

REAR AXLE AND SUSPENSION

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TROUBLESHOOTING

Problem	Possible cause	Remedy	Page
Oil leak at rear axle	Oil seals worn or damaged Bearing retainer loose Rear axle housing cracked	Replace oil seal Replace retainer Repair as necessary	RA-5
Oil leak at pinion shaft	Oil level too high or wrong grade Oil seal worn or damaged Companion flange loose or damaged	Drain and replace oil Replace oil seal Tighten or replace flange	RA-19 RA-19
Oil leak at side gear shaft	Oil level too high or wrong grade Oil seal worn or damaged Side gear shaft loose or damaged	Drain and replace oil Replace oil seal Tighten or replace shaft	RA-18 RA-18
Noises in rear axle	Oil level low or wrong grade Excessive backlash between pinion and ring or side gear Ring, pinion or side gears worn or chipped Pinion shaft bearing worn Axle shaft bearing worn Differential bearing loose or worn	Drain and replace oil Check backlash Inspect gears Replace bearing Replace bearing Tighten or replace bearings	RA-23 RA-24 RA-26 RA-5 RA-26
Bottoming	Vehicle overloaded Shock absorber worn out Springs weak	Check loading Replace shock absorber Replace spring	RA-45 RA-45

REAR WHEEL ALIGNMENT

1. MAKE FOLLOWING CHECKS AND CORRECT ANY PROBLEMS

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

Cold tire inflation pressure:

kg/cm² (psi, kPa)

Tire	Front	Rear
225/60 HR 14	1.9 (27,186)	1.9 (27,186)

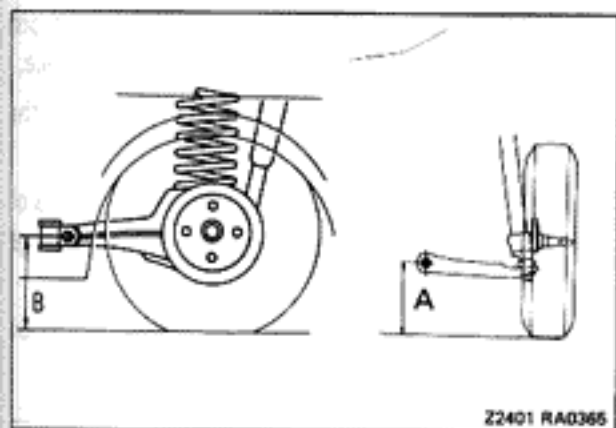
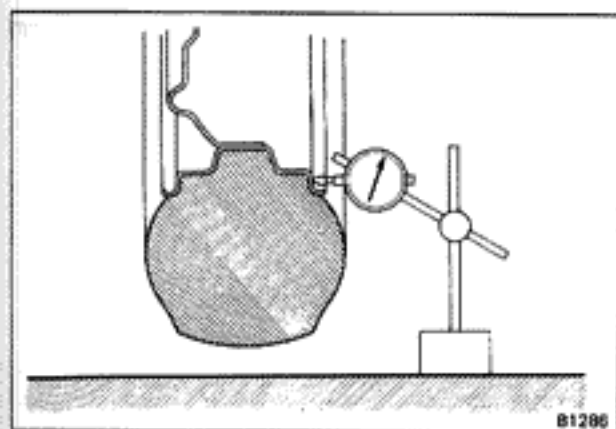
(b) Check the rear wheel bearings for looseness.

(c) Check wheel runout.

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

(d) Check the rear suspension for looseness.

(e) Check that the rear absorbers work properly by the standard bounce test.



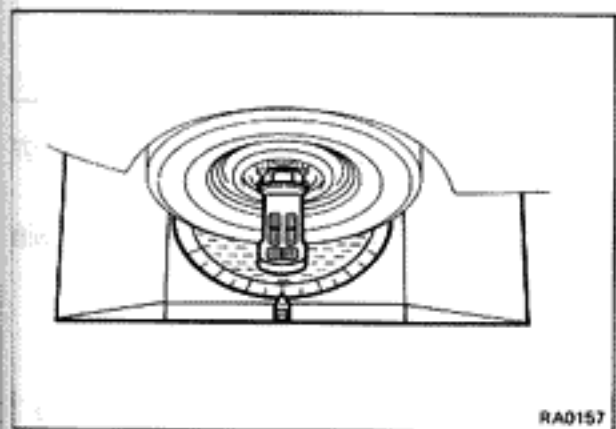
2. MEASURE VEHICLE HEIGHT

Tire	Vehicle height		mm (in.)
	Front (A)	Rear (B)	
225/60 HR 14	223.0 (8.780)	263.0 (10.354)	

If height of the vehicle is not as specified, try to level the vehicle by shaking it down. If the height of the vehicle is still not correct, check for bad springs and worn or loose suspension parts.

3. INSTALL WHEEL ALIGNMENT EQUIPMENT

Follow the specific instructions of the equipment manufacturer.



4. INSPECT CAMBER

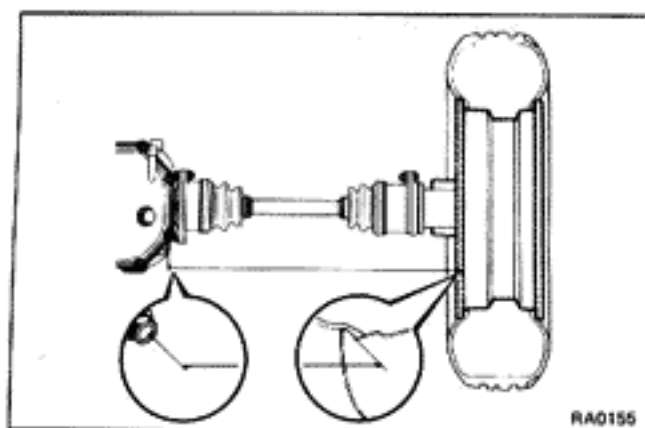
Inspect the camber with a wheel alignment tester.

Inspection standard: $-10' \pm 45'$

Adjustment standard: $-10' \pm 30'$

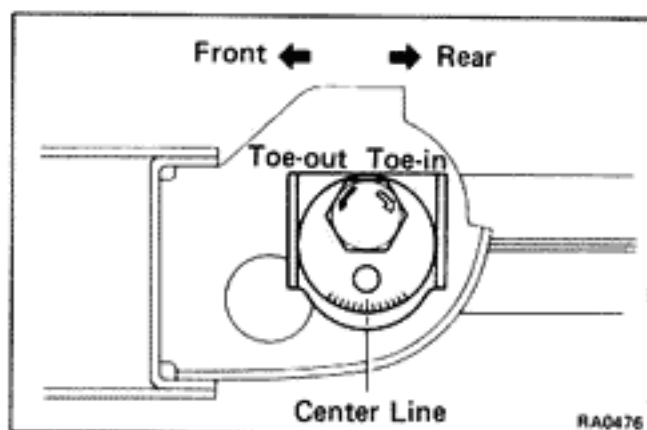
Left-right error 20'

If camber is out of tolerance, inspect and replace damaged or worn rear suspension parts.

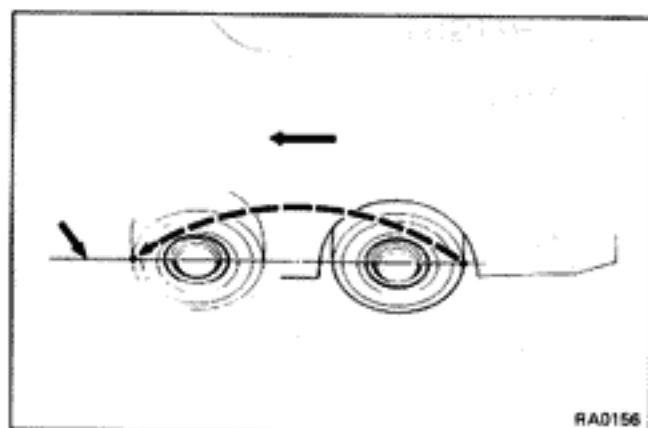


5. ADJUST TOE-IN

- (a) Measure the distance between each disc wheel and the differential carrier cover bolt of the suspension member and confirm that both are the same.



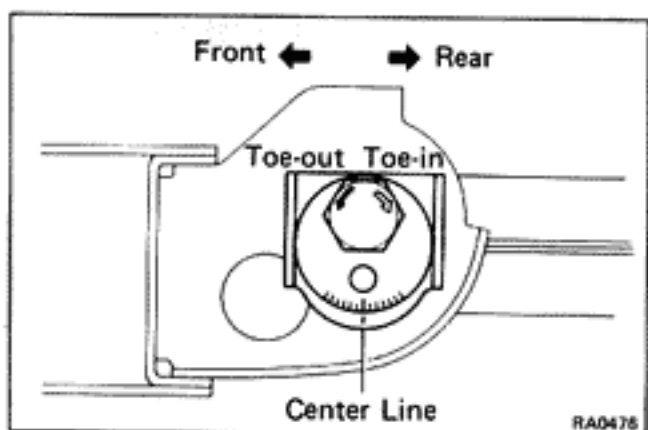
- (b) If the distances are not the same but within 5 mm (0.20 in.), adjust with the toe-in adjusting bolt.



- (c) Move the vehicle forward a few meters with the front wheels in the straight-ahead position on a level place.
- (d) Mark on each center of rear tread and measure the distance between marks of the right and left tires.
- (e) Advance the vehicle till the marks on the rear sides of the tires come to the measuring heights of the gauge on the front sides.

NOTE: Toe-in should be measured at the same point on the tire and at the same level.

	Inspection standard	Adjustment standard
Toe-in	0 ± 2 mm (0 ± 0.08 in.)	0 ± 1 mm (0 ± 0.04 in.)



- (f) If not within specification, turn the left and right adjusting bolts an equal amount to adjust.

NOTE: The toe-in will change about 1 mm (0.04 in.) with each graduation of the cam (one side).

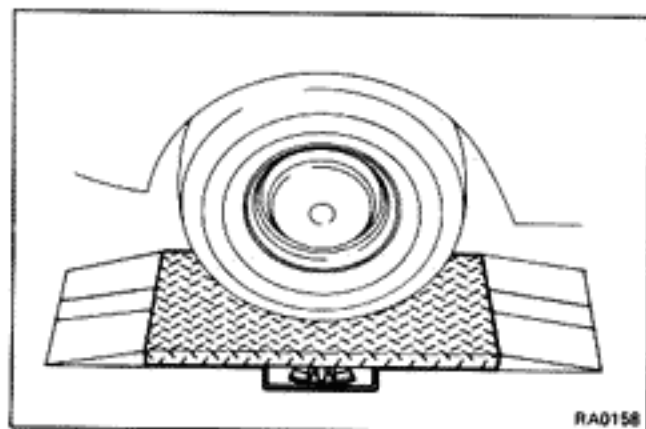
- (g) Tighten the bolts after adjustment the toe-in.

Torque: 1,325 kg-cm (96 ft-lb, 130 N-m)

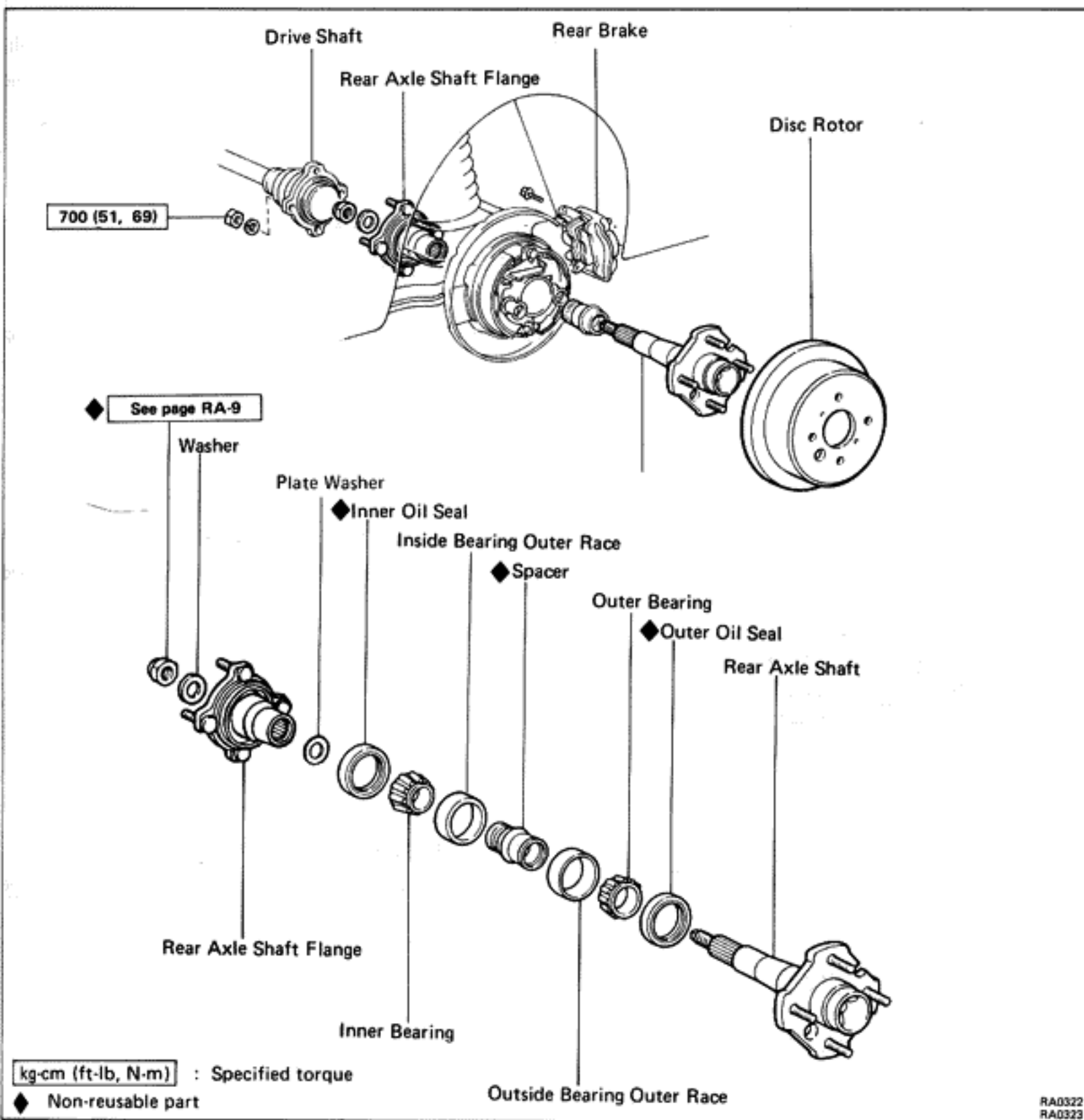
6. INSPECT SIDE SLIP WITH SIDE SLIP TESTER

Side slip limit: Less than 3.0 mm per meter
(0.118 in. per 3.3 ft)

If the side slip exceeds this limit, the toe-in or camber may not be correct.

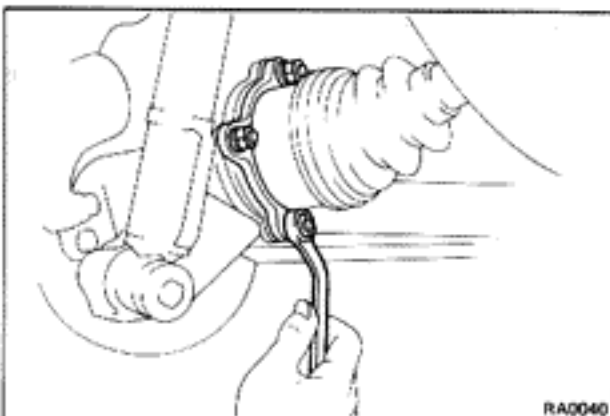


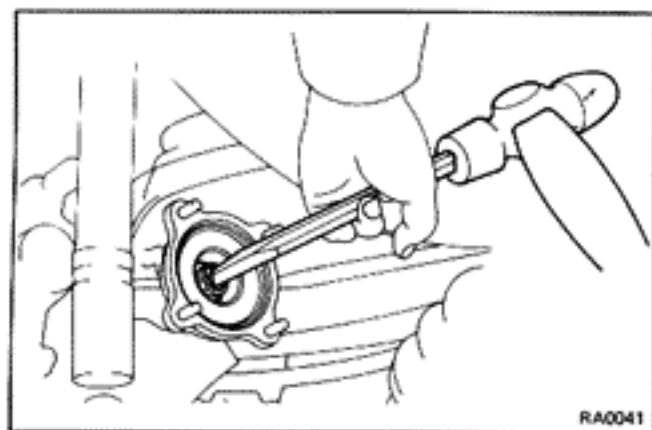
IRS TYPE REAR AXLE SHAFT COMPONENTS



REMOVAL OF REAR AXLE SHAFT

1. REMOVE REAR WHEEL
2. DISCONNECT DRIVE SHAFT
NOTE: Disconnect the rear axle shaft side only.
3. REMOVE REAR BRAKE
Remove the brake caliper and disc rotor.



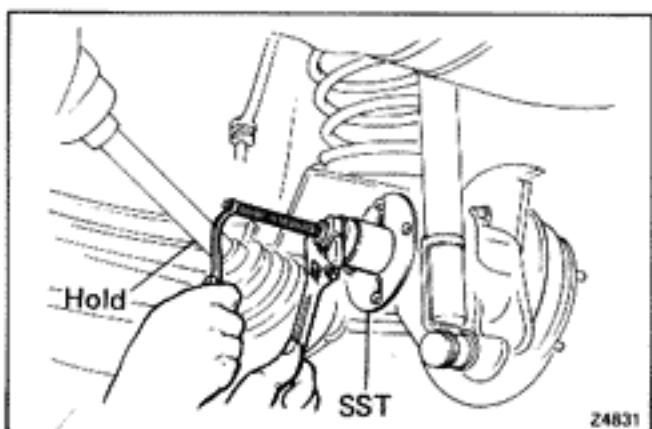


4. REMOVE AXLE FLANGE NUT

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

NOTE: Be sure to remove the washer from the axle shaft. If not, the axle flange cannot be removed with SST in the next step.

SST 09557-22022

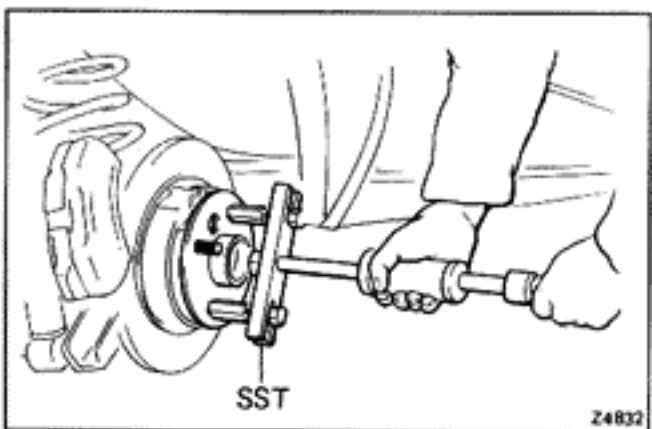


5. REMOVE AXLE FLANGE

Using SST, disconnect the axle flange and the washer.

SST 09557-22022

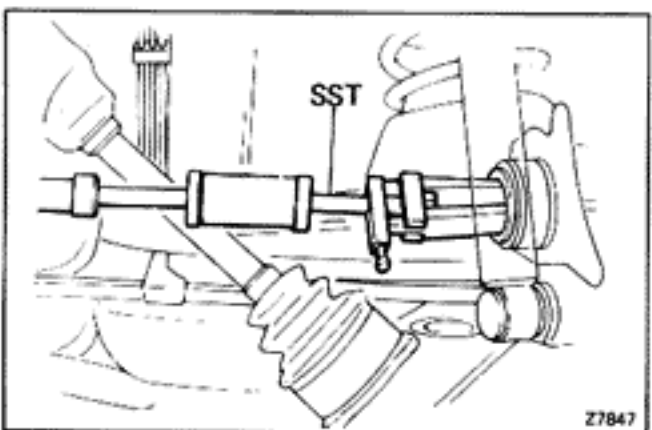
NOTE: Be careful not to lose the plate washer on the tip of the flange bearing side.



6. REMOVE REAR AXLE SHAFT AND SPACER

Using SST, pull out the rear axle shaft with the oil seal and outer bearing.

SST 09520-00031

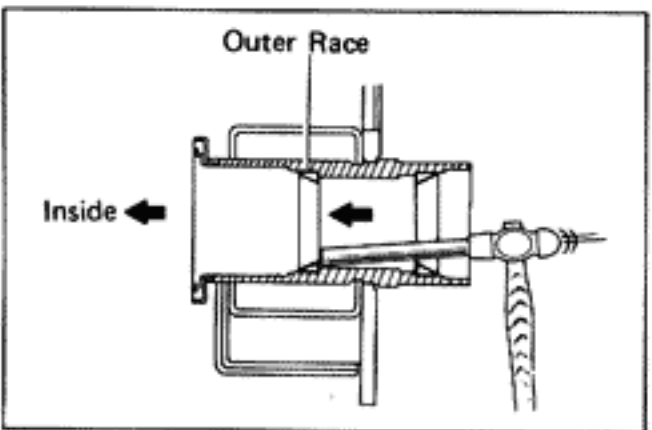


7. REMOVE INNER OIL SEAL AND BEARING

- (a) Using SST, pull out the inner oil seal from rear axle housing.

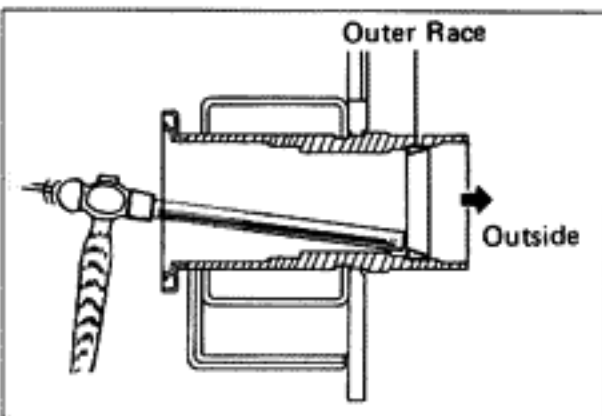
SST 09308-00010

- (b) Remove the inner bearing.



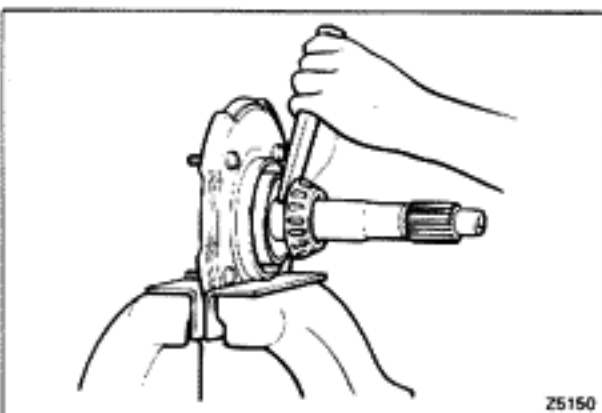
8. REMOVE INSIDE BEARING OUTER RACE

- (a) Using a brass bar, remove the bearing outer race from the rear axle housing.
- (b) If necessary, replace the outer race.



9. REMOVE OUTSIDE BEARING OUTER RACE

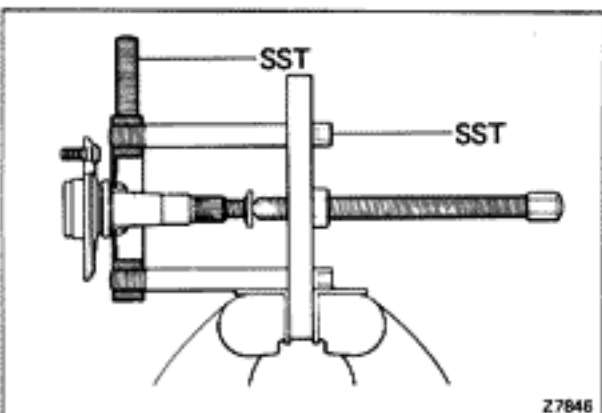
Using a brass bar, remove the axle shaft outer bearing race from the axle housing.



10. REMOVE OUTSIDE BEARING AND OIL SEAL

- Using a chisel, open a clearance between the hub and bearing.

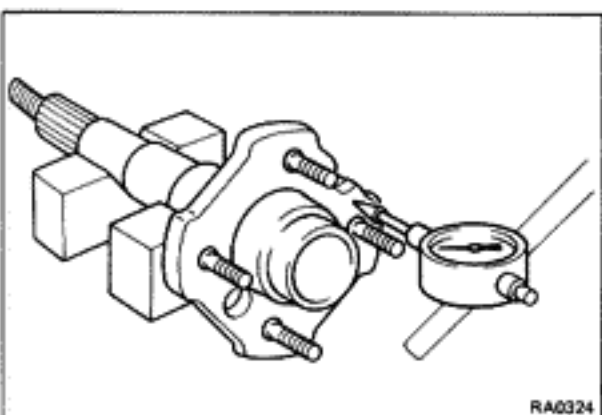
CAUTION: Be careful not to damage the bearing or shaft.



- Using SST, remove the outer bearing from the rear axle shaft.

SST 09950-00020 and 09950-00030

- Remove the oil seal from axle shaft.



INSPECTION AND REPLACEMENT OF REAR AXLE SHAFT COMPONENTS

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

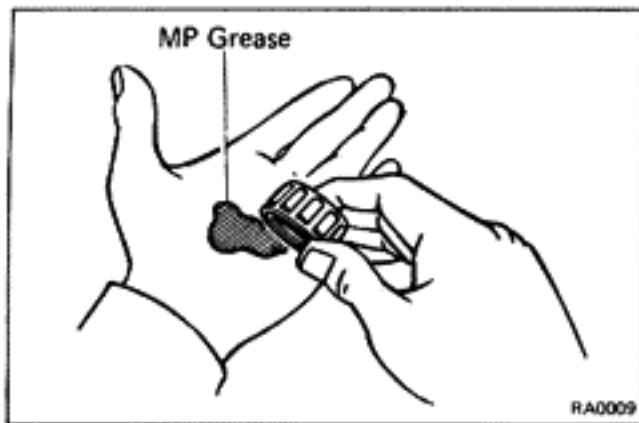
Maximum flange runout: 0.1 mm (0.004 in.)

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

2. CLEAN AND INSPECT BEARINGS AND RACES

- Clean with solvent and dry with low-pressure compressed air.
- Inspect inner and outer bearings and races for wear or damage.

If a bearing or race requires replacement, it must be replaced as a set with the appropriate bearing or race.

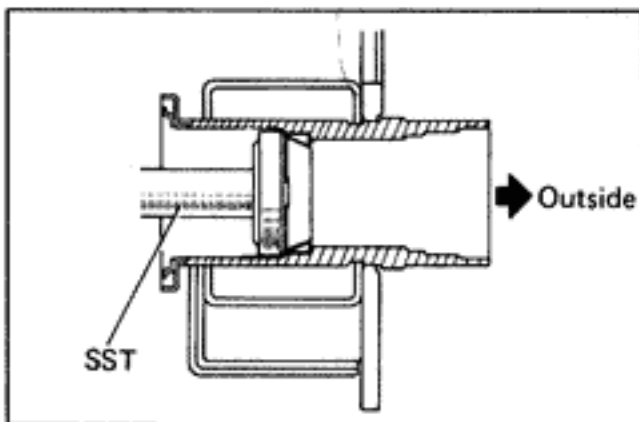


3. PACK BEARINGS WITH MP GREASE NO. 2

- Use a pressure bearing lubricator if available.

OR

- Place bearings in a handful of grease. Force grease into the bearing until completely filled.

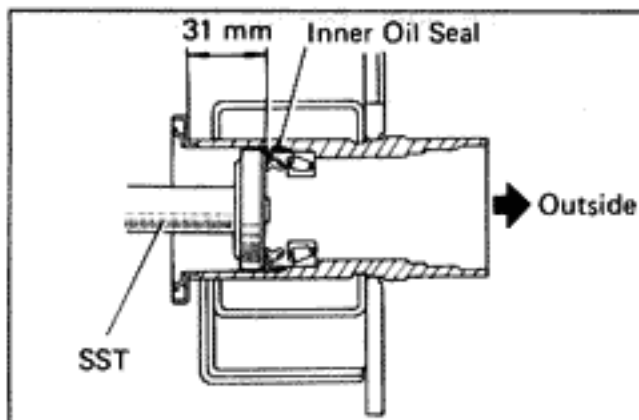


4. INSTALL INSIDE BEARING OUTER RACE

- Using SST, install the bearing inside outer race in the rear axle housing.

SST 09550-22011 (09550-00020, 09550-00040)

- Install the bearing.

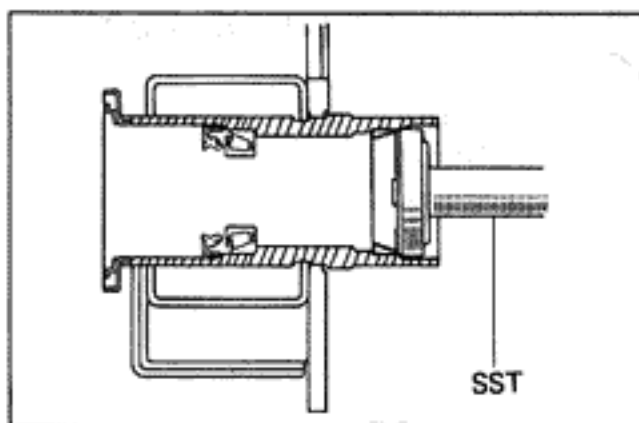


5. INSTALL NEW INNER OIL SEAL

- Using SST, drive in a new oil seal to a depth of 31 mm (1.22 in.).

SST 09550-22011 (09550-00020, 09550-00040)

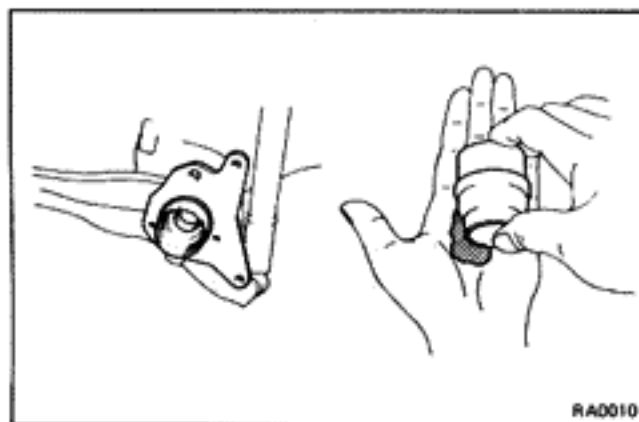
- Apply MP grease No. 2 to the oil seal lip.



6. INSTALL OUTSIDE BEARING OUTER RACE

Using SST, install the bearing outside outer race in the rear axle housing.

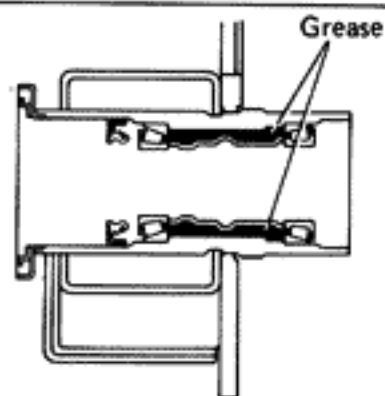
SST 09550-22011 (09550-00020, 09550-00050)



7. PACK INSIDE OF REAR AXLE HOUSING WITH MP GREASE NO. 2

8. COAT OUTSIDE OF NEW SPACER WITH MP GREASE NO. 2

9. INSTALL NEW SPACER INTO HUB



Z2216

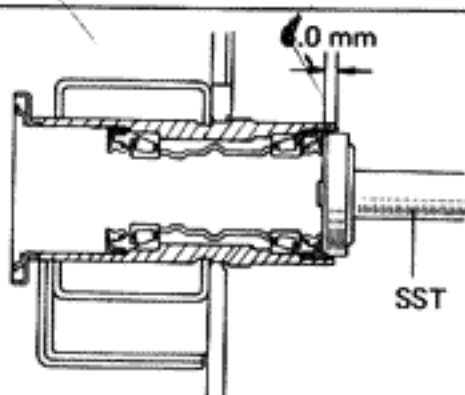
10. INSTALL NEW OUTER BEARING AND NEW OUTER OIL SEAL

(a) Install the bearing.

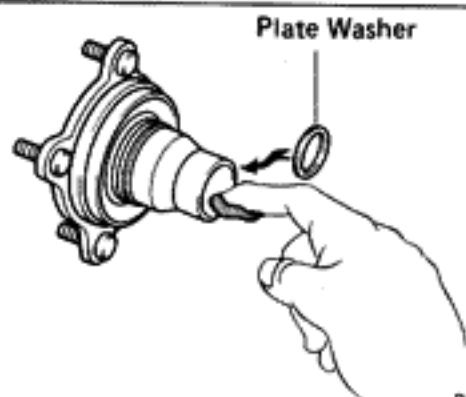
(b) Using SST, drive in a new oil seal to a depth of 6.0 mm (0.236 in.).

SST 09950-22011 (09550-00020, 09550-00050)

(c) Apply MP grease No. 2 to the oil seal lip.



Z6697



RA0052

INSTALLATION OF REAR AXLE SHAFT

(See page RA-5)

1. INSTALL REAR AXLE SHAFT AND FLANGE

(a) Install the rear axle shaft into the housing.

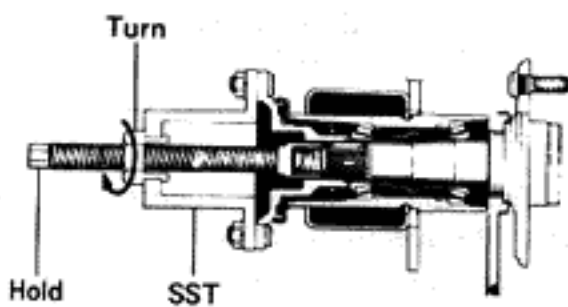
(b) Install the flange with plate washer.

NOTE: Before assembly, apply a thin coat of grease to the flange.

(c) When installing the axle shaft and flange, use SST and tighten to the point where the flange and shaft deflector tip are aligned.

SST 09557-22022

NOTE: Do not allow grease to get on the shaft threads.



M1463

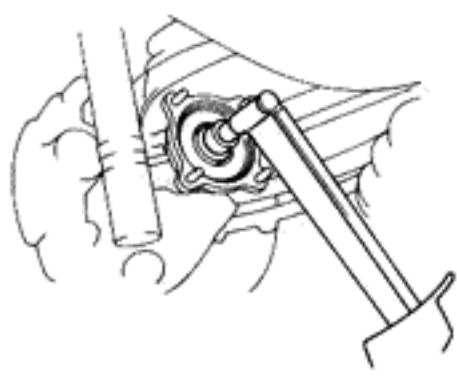
2. ADJUST PRELOAD

(a) Install the new axle shaft flange nut.

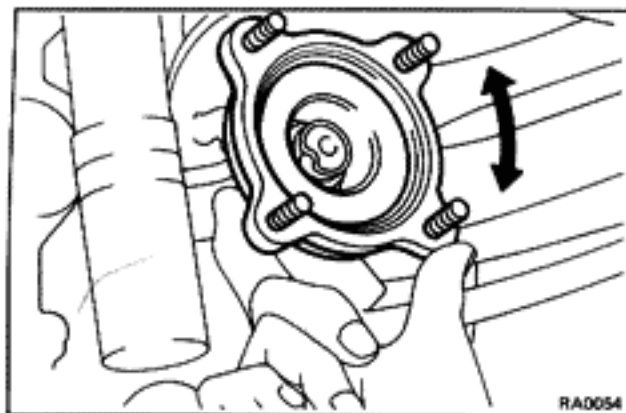
(b) Using a bar to hold the shaft, tighten and torque the nut.

Torque: 400 kg-cm (29 ft-lb, 39 N·m)

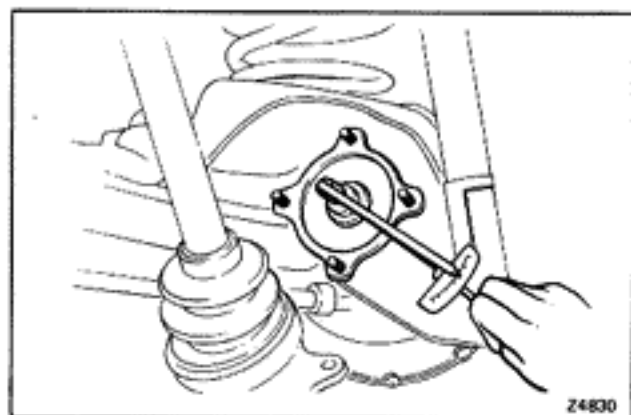
NOTE: Check that the rear axle shaft has axial play.



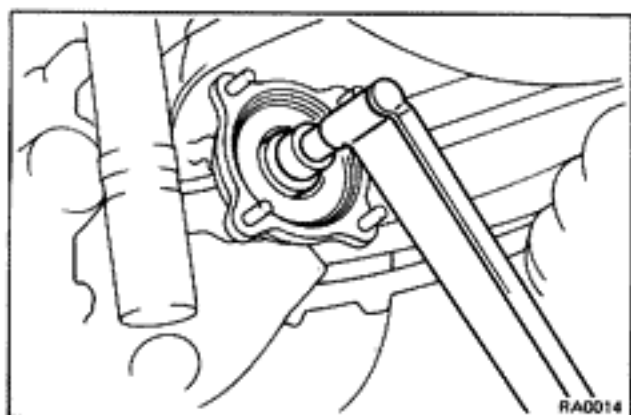
RA0014



(c) Revolve the shaft back and forth to snug it down.

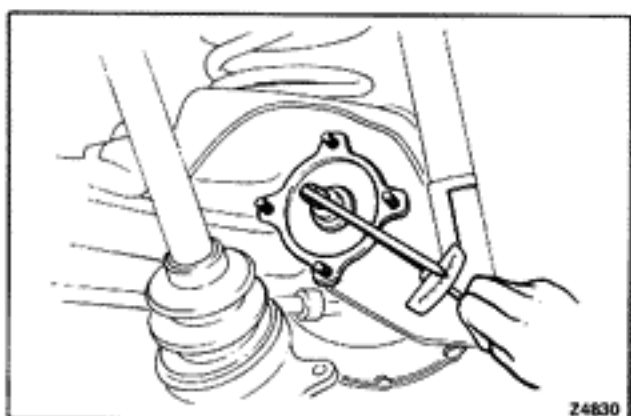


(d) Measure the rotation torque (initial resistance) while turning the side gear shaft.



(e) Torque the nuts.

Torque: 800 kg-cm (58 ft-lb, 78 N·m)



(f) Using a torque wrench, check the preload rotation.

Preload (rotation): Add initial resistance torque
1 – 4 kg-cm (0.9 – 3.5 in.-lb, 0.1 – 0.4 N·m)

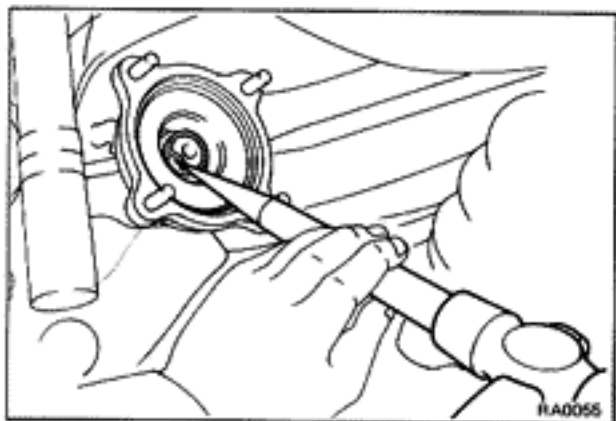
NOTE: Turn the flange one turn per 6 seconds and measure the preload.

If preload is less than specification, retighten the nut 5 – 10° at a time until the specified preload is reached.

Maximum torque: 2,000 kg-cm (145 ft-lb, 196 N·m)

3. IF THERE IS EXCESS PRELOAD, CORRECT IN FOLLOWING PROCEDURE

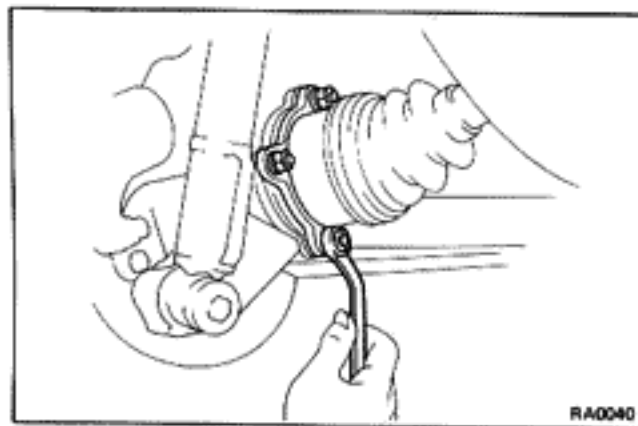
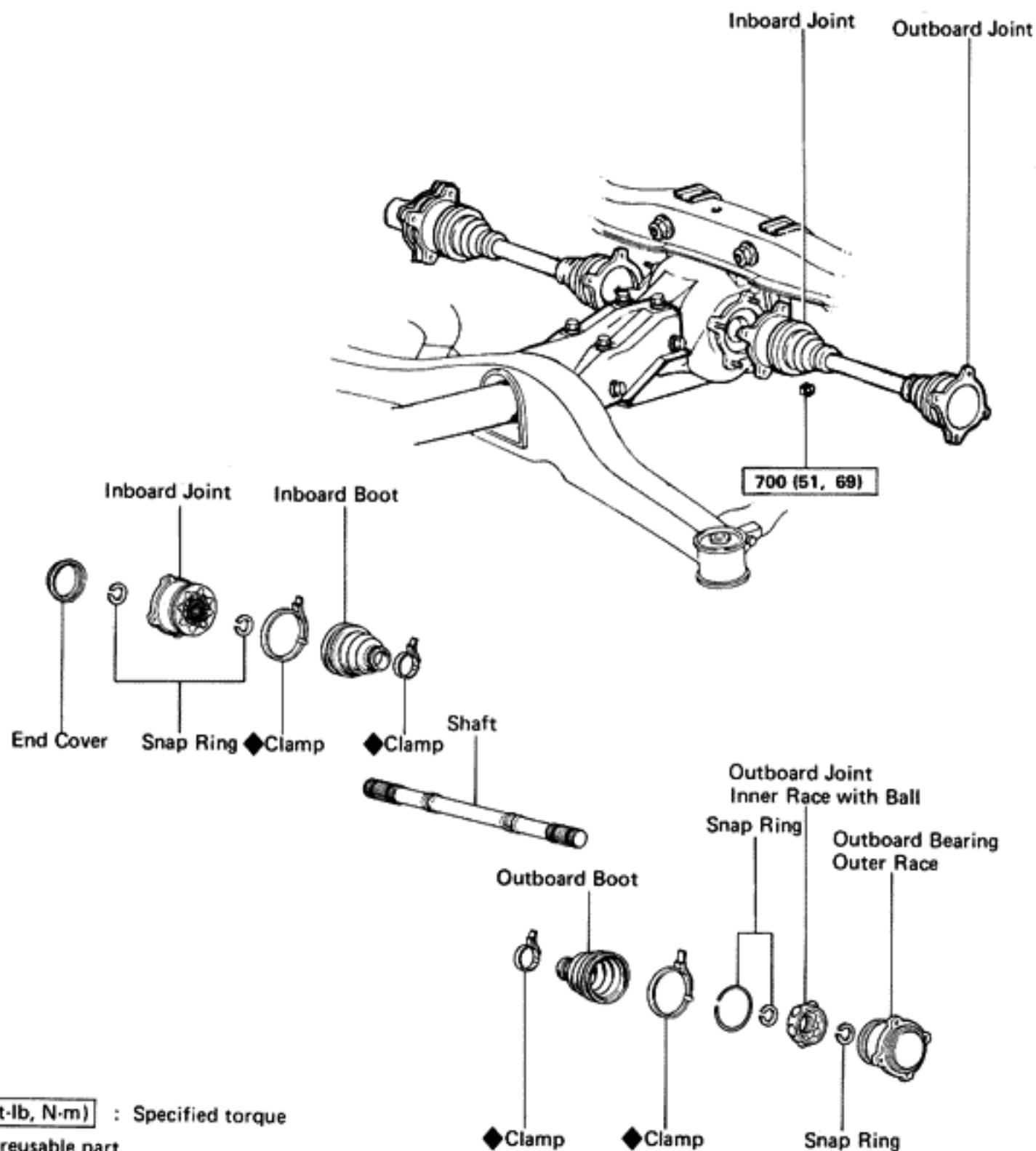
- Remove the axle flange.
- Remove the rear axle shaft and spacer.
- Remove the outside bearing and oil seal.
- Install the outer bearing and oil seal.
- Install the rear axle shaft, new bearing spacer and flange.
- Readjust preload.



4. STAKE NUT WITH PUNCH
5. INSTALL REAR BRAKE
6. CONNECT DRIVE SHAFT
Torque: 700 kg-cm (51 ft-lb, 69 N-m)
7. INSTALL REAR WHEEL

REAR DRIVE SHAFT

COMPONENTS



REMOVAL OF REAR DRIVE SHAFT

REMOVE DRIVE SHAFT

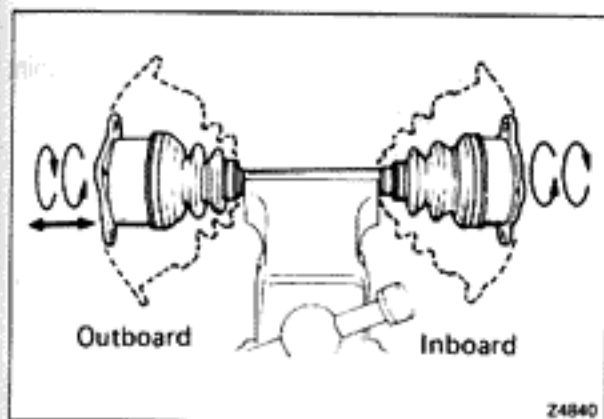
NOTE: Be careful not to damage the boots.

- Disconnect the drive shaft from the differential.
- Disconnect the drive shaft from the axle shaft.

DISASSEMBLY OF REAR DRIVE SHAFT

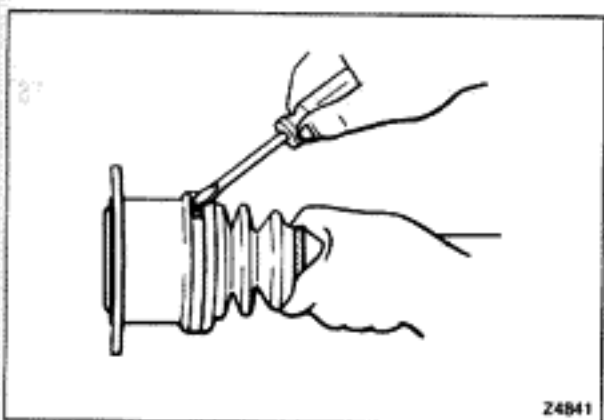
1. CHECK BOOT AND CLAMP

- (a) Check to see that the outboard joint slides smoothly in the thrust direction.
Check to see that there is no remarkable play in the radial direction of the outboard joint.
- (b) Check to see that there is no remarkable play in the radial direction of the inboard joint.

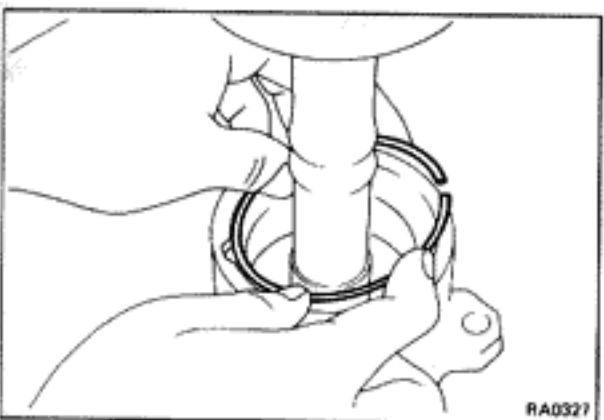


2. DISASSEMBLE FOUR BOOT CLAMPS OF OUTBOARD AND INBOARD JOINTS

NOTE: Slide the clamp toward the drive shaft and remove it.

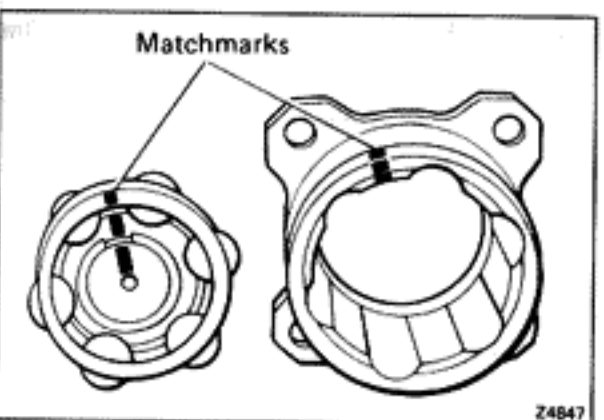


3. SLIDE BOOTS AT CENTER OF SHAFT



4. REMOVE OUTBOARD JOINT OUTER RACE

- (a) Remove the snap ring.



- (b) Place matchmarks on the outer race and drive shaft.

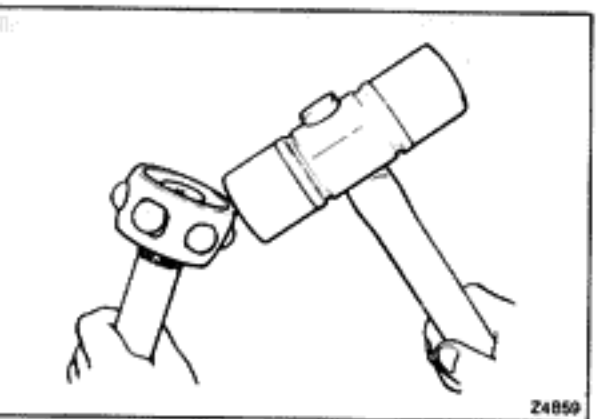
NOTE: Do not use a punch.

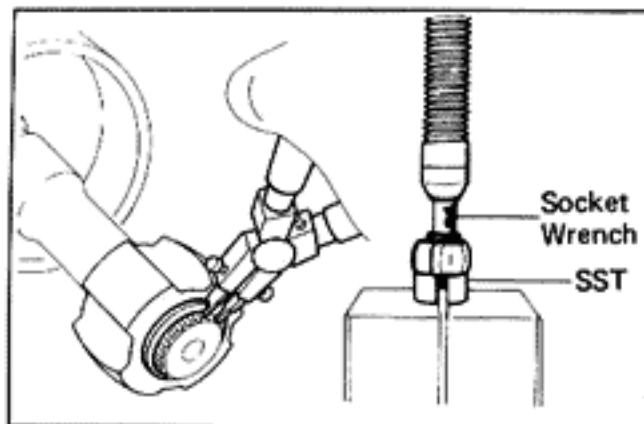
- (c) Remove the outer race to the drive shaft.

NOTE: If the end cover is damaged or worn, replace it.

5. REMOVE OUTBOARD JOINT INNER RACE

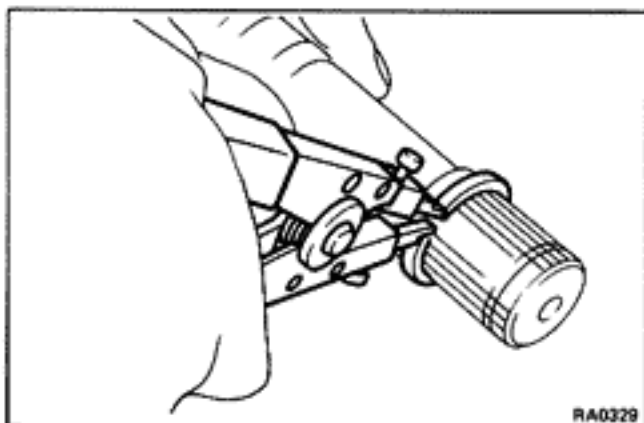
- (a) Using a plastic hammer, remove the balls by lightly tapping on the outer circumference of the cage in the shaft axial direction.
- (b) Lower the cage to the inboard side.





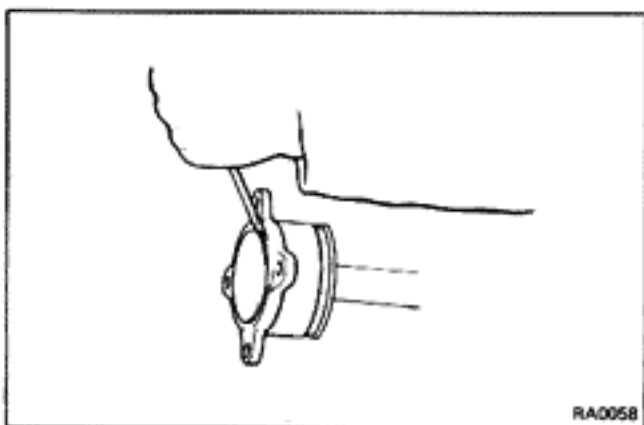
- (c) Using snap ring pliers, remove the snap ring.
- (d) Using SST and a press, remove the outboard joint inner race from the drive shaft.

SST 09726-10010 (09726-00030)



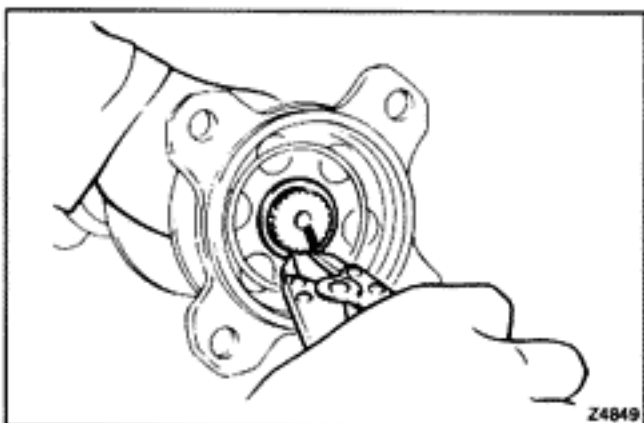
- (e) Using snap ring pliers, remove the snap ring.

6. REMOVE OUTBOARD AND INBOARD JOINT BOOTS



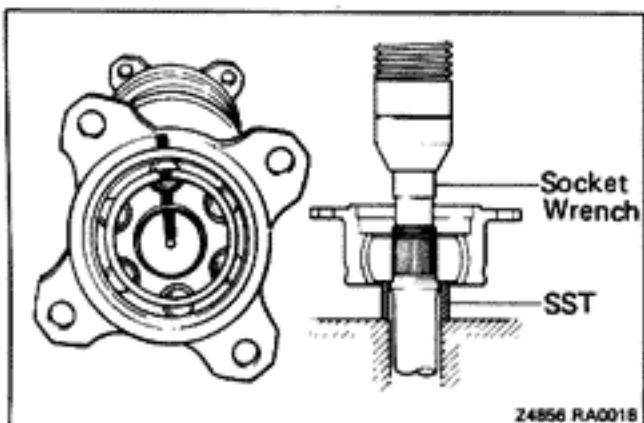
7. DISASSEMBLE INBOARD JOINT

- (a) Using a screwdriver, remove the end plate from the inboard joint.



- (b) Place matchmarks on the inboard joint and drive shaft.

- (c) Using snap ring pliers, remove the snap ring.



- (d) Using SST and a press, remove the inboard joint from the drive shaft.

SST 09726-10010 (09726-00030)

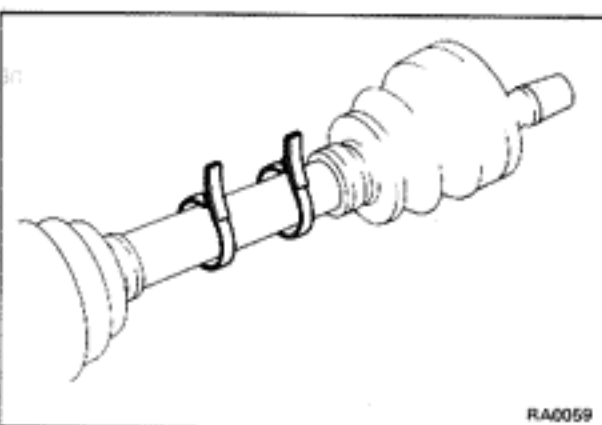
INSPECTION OF REAR DRIVE SHAFT COMPONENTS

1. AFTER REMOVAL CHECK BOOTS FOR DAMAGE
2. CLEAN ALL PARTS
3. CHECK ALL PARTS FOR CRACKS, WEAR OR DAMAGE AND REPLACE AS NECESSARY

ASSEMBLY OF REAR DRIVE SHAFT

(See page RA-12)

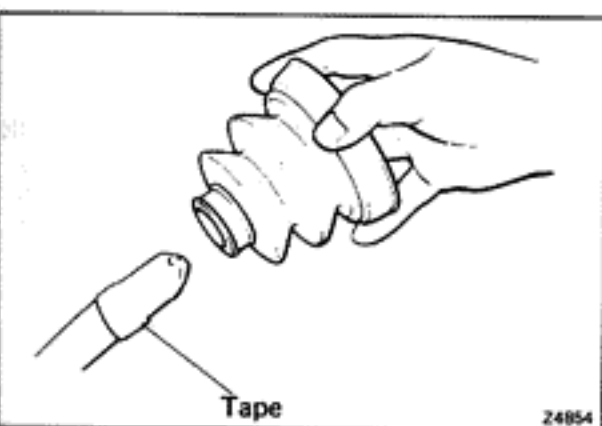
1. ASSEMBLE NEW CLAMPS ONTO DRIVE SHAFT



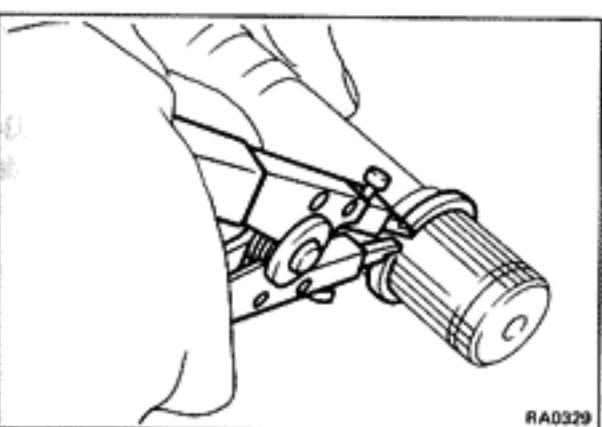
2. ASSEMBLE BOOT ONTO DRIVE SHAFT

CAUTION: Wrap the shaft serrations with vinyl tape so as to prevent damage to the boot.

- (a) Place the outboard and inboard boots and new clamps on the shaft.



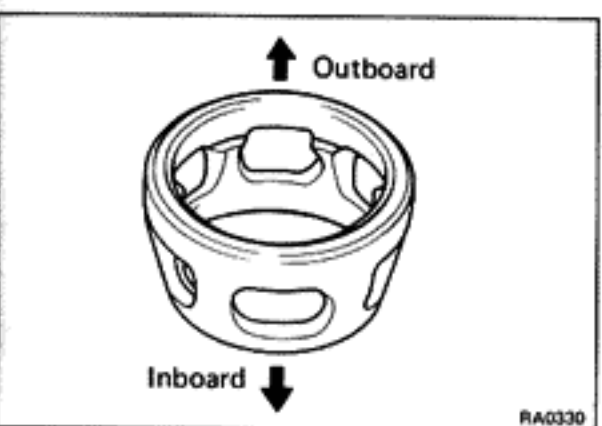
- (b) Install a new snap ring.

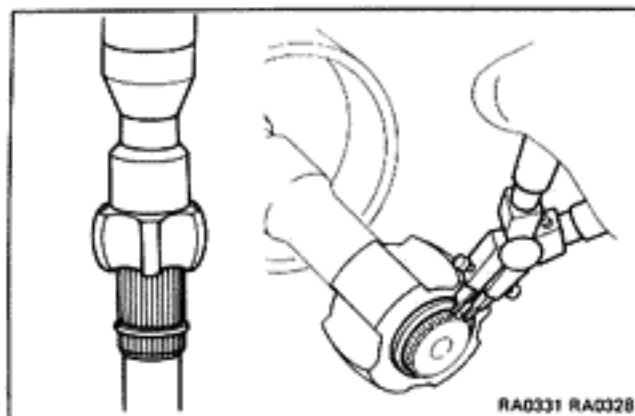


3. INSTALL OUTBOARD JOINT INNER RACE

- (a) Place the cage onto shaft.

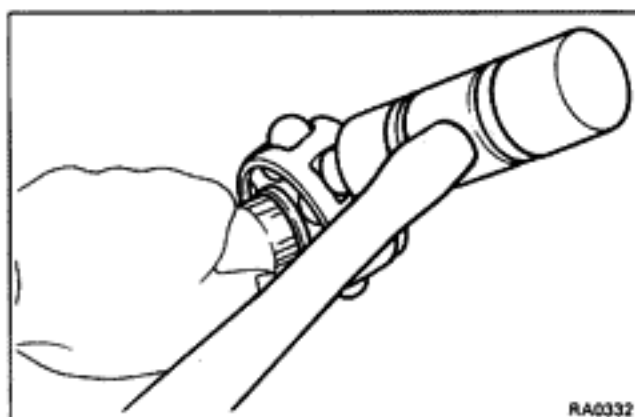
NOTE: The larger diameter end should face toward the outboard side.





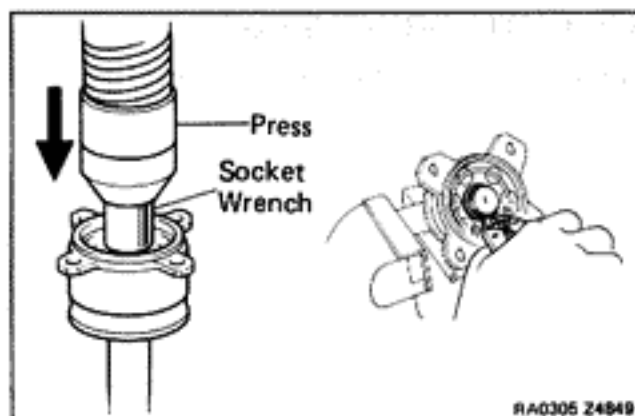
(b) Align the matchmarks and, using a press and socket wrench, install the inner race onto the shaft.

(c) Using snap ring pliers, install the snap ring.



(d) Lightly tap in the balls with a plastic hammer.

NOTE: Coat the inner race, the cage and balls with the grease supplied in the boot kit.

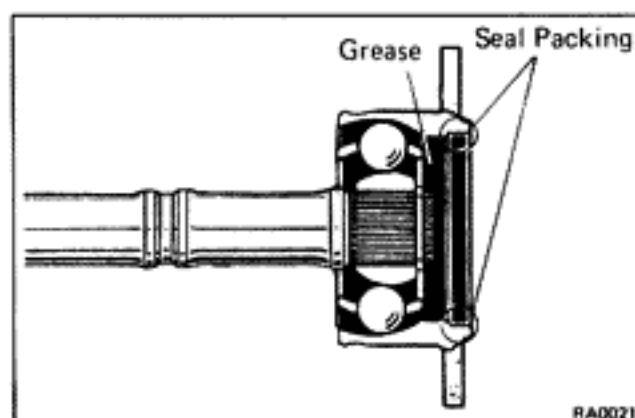


4. ASSEMBLE INBOARD JOINT

(a) Align the matchmarks placed before assembly.

(b) Using a press and socket wrench, inboard joint onto drive shaft.

(c) Using snap ring pliers, install new snap ring.



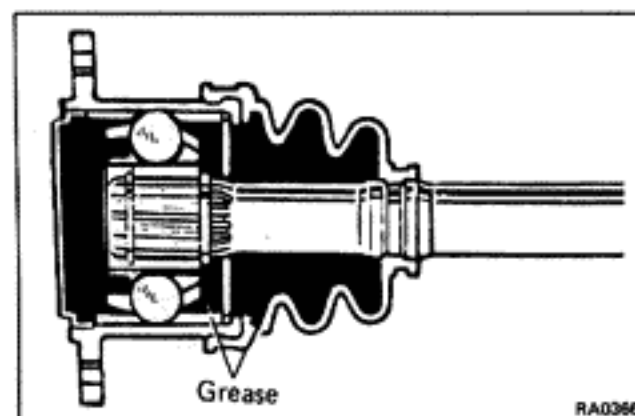
(d) Pack 60g (0.13 lb) of grease into the flange side.

NOTE: Use the grease supplied in the kit.

(e) Apply seal packing THREE BOND 1344 (08833-00080) or LOCKTITE No. 242 around inboard side of the end plate.

(f) Install it to the inboard joint.

NOTE: Install the end plate by tapping around it.



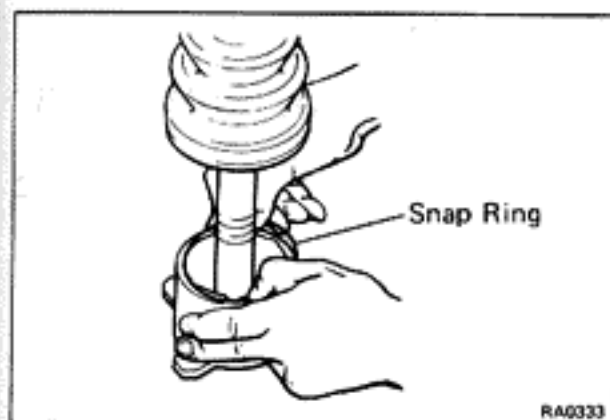
5. APPLY GREASE OUTBOARD AND INBOARD

NOTE: Use the grease supplied in the boot kit.

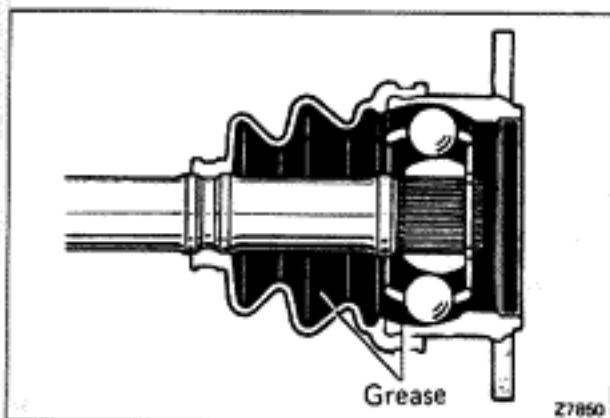
(a) Apply grease into the outer race and boot.

Outer race: Pack in 60g (0.13 lb) of grease

Outboard boot: Pack in 60g (0.13 lb) of grease



- (b) Install the snap ring to the outer race.

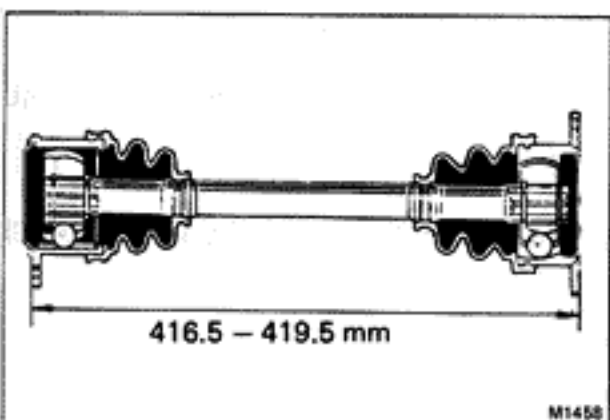


- (c) Apply grease into the inboard joint.

Inboard joint: Pack in 60g (0.13 lb) of grease

Inboard boot: Pack in 60g (0.13 lb) of grease

NOTE: Use the grease supplied in the boot kit.



6. ASSEMBLY BOOT CLAMPS

- (a) Clamp the boots in a position permitting the following shaft dimension.

Shaft dimension: 416.5 – 419.5 mm
(16.398 – 16.516 in.)

- (b) Lock the clamps.

NOTE: Position the lock between the flange bolt holes.

- (c) Turn both joints and stretch the boot to check that it does not deform.

INSTALLATION OF REAR DRIVE SHAFT

(See page RA-12)

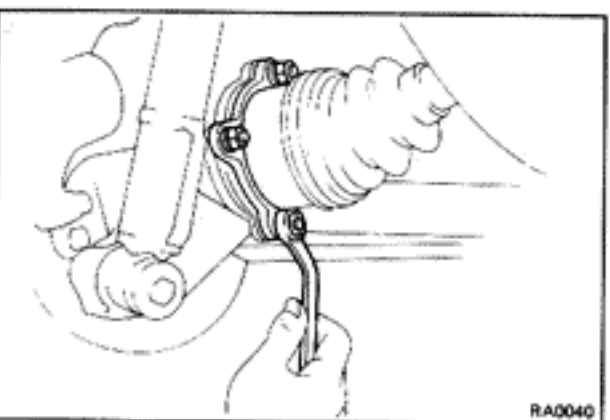
INSTALL DRIVE SHAFT

- (a) Install the drive shaft with the narrow distance between the flange and boot band at the differential side.

NOTE: Be careful not to damage the boot when installing it to the vehicle.

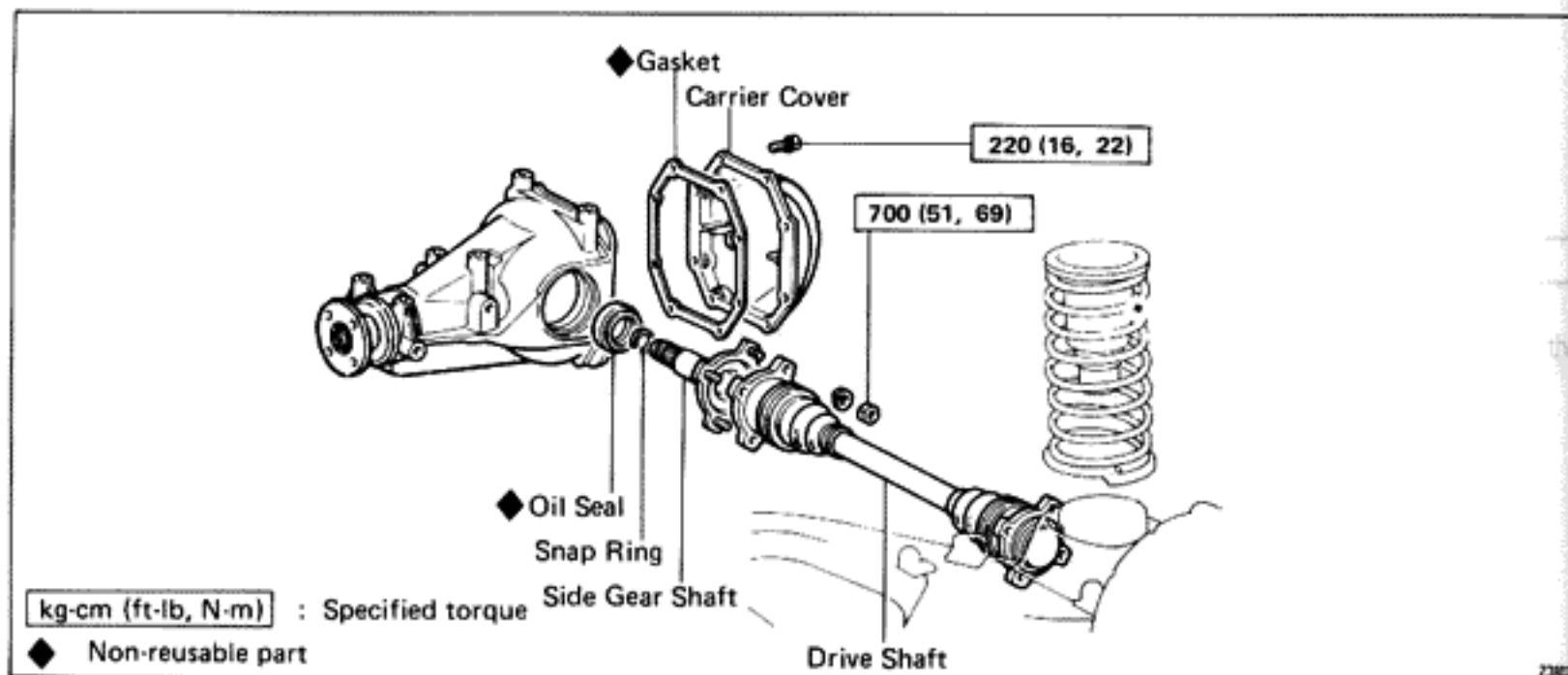
- (b) Torque the nuts.

Torque: 700 kg-cm (51 ft-lb, 69 N-m)

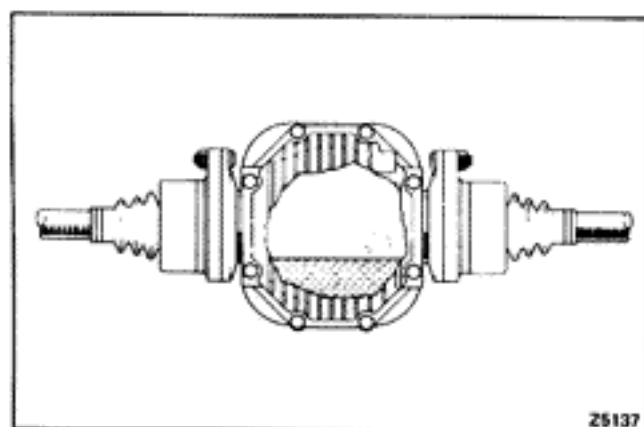
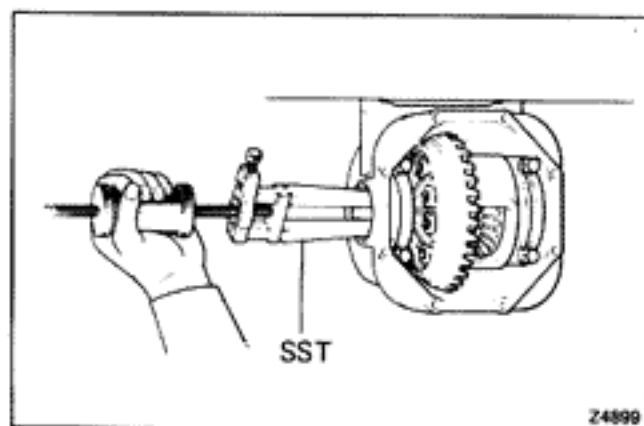


IRS TYPE DIFFERENTIAL

ON-VEHICLE REPLACEMENT OF SIDE GEAR SHAFT OIL SEAL



1. DRAIN OUT DIFFERENTIAL OIL
2. DISCONNECT DRIVE SHAFT FROM DIFFERENTIAL
3. REMOVE CARRIER COVER
4. REMOVE SIDE GEAR SHAFT (See step 2 on page RA-23)
5. REMOVE SIDE GEAR SHAFT OIL SEAL (See step 3 on page RA-23)
6. INSTALL SIDE GEAR SHAFT OIL SEAL (See step 16 on page RA-35)
7. INSTALL SIDE GEAR SHAFT (See step 17 on page RA-36)
8. MEASURE SIDE GEAR SHAFT RUNOUT (See step 18 on page RA-36)
9. INSTALL CARRIER COVER (See step 19 on page RA-36)
10. CONNECT DRIVE SHAFT (See step 4 on page RA-36)



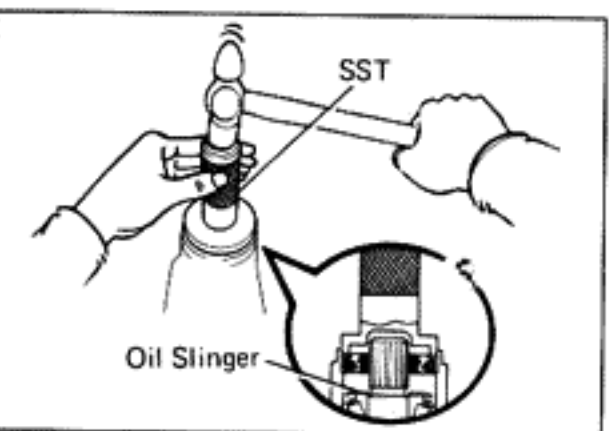
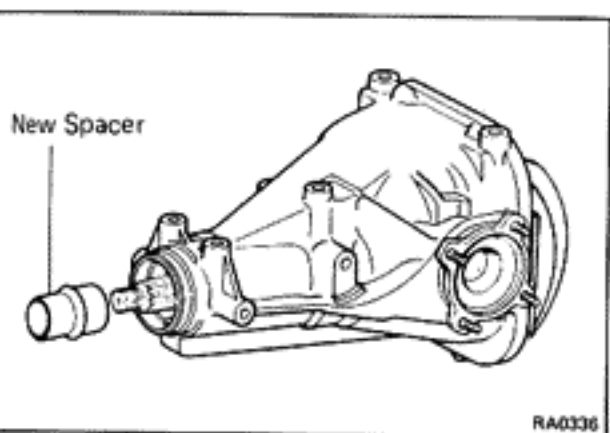
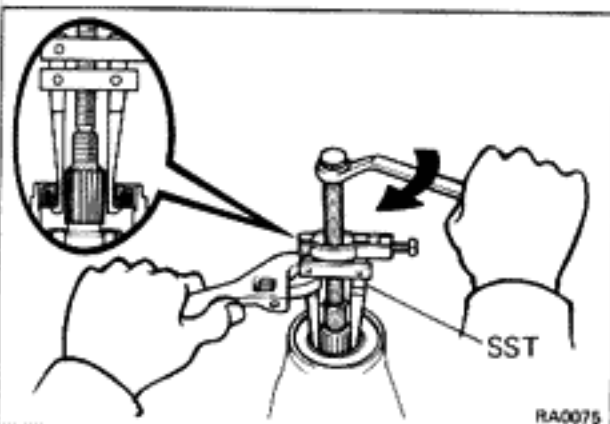
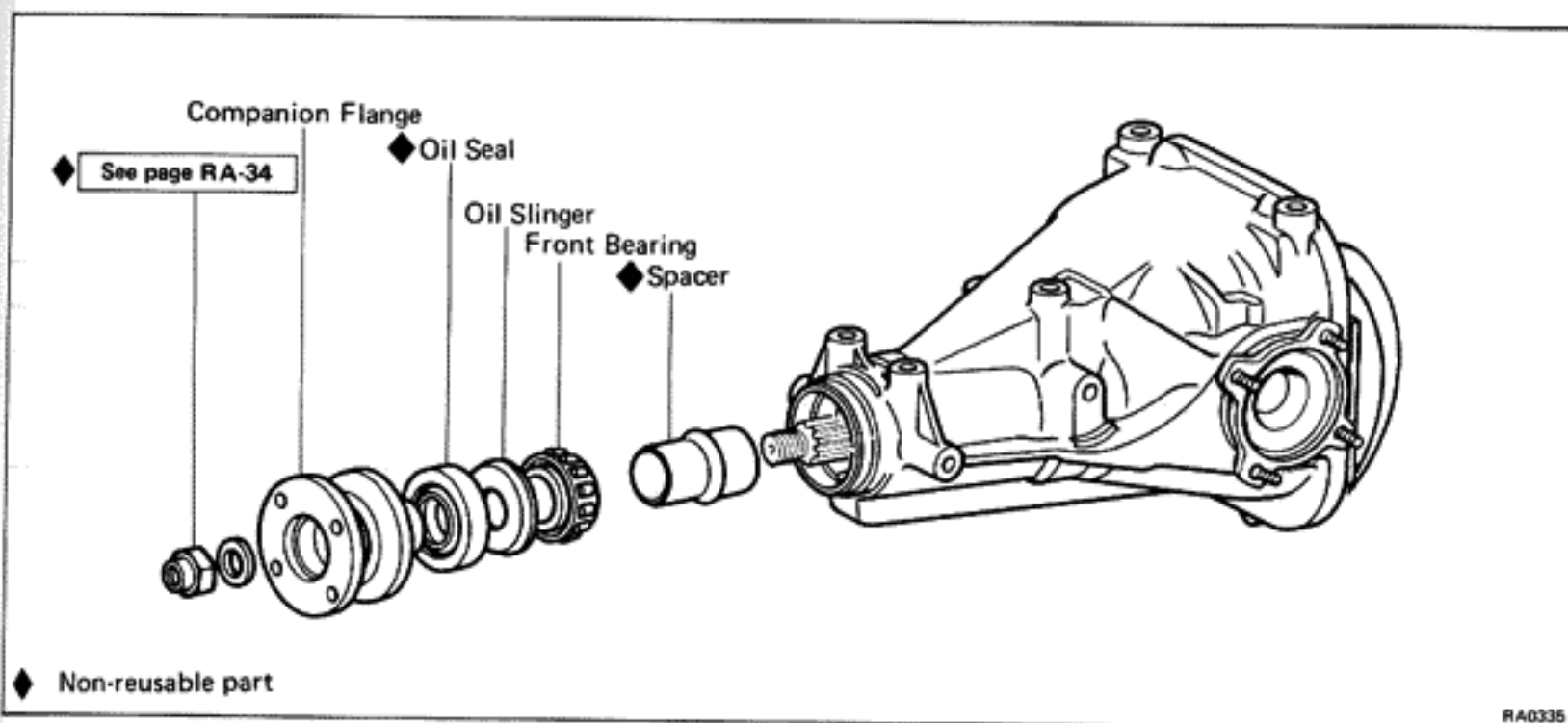
11. INSTALL DRAIN PLUG AND FILL DIFFERENTIAL WITH GEAR OIL

Hypoid gear oil: w/LSD use LSD oil only
 SAE 90 above – 18°C (0°F)
 SAE 80W or 80W – 90
 at temperature below – 18°C (0°F)

Capacity: 1.2 liters (1.3 US qts, 1.1 Imp. qts)

Install a filler plug.

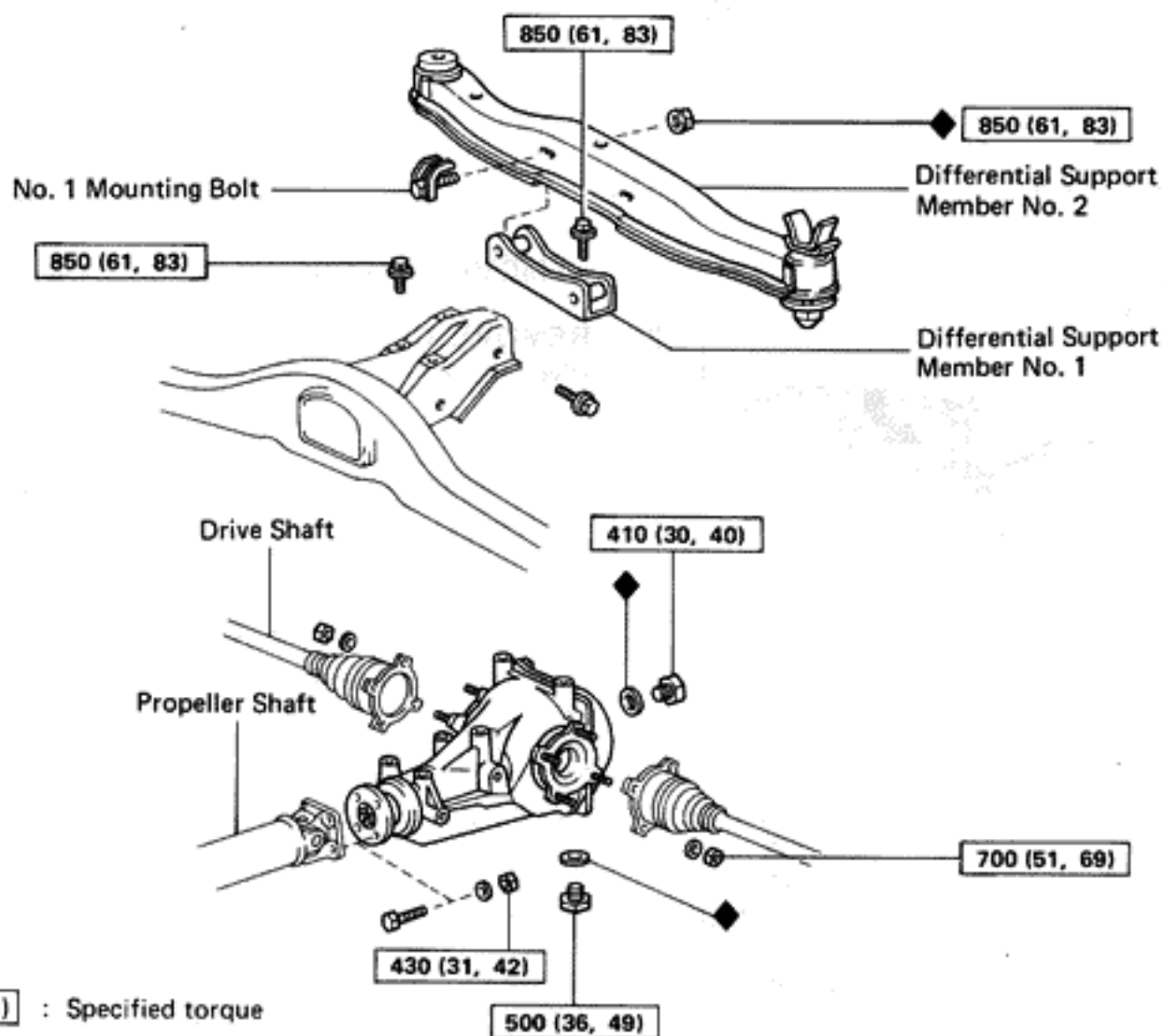
REPLACEMENT OF FRONT OIL SEAL COMPONENTS



1. REMOVE DIFFERENTIAL (See page RA-20)
2. REMOVE COMPANION FLANGE (See step 10 on page RA-24)
3. REMOVE OIL SEAL
 - (a) Using SST, remove the oil seal from the housing. SST 09308-10010
 - (b) Remove the oil slinger.
4. REMOVE FRONT BEARING AND BEARING SPACER (See step 12 on page RA-25)
5. INSTALL NEW BEARING SPACER AND FRONT BEARING
 - (a) Install a new bearing spacer on the shaft.
 - (b) Install the front bearing on the shaft.
6. INSTALL OIL SLINGER AND NEW OIL SEAL
 - (a) Install the oil slinger facing as shown.
 - (b) Using SST, drive in a new oil seal. SST 09316-60010
Oil seal drive in depth: 1.5 mm (0.059 in.)
 - (c) Apply MP grease to the oil seal lip.

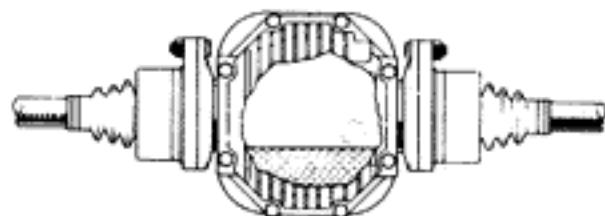
7. INSTALL COMPANION FLANGE
(See step 12 on page RA-34)
8. CHECK FRONT BEARING PRELOAD
(See step 13 on page RA-35)
9. CHECK DEVIATION OF COMPANION FLANGE
(See step 14 on page RA-35)
10. STAKE DRIVE PINION NUT
11. INSTALL DIFFERENTIAL (See page RA-36)

REMOVAL OF DIFFERENTIAL



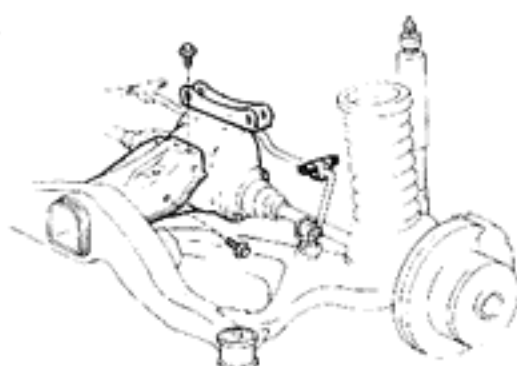
RA0467

1. REMOVE DRAIN PLUG AND DRAIN DIFFERENTIAL OIL
2. DISCONNECT REAR DRIVE SHAFT
3. DISCONNECT PROPELLER SHAFT FLANGE FROM COMPANION FLANGE
4. REMOVE DIFFERENTIAL SUPPORT MEMBER NO.1 MOUNTING BOLT (See page RA-53)



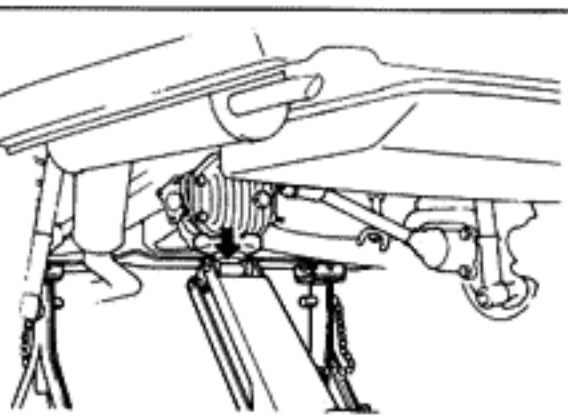
5. REMOVE DIFFERENTIAL

(a) Jack up differential and remove the carrier bolts.

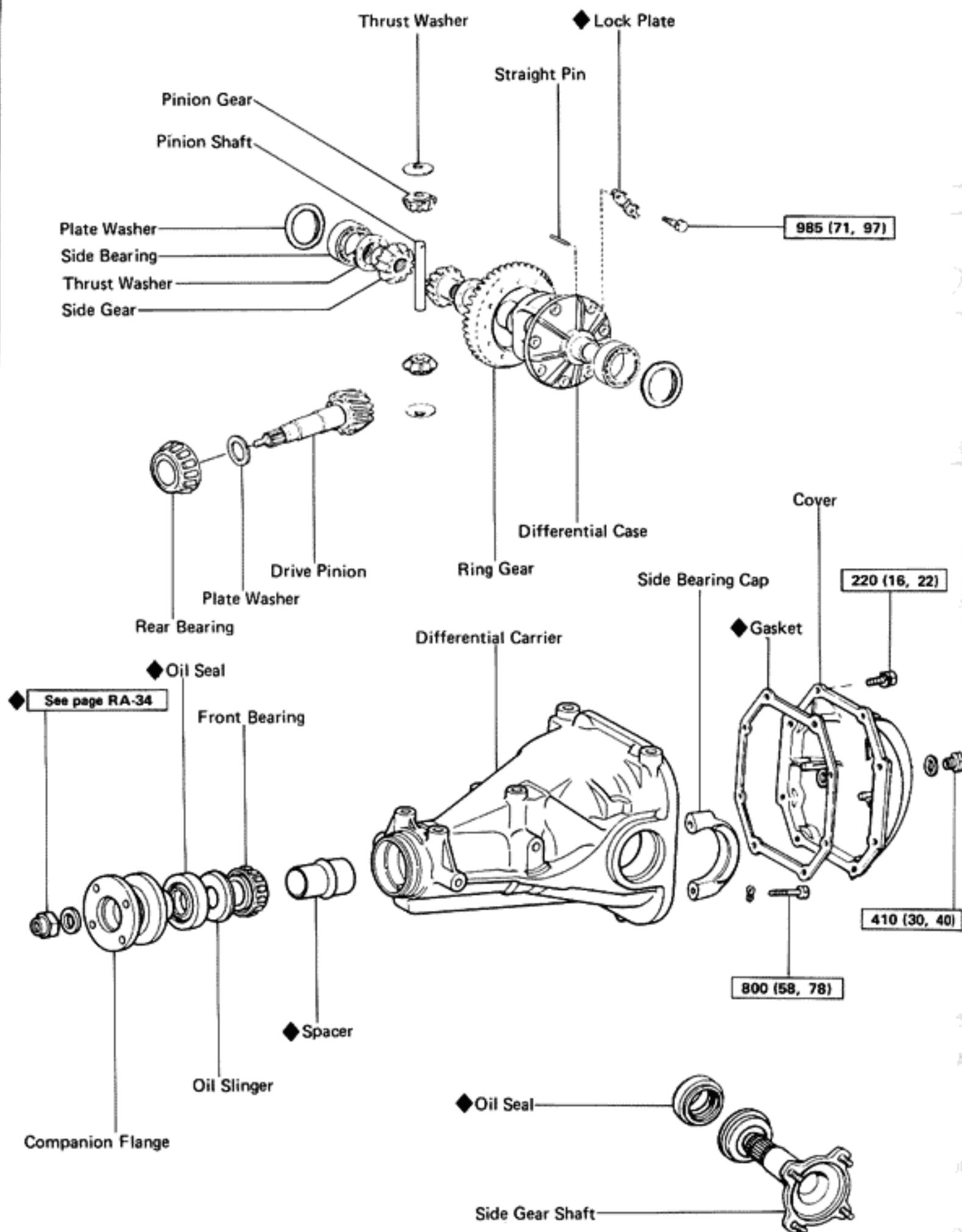


(b) Lower the differential carrier with a jack.

NOTE: When lowering the carrier, be careful that the differential does not separate.



COMPONENTS

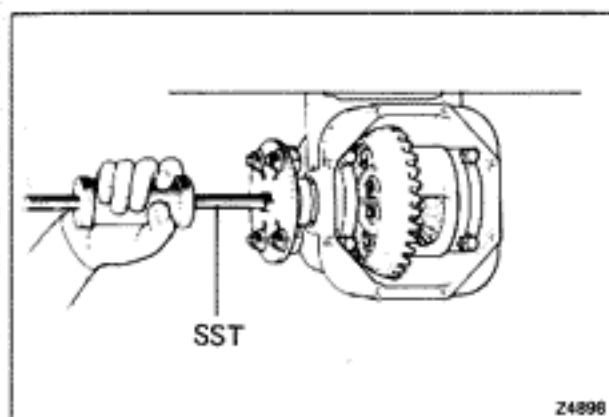


kg-cm (ft-lb, N-m) : Specified torque

◆ Non-reusable part

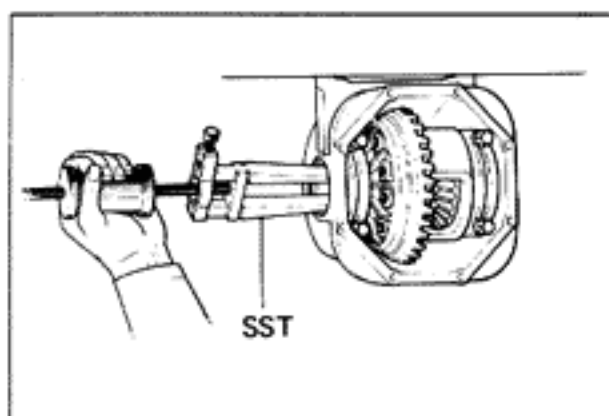
DISASSEMBLY OF DIFFERENTIAL**1. REMOVE DIFFERENTIAL CARRIER COVER**

Remove the eight bolts, cover and gasket.

**2. REMOVE SIDE GEAR SHAFT**

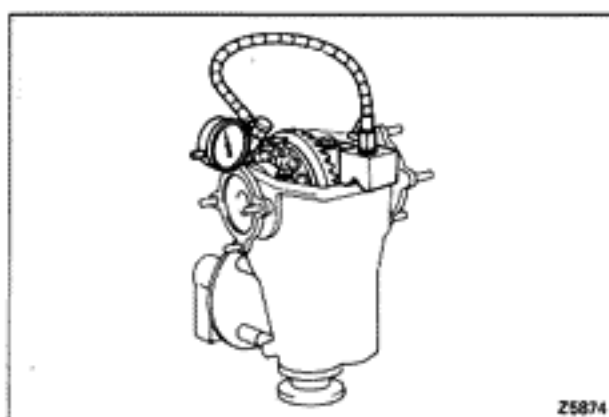
Using SST, remove the side gear shaft from the differential carrier.

SST 09520-22011

**3. REMOVE SIDE GEAR SHAFT OIL SEAL**

Using SST, remove the oil seal.

SST 09308-00010

**4. CHECK RING GEAR RUNOUT**

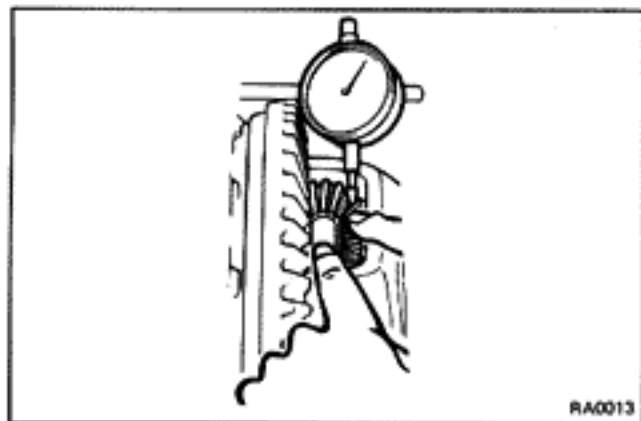
If the runout is greater than maximum, install a new ring gear.

Maximum runout: 0.07 mm (0.0028 in.)

**5. CHECK RING GEAR BACKLASH**

If the backlash is not within specification, adjust the side bearing preload or repair as necessary. (See page RA-32)

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

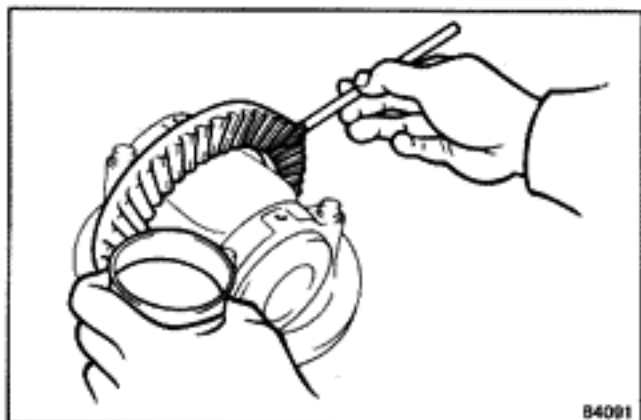


6. CHECK SIDE GEAR BACKLASH

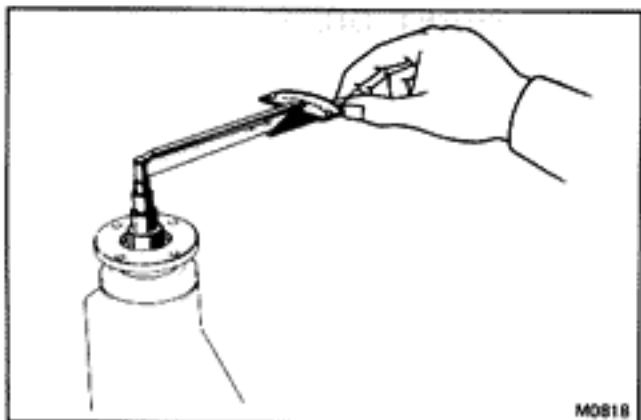
Measure the side gear backlash while holding one pinion gear toward the case.

Standard backlash: 0.05 – 0.20 mm
(0.0020 – 0.0079 in.)

If the backlash is out of specification, install the correct thrust washer. (See step 6 on page RA-27)



7. CHECK TOOTH CONTACT (See page RA-33)



8. MEASURE DRIVE PINION PRELOAD

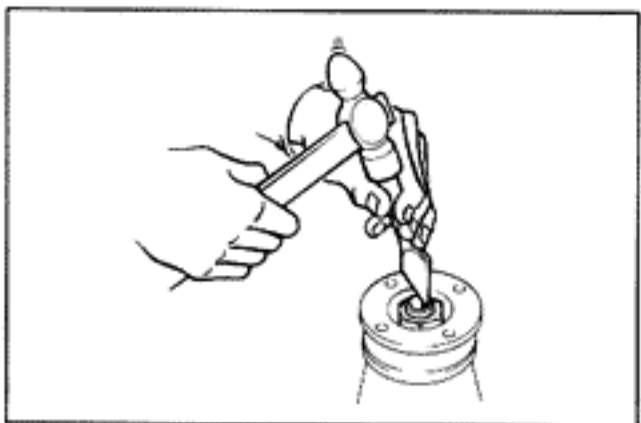
Using a torque wrench, measure the preload of the backlash between the drive pinion and ring gear.

Preload (starting): 6 – 10 kg-cm
(5.2 – 8.7 in.-lb, 0.6 – 1.0 N-m)

9. CHECK TOTAL PRELOAD

Using a torque wrench, measure the total preload.

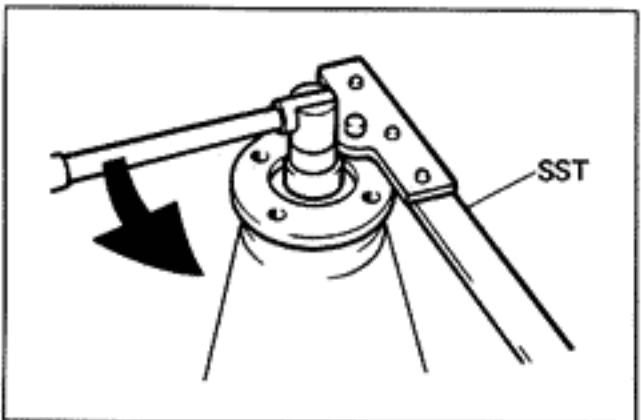
Total preload: In addition to drive pinion preload
4 – 6 kg-cm (3.5 – 5.2 in.-lb, 0.4 – 0.6 N-m)

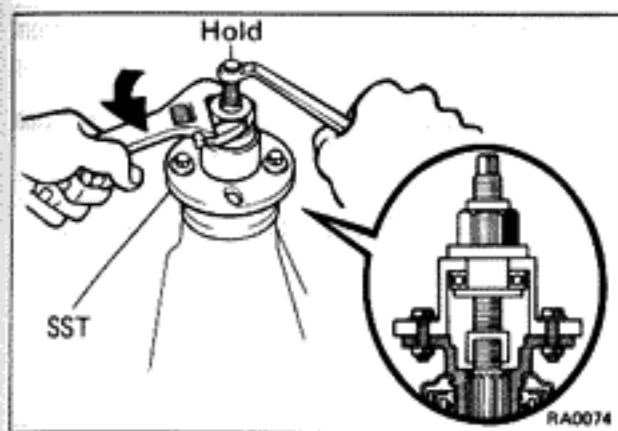


10. REMOVE COMPANION FLANGE

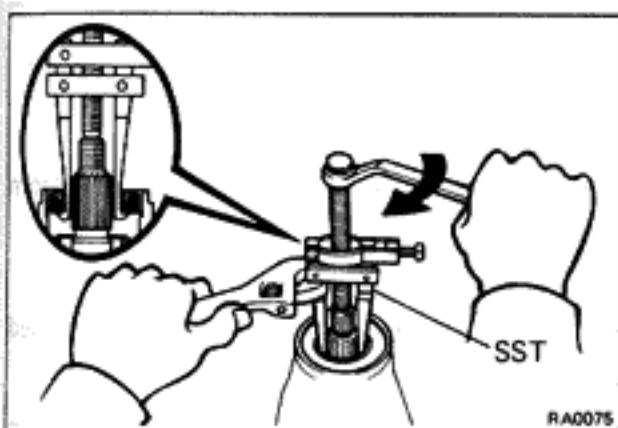
(a) Using a hammer and chisel, loosen the staked part of the nut.

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



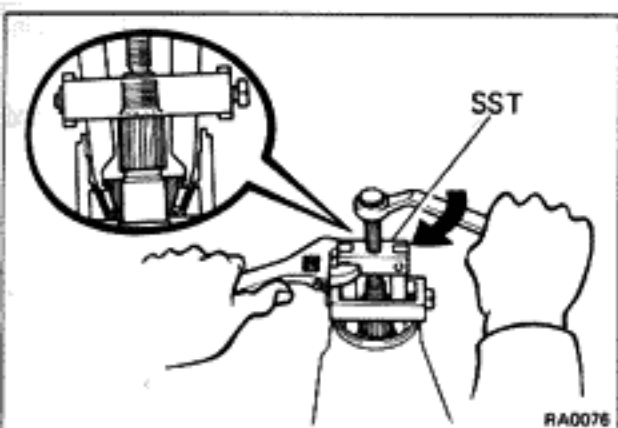


- (c) Using SST, remove the companion flange.
SST 09557-22022



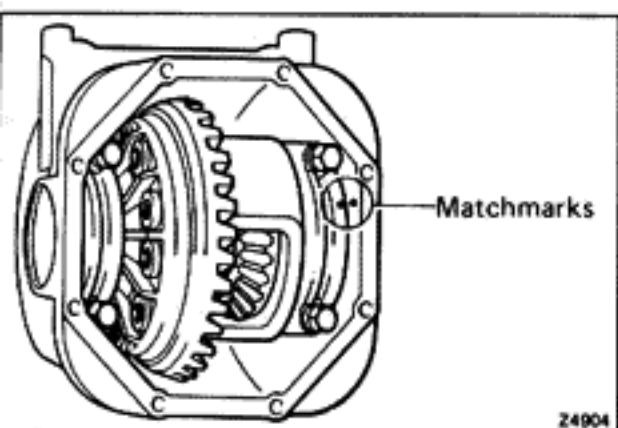
11. REMOVE OIL SEAL AND OIL SLINGER

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



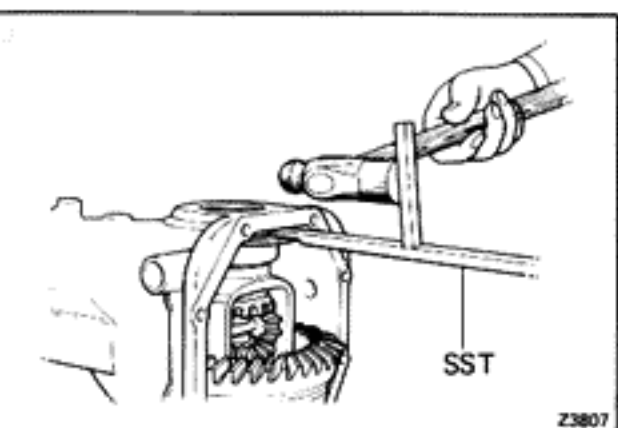
12. REMOVE FRONT BEARING AND BEARING SPACER

- (a) Using SST, remove the front bearing from the housing.
SST 09556-30010
(b) Remove the bearing spacer.
If the front bearing is damaged or worn, replace the bearing.



13. REMOVE DIFFERENTIAL CASE AND RING GEAR

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



- (c) Remove the two side bearing preload adjusting plate washers with SST.

SST 09504-22010

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

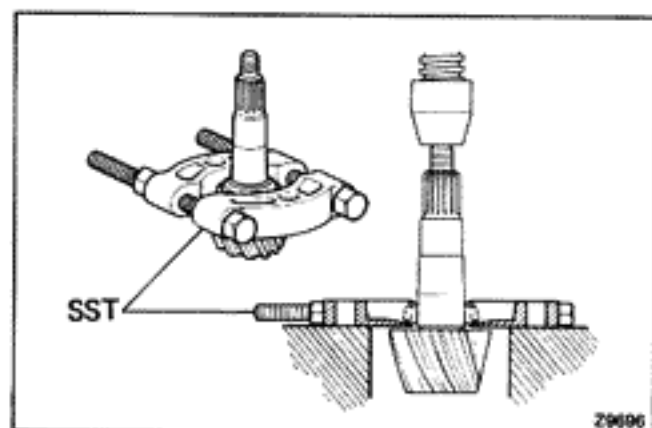


84067

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

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

14. REMOVE DRIVE PINION FROM DIFFERENTIAL CARRIER



29696

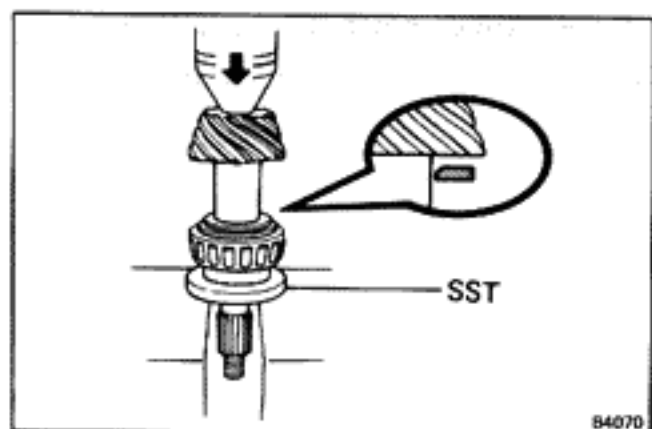
INSPECTION AND REPLACEMENT OF DIFFERENTIAL

1. REPLACE DRIVE PINION REAR BEARING

- (a) Using SST and a press, pull 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.

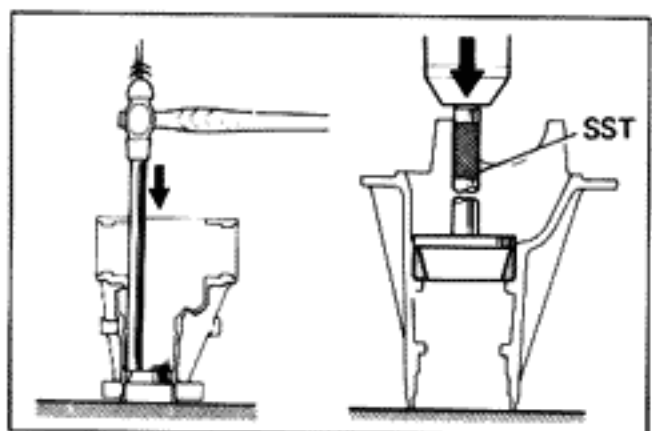


84070

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

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

SST 09506-30011



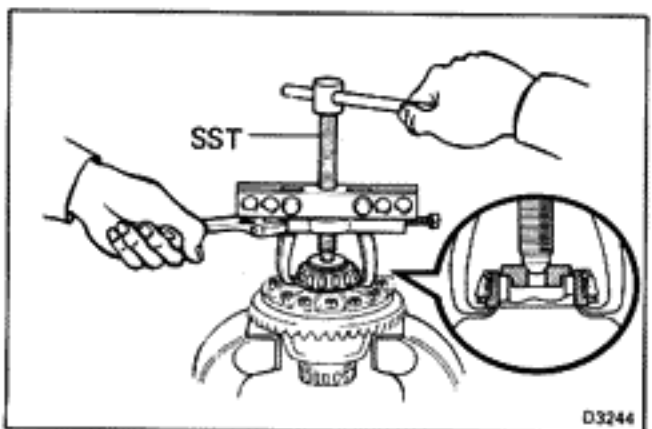
2. REPLACE DRIVE PINION FRONT AND REAR BEARING OUTER RACE

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

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

SST 09608-35014

(09608-06020, 09608-06110, 09608-06120)

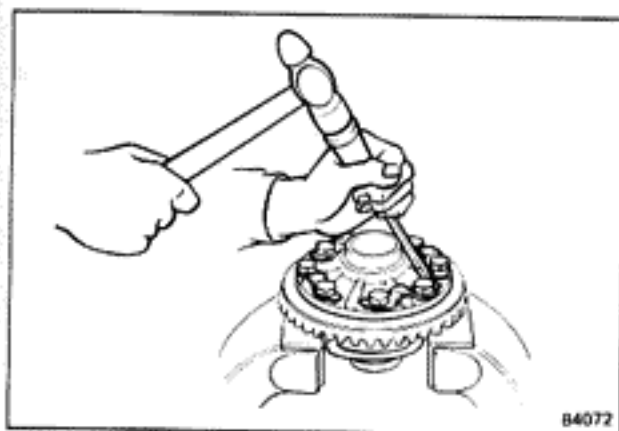


D3244

3. REMOVE SIDE BEARINGS FROM DIFFERENTIAL CASE

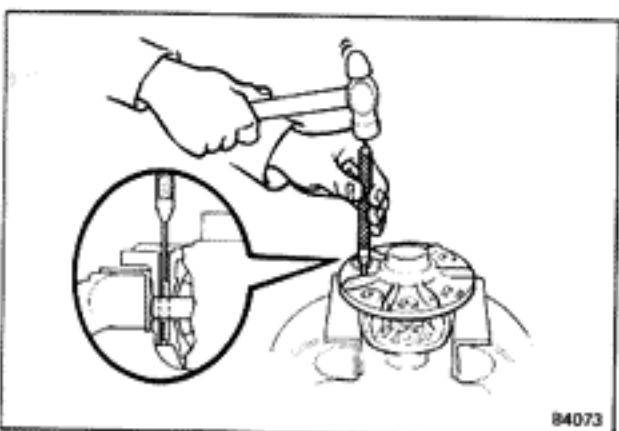
Using SST, pull the side bearing from the differential case.

SST 09950-20016



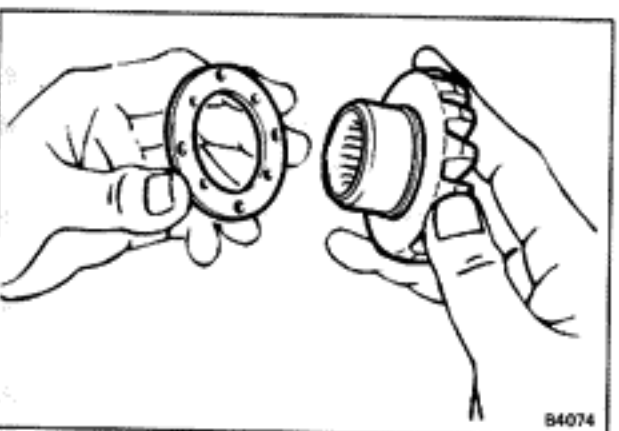
4. REMOVE RING GEAR

- Remove the ring gear set bolts and lock plates.
- Place matchmarks on the ring gear and differential case.
- Using a plastic or copper hammer, tap on the ring gear to separate it from the differential case.



5. DISASSEMBLE DIFFERENTIAL CASE

Using a hammer and punch, drive out the straight pin. Remove the pinion shaft, two pinion gears, two side gears and two thrust washers.



6. ASSEMBLE DIFFERENTIAL CASE

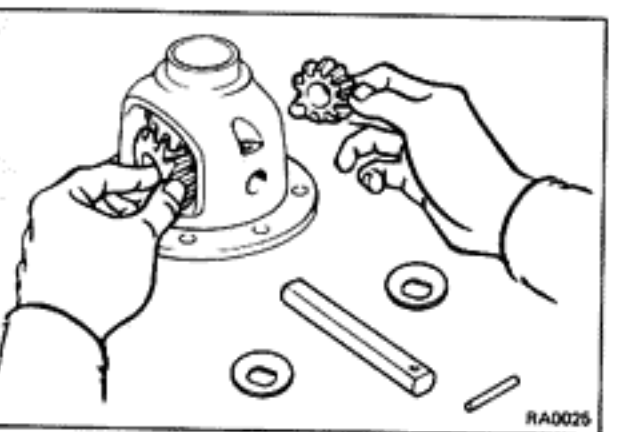
- Install correct thrust washer and side gears. Select thrust washers from the table below that will ensure the backlash is within specification. Try to select washers of the same thickness for both sides.

Standard backlash: 0.05 – 0.20 mm
(0.0020 – 0.0079 in.)

Thrust washer thickness mm (in.)

Thickness	
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)

Install thrust washers and side gears in the differential case.

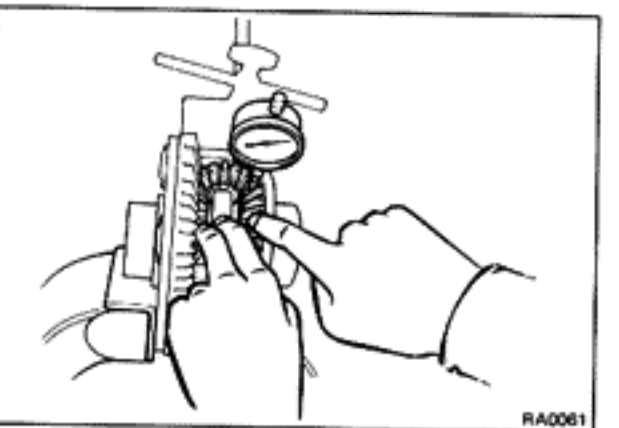


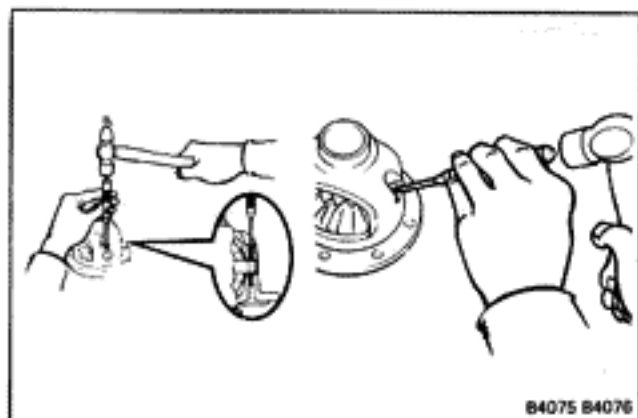
- Check the side gear backlash.

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

Standard backlash: 0.05 – 0.20 mm
(0.0020 – 0.0079 in.)

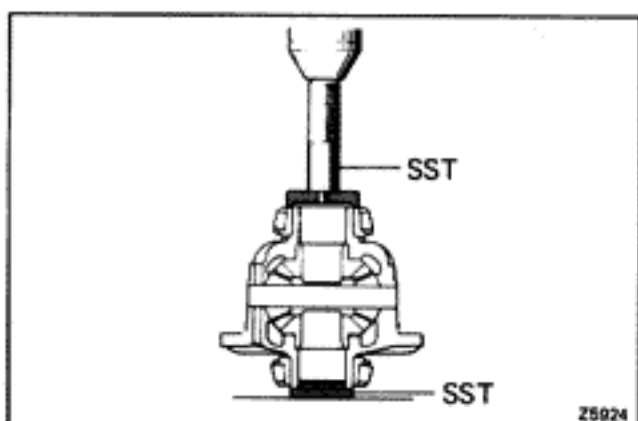
If the backlash is not within specification, install a thrust washer of different thickness.





(c) Install straight pin.

- Using a hammer and punch, drive the straight pin through the case and hole in the pinion shaft.
- Stake the pin and differential case.



7. INSTALL NEW SIDE BEARING

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

SST 09550-10012

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

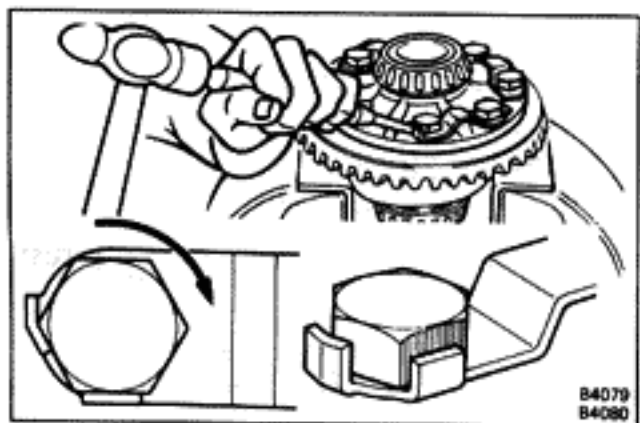
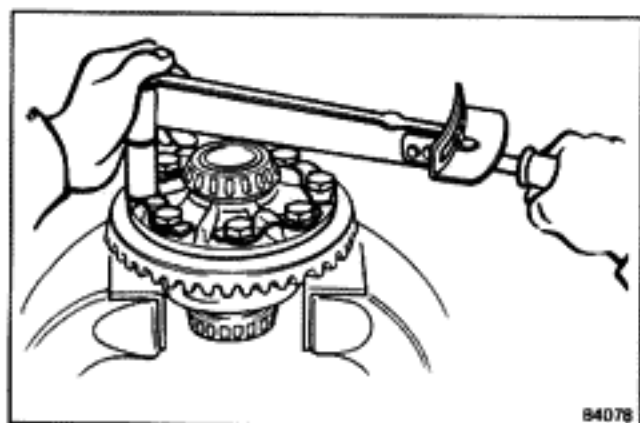
8. INSTALL RING GEAR ON DIFFERENTIAL CASE

- (a) Clean the contact surface of the differential case.
- (b) Heat the ring gear to about 100°C (212°F) in an oil bath.
- (c) Clean the contact surface of the ring gear with cleaning solvent.
- (d) Then quickly install the ring gear on the differential case.
- (e) Align the marks on the ring gear and differential case.

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

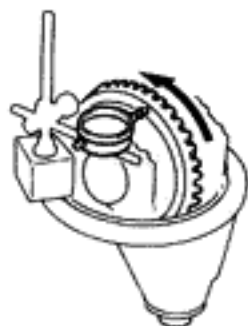
- (f) Coat the ring gear set bolts with gear oil.
- (g) Install the lock plates and set bolts. Tighten the set bolts uniformly, a little at a time. Torque the bolts.

Torque: 985 kg-cm (71 ft-lb, 97 N·m)



- (h) Using a hammer and drift punch, 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.



B4081

(i) Check the ring gear runout.

Maximum runout: 0.07 mm (0.0028 in.)

Install the differential case onto the carrier and tighten the adjusting nut just to where there is no play in the bearing.

ASSEMBLY OF DIFFERENTIAL

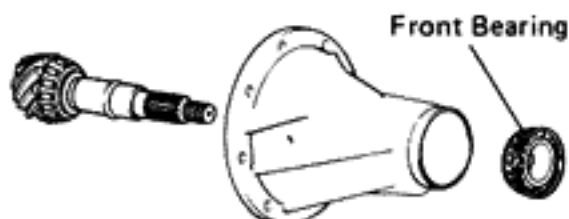
(See page RA-22)

1. TEMPORARILY ADJUST DRIVE PINION PRELOAD

(a) Install the following parts.

- Drive pinion
- Front bearing

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

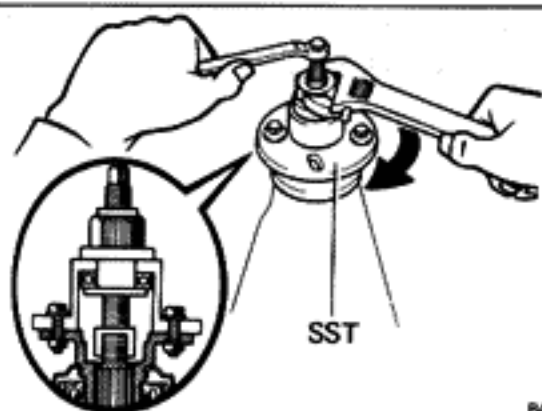


Front Bearing

(b) Install the companion flange with SST.

Coat the threads of the nut with MP grease.

SST 09557-22022



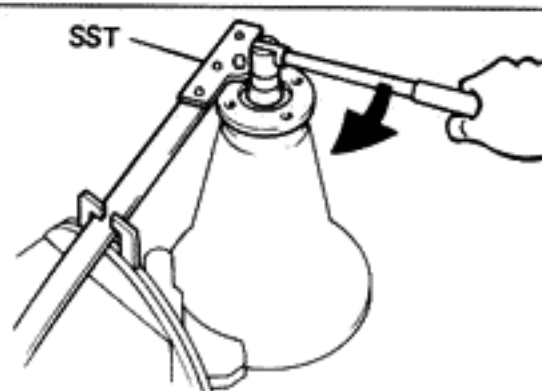
B4082

(c) Adjust the drive pinion preload by tightening the companion flange nut.

Using SST to hold the flange, tighten the nut.

SST 09330-00021

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

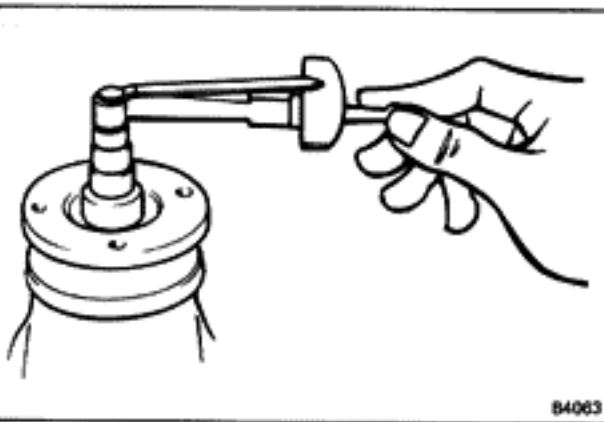


RA0027

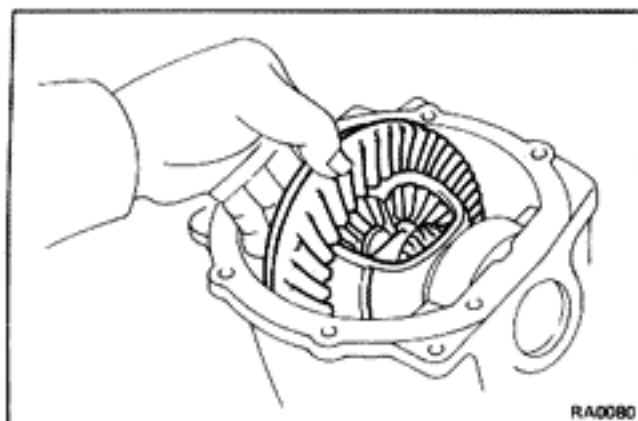
(d) Using a torque wrench, measure the preload.

Preload:

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)

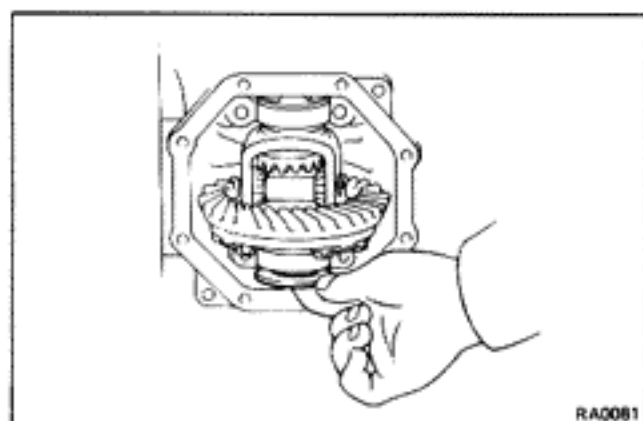


B4063



2. INSTALL DIFFERENTIAL CASE IN CARRIER

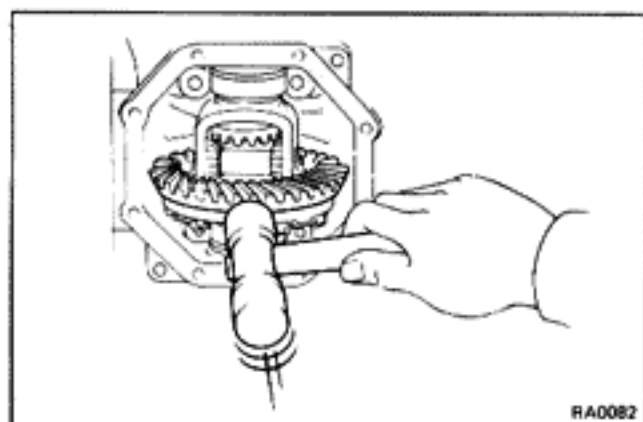
- (a) Place the bearing outer races on their respective bearings. Make sure the left and right outer races are not interchanged.
- (b) Install the differential case in the carrier.



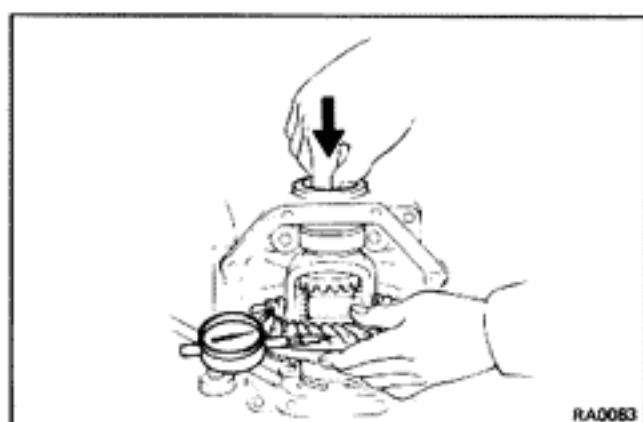
3. ADJUST RING GEAR BACKLASH

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

NOTE: Insure that the ring gear has a backlash.

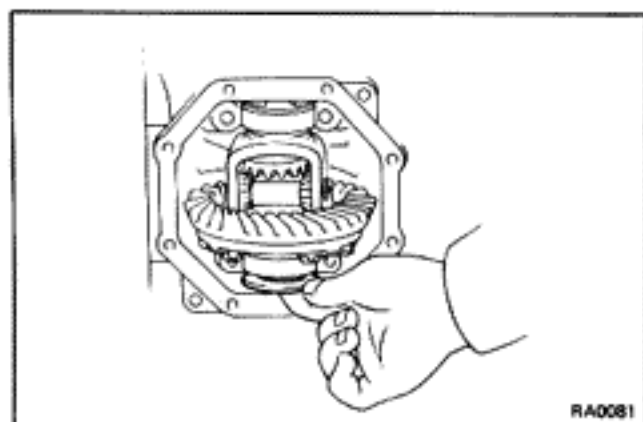


- (b) Snug down the washer and bearing by tapping on the ring gear with a plastic hammer.

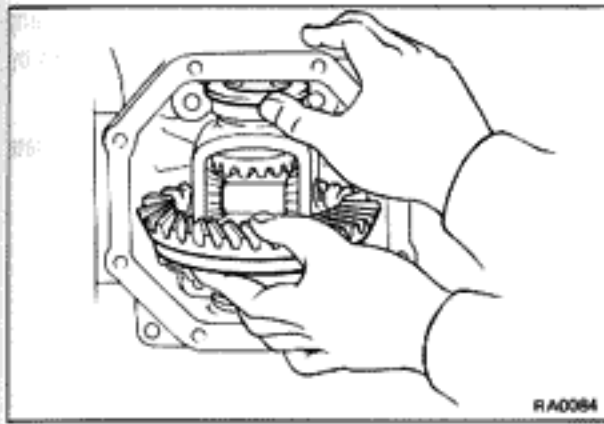


- (c) Hold the side bearing boss on the teeth surface of the ring gear and measure the backlash.

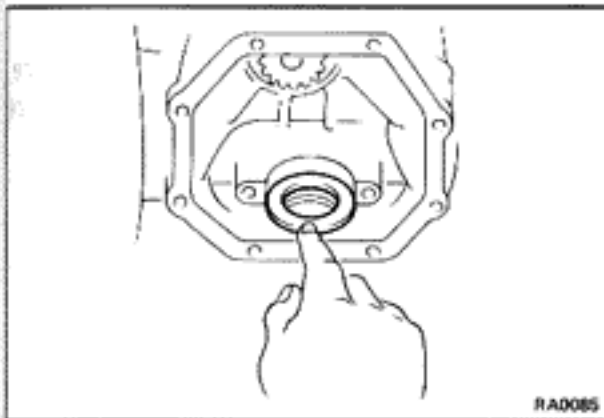
Backlash (reference): 0.10 mm (0.0039 in.)



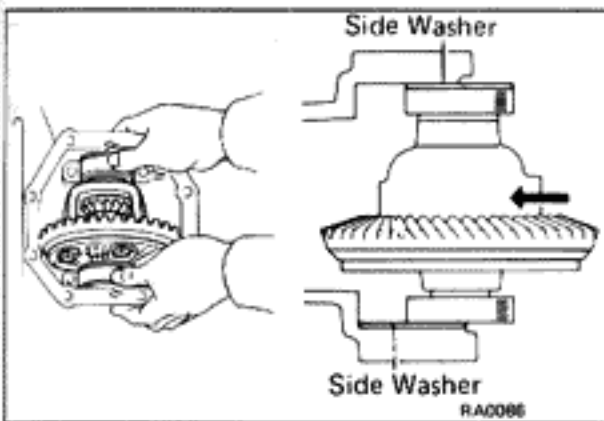
- (d) Select a ring gear back plate washer using the backlash as reference. (See page RA-32)



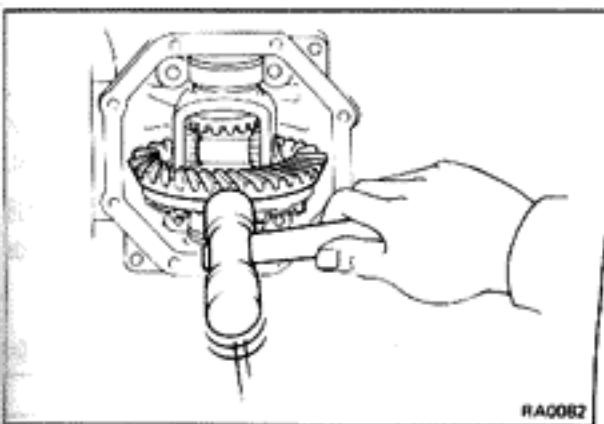
- (e) Select a ring gear teeth side washer of a thickness which eliminates any clearance between the outer race and case.



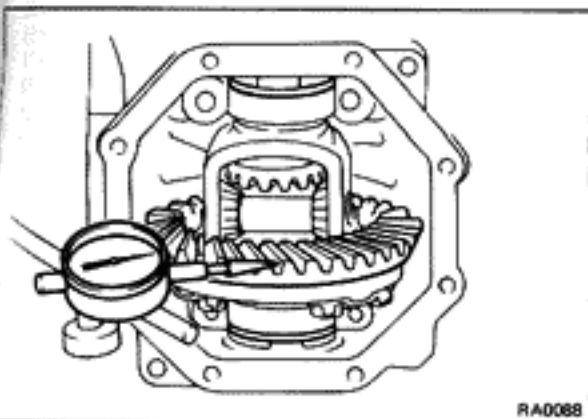
- (f) Remove the plate washers and differential case.
(g) Install the plate washer into the lower part of the carrier.



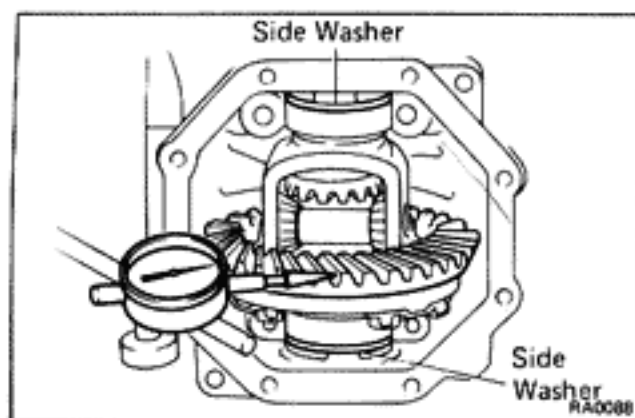
- (h) Place the other plate washer onto the differential case together with the outer race, and install the differential case with the outer race into the carrier.



- (i) 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.)



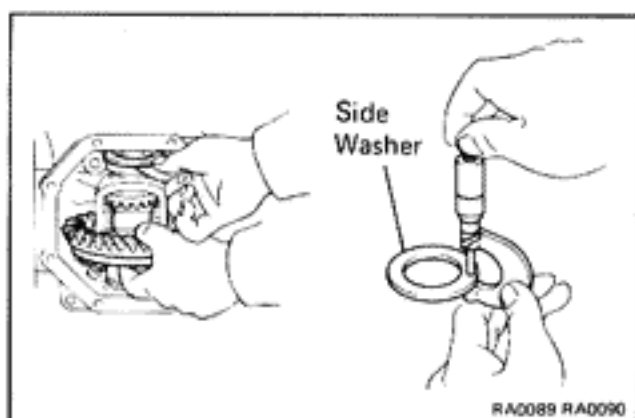
- (k) If not within specification, adjust by either increasing or decreasing the number of washers on both sides by an equal amount.

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

Insure that there is ring gear backlash.

4. ADJUST SIDE BEARING PRELOAD

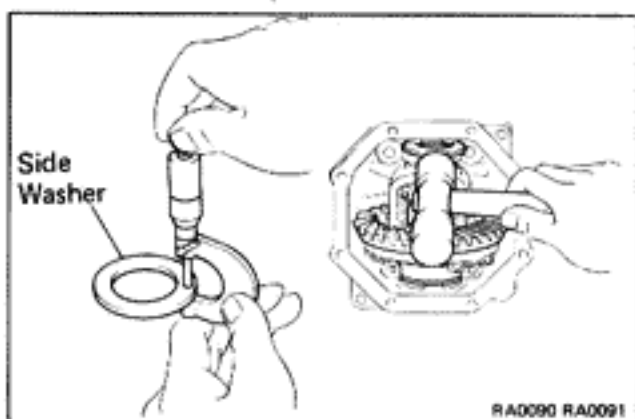
- (a) After adjustment with the backlash as reference, remove the ring gear teeth plate washer and measure the thickness.



- (b) Install a new washer of 0.06 – 0.09 mm (0.0024 – 0.0035 in.) thicker than the washer removed.

NOTE: Select a washer which can be pressed in 2/3 of the way by finger.

- (c) Using a plastic hammer, tap in the side washer.

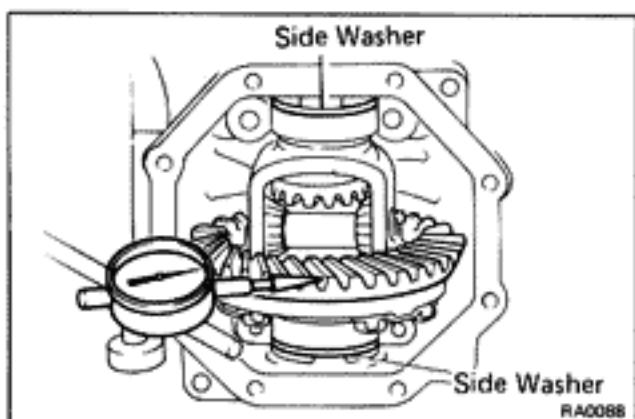
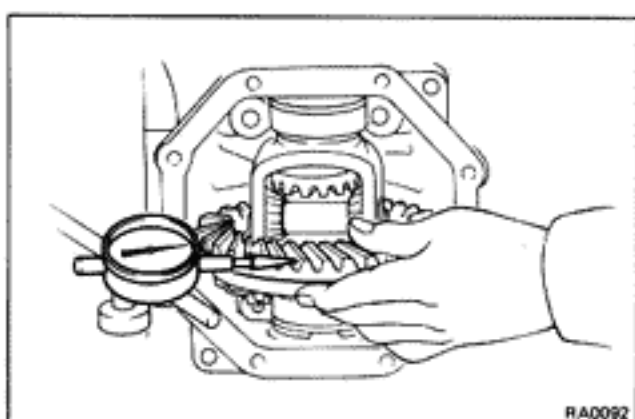


- (d) Recheck the ring gear backlash.

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

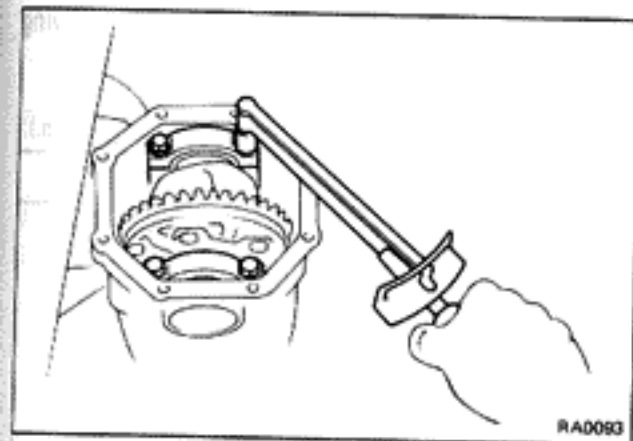
- (e) If not within standard, adjust by either increasing or decreasing the washers on both sides by equal amount.

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



Washer thickness mm (in.)

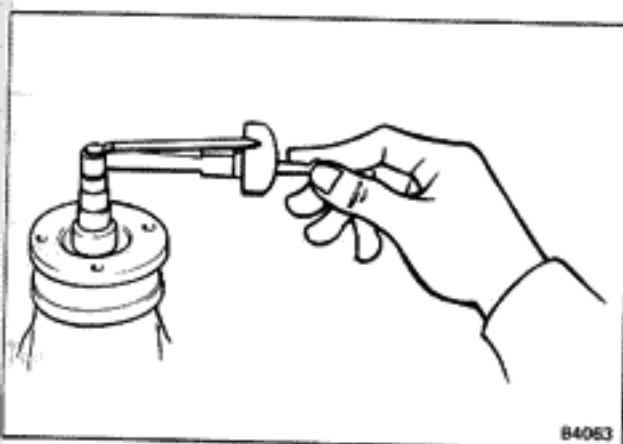
Thickness	Thickness
2.57 – 2.59 (0.1012 – 0.1020)	2.93 – 2.95 (0.1154 – 0.1161)
2.60 – 2.62 (0.1024 – 0.1031)	2.96 – 2.98 (0.1165 – 0.1173)
2.63 – 2.65 (0.1035 – 0.1043)	2.99 – 3.01 (0.1177 – 0.1185)
2.66 – 2.68 (0.1047 – 0.1055)	3.02 – 3.04 (0.1189 – 0.1197)
2.69 – 2.71 (0.1059 – 0.1067)	3.05 – 3.07 (0.1201 – 0.1209)
2.72 – 2.74 (0.1071 – 0.1079)	3.08 – 3.10 (0.1213 – 0.1220)
2.75 – 2.77 (0.1083 – 0.1091)	3.11 – 3.13 (0.1224 – 0.1232)
2.78 – 2.80 (0.1094 – 0.1102)	3.14 – 3.16 (0.1236 – 0.1244)
2.81 – 2.83 (0.1106 – 0.1114)	3.17 – 3.19 (0.1248 – 0.1256)
2.84 – 2.86 (0.1118 – 0.1126)	3.20 – 3.22 (0.1260 – 0.1268)
2.87 – 2.89 (0.1130 – 0.1138)	3.23 – 3.25 (0.1272 – 0.1280)
2.90 – 2.92 (0.1142 – 0.1150)	



5. INSTALL SIDE BEARING CAPS

Align the marks on the cap and carrier.

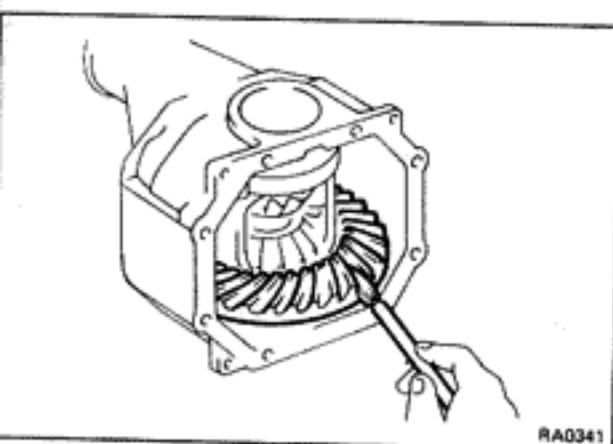
Torque: 800 kg-cm (58 ft-lb, 78 N-m)



6. MEASURE TOTAL PRELOAD

Using a torque wrench, measure the total preload.

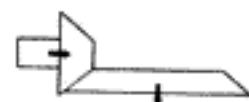
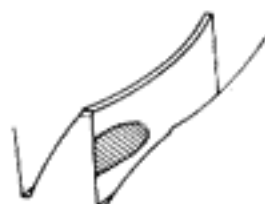
Total preload: In addition to drive pinion preload
4 – 6 kg-cm (3.5 – 5.2 in.-lb, 0.4 – 0.6 N-m)



7. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION

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

Heel Contact



Face Contact

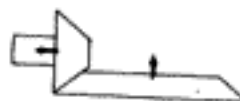


Select an adjusting shim that will bring the drive pinion closer to the ring gear.

Proper Contact



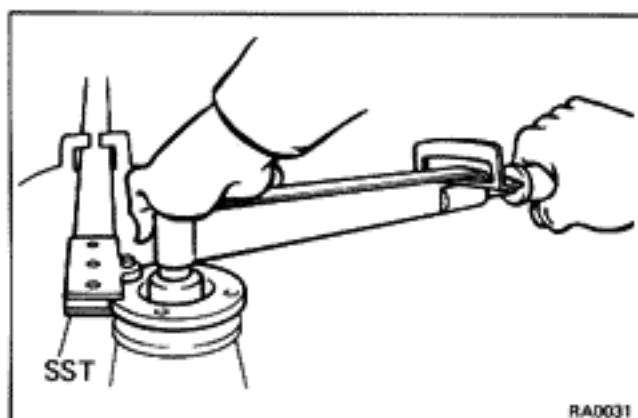
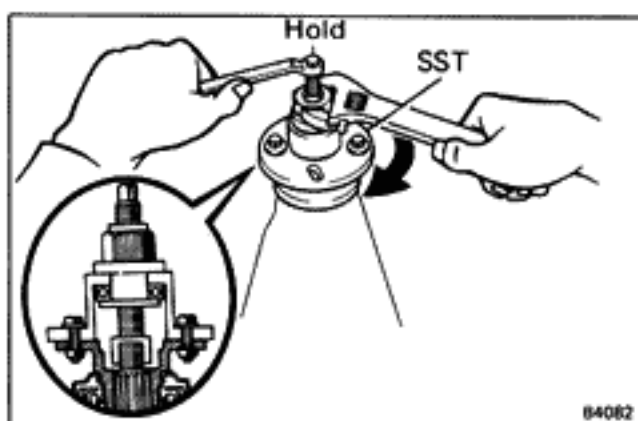
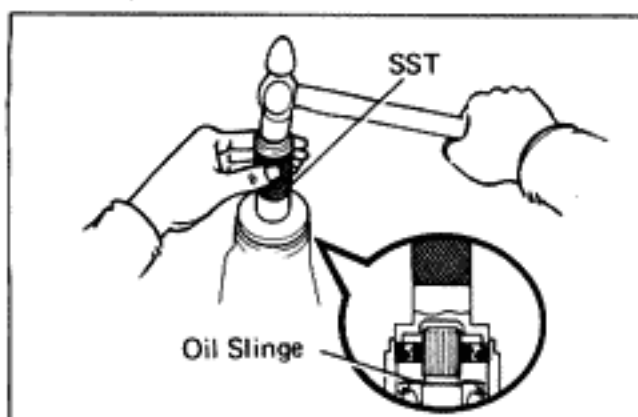
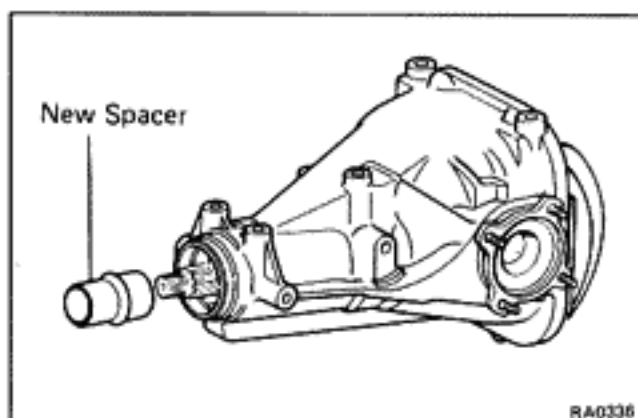
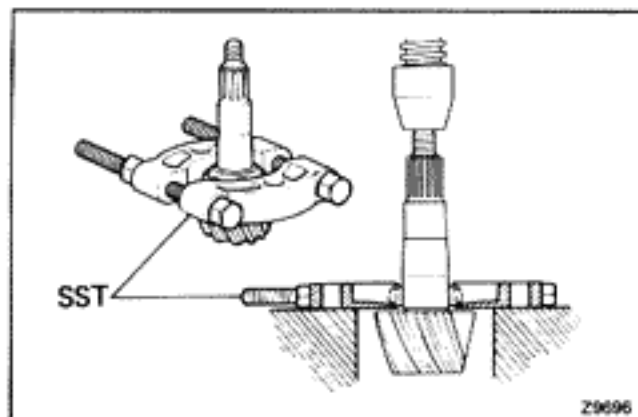
Toe Contact



Flank Contact



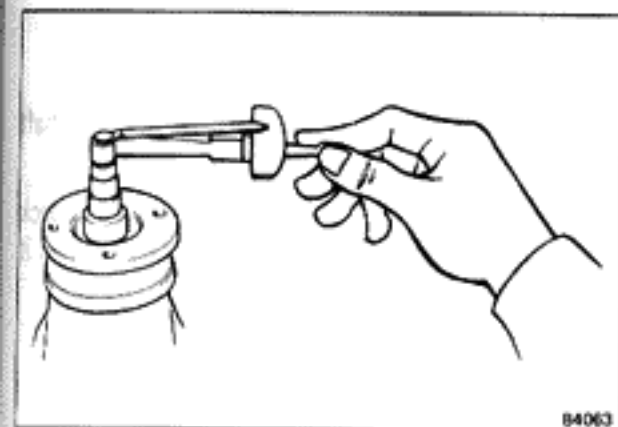
Select an adjusting shim that will shift the drive pinion away from the ring gear.



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

Washer thickness		mm (in.)
Thickness	Thickness	
2.24 (0.0882)	2.51 (0.0988)	
2.27 (0.0894)	2.54 (0.1000)	
2.30 (0.0906)	2.57 (0.1012)	
2.33 (0.0917)	2.60 (0.1024)	
2.36 (0.0929)	2.63 (0.1035)	
2.39 (0.0941)	2.66 (0.1047)	
2.42 (0.0953)	2.69 (0.1059)	
2.45 (0.0965)	2.72 (0.1071)	
2.48 (0.0976)		

8. **REMOVE COMPANION FLANGE**
(See step 10 on page RA-24)
9. **REMOVE FRONT BEARING AND BEARING SPACER**
(See step 12 on page RA-25)
10. **INSTALL NEW BEARING SPACER AND FRONT BEARING**
 - (a) Install a new bearing spacer on the shaft.
 - (b) Install the front bearing on the shaft.
11. **INSTALL OIL SLINGER AND NEW OIL SEAL**
 - (a) Install the oil slinger facing as shown.
 - (b) Using SST, drive in a new oil seal.
SST 09316-60010
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 shaft.
SST 09557-22022
 - (b) Coat the threads of a new nut with MP grease.
 - (c) Using SST to hold the flange, tighten the nut.
SST 09330-00021
Torque: 1,100 kg-cm (80 ft-lb, 108 N-m)



13. CHECK FRONT BEARING PRELOAD

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

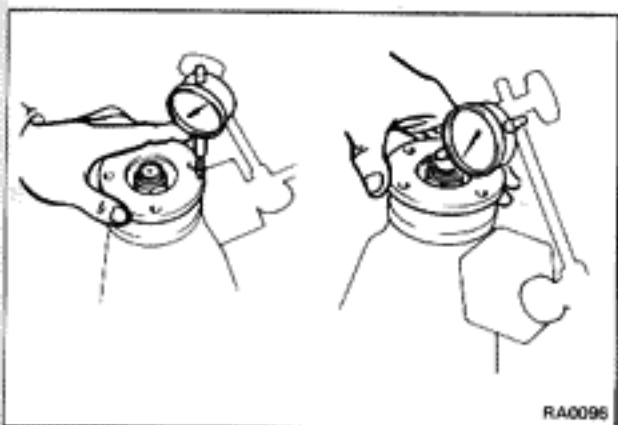
Preload:

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 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) 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)



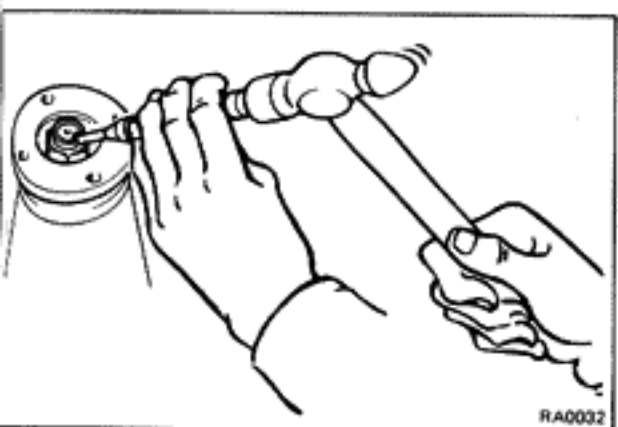
14. CHECK RUNOUT OF COMPANION FLANGE

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

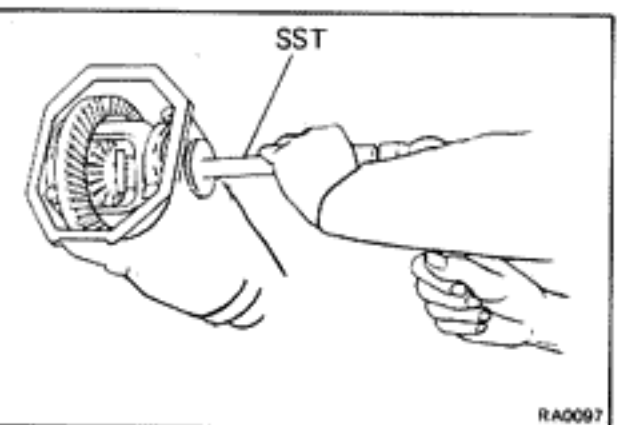
If the runout is greater than the maximum, inspect the bearings.

Maximum lateral runout: 0.10 mm (0.0039 in.)

Maximum radial runout: 0.10 mm (0.0039 in.)



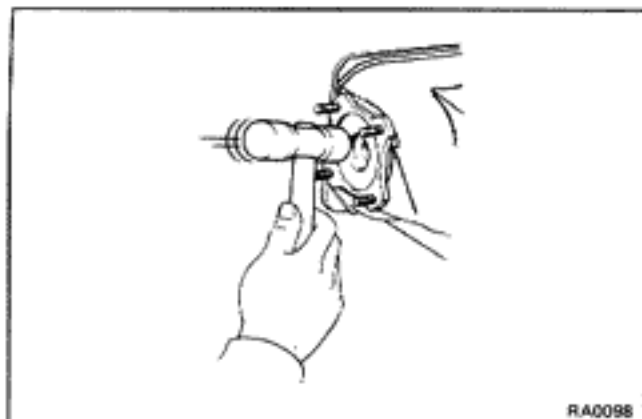
15. STAKE DRIVE PINION NUT



16. INSTALL SIDE GEAR SHAFT OIL SEAL

- Coat the oil seal lip with MP grease No. 2.
- Using SST, drive in the oil seal until it is flush with the carrier end surface.

SST 09550-22011 (09550-00020 and 09550-00030)

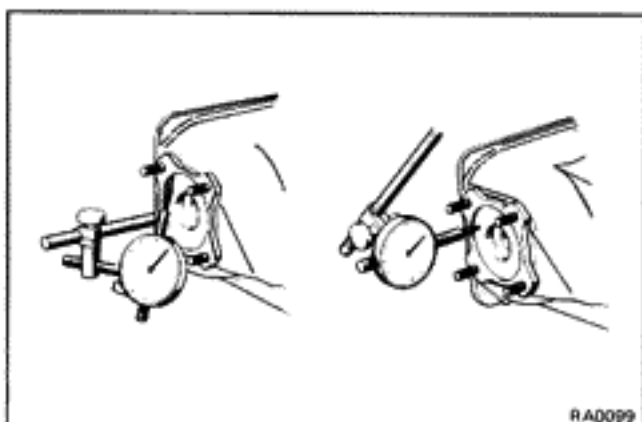


RA0088

17. INSTALL SIDE GEAR SHAFT

- (a) Before installing the shaft, replace the snap ring.
- (b) Using a plastic hammer, drive in the side gear shaft until it contacts the pinion shaft.

NOTE: As the LSD cannot be checked visually, check that the shaft is fully inserted by confirming the sound it makes when it is tapped.

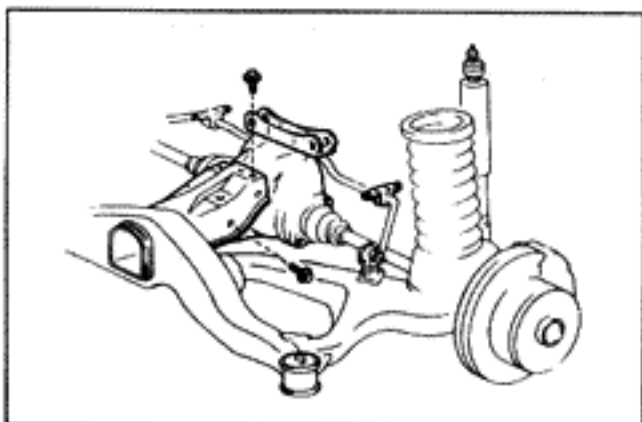


RA0099

18. MEASURE SIDE GEAR SHAFT RUNOUT

Maximum runout: 0.20 mm (0.0079 in.)

If the runout is greater than the maximum, replace the side gear shaft.

19. INSTALL DIFFERENTIAL CARRIER COVER**INSTALLATION OF DIFFERENTIAL**

(See page RA-20)

1. INSTALL DIFFERENTIAL

Support the differential with a jack and install the carrier bolt.

Torque: 850 kg-cm (61 ft-lb, 83 N·m)

2. INSTALL DIFFERENTIAL SUPPORT MEMBER MOUNTING BOLT NO. 1 (See page RA-55)

Torque: 850 kg-cm (61 ft-lb, 83 N·m)

Lower the differential and remove the jack.

3. CONNECT PROPELLER SHAFT FLANGE FROM COMPANION FLANGE**4. CONNECT DRIVE SHAFT**

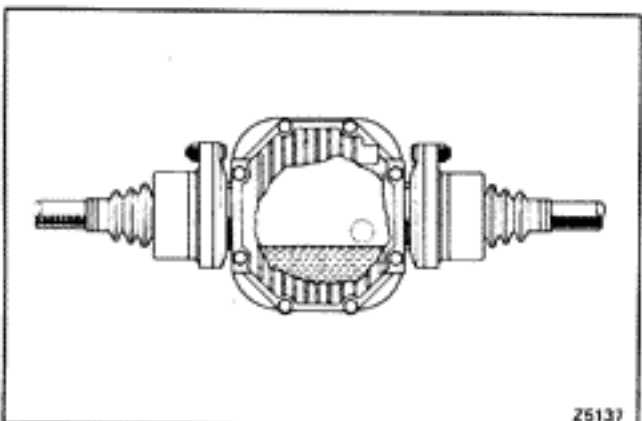
Torque: 700 kg-cm (51 ft-lb, 69 N·m)

5. INSTALL DRAIN PLUG AND FILL DIFFERENTIAL WITH GEAR OIL

Hypoid gear oil: w/LSD use LSD oil only
 SAE 90 above – 18°C (0°F)
 SAE 80W or 80W – 90
 at temperature below – 18°C (0°F)

Capacity: 1.2 liters (1.3 US qts, 1.1 Imp. qts)

Install a filler plug.



Z5137

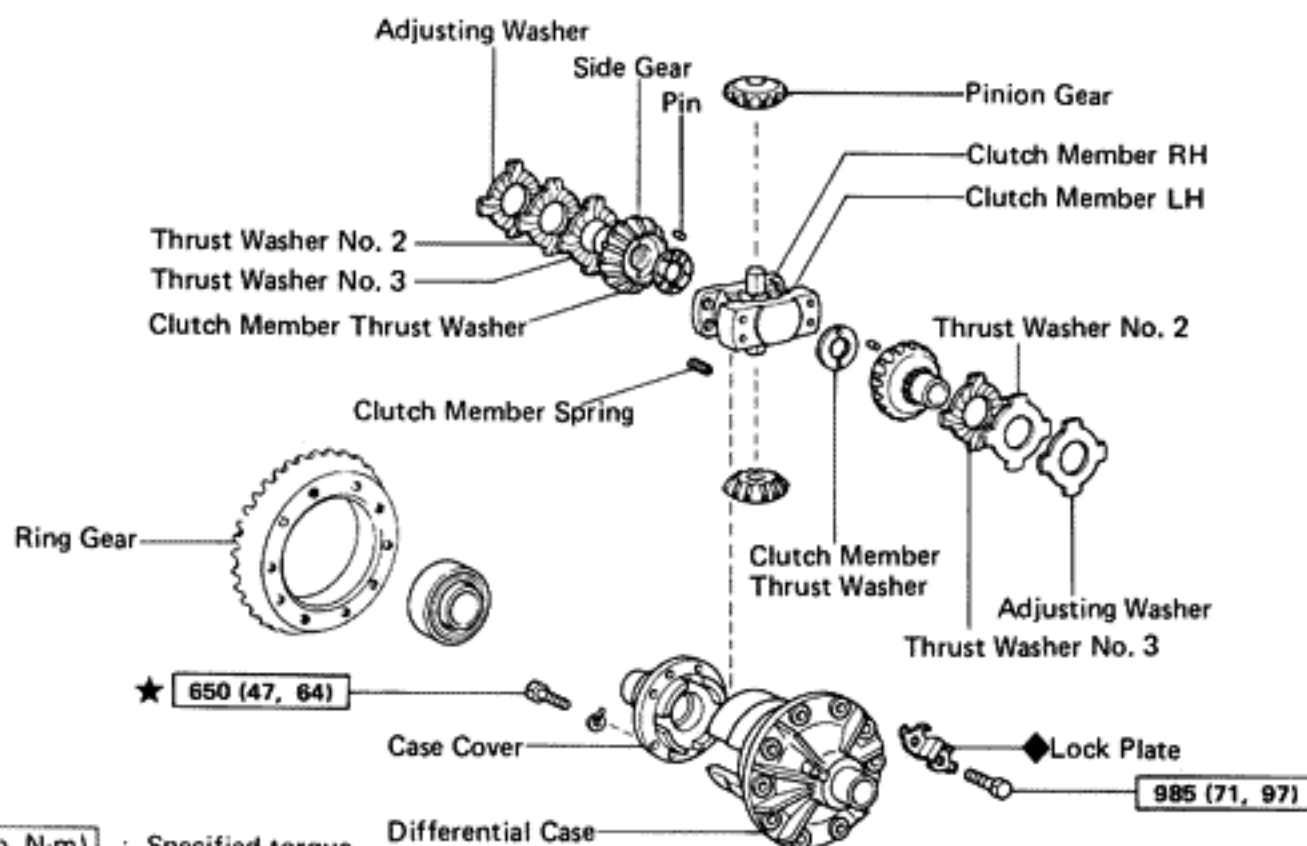
LIMITED SLIP DIFFERENTIAL

Preparation of disassembly

1. REMOVE DIFFERENTIAL (See page RA-20)
2. DISASSEMBLE DIFFERENTIAL CASE FROM CARRIER (See page RA-25)
3. DISASSEMBLE SIDE BEARING (See page RA-26)

NOTE: If the side gear or clutch member has been replaced, be sure to replace the thrust washer contacting this part. Any disassembled part that is to be reused must be reassembled to its former location.

COMPONENTS

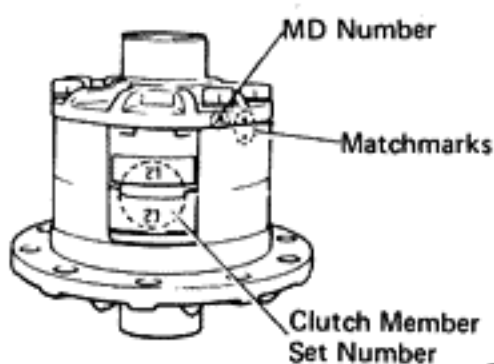


kg-cm (ft-lb, N-m) : Specified torque

◆ Non-reusable part

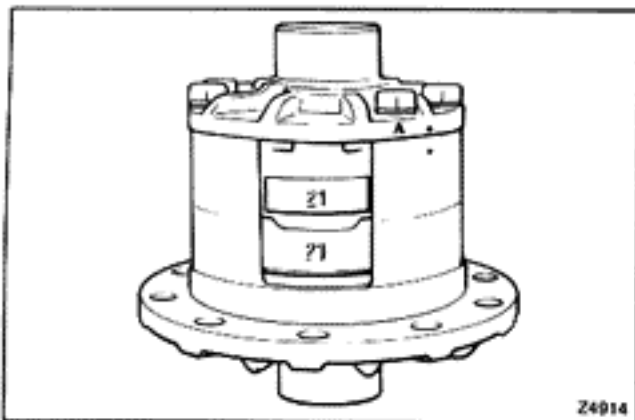
★ Precoated part

RA0367



DISASSEMBLY OF LIMITED SLIP DIFFERENTIAL

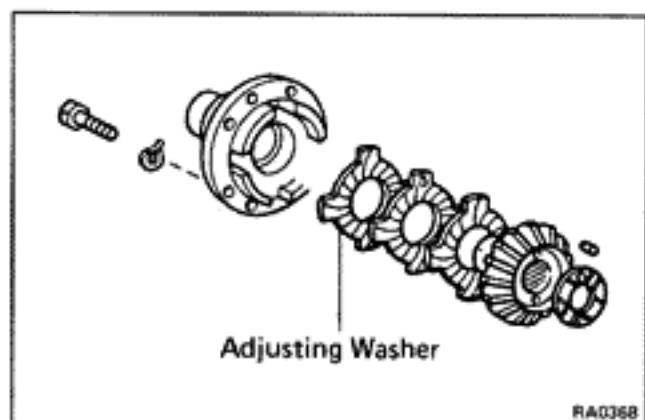
1. PUT MATCHMARKS ON CASE AND CASE COVER
2. CHECK CASE COVER MARKS AND CLUTCH MEMBER RH, LH SET NUMBER



3. REMOVE CASE BOLTS AND CASE COVER WITH SIDE GEAR

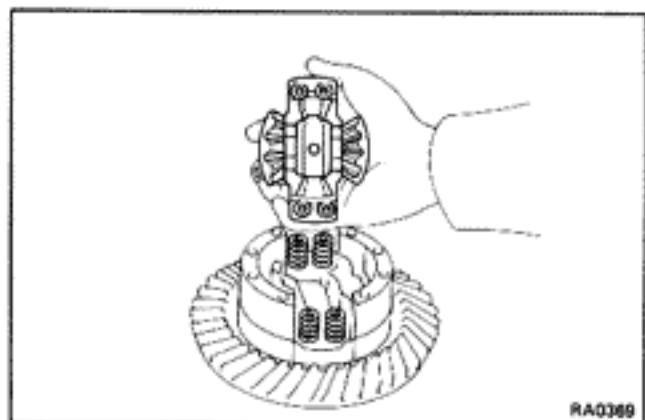
NOTE: Case cover bolts have been treated with retaining compound making it difficult to loosen them.

Removal will be made easier by heating the assembly to around 150 °C (302° F) in an oil heater or similar means.



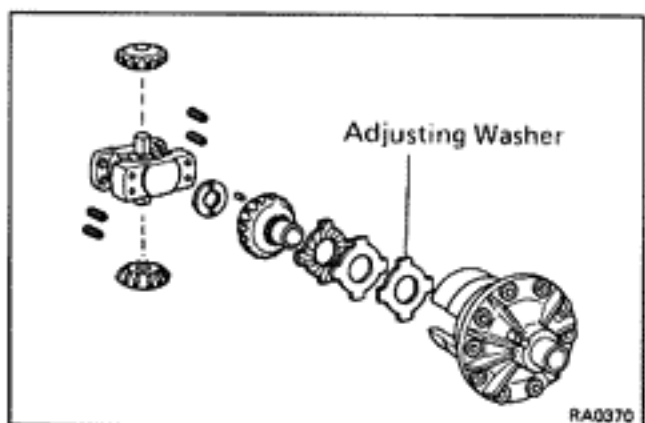
4. REMOVE FOLLOWING PARTS FROM CASE COVER:

- (a) Clutch member thrust washer
- (b) Side gear
- (c) Thrust washer No. 3
- (d) Thrust washer No. 2
- (e) Adjusting washer



5. REMOVE FOLLOWING PARTS FROM DIFFERENTIAL CASE:

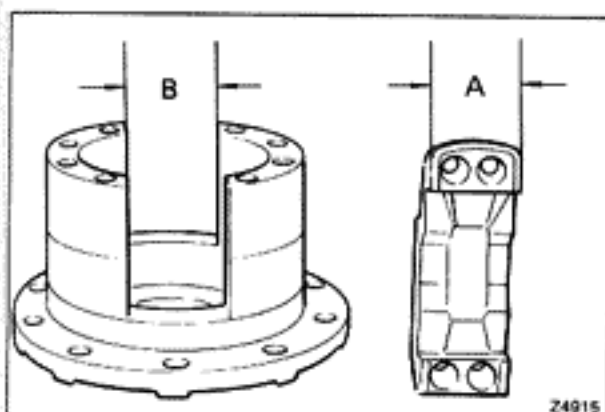
- (a) Clutch member RH with pinion gear



- (b) Clutch member spring
- (c) Clutch member LH
- (d) Side gear and clutch member thrust washer
- (e) Thrust washer No. 3
- (f) Thrust washer No. 2
- (g) Adjusting washer

INSPECTION AND ADJUSTMENT OF DIFFERENTIAL CASE

1. REPLACE PARTS THAT ARE DAMAGED OR WORN



2. CHECK CLUTCH MEMBER LH AND DIFFERENTIAL CASE

Check the clearance between left clutch member and differential case.

	Specifications	mm (in.)
Clutch member (A)	41.975–42.000	(1.6526–1.6535)
Differential case (B)	42.000–42.025	(1.6535–1.6545)
Clearance	0–0.050	(0–0.0020)

3. ADJUST SIDE GEAR THRUST CLEARANCE

NOTE: Adjust the axial clearance inside the differential case by selecting a proper thickness adjusting washer as follows.

Standard clearance:

0.03 – 0.15 mm (0.0012 – 0.0059 in.)

- (a) Clean the parts.

- (b) Assemble the following parts to SST.

SST 09411-22011

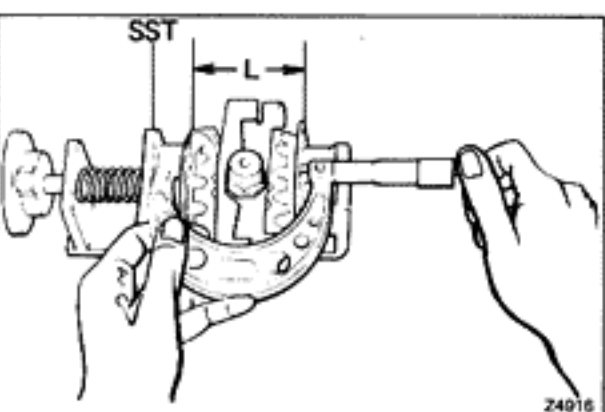
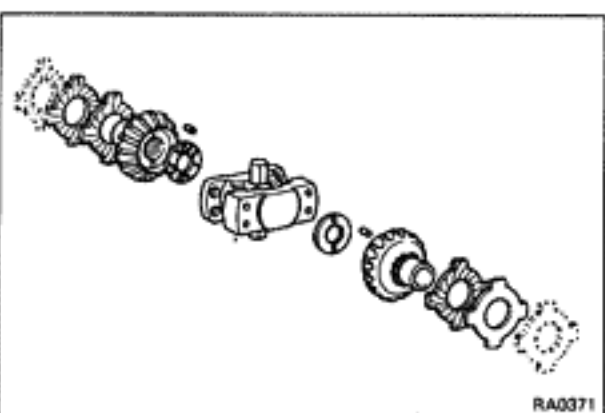
NOTE: Do not assemble the adjusting washers and clutch member springs.

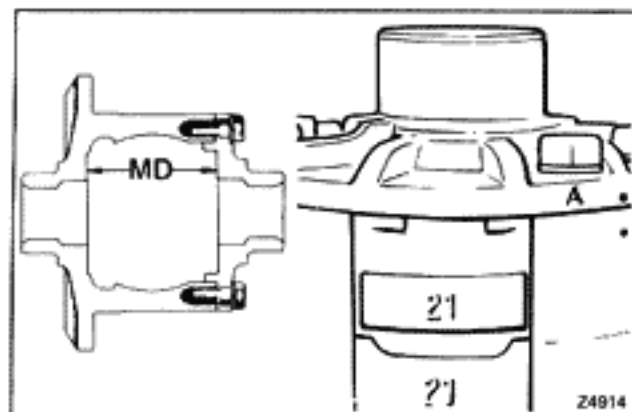
- (1) Side gear thrust washer No. 2
- (2) Side gear thrust washer No. 3
- (3) Side gear
- (4) Clutch member thrust washer
- (5) Clutch member LH
- (6) Clutch member RH
- (7) Clutch member thrust washer
- (8) Side gear
- (9) Side gear thrust washer No. 3
- (10) Side gear thrust washer No. 2

- (c) Loosen the nut of SST and hold the parts with spring tension.

- (d) Using a micrometer, measure dimension "L".

NOTE: Properly align the parts to be measured and measure dimension "L" several times. Take the average of the readings.





- (e) Differential case mounting dimension (MD) has been classified and code letters are punched on the differential case.

Mounting dimension mm (in.)

Mounting dimension	mm (in.)
A	74.98-75.01 (2.9520-2.9531)
B	75.01-75.04 (2.9531-2.9543)
C	75.04-75.07 (2.9543-2.9555)
D	75.07-75.10 (2.9555-2.9567)
E	75.10-75.13 (2.9567-2.9579)

- (f) Select the adjusting washers by combining the dimension "MD" (mark punched on case) and dimension "L" in the adjusting washer selection table.

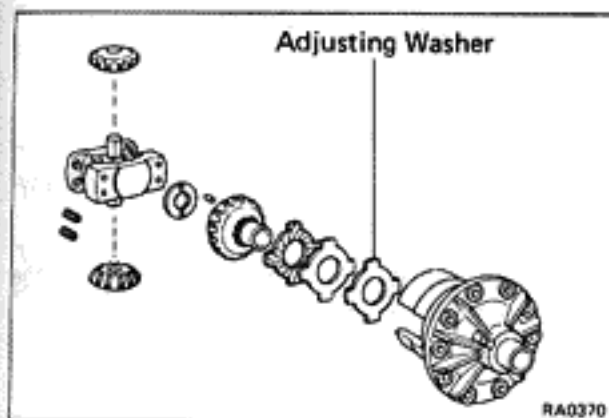
Adjusting washer sizes mm (in.)

Mark	Thickness	Mark	Thickness
1	1.80 (0.0709)	4	1.95 (0.0768)
2	1.85 (0.0728)	5	2.00 (0.0787)
3	1.90 (0.0748)	6	2.05 (0.0807)

Adjusting washer selection table

		Differential case code mark					
		A	B	C	D	E	
"L" Measured assembled distance of thrust washer No. 1 and No. 2, etc. (mm)	70.91						2.7917
	.92					⑥+①	2.7921
	.93						2.7925
	.94						2.7929
	.95				⑥+⑤		2.7933
	.96						2.7937
	.97						2.7941
	.98			⑤+③			2.7945
	.99						2.7949
	71.00						2.7953
	.01						2.7957
	.02						2.7961
	.03						2.7965
	.04			⑤+④			2.7968
	.05						2.7972
	.06						2.7976
	.07			④+④			2.7980
	.08						2.7984
	.09						2.7988
	.10		④+③				2.7992
	.11						2.7996
	.12						2.8000
	.13						2.8004
	.14						2.8008
	.15						2.8012
	.16						2.8016
	.17			③+③			2.8020
	.18						2.8024
	.19						2.8028
	.20						2.8031
	.21						2.8035
	.22			③+②			2.8039
	.23						2.8043
	.24						2.8047
	.25			②+②			2.8051
	.26						2.8055
	.27						2.8059
	.28		②+①				2.8063
	.29						2.8067
	.30						2.8071
	.31	①+①					2.8075
	.32						2.8079

"L" Measured assembled distance of thrust washer No. 1 and No. 2, etc. (in.)

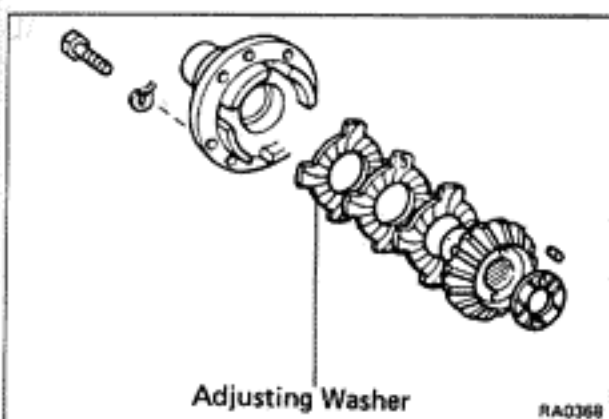


(g) Install following parts onto the differential case.

- Adjusting washer
- Thrust washer No. 2
- Thrust washer No. 3
- Side gear
- Clutch member thrust washer
- Clutch member LH

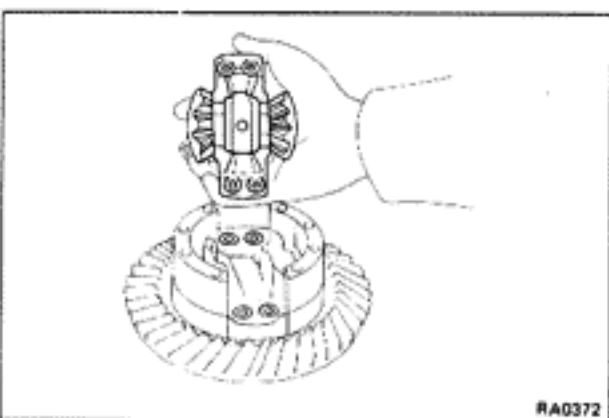
NOTE: Do not install the clutch member spring.

- Clutch member RH with pinion gear



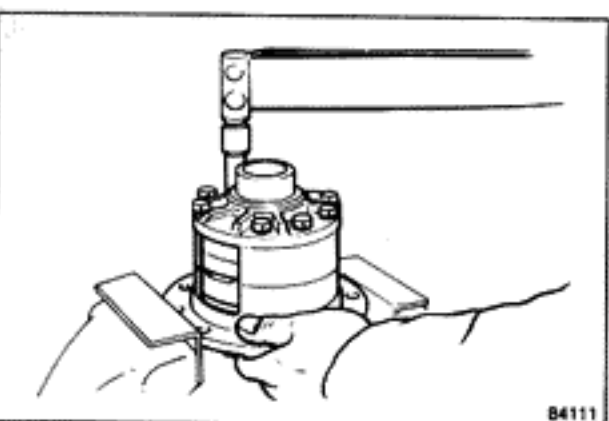
(h) Install following parts onto the differential case cover.

- Adjusting washer
- Thrust washer No. 2
- Thrust washer No. 3
- Side gear
- Clutch member thrust washer



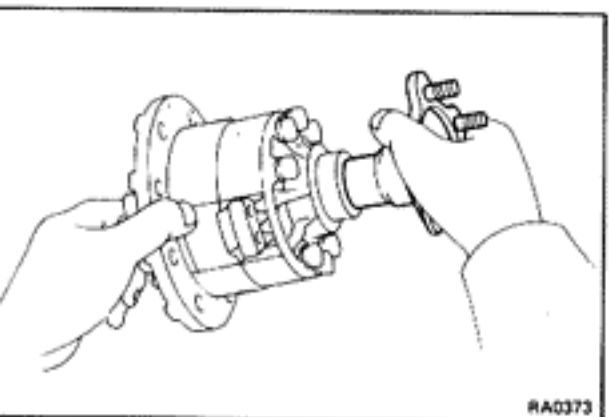
(i) Temporarily assemble the selected thrust washers together with the other "L" dimension measured parts into the case.

NOTE: Do not assemble the spring.



(j) Tighten the bolts to specified torque.

Torque: 650 kg-cm (47 ft-lb, 64 N-m)



(k) Turn the side gears with the side gear shaft or other means and check to see that they turn smoothly.

NOTE: Remove the snap ring from side gear shaft. Reselect thrust washers if the side gear does not turn smoothly.

(l) Disassemble the differential case.

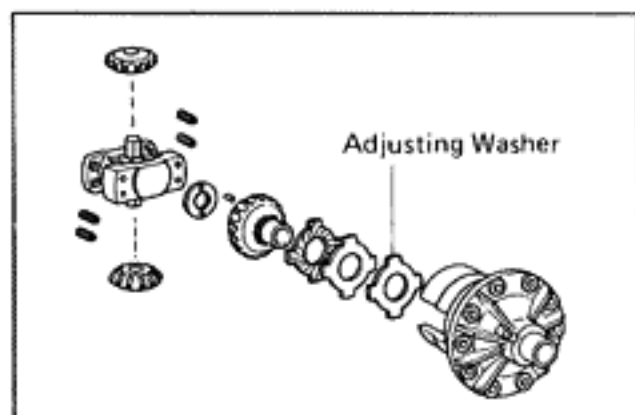
ASSEMBLY OF DIFFERENTIAL CASE

(See page RA-37)

1. WASH DIFFERENTIAL CASE ASSEMBLY

Wash the differential case and bolts with trichloroethylene.

NOTE: Other cleaning solvent may be used if it has the same degreasing effect as trichloroethylene.

**2. INSTALL FOLLOWING PARTS ON TO DIFFERENTIAL CASE**

NOTE: Coat the parts with gear oil for LSD.

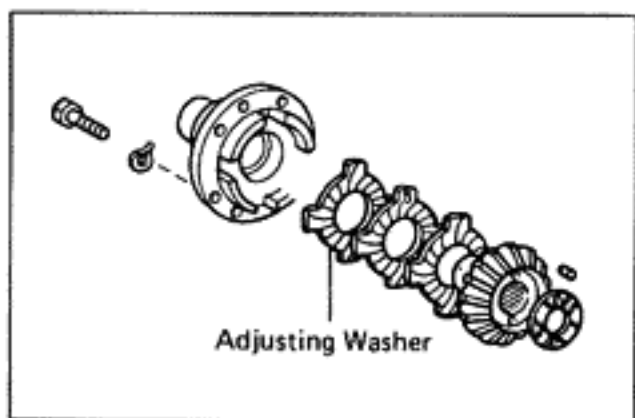
- Adjusting washer

NOTE: Face the oil groove toward the clutch plate.

- Thrust washer No. 2
- Thrust washer No. 3
- Side gear
- Clutch member thrust washer

NOTE: Face the oil groove toward the clutch member.

- Clutch member LH
- Clutch member spring
- Clutch member RH with pinion gear

**3. INSTALL FOLLOWING PART ONTO DIFFERENTIAL CASE COVER**

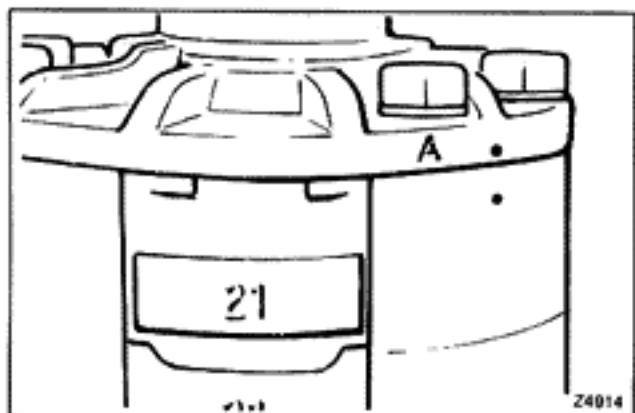
- Adjusting washer

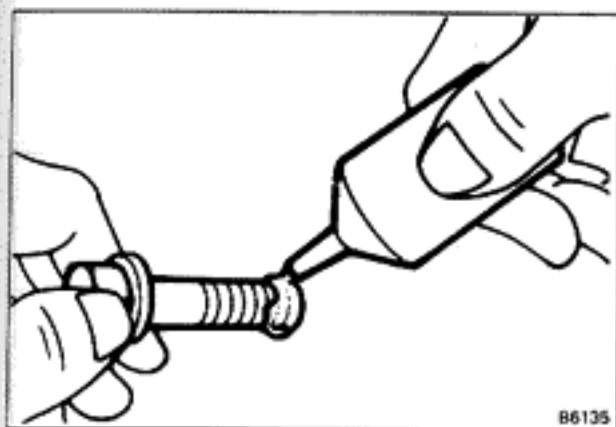
NOTE: Face the oil groove toward the clutch plate.

- Thrust washer No. 2
- Thrust washer No. 3
- Side gear
- Clutch member thrust washer

NOTE: Face the oil groove toward the clutch member.

Align the marks on the case and case cover.





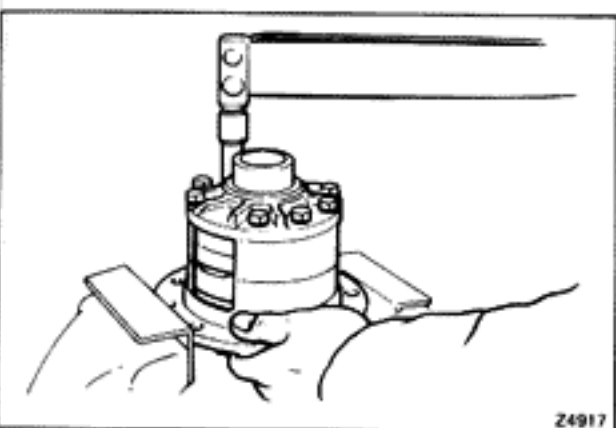
4. INSTALL CASE COVER BOLTS

(a) Apply retaining compound to the bolts.

NOTE: Use Lock-Tight as the retaining compound.

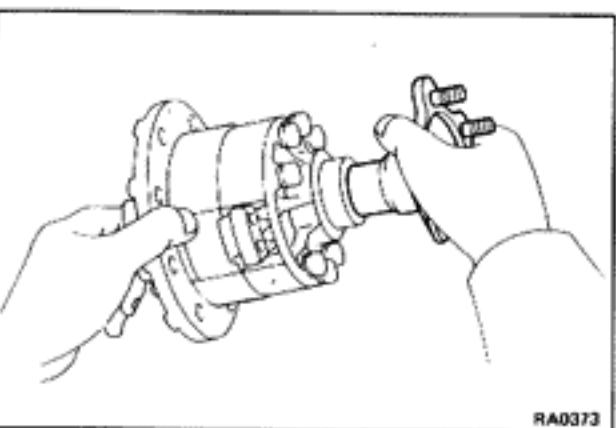
NOTE: Method of applying Lock-Tight.

- (1) Apply Lock-Tight Primer T to the case threads and the mounting bolts, and allow to dry thoroughly.
- (2) Apply Lock-Tight to the case threads and the bolts and install the bolts.
- (3) Allow to stand at least 3 hours after tightening the bolts. [In cold weather, heat to 30 – 50°C (86 – 122°F) before letting stand.]



(b) Tighten the bolts evenly and gradually.

Torque: 650 kg-cm (47 ft-lb, 64 N·m)



5. CHECK SIDE GEAR THRUST CLEARANCE

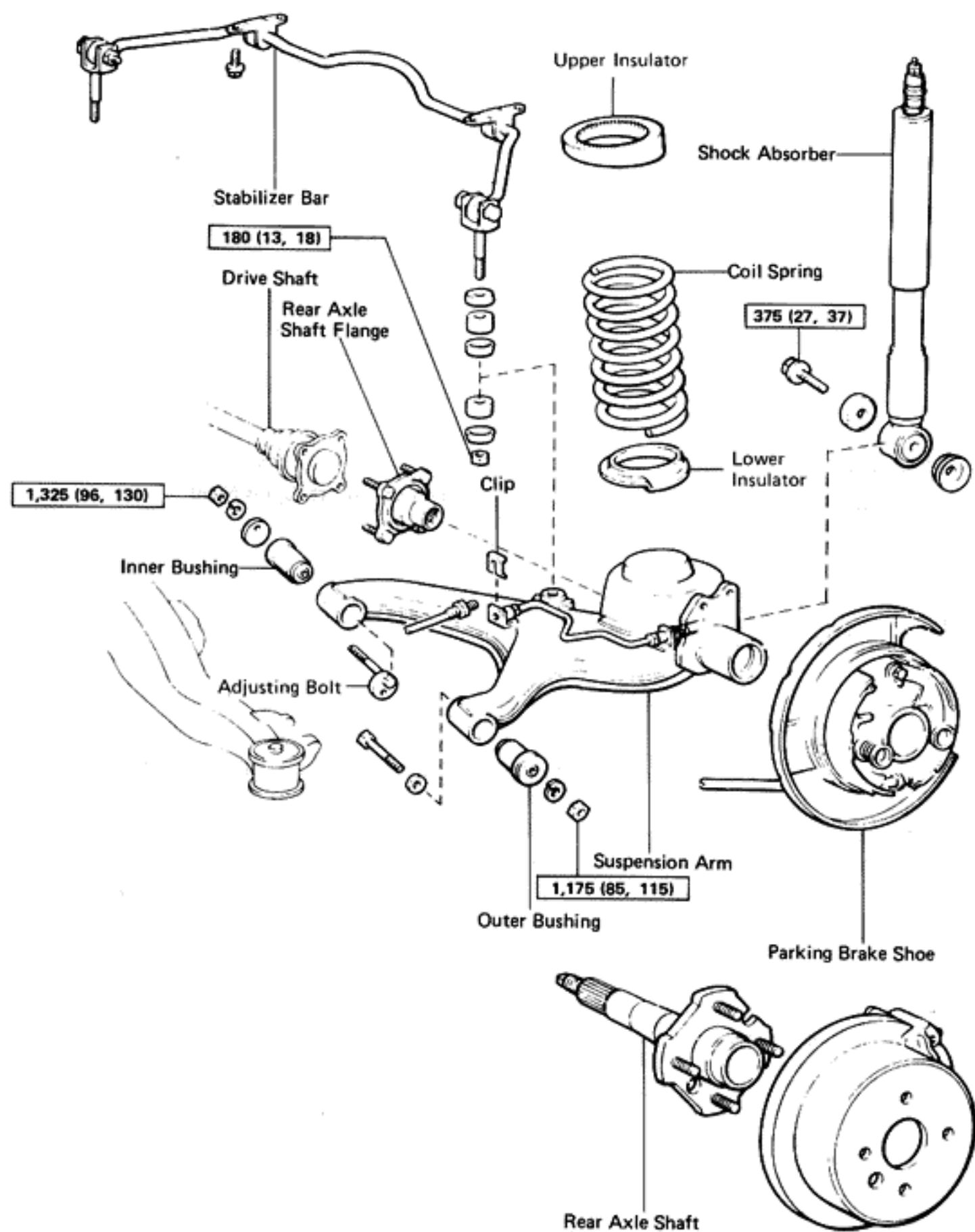
Turn the side gear with side gear shaft or other means and check to see that they turn smoothly.

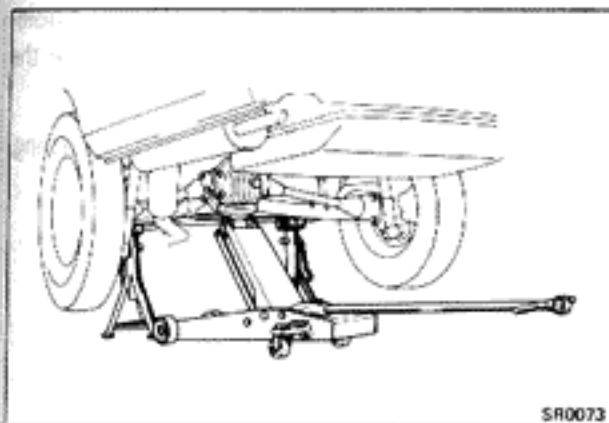
6. INSTALL SIDE BEARING (See page RA-28)

INSTALLATION OF DIFFERENTIAL

1. INSTALL DIFFERENTIAL CASE IN CARRIER
(See page RA-30)
2. INSTALL DIFFERENTIAL
(See page RA-36)

IRS TYPE REAR SUSPENSION COMPONENTS



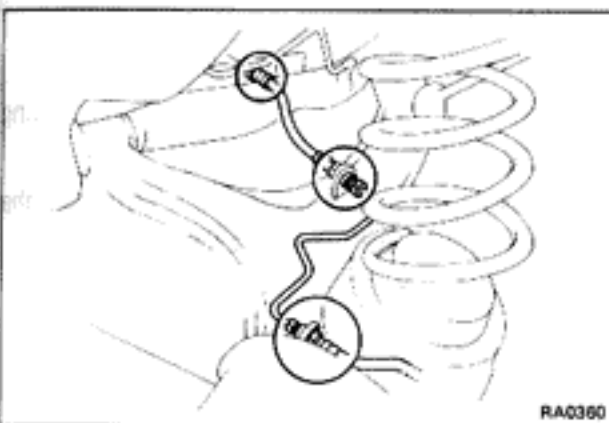


Coil Spring and Rear Shock Absorber

REMOVAL OF COIL SPRING AND SHOCK ABSORBER

1. JACK UP VEHICLE

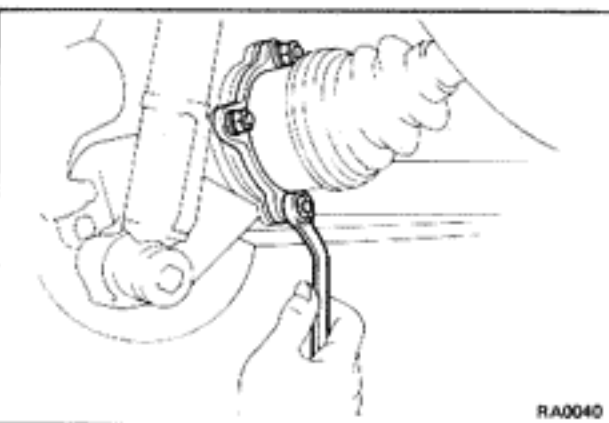
Jack up the differential carrier assembly and support the rear suspension member with stands.



2. REMOVE BRAKE HOSE CLIPS

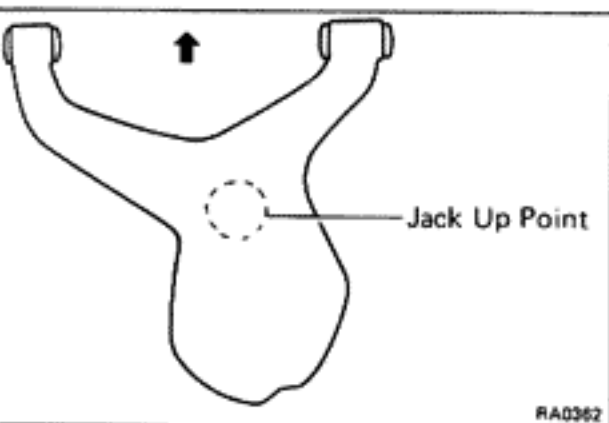
3. REMOVE STABILIZER BAR END

Disconnect the nut, cushion and retainer from suspension arm.

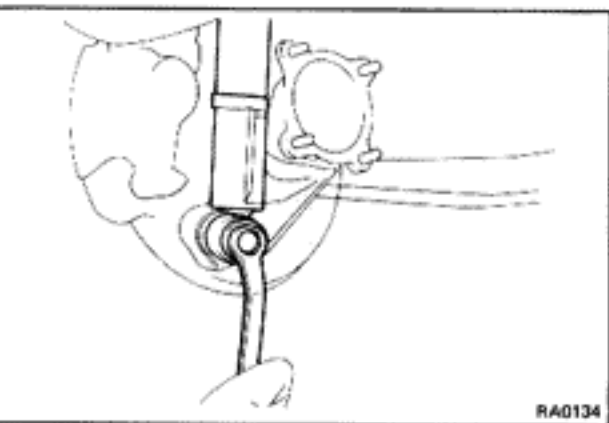


4. REMOVE DRIVE SHAFT

Remove the nut holding the rear drive shaft.

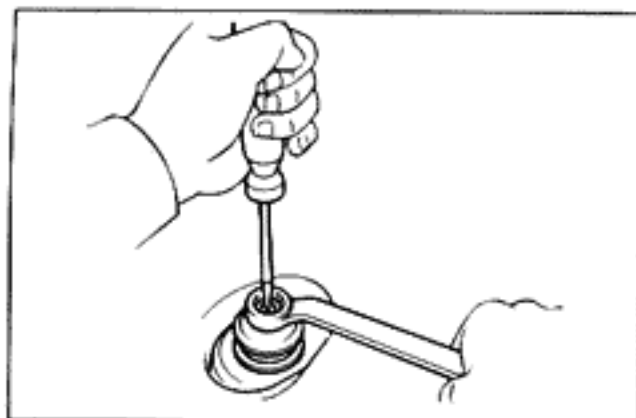


5. LEAVE A JACK UNDER SUSPENSION ARM



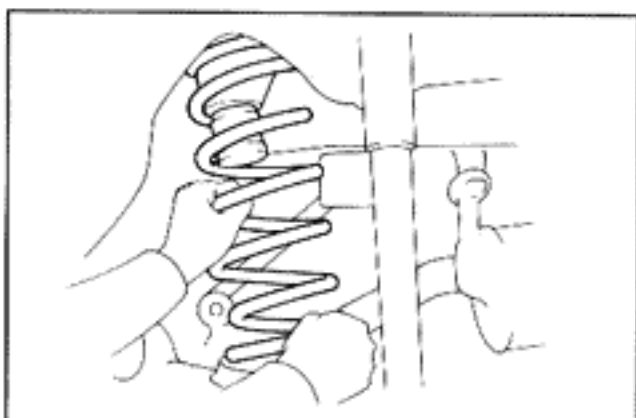
6. REMOVE REAR SHOCK ABSORBER

- (a) Remove the bolt holding the shock absorber to the rear suspension 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.

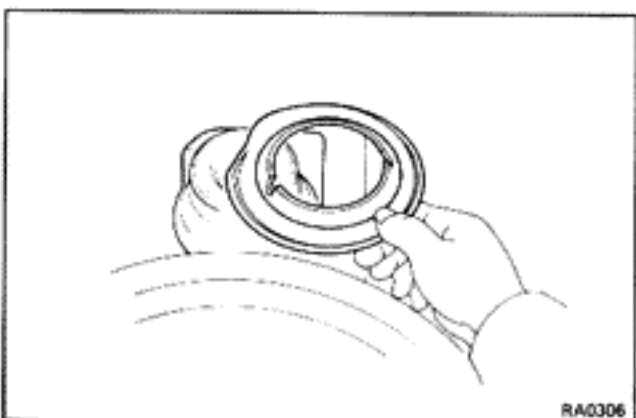


7. REMOVE REAR COIL SPRING

- (a) Start to lower the rear suspension arm.

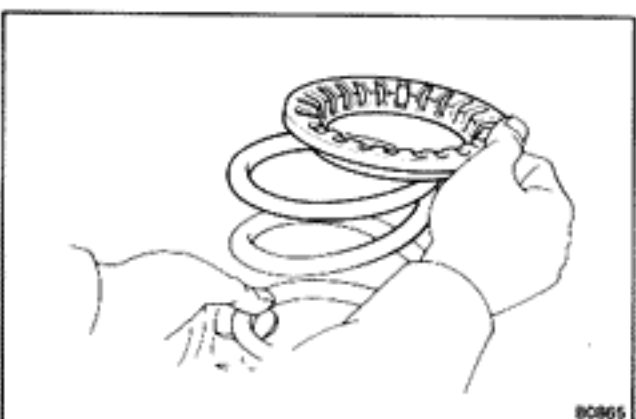
NOTE: Be careful not to pull the brake line and parking brake cable.

- (b) While lowering the rear suspension arm, remove the coil spring and upper and lower insulators.

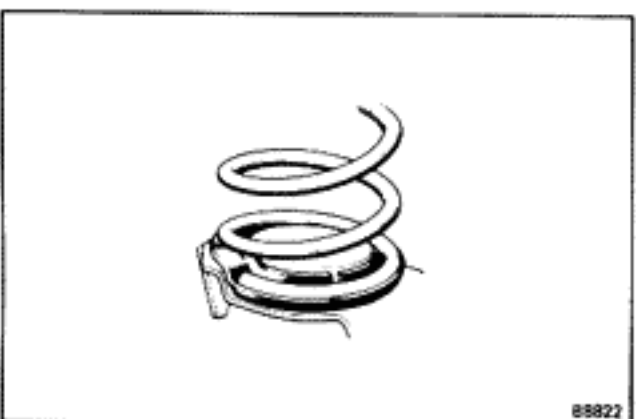


INSTALLATION OF COIL SPRING AND SHOCK ABSORBER

1. PUT LOWER INSULATOR ON REAR SUSPENSION ARM



2. PUT UPPER INSULATOR ON COIL SPRING



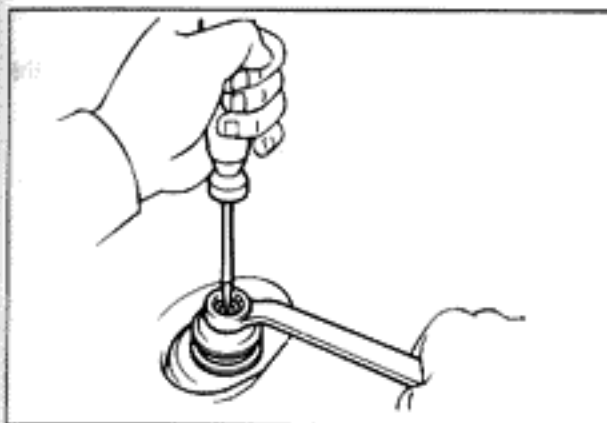
3. INSTALL COIL SPRING

4. CHECK POSITION OF LOWER INSULATOR

- (a) Jack up the rear suspension arm.

- (b) Check that the lower insulator is installed correctly.

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

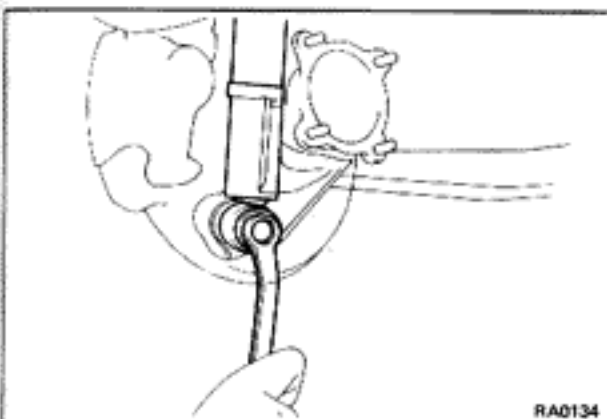


5. INSTALL SHOCK ABSORBER

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

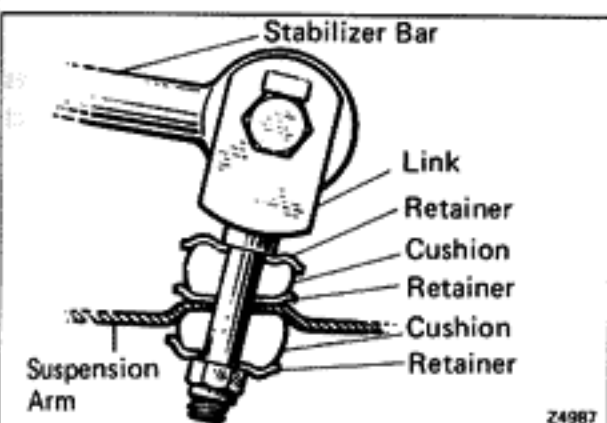
Torque the nut.

Torque: 250 kg-cm (18 ft-lb, 25 N-m)



- (b) Connect the shock absorber to the rear suspension arm with the bolt. Torque the bolt.

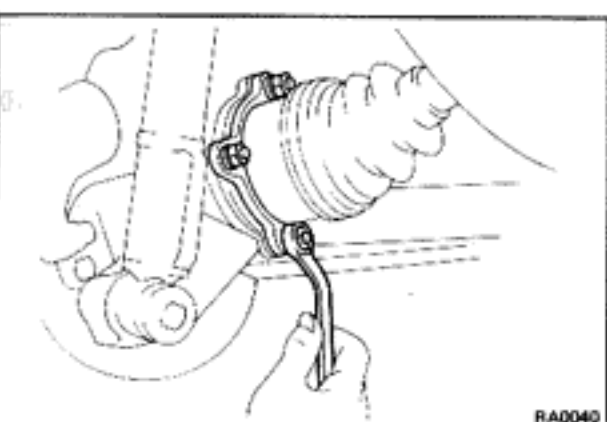
Torque: 375 kg-cm (27 ft-lb, 37 N-m)



6. CONNECT STABILIZER BAR END TO REAR SUSPENSION

Connect the cushion, retainer to the rear suspension arm with the nut. Torque the nut.

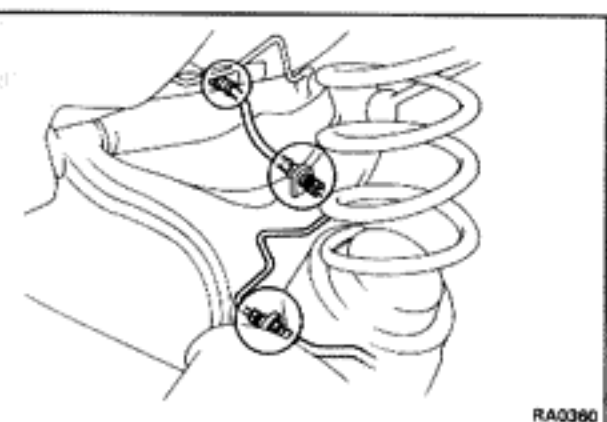
Torque: 180 kg-cm (13 ft-lb, 18 N-m)



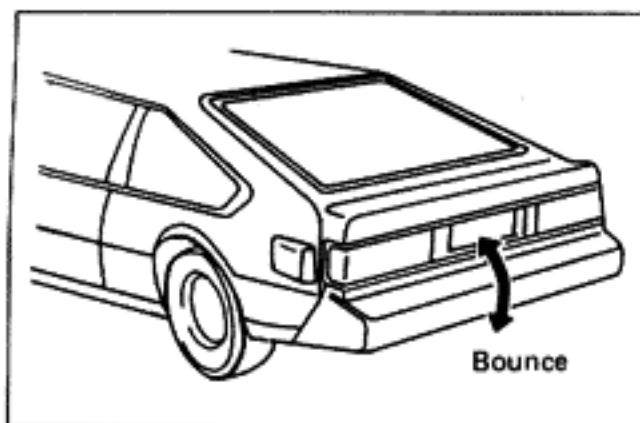
7. INSTALL DRIVE SHAFT

Connect the drive shaft to the rear axle shaft with the nuts.

Torque: 700 kg-cm (51 ft-lb, 69 N-m)

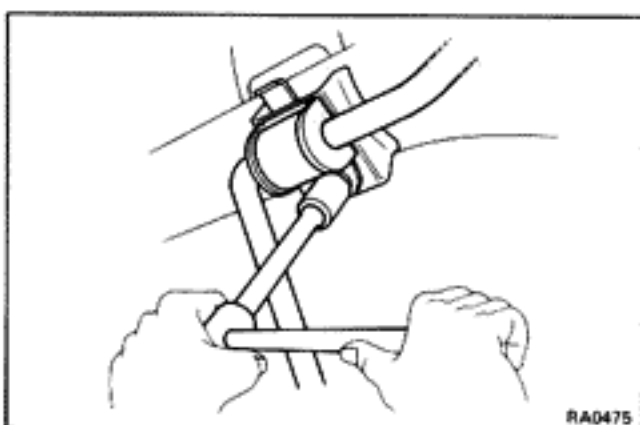


8. INSTALL BRAKE HOSE CLIPS



9. REMOVE STAND

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

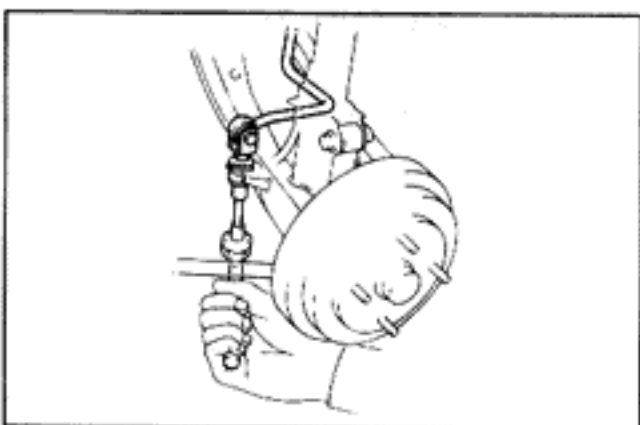


Rear Stabilizer Bar

(See page RA-44)

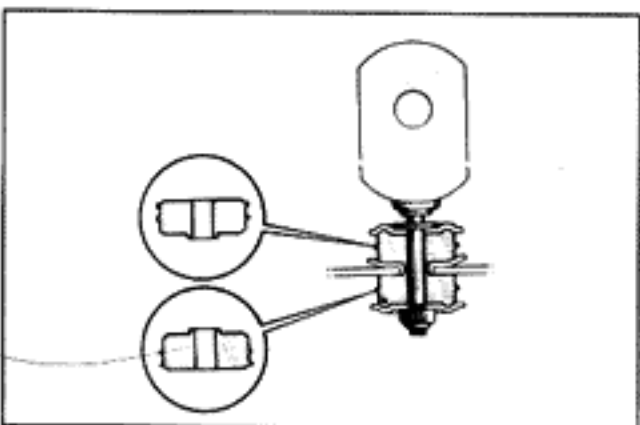
REMOVAL OF REAR STABILIZER BAR

1. REMOVE STABILIZER BAR BRACKETS



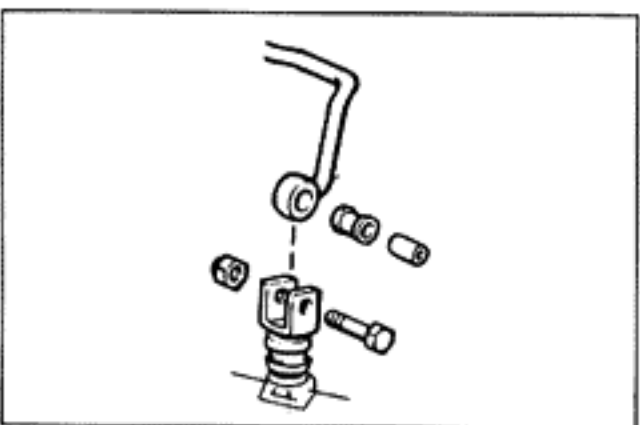
2. REMOVE STABILIZER BAR FROM ARMS

Remove the nuts, cushions, and links holding both sides of the stabilizer bar from suspension arms, and disconnect the stabilizer bar.



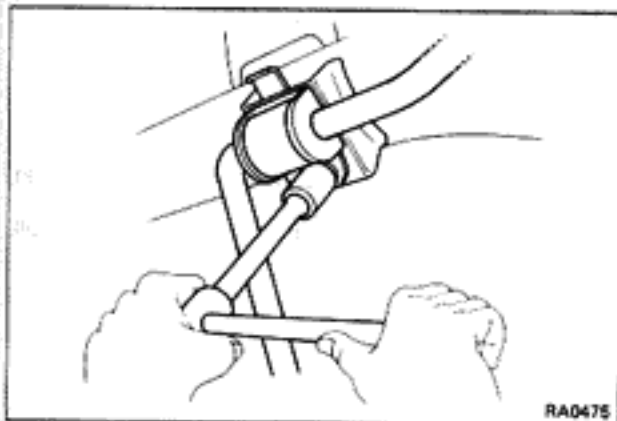
INSTALLATION OF REAR STABILIZER BAR

1. ASSEMBLE STABILIZER LINK SUBASSEMBLY AND INSTALL LINK TO ARM

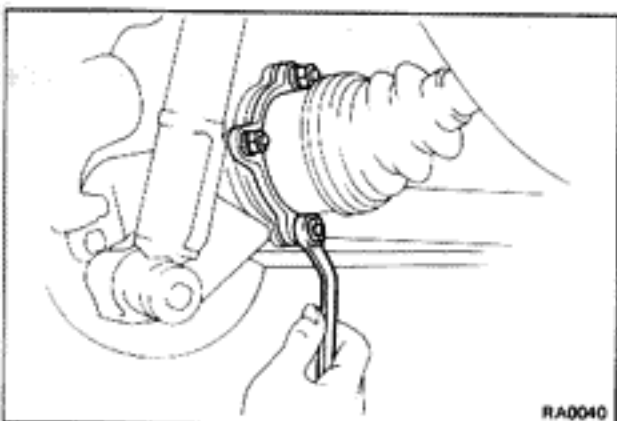


2. INSTALL STABILIZER BAR TO LINK

Connect the stabilizer bar on both sides of the link with bolts, collars, cushions and nut.



3. INSTALL STABILIZER BAR BRACKET TO DIFFERENTIAL SUPPORT MEMBER



Rear Suspension Arm

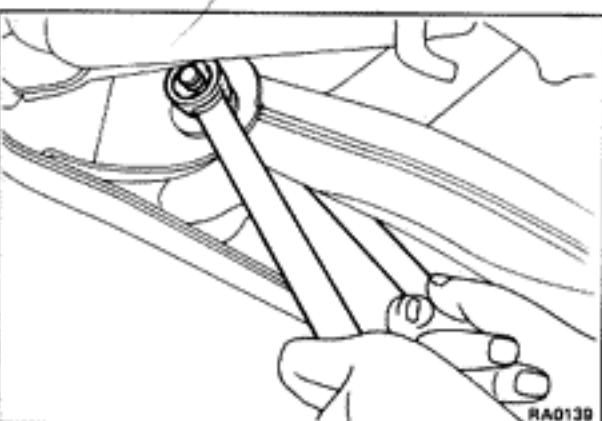
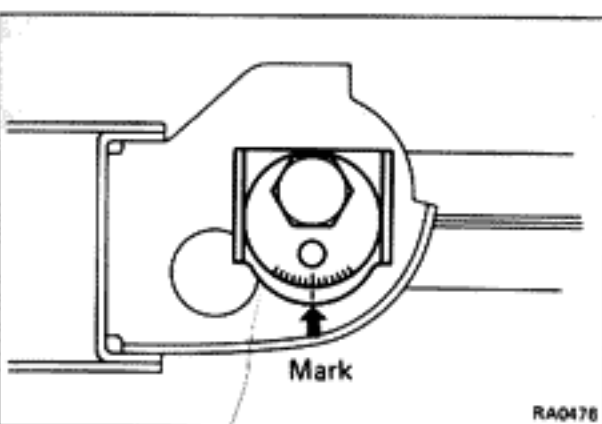
(See page RA-44)

REMOVAL OF REAR SUSPENSION ARM

1. DISCONNECT STABILIZER BAR FROM LOWER ARM
2. DISCONNECT REAR DRIVE SHAFT
3. REMOVE REAR AXLE SHAFT FLANGE
4. REMOVE BRAKE DRUM OR DISC ROTOR
5. REMOVE REAR AXLE SHAFT
6. REMOVE BACKING PLATE OR DUST COVER
7. DISCONNECT BRAKE LINE
8. DISCONNECT SHOCK ABSORBER FROM LOWER ARM
9. REMOVE COIL SPRING

10. REMOVE REAR SUSPENSION ARM AND LOWER CONTROL BUSHING

NOTE: Remember where the complete mark is when removing the suspension arm.

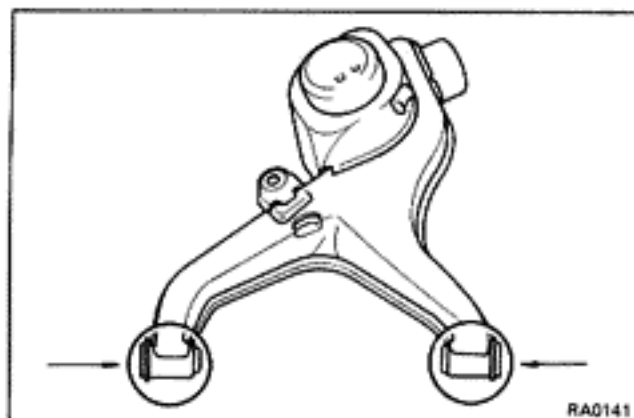


- (a) Remove the two mounting bolts.
- (b) Remove the camber adjusting cam.
- (c) Remove the suspension arm.

REPLACEMENT OF REAR SUSPENSION ARM BUSHING

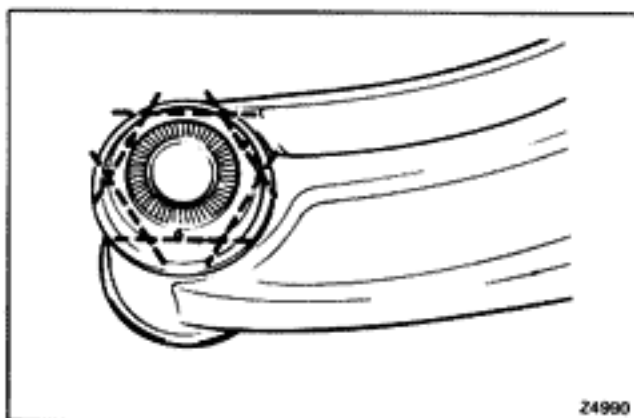
1. CHECK ARM AND BUSHING

- (a) Check the bushing for wear, cracks or deterioration.
- (b) Check the arm for damage, cracks or deformation.



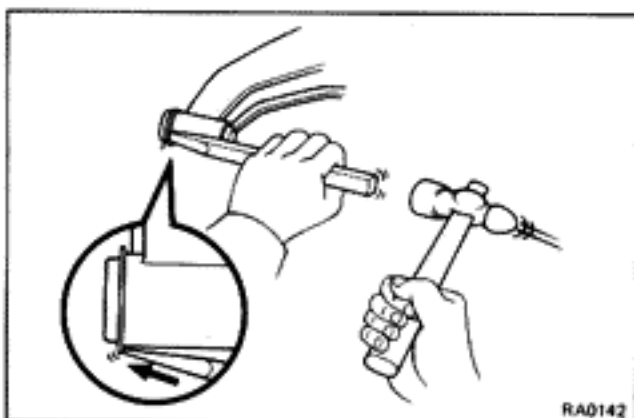
2. REPLACE INNER AND OUTER BUSHING

- (a) Cut off the flange tip of the bushing as shown in the figure.



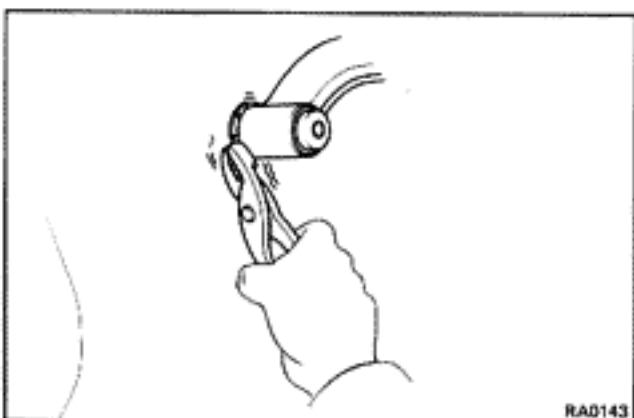
- (b) Bend the remaining portions inward with a cold chisel.

NOTE: Be careful not to damage the flange.

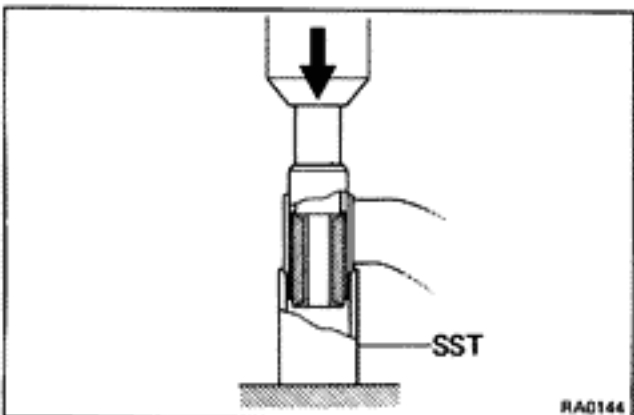


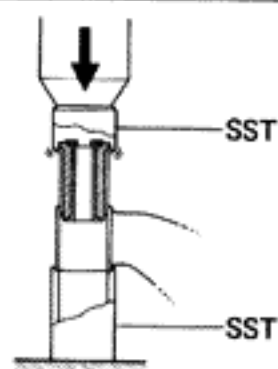
- (c) Bend in the flange tips and pull off the flange with a pair of pliers.

Bend the remaining flange portion so the SST can be installed to the lower arm.



- (d) Using SST, press out the outer bushing from the arm.
SST 09710-22041
(09710-02040, 09710-02050, 09710-02060)



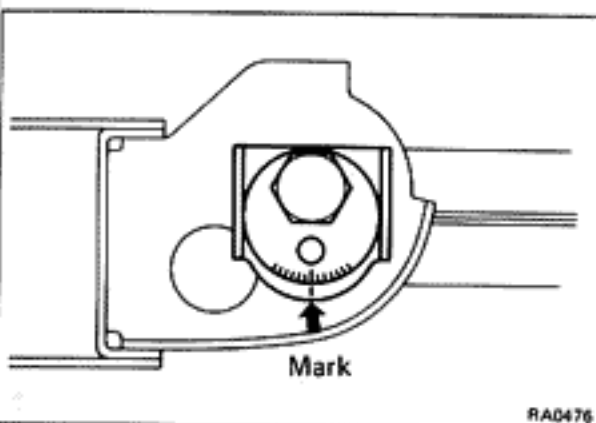


RA0145

- (e) Using SST, press the outer and inner bushings into the arm.

SST 09710-22041 (09751-02050, 09751-02060)

NOTE: Do not allow grease or oil to get on the bushings.



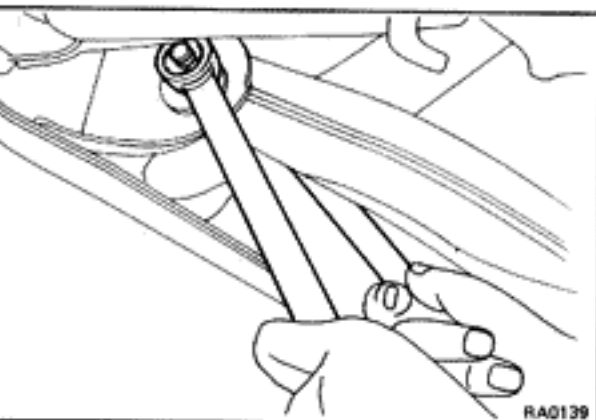
RA0476

INSTALLATION OF REAR SUSPENSION ARM

1. INSTALL ARM

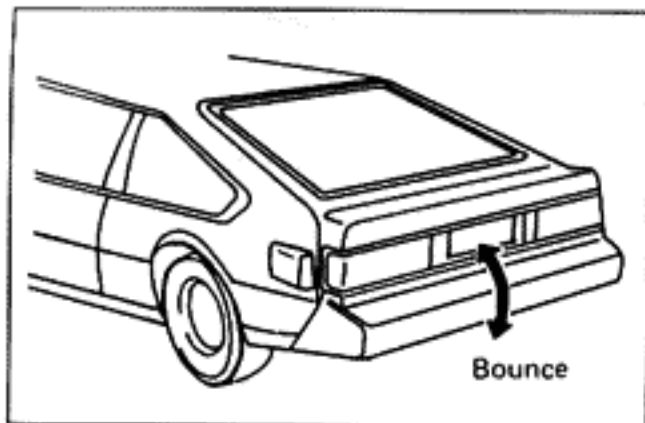
- (a) Align the complete mark at the same position it was before removal.

- (b) Provisionally tighten the suspension arm.

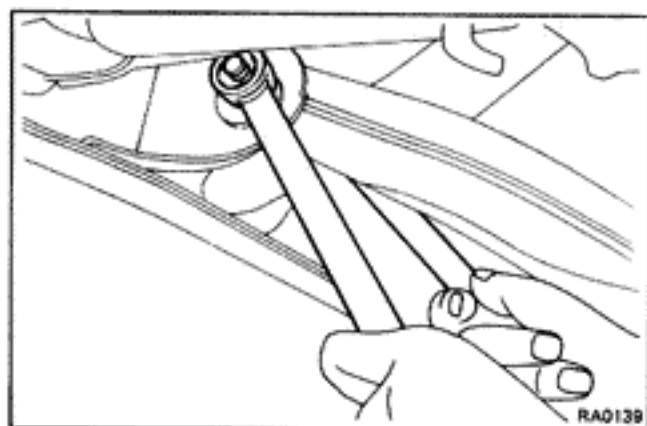


RA0139

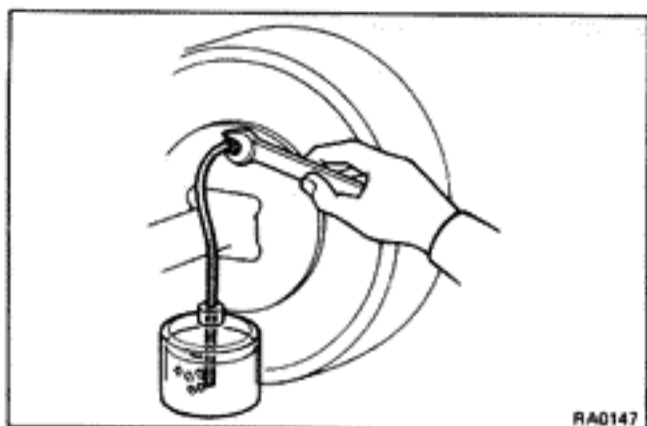
2. INSTALL COIL SPRING
3. INSTALL SHOCK ABSORBER
4. INSTALL BACKING PLATE OR DUST COVER
5. CONNECT BRAKE LINE
6. CONNECT PARKING BRAKE CABLE
7. INSTALL REAR AXLE SHAFT
8. INSTALL BRAKE DRUM OR DISC ROTOR
9. CONNECT REAR DRIVE SHAFT
10. CONNECT STABILIZER BAR TO LOWER ARM

**11. LOWER VEHICLE**

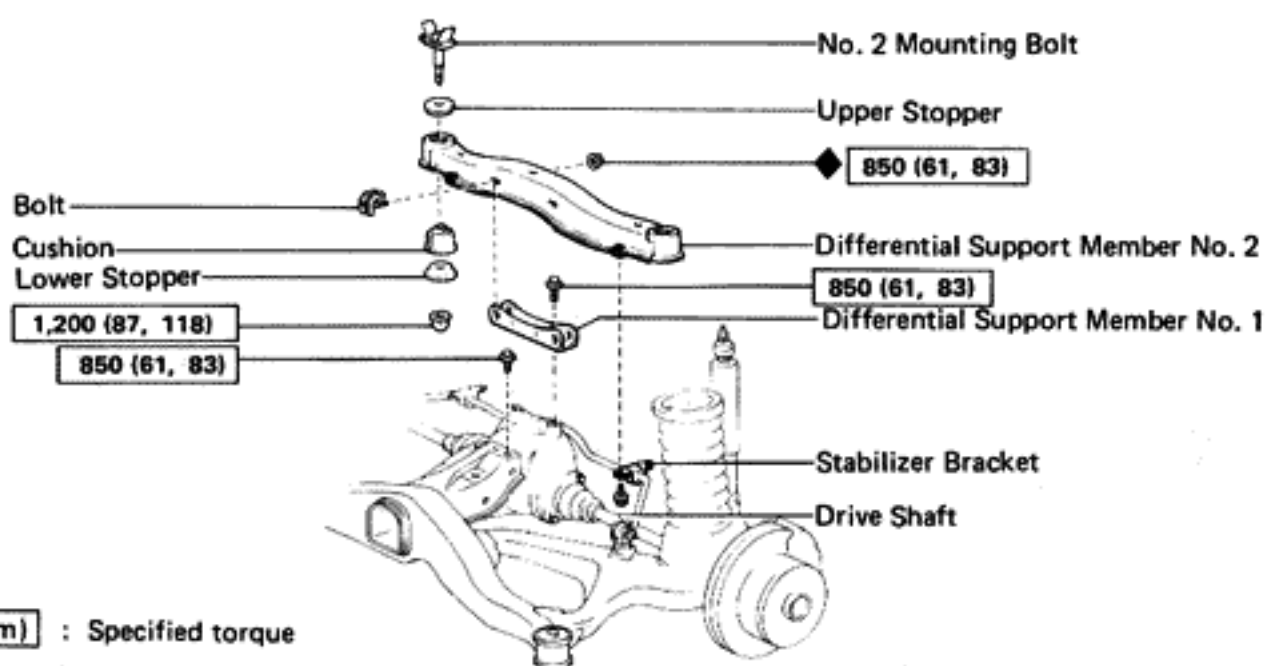
Lower the vehicle and bounce it several times.

**12. TIGHTEN SUSPENSION ARM**

Torque: Inside 1,325 kg-cm (96 ft-lb, 130 N.m)
Outside 1,175 kg-cm (85 ft-lb, 115 N.m)

**13. CHECK AND ADJUST REAR WHEEL ALIGNMENT**
(See page RA-3)**14. BLEED BRAKE LINE**

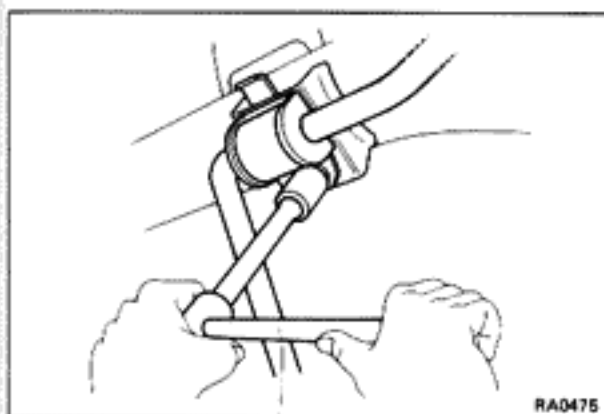
DIFFERENTIAL SUPPORT MEMBER COMPONENTS



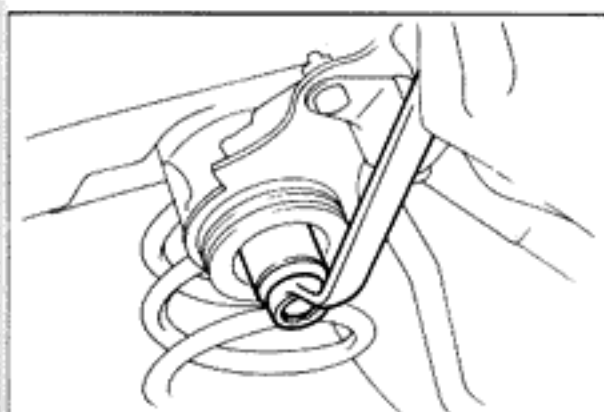
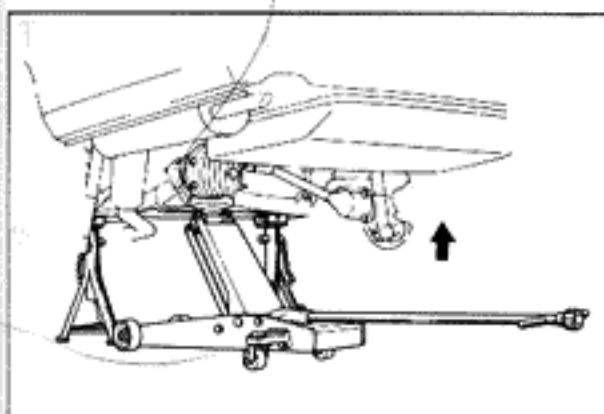
23892

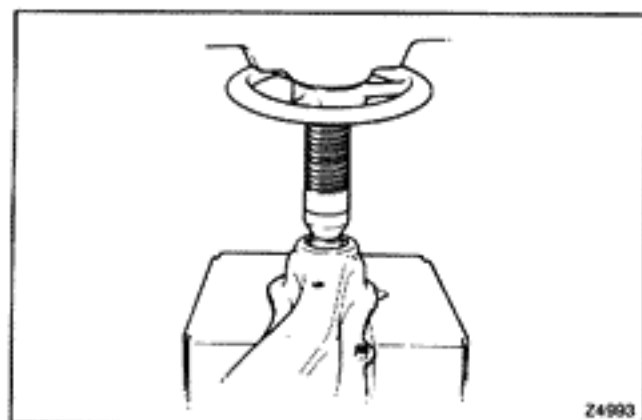
REMOVAL OF DIFFERENTIAL SUPPORT MEMBER

1. REMOVE STABILIZER BRACKET
2. REMOVE DIFFERENTIAL SUPPORT MEMBER NO. 1 MOUNTING BOLT NUTS
3. DISCONNECT DRIVE SHAFT FROM DIFFERENTIAL
4. REMOVE DIFFERENTIAL CARRIER BOLTS
5. REMOVE DIFFERENTIAL SUPPORT MEMBER
 - (a) Remove the No. 2 mounting bolt nuts and lower stopper.
 - (b) Remove the differential support member with the upper stopper.



RA0475

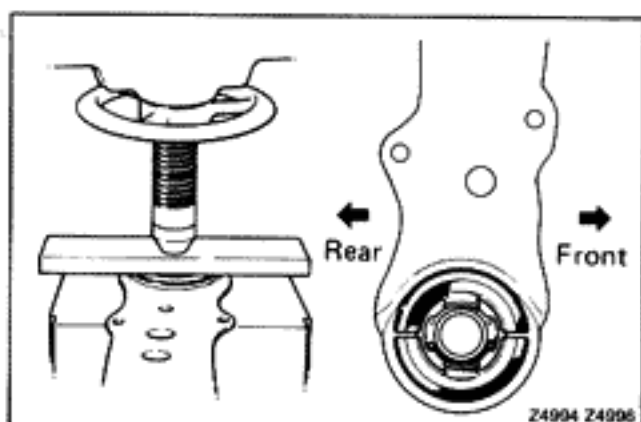




REPLACEMENT OF DIFFERENTIAL SUPPORT MEMBER CUSHION

1. REMOVE CUSHION

Using a press, press out the cushion from the support member.



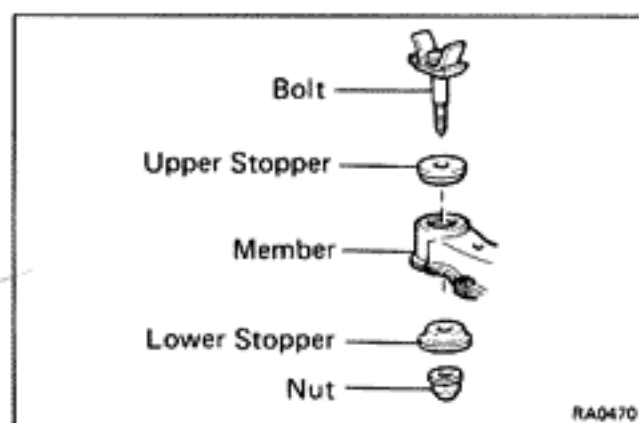
2. INSTALL NEW CUSHION

Using a press, press the new cushion into the support member.

NOTE: Assemble the cushion with the recesses at right angle to the support member.

3. CHECK DIFFERENTIAL SUPPORT MEMBER

If the support member is damaged or worn, replace it.



INSTALLATION OF DIFFERENTIAL SUPPORT MEMBER

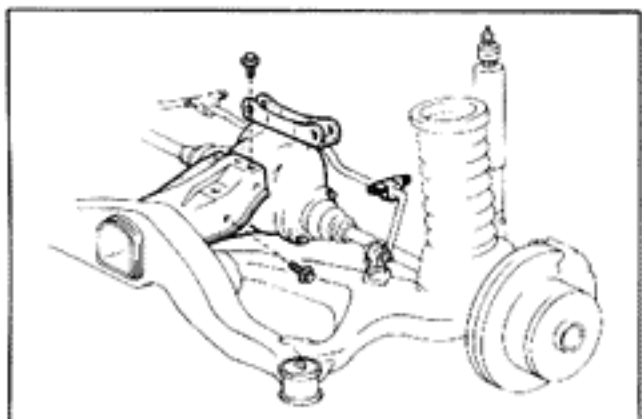
1. INSTALL SUPPORT MEMBER

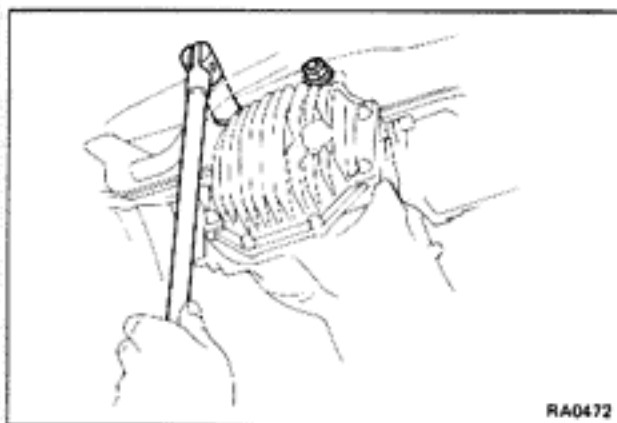
- Put upper stopper on member.
- Install the support member and lower stopper with nuts.

NOTE: Hand tighten the nuts.

2. INSTALL DIFFERENTIAL CARRIER BOLT

Install the differential carrier bolts.

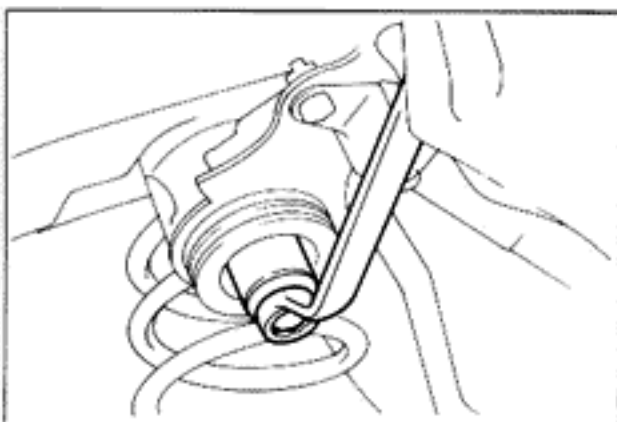




3. INSTALL DIFFERENTIAL SUPPORT MEMBER MOUNTING BOLT NO. 1

Install the No. 1 mounting bolts to the support member with nuts. Torque the nuts.

Torque: 850 kg-cm (61 ft-lb, 83 N-m)



4. TIGHTEN SUPPORT MEMBER NUTS

Torque the nuts.

Torque: 1,200 kg-cm (87 ft-lb, 118 N-m)

5. CONNECT DRIVE SHAFT

6. INSTALL STABILIZER BAR BRACKET (See page RA-49)