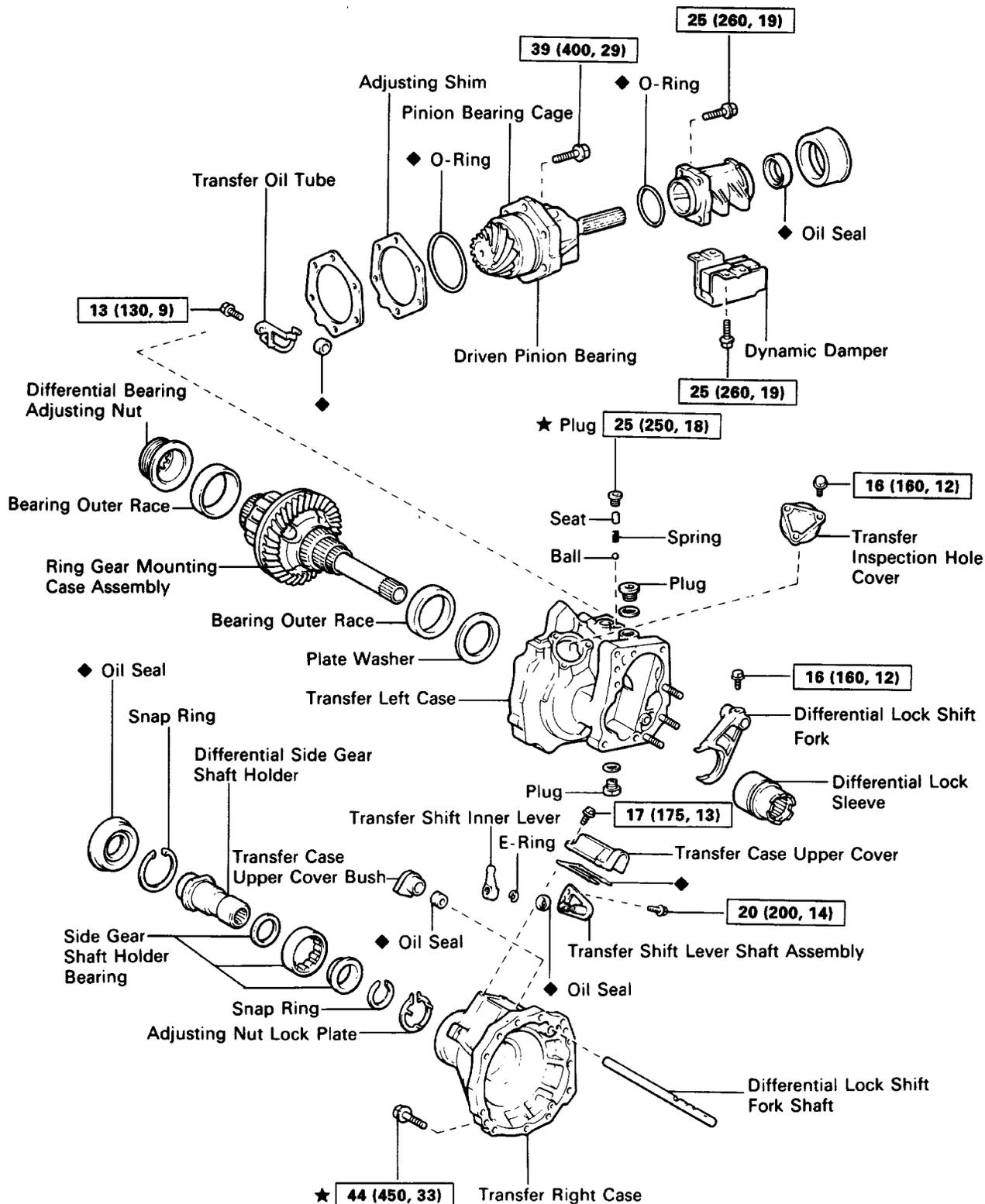


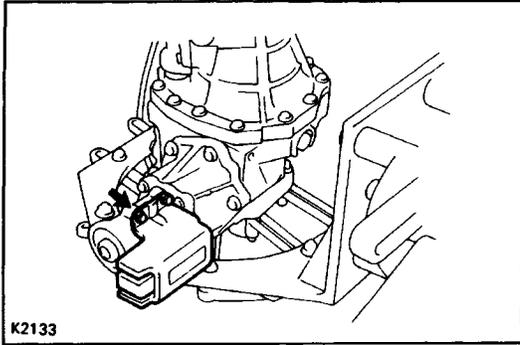
# Transfer



N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

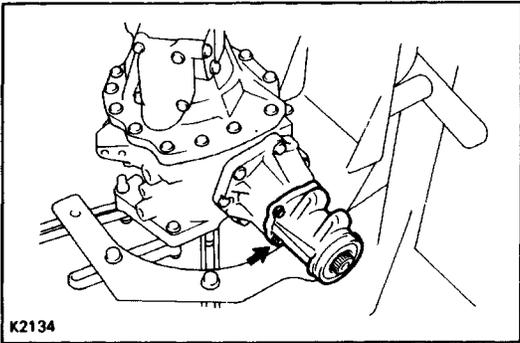
★ Precoated part



## DISASSEMBLY OF TRANSFER COMPONENT PARTS

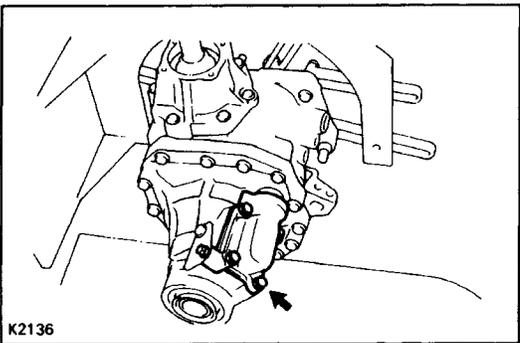
### 1. REMOVE DYNAMIC DAMPER

Remove the four bolts and dynamic damper.



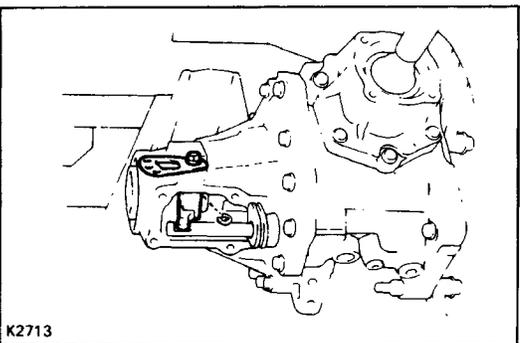
### 2. REMOVE EXTENSION HOUSING

- (a) Remove the four bolts and tap off the housing with a plastic hammer.
- (b) Remove the O-ring from the extension housing.



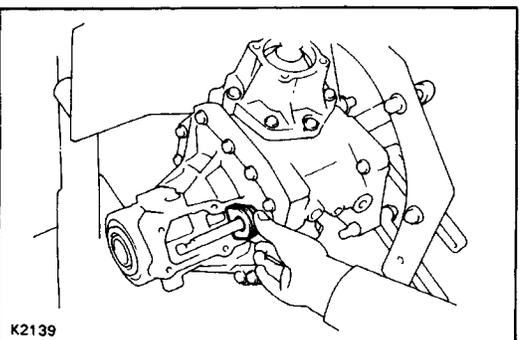
### 3. REMOVE TRANSFER CASE COVER

- (a) Remove the five bolts.
- (b) Remove the case cover and gasket.

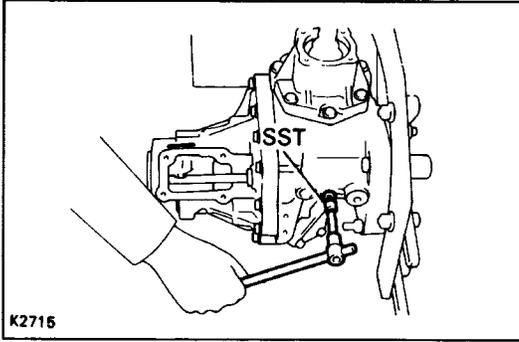


### 4. REMOVE SHIFT LEVER SHAFT AND INNER LEVER

- (a) Remove the E-ring.
- (b) Remove the shift lever shaft and inner lever.

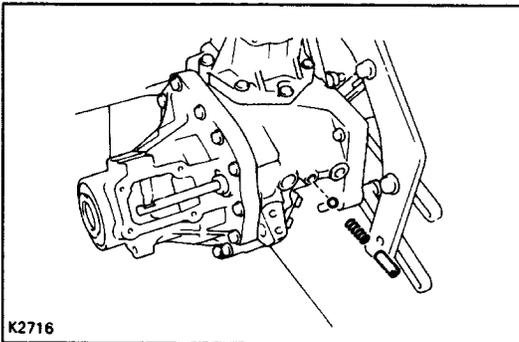


### 5. REMOVE TRANSFER CASE UPPER BUSHING

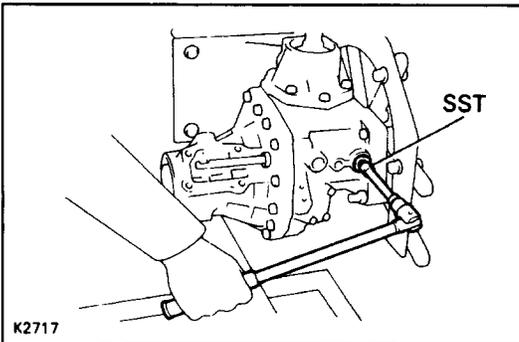


## 6. REMOVE PLUG, SEAT, SPRING AND LOCKING BALL

- (a) Using SST, remove the plug.  
SST 09313-30021

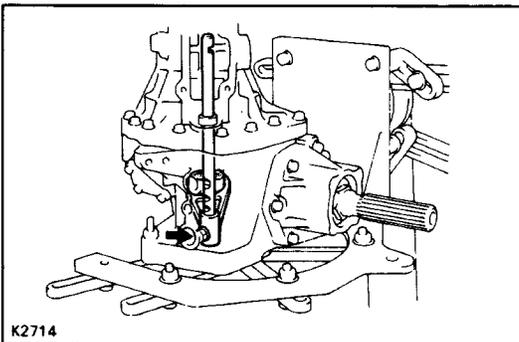


- (b) Using a magnetic finger, remove the seat, spring and ball.

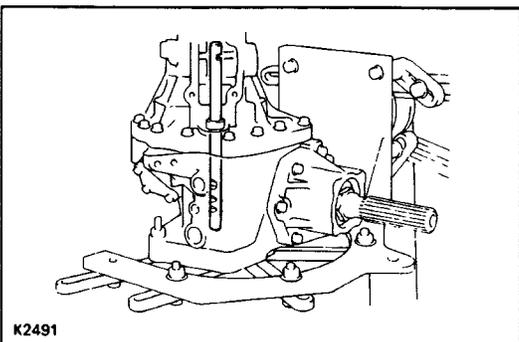


## 7. REMOVE DIFFERENTIAL LOCK SHIFT FORK AND SHIFT FORK SHAFT

- (a) Using SST, remove the plug.  
SST 09043-38100

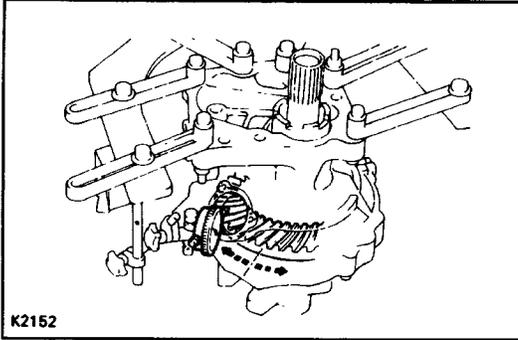


- (b) Remove the set bolt.  
(c) Remove the differential lock sleeve and shift fork.



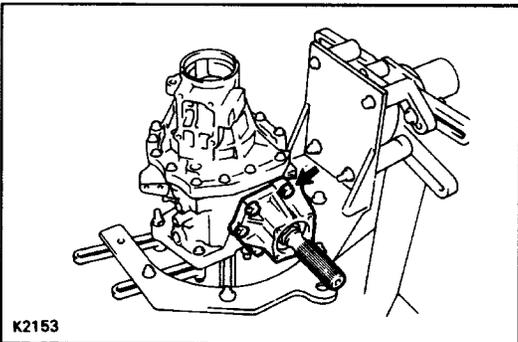
- (d) Pull out the shift fork shaft.



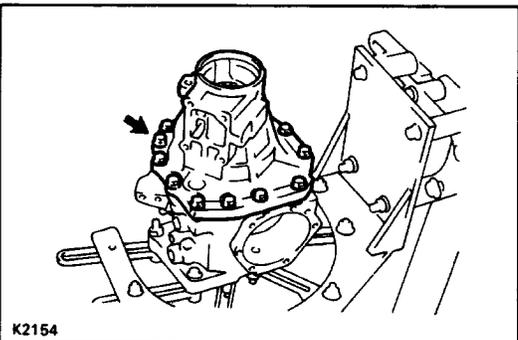
**11. CHECK RING GEAR BACKLASH**

Using a dial indicator, measure the ring gear backlash.  
Backlash: 0.13–0.18 mm (0.0051–0.0071 in.)

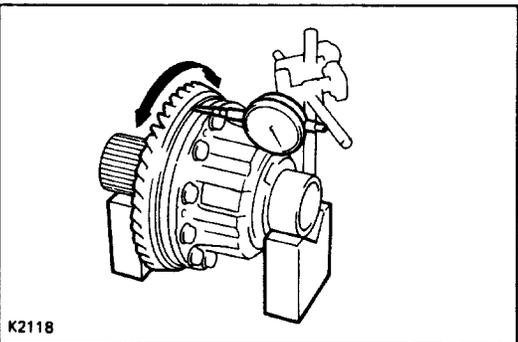
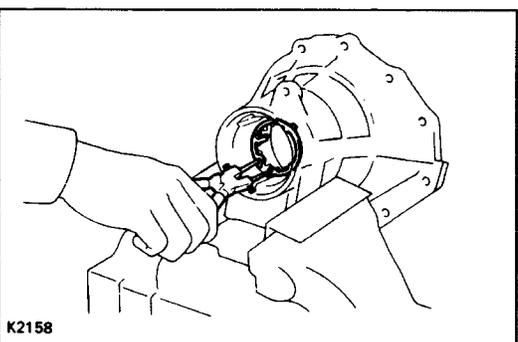
12. CHECK TOOTH CONTACT (See page MT-201)

**13. REMOVE DRIVEN PINION BEARING CAGE ASSEMBLY**

- (a) Remove the six bolts and tap off the bearing cage assembly with a plastic hammer.
- (b) Remove the O-ring from the driven pinion bearing cage.

**14. REMOVE TRANSFER RIGHT CASE**

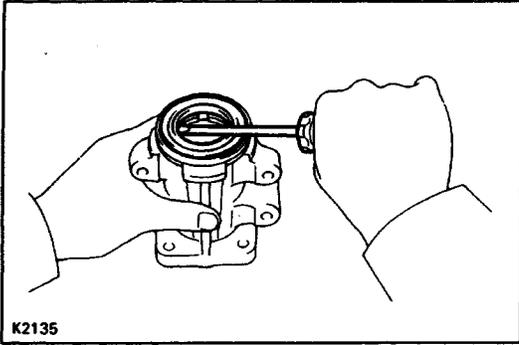
Remove the twelve bolts and tap off the case with a plastic hammer.

**15. REMOVE RING GEAR MOUNTING CASE ASSEMBLY****16. REMOVE ADJUSTING NUT LOCK PLATE**

Using snap ring pliers, remove the lock plate from the transfer right case.

**17. IF NECESSARY, REPLACE EXTENSION HOUSING OIL SEAL**

(a) Using a screwdriver, remove the oil seal.

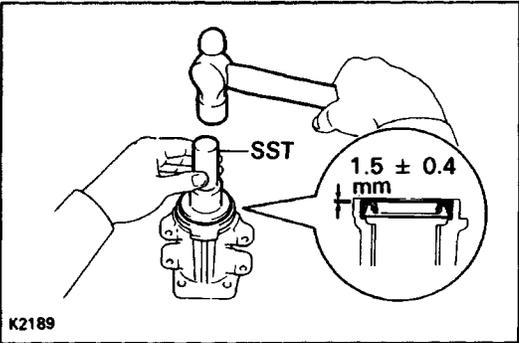


(b) Using SST and a hammer, drive in a new oil seal.

SST 09325-20010

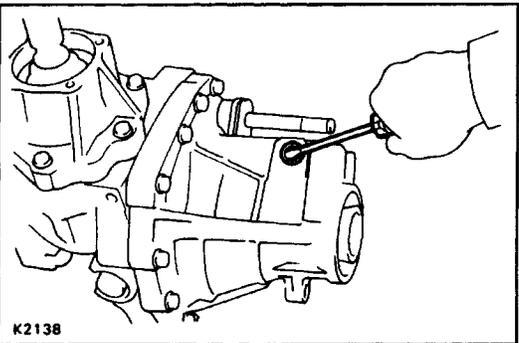
Oil seal depth: 1.1–1.9 mm (0.043–0.075 in.)

(c) Coat the lip of oil seal with MP grease.



**18. IF NECESSARY, REPLACE DIFFERENTIAL LOCK SHIFT LEVER SHAFT OIL SEAL**

(a) Using a screwdriver, remove the oil seal.

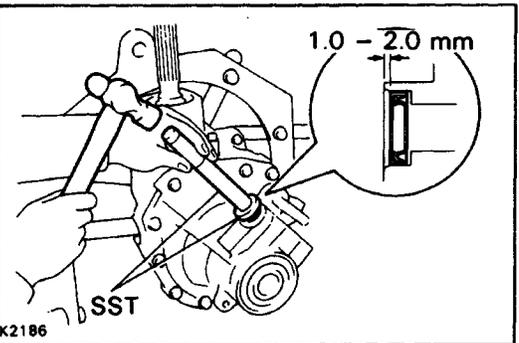


(b) Coat the lip of oil seal with MP grease.

(c) Using SST and a hammer, drive in a new oil seal.

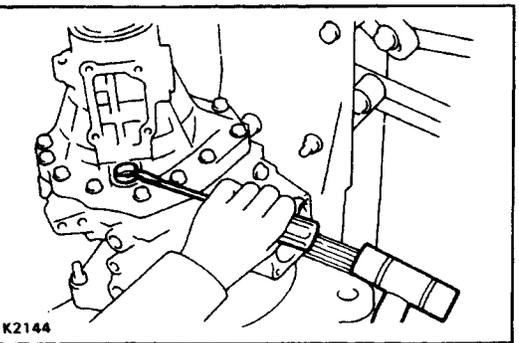
SST 09620-30010 (09625-30010, 09631-00020)

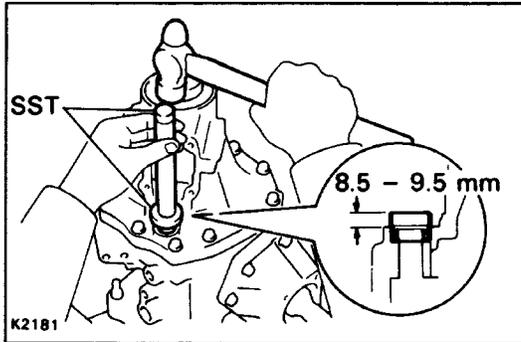
Oil seal depth: 1.0–2.0 mm (0.039–0.079 in.)



**19. IF NECESSARY, REPLACE SHIFT FORK SHAFT OIL SEAL**

(a) Using a screwdriver and hammer, remove the oil seal.

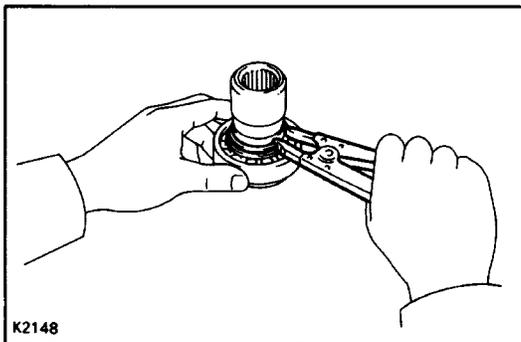




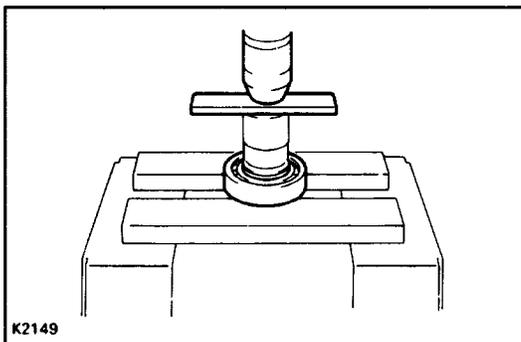
- (b) Coat the lip of the oil seal with MP grease.  
 (e) Using SST and a hammer, drive in a new oil seal as shown.

SST 09620-30010 (09625-30010,09631-00020)  
 Oil seal height: 8.5-9.5 mm (0.335-0.374 in.)

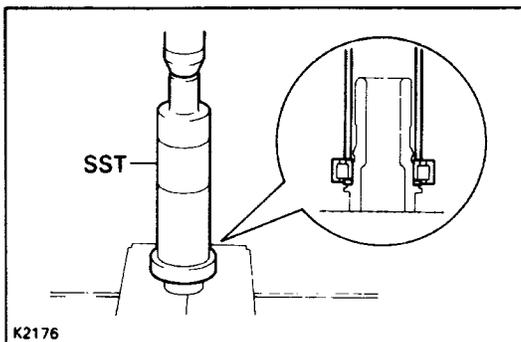
## 20. IF NECESSARY, REPLACE SIDE GEAR SHAFT HOLDER BEARING



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

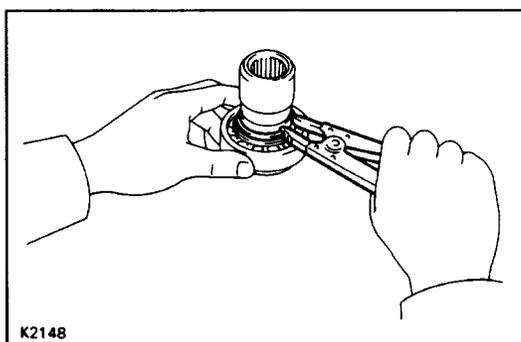


- (b) Using a press, remove the bearing from the side gear shaft holder.

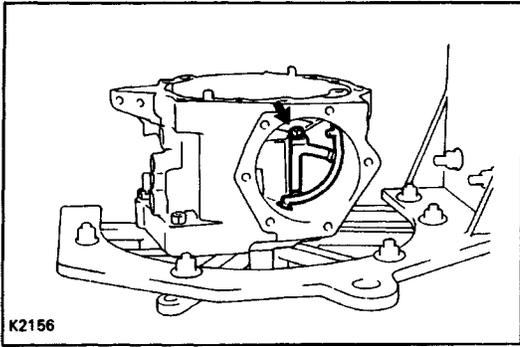


- (c) Using SST and a press, install a new bearing as shown.

SST 09316-60010 (09316-00010)

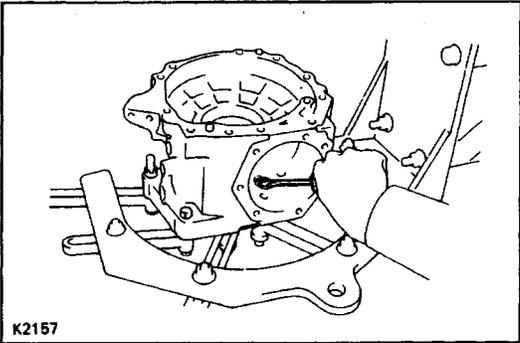


- (d) Using snap ring pliers, install the snap ring.

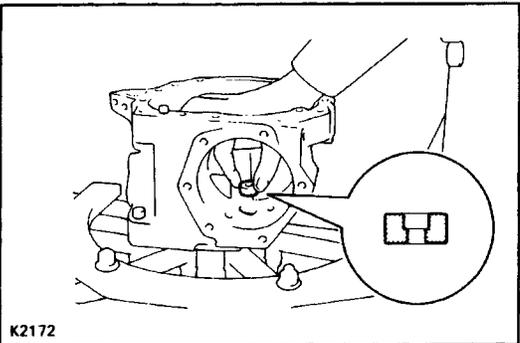


**21. IF NECESSARY, REPLACE TRANSFER OIL TUBE**

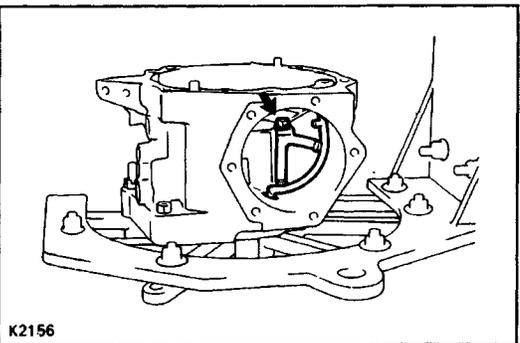
(a) Remove the bolt and oil tube.



(b) Using a screwdriver, remove the cushion.



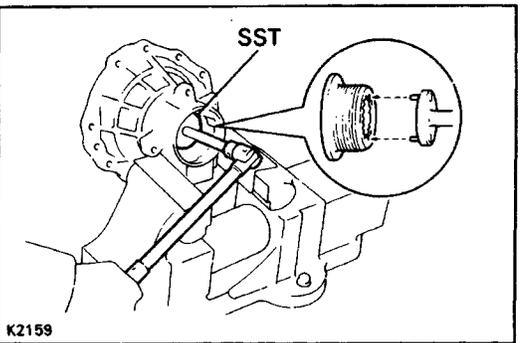
(c) install a new cushion.



(d) Install the oil tube.

(e) Install and torque the bolt.

**Torque: 13 N-m (130 kgf-cm, 9 ft-lbf)**

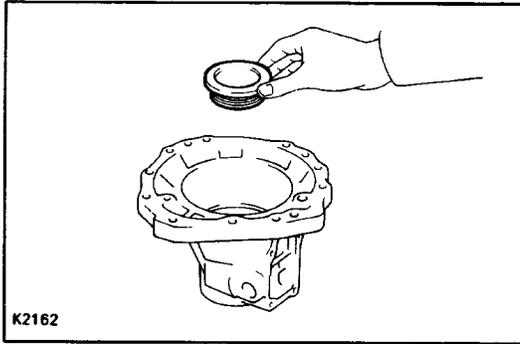


**22. IF NECESSARY, REPLACE RING GEAR MOUNTING CASE SIDE BEARING OUTER RACE**

**(TRANSFER RIGHT CASE)**

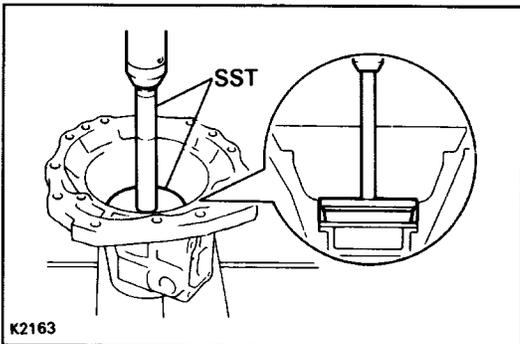
(a) Using SST, turn the bearing adjusting nut, remove the outer race and bearing adjusting nut.

SST 09318-20010



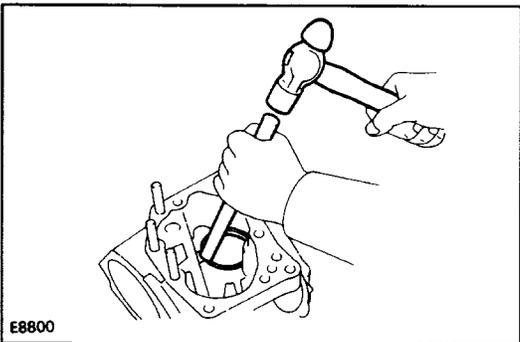
- (b) Install the bearing adjusting nut until it touches the lip of the case.

HINT: If the nut is difficult to turn, use SST (09318-20010)



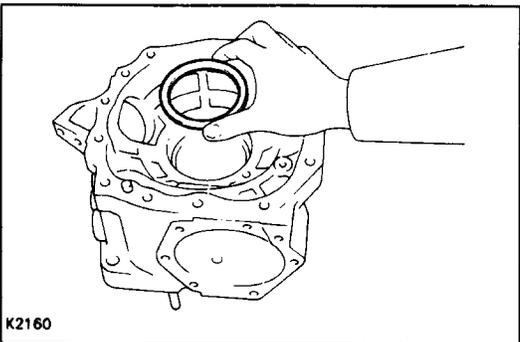
- (c) Using SST and a press, install the bearing outer race until it is almost touching the bearing adjusting nut.

SST 09608-35014 (09608-06020, 09608-06180)



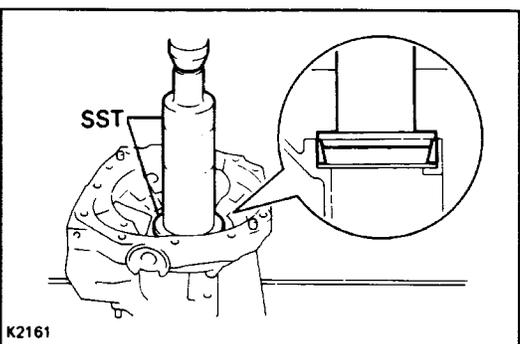
#### (Transfer Left Case)

- (a) Using a brass bar and hammer, drive out the bearing outer race lightly and evenly.  
 (b) Remove the plate washer.



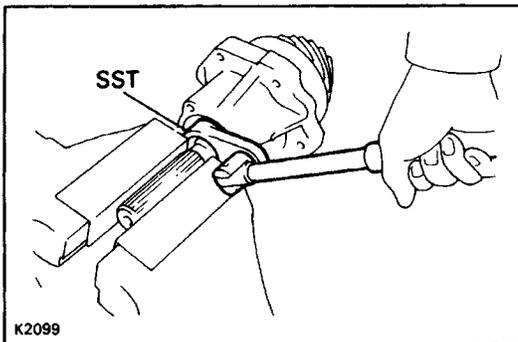
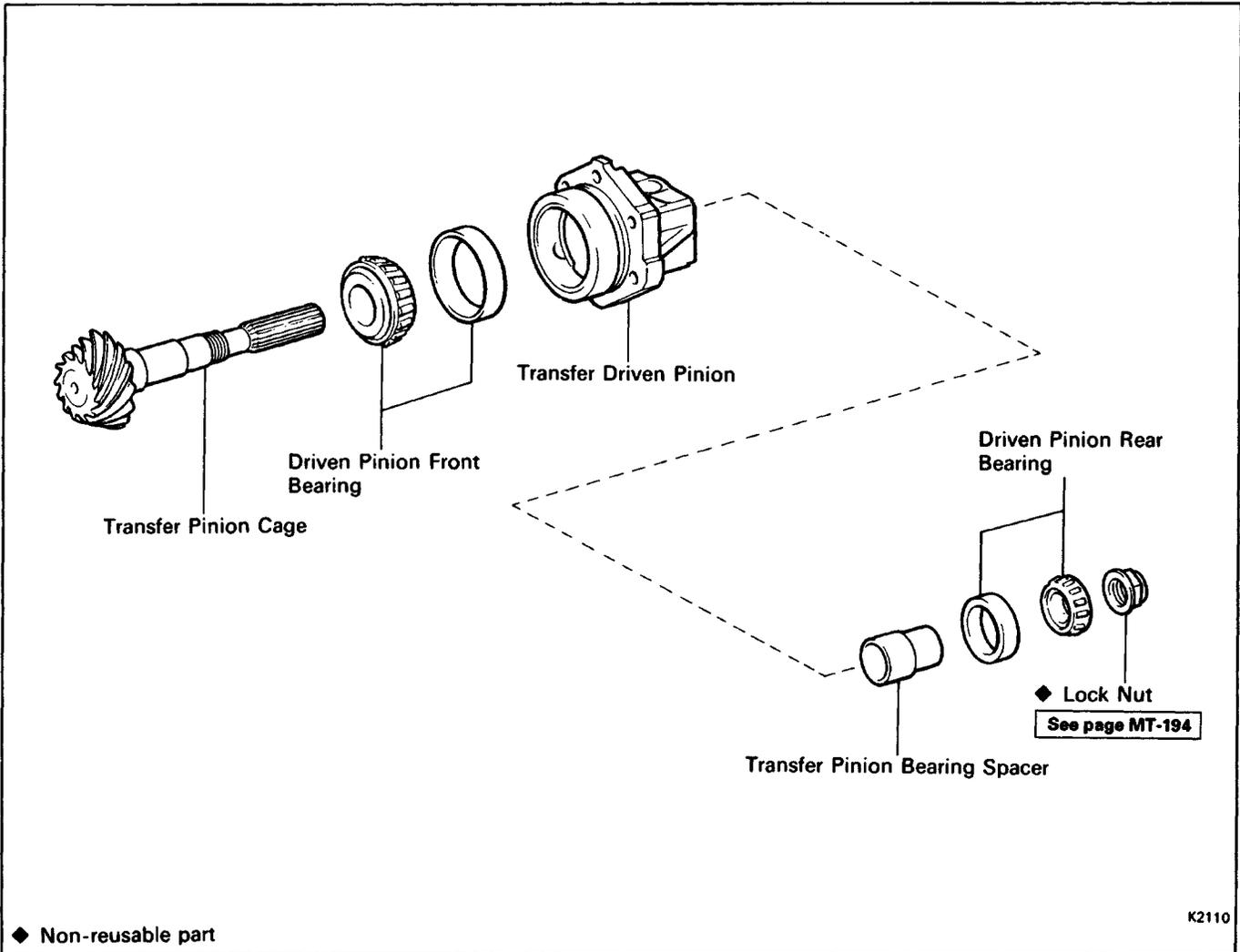
- (c) Install the plate washer.

HINT: First install a washer of the same thickness as before.



- (d) Using SST and a press, install the outer race.  
 SST 09316-60010 (09316-00010, 09316-00060)

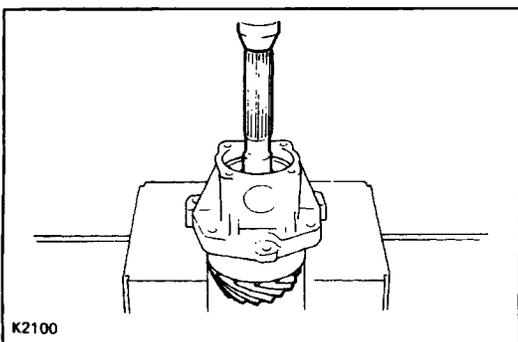
## DRIVEN PINION BEARING CAGE ASSEMBLY



### DISASSEMBLY OF DRIVEN PINION BEARING CAGE

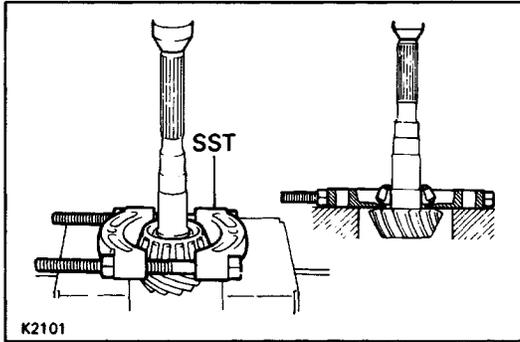
#### 1. REMOVE LOCK NUT

- (a) Unstake the lock nut.
- (b) Using SST, remove the lock nut.  
SST 09326-20011



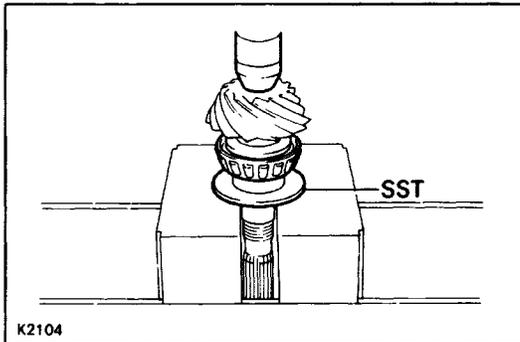
#### 2. REMOVE DRIVEN PINION

Using a press, remove the driven pinion, rear bearing and spacer.

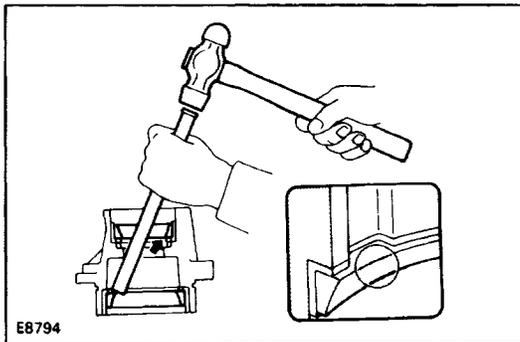


### 3. IF NECESSARY, REPLACE DRIVEN PINION FRONT BEARING

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

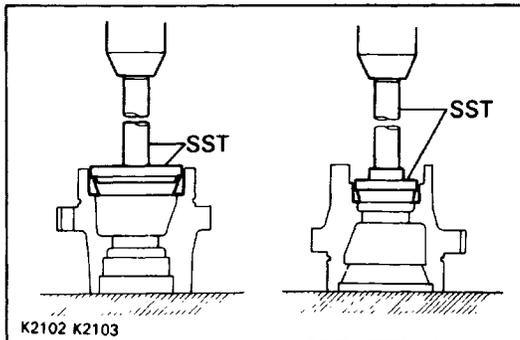


- (b) Using SST and a press, install the front bearing.  
SST 09316-60010 (09316-00050)

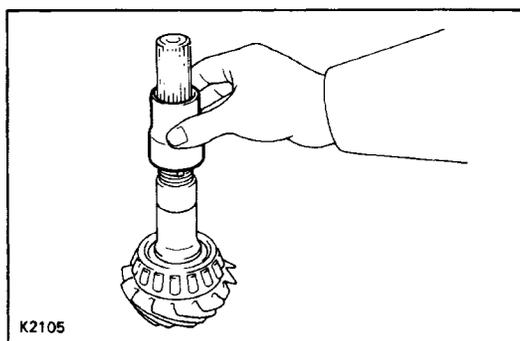


### 4. IF NECESSARY, REPLACE FRONT AND REAR BEARING OUTER RACE

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



- (b) Using SST and a press, install the front bearing outer race.  
SST 09608-35014 (09608-06020, 09608-06120)
- (c) Using SST and a press, install the rear bearing outer race.  
SST 09550-10012 (09252-10010, 09555-10010)

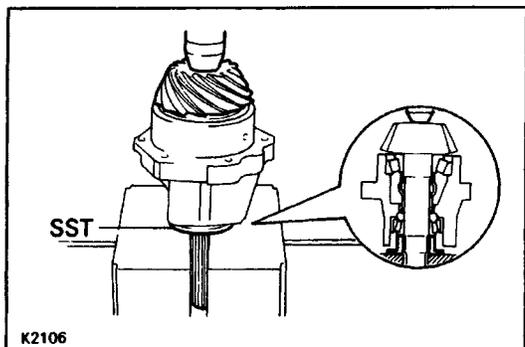


### ASSEMBLY OF DRIVEN PINION BEARING CAGE

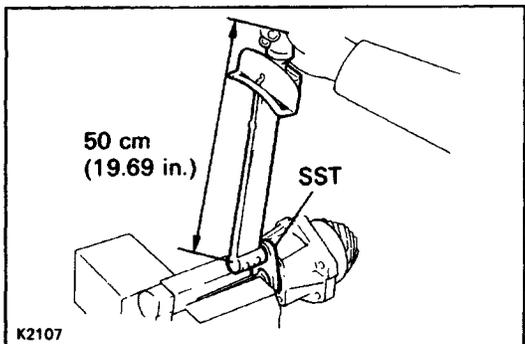
**HINT:** Coat all of the sliding and rotating surface with gear oil before assembly.

#### 1. INSTALL DRIVEN PINION BEARING CAGE

- (a) Install the new bearing spacer.  
**HINT:** Insert the spacer with the smaller facing up-wards.

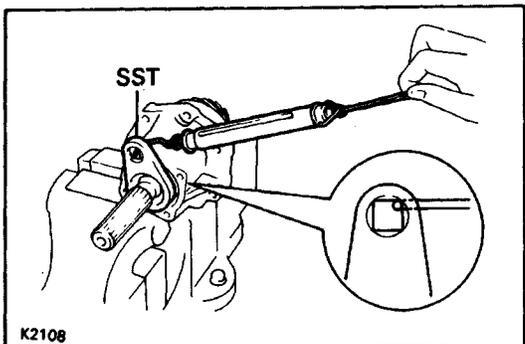


- (b) Using SST and a press, install the rear bearing.  
 HINT: Press down until the pinion can just move slightly up and down.



**2. ADJUST DRIVEN PINION PRELOAD**

- (a) Using SST, install and torque the new lock nut.  
 SST 09326-20011  
**Torque: 98 N-m (7,000 kgf-cm, 72 ft-lbf)**  
 HINT: Use a torque wrench with a fulcrum length of 50 cm (19.69 in.).



- (b) Using SST and spring tension gauge, measure the driven pinion preload.  
 HINT: Turn the driven pinion right and left two or three times to allow the bearing to settle.

**Preload (at starting):**

**New bearing 17.7-28.4 N**  
**(1.8-2.9 kgf, 4.0-6.4 lbf)**

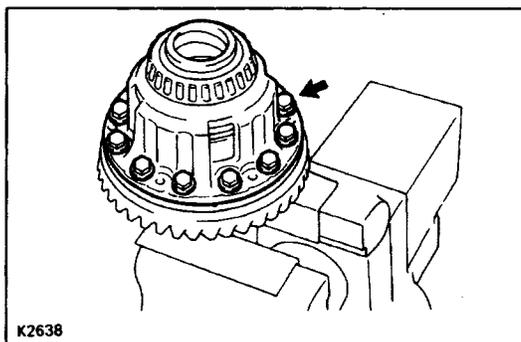
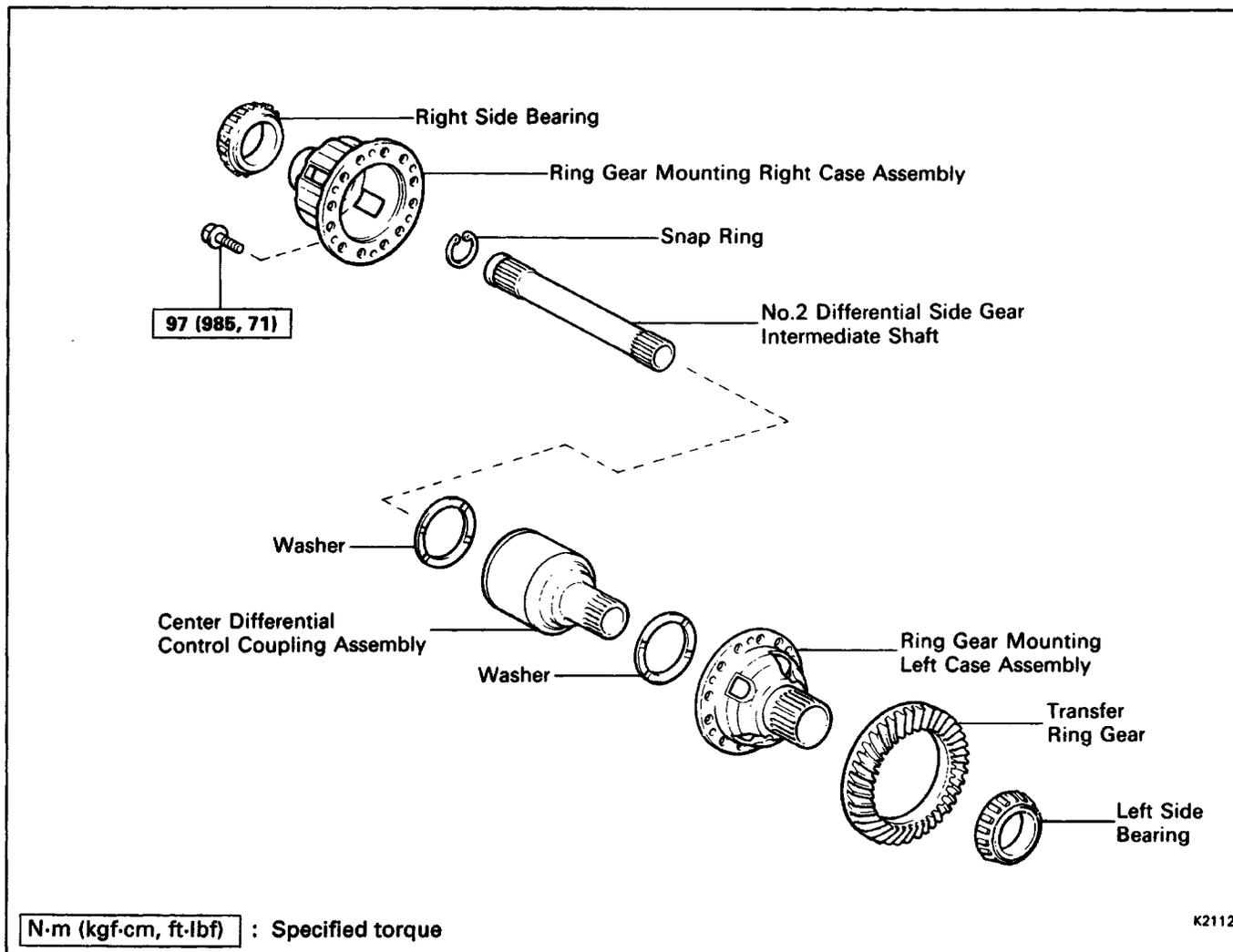
**Reused bearing 4.9-8.8 N**  
**(0.9-1.4 kgf, 1.1-2.0 lbf)**

- If preload is greater than specification, replace the bearing spacer.
- If preload is less than specification, retighten the nut 5-10° 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: 216 N-m (2,200 kgf-cm, 159 ft-lbf)**

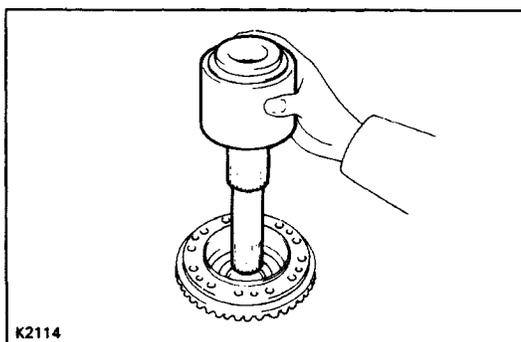
**3. STAKE LOCK NUT**

## RING GEAR MOUNTING CASE ASSEMBLY

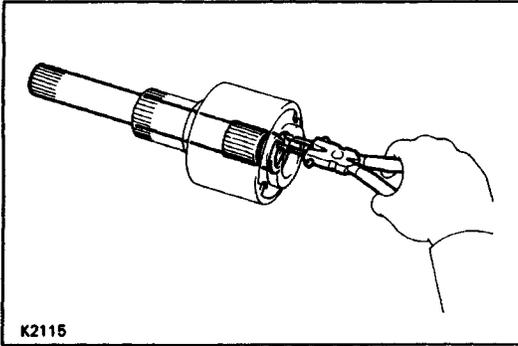


## DISASSEMBLY OF RING GEAR MOUNTING CASE

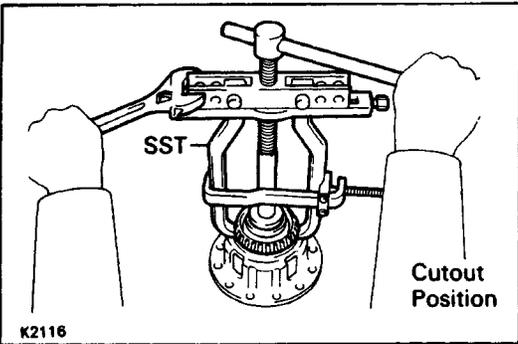
1. REMOVE RING GEAR MOUNTING RIGHT CASE  
Remove twelve bolts and right case.



2. REMOVE CENTER DIFFERENTIAL CONTROL COUPLING
  - (a) Remove the control coupling from the left case.
  - (b) Remove the two washers from the control coupling.

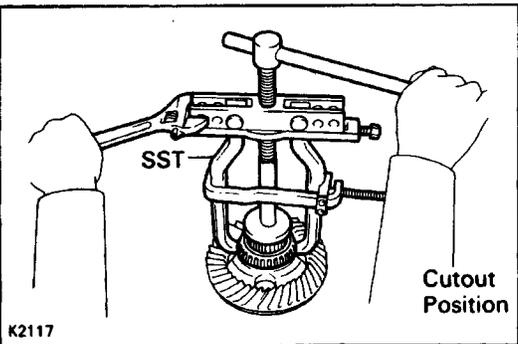


- (c) Using snap ring pliers, remove the snap ring and No.2 intermediate shaft.



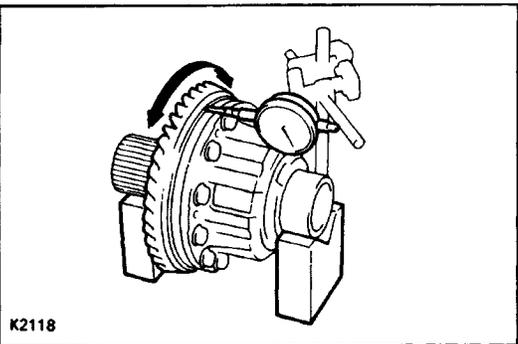
**3. REMOVE MOUNTING CASE SIDE BEARING  
(Right Case Side)**

- Using SST, remove the side bearing.  
SST 09950-20017



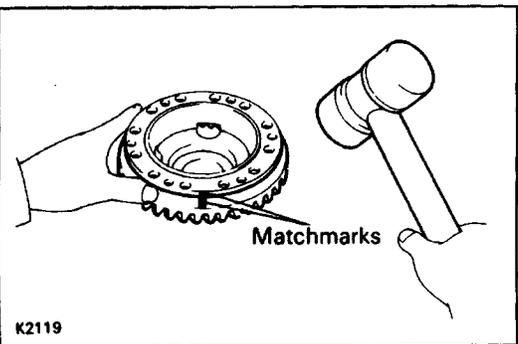
**(Left Case Side)**

- Using SST, remove the side bearing.  
SST 09950-20017



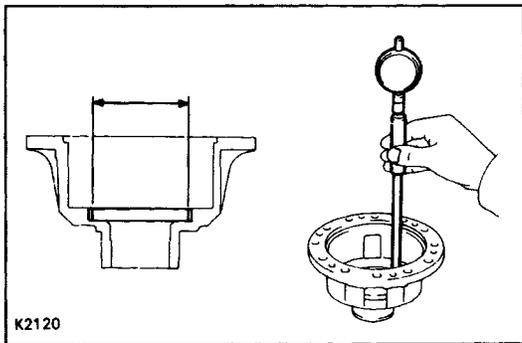
**4. CHECK RING GEAR RUNOUT**

- (a) Install the mounting right case to the left case.  
(b) Using a dial indicator, check the ring gear runout.  
**Maximum runout: 0.1 mm (0.004in.)**  
(c) Remove the mounting right case from the left case.



**5. REMOVE RING GEAR**

- (a) Place the matchmarks on both the mounting left case and ring gear.  
(b) Using a plastic hammer, tap out the ring gear.



K2120

## INSPECTION OF RING GEAR MOUNTING CASE

### CASE

#### 1. MEASURE RING GEAR MOUNTING CASE

- (a) Using a cylinder gauge, measure the inner diameter of the mounting right case bushing.

**Standard diameter:** 69.000–69.035 mm

(2.7165–2.7179 in.)

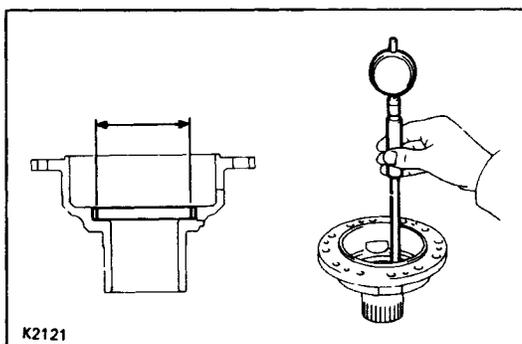
**Maximum diameter:** 69.060 mm (2.7189 in.)

- (b) Using a cylinder gauge, measure the inner diameter of the mounting left case bushing.

**Standard diameter:** 69.000–69.035 mm

(2.7165–2.7179 in.)

**Maximum diameter:** 69.060 mm (2.7189 in.)



K2121

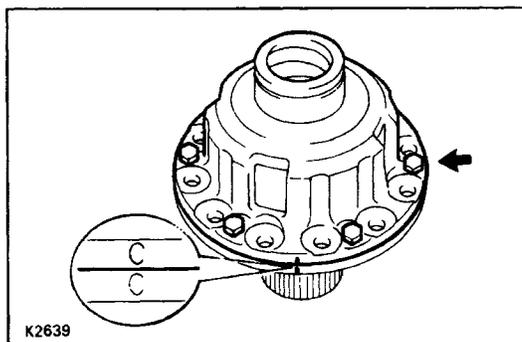
#### 2. CHECK RING GEAR MOUNTING CASE RUNOUT

**HINT:** Perform only when the limit is exceeded in the ring gear runout inspection.

- (a) Using six bolts (Diameter 8 mm, Pitch 1.25 mm), install the mounting right case to the left case.

**HINT:** Align the matchmarks

**HINT:** Align the matchmarks on the right case and connect the left case.



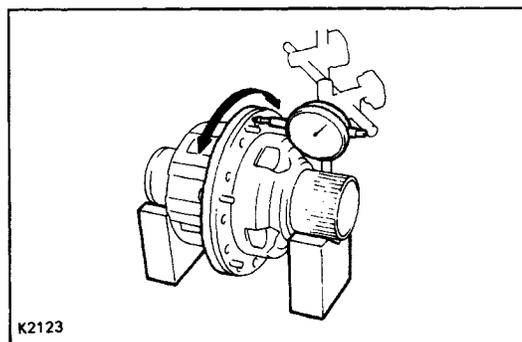
K2639

- (b) Using a dial indicator, check the mounting case runout.

**Maximum runout:** 0.1 mm (0.004 in.)

- (c) Remove the six bolts.

- (d) Remove the mounting right case from the left case.



K2123

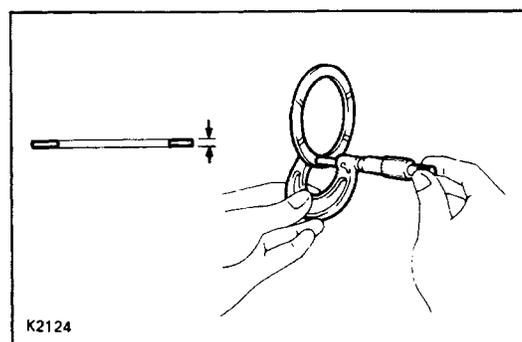
#### 3. MEASURE WASHER

Using a micrometer, measure the two washers thickness.

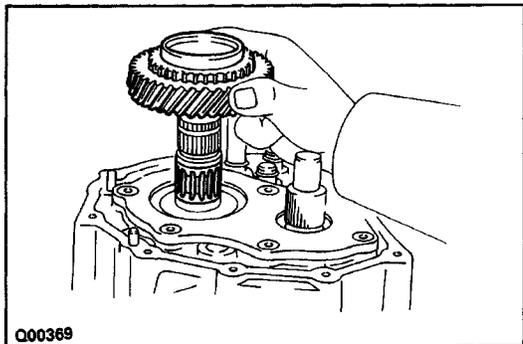
**Standard thickness:** 1.49–1.51 mm

(0.0587–0.0594 in.)

**Minimum thickness:** 1.45 mm (0.0571 in.)



K2124



## ASSEMBLY OF RING GEAR MOUNTING CASE

### 1. INSTALL RING GEAR ON DIFFERENTIAL CASE

- Clean the contact surface of the differential case.
- Heat the ring gear in boiling water.
- After the moisture on the ring gear has completely evaporated, quickly install the ring gear to the differential case.

HINT: Align the matchmarks on the mounting left case and connect the ring gear.

### 2. CHECK RING GEAR RUNOUT

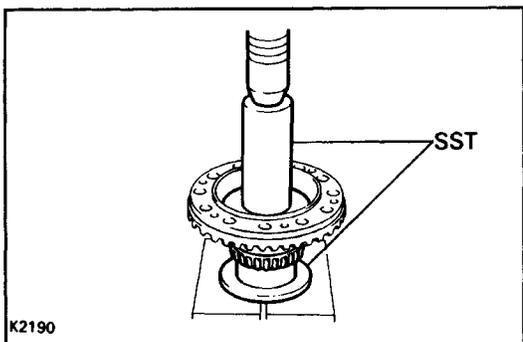
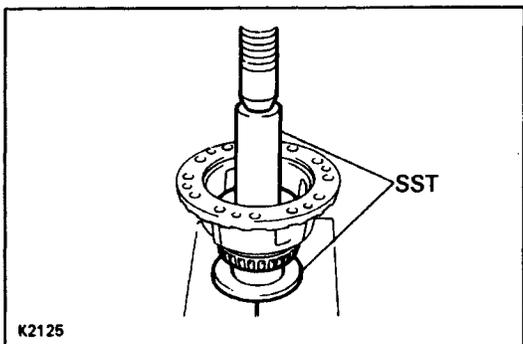
(See page MT-196)

### 3. INSTALL MOUNTING CASE SIDE BEARING (Right Case Side)

Using SST and a press, install the side bearing.  
SST 09309-36010, 09316-20011

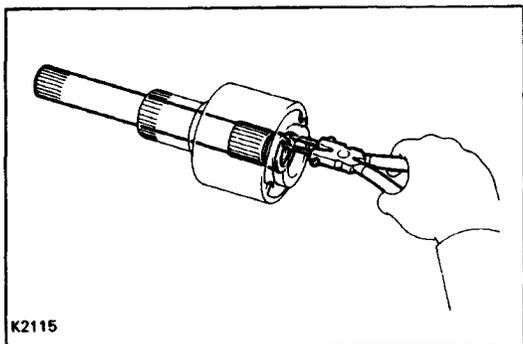
### (Left Case Side)

Using SST and a press, install the side bearing.  
SST 09309-36010, 09316-20011

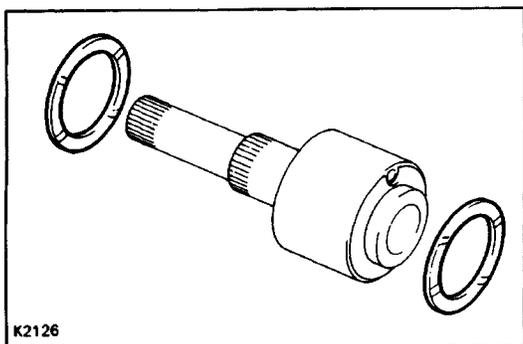


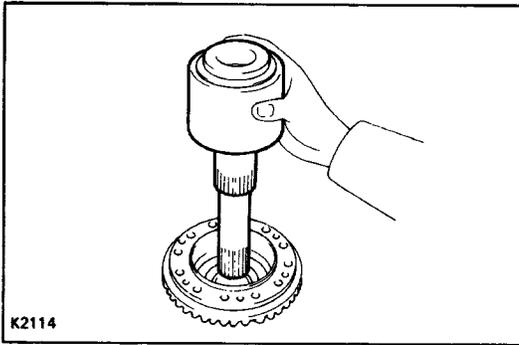
### 4. INSTALL CENTER DIFFERENTIAL CONTROL COUPLING

- Install the No2 intermediate shaft to the center differential control coupling.
- Using snap ring pliers, install the snap ring.



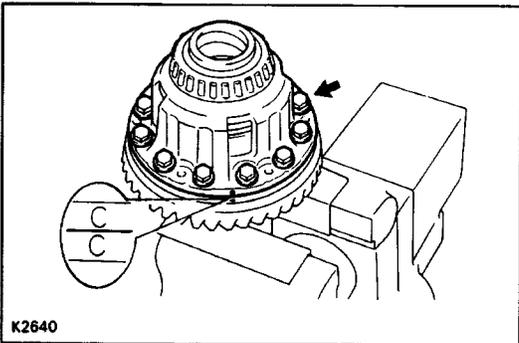
- Install the two washers to the center differential control coupling.





- (d) Install the center differential control coupling to the left case.

HINT: Do not drop the washer.



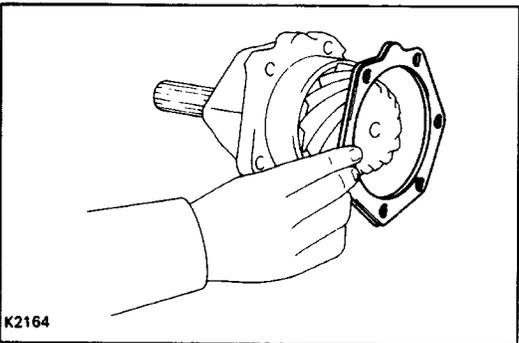
### 5. INSTALL RING GEAR MOUNTING RIGHT CASE

- (a) Install the right case to the left case.

- (b) Install and torque the twelve bolts.

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

**HINT: Align the matchmarks on the left case and connect the right case.**



### ASSEMBLY OF TRANSFER COMPONENT PARTS

(See page MT-183)

HINT: Coat all of the sliding and rotating surface with gear oil before assembly.

#### 1. ADJUST RING GEAR BACKLASH

- (a) Install the adjusting shim to the driven pinion bearing cage assembly.

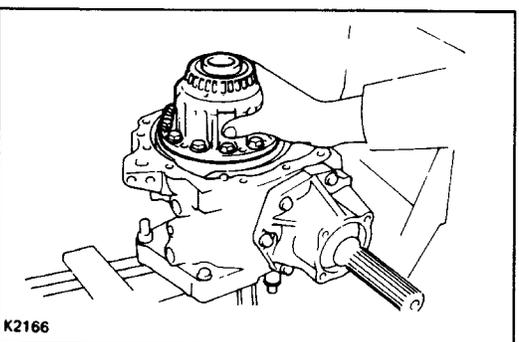
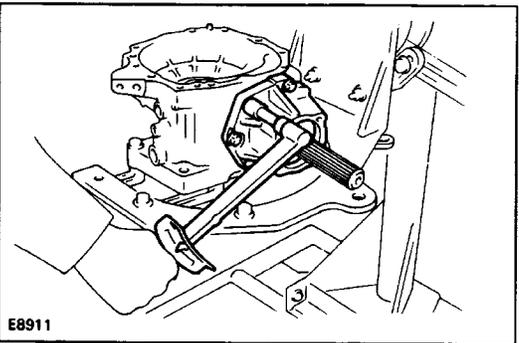
HINT: First install a shim of the same thickness as before.

- (b) Install the driven pinion bearing cage assembly to the transfer left case.

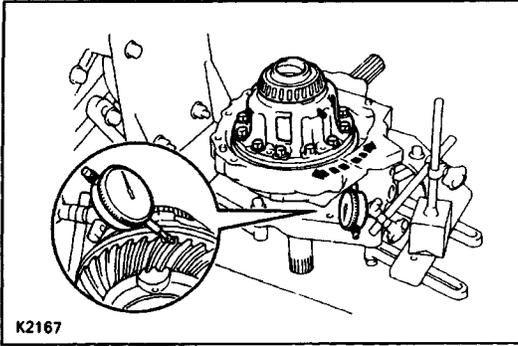
- (c) Install and torque the six bolts.

**Torque: 39 N-m (400 kgf-cm, 29 ft.-lbf)**

HINT: Do not install the O-ring.



- (d) Install the ring gear mounting case assembly to the transfer left case.

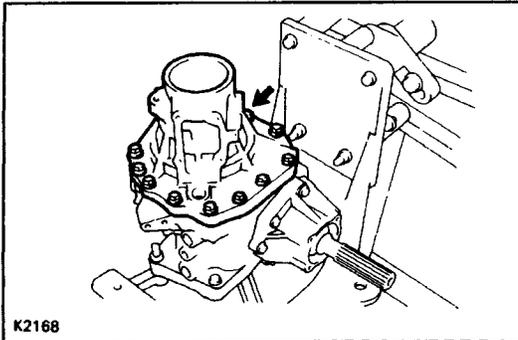


(e) Using a dial indicator, measure the ring gear backlash.

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

(f) Referring to the table below, select the plate washer which will ensure that the backlash is within specification. Try to select a washer of the same size. HINT: The backlash will change about 0.02 mm (0.0008 in.) with each shim thickness.

Mark	Thickness mm (in.)	Mark	Thickness mm (in.)
1	2.13 (0.0839)	13	2.49 (0.0980)
2	2.16 (0.0850)	14	2.52 (0.0992)
3	2.19 (0.0862)	15	2.55 (0.1004)
4	2.22 (0.0874)	1s	2.58 (0.1016)
5	2.25 (0.0886)	17	2.61 (0.1028)
6	2.28 (0.0898)	18	2.64 (0.1039)
7	2.31 (0.0909)	19	2.67 (0.1051)
8	2.34 (0.0921)	20	2.70 (0.1063)
9	2.37 (0.0933)	21	2.73 (0.1075)
10	2.40 (0.0945)	22	2.76 (0.1087)
11	2.43 (0.0957)	23	2.79 (0.1098)
12	2.46 (0.0968)	24	2.82 (0.1110)



**2. ADJUST TOTAL PRELOAD**

(a) Install the transfer right case.

(b) Install and torque the twelve bolts.

**Torque: 44 N-m (450 kgf-cm, 33 ft-lbf)**

(c) Adjust the total preload by tightening the bearing adjusting nut.

Using SST, tightening the adjusting nut.

SST 09318-20010

HINT: Measure the preload while tightening the adjusting nut a little at a time.

(d) Using SST and a spring tension gauge, measure the total preload.

SST 09326-20011

**Preload (at starting):**

**New bearing**

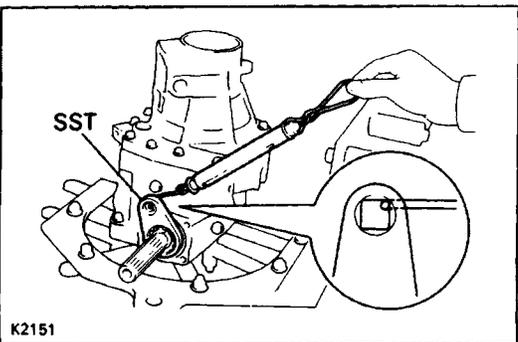
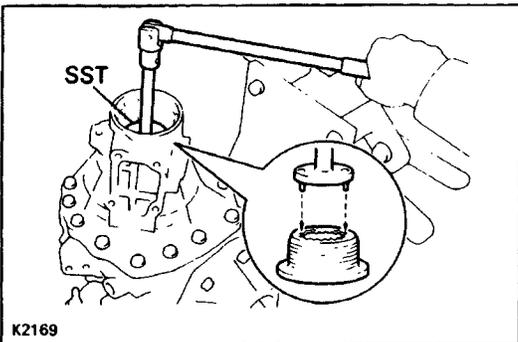
**Add driven pinion preload**    **13–14 N**  
 (1.3–1.4 kgf,  
 2.9–3.1 lbf)

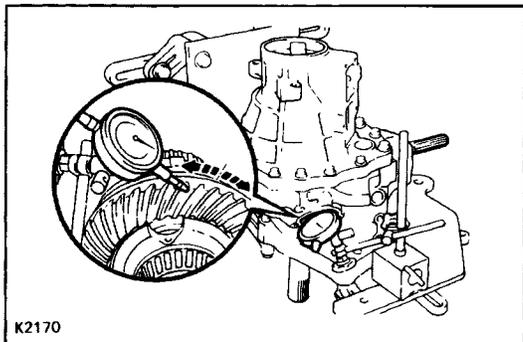
**Reused bearing**

**Add driven pinion preload**    **5–9 N**  
 (0.5–0.9 kgf,  
 1–2 lbf)

HINT: Turn the output shaft counterclockwise and clockwise several times.

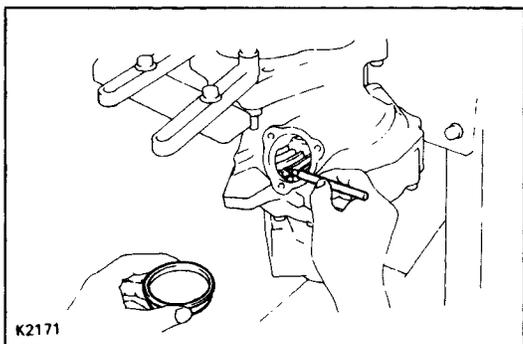
(e) When the standard value for total preload is exceeded, remove the transfer right case, push in the adjusting nut and outer race. Again adjust the total preload.





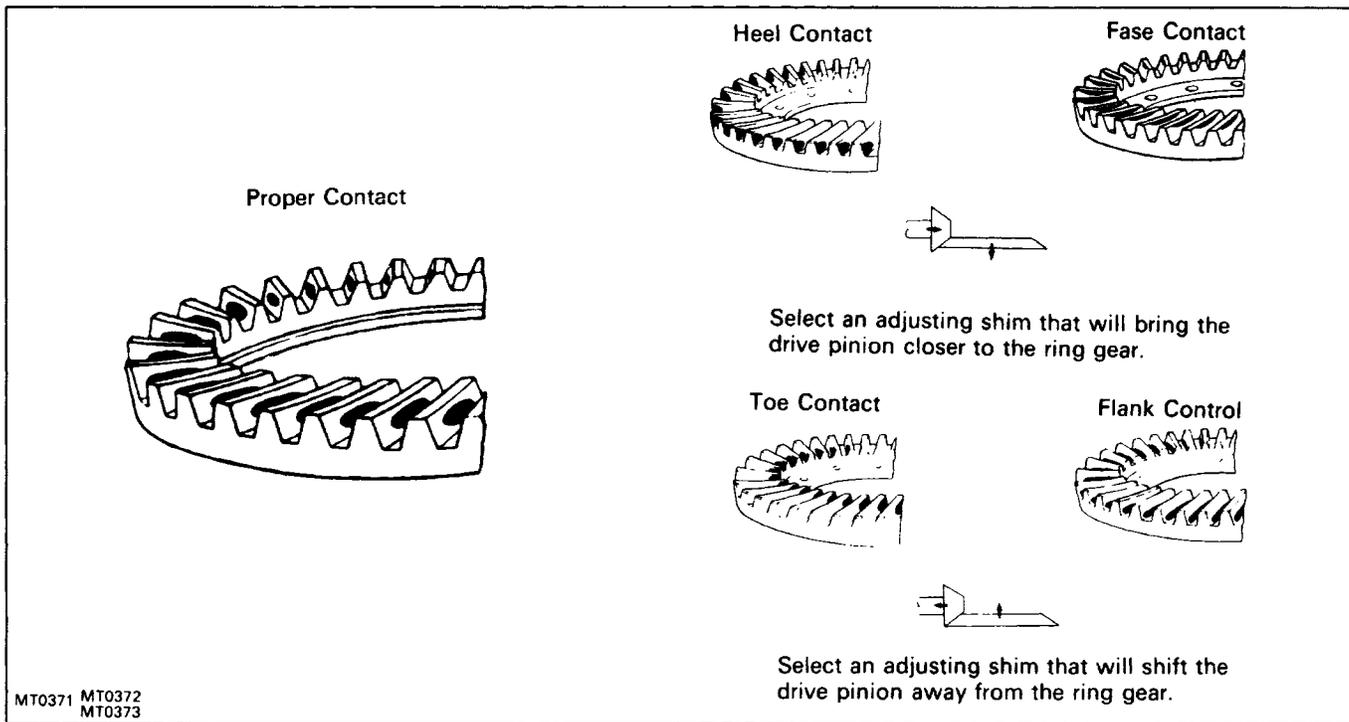
**3. CHECK RING GEAR BACKLASH**

- (a) Using a dial indicator, measure the ring gear backlash.  
Backlash: 0.13–0.18 mm (0.0051–0.0071 in.)
  - (b) When the backlash is outside the standard value, select a different plate washer to the one selected step
2. Again adjust the backlash and total preload.



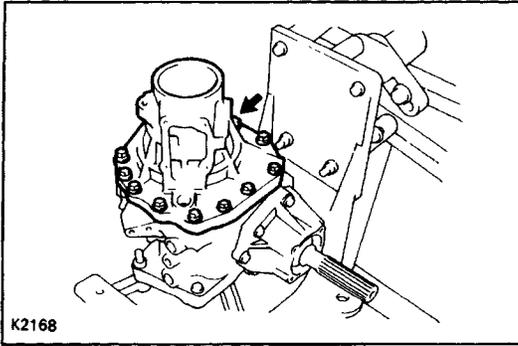
**4. CHECK TOOTH CONTACT**

- (a) Coat 3 or 4 teeth at four different position on the ring gear with red lead.
- (b) Rotate the ring gear, inspect the teeth pattern.



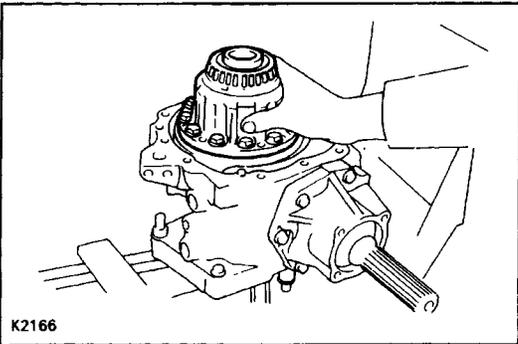
- (c) If the teeth are not contacting properly, again select the proper shim and plate.

Mark	Thickness mm (in.)	Mark	Thickness mm (in.)
A	0.30 (0.0118)	F	0.45 (0.0177)
B	0.33 (0.0130)	G	0.48 (0.0189)
C	0.36 (0.0142)	H	0.51 (0.0201)
D	0.39 (0.0154)	J	0.54 (0.0213)
E	0.42 (0.0165)	K	0.57 (0.0224)

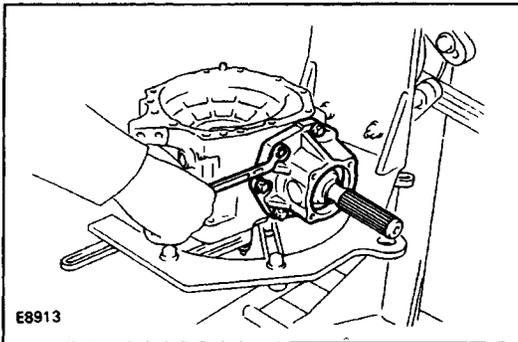


**5. REMOVE RING GEAR MOUNTING CASE ASSEMBLY**

(a) Remove the twelve bolts and transfer right case.

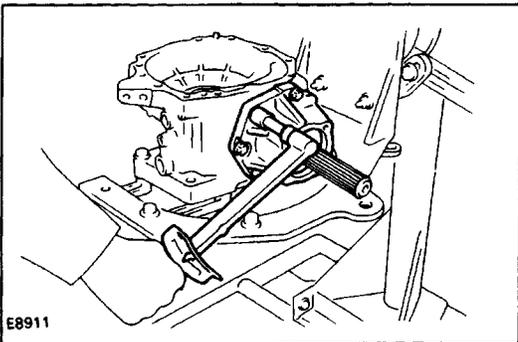


(b) Remove the ring gear mounting case assembly.



**6. REMOVE DRIVEN PINION BEARING CAGE ASSEMBLY**

Remove the six bolts and bearing cage assembly.



**7. INSTALL DRIVEN PINION BEARING CAGE ASSEMBLY**

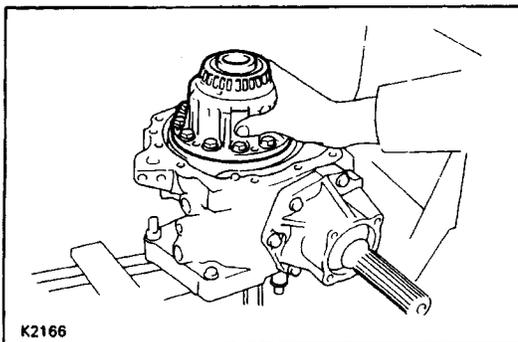
(a) Coat the O-ring with gear oil.

(b) Install the O-ring to the driven pinion bearing cage.

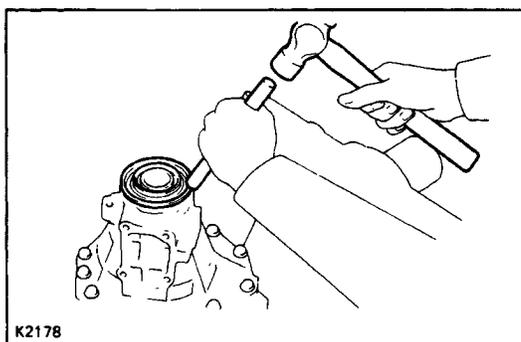
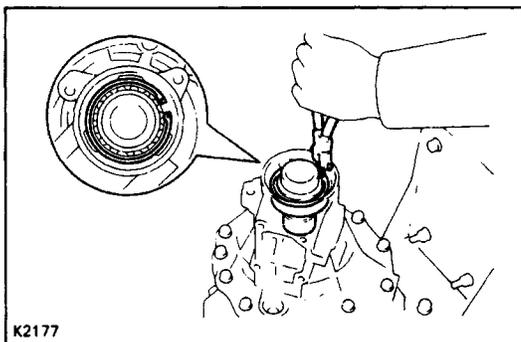
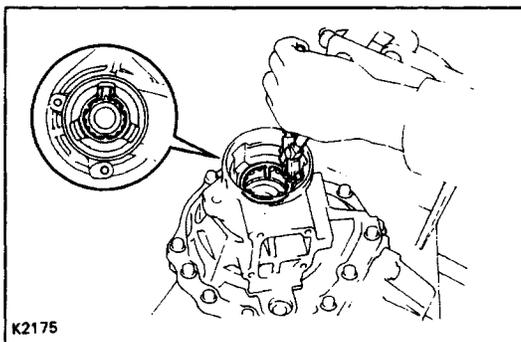
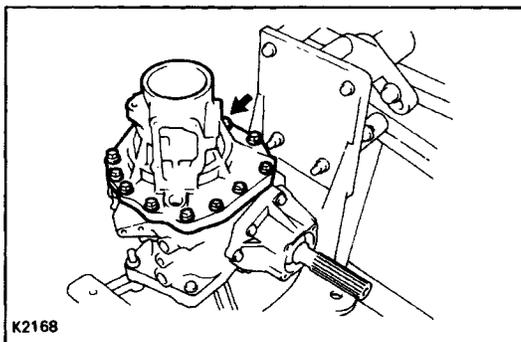
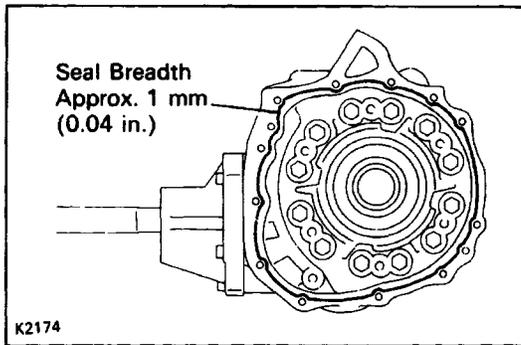
(c) Install the driven pinion bearing cage with the adjusting shim (previously selected) to the transfer left case.

(d) Install and torque the six bolts.

**Torque: 39 N-m (400 kgf-cm, 29 ft-lbf)**



**8. INSTALL RING GEAR MOUNTING CASE ASSEMBLY**



## 9. INSTALL TRANSFER RIGHT CASE

(a) Remove any packing material and be careful not to drop oil on the contacting surfaces of the transfer left case or right case.

(b) Apply seal packing to the transfer left case as shown in the figure.

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

HINT: Install the transfer right case as soon as the seal packing is applied.

(c) Apply sealant to the bolt threads.

**Sealant: Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent**

(d) Install and torque the twelve bolts.

**Torque: 44 N-m (450 kgf-cm 33 ft-lbf)**

## 10. CHECK TOTAL PRELOAD

(See page MT-200)

## 11. INSTALL ADJUSTING NUT LOCK PLATE

Using snap ring pliers, install the lock plate so that the projection from the lock plate fits properly into the groove of the adjusting nut.

HINT: Choose one of the two types of lock plate can be installed, tighten the adjusting nut to the minimum limit.

## 12. INSTALL SIDE GEAR SHAFT HOLDER

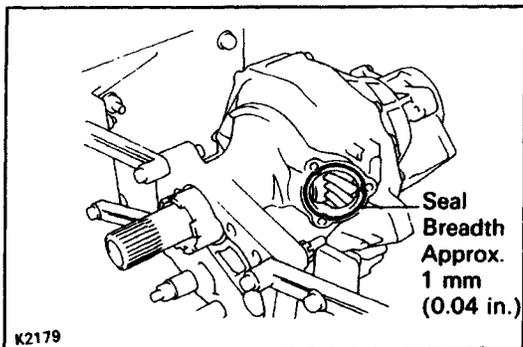
(a) Instal( the side gear shaft holder to the transfer right case.

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

## 13. INSTALL OIL SEAL

(a) Coat the lip of the oil seal with MP grease.

(b) Using a brass bar and hammer, drive in a new oil seal.



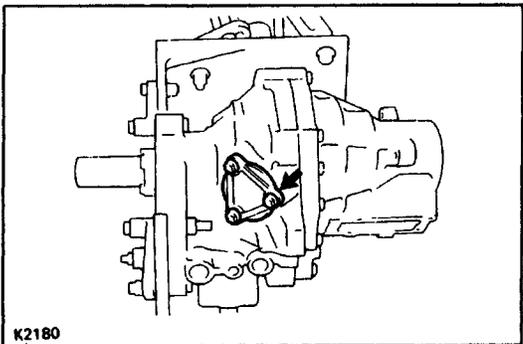
**14. INSTALL TRANSFER INSPECTION HOLE COVER**

- (a) Remove any packing material and be careful not to drop oil on the contacting surfaces of transfer left case or transfer inspection hole cover.
- (b) Apply seal packing to the transfer left case as shown in the figure.

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

HINT: Install the transfer inspection hole cover as soon as the seal packing is applied.

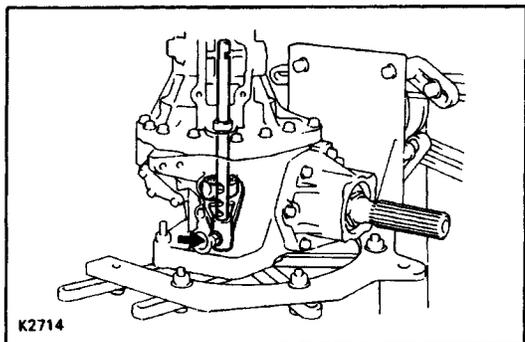
- (c) Install and torque the three bolts.
- Torque: 16 N-m (160 kgf-cm, 12 ft-lbf)**



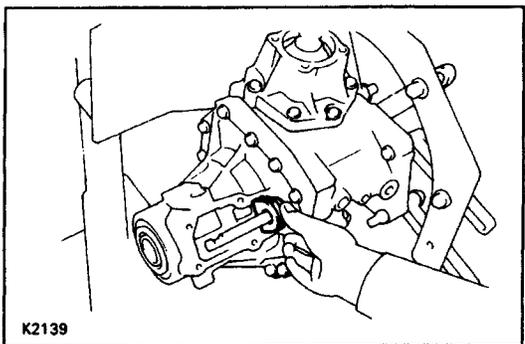
**15. INSTALL DIFFERENTIAL LOCK SHIFT FORK SHAFT**

- (a) Install the differential lock sleeve with shift fork.
- (b) Install the shift fork shaft to the transfer case.
- (c) Install and torque the bolt.

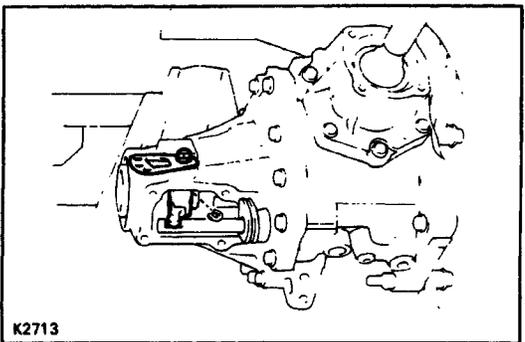
**Torque: 16 N-m (160 kgf-cm, 12 ft-lbf)**

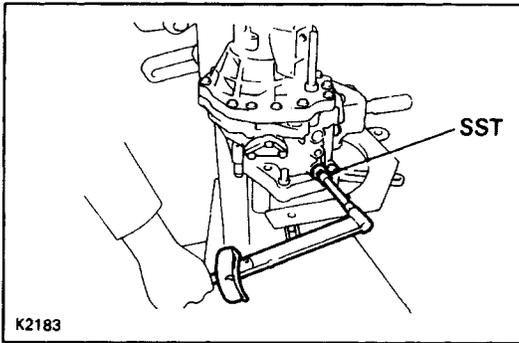


- (d) install the transfer case upper cover bushing.



- (e) Install the inner lever in the shift fork shaft groove. Insert the shift lever shaft and install the E-ring.

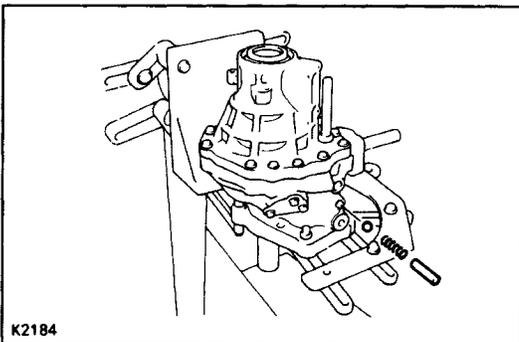




(f) Using SST, install and torque the plug.

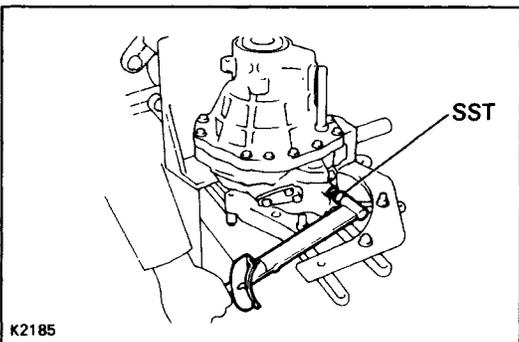
SST 09043-38100

Torque: 39 N-m (400 kgf-cm, 29 ft-lbf)



## 16. INSTALL LOCKING BALL, SPRING, SEAT AND PLUG

(a) Using magnetic finger, install the locking ball, spring and seat.



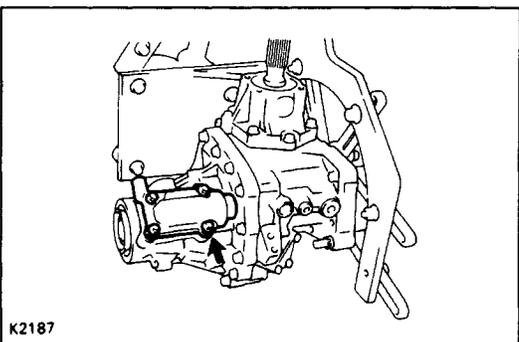
(b) Apply sealant to the plug threads.

Sealant: Part No. 08833-00080, THREE BOND 1344,  
LOCTITE 242 or equivalent

(c) Using SST, install and torque the plug.

SST 09313-30021

Torque: 25 N-m (250 kgf-cm, 18 ft-lbf)

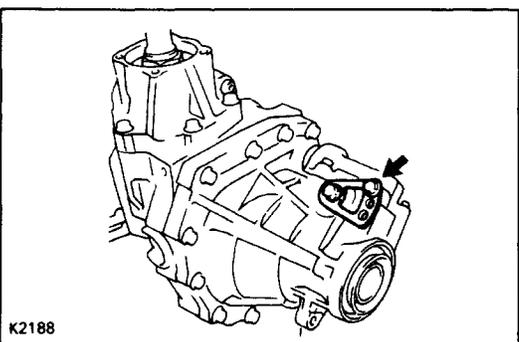


## 17. INSTALL TRANSFER CASE COVER

(a) Install the new gasket and case cover.

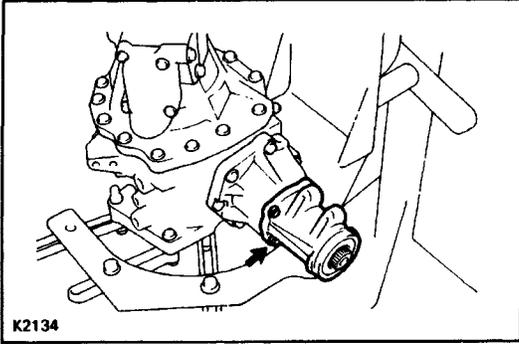
(b) Install and torque the four bolts.

Torque: 17 N-m (175 kgf-cm, 13 ft-lbf)



(c) Install the bolt to the shift lever shaft as shown.

Torque: 20 N-m (200 kgf-cm, 14 ft-lbf)

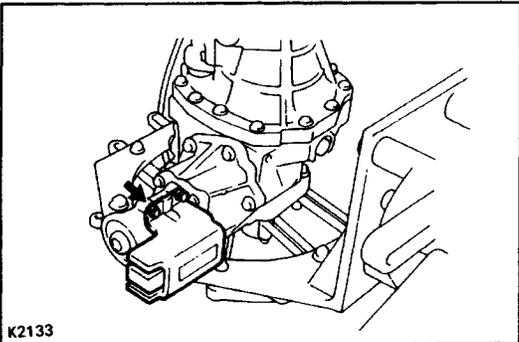


### 18. INSTALL EXTENSION HOUSING

- (a) Coat the O-ring with gear oil.
- (b) Install the O-ring to the extension housing.
- (c) Install the extension housing to the driven pinion bearing cage.

(d) Install and torque the four bolts.

**Torque: 25 N-m (260 kgf-cm, 19 ft-lbf)**



### 19. INSTALL DYNAMIC DAMPER

Install and torque the four bolts.

**Torque: 25 N-m (260 kgf-cm, 19 ft-lbf)**