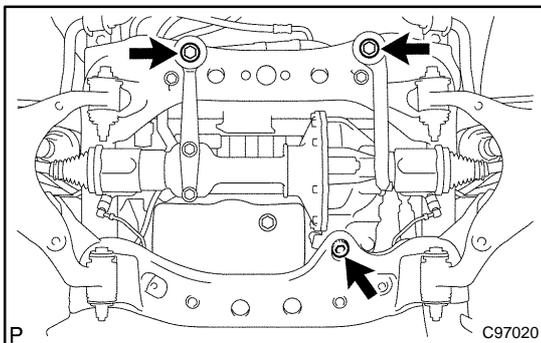
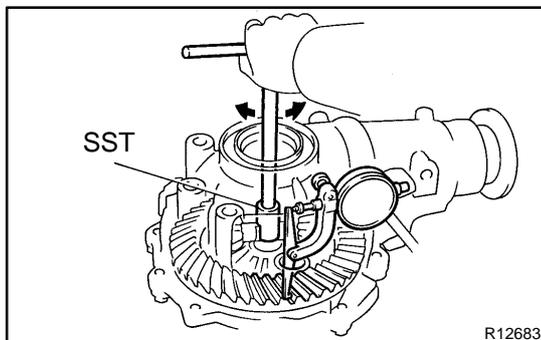


**OVERHAUL**

1. REMOVE FRONT WHEELS
2. REMOVE ENGINE UNDER COVER ASSY REAR
  - (a) Remove the 6 bolts and engine under cover assy rear.
3. REMOVE ENGINE UNDER COVER SUB-ASSY NO.1
  - (a) Remove the 4 bolts and engine under cover sub-assy No.1.
4. DRAIN DIFFERENTIAL OIL (See Pub. No. RM1001U on page 29-3)
5. REMOVE PROPELLER SHAFT ASSY FRONT (See Pub. No. RM1001U on page 30-4)
6. REMOVE FRONT AXLE HUB LH NUT (See Pub. No. RM1001U on page 30-18)
7. REMOVE FRONT AXLE HUB RH NUT (See Pub. No. RM1001U on page 30-18)
8. SEPARATE FRONT STABILIZER LINK ASSY LH (See Pub. No. RM1001U on page 26-27)
9. SEPARATE FRONT STABILIZER LINK ASSY RH (See Pub. No. RM1001U on page 26-27)
10. SEPARATE SPEED SENSOR FRONT LH (See Pub. No. RM1001U on page 32-50)
11. SEPARATE SPEED SENSOR FRONT RH (See Pub. No. RM1001U on page 32-50)
12. SEPARATE TIE ROD END SUB-ASSY LH (See Pub. No. RM1001U on page 51-20)  
SST 09628-6201 1
13. SEPARATE TIE ROD END SUB-ASSY RH (See Pub. No. RM1001U on page 51-20)  
SST 09628-6201 1
14. REMOVE FRONT SUSPENSION ARM SUB-ASSY LOWER NO.1 LH  
(See Pub. No. RM1001U on page 26-22)
15. REMOVE FRONT SUSPENSION ARM SUB-ASSY LOWER NO.1 RH  
(See Pub. No. RM1001U on page 26-22)
16. REMOVE FRONT DRIVE SHAFT ASSY LH (See Pub. No. RM1001U on page 30-18)
17. REMOVE FRONT DRIVE SHAFT ASSY RH (See Pub. No. RM1001U on page 30-18)



18. REMOVE DIFFERENTIAL CARRIER ASSY FRONT
  - (a) Remove the bolt and separate the front differential breather tube bracket.
  - (b) Support the front differential with a jack.
  - (c) Remove the front differential mount nut No.1.
  - (d) Remove the 2 front mounting bolts and 2 nuts.
  - (e) Disconnect the actuator hose and connector.
  - (f) Lower the jack and remove the front differential assembly.
  - (g) Remove the 2 bolts and front differential support No.3.
  - (h) Remove the 5 bolts and 2 front differential supports.



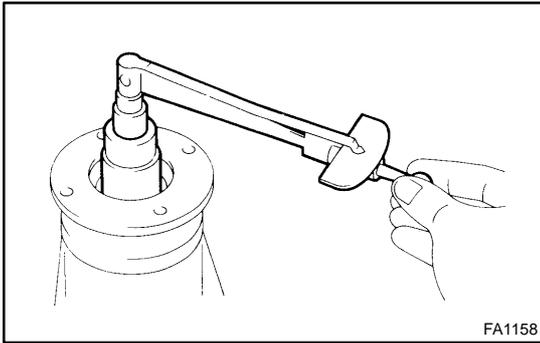
19. **INSPECT BACKLASH DIFFERENTIAL RING GEAR AND DIFFERENTIAL DRIVE PINION**

- (a) Using SST and a dial indicator, measure the ring gear backlash.

SST 09564-3201 1

**Backlash: 0.11 - 0.18 mm (0.0043 - 0.0071 in.)**

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



- 20. INSPECT DIFFERENTIAL DRIVE PINION PRELOAD**  
 (a) Using a torque wrench, measure the preload of backlash between the drive pinion and ring gear.  
**0.49 - 0.78 N·m (5 - 8 kgf·cm, 4.3 - 6.9 in·lbf)**

**21. INSPECT TOTAL PRELOAD**

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

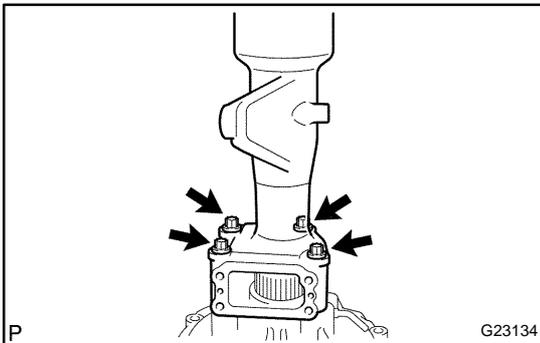
**Total preload (at starting):**

**Drive pinion preload plus 0.20 - 0.63 N·m (2.0 - 6.4 kgf·cm, 1.8 - 5.6 in·lbf)**

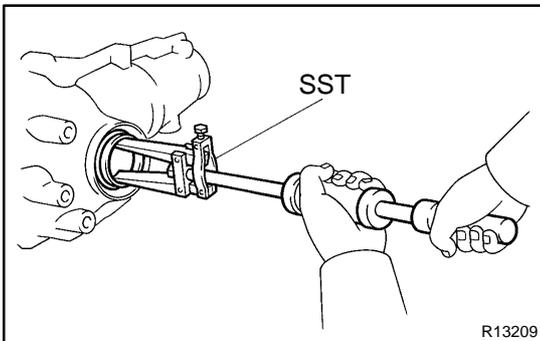
If necessary, disassemble and inspect the differential.



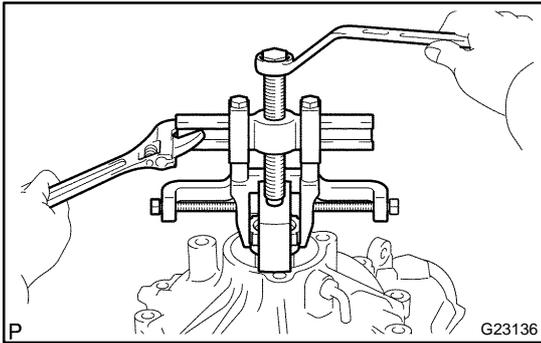
- 22. REMOVE DIFFERENTIAL VACUUM ACTUATOR ASSY**  
 (a) Remove the 4 bolts.  
 (b) Using a hammer, handle, remove the actuator assy.



- 23. REMOVE FRONT DIFFERENTIAL TUBE ASSY**  
 (a) Remove the 4 bolts.  
 (b) Using a plastic hammer, remove the differential tube.

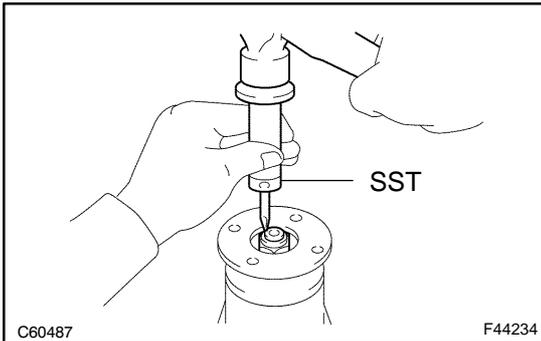


- 24. REMOVE DIFFERENTIAL SIDE GEAR SHAFT OIL SEAL**  
 (a) Using SST, remove the oil seal.  
 SST 09308-00010



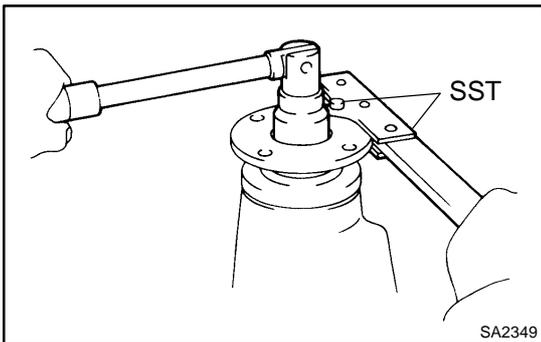
**25. REMOVE DIFFERENTIAL SIDE GEAR INTER SHAFT SUB-ASSY**

- (a) Using SST, remove the side gear inter shaft.  
SST 09350-20015 (09369-20040), 09950-40011 (09951-04010, 09952-04010, 09953-04020, 09954-04010, 09955-04011, 09957-04010, 09958-04011)
- (b) Remove the snap ring from the side gear inter shaft.

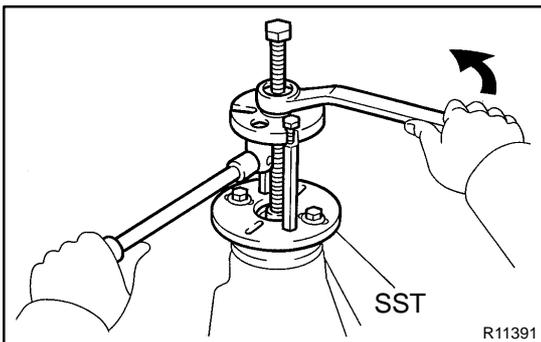


**26. REMOVE FRONT DRIVE PINION COMPANION FLANGE SUB-ASSY FRONT**

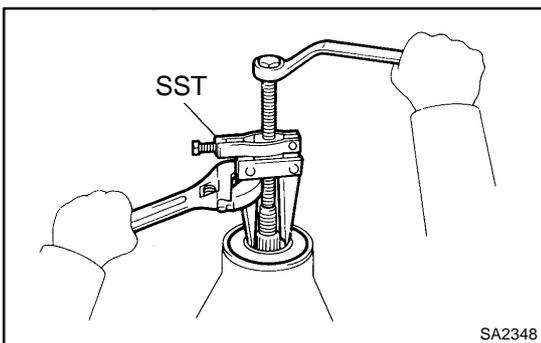
- (a) Using SST and a hammer, unseat the nut.  
SST 09930-00010



- (b) Using SST to hold the companion flange, remove the nut.  
SST 09330-00021 (09330-00030)

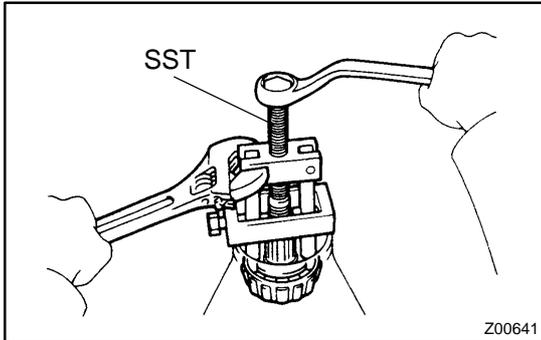


- (c) Using SST, remove the companion flange.  
SST 09950-30012 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)



**27. REMOVE FRONT DIFFERENTIAL CARRIER OIL SEAL**

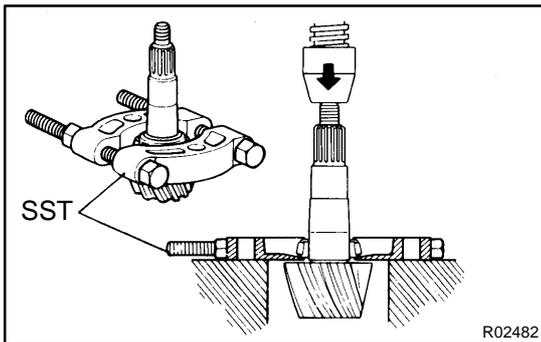
- (a) Using SST, remove the oil seal from the differential carrier assy.  
SST 09308-10010

**28. REMOVE FRONT DIFFERENTIAL DRIVE PINION OIL SLINGER****29. REMOVE FRONT DRIVE PINION REAR TAPERED ROLLER BEARING**

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

**30. REMOVE DIFFERENTIAL SIDE BEARING RETAINER**

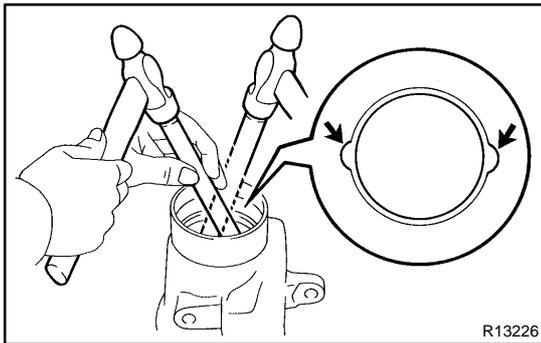
- (a) Using a screwdriver, remove the union.
- (b) Remove the 10 bolts and tap out the side bearing retainer with a plastic hammer.

**31. REMOVE DIFFERENTIAL CASE ASSY****32. REMOVE DIFFERENTIAL DRIVE PINION****33. REMOVE FRONT DRIVE PINION FRONT TAPERED ROLLER BEARING**

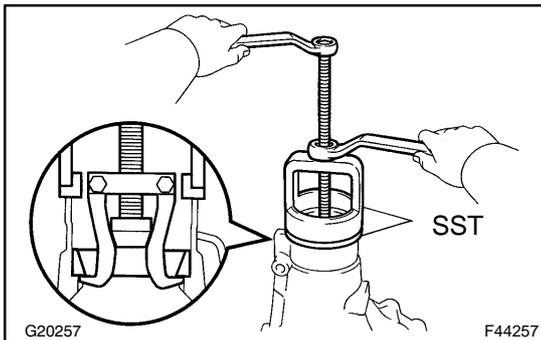
- (a) Using SST and a press, remove the front bearing and washer from the drive pinion.  
SST 09950-00020

**HINT:**

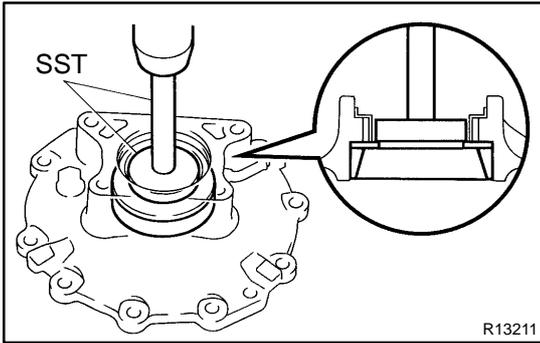
If the drive gear or ring gear are damaged, replace them as a set.

**34. REMOVE FRONT BEARING OUTER RACE**

- (a) Using a brass bar and a hammer, remove the front bearing outer race.

**35. REMOVE REAR BEARING OUTER RACE**

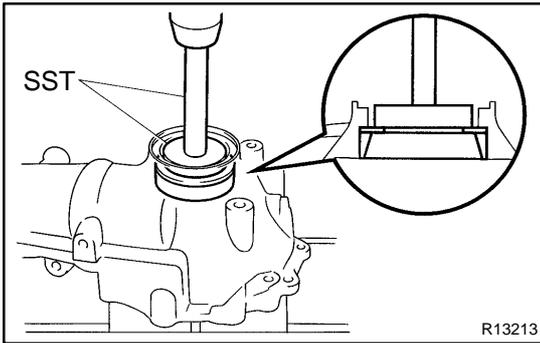
- (a) Using SST, remove the rear bearing outer race.  
SST 09502-12010, 09612-65014 (09612-01020, 09612-01050)
- (b) Using a brass bar and a hammer, remove the oil storage ring.



**36. REMOVE SIDE BEARING OUTER RACE**

HINT:

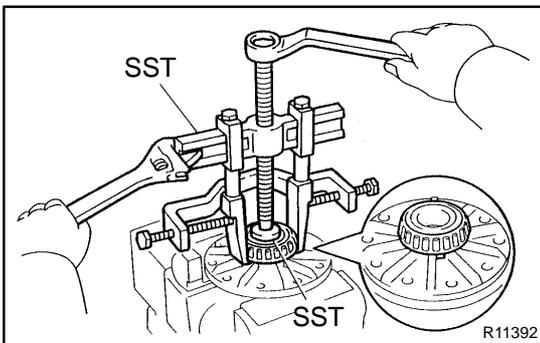
- Measure the plate washer and note the thickness.
  - Tag the bearing outer races to show the location for reassembly.
- (a) Using SST and a press, remove the outer race and plate washer from the bearing retainer.  
SST 09950-60020 (09951-00680), 09950-70010 (09951-07150)



- (b) Using SST and a press, remove the outer race and plate washer from the differential carrier assy.  
SST 09950-60020 (09951-00680), 09950-70010 (09951-07150)

**37. REMOVE DIFFERENTIAL RING GEAR**

- (a) Place matchmarks on the ring gear and differential case assy.  
(b) Remove the 10 bolts.  
(c) Using a plastic hammer, tap on the ring gear to separate it from the differential case assy.

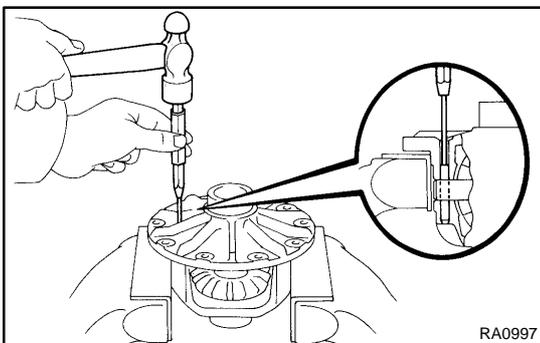


**38. REMOVE FRONT DIFFERENTIAL CASE BEARING**

- (a) Using SST, remove the 2 differential case bearings from the differential case assy.  
SST 09950-60010 (09951-00390), 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04061, 09957-04010, 09958-0401 1)

HINT:

Fix the clews of SST to the notch in the differential case assy.



**39. DISASSEMBLE DIFFERENTIAL CASE**

- (a) Using a pin punch and a hammer, remove the straight pin.  
(b) Remove the parts from the differential case assy.
- (1) Differential side gear (2 pieces)
  - (2) Differential side gear thrust washer (2 pieces)
  - (3) Differential pinion shaft
  - (4) Differential pinion gear (2 pieces)
  - (5) Differential pinion gear thrust washer (2 pieces)

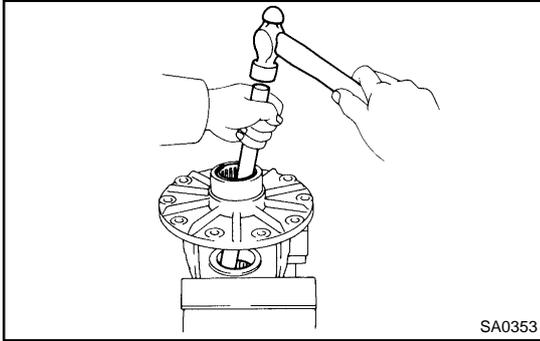
**40. INSPECT DIFFERENTIAL GEAR KIT**

- (a) Check that no damage is identified on the pinion gear and side gear.  
If the pinion gear and/or side gear is damaged, replace the differential gear kit.

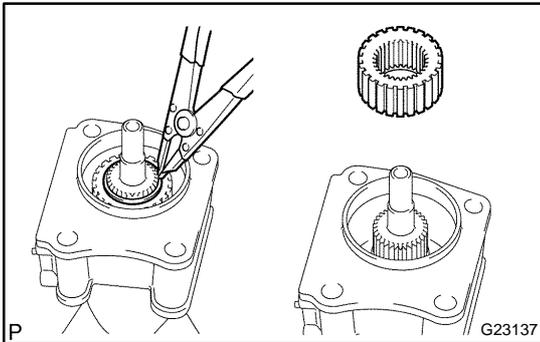
**41. INSPECT FRONT DIFFERENTIAL CASE**

(a) Check that no damaged is differential case assy.

If the differential case assy is damaged, replace the differential case assy.

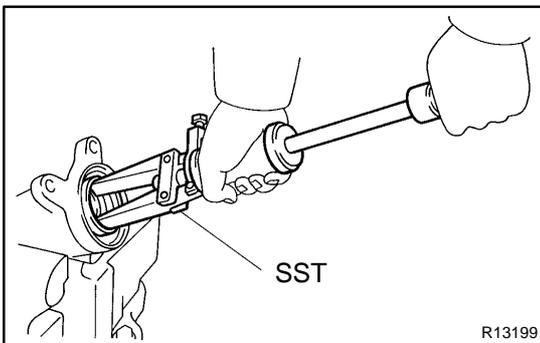
**42. REMOVE FRONT DIFFERENTIAL SIDE GEAR NEEDLE ROLLER BEARING**

(a) Using a brass bar and hammer, remove the 2 bearings.

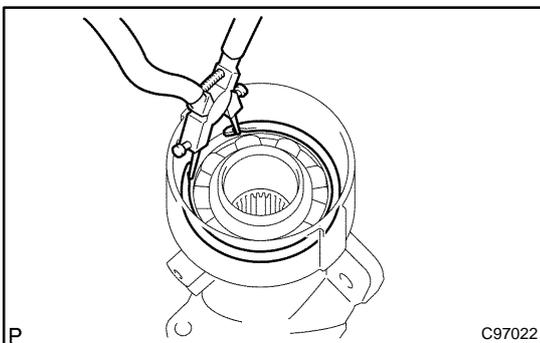
**43. REMOVE DIFFERENTIAL CLUTCH HUB**

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

(b) Remove the differential clutch hub.

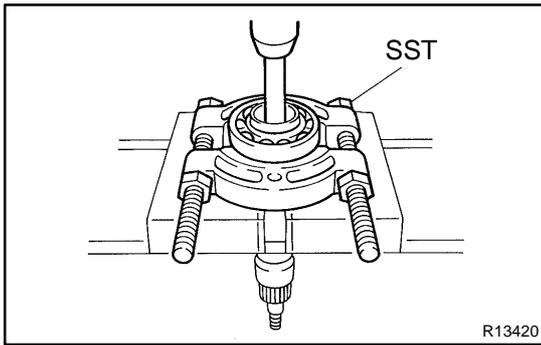
**44. REMOVE DIFFERENTIAL SIDE GEAR SHAFT OIL SEAL**

(a) Using SST, remove the oil seal from the differential tube.  
SST 09308-00010

**45. REMOVE DIFFERENTIAL SIDE GEAR SHAFT SUB-ASSY RH**

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

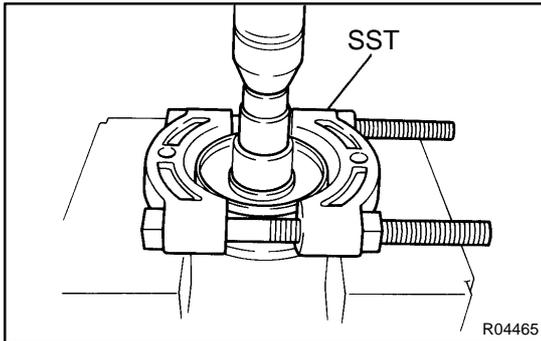
(b) Remove the side gear shaft from the differential tube.



**46. REMOVE FRONT DIFFERENTIAL SIDE GEAR SHAFT RH BEARING**

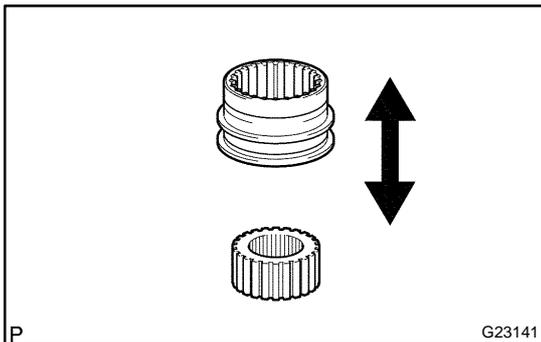
- (a) Using a snap ring expander, remove the snap ring.
- (b) Using SST, a brass bar and a press, remove the bearing.  
SST 09950-00020

**NOTICE:**  
Do not damage the bearing.



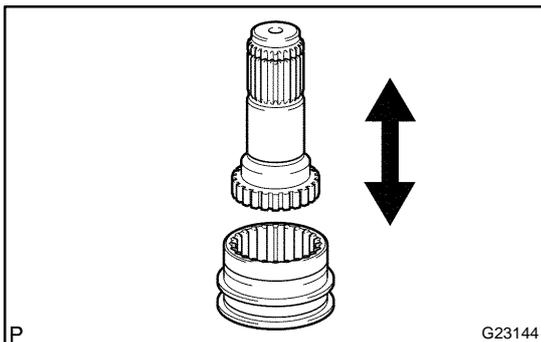
**47. REMOVE FRONT DIFFERENTIAL DUST DEFLECTOR**

- (a) Using SST, a socket wrench and a press, remove the dust deflector  
SST 09950-00020



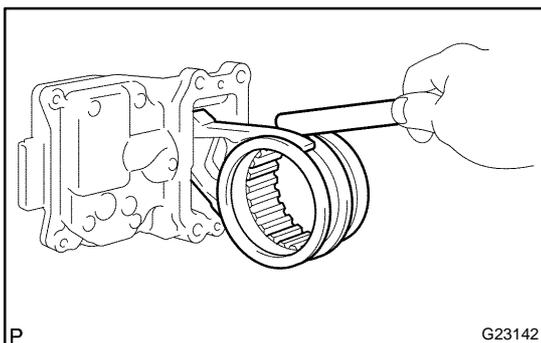
**48. INSPECT DIFFERENTIAL CLUTCH SLEEVE AND DIFFERENTIAL CLUTCH HUB**

- (a) Check the wear and damage of the clutch hub and clutch sleeve.
- If necessary replace them
- (b) Check that clutch sleeve slides smoothly on the clutch hub.



**49. INSPECT DIFFERENTIAL CLUTCH SLEEVE AND DIFFERENTIAL SIDE GEAR INTER SHAFT**

- (a) Check the wear and damage of the clutch hub and side gear inter shaft.
- (b) Check that clutch sleeve slides smoothly on the side gear inter shaft.

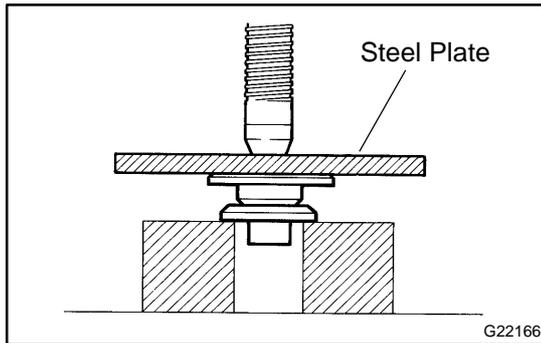


**50. INSPECT DIFFERENTIAL CLUTCH SLEEVE AND CLUTCH SLEEVE HORK CLEARANCE**

- (a) Using a feeler gauge, measure the clearance between the sleeve fork and clutch sleeve.

**Maximum clearance: 0.35 mm (0.0138 in.)**

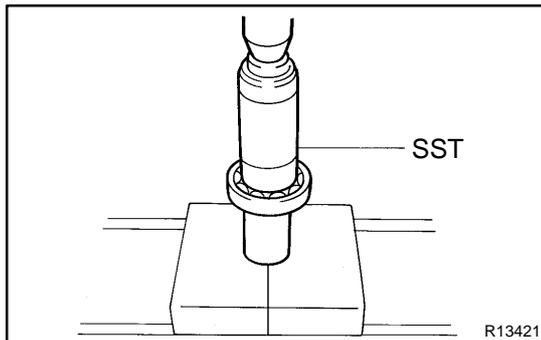
If the clearance exceeds the maximum, replace the fork or clutch sleeve.



- 51. INSTALL FRONT DIFFERENTIAL DUST DEFLECTOR**  
(a) Using a steel plate and a press, install a new dust deflector.

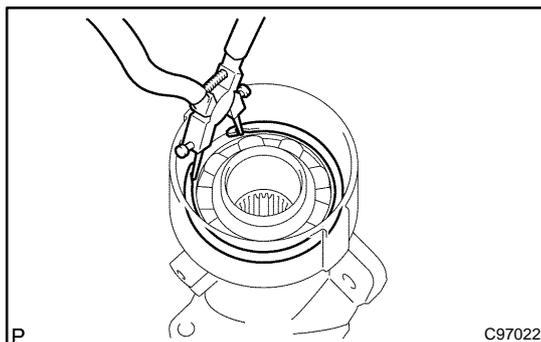
**NOTICE:**

**Do not damage the dust deflector.**



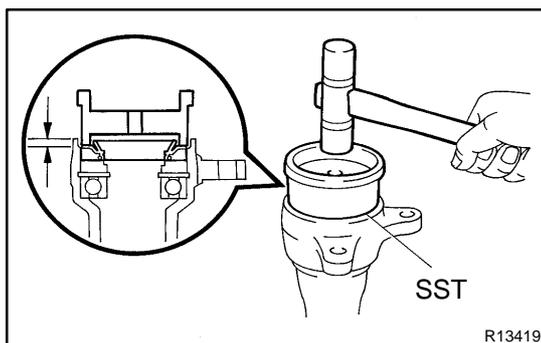
- 52. INSTALL FRONT DIFFERENTIAL SIDE GEAR SHAFT RH BEARING**

- (a) Using SST and a press, install the bearing.  
SST 09223-00010  
(b) Using a snap ring expander, install the snap ring.



- 53. INSTALL DIFFERENTIAL SIDE GEAR SHAFT SUB-ASSY RH**

- (a) Install the side gear shaft into the differential tube.  
(b) Using snap ring pliers, install the snap ring.



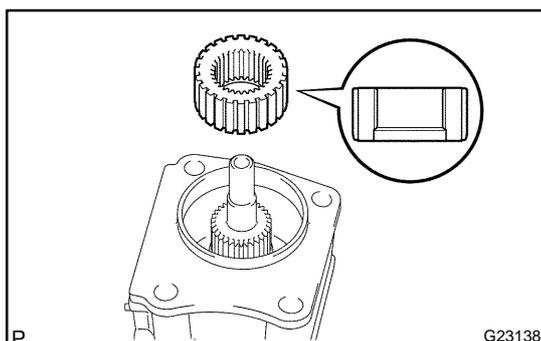
- 54. INSTALL DIFFERENTIAL SIDE GEAR SHAFT OIL SEAL**

- (a) Using SST and a plastic hammer, install a new oil seal.  
SST 09608-32010

**Oil seal drive in depth:**

**5.3 ± 0.5 mm (0.2087 ± 0.0197 in.)**

- (b) Coat the oil seal lip with MP grease.

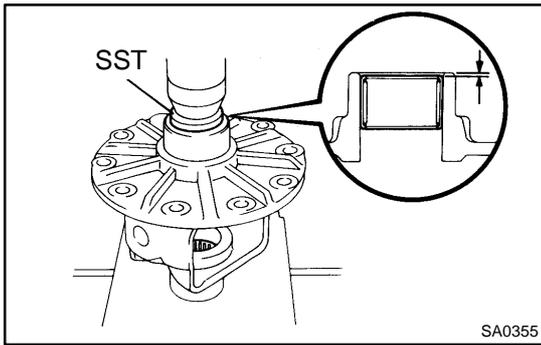


- 55. INSTALL DIFFERENTIAL CLUTCH HUB**

- (a) Install the clutch hub to the side gear inter shaft.  
(b) Using snap ring pliers install the snap ring.

**NOTICE:**

**Make sure to install the differential clutch hub in the correct direction.**



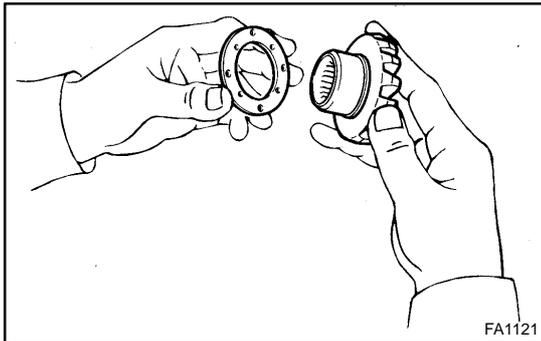
**56. INSTALL FRONT DIFFERENTIAL SIDE GEAR NEEDLE ROLLER BEARING**

(a) Using SST and press, install 2 new bearings.

**Bearing press in depth:**

**1.7 ± 0.3 mm (0.067 ± 0.012 in.)**

SST 09950-60010 (09951-00380)



**57. INSTALL FRONT DIFFERENTIAL CASE**

(a) Install the 2 proper thrust washers on the 2 side gears.

HINT:

Using the table below, select thrust washer which will ensure that the backlash is within the specifications.

**Washer thickness**

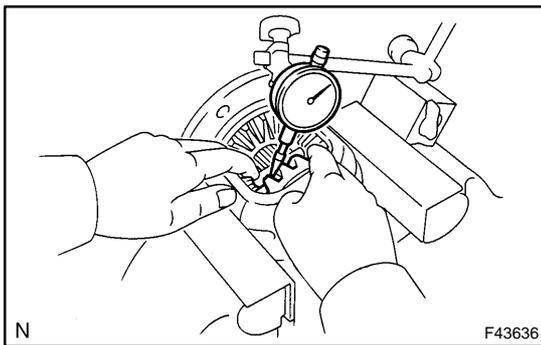
Thickness mm (in.)	Thickness mm (in.)
1.48 - 1.52 (0.0583 - 0.0598)	1.73 - 1.77 (0.0681 - 0.0697)
1.53 - 1.57 (0.0602 - 0.0618)	1.78 - 1.82 (0.0701 - 0.0717)
1.58 - 1.62 (0.0622 - 0.0638)	1.83 - 1.87 (0.0720 - 0.0736)
1.63 - 1.67 (0.0642 - 0.0657)	1.88 - 1.92 (0.0740 - 0.0756)
1.68 - 1.72 (0.0661 - 0.0677)	-

(b) Install the 2 side gears, 2 side gear thrust washers, 2 pinion gears, 2 pinion gear thrust washers and pinion shaft in the differential case assy.

HINT:

Align the holes of the differential case assy and pinion shaft.

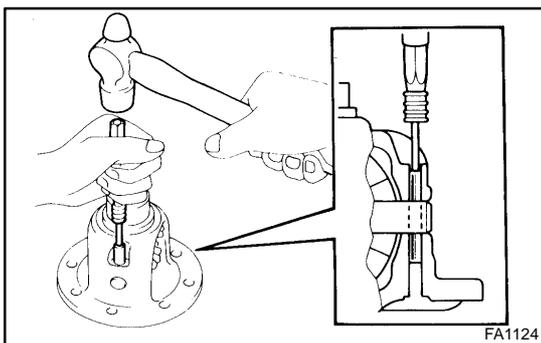
(c) Measure the side gear backlash.



(1) Using a dial indicator, measure the side gear backlash with holding one pinion gear toward the differential case assy.

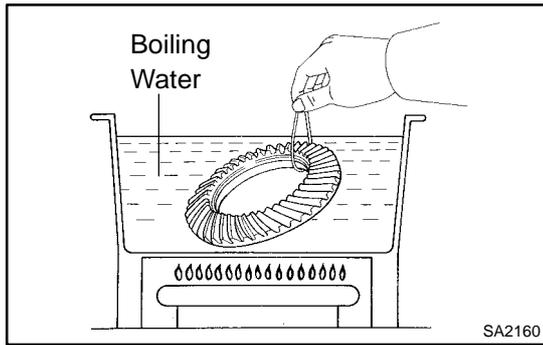
**Backlash: 0 - 0.15 mm (0 - 0.00591 in.)**

If the backlash is not within the specification, install side gear thrust washer with different thicknesses.



(d) Using a pin punch and hammer, install the straight pin through the differential case assy and hole of the pinion shaft.

(e) Stake the differential case assy.

**58. INSTALL DIFFERENTIAL RING GEAR**

- (a) Clean the contact surfaces of the differential case assy and ring gear.
- (b) Heat the ring gear to about 100°C (212°F) in boiling water.
- (c) Carefully remove the ring gear from the boiling water.
- (d) After the moisture on the ring gear has completely evaporated, quickly install the ring gear to the differential case assy.

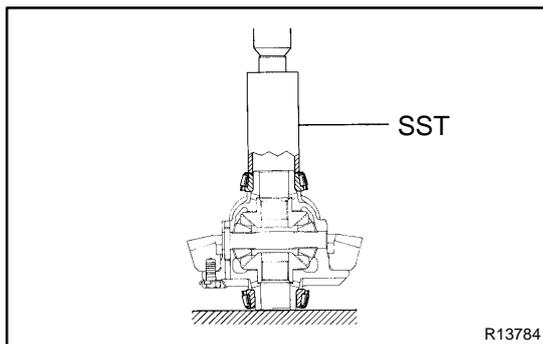
**HINT:**

Align the matchmarks on the ring gear and differential case assy.

- (e) Temporarily install 10 bolts so that the bolt holes in the ring gear and differential case assy are not misaligned.
- (f) After the ring gear has cooled sufficiently, torque the ring gear set bolts to which thread lock has been applied.

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

**Thread lock: Part No. 08833-00100, THREE BOND 1360k or equivalent**

**59. INSTALL FRONT DIFFERENTIAL CASE BEARING**

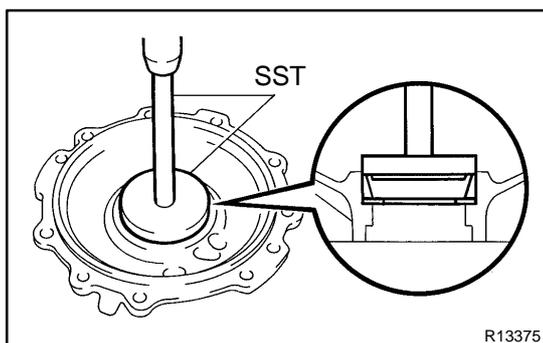
- (a) Using SST and a press, install the 2 differential case bearings into the differential case assy.

SST 09226-10010

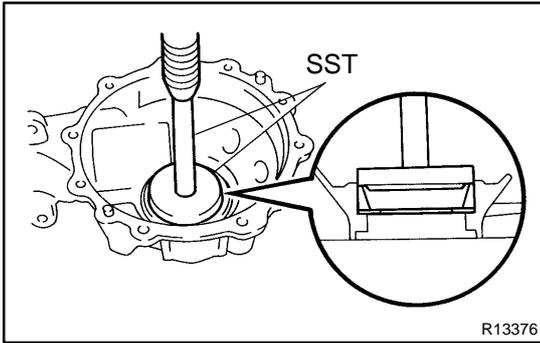
**60. INSTALL SIDE BEARING OUTER RACE****HINT:**

When replacing the 2 differential case bearings, fit 2 new thinnest washers to each bearing and when reusing the bearings, fit the thickness washers with the same thickness as removed.

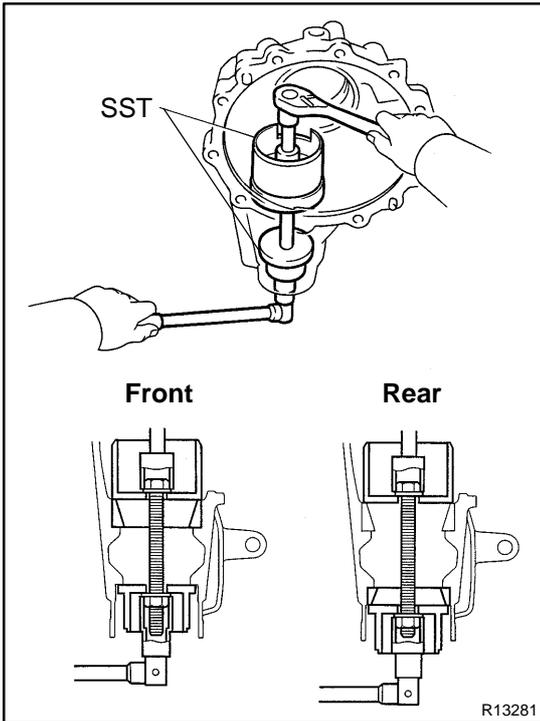
- (a) Install a new plate washer to the side bearing retainer.



- (b) Using SST and a press, install the bearing outer race to the differential case bearing retainer assy.  
SST 09950-60020 (09951-00810), 09950-70010 (09951-07150)
- (c) Install a new plate washer to the differential carrier assy.



- (d) Using SST and a press, install the bearing outer race to the differential carrier assy.  
SST 09950-60020 (09951-00810), 09950-70010 (09951-07150)



**61. INSTALL FRONT BEARING OUTER RACE**

- (a) Using SST, install the outer race.  
SST 09950-00020 (09951-00680, 09951-00890)

**62. INSTALL REAR BEARING OUTER RACE**

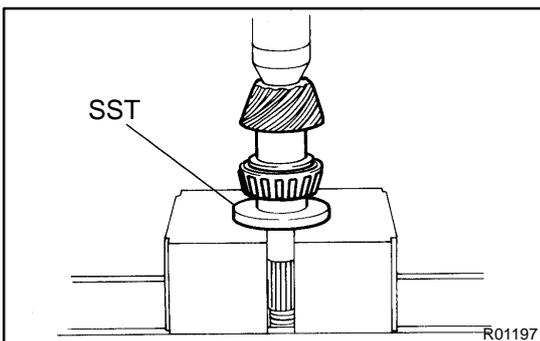
- (a) Install the oil strage ring.  
(b) Using SST, install the outer race.  
SST 09950-00020 (09951-00680, 09951-00890)

**63. INSTALL FRONT DRIVE PINION FRONT TAPERED ROLLER BEARING**

- (a) Install the washer on the drive pinion.

HINT:

First fit a washer with the same thickness with the removed washer, then after checking the tooth contact pattern, replace the washer with one of a differential thickness if necessary.



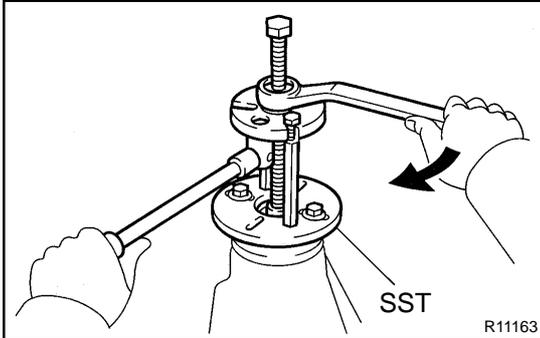
- (b) Using SST and a press, install the front bearing onto the drive pinion.  
SST 09506-30012

**64. INSPECT DIFFERENTIAL DRIVE PINION PRELOAD**

(a) Install the drive pinion.

HINT:

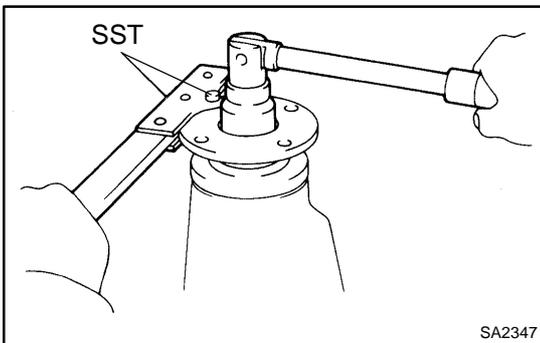
Assemble the spacer and oil seal after adjusting the ring gear tooth contact pattern.



(b) Using SST, install the rear bearing, oil slinger and companion flange.

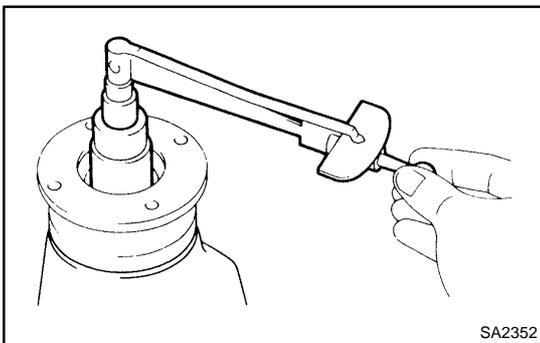
SST 09950-30012 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)

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



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

(e) Using SST to hold the companion flange, tighten the nut. SST 09330-00021 (09330-00030)

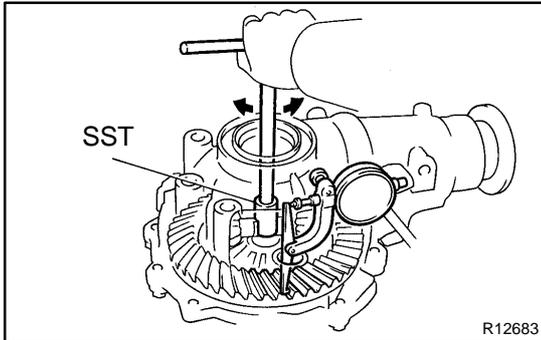
**NOTICE:****As there is no spacer, tighten the nut a little at a time, being careful not to overtighten it.**

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

**Preload (at starting)****New bearing:****0.98 - 1.57 N·m (10 - 16 kgf·cm, 8.7 - 13.9 in.-lbf)****Reused bearing:****0.49 - 0.78 N·m (5 - 8 kgf·cm, 4.3 - 6.9 in.-lbf)****65. INSTALL DIFFERENTIAL CASE ASSY**

**66. ADJUST BACKLASH DIFFERENTIAL RING GEAR AND DIFFERENTIAL DRIVE PINION**

- (a) Install the side bearing retainer with the 10 bolts.  
**Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)**



- (b) Using SST and a dial indicator, measure the ring gear backlash.  
SST 09564-3201 1  
**Backlash: 0.11 - 0.18 mm (0.0043 - 0.0071 in.)**
- (c) If it is not within the specification, adjust it by either increasing or decreasing the washers on both sides by an equal amount.

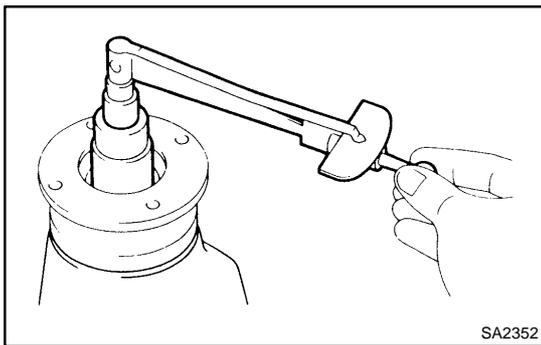
**HINT:**

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

Make sure that there is ring gear backlash.

**Washer thickness:**

Thickness mm (in.)	Thickness mm (in.)	Thickness mm (in.)
1.59 - 1.61 (0.0626 - 0.0634)	1.89 - 1.91 (0.0744 - 0.0752)	2.19 - 2.21 (0.0862 - 0.0870)
1.62 - 1.64 (0.0638 - 0.0646)	1.92 - 1.94 (0.0756 - 0.0764)	2.22 - 2.24 (0.0874 - 0.0882)
1.65 - 1.67 (0.0650 - 0.0657)	1.95 - 1.97 (0.0768 - 0.0776)	2.25 - 2.27 (0.0886 - 0.0894)
1.68 - 1.70 (0.0661 - 0.0669)	1.98 - 2.00 (0.0780 - 0.0787)	2.28 - 2.30 (0.0898 - 0.0906)
1.71 - 1.73 (0.0673 - 0.0681)	2.01 - 2.03 (0.0791 - 0.0800)	2.31 - 2.33 (0.0909 - 0.0917)
1.74 - 1.76 (0.0685 - 0.0693)	2.04 - 2.06 (0.0803 - 0.0811)	2.34 - 2.36 (0.0921 - 0.0929)
1.77 - 1.79 (0.0697 - 0.0705)	2.07 - 2.09 (0.0815 - 0.0823)	2.37 - 2.39 (0.0933 - 0.0941)
1.80 - 1.82 (0.0709 - 0.0717)	2.10 - 2.12 (0.0827 - 0.0835)	2.40 - 2.42 (0.0945 - 0.0953)
1.83 - 1.85 (0.0720 - 0.0728)	2.13 - 2.15 (0.0839 - 0.0846)	2.43 - 2.45 (0.0957 - 0.0965)
1.86 - 1.88 (0.0732 - 0.0740)	2.16 - 2.18 (0.0850 - 0.0858)	2.46 - 2.48 (0.0969 - 0.0976)



**67. INSPECT TOTAL PRELOAD**

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

**Total preload (at starting):**

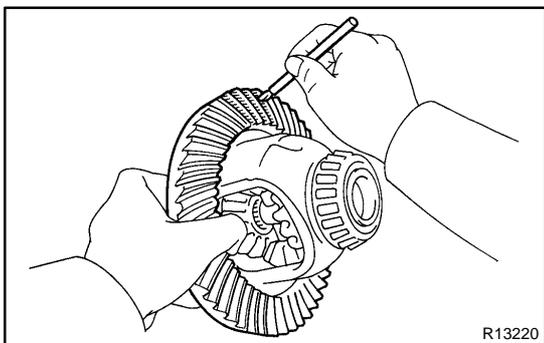
**Drive pinion preload plus**

**0.20 - 0.63 N·m (2.0 - 6.4 kgf·cm, 1.8 - 5.6 in·lbf)**

If necessary, disassemble and inspect the differential.

**68. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION**

(a) Remove the side bearing retainer and differential case Assy.



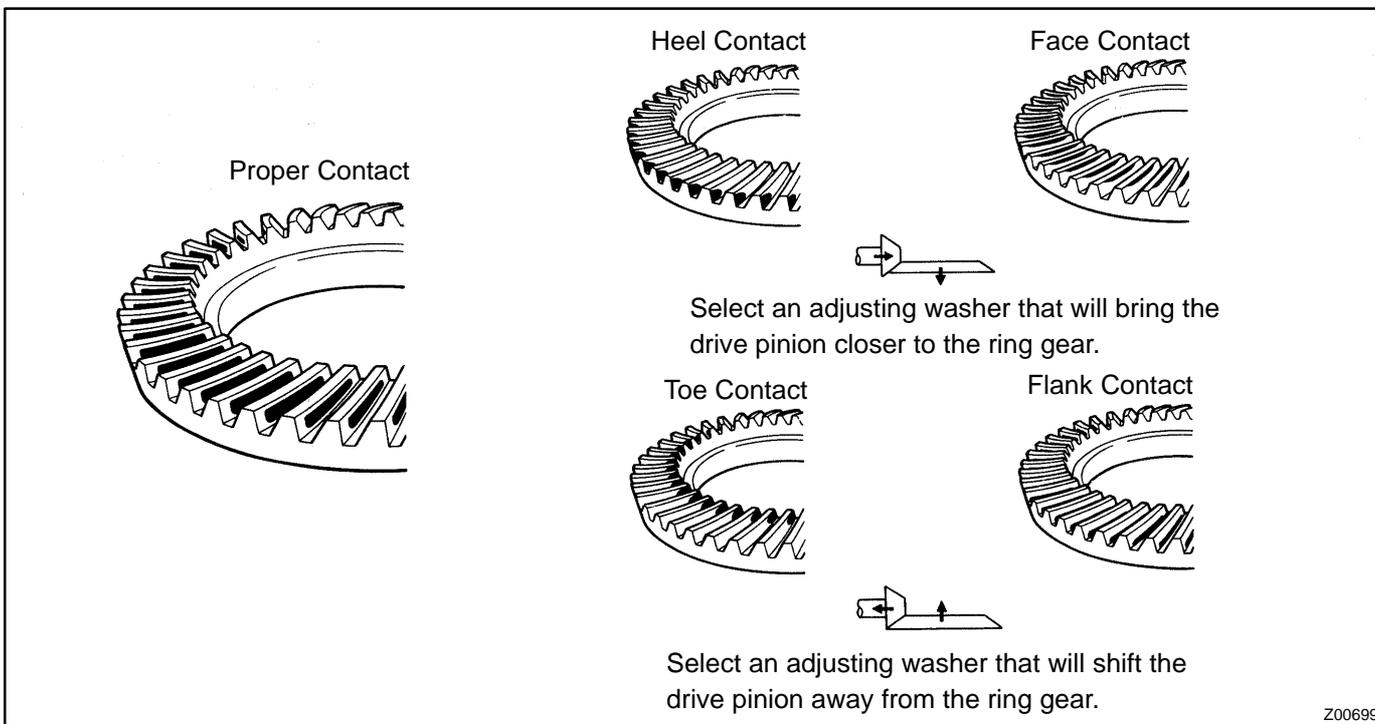
(b) Coat 3 or 4 teeth at the 3 different positions on the ring gear with red lead.

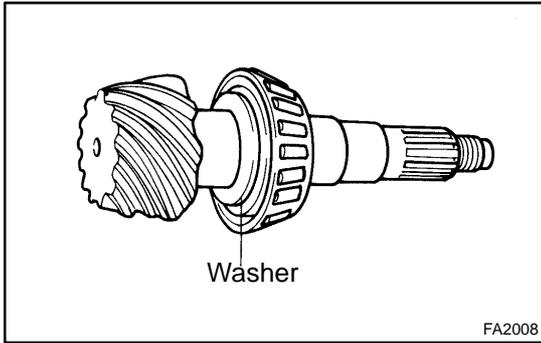
(c) Install the differential case Assy and side bearing retainer. **Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)**

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

(e) Remove the differential case and side bearing retainer and differential case Assy.

(f) Inspect the tooth contact pattern.





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

**Washer thickness**

Thickness mm (in.)	Thickness mm (in.)	Thickness mm (in.)
1.69 - 1.71 (0.0665 - 0.0673)	1.93 - 1.95 (0.0760 - 0.0768)	2.17 - 2.19 (0.0854 - 0.0862)
1.72 - 1.74 (0.0677 - 0.0685)	1.96 - 1.98 (0.0772 - 0.0780)	2.20 - 2.22 (0.0866 - 0.0874)
1.75 - 1.77 (0.0689 - 0.0697)	1.99 - 2.01 (0.0783 - 0.0791)	2.23 - 2.25 (0.0878 - 0.0886)
1.78 - 1.80 (0.0701 - 0.0709)	2.02 - 2.04 (0.0795 - 0.0803)	2.26 - 2.28 (0.0890 - 0.0898)
1.81 - 1.83 (0.0713 - 0.0720)	2.05 - 2.07 (0.0807 - 0.0815)	2.29 - 2.31 (0.0902 - 0.0909)
1.84 - 1.86 (0.0724 - 0.0732)	2.08 - 2.10 (0.0819 - 0.0827)	2.32 - 2.34 (0.0913 - 0.0921)
1.87 - 1.89 (0.0736 - 0.0744)	2.11 - 2.13 (0.0831 - 0.0839)	-
1.90 - 1.92 (0.0748 - 0.0756)	2.14 - 2.16 (0.0843 - 0.0850)	-

- (g) Remove the companion flange and oil slinger.  
SST 09330-00021 (09330-00030), 09950-30012 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)
- (h) Remove the rear bearing.  
SST 09556-22010

**69. INSTALL FRONT DIFFERENTIAL DRIVE PINION BEARING SPACER**

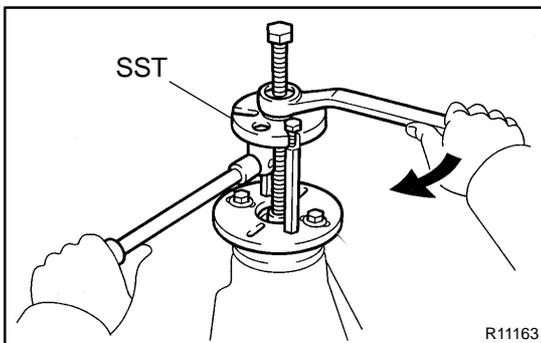
- (a) Install a new bearing spacer and oil strage ring.

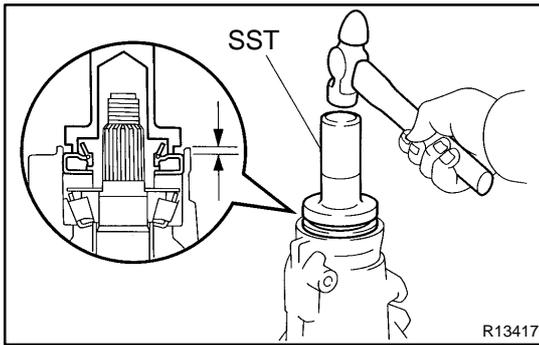
**70. INSTALL FRONT DRIVE PINION REAR TAPERED ROLLER BEARING**

**71. INSTALL FRONT DIFFERENTIAL DRIVE PINION OIL SLINGER**

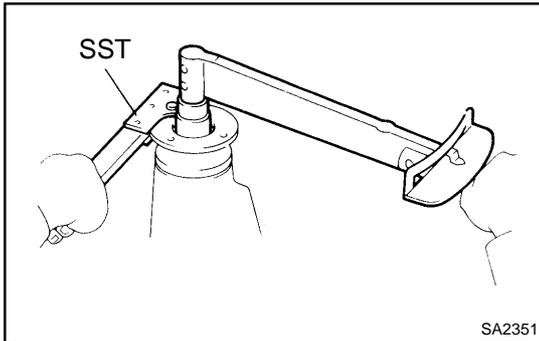
**72. INSTALL FRONT DRIVE PINION COMPANION FLANGE SUB-ASSYFRONT**

- (a) Place the companion flange on the drive pinion.
- (b) Coat the threads of a new nut with hypoid gear oil LSD.
- (c) Using SST and the companion flange, install the rear tapered roller bearing, then remove the companion flange.  
SST 09950-30012 (09951-03010, 09953-03010, 09954-03010, 09955-03030, 09956-03020)

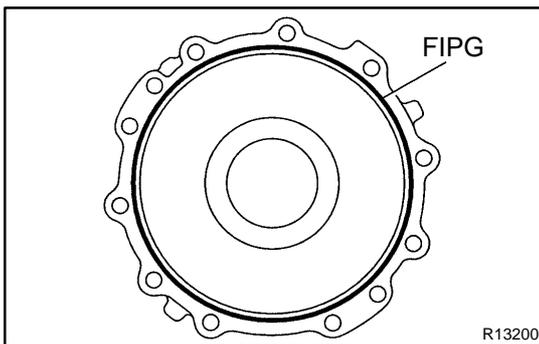


**73. INSTALL FRONT DIFFERENTIAL CARRIER OIL SEAL**

- (a) Using SST and a hammer, install the oil seal.  
SST 09330-00021 (09330-00030), 09554-22010  
**Oil seal drive in depth:**  
**4.35 ± 0.45 mm (0.171 ± 0.018 in.)**
- (b) Coat the oil seal lip with MP grease.



- (c) Using SST to hold the flange, torque the nut.  
**Torque: 370 N·m (3,770 kgf·cm, 37 ft·lbf)**

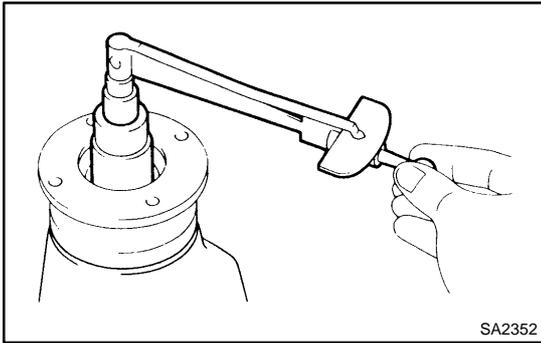
**74. INSTALL DIFFERENTIAL SIDE BEARING RETAINER**

- (a) Remove any old FIPG material and be careful not to drop oil on the contact surfaces of the differential carrier and side bearing retainer.
- (b) Clean contacting surfaces of any residual FIPG material using gasoline or alcohol.
- (c) Apply FIPG to the side bearing retainer, as shown.  
**FIPG: Part No. 08826-00090, THREE BOND 1281 or equivalent**

**HINT:**

Install the side bearing retainer within 10 minutes after applying FIPG.

- (d) Install the side bearing retainer with the 10 bolts.  
**Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)**
- (e) Install a union.

**75. INSPECT DIFFERENTIAL DRIVE PINION PRELOAD**

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

**Preload (at starting)****New bearing:**

**0.98 - 1.57 N·m (10 - 16 kgf·cm, 8.7 - 13.9 in·lbf)**

**Reused bearing:**

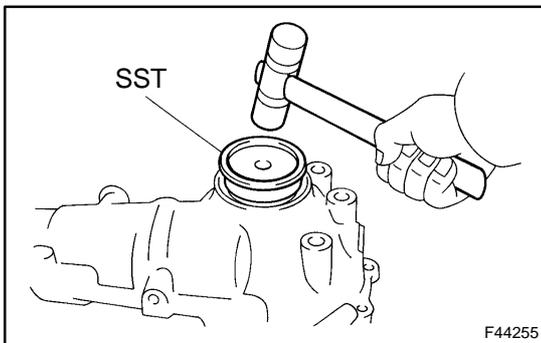
**0.49 - 0.78 N·m (5 - 8 kgf·cm, 4.3 - 6.9 in·lbf)**

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

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

**Torque: 370 N·m (3,773 kgf·cm, 268 ft·lbf) or less**

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

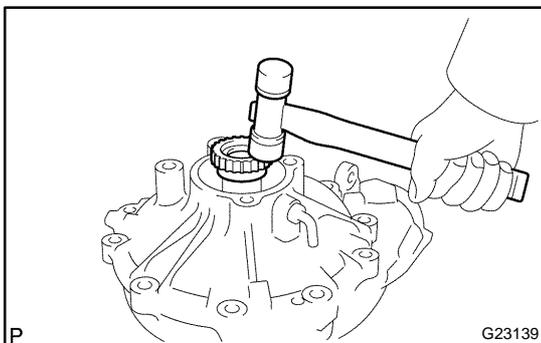
**76. INSPECT TOTAL PRELOAD****77. INSPECT BACKLASH DIFFERENTIAL RING GEAR AND DIFFERENTIAL DRIVE PINION****78. INSPECT FRONT DRIVE PINION COMPANION FLANGE SUB-ASSYFRONT****79. INSTALL FRONT DRIVE PINION COMPANION FLANGE FRONT NUT****80. INSTALL DIFFERENTIAL SIDE GEAR SHAFT OIL SEAL**

- (a) Using SST and a plastic hammer, install a new oil seal until its surface is flush with the differential carrier end.

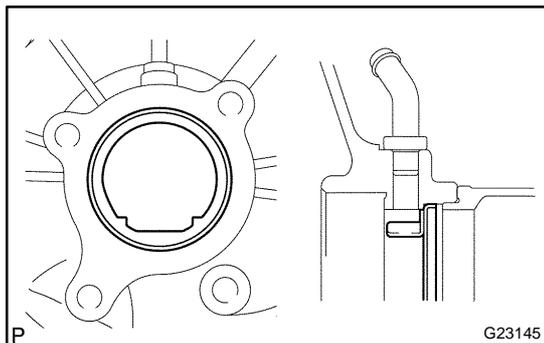
SST 09608-32010

- (b) Coat the oil seal lip with MP grease.

**Oil seal drive in depth: 0 ± 0.45 mm (0 ± 0.0177 in.)**

**81. INSTALL DIFFERENTIAL SIDE GEAR INTER SHAFT SUB-ASSY**

- (a) Install a new snap ring to the side gear inter shaft.
- (b) Using a plastic hammer, side gear inter shaft to the differential case.
- (c) Check that there 2 - 3 mm (0.08 - 0.12 in.) of play in axial direction.
- (d) Check that the side gear inter shaft will not come out by trying to pull it completely out by hand.

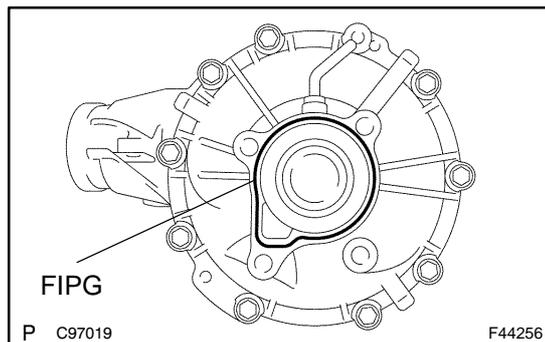


## 82. INSTALL FRONT DIFFERENTIAL SIDE BEARING RETAINER DEFLECTOR

- (a) Using a brass bar and a hammer, install the side bearing retainer deflector.

### NOTICE:

**Make sure to install the side bearing retainer deflector in the correct direction.**



## 83. INSTALL FRONT DIFFERENTIAL TUBE ASSY

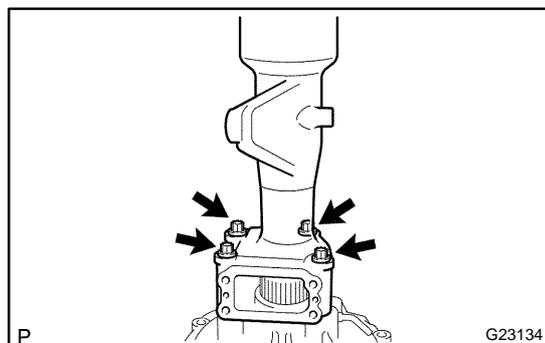
- (a) Remove the any oil FIPG material and be careful not to drop oil on the contact surfaces of the differential and clutch case.
- (b) Clean contacting surfaces of any residual FIPG material using gasoline or alcohol.
- (c) Apply FIPG to the differential, as shown.

**FIPG: Part No. 08826-00090, THREE BOND 1281 or equivalent**

### HINT:

Install the differential tube within 10 minutes after applying FIPG.

- (d) Install the differential tube to the differential carrier assy.



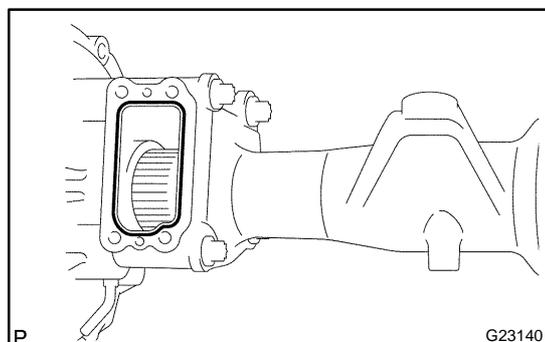
- (e) Clean the threads of the 4 bolts and retainer bolt holes with toluene or trichloroethylene.

- (f) Apply adhesive to 2 to 3 threads of the bolts end.

**Adhesive: Part No. 08833-00070, THREE BOND 1324 or equivalent**

- (g) Install the 4 bolts.

**Torque: 110 N·m (1,122 kgf·cm, 81 ft·lbf) or less**



## 84. INSTALL DIFFERENTIAL VACUUM ACTUATOR ASSY

- (a) Remove the any oil FIPG material and be careful not to drop oil on the contact surfaces of the actuator and clutch case.

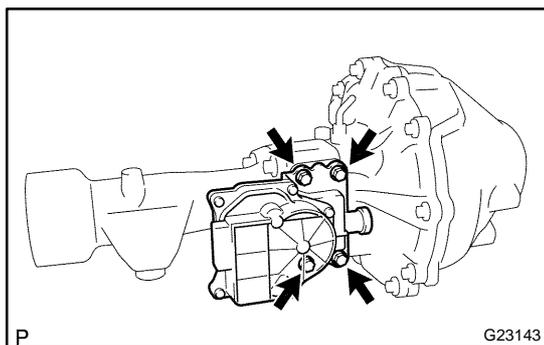
- (b) Clean connecting surfaces of any residual FIPG material using gasoline or alcohol.

- (c) Apply FIPG to the differential tube, as shown.

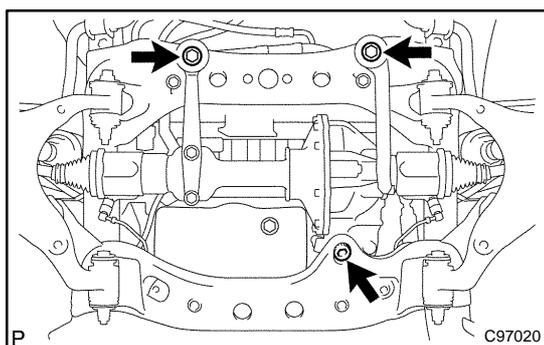
**FIPG: Part No. 08826-00090, THREE BOND 1281 or equivalent**

### HINT:

Install the actuator within 10 minutes after applying FIPG.



- (d) Clean the threads of the 4 bolts and retainer bolt holes with toluene or trichloroethylene.
- (e) Install the actuator assy to the differential tube.
- (f) Apply adhesive to 2 to 3 threads of the bolts end.  
**Adhesive: Part No. 08833-00070, THREE BOND 1281 or equivalent**
- (g) Install the 4 bolts.  
**Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)**



- 85. INSTALL DIFFERENTIAL CARRIER ASSY FRONT**
- (a) Connect the actuator hose and connector.
  - (b) Install the No.1 mounting support with the 3 bolts.  
**Torque: 186 N·m (1,900 kgf·cm, 137 ft·lbf)**
  - (c) Install the No.2 mounting support with the 2 bolts.  
**Torque: 160 N·m (1,630 kgf·cm, 118 ft·lbf)**
  - (d) Install the front differential support No.3 with the 2 bolts.  
**Torque: 108 N·m (1,100 kgf·cm, 80 ft·lbf)**
  - (e) Support the front differential with a jack.
  - (f) Install the 2 front mounting bolts and nuts.  
**Torque: 137 N·m (1,400 kgf·cm, 101 ft·lbf)**
  - (g) Install the front differential mount nuts No.1.  
**Torque: 87 N·m (887 kgf·cm, 64 ft·lbf)**
  - (h) Install the front differential breather tube bracket with a bolt.  
**Torque: 13 N·m (133 kgf·cm, 10 ft·lbf)**
  - (i) Lower the jack.

**86. INSTALL FRONT DRIVE SHAFT ASSY LH (See Pub. No. RM1001U on page 30-18)**

**87. INSTALL FRONT DRIVE SHAFT ASSY RH (See Pub. No. RM1001U on page 30-18)**

**88. INSTALL FRONT SUSPENSION ARM SUB-ASSY LOWER NO.1 LH**  
(See Pub. No. RM1001U on page 26-22)

**89. INSTALL FRONT SUSPENSION ARM SUB-ASSY LOWER NO.1 RH**  
(See Pub. No. RM1001U on page 26-22)

**90. INSTALL TIE ROD END SUB-ASSY LH (See Pub. No. RM1001U on page 51-20)**

**91. INSTALL TIE ROD END SUB-ASSY RH (See Pub. No. RM1001U on page 51-20)**

**92. INSTALL SPEED SENSOR FRONT LH (See Pub. No. RM1001U on page 32-50)**

**93. INSTALL SPEED SENSOR FRONT RH (See Pub. No. RM1001U on page 32-50)**

**94. INSTALL FRONT STABILIZER LINK ASSY LH (See Pub. No. RM1001U on page 26-27)**

**95. INSTALL FRONT STABILIZER LINK ASSY RH (See Pub. No. RM1001U on page 26-27)**

**96. INSTALL FRONT AXLE HUB LH NUT (See Pub. No. RM1001U on page 30-18)**

**97. INSTALL FRONT AXLE HUB RH NUT (See Pub. No. RM1001U on page 30-18)**

**98. INSTALL PROPELLER SHAFT ASSY FRONT (See Pub. No. RM1001U on page 30-4)**

**99. FILL UP DIFFERENTIAL OIL (See Pub. No. RM1001U on page 29-3)**

**100. INSPECT DIFFERENTIAL OIL (See Pub. No. RM1001U on page 29-3)**

**101. INSTALL ENGINE UNDER COVER SUB-ASSY NO.1**

(a) Install the engine under cover sub-assy No.1 with the 4 bolts.

**102. INSTALL ENGINE UNDER COVER ASSY REAR**

(a) Install the engine under cover assy rear with the 6 bolts.

**103. INSTALL FRONT WHEEL**

**Torque: 112 N·m (1,142 kgf·cm, 83 ft·lbf)**

4RUNNER Supplement (RM1034U)

**104. CHECK ABS SPEED SENSOR SIGNAL (See Pub. No. RM1001U on page 05-307)**