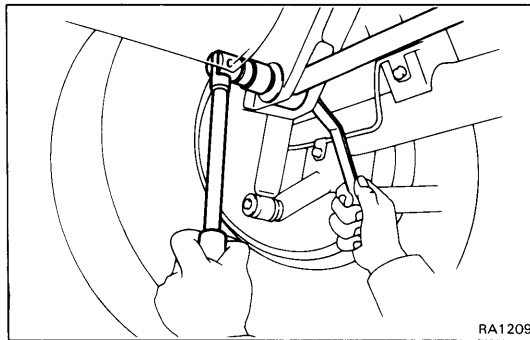
1. JACK UP AND SUPPORT BODY

Jack up the rear axle housing and support it with stands.



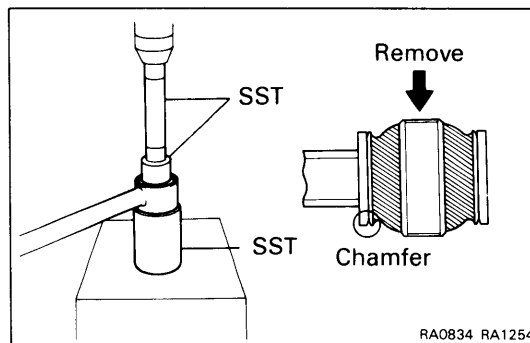
2. DISCONNECT LATERAL CONTROL ROD FROM REAR AXLE HOUSING

Remove the nut holding the lateral control rod to the rear axle housing, and disconnect the lateral control rod.



3. DISCONNECT LATERAL CONTROL ROD FROM BODY

Remove the bolt and nut holding the lateral control rod to the body and remove the lateral control rod.



REPLACEMENT OF LATERAL CONTROL ROD BUSHING

1. REMOVE BUSHING

Using SST and a press, press out the bushing from the lateral control rod.

SST 09710-30020
(09710-03020, 09710-03120, 09710-03130)

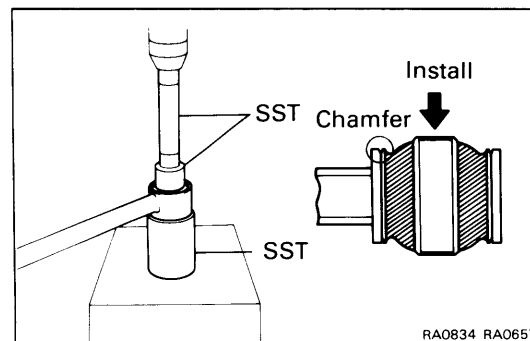
NOTE: When inserting and removing the bushing, press or pull from the chamfered side as shown in the figure.

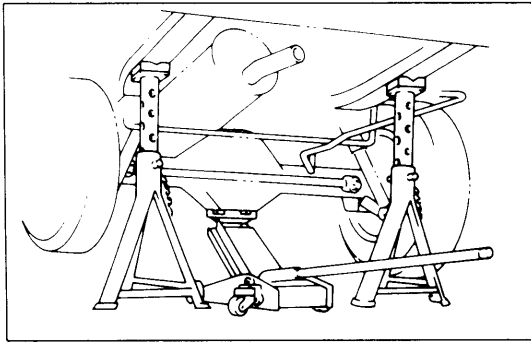
2. INSTALL BUSHING

Using SST and a press, press a new bushing into the lateral control rod.

SST 09710-30020
(09710-03020, 09710-03070, 09710-03120)

NOTE: Do not use a lubricant when pressing in the bushing.



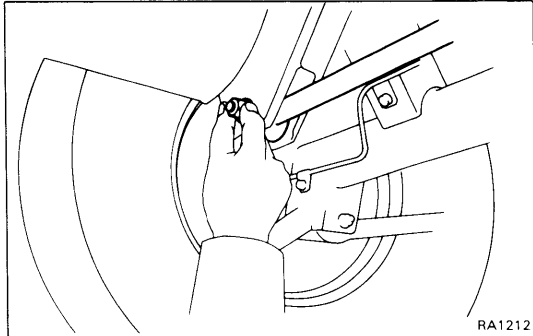


INSTALLATION OF LATERAL CONTROL ROD

(See page RA-26)

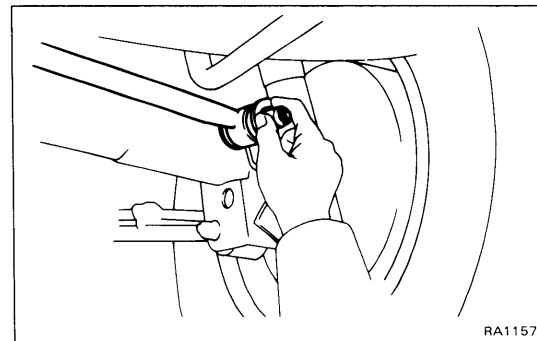
1. CONNECT LATERAL CONTROL ROD TO BODY

- (a) Raise the axle housing until the body is free from the stands.



- (b) Install the lateral control rod to the body with the nut.

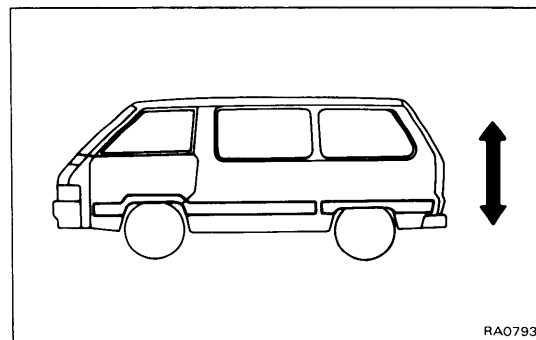
NOTE: Do not tighten the nut.



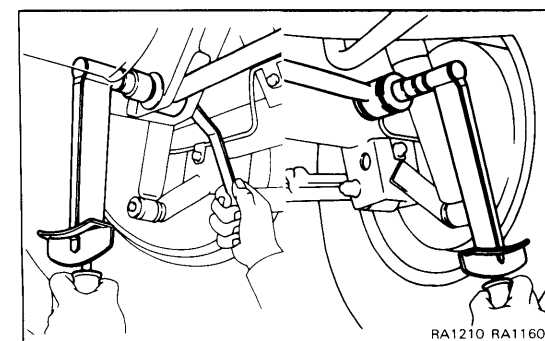
2. INSTALL LATERAL CONTROL ROD TO REAR AXLE HOUSING

- (a) In this order, install the washer, bushing, spacer, lateral control arm, bushing, washer and nut on the rear axle housing.

NOTE: Do not tighten the nut.



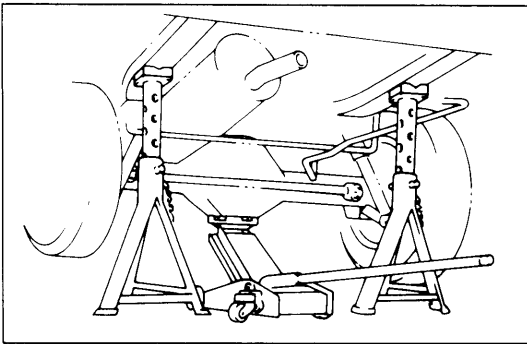
- (b) Remove the stands and bounce the vehicle to stabilize the suspension.



- (c) Jack up the axle housing.

- (d) Torque the nuts.

Torque: **Body side**
 1,125 kg-cm (81 ft-lb, 110 N·m)
Axle housing side
 600 kg-cm (43 ft-lb, 59 N·m)



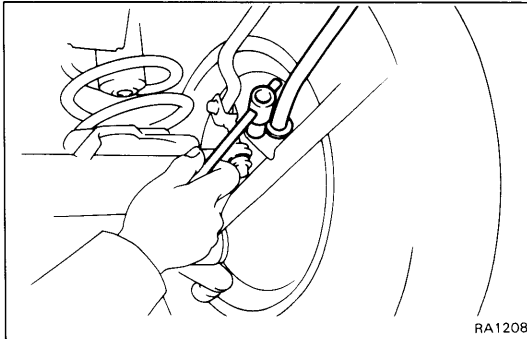
Upper and Lower Control Arms

(See page RA-26)

REMOVAL OF UPPER AND LOWER CONTROL ARMS

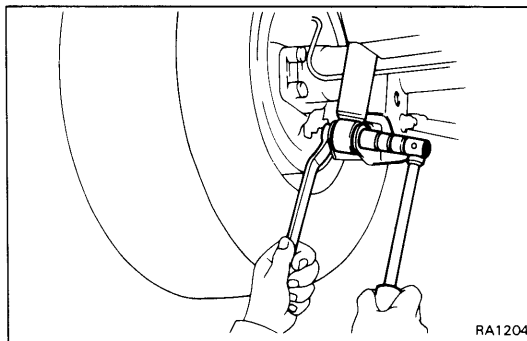
1. JACK UP AND SUPPORT VEHICLE

Jack up the vehicle and support the body with stands. Hold the rear axle housing with a jack.



RA1208

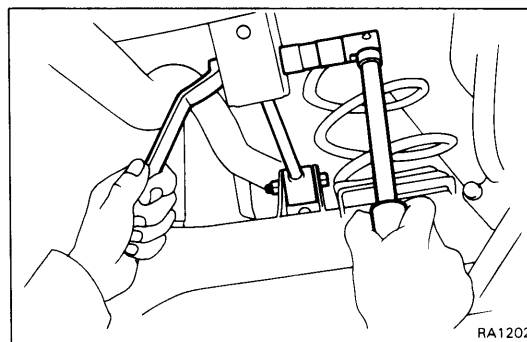
2. DISCONNECT PARKING BRAKE CABLE FROM LOWER CONTROL ARM



RA1204

3. (4WD) DISCONNECT REAR SHOCK ABSORBER

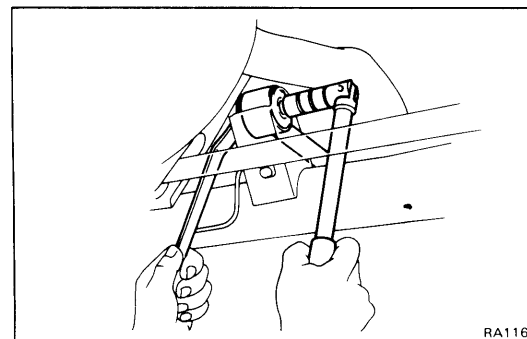
Remove the bolt, spring washer and nut holding the shock absorber to the lower control arm and disconnect the shock absorber.



RA1202

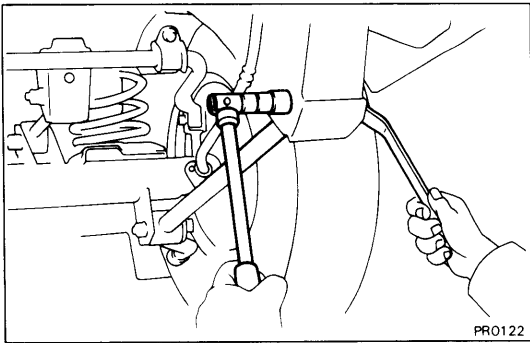
4. REMOVE UPPER CONTROL ARM

(a) Remove the bolt, spring washer and nut holding the upper control arm to the body.



RA1162

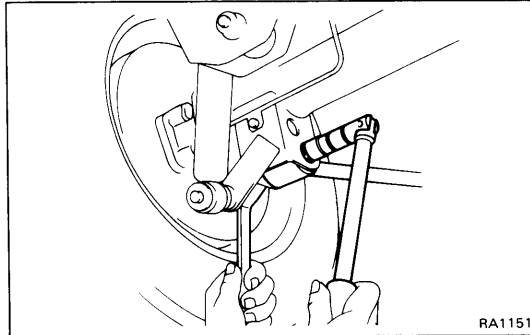
(b) Remove the bolt, spring washer and nut holding the upper control arm to the rear axle housing, and remove the upper control arm.



PR0122

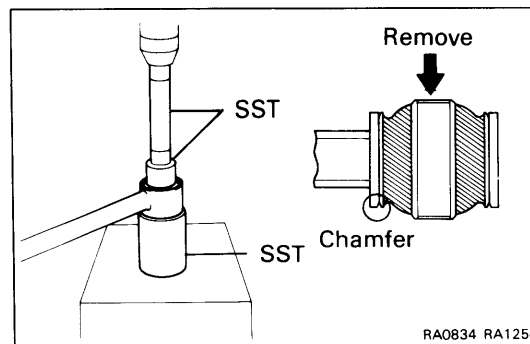
5. REMOVE LOWER CONTROL ARM

(a) Remove the bolt and nut holding the lower control arm to the body.



RA1151

(b) Remove the bolt and nut holding the lower control arm to the rear axle housing, and remove the lower control arm.



RA0834 RA1254

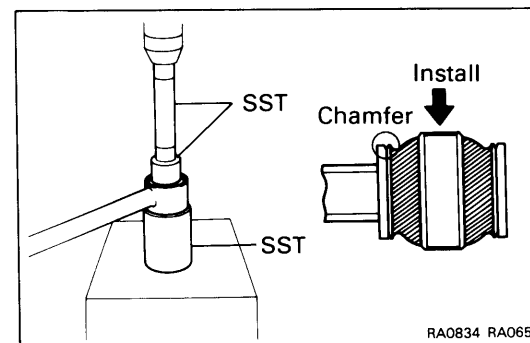
REPLACEMENT OF UPPER AND LOWER CONTROL ARM BUSHINGS

1. REMOVE BUSHING

Using SST and a press, press out the bushing from the control arm.

SST 09710-14012
(09710-00010, 09710-00020, 09710-00050)

NOTE: When inserting and removing the bushing, press or pull from the chamfered side as shown in the figure.



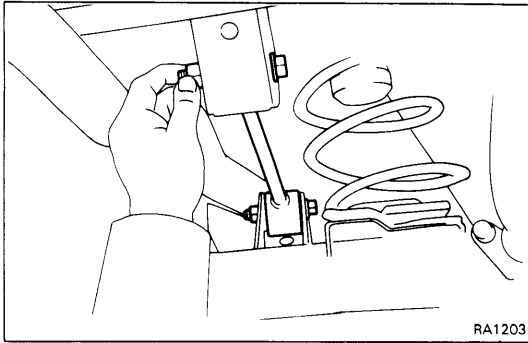
RA0834 RA0657

2. INSTALL BUSHING

Using SST and a press, press a new bushing into the control arm.

SST 09710-14012
(09710-00010, 09710-00020, 09710-00050)

NOTE: Do not use a lubricant when pressing in the bushing.



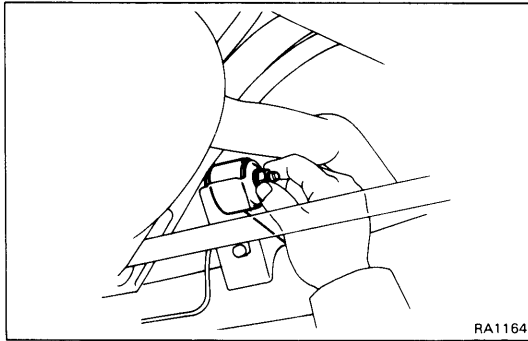
INSTALLATION OF UPPER AND LOWER CONTROL ARMS

(See page RA-26)

1. INSTALL UPPER CONTROL ARM

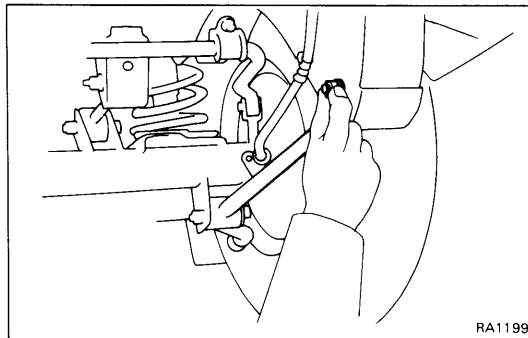
- (a) Install the upper control arm on the body with the bolt, spring washer and nut.

NOTE: Do not tighten the nut.



- (b) Install the upper control arm on the rear axle housing with the bolt, spring washer and nut.

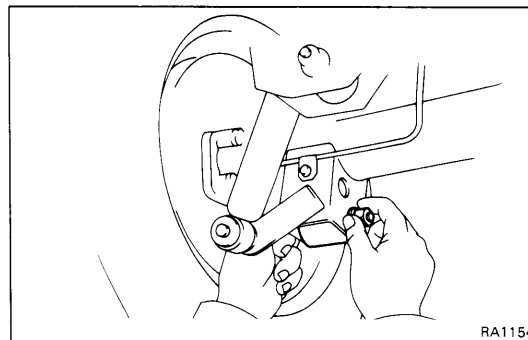
NOTE: Do not tighten the nut.



2. INSTALL LOWER CONTROL ARM

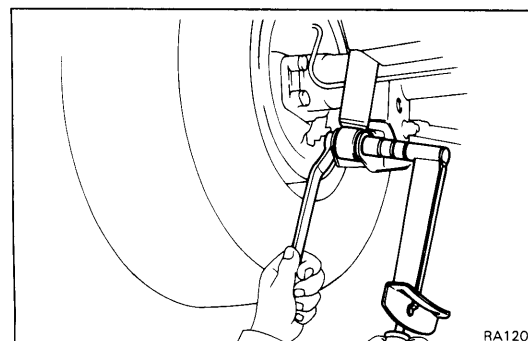
- (a) Install the lower control arm on the body with the bolt, spring washer and nut.

NOTE: Do not tighten the nut.



- (b) Install the lower control arm on the rear axle housing with the bolt, spring washer and nut.

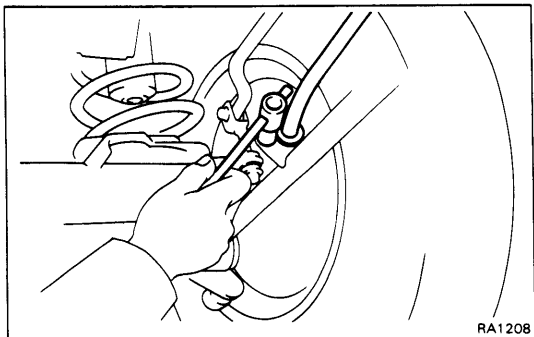
NOTE: Do not tighten the nut.



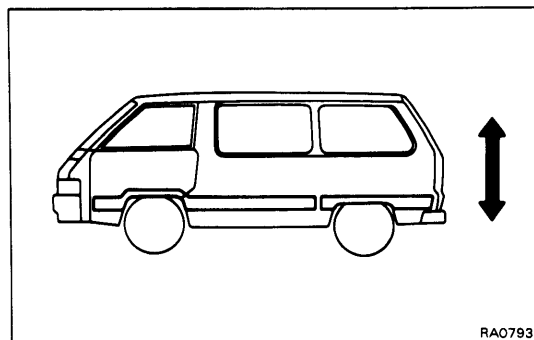
3. (4WD) CONNECT REAR SHOCK ABSORBER

Connect the rear shock absorber to the lower control arm with the bolt, spring washer and nut.

Torque: 1,300 kg-cm (94 ft-lb, 127 N·m)

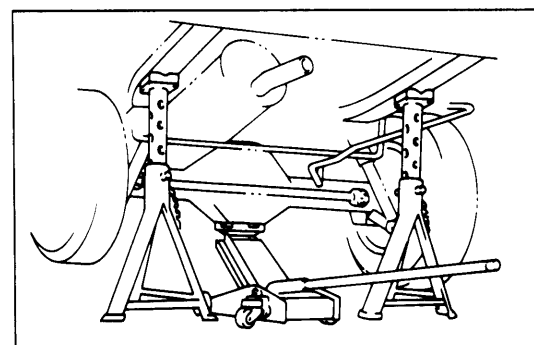


4. CONNECT PARKING BRAKE CABLE TO LOWER CONTROL ARM



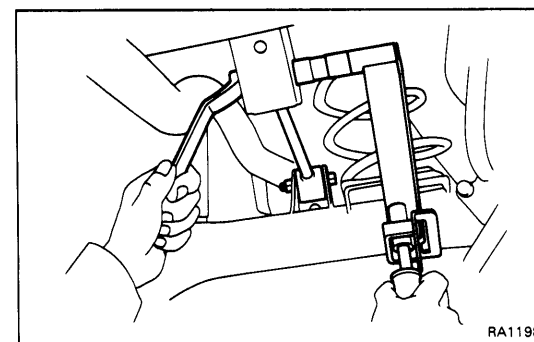
5. STABILIZE SUSPENSION

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



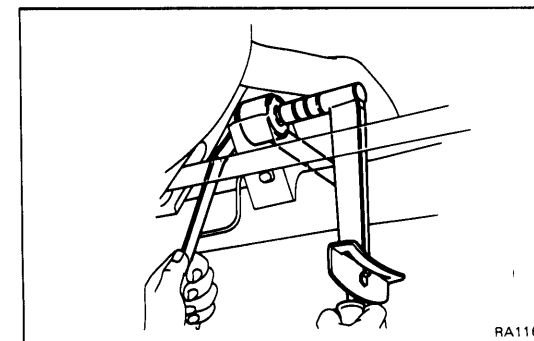
6. JACK UP VEHICLE

Raise the axle housing until the body is free from the stands.



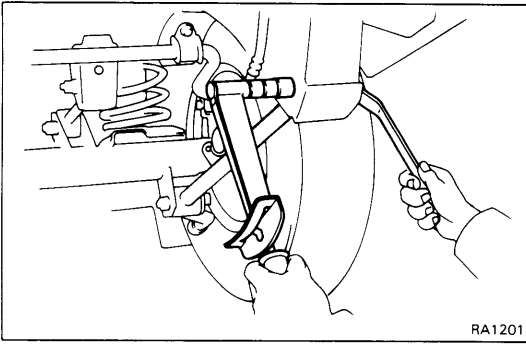
7. TIGHTEN BOLT AND NUT HOLDING UPPER CONTROL ARM TO BODY

Torque: 1,450 kg-cm (105 ft-lb, 142 N·m)



8. TIGHTEN BOLT AND NUT HOLDING UPPER CONTROL ARM TO REAR AXLE HOUSING

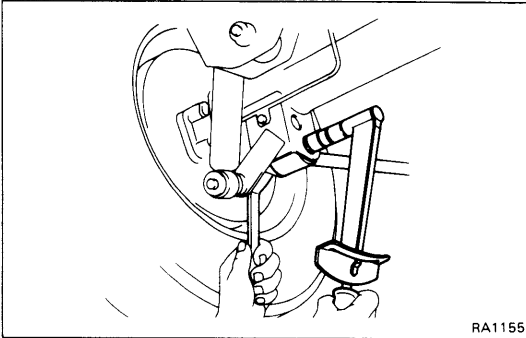
Torque: 1,450 kg-cm (105 ft-lb, 142 N·m)



RA1201

9. TIGHTEN BOLT AND NUT HOLDING LOWER CONTROL ARM TO BODY

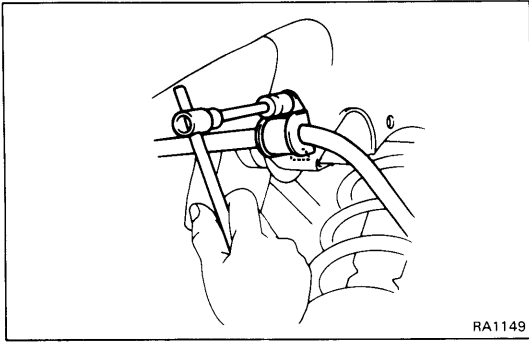
Torque: 1,450 kg-cm (105 ft-lb, 142 N·m)



RA1155

10. TIGHTEN BOLT AND NUT HOLDING LOWER CONTROL ARM TO REAR AXLE HOUSING

Torque: 1,450 kg-cm (105 ft-lb, 142 N·m)

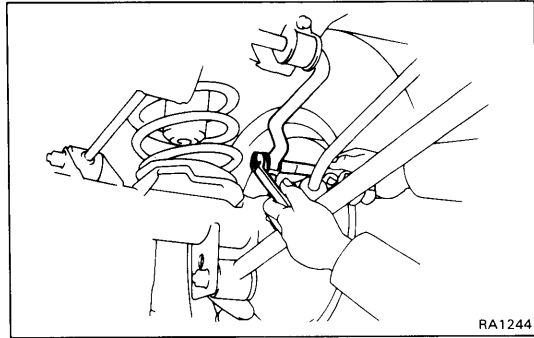


Rear Stabilizer Bar

(See page RA-26)

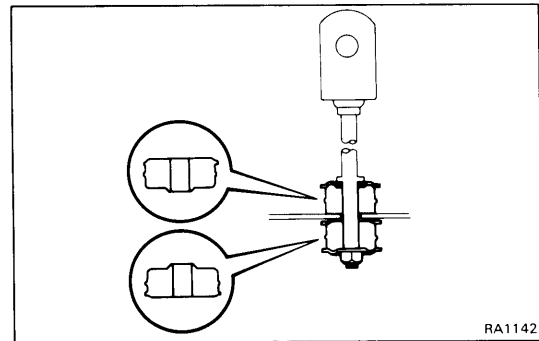
REMOVAL OF REAR STABILIZER BAR

1. REMOVE STABILIZER BAR BUSHING BRACKETS



2. REMOVE REAR STABILIZER BAR FROM BODY

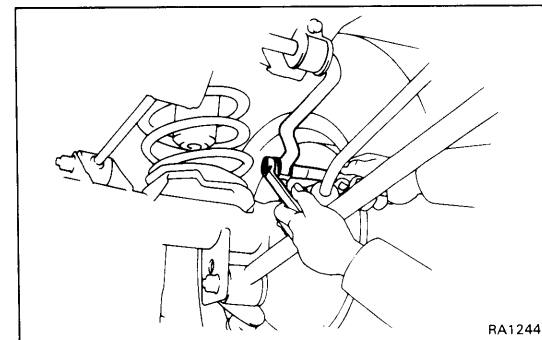
3. DISCONNECT STABILIZER BAR END FROM LINK



INSTALLATION OF REAR STABILIZER BAR

1. INSTALL STABILIZER LINK TO BODY

Install the link onto the body as shown.



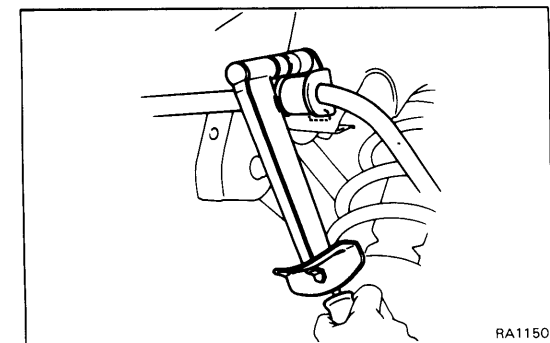
2. INSTALL STABILIZER BAR TO LINK

- (a) Connect the stabilizer bar on both sides to the links with the bolts, collars, cushions, nut and new cotter pins.

Torque: 260 kg-cm (19 ft-lb, 25 N·m)

- (b) Install new cotter pins.

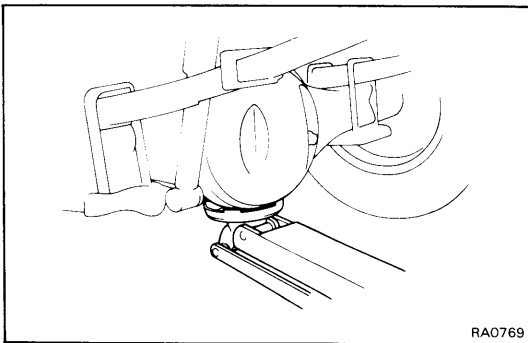
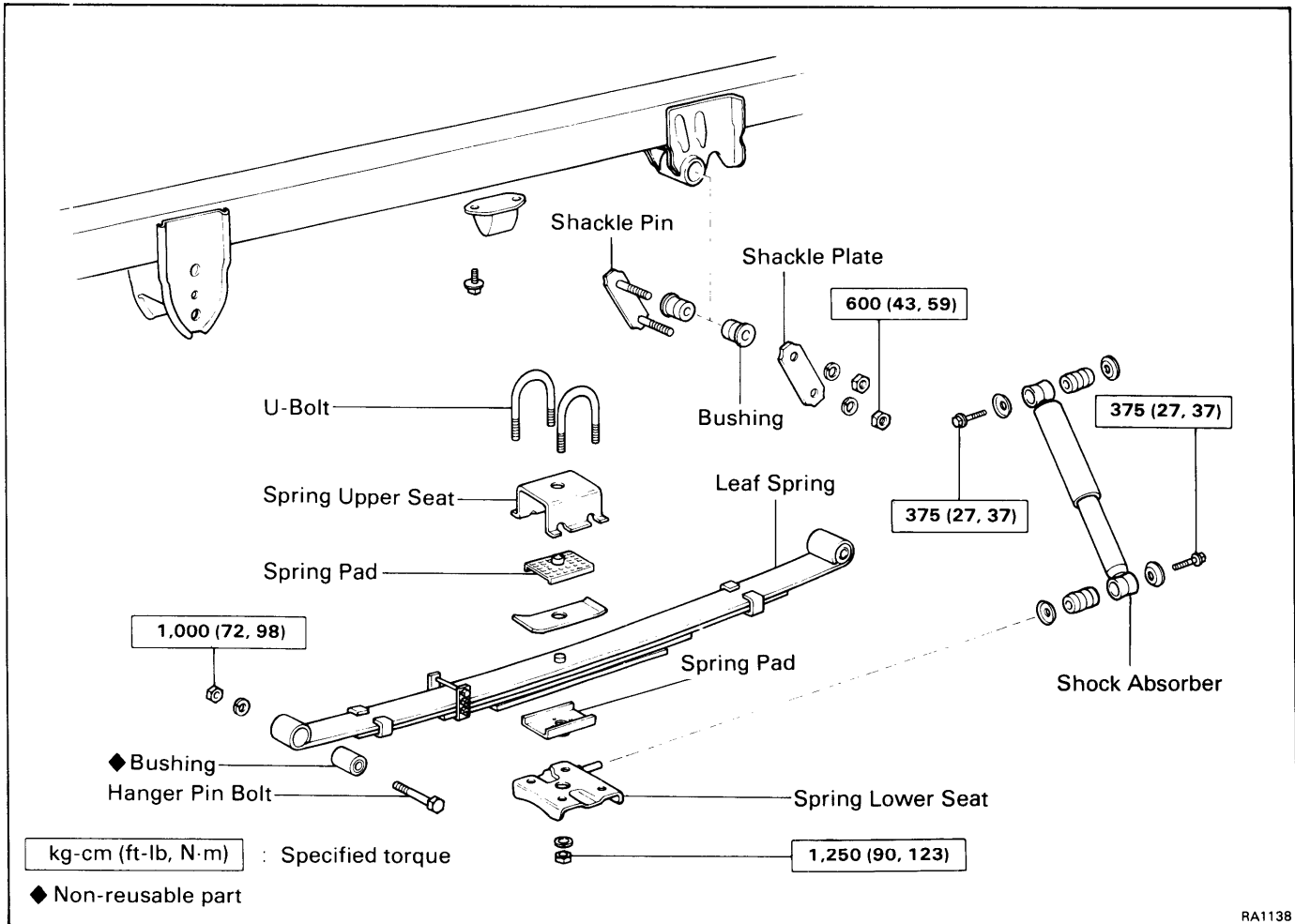
NOTE: If the cotter pin hole does not line up, correct by tightening the nut by the smallest amount possible.



3. INSTALL BRACKETS TO BODY

Torque: 375 kg-cm (27 ft-lb, 37 N·m)

LEAF SPRING TYPE REAR SUSPENSION



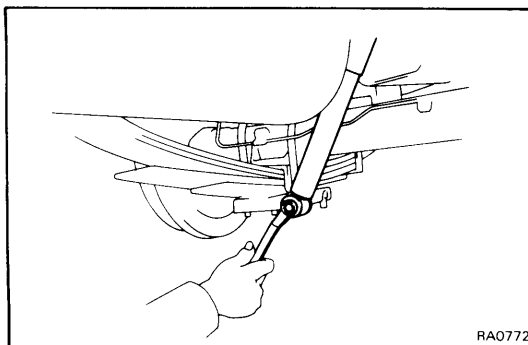
Leaf Spring and Rear Shock Absorber

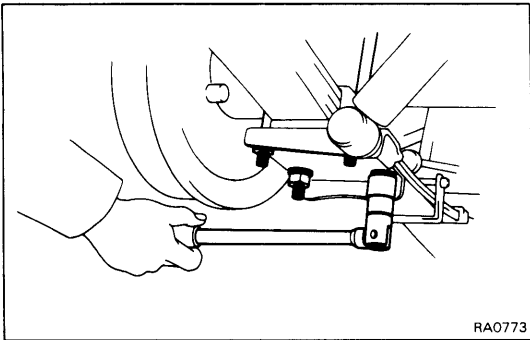
REMOVAL OF LEAF SPRING AND REAR SHOCK ABSORBER

1. JACK UP AND SUPPORT BODY
2. REMOVE WHEEL
3. DISCONNECT PARKING BRAKE CABLE

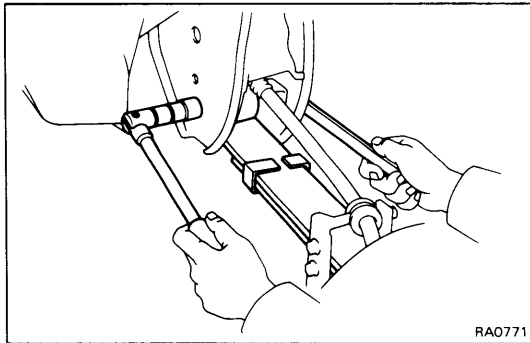
4. REMOVE SHOCK ABSORBER

- (a) Remove the bolt holding the shock absorber to the spring seat and disconnect the shock absorber from the spring seat.
- (b) If replacing the shock absorber, remove the bolt holding the shock absorber to the body, and remove the shock absorber.

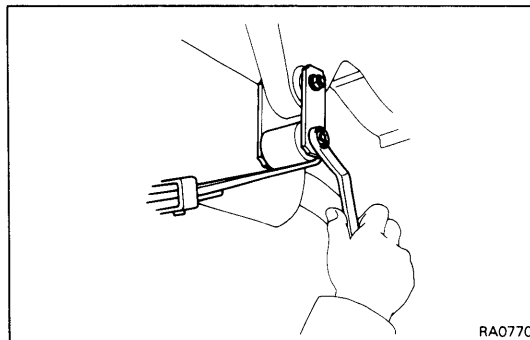


**4. REMOVE U-BOLTS**

- (a) Remove the U-bolt mounting nuts and spring washer.
- (b) Remove the spring lower seat and spring pad.
- (c) Remove the two U-bolts.

**5. REMOVE LEAF SPRING**

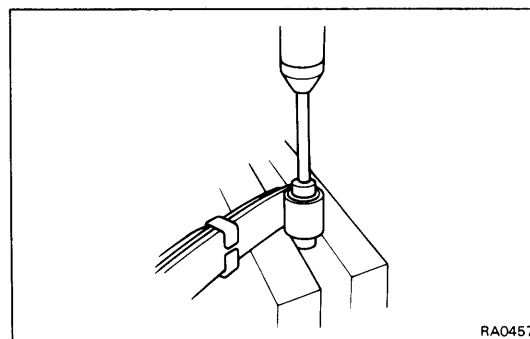
- (a) Remove the hanger pin nut, spring washer and bolt.
- (b) Disconnect the leaf spring from the bracket.



- (c) Remove the two shackle pin nuts spring washers and shackle plate.
- (d) Remove the shackle pin and leaf spring from the bracket.
- (e) Remove the upper seat and spring pad.

6. REMOVE BUSHINGS FROM BODY**REPLACEMENT OF EYE BUSHING****REPLACE EYE BUSHINGS WITH PRESS**

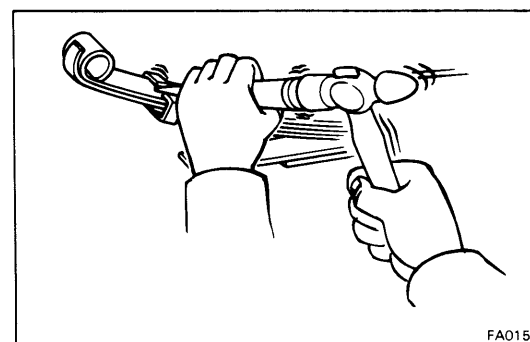
Using a press and socket wrench, replace the eye bushings.

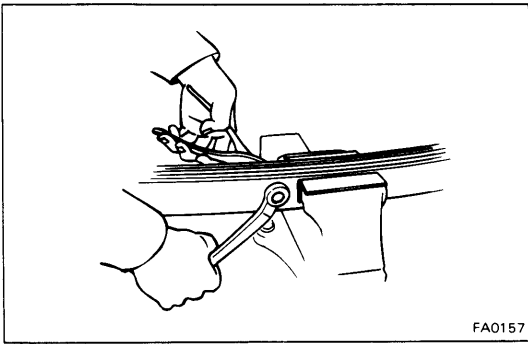
**REPLACEMENT OF LEAF SPRING****1. BEND OPEN SPRING CLIP**

Using a chisel, pry up the spring clip.

2. REMOVE CLIP BOLT

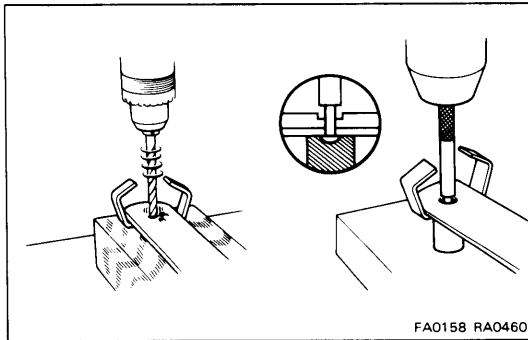
Remove the clip bolt, collar and nut from the clip.





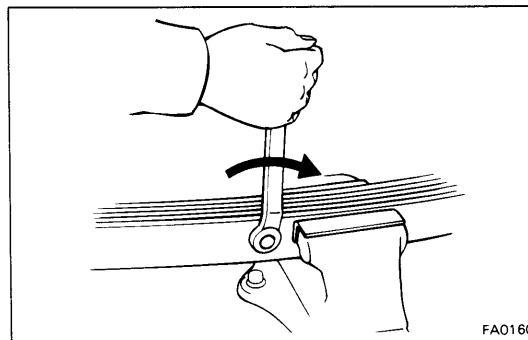
3. REMOVE CENTER BOLT

Hold the spring near the center bolt in a vise and remove the center bolt.



4. REPLACE SPRING CLIP

- (a) Drill off the head of the rivet, and drive it out.
- (b) Install a new rivet into the holes of the spring leaf and clip. Then rivet with a press.



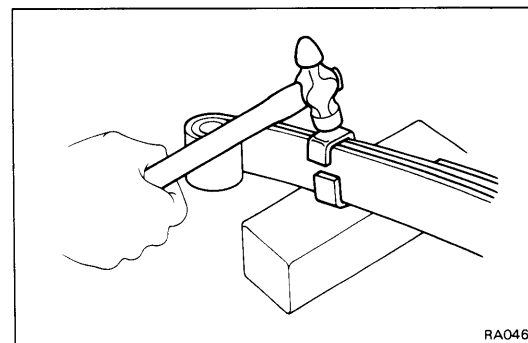
5. INSTALL SPRING CENTER BOLT

- (a) Align the leaf holes and secure the leaves with a vise.
- (b) Install and tighten the spring center bolt.

Torque: 450 kg-cm (33 ft-lb, 44 N·m)

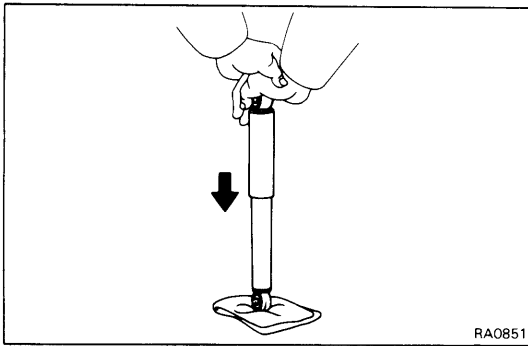
6. INSTALL CLIP BOLT

Position the collar and install the clip bolt and nut.



7. BEND SPRING CLIP

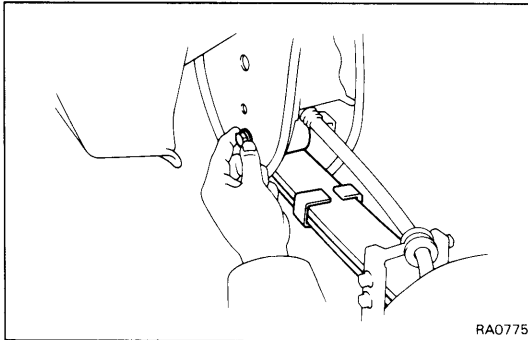
Using a hammer, bend the spring clip into position.



INSPECTION OF REAR SHOCK ABSORBER

INSPECT OPERATION OF SHOCK ABSORBER

While pushing the shock absorber, check that the pull throughout the stroke is even, and there is no abnormal resistance or noise.



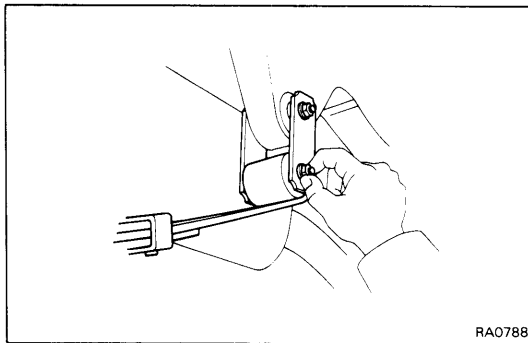
INSTALLATION OF LEAF SPRING AND REAR SHOCK ABSORBER

(See page RA-39)

1. INSTALL BUSHINGS TO BODY

2. INSTALL LEAF SPRING

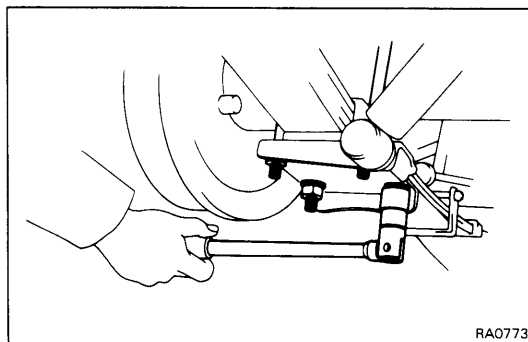
- (a) Install the spring pad and upper seat onto the leaf spring.
- (b) Place the front end of leaf spring in the front bracket and install the hanger pin bolt.
- (c) Install the spring washer and finger tighten the hanger pin nut.
- (d) Place the rear end of leaf spring in the rear bracket, and install the shackle pin.
- (e) Install the shackle plate and spring washers, and finger tighten the nuts.



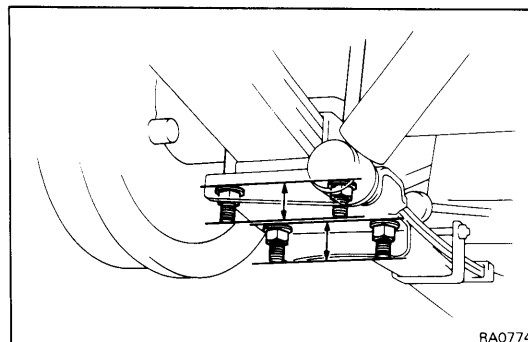
3. INSTALL U-BOLTS

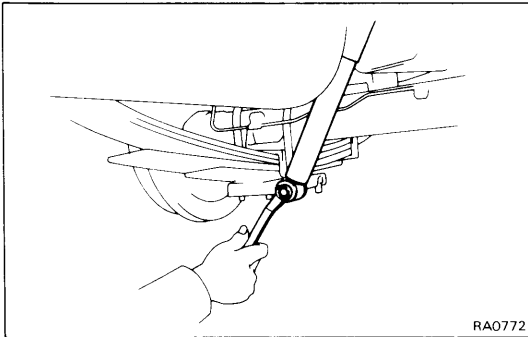
- (a) Install the two U-bolts onto the axle housing.
- (b) Install the lower seat with pad and install the spring washers and nuts.
- (c) Tighten the U-bolt mounting nuts.

Torque: 1,250 kg-cm (90 ft-lb, 123 N·m)

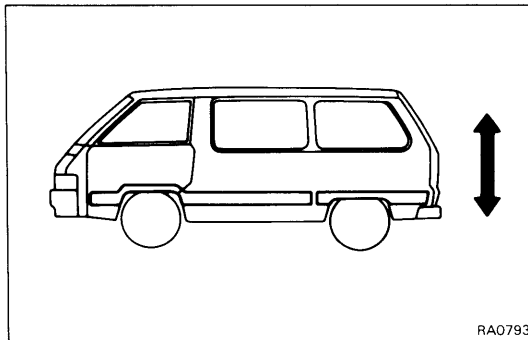


NOTE: Tighten the U-bolts so that the length of all the U-bolts under the spring seat are the same.

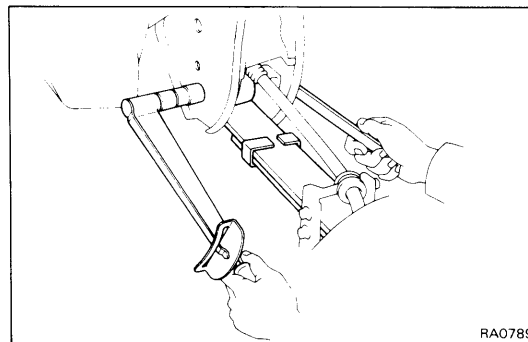




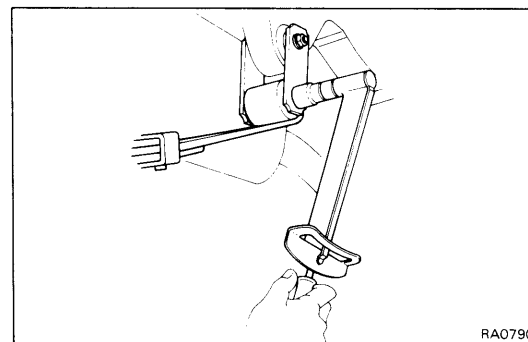
4. **INSTALL REAR SHOCK ABSORBER**
Torque: 375 kg-cm (27 ft-lb, 37 N·m)
5. **CONNECT PARKING BRAKE CABLE**



6. **INSTALL WHEEL AND LOWER VEHICLE**
7. **STABILIZE SUSPENSION**
Bounce the vehicle up and down to stabilize the suspension.



8. **TIGHTEN HANGER PIN AND SHACKLE PIN**
 - (a) Torque the hanger pin nut.
Torque: 1,000 kg-cm (72 ft-lb, 98 N·m)



- (b) Torque the two shackle pin nuts.
Torque: 600 kg-cm (43 ft-lb, 59 N·m)