TOYOTA SERVICE BULLETIN

Group: 06 No.: 04 Date: Dec, 12

## Landcruiser 200

# Corrections to Repair Manual RM19U1E

Please ensure these pages are distributed to all relevant staff for their information; and a copy made available for future reference, with the above repair manual.

| Section | Title | Paragraph |
|---|---|---|
| AXLE AND DIFFERENTIAL | REAR DIFFERENTIAL CARRIER ASSEMBLY (for Standard) | REASSEMBLY |
| AXLE AND DIFFERENTIAL | REAR DIFFERENTIAL CARRIER ASSEMBLY (for LSD) | REASSEMBLY |
| AXLE AND DIFFERENTIAL | REAR DIFFERENTIAL CARRIER ASSEMBLY (w/ Differential Lock) | REASSEMBLY |

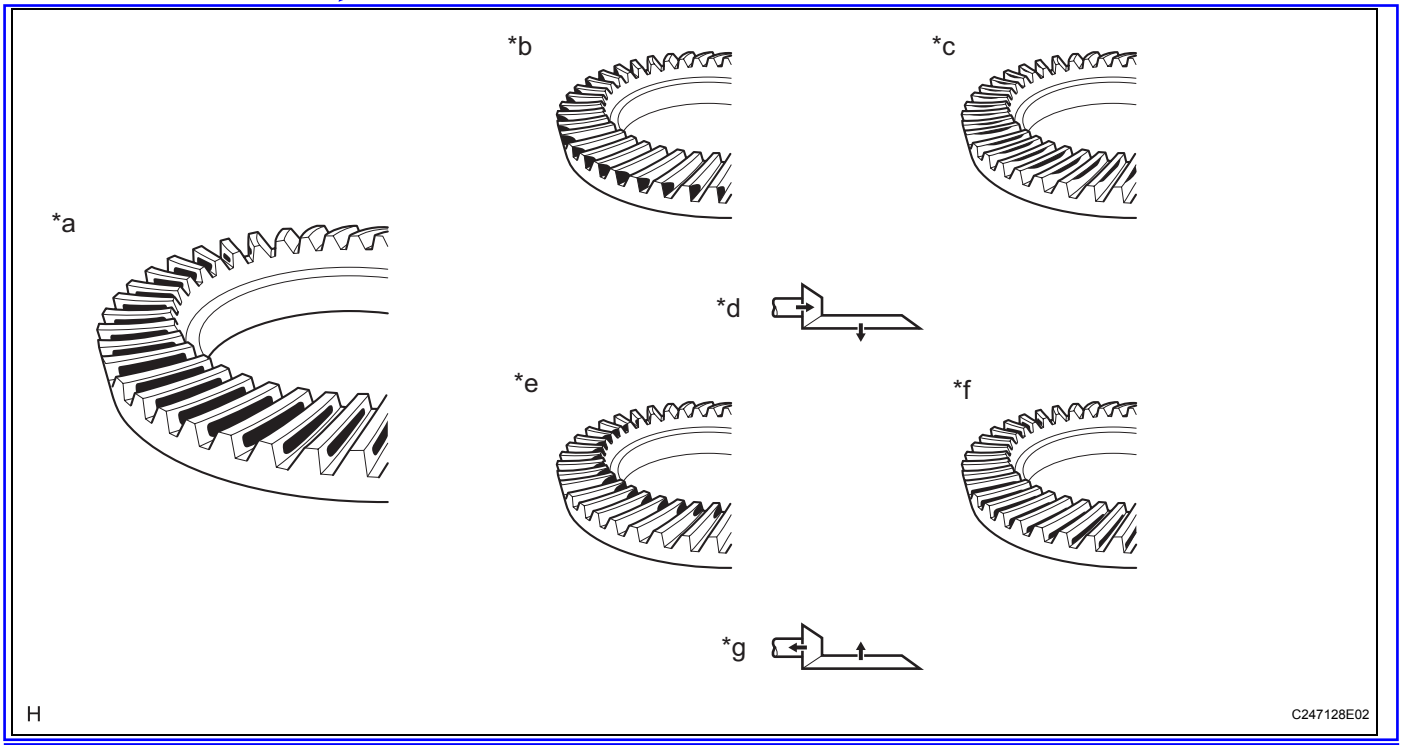
The revised pages listed above are attached.
(The corrected parts are indicated by arrows.)

**This Bulletin does not cause the Flat Rate Manual to be changed.**

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[Corrected]

(b) Turn the companion flange in both directions and inspect the ring gear for proper tooth contact.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Proper Contact | *b | Heel Contact |
| *c | Face Contact | *d | Select an adjusting washer that will shift the drive pinion closer to the ring gear (*b, *c) |
| *e | Toe Contact | *f | Flank Contact |
| *g | Select an adjusting washer that will shift the drive pinion away from the ring gear (*e, *f) | - | - |

[Added]

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

**Standard Washer Thickness**

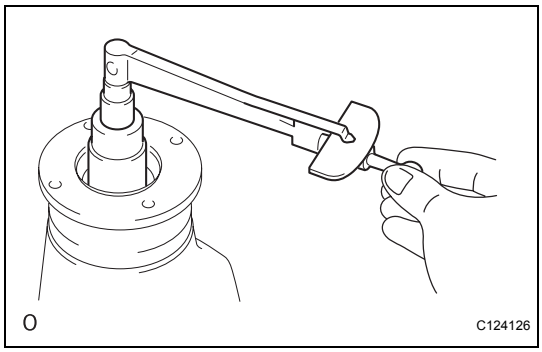
| Specified Condition | Specified Condition |
|---|---|
| 1.04 to 1.06 mm (0.0409 to 0.0417 in.) | 1.315 to 1.335 mm (0.0518 to 0.0526 in.) |
| 1.065 to 1.085 mm (0.0420 to 0.0427 in.) | 1.34 to 1.36 mm (0.0528 to 0.0535 in.) |
| 1.09 to 1.11 mm (0.0419 to 0.0437 in.) | 1.365 to 1.385 mm (0.0537 to 0.0545 in.) |
| 1.115 to 1.135 mm (0.0439 to 0.0447 in.) | 1.39 to 1.41 mm (0.0547 to 0.0555 in.) |
| 1.14 to 1.16 mm (0.0449 to 0.0457 in.) | 1.415 to 1.435 mm (0.0558 to 0.0565 in.) |
| 1.165 to 1.185 mm (0.0459 to 0.0467 in.) | 1.44 to 1.46 mm (0.0567 to 0.0575 in.) |
| 1.19 to 1.21 mm (0.0469 to 0.0476 in.) | 1.465 to 1.485 mm (0.0577 to 0.0585 in.) |
| 1.215 to 1.235 mm (0.0478 to 0.0486 in.) | 1.49 to 1.51 mm (0.0587 to 0.0595 in.) |
| 1.24 to 1.26 mm (0.0488 to 0.0496 in.) | 1.515 to 1.535 mm (0.0597 to 0.0605 in.) |
| 1.265 to 1.285 mm (0.0498 to 0.0506 in.) | 1.54 to 1.56 mm (0.0607 to 0.0615 in.) |
| 1.29 to 1.31 mm (0.0508 to 0.0516 in.) | - |

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(j) Tighten the 4 bearing cap bolts.
**Torque: 90 N*m (918 kgf*cm, 66 ft.*lbf)**

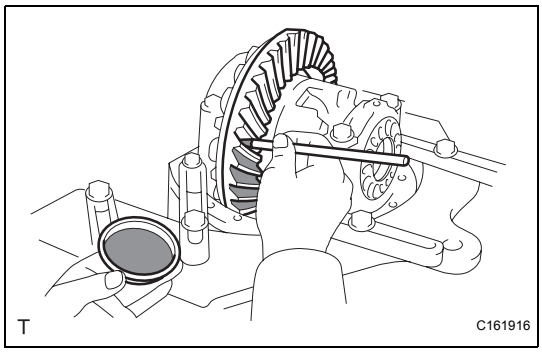
(k) After rotating the ring gear 5 turns or more, recheck the ring gear backlash.
**Standard backlash:**
**0.10 to 0.20 mm (0.00394 to 0.00787 in.)**




## 14. INSPECT TOTAL PRELOAD

(a) Using a torque wrench, measure the preload with the teeth of the drive pinion and ring gear in contact.
**Standard Drive Pinion Preload (at Starting)**

| Bearing | Specified Condition |
|---|---|
| New | Standard drive pinion preload plus 0.4 to 0.6 N*m (4 to 6 kgf*cm, 4 to 5 in.*lbf) |
| Reused | Standard drive pinion preload plus 0.4 to 0.6 N*m (4 to 6 kgf*cm, 4 to 5 in.*lbf) |

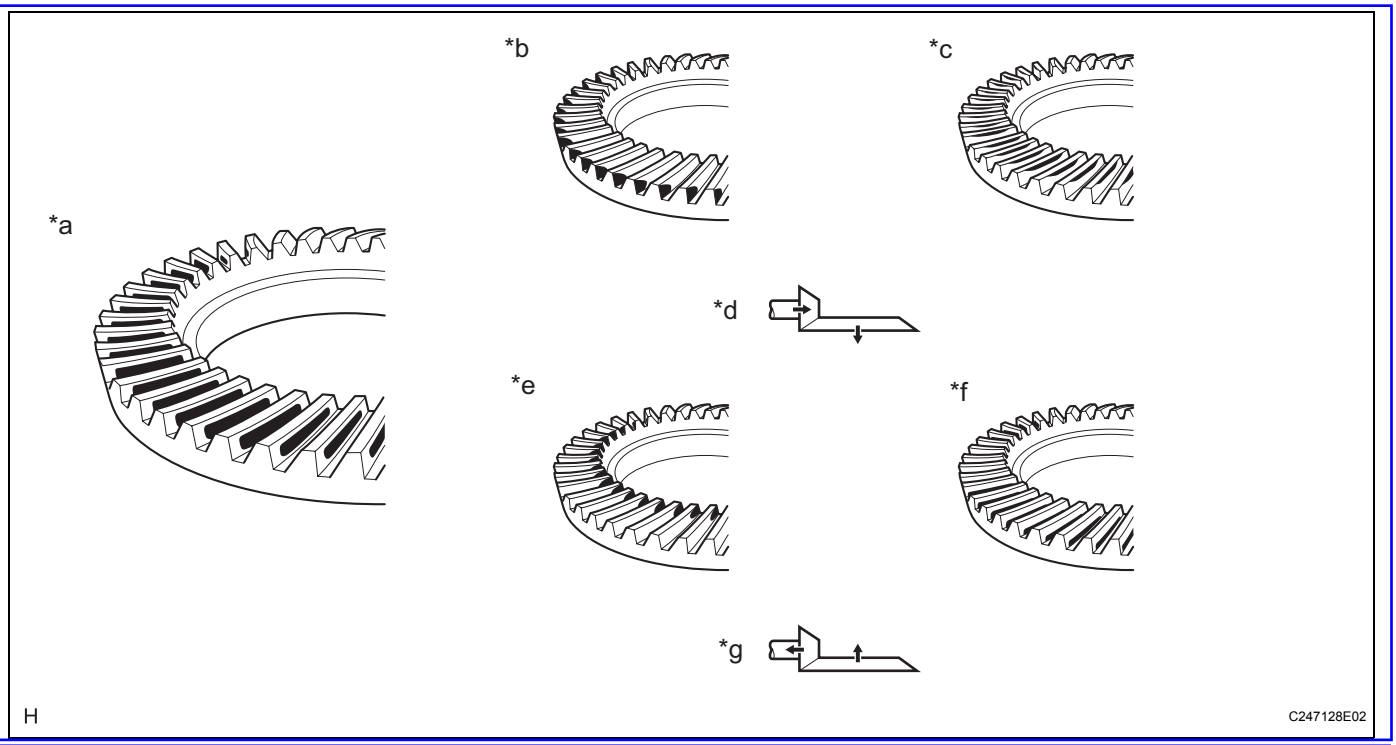



## 15. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION

(a) Coat 3 or 4 teeth at 3 different positions on the ring gear with Prussian blue.

(b) Turn the companion flange in both directions to inspect the ring gear for proper tooth contact.

[Corrected]




**Text in Illustration**

| | | | |
|---|---|---|---|
| *a | Proper Contact | *b | Heel Contact |
| *c | Face Contact | *d | Select an adjusting washer that will shift the drive pinion closer to the ring gear (*b, *c) |
| *e | Toe Contact | *f | Flank Contact |

[Added]

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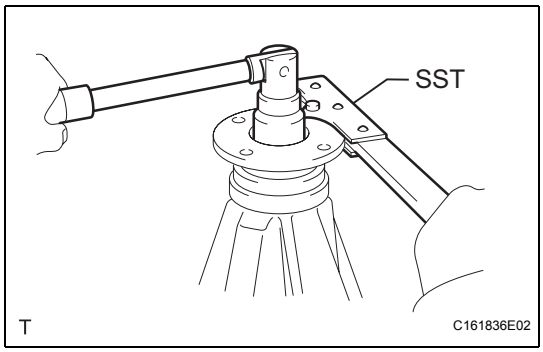
| | | | |
|---|---|---|---|
| *g | Select an adjusting washer that will shift the drive pinion away from the ring gear (*e, *f) | - | - |

[Added]

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

**Standard Washer Thickness**

| Specified Condition | Specified Condition |
|---|---|
| 1.04 to 1.06 mm (0.0409 to 0.0417 in.) | 1.315 to 1.335 mm (0.0518 to 0.0526 in.) |
| 1.065 to 1.085 mm (0.0420 to 0.0427 in.) | 1.34 to 1.36 mm (0.0528 to 0.0535 in.) |
| 1.09 to 1.11 mm (0.0419 to 0.0437 in.) | 1.365 to 1.385 mm (0.0537 to 0.0545 in.) |
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| 1.14 to 1.16 mm (0.0449 to 0.0457 in.) | 1.415 to 1.435 mm (0.0558 to 0.0565 in.) |
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| 1.19 to 1.21 mm (0.0469 to 0.0476 in.) | 1.465 to 1.485 mm (0.0577 to 0.0585 in.) |
| 1.215 to 1.235 mm (0.0478 to 0.0486 in.) | 1.49 to 1.51 mm (0.0587 to 0.0595 in.) |
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| 1.265 to 1.285 mm (0.0498 to 0.0506 in.) | 1.54 to 1.56 mm (0.0607 to 0.0615 in.) |
| 1.29 to 1.31 mm (0.0508 to 0.0516 in.) | - |




**16. REMOVE DRIVE PINION COMPANION FLANGE REAR NUT**

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

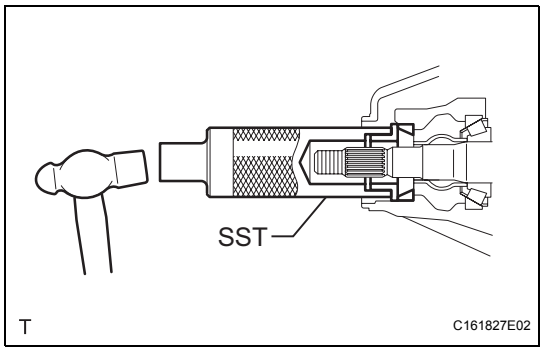
**17. REMOVE REAR DRIVE PINION COMPANION FLANGE REAR SUB-ASSEMBLY (See page AD-99)**

**18. REMOVE REAR DIFFERENTIAL DRIVE PINION OIL SLINGER**

**19. REMOVE REAR DRIVE PINION FRONT TAPERED ROLLER BEARING (See page AD-100)**

**20. INSTALL REAR DIFFERENTIAL DRIVE PINION BEARING SPACER**

(a) Install a new spacer to the drive pinion.




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

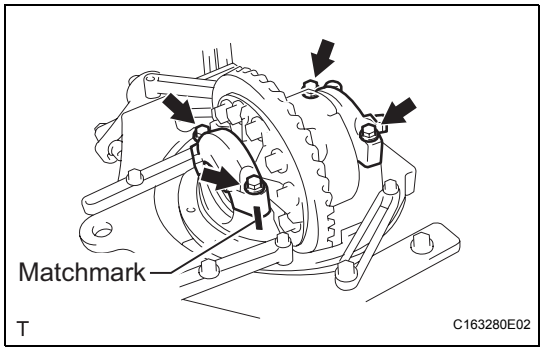
(a) Using SST and a hammer, tap in the bearing (outer race).
**SST 09316-60011 (09316-00011, 09316-00021)**

(b) Install the bearing (inner race).

**22. INSTALL REAR DIFFERENTIAL DRIVE PINION OIL SLINGER**

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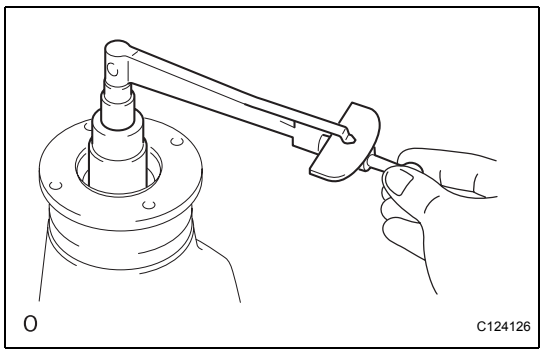
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(f) Align the matchmarks on the caps and carrier.

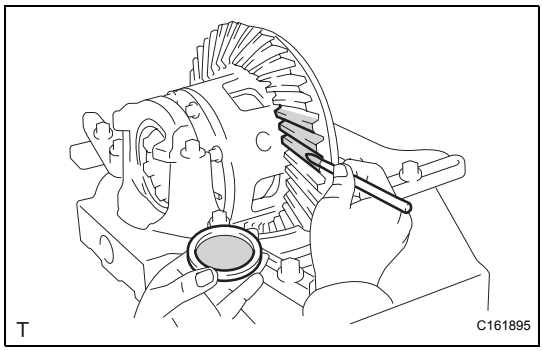
(g) Install the 4 bearing cap bolts to the specified torque.
**Torque: 113 N*m (1150 kgf*cm, 83 ft.*lbf)**

(h) Using a dial indicator, adjust the ring gear backlash until it is within the specification.
**Standard backlash:**
**0.10 to 0.20 mm (0.00394 to 0.00787 in.)**




## 13. INSPECT TOTAL PRELOAD

(a) Using a torque wrench, measure the preload with the teeth of the drive pinion and ring gear in contact.
**Standard total preload (at starting):**
**Standard drive pinion preload plus 0.29 to 0.49 N*m (3 to 5 kgf*cm, 3 to 4 in.*lbf)**

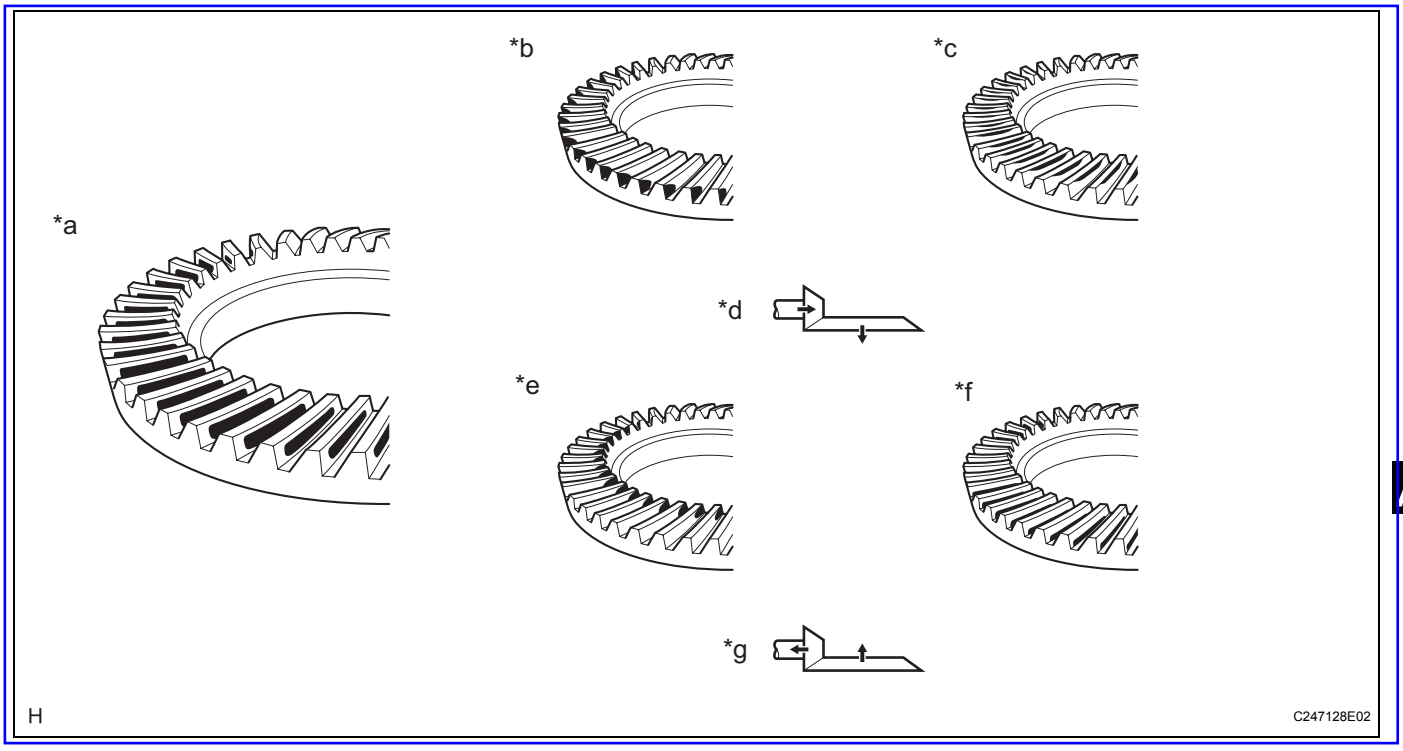



## 14. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVE PINION

(a) Coat 3 or 4 teeth at 3 different positions on the ring gear with Prussian blue.

(b) Turn the companion flange in both directions to inspect the ring gear for proper tooth contact.

[Corrected]




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**Text in Illustration**

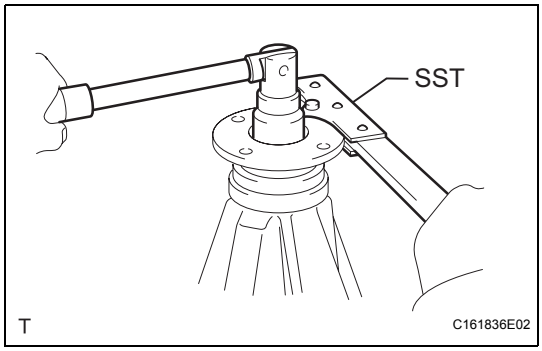
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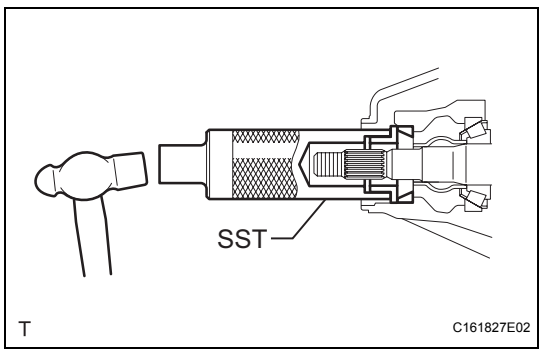
**16. REMOVE REAR DRIVE PINION REAR COMPANION FLANGE SUB-ASSEMBLY (See page AD-123)**

**17. REMOVE REAR DIFFERENTIAL DRIVE PINION OIL SLINGER**

**18. REMOVE REAR DRIVE PINION FRONT TAPERED ROLLER BEARING (See page AD-123)**

**19. INSTALL REAR DIFFERENTIAL DRIVE PINION BEARING SPACER**

(a) Install a new spacer to the drive pinion.




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

(a) Using SST and a hammer, tap in the bearing (outer race).
**SST 09316-60011 (09316-00011, 09316-00021)**

(b) Install the bearing (inner race).

**21. INSTALL REAR DIFFERENTIAL DRIVE PINION OIL SLINGER**

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