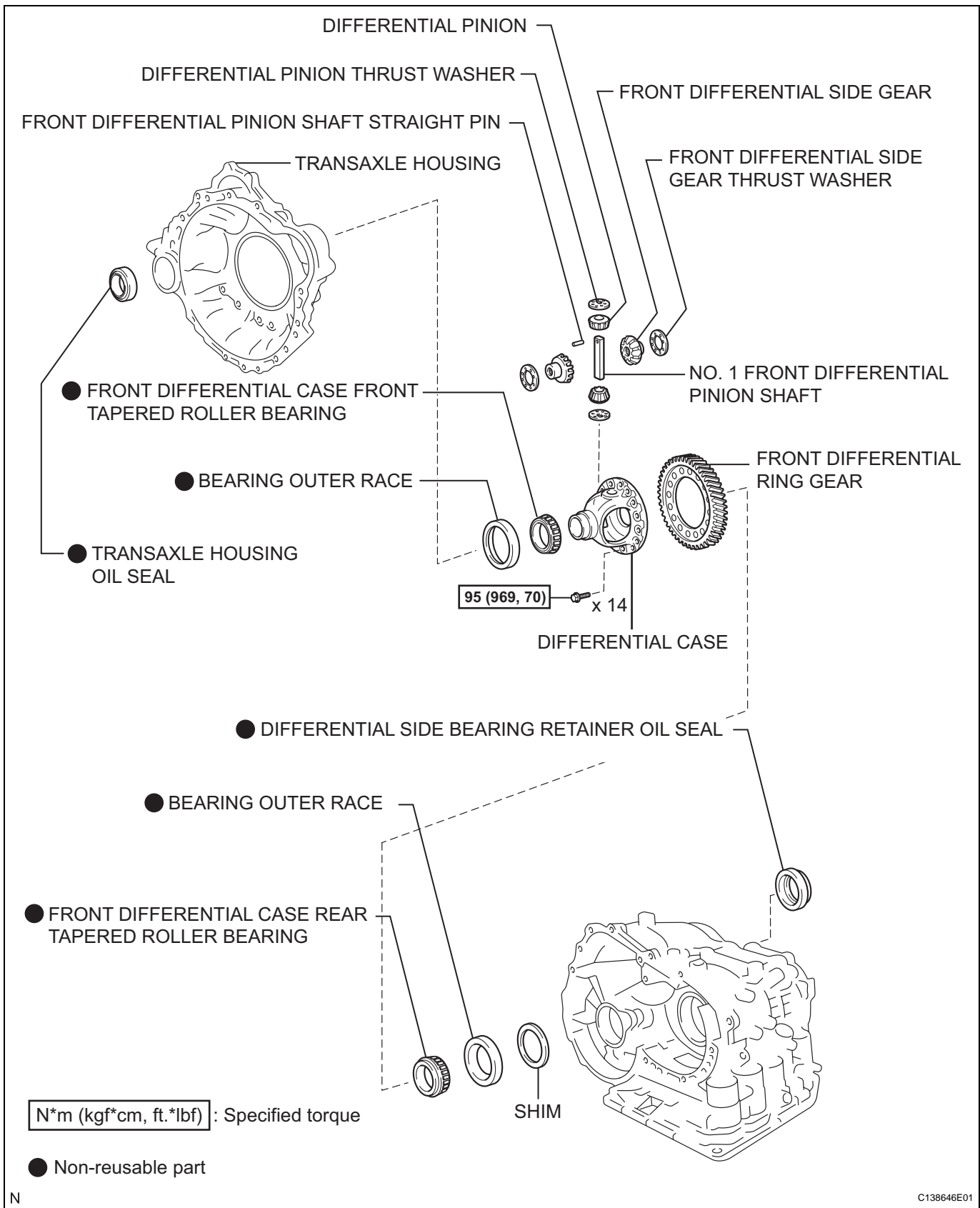
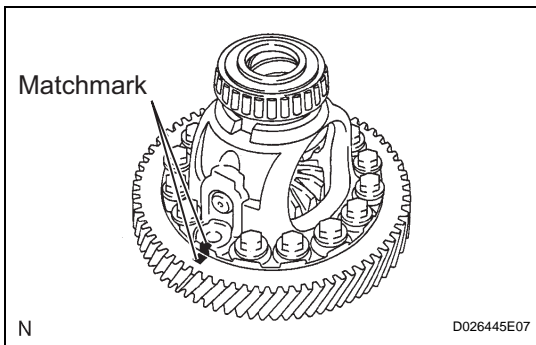


DIFFERENTIAL CASE

COMPONENTS

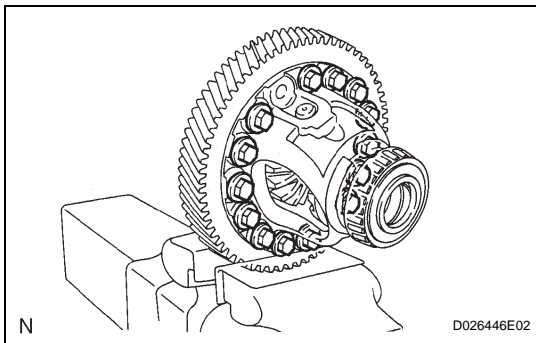


DISASSEMBLY

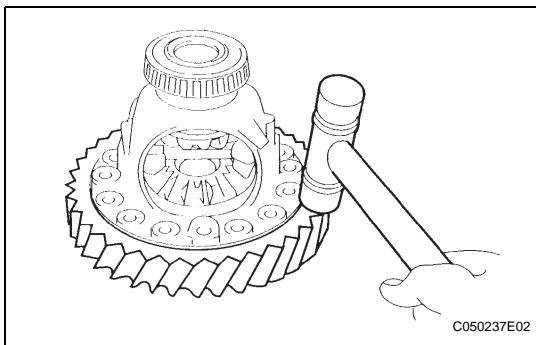


1. REMOVE FRONT DIFFERENTIAL RING GEAR

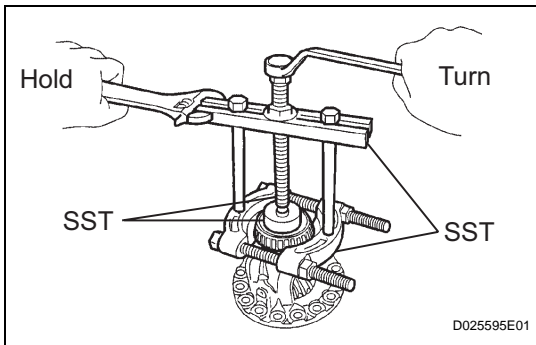
- (a) Place matchmarks on the ring gear and differential case.



- (b) Remove the 14 bolts.



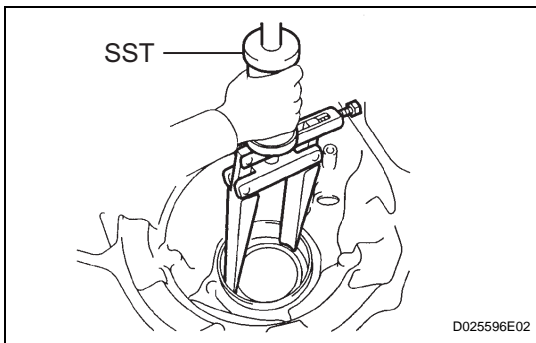
- (c) Using a plastic-faced hammer, tap on the ring gear to remove it from the case.



2. REMOVE FRONT DIFFERENTIAL CASE FRONT TAPERED ROLLER BEARING

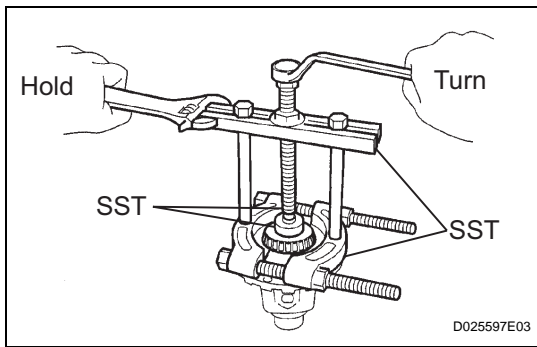
- (a) Using SST, remove the bearing from the differential case.

SST 09950-00020, 09950-00030, 09950-60010 (09951-00490), 09950-40011 (09957-04010)



- (b) Using SST, remove the front differential case front tapered roller bearing outer race.

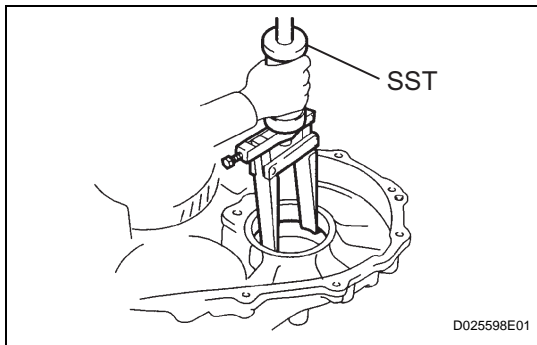
SST 09308-00010



3. REMOVE FRONT DIFFERENTIAL CASE REAR TAPERED ROLLER BEARING

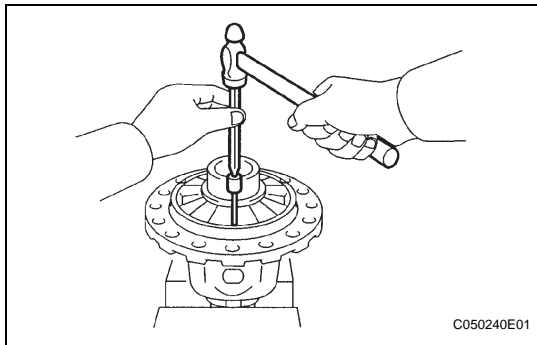
(a) Using SST, remove the bearing from the differential case.

SST 09950-00020, 09950-00030, 09950-60010 (09951-00490), 09950-40011 (09957-04010), 09308-00010



(b) Using SST, remove the front differential case rear tapered roller bearing outer race.

SST 09308-00010

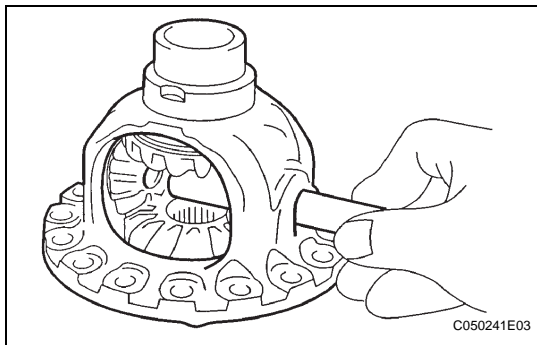


4. REMOVE FRONT DIFFERENTIAL PINION SHAFT STRAIGHT PIN

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

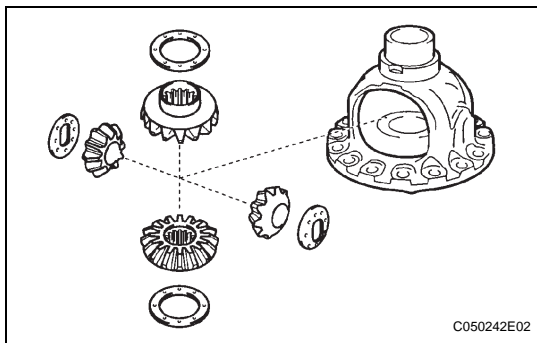
NOTICE:

Before removing the straight pin, unstake it with a pin punch.



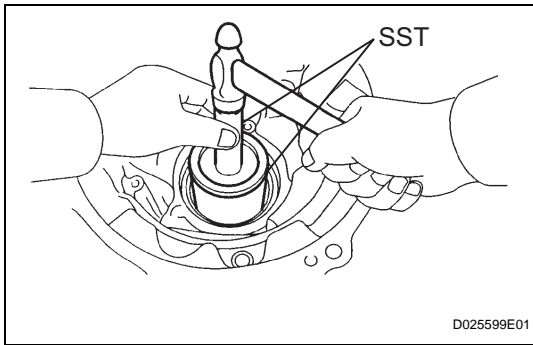
5. REMOVE NO. 1 FRONT DIFFERENTIAL PINION SHAFT

(a) Remove the front differential pinion shaft from the differential case.

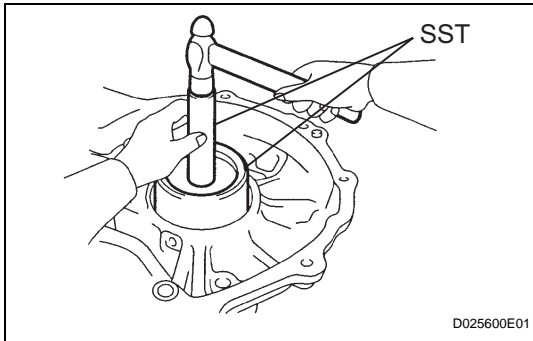


6. REMOVE FRONT DIFFERENTIAL SIDE GEAR

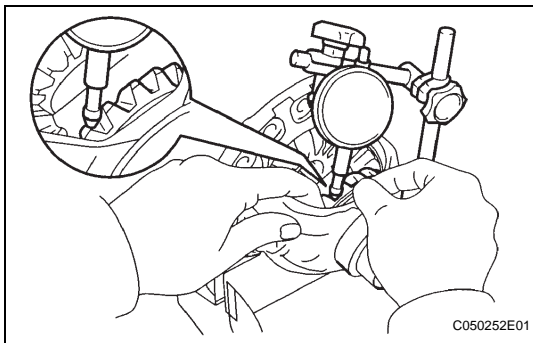
(a) Remove the 2 front differential pinions, 2 pinion thrust washers, 2 front differential side gears and 2 side gear thrust washers from the differential case.

**7. REMOVE TRANSAXLE HOUSING OIL SEAL**

- (a) Using SST and a hammer, tap out the oil seal.
SST 09950-70010 (09951-07100), 09215-00013 (09215-00471)

**8. REMOVE DIFFERENTIAL SIDE BEARING RETAINER OIL SEAL**

- (a) Using SST, tap out the oil seal.
SST 09950-70010 (09951-07100), 09608-10010

**INSPECTION****1. INSPECT BACKLASH**

- (a) Using a dial indicator, inspect the backlash of the side gear.

Standard backlash:

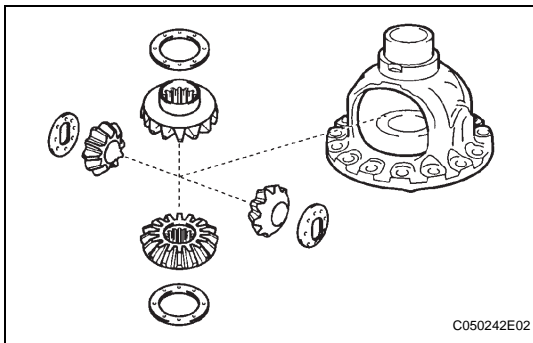
0.05 to 0.20 mm (0.0020 to 0.0079 in.)

Standard thrust washer thickness:

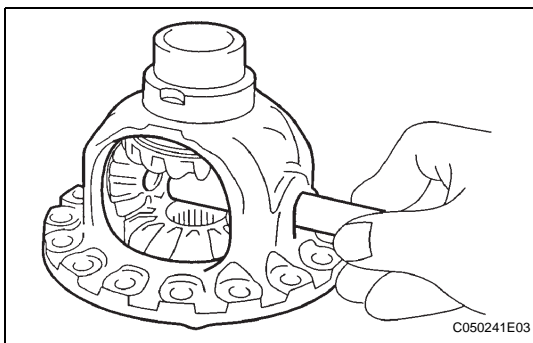
1.625 mm (0.0640 in.)

1.725 mm (0.0679 in.)

1.825 mm (0.0719 in.)

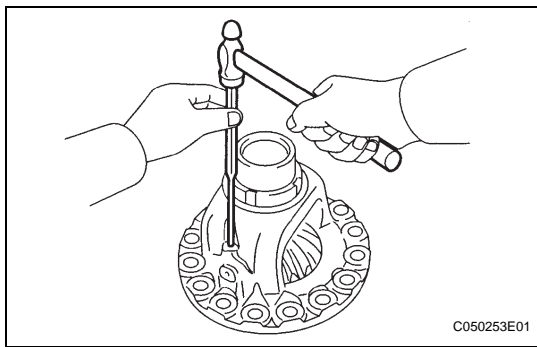
**REASSEMBLY****1. INSTALL FRONT DIFFERENTIAL SIDE GEAR**

- (a) Apply ATF to the 2 front differential side gears, 2 side gear thrust washers, 2 front differential pinions and 2 pinion thrust washers and install them to the differential case.

**2. INSTALL NO. 1 FRONT DIFFERENTIAL PINION SHAFT**

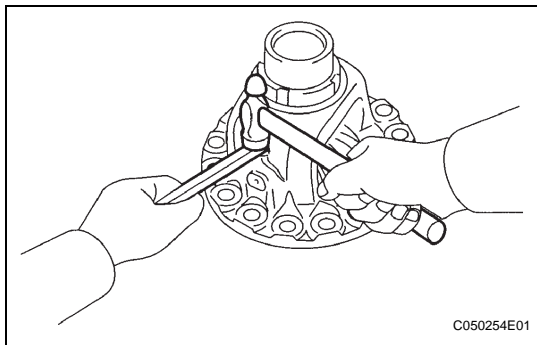
- (a) Coat the No. 1 front differential pinion shaft with ATF, and install it to the differential case.

3. INSPECT BACKLASH (See page [AX-287](#))



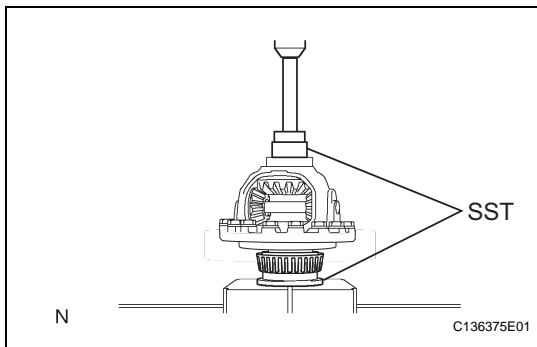
4. INSTALL FRONT DIFFERENTIAL PINION SHAFT STRAIGHT PIN

- (a) Using a pin punch and hammer, install the pinion shaft straight pin.



- (b) Using a chisel and hammer, stake the differential case.

NOTICE:
Stake the differential case after adjusting the backlash.



5. INSTALL FRONT DIFFERENTIAL CASE REAR TAPERED ROLLER BEARING

- (a) Using SST and a press, press in the front differential case front tapered roller bearing to the differential case.

SST 09316-12010, 09550-60010 (09951-00490), 09950-70010 (09951-07100, 09951-07150)

NOTICE:

- When replacing a bearing of the differential case, be sure to replace it together with the outer race.
- When replacing a bearing of the differential case, replace both the front and rear bearings together.
- Do not damage the bearing case when installing the bearing inner race.

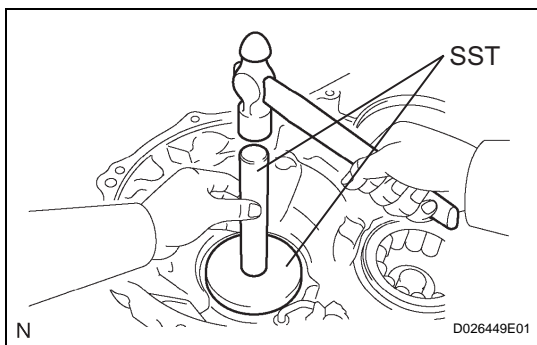
- (b) Install the front differential case rear shim to the transaxle housing.

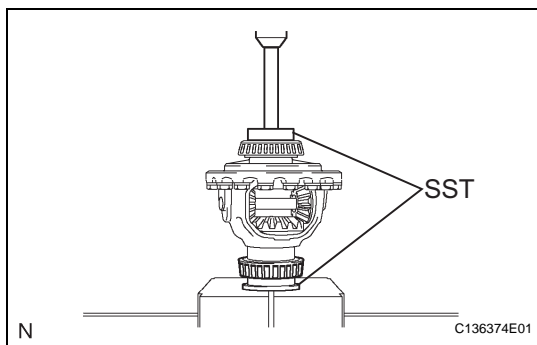
- (c) Using SST and a hammer, tap in the front differential case rear tapered roller bearing outer race to the transaxle housing.

SST 09950-70010 (09951-07100, 09951-07150), 09950-60020 (09951-00890)

NOTICE:

- When replacing the bearing, be sure to replace it together with the outer race.
- No clearance is allowed between the bearing and transaxle housing.





6. INSTALL FRONT DIFFERENTIAL CASE FRONT TAPERED ROLLER BEARING

- (a) Using SST and a press, press in the front differential case front tapered roller bearing to the differential case.

SST 09316-12010, 09550-60010 (09951-00490), 09950-70010 (09951-07100)

NOTICE:

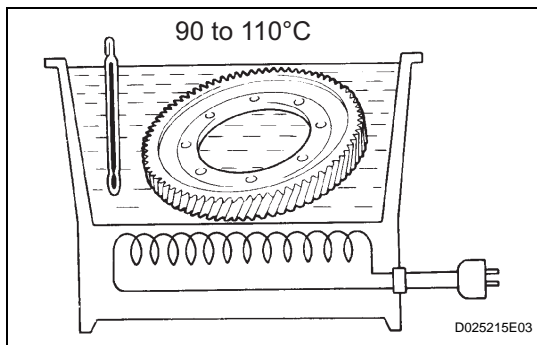
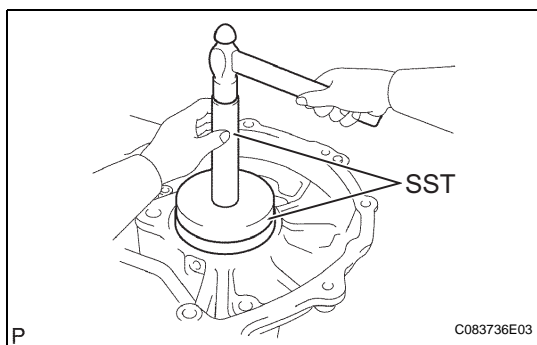
- When replacing a bearing of the differential case, be sure to replace it together with the outer race.
- When replacing a bearing of the differential case, replace both the front and rear bearings together.
- Do not damage the bearing case when installing the bearing inner race.

- (b) Using SST and a hammer, tap in the front differential case front tapered roller bearing outer race to the transaxle housing.

SST 09550-60010 (09951-00490), 09950-60020 (09951-00910)

NOTICE:

- When replacing the bearing, be sure to replace it together with the outer race.



7. INSTALL FRONT DIFFERENTIAL RING GEAR

- (a) Using ATF and a heater, heat the front differential ring gear to 90 to 110°C (194 to 230°F).

NOTICE:

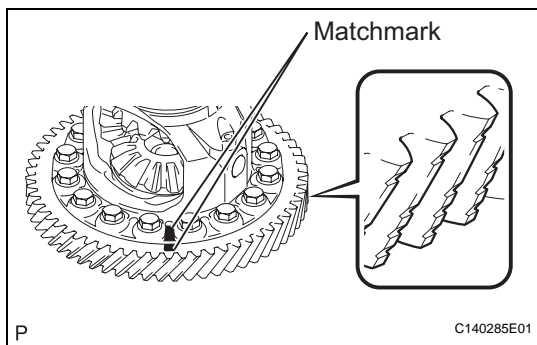
Do not heat the ring gear to more than 110°C (230.0°F).

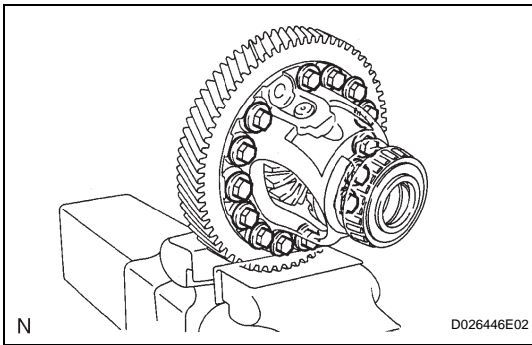
- (b) Clean the contact surface of the front differential case.

- (c) Align the matchmarks, and install the front differential ring gear case quickly.

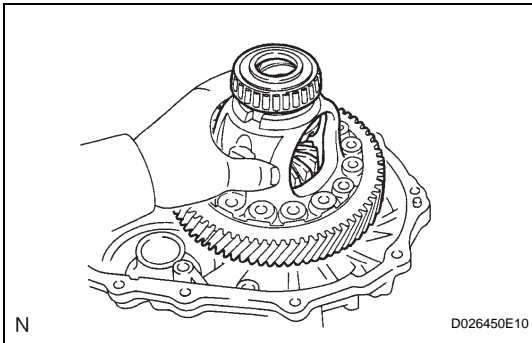
NOTICE:

- Do not install the bolts while the ring gear is hot.
- Check the position and number of the grooves on each end face of the differential ring gear.



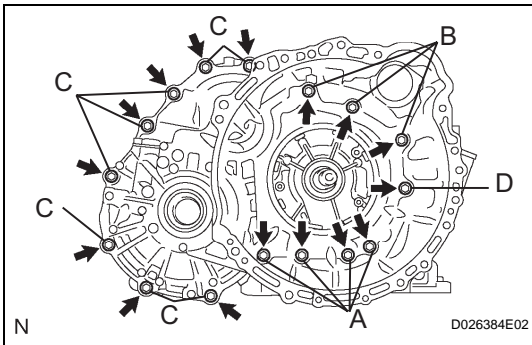


- (d) Tighten the 14 bolts.
Torque: 95 N*m (969 kgf*cm, 70 ft.*lbf)
NOTICE:
Tighten the bolts a little at a time in a diagonal pattern.



8. ADJUST DIFFERENTIAL SIDE BEARING PRELOAD

- (a) Install the differential assembly to the transaxle case.



- (b) Clean the mating surfaces of the transaxle case and transaxle housing.
 (c) Install the transaxle housing to the transaxle case and tighten them with the 16 bolts.

Torque: 22 N*m (224 kgf*cm, 16 ft.*lbf) for bolt A
29 N*m (295 kgf*cm, 21 ft.*lbf) for bolt B
29 N*m (295 kgf*cm, 21 ft.*lbf) for bolt C
22 N*m (226 kgf*cm, 16 ft.*lbf) for bolt D

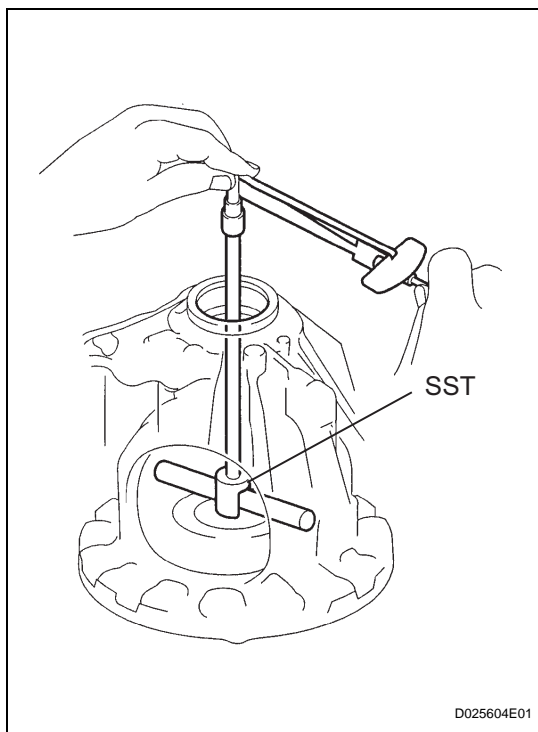
HINT:

- Each bolt length is indicated below.

Bolt length:

- **50 mm (1.969 in.) for bolt A**
- **50 mm (1.969 in.) for bolt B**
- **42 mm (1.654 in.) for bolt C**
- **72 mm (2.835 in.) for bolt D**

- Usually, bolt A is non-reusable. In this case, however, the bolt can be used after cleaning it.



- (d) Using SST, turn the differential assembly to the right and left 2 or 3 times to settle the bearing.

SST 09564-32011

- (e) Using SST and a torque wrench, measure the turning torque of the differential.

SST 09564-32011

Torque: Standard turning torque at 60 rpm

0.20 to 0.69 N*m (2.0 to 7.0 kgf*cm, 1.8 to 6.1 in.*lbf) for new bearing

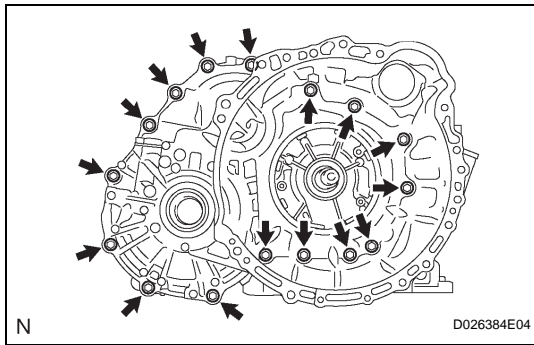
0.10 to 0.35 N*m (1.0 to 3.6 kgf*cm, 0.9 to 3.1 in.*lbf) for used bearing

HINT:

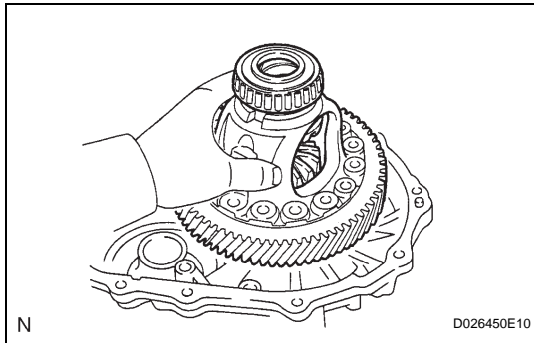
If the turning torque is not as specified, refer to the table below to select a front differential case rear shim so that the specified value is achieved.

Standard flange thickness

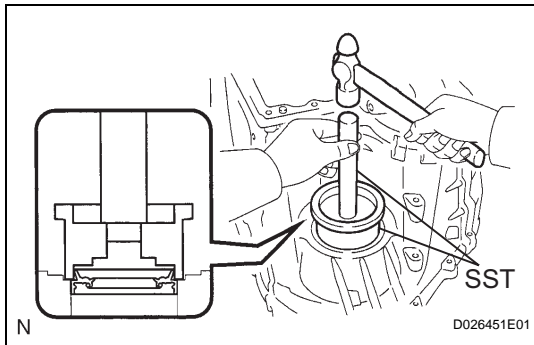
Mark	Thickness	Mark	Thickness
0	2.00 mm (0.0787 in.)	J	2.025 mm (0.07972 in.)
1	2.05 mm (0.0807 in.)	K	2.075 mm (0.08169 in.)
2	2.10 mm (0.0827 in.)	L	2.125 mm (0.08366 in.)
3	2.15 mm (0.0846 in.)	M	2.175 mm (0.08563 in.)
4	2.20 mm (0.0866 in.)	N	2.225 mm (0.08760 in.)
5	2.25 mm (0.0886 in.)	P	2.275 mm (0.08957 in.)
6	2.30 mm (0.0906 in.)	Q	2.325 mm (0.09154 in.)
7	2.35 mm (0.0925 in.)	R	2.375 mm (0.09350 in.)
8	2.40 mm (0.0945 in.)	S	2.425 mm (0.09547 in.)
9	2.45 mm (0.0965 in.)	T	2.475 mm (0.09744 in.)
A	2.50 mm (0.0984 in.)	U	2.525 mm (0.09941 in.)
B	2.55 mm (0.1004 in.)	V	2.575 mm (0.10138 in.)
C	2.60 mm (0.1024 in.)	W	2.625 mm (0.10335 in.)
D	2.65 mm (1.1043 in.)	X	2.675 mm (0.10531 in.)
E	2.70 mm (0.1063 in.)	Y	2.725 mm (0.10728 in.)
F	2.75 mm (0.1083 in.)	AA	2.775 mm (0.10925 in.)
G	2.80 mm (0.1102 in.)	AB	2.825 mm (0.11122 in.)
H	2.85 mm (0.1122 in.)	-	-



(f) Remove the 16 bolts and the transaxle housing.

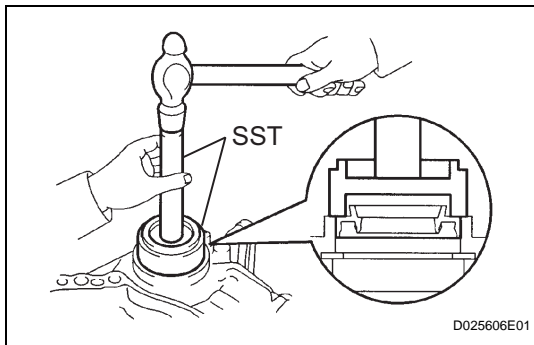


(g) Remove the differential assembly.



9. INSTALL TRANSAXLE HOUSING OIL SEAL

- (a) Using SST and a hammer, tap in a new oil seal.
SST 09223-15020, 09950-70010 (09951-07150)
- (b) Coat the lip of the oil seal with a little amount of MP grease.
Standard depth:
0 +-0.5 mm (0 +-0.0197 in.)



10. INSTALL DIFFERENTIAL SIDE BEARING RETAINER OIL SEAL

- (a) Using SST and a hammer, tap in a new oil seal.
SST 09710-30050, 09950-70010 (09951-07150)
- (b) Coat the lip of the oil seal with a little amount of MP grease.
Standard depth:
0 +-0.5 mm (0 +-0.0197 in.)