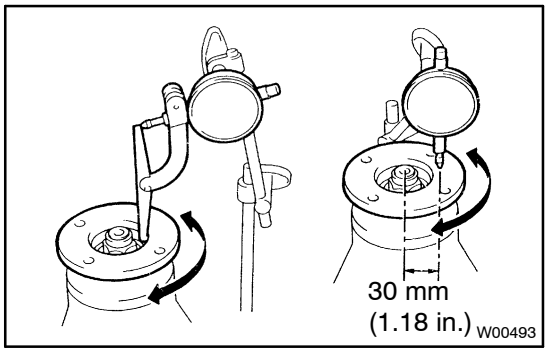
SA1BZ–01

DISASSEMBLY

1. SET DIFFERENTIAL CARRIER TO OVERHAUL STAND ETC.

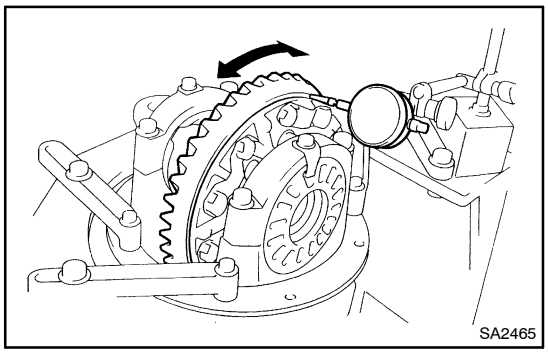


2. CHECK RUNOUT OF COMPANION FLANGE

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

Maximum runout: 0.10 mm (0.0039 in.)

If the runout is not within the specification, replace the companion flange.

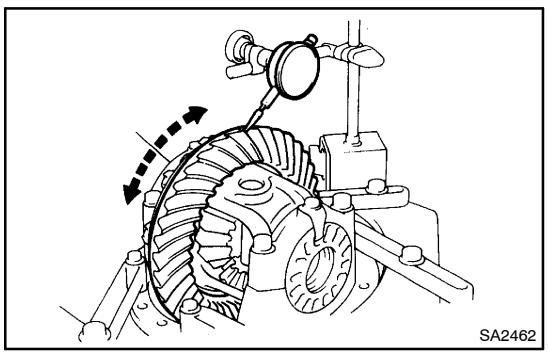


3. CHECK RING GEAR RUNOUT

Using a dial indicator, measure the ring gear runout.

Maximum runout: 0.10 mm (0.0039 in.)

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



4. CHECK RING GEAR BACKLASH

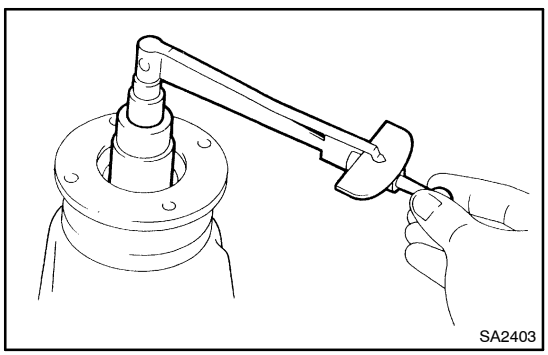
Using a dial indicator, while holding the drive pinion flange measure the ring gear backlash.

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

HINT:

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

If the backlash is not within the specification, adjust the side bearing preload or repair as necessary.



5. MEASURE DRIVE PINION PRELOAD

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

Preload (at starting):

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

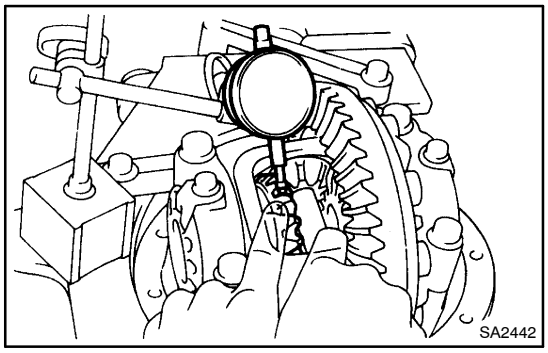
6. CHECK TOTAL PRELOAD

Using a torque wrench, measure the preload.

Total preload (at starting):
Drive pinion preload plus
0.4 – 0.6 N·m (4 – 6 kgf·cm, 3.5 – 5.2 in.·lbf)

If necessary, disassemble and inspect the differential.

7. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION (See page SA–74)


SA2442

8. w/o DIFF. LOCK:
CHECK SIDE GEAR BACKLASH

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

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

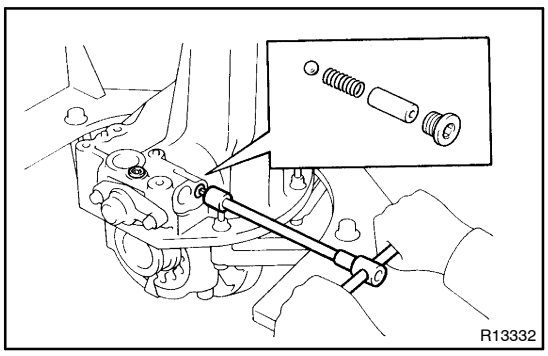
If the backlash is not within the specification, install the correct thrust washers (See page SA–74).

9. w/ DIFF. LOCK:
REMOVE ACTUATOR

(a) Remove the bolt and actuator from the differential carrier.
(b) Remove the O–ring.

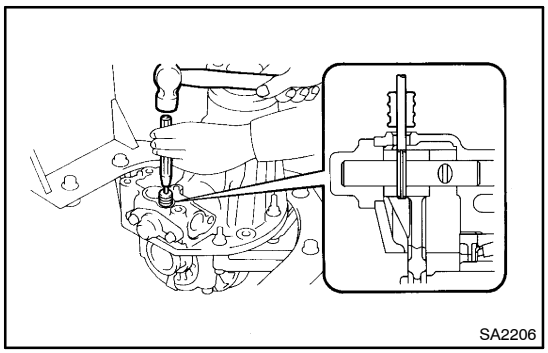
10. w/ DIFF. LOCK:
REMOVE POSITION SWITCH

Remove the position switch and gasket.

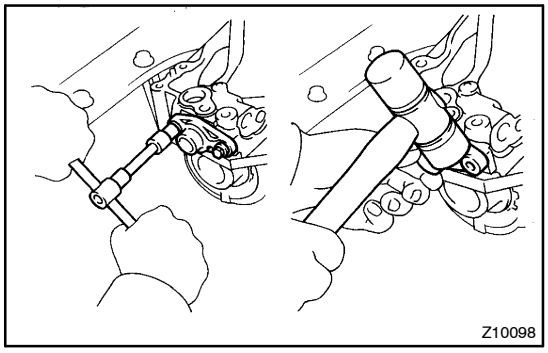

R13332

11. w/ DIFF. LOCK:
REMOVE SHIFT FORK SHAFT

(a) Using a hexagon wrench, remove the 2 straight screw plugs.
(b) Remove the spring seat, compression spring and ball.


SA2206

(c) Using a pin punch and hammer, remove the slotted spring pin.



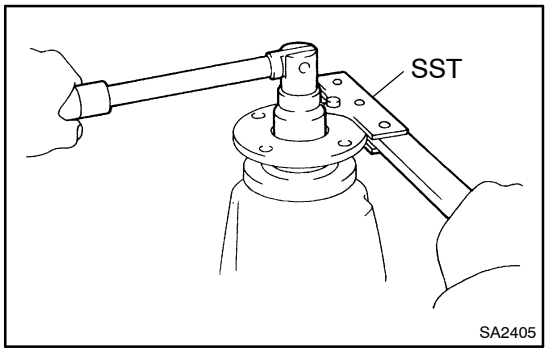
(d) Remove the 2 bolts from the shaft retainer.
(e) Using a plastic hammer, tap out the shaft retainer.
(f) Remove the shift fork shaft.

HINT:

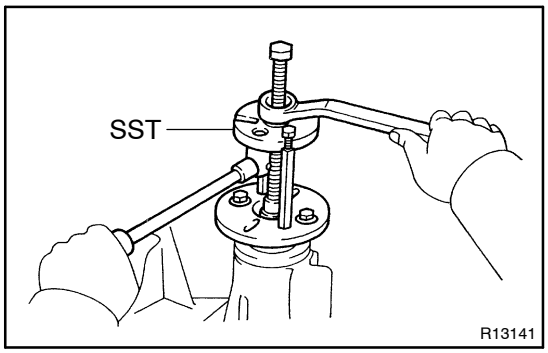
Pull out the shift fork shaft with a screwdriver turned round.

12. REMOVE COMPANION FLANGE

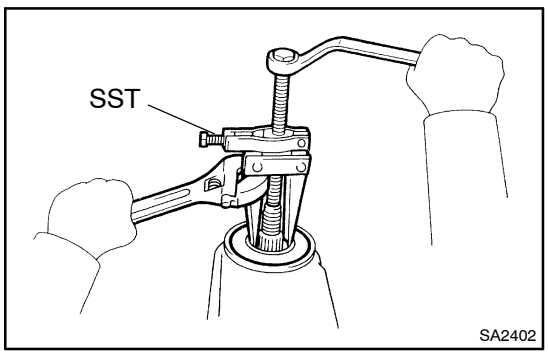
(a) Using a chisel and hammer, unstake the nut.



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

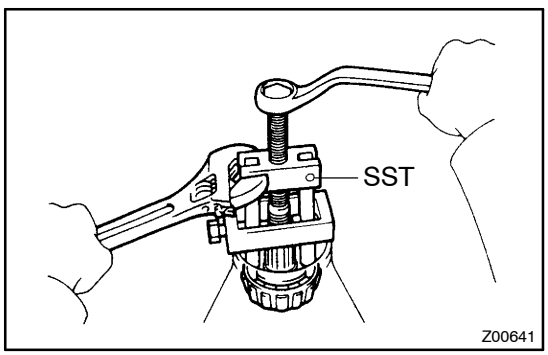


(c) Using SST, remove the companion flange.
SST 09950–30010 (09951–03010, 09953–03010, 09954–03010, 09955–03030, 09956–03020)



13. REMOVE OIL SEAL AND OIL SLINGER

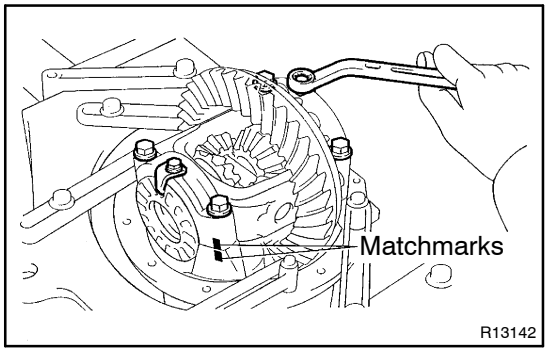
(a) Using SST, remove the oil seal from the differential carrier.
SST 09308–10010
(b) Remove the oil slinger.



14. REMOVE REAR BEARING

Using SST, remove the rear bearing from the drive pinion.
SST 09556–22010

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



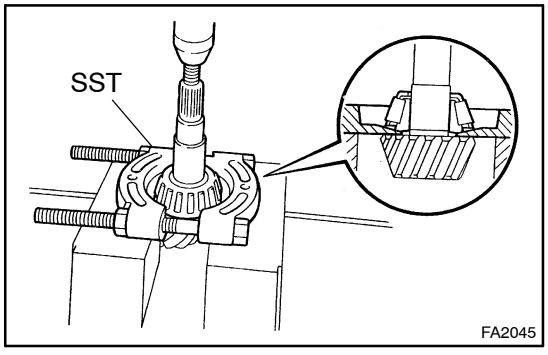
15. REMOVE DIFFERENTIAL CASE

(a) Place matchmarks on the bearing cap and differential carrier.
(b) Remove the 2 bolts and adjusting nut locks.
(c) Remove the 4 bolts and 2 bearing caps.
(d) w/o Diff. lock:
Remove the 2 adjusting nuts.
(e) w/o Diff. lock:
Remove the differential case with the side bearing outer races from the carrier.

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

(f) w/ Diff. lock:
Remove the differential case with the side bearing outer race, 2 adjusting nuts and sleeve from the differential carrier.
(g) w/ Diff lock:
Remove the shift fork.

16. REMOVE DRIVE PINION AND BEARING SPACER FROM DIFFERENTIAL CARRIER

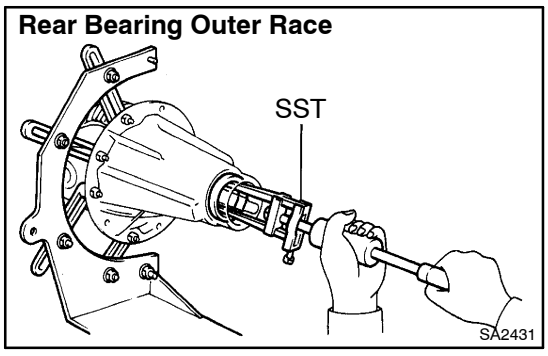


17. REMOVE DRIVE PINION FRONT BEARING

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

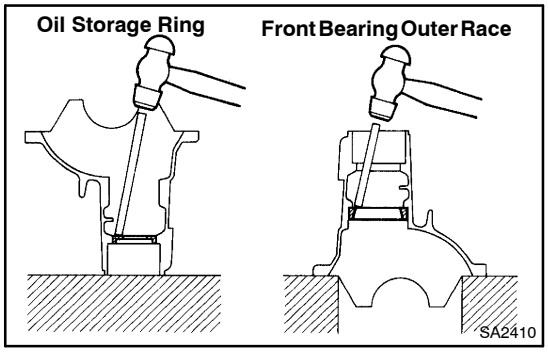
If the drive pinion or ring gear is damaged, replace them as a set.

(b) Remove the plate washer from the drive pinion.

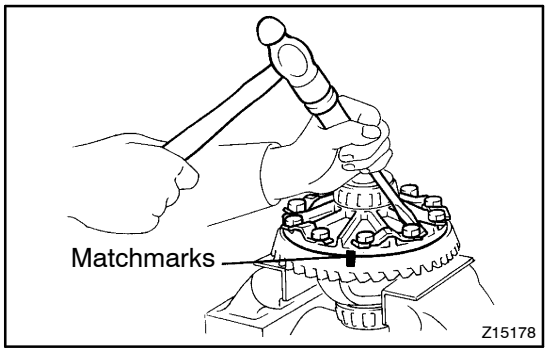


18. REMOVE DRIVE PINION FRONT AND REAR BEARING OUTER RACES AND OIL STORAGE RING

(a) Using SST, remove the rear bearing outer race.
SST 09308–00010



(b) Using a brass bar and hammer, remove the oil storage ring and front bearing outer race.

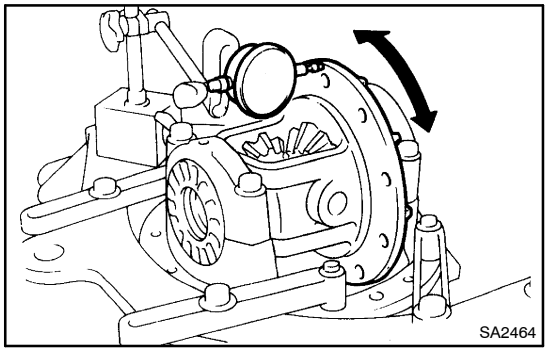


19. REMOVE RING GEAR

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

20. 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.

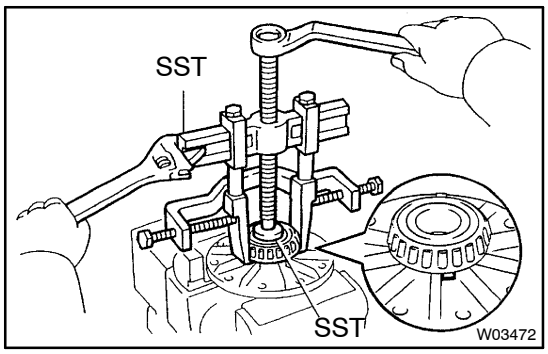


(b) Using a dial indicator, measure the differential case runout.

Maximum case runout: 0.07 mm (0.0028 in.)

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

(c) Remove the differential case.



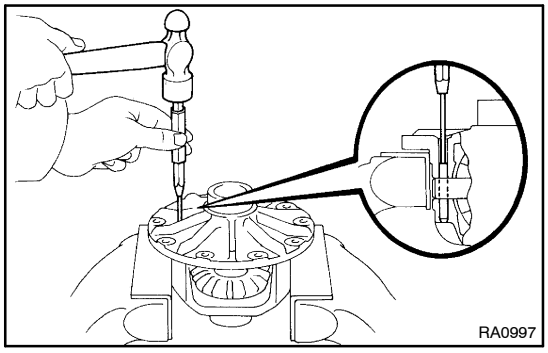
21. REMOVE SIDE BEARINGS FROM DIFFERENTIAL CASE

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

SST 09950–40011 (09951–04010, 09952–04010, 09953–04020, 09954–04010, 09955–04010, 09957–04010, 09958–04010), 09950–60010 (09951–00480)

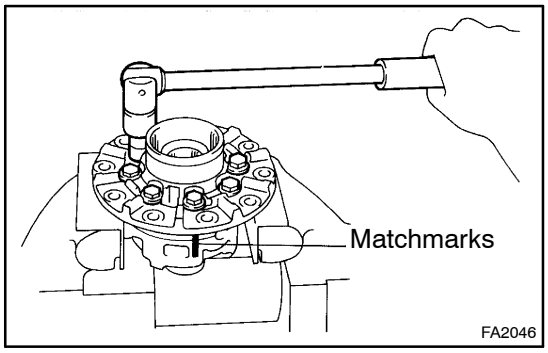
HINT:

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



22. w/o DIFF. LOCK:
DISASSEMBLE DIFFERENTIAL CASE

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



23. w/ DIFF. LOCK:
DISASSEMBLE DIFFERENTIAL CASE

(a) Place matchmarks on the LH and RH cases.
(b) Remove the 8 bolts uniformly, a little at a time.
(c) Using a plastic hammer, separate the LH and RH cases.
(d) Remove the spider, 2 side gears, side gear thrust washers, 4 pinion gears and pinion gear thrust washers from the RH differential case.