

DISASSEMBLY

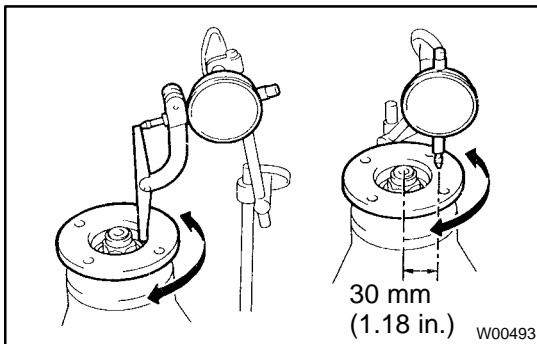
1. REMOVE DIFFERENTIAL CARRIER COVER

- (a) Remove the 8 bolts from the carrier cover.
- (b) Using a brass bar and hammer, separate the cover from the carrier.
- (c) Remove the breather plug from the differential carrier cover.
- (d) Remove the bolt and oil deflector from the differential carrier cover.

2. REMOVE DIFFERENTIAL CARRIER STRAIGHT PIN

Using pliers, remove the straight pin from the differential carrier.

3. SET DIFFERENTIAL CARRIER TO OVERHAUL STAND, ETC.

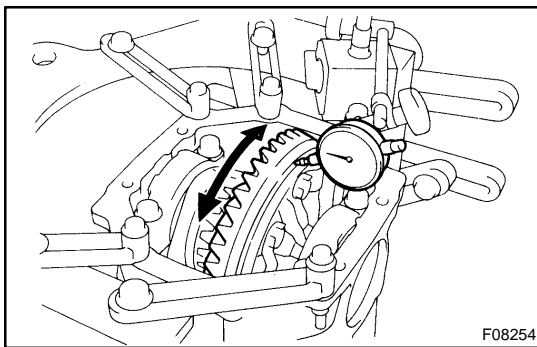


4. CHECK COMPANION FLANGE RUNOUT

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

Maximum runout: 0.09 mm (0.0035 in.)

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

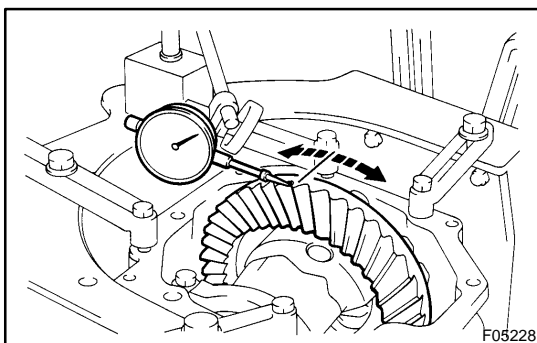


5. CHECK RING GEAR RUNOUT

Using a dial indicator, while turning the companion flange measure the ring gear runout.

Maximum runout: 0.07 mm (0.0028 in.)

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



6. CHECK RING GEAR BACKLASH

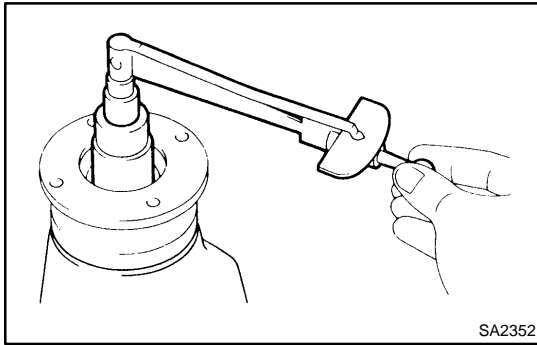
Using a dial indicator, while holding the companion flange measure the ring gear backlash.

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 specified value, adjust the backlash (See page [SA-88](#)).

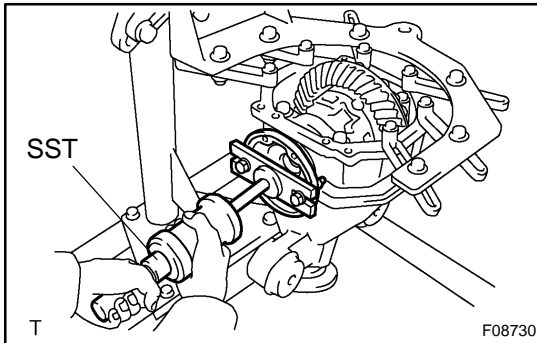


7. MEASURE DRIVE PINION PRELOAD

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

Preload (at starting):

0.49 - 0.78 N·m (5 - 8 kgf·cm, 4.3 - 6.9 in.-lbf)



8. REMOVE SIDE GEAR SHAFTS

(a) Using SST and 2 bolts, remove the 2 side gear shafts from the differential carrier.

SST 09520-24010

(b) Using a screwdriver, remove the 2 snap rings from the side gear shafts.

9. CHECK TOTAL PRELOAD

Using a torque wrench, measure the total preload with the teeth of the drive pinion and ring gear in contact.

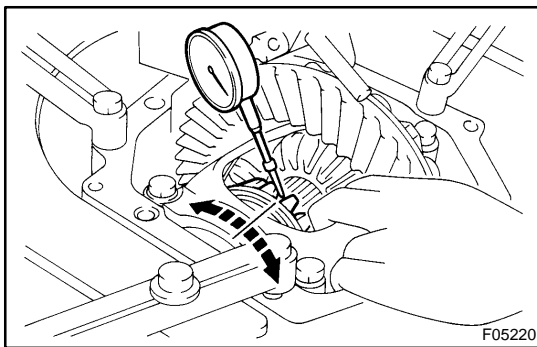
Total preload (at starting):

Drive pinion preload plus

0.39 - 0.59 N·m (4 - 6 kgf·cm, 3.5 - 5.2 in.-lbf)

If necessary, disassemble and inspect the differential.

10. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION (See page SA-88)



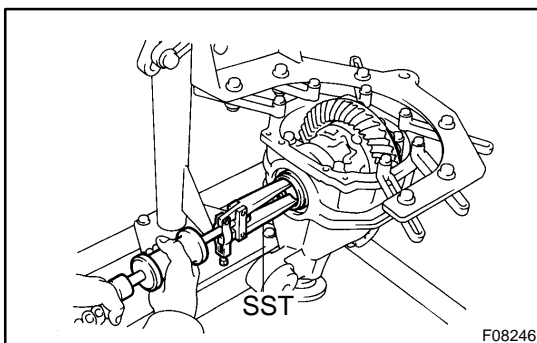
11. 2 pinion differential:

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 specified value, install the correct thrust washers (See page SA-88).



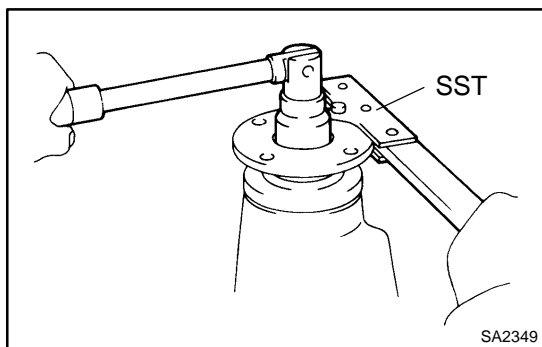
12. REMOVE SIDE GEAR SHAFT OIL SEALS

Using SST, remove the 2 side gear shaft oil seals.

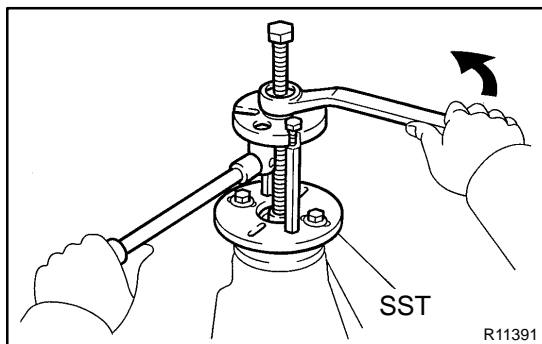
SST 09308-00010

13. REMOVE COMPANION FLANGE

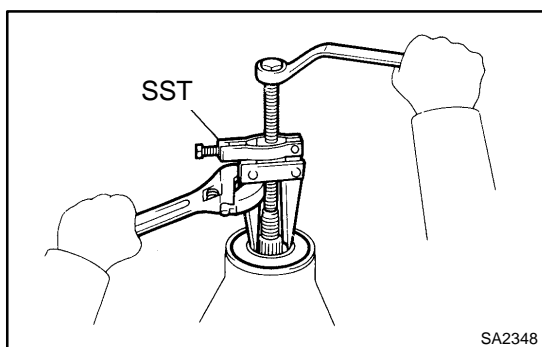
(a) Using a chisel and hammer, unstake the nut.



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

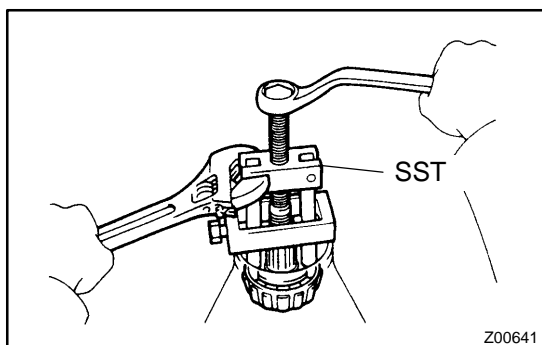


- (c) Using SST, remove the companion flange.
SST 09950-30012 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)



14. REMOVE FRONT OIL SEAL AND OIL SLINGER

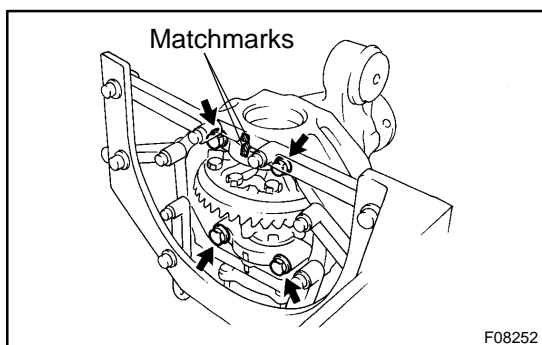
- (a) Using SST, remove the oil seal from the differential carrier.
SST 09308-10010
(b) Remove the oil slinger.



15. REMOVE FRONT BEARING

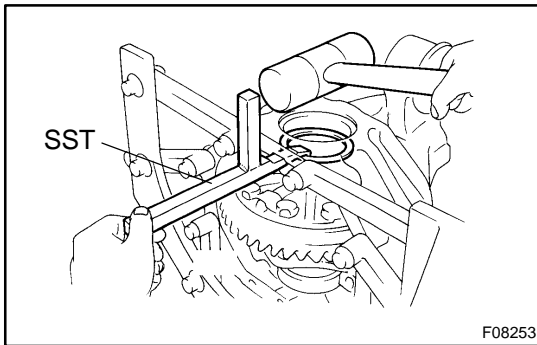
Using SST, remove the front bearing from the drive pinion.
SST 09556-22010

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



16. REMOVE DIFFERENTIAL CASE ASSEMBLY

- (a) Place matchmarks on the bearing cap and differential carrier.
(b) Remove the 4 bolts and 2 bearing caps.



- (c) Using SST and a plastic hammer, remove the 2 plate washers.

SST 09504-22012

HINT:

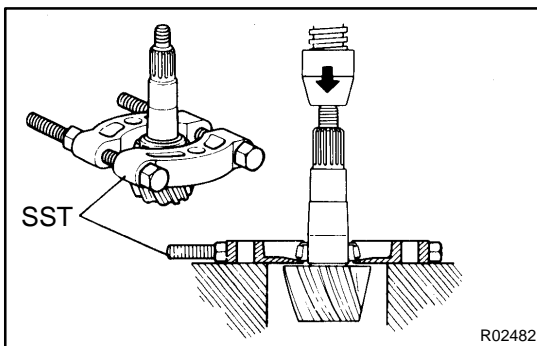
Measure the plate washer and note down the thickness.

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

HINT:

Tag the bearing outer races to show the location for reassembling.

17. REMOVE DRIVE PINION AND BEARING SPACER FROM DIFFERENTIAL CARRIER



18. REMOVE REAR BEARING

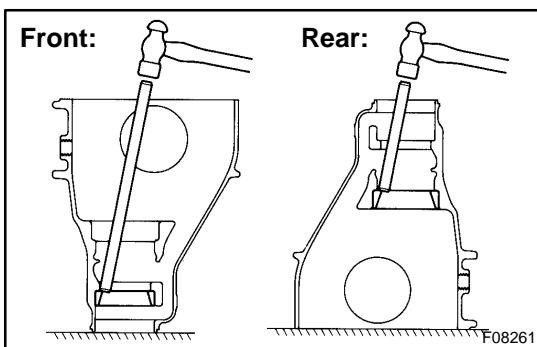
- (a) Using SST and a press, remove the rear bearing from the drive pinion.

SST 09950-00020

HINT:

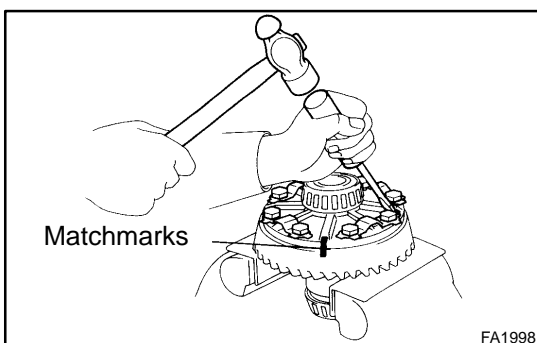
If the drive pinion or ring gear is damaged, replace them as a set.

- (b) Remove the washer.



19. REMOVE FRONT AND REAR BEARING OUTER RACES

Using a brass bar and hammer, remove the front and rear bearing outer races.



20. REMOVE RING GEAR

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

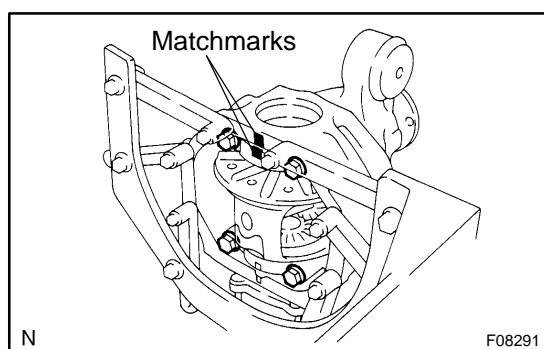
21. CHECK DIFFERENTIAL CASE RUNOUT

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

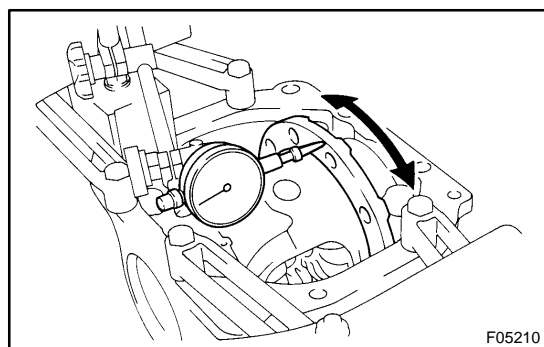
HINT:

If it is difficult to install the differential case into the carrier, replace the plate washer with a thinner one.

However, select a plate washer that allows no clearance between it and the carrier.



- (d) Align matchmarks on the bearing cap and differential carrier.
- (e) Install and uniformly tighten the 4 bolts a little at a time.

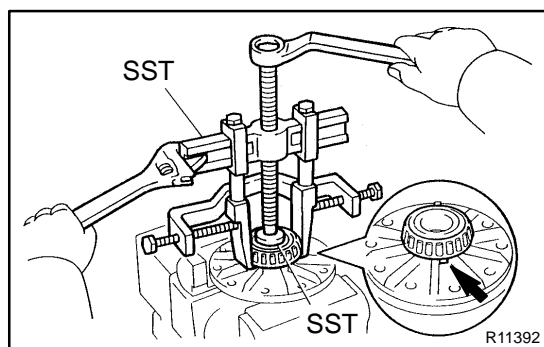


- (f) Using a dial indicator, while turning the companion flange measure the differential case runout.

Maximum runout: 0.07 mm (0.0028 in.)

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

- (g) Remove the differential case.

**22. REMOVE SIDE BEARINGS**

- (a) 2 pinion differential:
Using SST, remove the 2 side bearings from the differential case.

SST 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04061, 09957-04010, 09958-04011), 09950-60010 (09951-00480)

HINT:

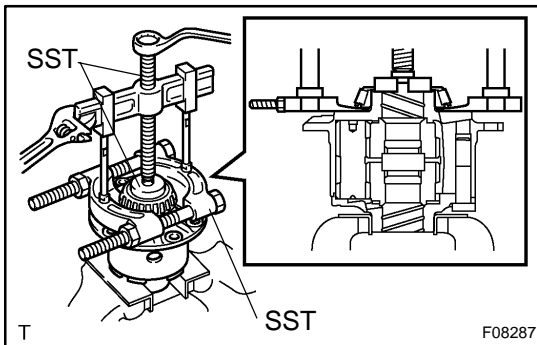
Fix the claws of SST to the notches in the differential case.

- (b) Torque sensing LSD ring gear side:
Using SST, remove the side bearing from the differential case.

SST 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04061, 09957-04010, 09958-04011), 09950-60010 (09951-00480)

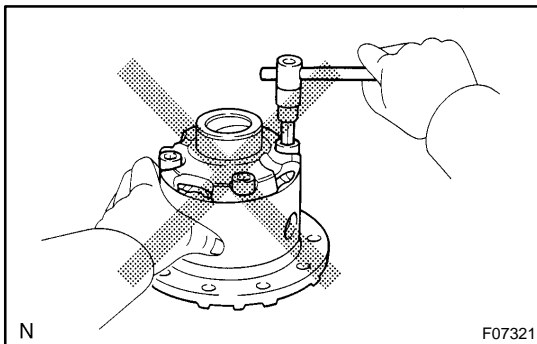
HINT:

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



- (c) Torque sensing LSD ring gear back side:
Using SST, remove the side bearing from the differential case.

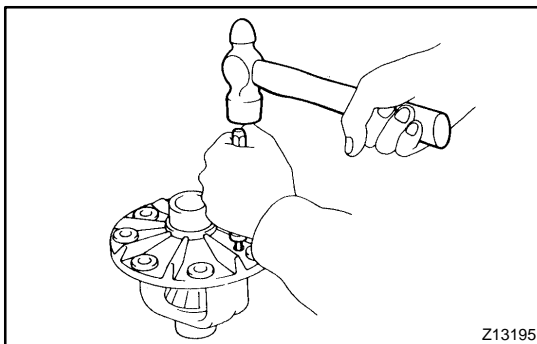
SST 09950-00020, 09950-40011 (09951-04020, 09953-04030, 09957-04010), 09950-50012 (09952-05010, 09954-05030, 09955-05040)



**23. 2 pinion differential:
DISASSEMBLE DIFFERENTIAL CASE ASSEMBLY**

NOTICE:

If equipped with torque sensing LSD, do not disassemble the differential case.



- (a) Using a pin punch (5 mm) 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.