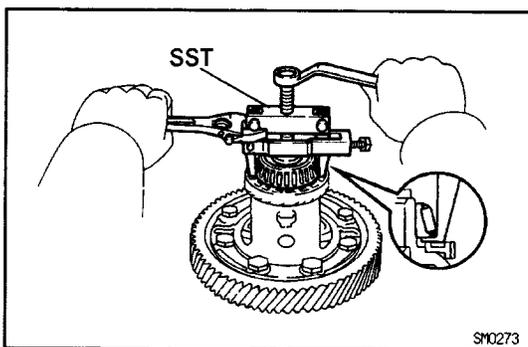
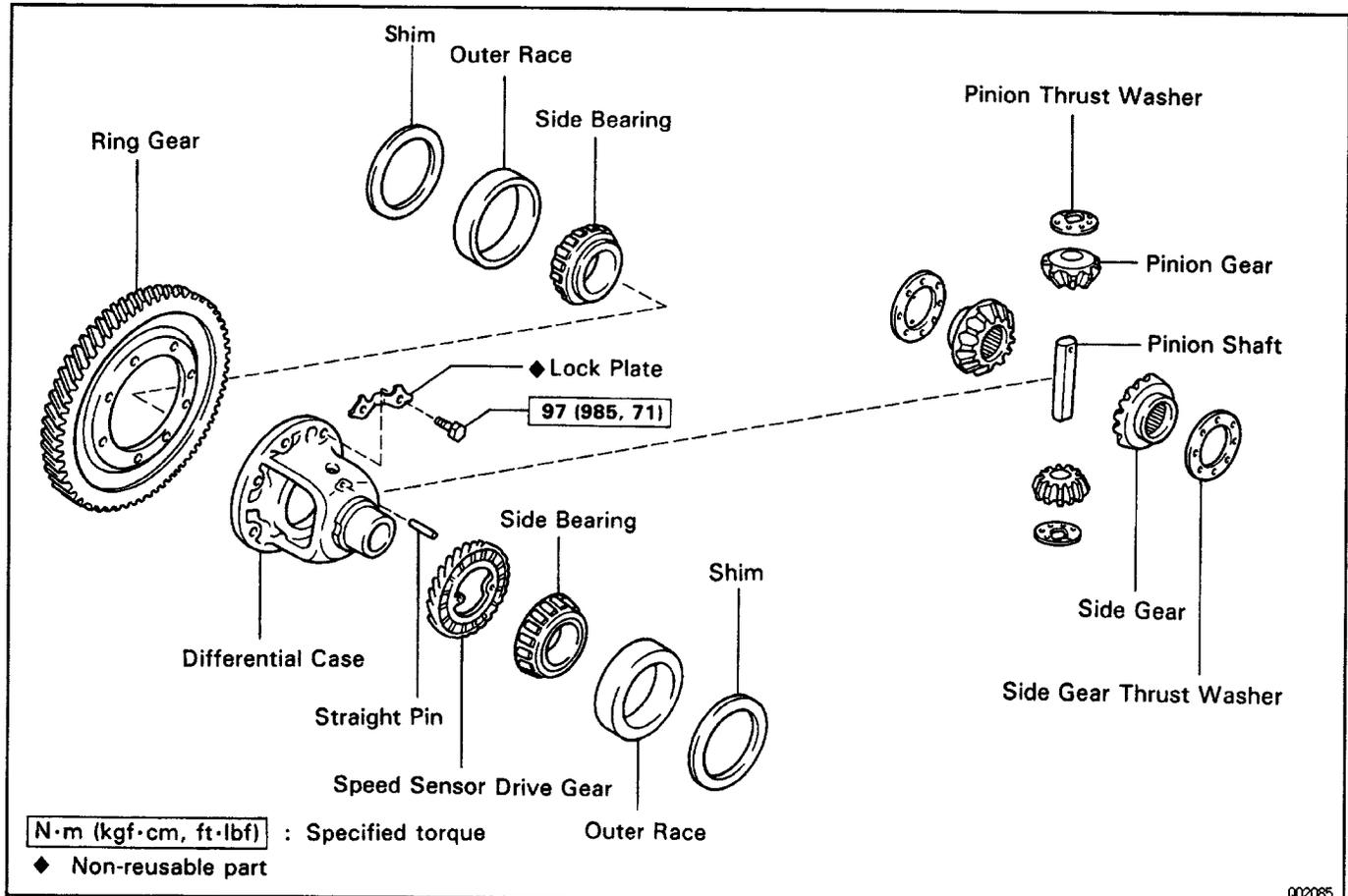


DIFFERENTIAL CASE COMPONENTS

MX02U-03



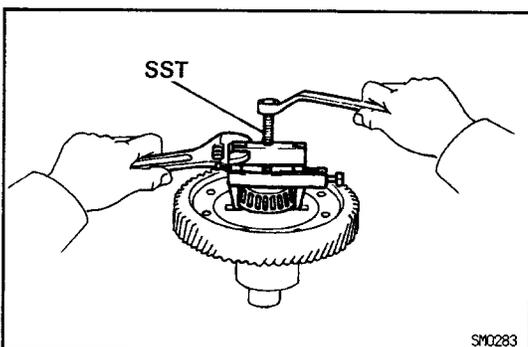
DIFFERENTIAL CASE DISASSEMBLY

1. REMOVE SIDE BEARING FROM DIFFERENTIAL CASE

(a) Using SST, remove the bearing from drive gear side of the case.

SST 09502-10012

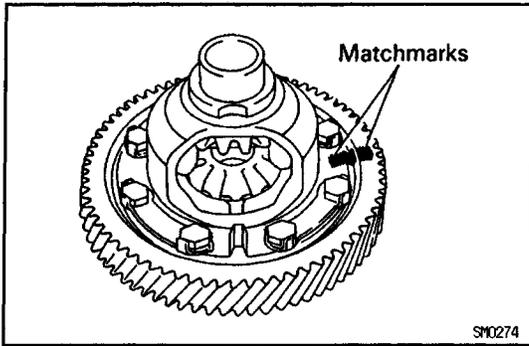
(b) Remove the speed sensor drive gear.



(c) Using SST, remove the bearing from ring gear of side of the case.

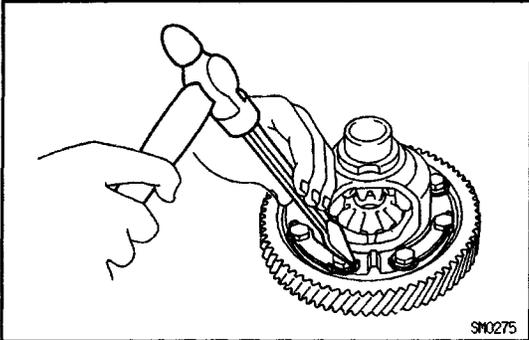
SST 09502-10012

MX08A-04



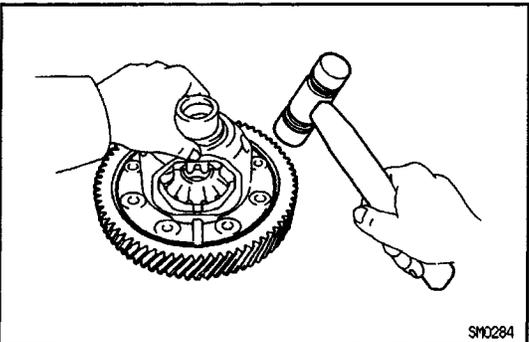
2. REMOVE RING GEAR

(a) Place matchmarks on the ring gear and the case.

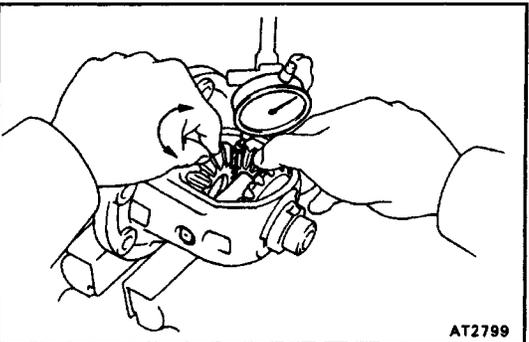


(b) Using a chisel and hammer, unstick the lock plates.

(c) Remove the eight bolts and four lock plates.



(d) Using a copper hammer, tap on the ring gear to remove it from the case.



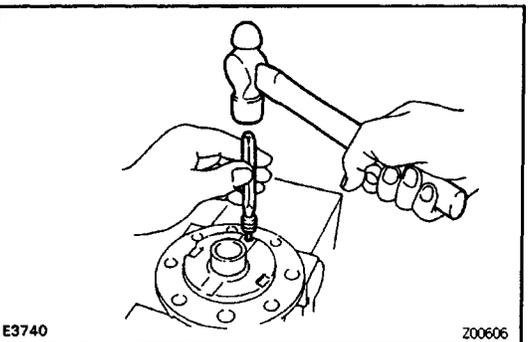
3. INSPECT SIDE GEAR BACKLASH

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

Standard backlash:

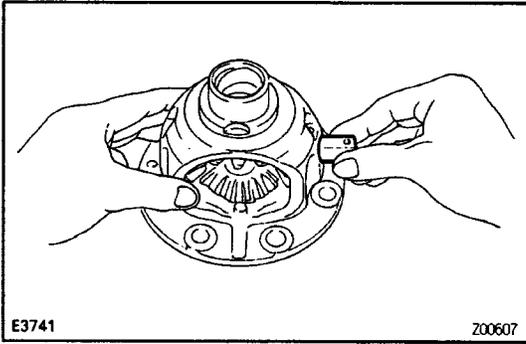
0.05–0.20 mm (0.0020–0.0079 in.)

If the backlash does not meet specification, install the correct thrust washer to the side gears.

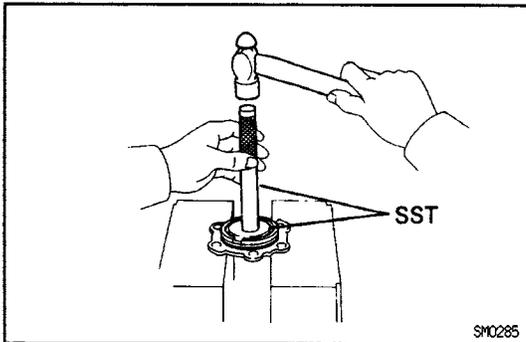


4. DISASSEMBLY DIFFERENTIAL CASE

(a) Using a pin punch and hammer, drive out the straight pin.

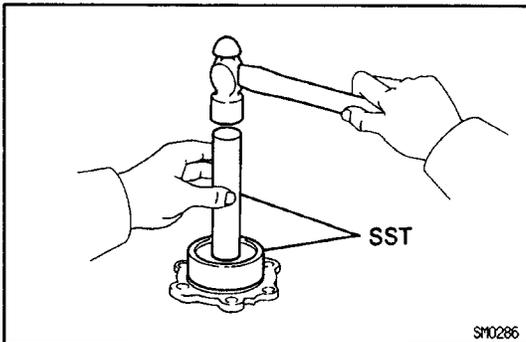


- (b) Remove the pinion shaft from the case.
 (e) Remove the two pinions and two side gears with the four thrust washers from each gear.

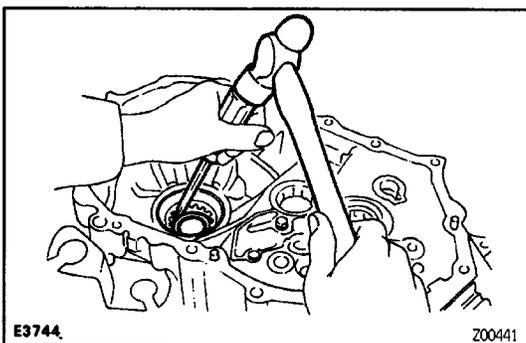


**5. (TRANSMISSION CASE SIDE)
 IF NECESSARY, REPLACE DIFFERENTIAL SIDE
 BEARING RETAINER OIL SEAL**

- (a) Using SST and a hammer, drive out the oil seal from the retainer.
 SST 09608-20012 (09608-03020, 09608-03060)

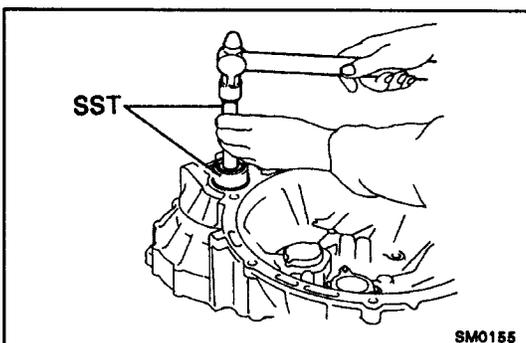


- (b) Using SST and a hammer, drive in a new oil seal until its surface is flush with the case surface.
 SST 09350-32014 (09351-32130, 09351-32150)
 (c) Coat the lip of the oil seal with MP grease.

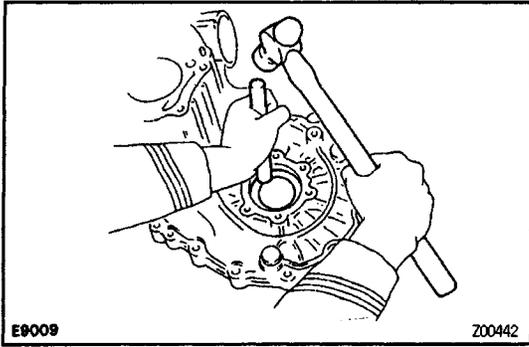


**6. (TRANSAXLE CASE SIDE)
 IF NECESSARY, REPLACE SIDE OIL SEAL**

- (a) Using a screwdriver and hammer, drive out the oil seal.

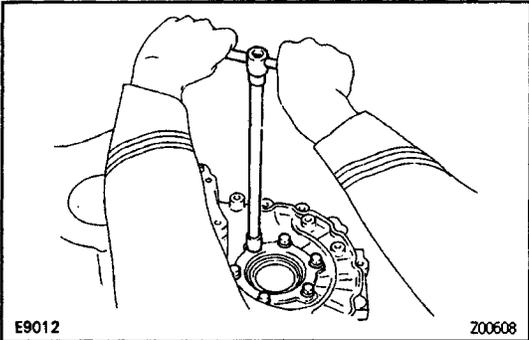


- (b) Using SST and a hammer, drive in a new oil seal until its surface is flush with the case surface.
 SST 09350-32014 (09351-32130, 09351-32150)
 (c) Coat the lip of oil seal with MP grease.



7. (TRANSMISSION CASE SIDE) IF NECESSARY, REPLACE SIDE BEARING OUTER RACE

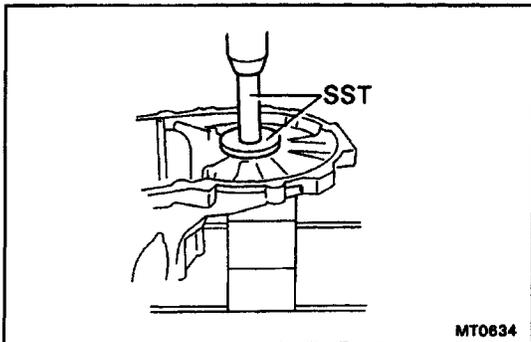
(a) Using a brass bar and hammer, drive out the bearing outer race.



(b) Install the bearing retainer without an O-ring.

(c) Install and torque the bearing retainer bolts.

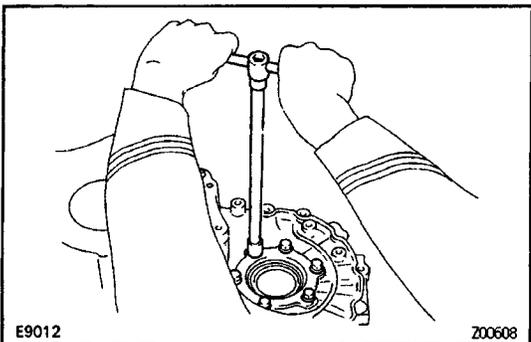
Torque: 18 N-m (185 kgf-cm, 13 ft-lbf)



(d) Place the thinnest shim into the case.

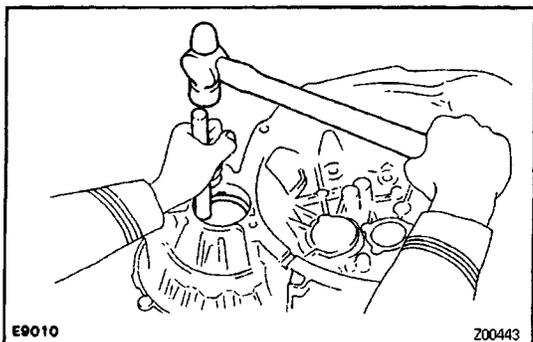
(e) Using SST and a press, install a new bearing outer race.

SST 09608-20012 (09608-03020, 09608-03060)



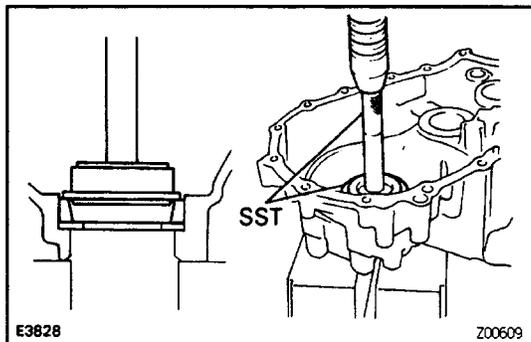
(f) Remove the retainer bolts.

(g) Remove the bearing retainer and shim.



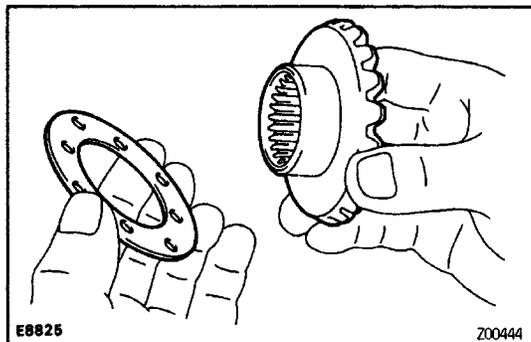
8. (TRANSAXLE CASE SIDE) IF NECESSARY, REPLACE SIDE BEARING OUTER RACE

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



- (b) Place the shim into the case.
 (c) Using SST and a press, install a new bearing outer race.

SST 09608-20012 (09608-03020, 09608-03060)



DIFFERENTIAL CASE ASSEMBLY

MX038-04

(See page [MX-50](#))

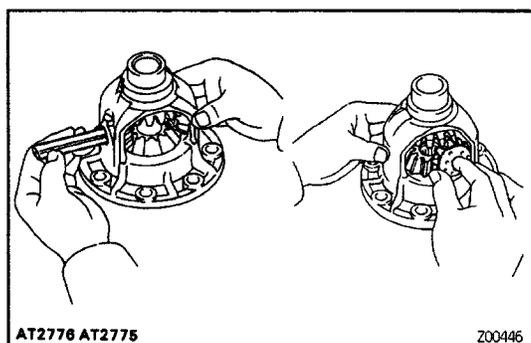
1. ASSEMBLY DIFFERENTIAL CASE

- (a) Install the correct thrust washers and side gears. Referring to the table below, select thrust washers which will ensure that the backlash is within specification. Try to select washers of the same size for both sides.

Standard backlash:

0.05–0.20 mm (0.0020–0.0079 in.)

| Thickness mm (in.) | Thickness mm (in.) |
|--------------------|--------------------|
| 0.95 (0.0374) | 1.10 (0.0433) |
| 1.00 (0.0394) | 1.15 (0.0453) |
| 1.05 (0.0413) | 1.20 (0.0472) |



Install the thrust washers and side gears in the differential case.

- (b) Install the pinion shaft.

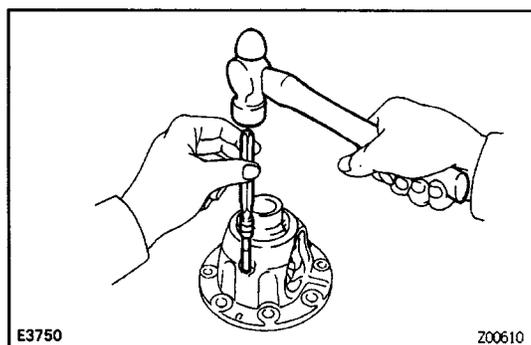
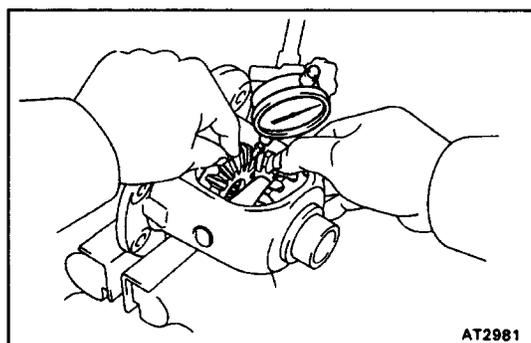
- (c) Inspect the side gear backlash.

Measure the side gear backlash while holding one pinion gear toward the case.

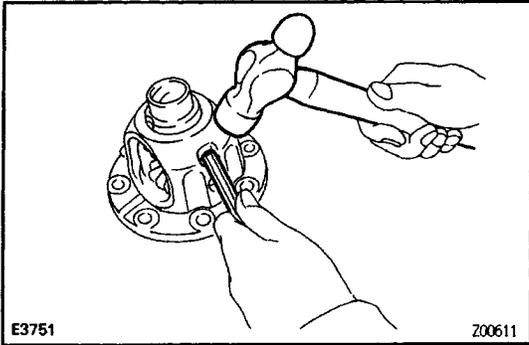
Standard backlash:

0.05–0.20 mm (0.0020–0.0079 in.)

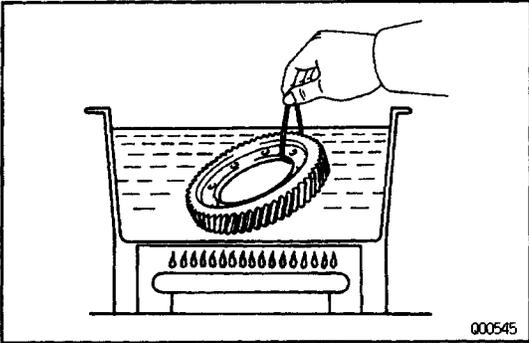
If the backlash is not within specification, install a thrust washer of different thickness.



- (d) Using a pin punch and hammer, drive in the straight pin through the case and hole in the pinion shaft.



(e) Stake the differential case.



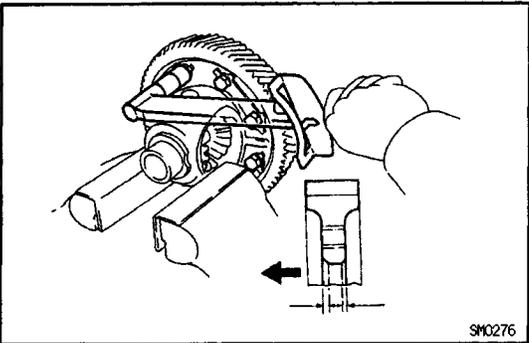
2. INSTALL RING GEAR ON DIFFERENTIAL CASE

(a) Clean the contact surface of the differential case and the threads of the ring gear and differential case.

(b) Heat the ring gear in boiling water.

(c) After moisture on the ring gear has completely evaporated, quickly install the ring gear to the differential case.

HINT: Align the matchmarks on the differential case and contact the ring gear.

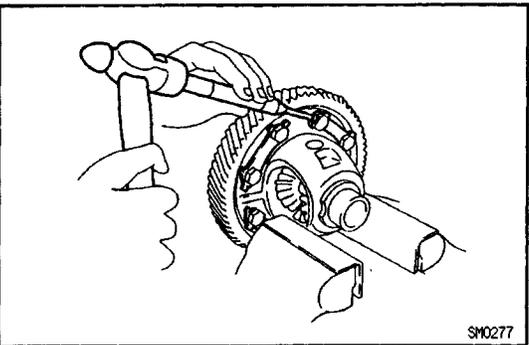


(d) Temporarily install the eight bolts and four lock plates.

NOTICE: The ring gear set bolts should not be tightened until the ring gear has cooled sufficiently.

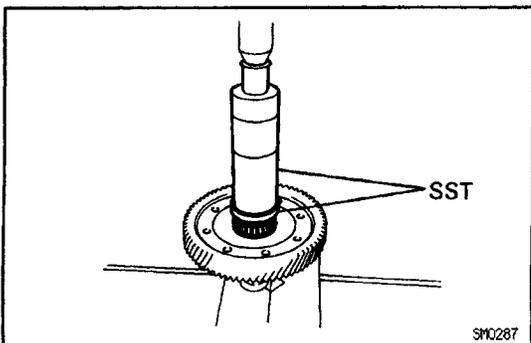
(e) After the ring gear has cooled sufficiently, torque the ring gear set bolts.

Torque: 90 N-m (920 kgf-cm, 67 ft-lbf)



(f) Using a pin punch and hammer, stake the lock plates.

HINT: Stake one claw flush with the flat surface of the bolt. For the claw contacting the protruding portion of the bolt, stake only the half on the tighten side.

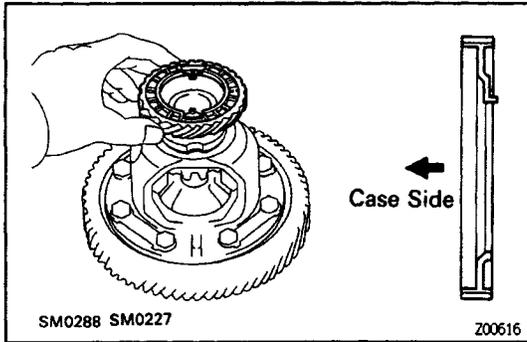


3. INSTALL SIDE BEARING TO DIFFERENTIAL CASE

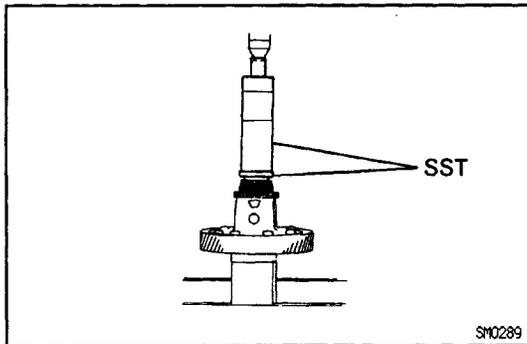
(a) Using SST and a press, install the side bearing to the transmission case side.

SST 09316-60010 (09316-00010)

09350-32014 (09351-32120)



(b) Install the speed sensor drive gear to the transaxle case side.

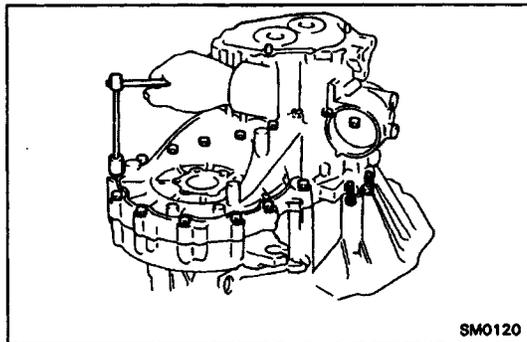


(c) Using SST and a press, install the side bearing to the transaxle case side.

SST 09316-60010 (09316-00010)

09350-32014 (09351-32120)

NOTICE: Install the black cage bearing on the speed sensor drive gear side.



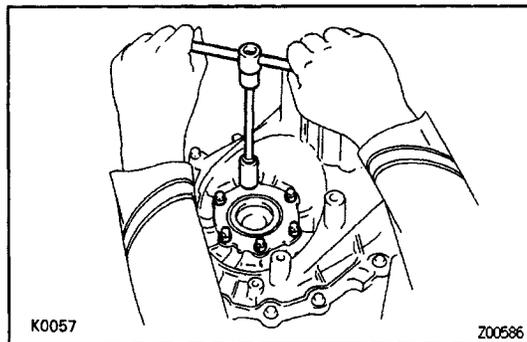
4. ADJUST DIFFERENTIAL CASE SIDE BEARING PRELOAD

(a) Install the differential to the transaxle case.

(b) Install the transmission case.

(c) Install and torque the case bolts.

Torque: 29 N-m (300 kgf-cm, 22 ft-lbf)

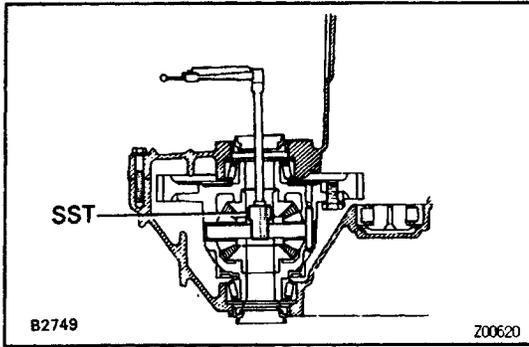


(d) Install the shim into the transmission case.

(e) Install the bearing retainer without an O-ring.

(f) Install and torque the retainer bolts.

Torque: 18 N-m (185 kgf-cm, 13 ft-lbf)



(g) Using SST and torque meter, measure the preload.

SST 09564- 32011

Preload (at starting):

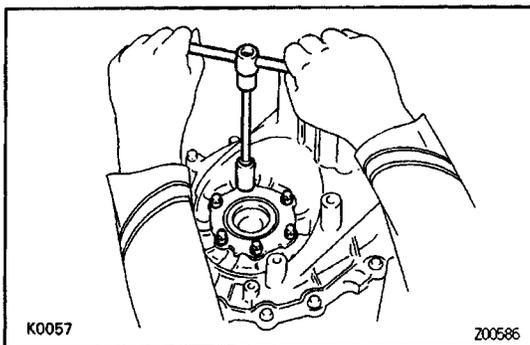
0.8–1.6 N–m (8–16 kgf–cm, 6.9–13.9 in.–lbf)

If the preload is not within specification, remove the transmission case side bearing retainer.

Select another shim.

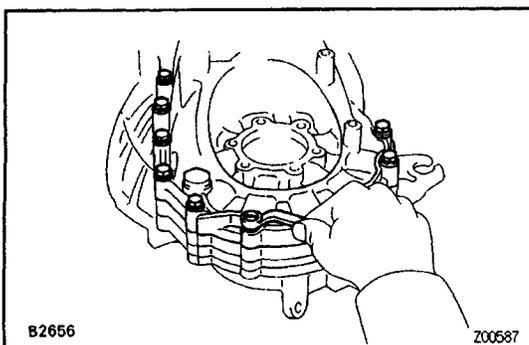
HINT: The preload will change about 0.3–0.4 N–m (3–4 kgf–cm, 2.6–3.5 in.–lbf) with each shim thickness.

| Mark | Thickness mm (in.) | Mark | Thickness mm (in.) |
|------|--------------------|------|--------------------|
| 1 | 1.90 (0.0748) | 11 | 2.40 (0.0945) |
| 2 | 1.95 (0.0768) | 12 | 2.45 (0.0965) |
| 3 | 2.00 (0.0787) | 13 | 2.50 (0.0984) |
| 4 | 2.05 (0.0807) | 14 | 2.55 (0.1004) |
| 5 | 2.10 (0.0827) | 15 | 2.60 (0.1024) |
| 6 | 2.15 (0.0846) | 16 | 2.65 (0.1043) |
| 7 | 2.20 (0.0866) | 17 | 2.70 (0.1063) |
| 8 | 2.25 (0.0886) | 18 | 2.75 (0.1083) |
| 9 | 2.30 (0.0906) | 19 | 2.80 (0.1102) |
| 10 | 2.35 (0.0925) | | |



(h) Remove the retainer bolts.

(i) Remove the bearing retainer and shim.



(j) Remove the case bolts.

(k) Remove the transmission case.