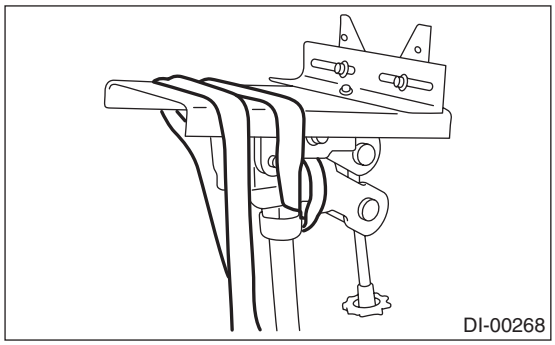
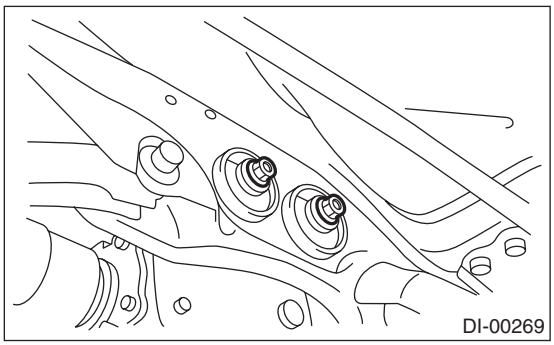
4. Rear Differential (T-type)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Move the select lever or gear shift lever to neutral.
3) Loosen the wheel nuts.
4) Release the parking brake.
5) Jack-up the vehicle and support it with rigid racks.
6) Remove the rear wheels.
7) Remove the rear exhaust pipe and muffler.
• 2.5 L SOHC model
<Ref. to EX(H4SO)-8, Rear Exhaust Pipe.> <Ref. to EX(H4SO)-10, Muffler.>
• 2.5 L DOHC turbo model
<Ref. to EX(H4DOTC)-12, Rear Exhaust Pipe.> <Ref. to EX(H4DOTC)-13, Muffler.>
8) Remove the propeller shaft.
<Ref. to DS-10, REMOVAL, Propeller Shaft.>
9) Prepare the transmission jack and band.

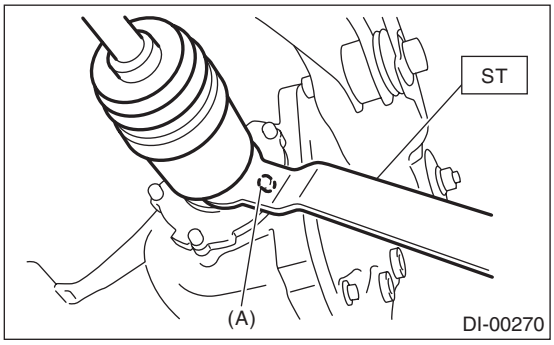

DI-00268

10) Loosen the self-locking nuts which hold the rear differential to rear crossmember.


DI-00269

11) Remove the DOJ of rear drive shaft from rear differential using ST.

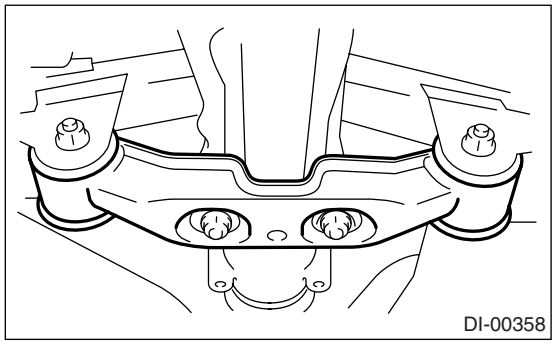
ST 28099PA100 DRIVE SHAFT REMOVER



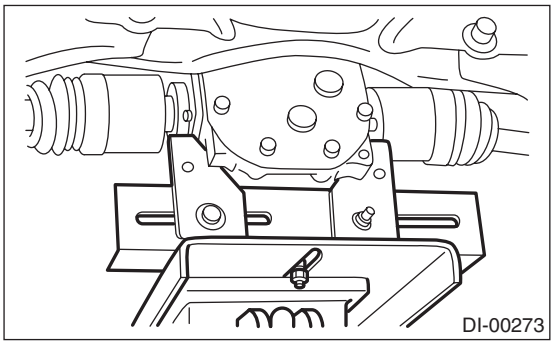
DI-00270

(A) Bolt

12) Remove the rear differential front member.

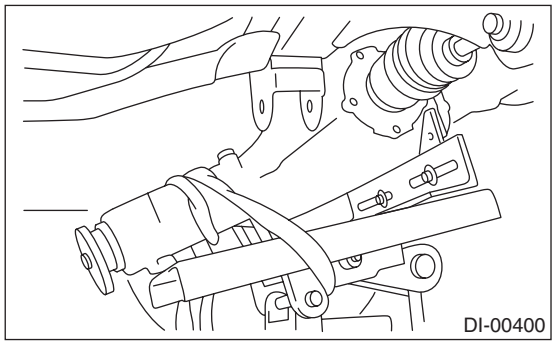

DI-00358

13) Support the rear differential with transmission jack.

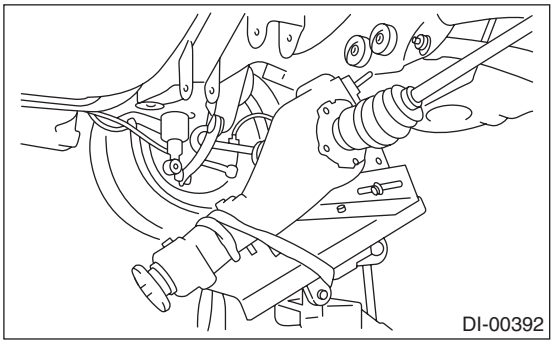

DI-00273

14) Secure the rear differential using band.
15) Remove the self-locking nuts which hold the rear differential to crossmember.
16) Remove the rear differential stud bolt from rear crossmember bushing.

NOTE:
When removing the stud bolt, carefully adjust the angle and location of transmission jack and jack stand, if necessary.



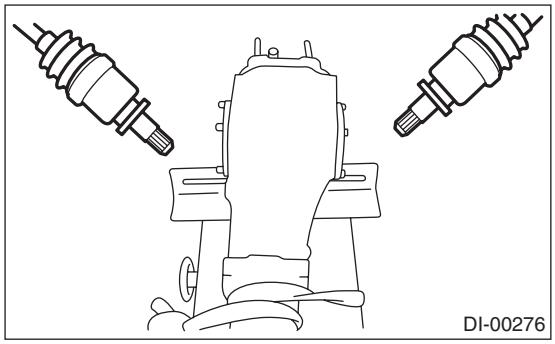
17) Lower the transmission jack stand after removing the rear differential stud bolt from rear crossmember. Rear drive shaft should not come into contact with lateral link bolt.



18) Pull out the axle shaft from rear differential.

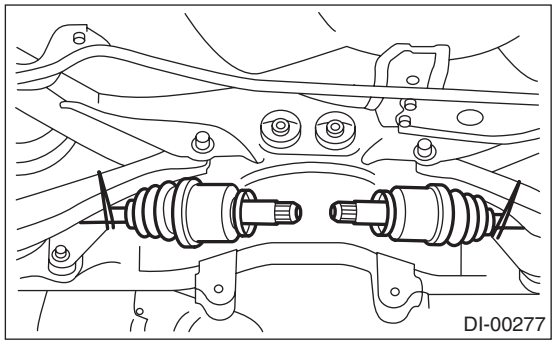
NOTE:
If it is difficult to remove the axle shaft from rear differential, remove it using ST.

ST 28099PA100 DRIVE SHAFT REMOVER

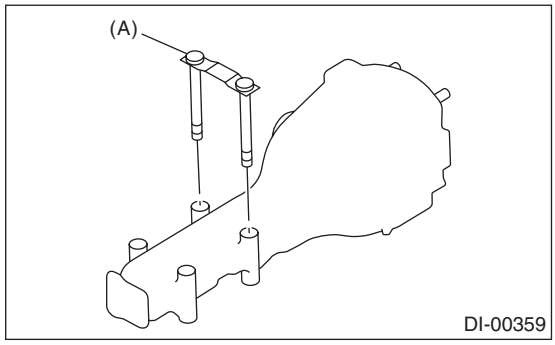


19) Lower the transmission jack.

20) Secure the rear drive shaft to lateral link using wire.



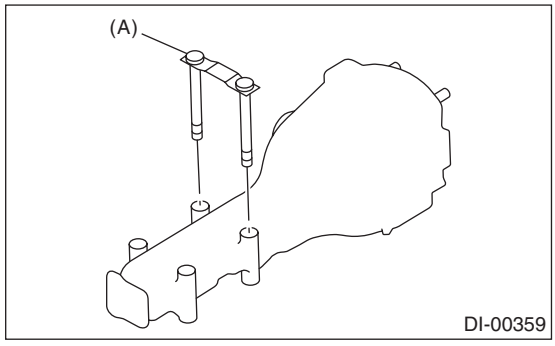
21) Remove the rear differential member plate from rear differential.



(A) Rear differential member plate

B: INSTALLATION

1) Install the rear differential member plate to rear differential.



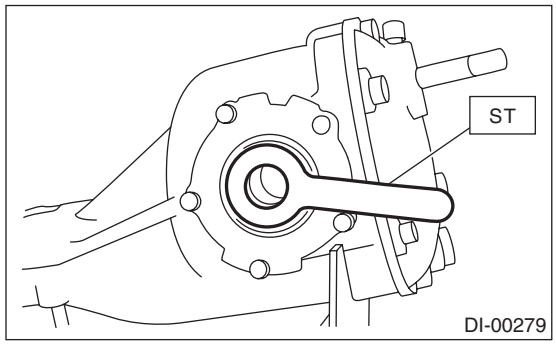
(A) Rear differential member plate

2) Set the rear differential to transmission jack.

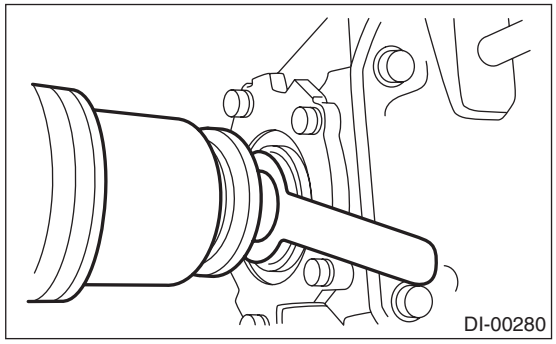
NOTE:
Secure the rear differential to transmission jack using band.

3) Install the ST to rear differential.

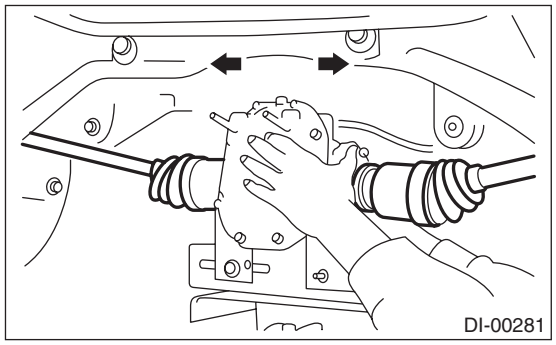
ST 28099PA090 OIL SEAL PROTECTOR



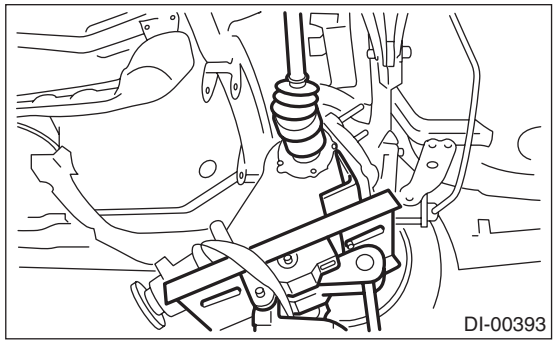
4) Insert the spline shaft until the spline portion comes inside the side oil seal.



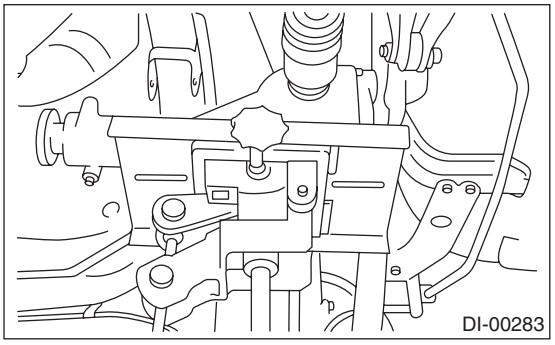
5) Remove ST from rear differential.
ST 28099PA090 OIL SEAL PROTECTOR
6) Push the rear differential to insert the axle shaft into rear differential.



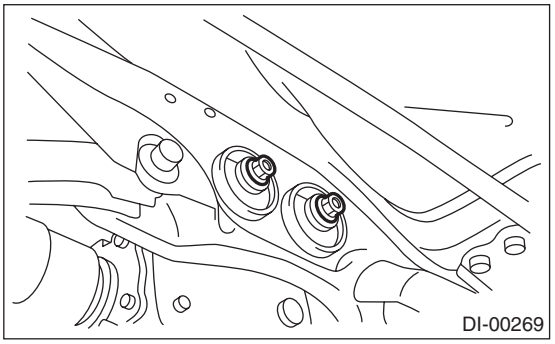
7) Adjust the transmission jack, if necessary, and insert the rear differential stud bolt into rear crossmember bushing properly.



8) After inserting the rear differential stud bolt into rear crossmember bushing, lift up the transmission jack and align the rear differential with its own position.

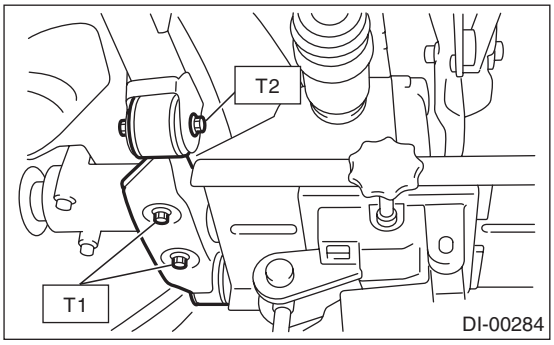


9) Tighten the rear crossmember self-locking nut temporarily.



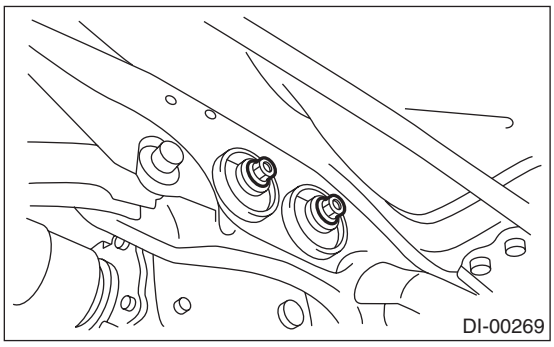
10) Remove the band from rear differential. Lift up the rear differential until the rear differential is separated from the transmission jack.
11) Install the rear differential front member.

Tightening torque:
T1: 65 N·m (6.6 kgf-m, 48 ft-lb)
T2: 110 N·m (11.2 kgf-m, 81 ft-lb)



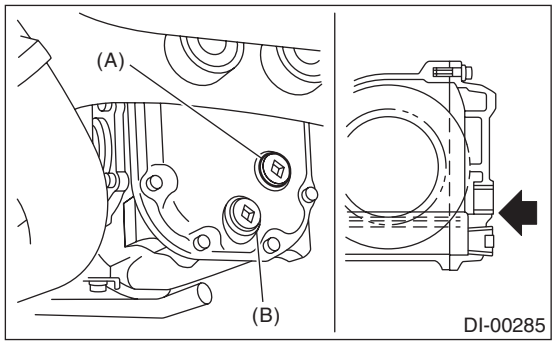
12) Tighten the self-locking nut.

Tightening torque:
70 N·m (7.1 kgf-m, 51 ft-lb)



13) Lower the transmission jack.
14) Install the propeller shaft. <Ref. to DS-11, INSTALLATION, Propeller Shaft.>
15) Install the heat shield cover.
16) Install the rear exhaust pipe and muffler.
17) After installing the rear differential carrier to the vehicle, remove the filler plug, and refill the gear oil to the bottom of plug hole.

Oil capacity:
0.8 ℓ (0.8 US qt, 0.7 Imp qt)



(A) Filler plug
(B) Drain plug

18) Tighten the filler plug.

NOTE:
Apply liquid gasket to the drain plug.

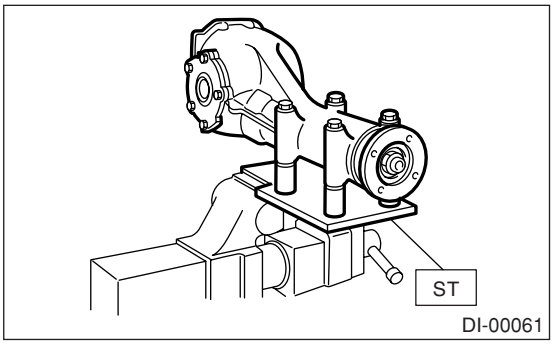
Liquid gasket:
THREE BOND 1105 (Part No. 004403010) or equivalent

Tightening torque:
49 N·m (5.0 kgf-m, 36.2 ft-lb)

C: DISASSEMBLY

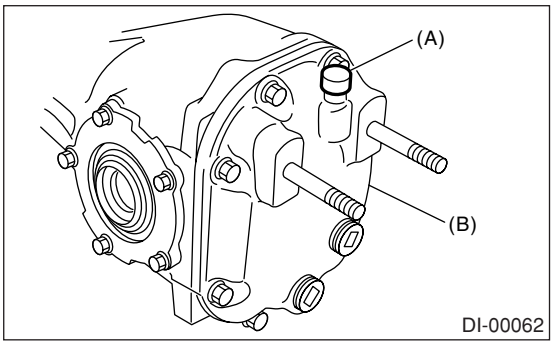
To detect the real cause of trouble, inspect the following items before disassembling.
• Tooth contact of hypoid driven gear and drive pinion, and backlash
• Hypoid driven gear runout on its back surface
• Total preload of drive pinion

1) Set the ST on vise and install the differential assembly to ST.
ST 398217700 ATTACHMENT



2) Drain the gear oil by removing plug.
3) Remove the air breather cap.

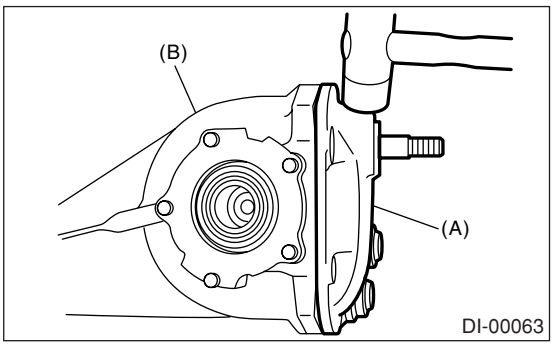
NOTE:
• Do not attempt to replace the air breather cap unless necessary.
• Replace the air breather cap with a new one when removing it.



(A) Air breather cap
(B) Rear cover

4) Remove the bolts, and then remove the rear cover.

NOTE:
Remove it by tapping with plastic hammer.

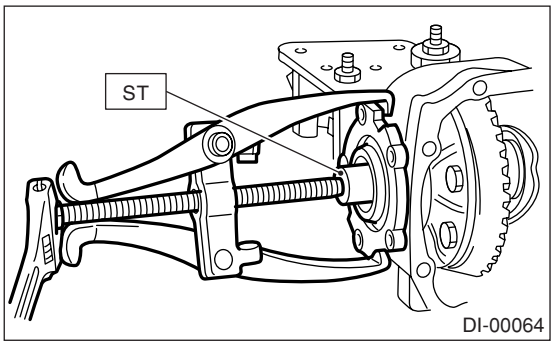


(A) Rear cover
(B) Differential carrier

5) Keep the side bearing retainers RH and LH separately for easier reassembly. Remove the side bearing retainer attaching bolts, set the ST to differential case, and extract the side bearing retainers RH and LH with a puller.

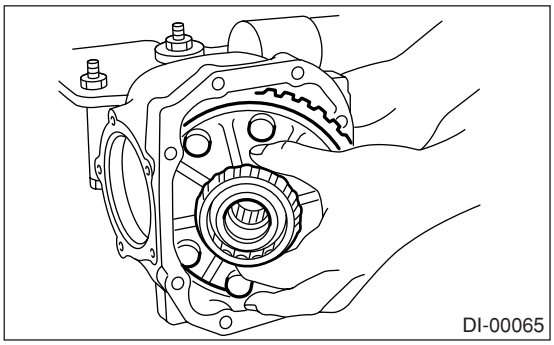
NOTE:
Each shim, which is installed to adjusted the side bearing preload, should be kept together with its mating retainer.

ST 398457700 ATTACHMENT



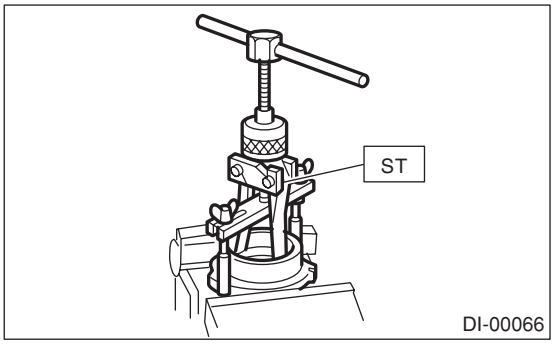
6) Pull out the differential case assembly from differential carrier.

NOTE:
Be careful not to hit the teeth against the case.



7) When replacing the side bearing, remove the bearing cup from side bearing retainer using ST.

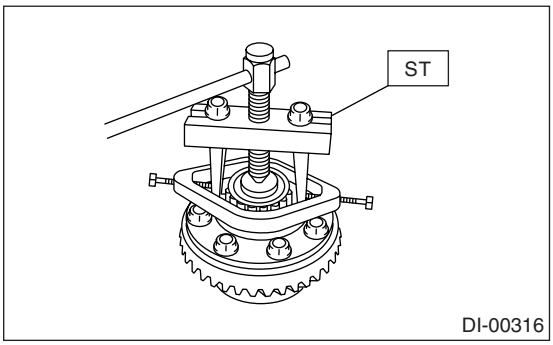
ST 398527700 PULLER ASSY



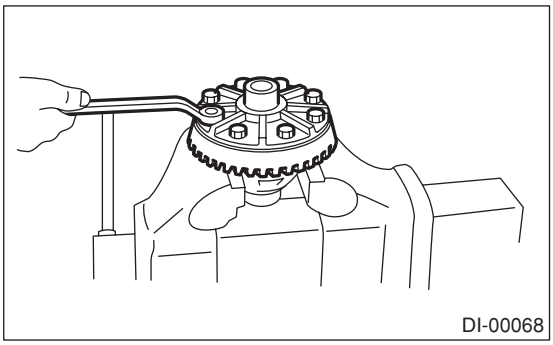
8) Extract the bearing cone with ST.

NOTE:
• Do not attempt to disassemble the parts unless necessary.
• Set the puller so that its claws catch the edge of the bearing cone.
• Never mix up the bearing races RH and LH and cones.

ST 18759AA000 PULLER ASSY



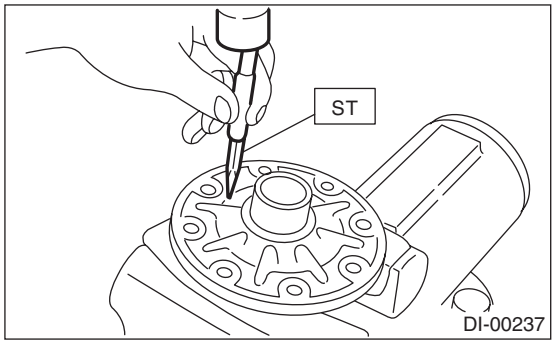
9) Remove the hypoid driven gear by loosening hypoid driven gear bolts.



10) Drive out the pinion shaft lock pin from hypoid driven gear side (Model without LSD).

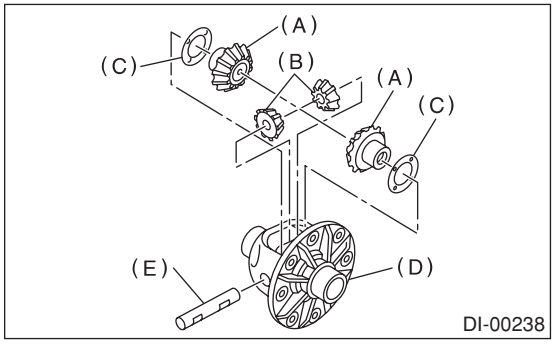
NOTE:
The lock pin is staked at the pin hole end on the differential carrier. Do not drive it out forcibly before removing the stake.

ST 899904100 STRAIGHT PIN REMOVER



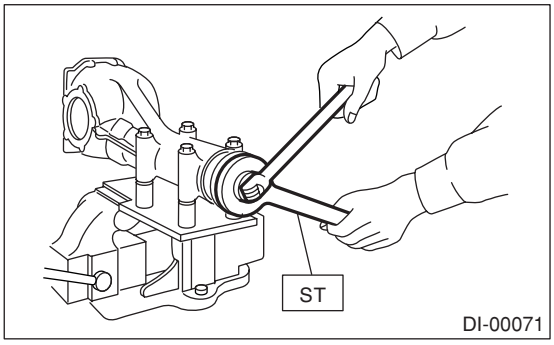
11) Draw out the pinion mate shaft and remove pinion mate gears, side gears and thrust washers. (Model without LSD)

NOTE:
The gears should be marked or kept separated RH and LH, and front and rear as well as thrust washers.

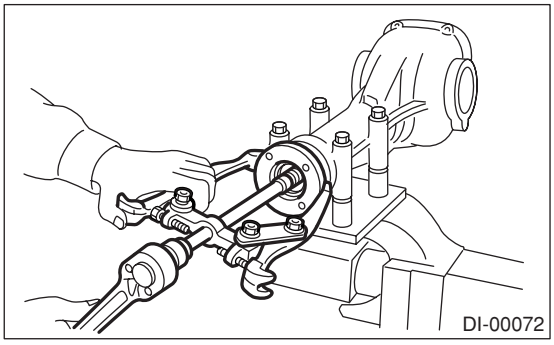


(A) Side gear
(B) Pinion mate gear
(C) Thrust washer
(D) Differential case
(E) Pinion mate shaft

12) Hold the companion flange with ST and remove the self-locking nut.
ST 498427200 FLANGE WRENCH



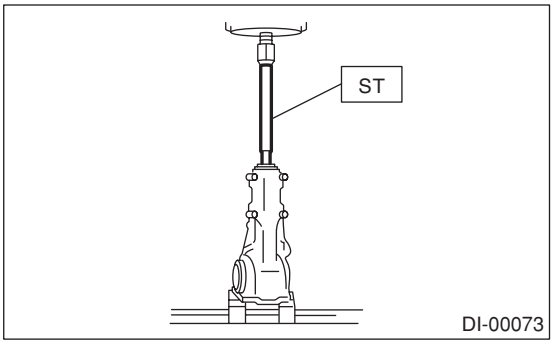
13) Extract the companion flange with a puller.



14) Press the end of drive pinion shaft and extract it together with rear bearing cone, pinion height adjusting washer and washer.

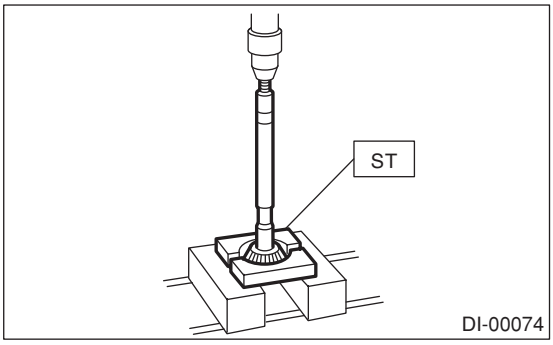
NOTE:
Hold the drive pinion so as not to drop it.

ST 398467700 DRIFT

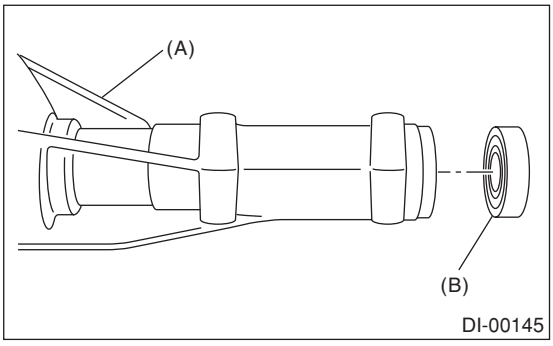


15) Remove the rear bearing cone from drive pinion by supporting the cone with ST.

NOTE:
Place the replacer so that its center-recessed side faces the pinion gear.
ST 398517700 REPLACER



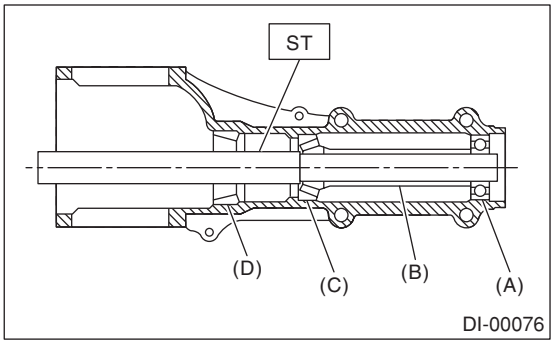
16) Remove the front oil seal from differential carrier using ST.
ST 398527700 PULLER ASSY



(A) Differential carrier
(B) Front oil seal

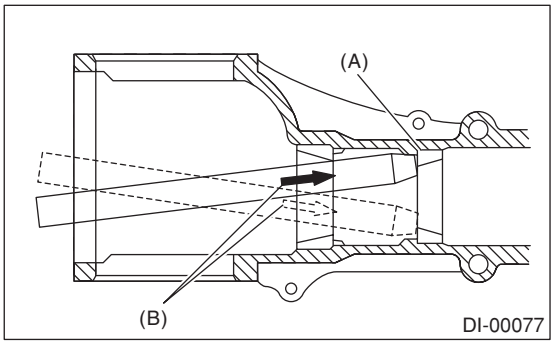
17) Remove the pilot bearing together with front bearing cone and collar using ST.

ST 398467700 DRIFT



(A) Pilot bearing
(B) Collar
(C) Front bearing
(D) Rear bearing cup

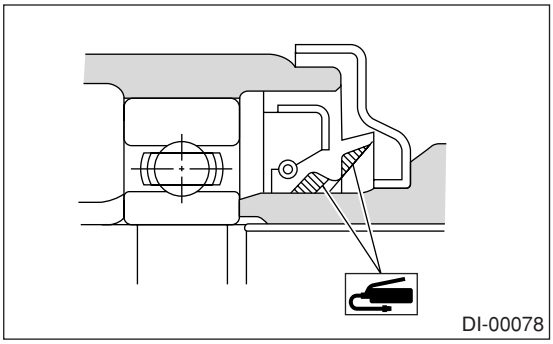
18) When replacing the bearings, hit out the front bearing cup and rear bearing cup in this order out of case using a brass bar.



(A) 2 cutouts along diagonal lines
(B) Hit out alternately with brass bar

D: ASSEMBLY

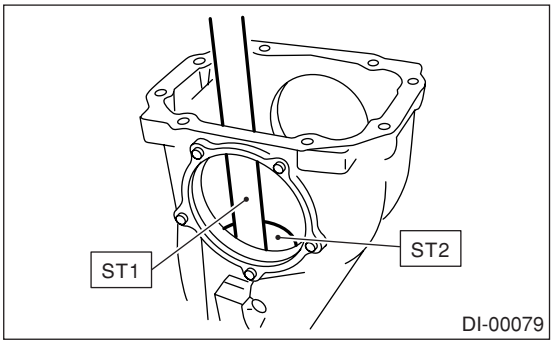
NOTE:
• Assemble in the reverse order of disassembly.
• Check and adjust each part during assembly.
• Keep the shims and washers in order, so that they are not improperly installed.
• Thoroughly clean the surfaces on which the shims, washers and bearings are to be installed.
• Apply gear oil to the bearings and thrust washers when installing them.
• Be careful not to mix up the bearing races RH and LH.
• Use new O-rings and gasket.
• Replace the oil seals with new ones at every disassembly. Apply grease to the lips when installing the oil seals.
• Be careful not to mix up the differential oil seal RH and LH.



1) Adjusting preload for front and rear bearings:
Adjust the bearing preload with collar and washer between front and rear bearings. Pinion height adjusting washer are not affected by this adjustment. The adjustment must be carried out without oil seal inserted.

(1) Press the rear bearing race into differential carrier with ST1 and ST2.

ST1 398477701 HANDLE
ST2 398477703 DRIFT 2



(2) Install the front bearing race to differential carrier using ST1 and ST2.

ST1 398477701 HANDLE
ST2 398477702 DRIFT

(3) Measure and record the thickness of pinion height adjusting washer.

NOTE:
If tooth contact (drive pinion, hypoid driven gear) is normal in the inspection before disassembling, verify that the washer is not deformed, and then re-use the used washer.

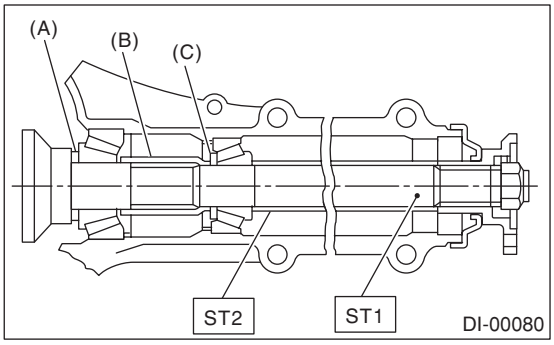
(4) Insert the ST1 into carrier with pinion height adjusting washer and rear bearing cone fitted onto it.

NOTE:
Use new rear bearing cone.

(5) Install the preload adjusting collar and washer, front bearing cone, ST2, companion flange, and washer and drive pinion nut.

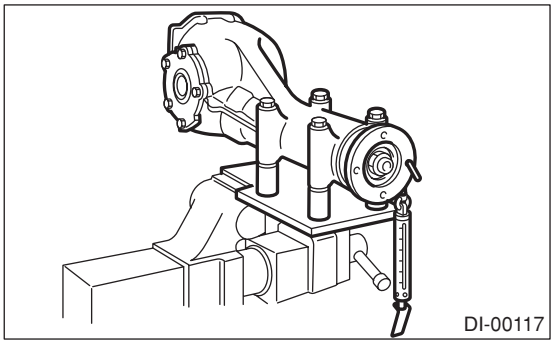
ST1 398507702 DUMMY SHAFT

ST2 398507703 DUMMY COLLAR



(A) Pinion height adjusting washer
(B) Preload adjusting collar
(C) Preload adjusting washer

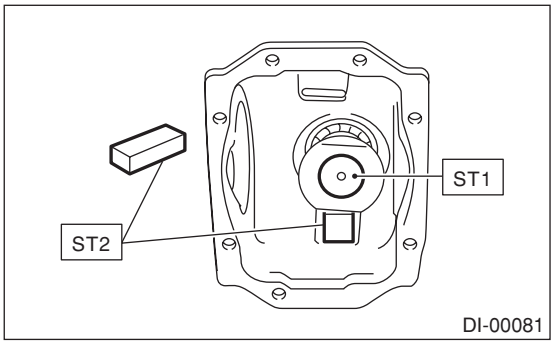
(6) Turn the ST1 with hand to smooth the bearing, and tighten the self-locking nut while measuring the preload with spring balance. Select the preload adjusting washer and collar so that the specified preload is obtained when nut is tightened to the specified torque.



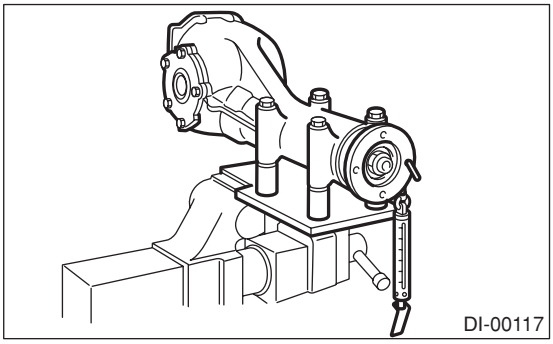
NOTE:
- Use a new self-locking nut.
- Be careful not to give excessive preload.
- When tightening the self-locking nut, lock ST1 with ST2 as shown in the figure.
- Measure the preload in direction of tangent to flange.

ST1 398507702 DUMMY SHAFT
ST2 398507704 BLOCK

Tightening torque:
181 N·m (18.5 kgf-m, 134 ft-lb)



Drive pinion bearing preload
18.1 — 38.8 N (1.8 — 4.0 kgf, 4.1 — 8.7 lb) at companion flange bolt hole



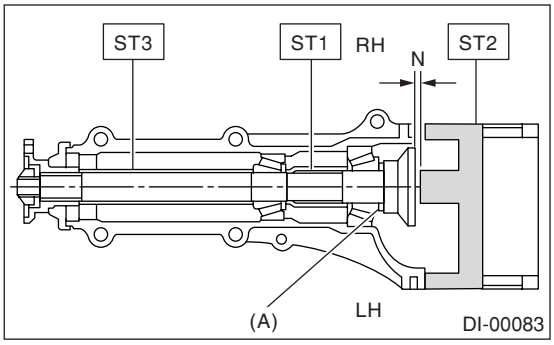
	Part No.	Thickness mm (in)
Preload adjusting washer	383705200	2.59 (0.1020)
	383715200	2.57 (0.1012)
	383725200	2.55 (0.1004)
	383735200	2.53 (0.0996)
	383745200	2.51 (0.0988)
	383755200	2.49 (0.0980)
	383765200	2.47 (0.0972)
	383775200	2.45 (0.0965)
	383785200	2.43 (0.0957)
	383795200	2.41 (0.0949)
	383805200	2.39 (0.0941)
	383815200	2.37 (0.0933)
	383825200	2.35 (0.0925)
	383835200	2.33 (0.0917)
	383845200	2.31 (0.0909)
	Part No.	Length mm (in)
Preload adjusting collar	383695201	56.2 (2.213)
	383695202	56.4 (2.220)
	383695203	56.6 (2.228)
	383695204	56.8 (2.236)
	383695205	57.0 (2.244)
	383695206	57.2 (2.252)

2) Adjusting drive pinion height:
Adjust the drive pinion height with washer installed between the rear bearing cone and the back of pinion gear.

(1) Install the ST2.

ST1 398507702 DUMMY SHAFT
ST2 398507701 DIFFERENTIAL CARRIER GAUGE

ST3 398507703 DUMMY COLLAR

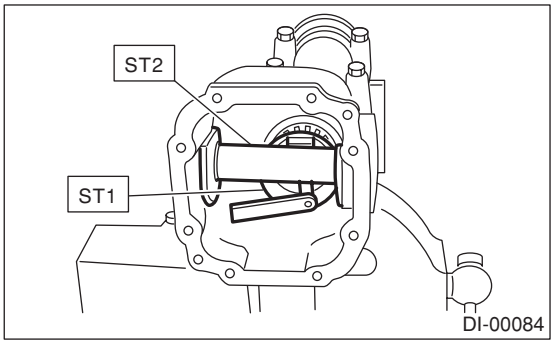


(A) Pinion height adjusting washer

(2) Measure the clearance N between the end of ST2 and the end surface of ST1 by using a thickness gauge.

NOTE:
Make sure there is no clearance between the case and ST2.

ST1 398507702 DUMMY SHAFT
ST2 398507701 DIFFERENTIAL CARRIER GAUGE



(3) Obtain the thickness of pinion height adjusting washer to be inserted from the following formula, and replace the temporarily installed washer with this one.

$T = To + N - (H \times 0.01) - 0.20$ mm (0.0079 in)

NOTE:
Use copies of this page.

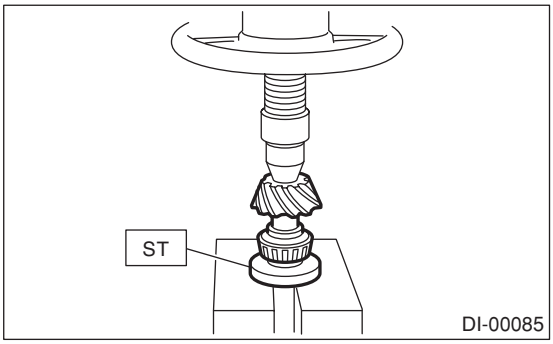
T	Thickness of pinion height adjusting washer mm (in)	
To	Thickness of washer temporally inserted mm (in)	
N	Clearance of thickness gauge mm (in)	
H	Figure marked on drive pinion head	
Memo:		

(Example of calculation)
To = 2.20 mm (0.0866 in) + 1.20 mm (0.0472 in) = 3.40 mm (0.1339 in)
N = 0.23 mm (0.0091 in)
H = + 1
T = 3.40 mm (0.1339 in) + 0.23 mm (0.0091 in) − 0.01 mm (0.0004 in) − 0.20 mm (0.0079 in) = 3.42
Result: Thickness = 3.42 mm (0.1346 in)
Therefore use the pinion height adjusting washer of part number 383605200.

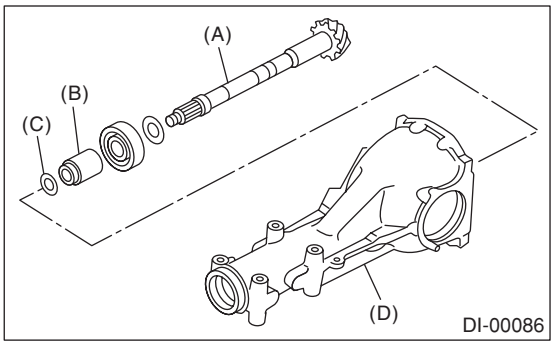
Pinion height adjusting washer	
Part No.	Thickness mm (in)
383495200	3.09 (0.1217)
383505200	3.12 (0.1228)
383515200	3.15 (0.1240)
383525200	3.18 (0.1252)
383535200	3.21 (0.1264)
383545200	3.24 (0.1276)
383555200	3.27 (0.1287)
383565200	3.30 (0.1299)
383575200	3.33 (0.1311)
383585200	3.36 (0.1323)
383595200	3.39 (0.1335)
383605200	3.42 (0.1346)
383615200	3.45 (0.1358)
383625200	3.48 (0.1370)
383635200	3.51 (0.1382)
383645200	3.54 (0.1394)
383655200	3.57 (0.1406)
383665200	3.60 (0.1417)
383675200	3.63 (0.1429)
383685200	3.66 (0.1441)

3) Install the selected pinion height adjusting washer on drive pinion, and press the rear bearing cone into position with ST.

ST 398177700 INSTALLER

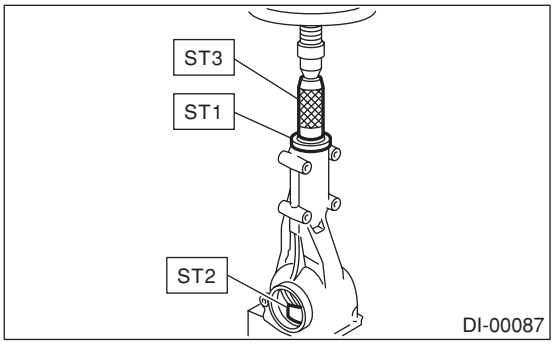


4) Insert the drive pinion into differential carrier, install the selected bearing preload adjusting collar and washer.

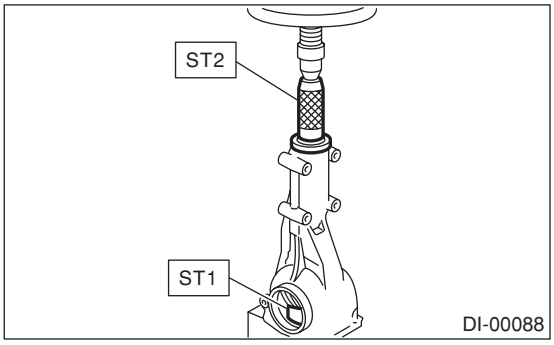


(A) Drive pinion
(B) Bearing preload adjusting collar
(C) Bearing preload adjusting washer
(D) Differential carrier

5) Press-fit the front bearing cone into case with ST1, ST2 and ST3.
ST1 398507703 DUMMY COLLAR
ST2 399780104 WEIGHT
ST3 899580100 INSTALLER



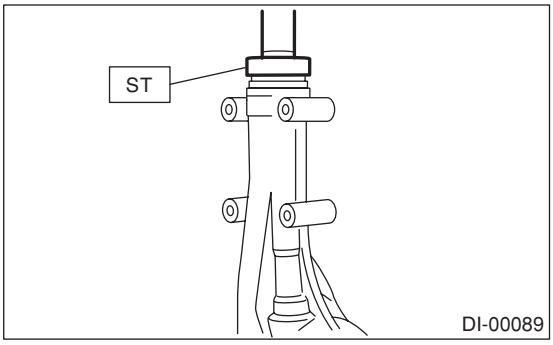
6) Insert the collar, then press-fit the pilot bearing with ST1 and ST2.
ST1 399780104 WEIGHT
ST2 899580100 INSTALLER



7) Fit a new oil seal with ST.

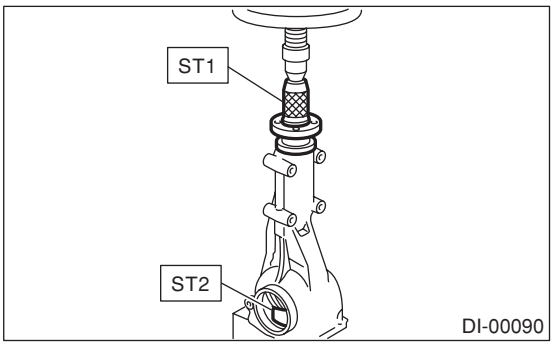
NOTE:
• Press-fit until end of oil seal is 1 mm (0.04 in) inward from end of carrier.
• Apply grease to the oil seal lips.

ST 498447120 INSTALLER



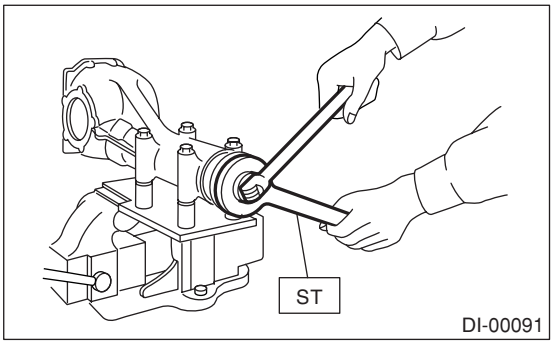
8) Press-fit the companion flange with ST1 and ST2.

NOTE:
Be careful not to damage the bearing.
ST1 899874100 INSTALLER
ST2 399780104 WEIGHT



9) Install a new self-locking nut and secure the companion flange using ST and tighten the nut.
ST 498427200 FLANGE WRENCH

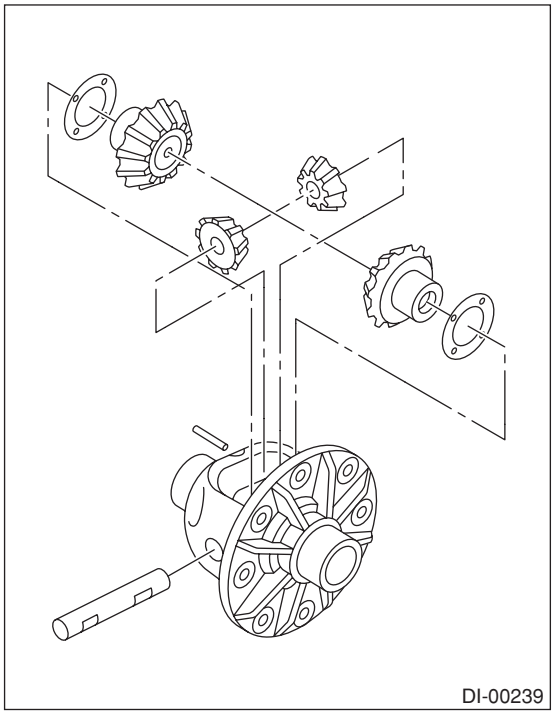
Tightening torque:
181 N·m (18.5 kgf-m, 134 ft-lb)



10) Assembling differential case
Install the side gears and pinion mate gears, with their thrust washers and pinion mate shaft, into differential case. (Model without LSD)

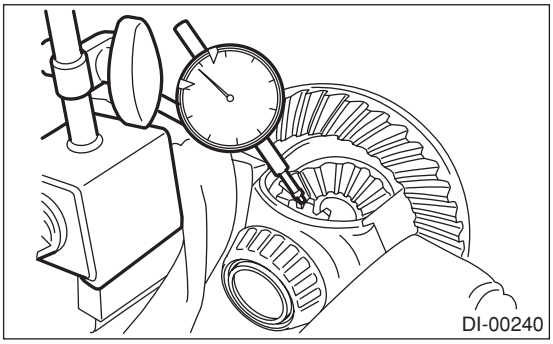
NOTE:
• Apply gear oil on both sides of the washer and on the side gear shaft before installing.

• Insert the pinion mate shaft into the differential case by aligning the lock pin holes.


DI-00239

(1) Measure the side gear backlash.

Side gear backlash:
0.10 — 0.20 mm (0.0039 — 0.0079 in)


DI-00240

(2) Adjust the side gear backlash as specified by selecting side gear thrust washer.

Side gear thrust washer	
Part No.	Thickness mm (in)
383445201	0.75 — 0.80 (0.0295 — 0.0315)
383445202	0.80 — 0.85 (0.0315 — 0.0335)
383445203	0.85 — 0.90 (0.0335 — 0.0354)

(3) Check the condition of rotation after applying oil to the gear tooth surfaces and thrust surfaces.
(4) After inserting the pinion shaft lock pin into differential case, stake the both sides of the hole to prevent pin from falling off.

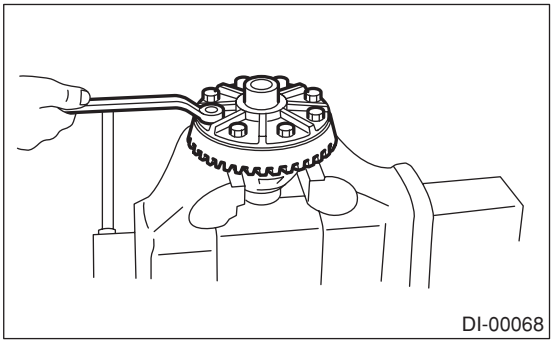
11) Install the hypoid driven gear to differential case.

NOTE:
• Before installing bolts, apply Lock Tite to bolt threads.

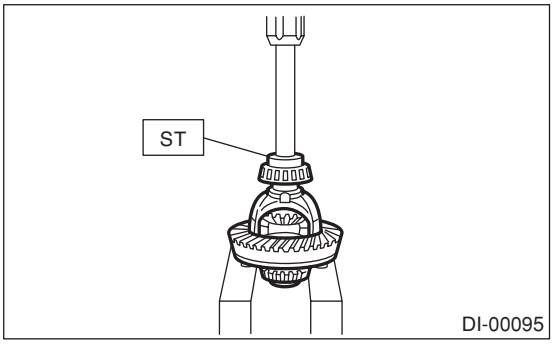
Lock Tite:
THREE BOND 1324 (Part No. 004403042)

• Tighten diagonally while tapping the bolt heads.

Tightening torque:
105 N·m (10.7 kgf-m, 77.4 ft-lb)


DI-00068

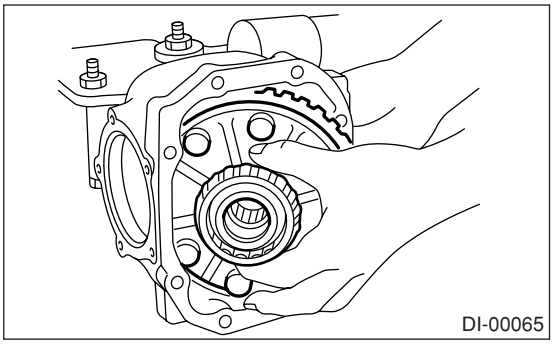
12) Press the side bearing into differential case using ST.
ST 398487700 DRIFT



DI-00095

13) Press-fit the side bearing cone to the side bearing retainer using ST.
ST 398177700 DRIFT

14) Adjusting the side bearing retainer shims
(1) The hypoid driven gear backlash and side bearing preload can be adjusted by the side bearing retainer shim thickness.
(2) Install the differential assembly into differential carrier in the reverse order of disassembly.


DI-00065

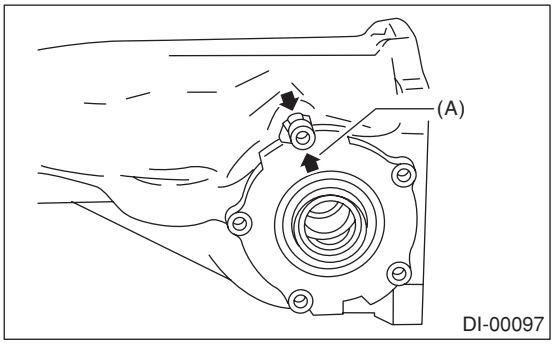
(3) Install the side bearing retainer shims to retainers RH and LH from which they were removed.

NOTE:
Replace the broken or corroded side retainer shim with a new one of same thickness.

Side bearing retainer shim	
Part No.	Thickness mm (in)
383475201	0.20 (0.0079)
383475202	0.25 (0.0098)
383475203	0.30 (0.0118)
383475204	0.40 (0.0157)
383475205	0.50 (0.0197)

(4) Align the arrow mark on differential carrier with the mark on side retainer during installation.

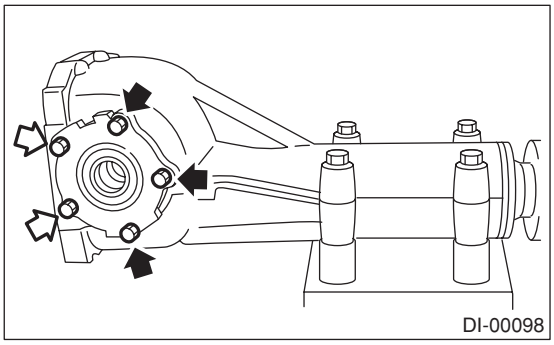
NOTE:
Be careful that side bearing outer race is not damaged by bearing roller.



(A) Arrow mark

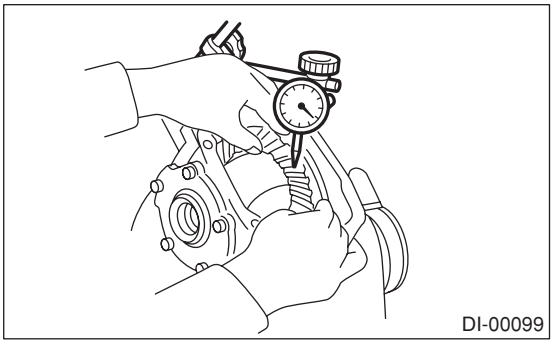
(5) Tighten the side bearing retainer bolts.

Tightening torque:
10.3 N·m (1.05 kgf-m, 7.6 ft-lb)



(6) Measure the hypoid driven gear to drive pinion backlash. Set the magnet base on differential carrier. Align the contact point of dial gauge with tooth face of hypoid driven gear, and move hypoid driven gear while holding drive pinion still. Read the value indicated on dial gauge. If the backlash exceeds 0.2 mm (0.08 in), reduce the thickness of shim on the back face of hypoid driven gear and increase the thickness of shim on the tooth face of hypoid driven gear. If the backlash is less than 0.1 mm (0.004 in), increase the thickness of shim on the back face of hypoid driven gear and reduce the thickness of shim on the tooth face of hypoid driven gear.

Backlash:
0.10 — 0.20 mm (0.0039 — 0.0079 in)

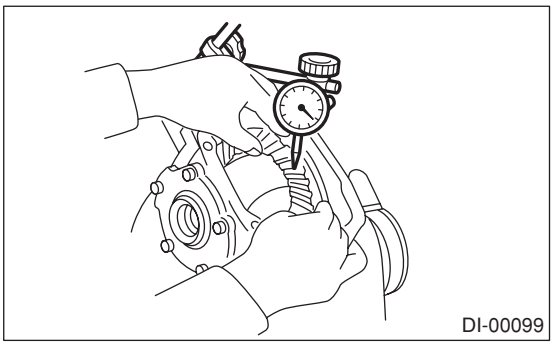


(7) At the same time, measure the total preload of drive pinion. Compared with the resistance when differential case is not installed, if the total preload is not within specification, adjust the thickness of side bearing retainer shims, increasing/reducing by an even amount at a time.

Total preload:
20.7 — 54.4 N (2.1 — 5.5 kgf, 4.7 — 12.2 lb)

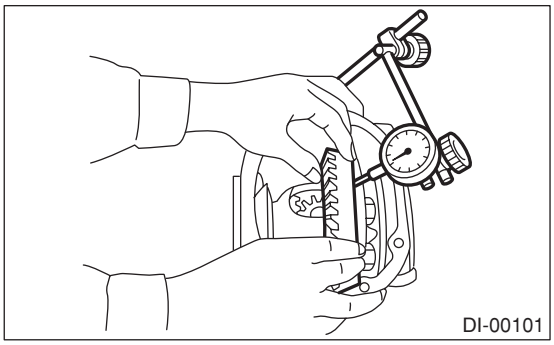
15) Recheck the hypoid driven gear to drive pinion backlash.

Backlash:
0.10 — 0.20 mm (0.0039 — 0.0079 in)



16) Check the hypoid driven gear runout on its back surface, and make sure that pinion and hypoid driven gear rotates smoothly.
If the hypoid driven gear runout on its back surface exceed the specification, verify that there is any foreign material between hypoid driven gear and differential case, and they are not deformed.

Hypoid driven gear runout on its back surface: 0.05 mm (0.0020 in)



17) Checking and adjusting the tooth contact of hypoid driven gear

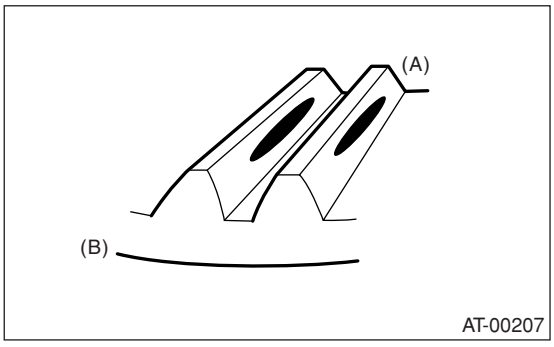
(1) Apply an even coat of red lead on both sides of three or four teeth on the hypoid driven gear. Check the contact pattern after rotating the hypoid driven gear several revolutions back and forth until a definite contact pattern appears on the hypoid driven gear.

(2) When the contact pattern is incorrect, readjust.

NOTE:
Be sure to wipe off red lead completely after adjustment is completed.

- Correct tooth contact

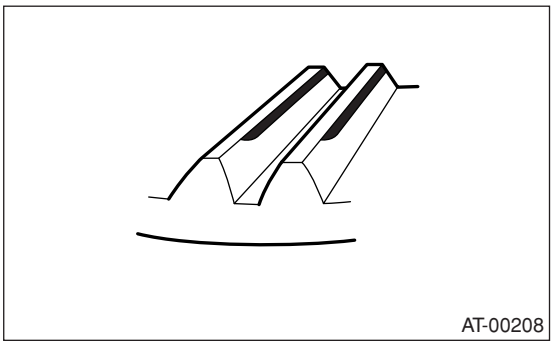
Checking item: Tooth contact pattern is slightly shifted toward toe side under no-load rotation. [When loaded, contact pattern moves toward heel.]



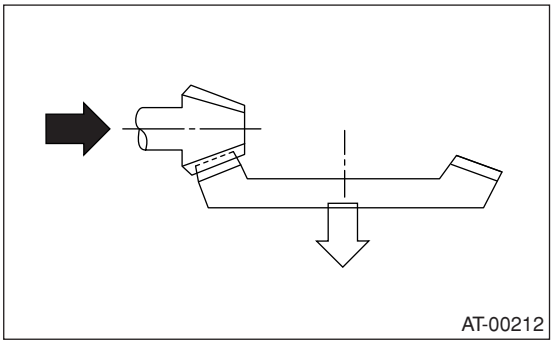
(A) Toe side
(B) Heel side

- Face contact

Checking item: Backlash is too large.
Contact pattern

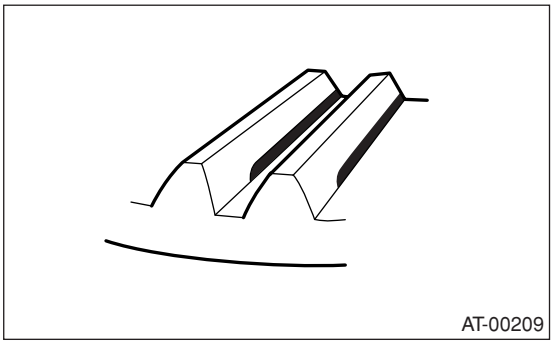


Corrective action: Increase thickness of drive pinion height adjusting washer in order to bring drive pinion close to hypoid driven gear.

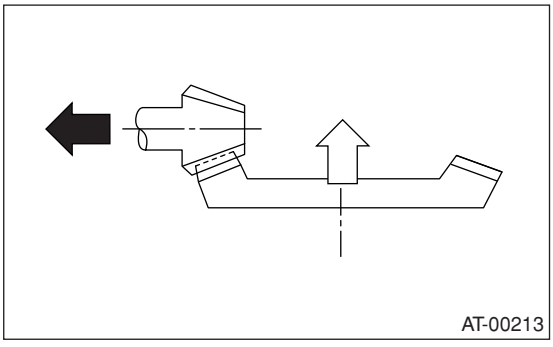


- Flank contact

Checking item: Backlash is too small.
Contact pattern



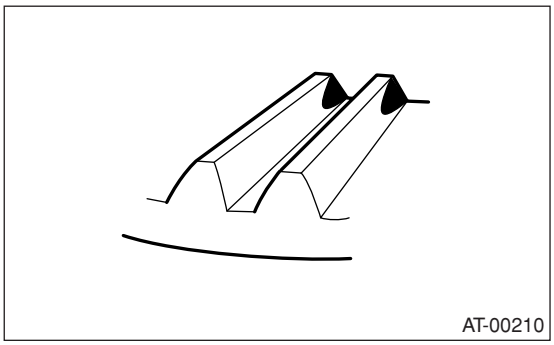
Corrective action: Reduce thickness of drive pinion height adjusting washer in order to bring drive pinion away from hypoid driven gear.



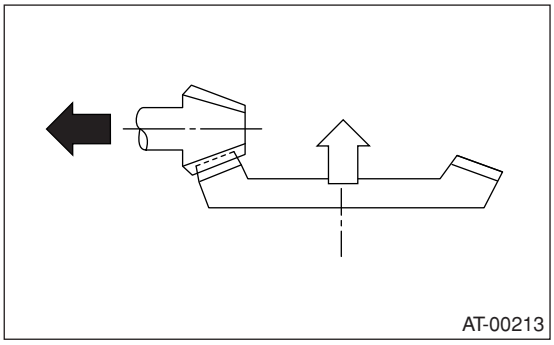
• Toe contact (inside end contact)

Checking item: Contact areas is small

Contact pattern



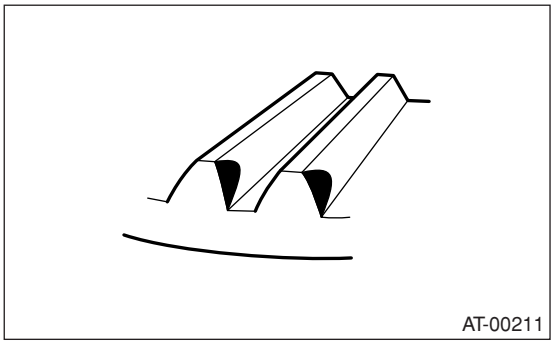
Corrective action: Reduce thickness of drive pinion height adjusting washer in order to bring drive pinion away from hypoid driven gear.



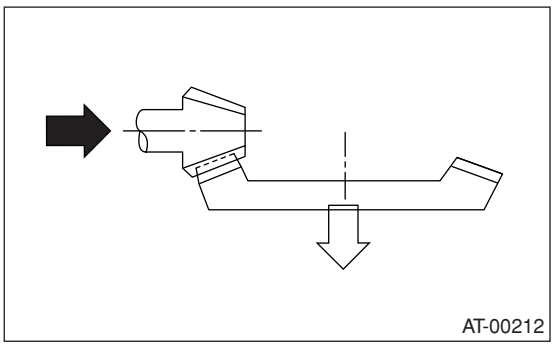
• Heel contact (outside end contact)

Checking item: Contact areas is small

Contact pattern



Corrective action: Increase thickness of drive pinion height adjusting washer in order to bring drive pinion close to hypoid driven gear.



18) If proper tooth contact is not obtained, once again adjust the drive pinion height by changing RH and LH side bearing retainer shims and the hypoid gear backlash.

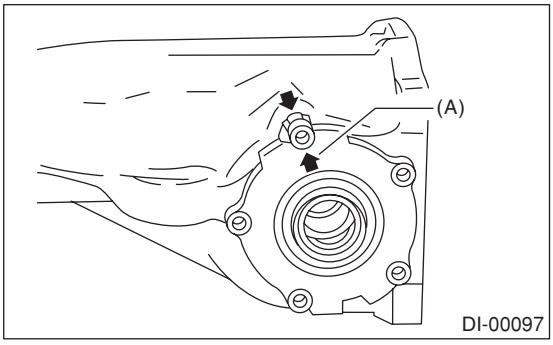
19) Remove the RH and LH side bearing retainer.

20) Install a new O-ring to side bearing retainer of both side.

21) Using the ST, install the oil seal to the side bearing retainer of both side.

ST 398437700 DRIFT

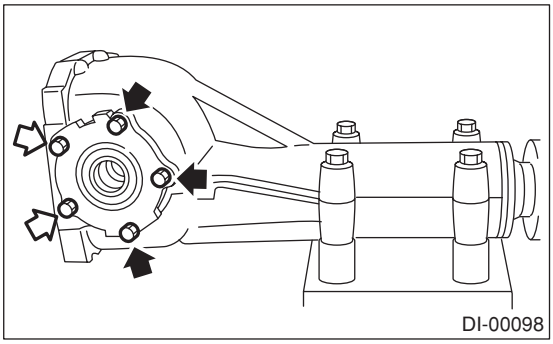
22) Align the arrow mark on differential carrier with the mark on side retainer during installation.



(A) Arrow mark

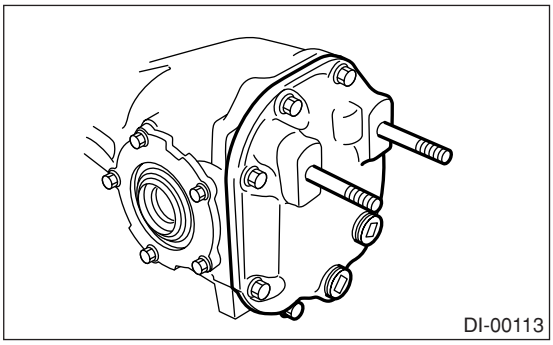
23) Tighten the side bearing retainer bolts.

Tightening torque:
10.3 N·m (1.05 kgf-m, 7.6 ft-lb)



24) Install the new gasket and rear cover to the differential carrier, and tighten the bolts to specified torque.

Tightening torque:
29 N·m (3.0 kgf-m, 21.7 ft-lb)



25) Install the breather cap.
26) Install the drain plug and filler plug.

Tightening torque:
49 N·m (5.0 kgf-m, 36.2 ft-lb)

E: INSPECTION

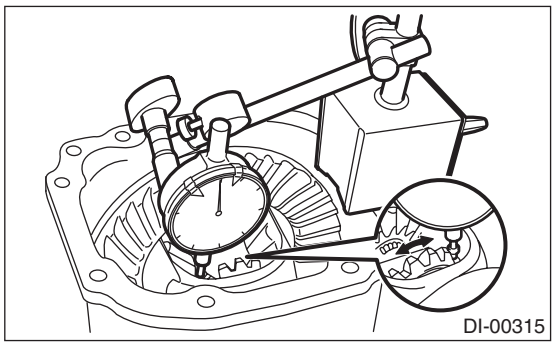
Wash all the disassembled parts clean, and examine them for wear, damage and other defects. Repair or replace the defective parts as necessary.
1) Hypoid driven gear and drive pinion
• If abnormal tooth contact is evident, find out the cause and adjust to give correct tooth contact. Replace the gear if excessively worn or incapable of adjustment.
• If crack, score or seizure is evident, replace as a set. Slight damage of tooth can be corrected by oil stone or the like.
2) Side gear and pinion mate gear
• Replace if crack, score or other defects are evident on tooth surface.
• Replace if thrust washer contacting surface is worn or seized. Slight damage of the surface can be corrected by oil stone or the like.
3) Bearings
Replace if seizure, peeling, wear, rust, dragging during rotation, noise or other defect is evident.
4) Thrust washers of side gear and pinion mate gear:
Replace if seizure, flaw, abnormal wear or other defect is evident.
5) Oil seal
Replace if deformed or damaged, and at every disassembling.
6) Differential carrier
Replace if the bearing bores are worn or damaged.
7) Differential case
Replace if its sliding surfaces are worn or cracked.
8) Companion flange
Replace if the oil seal lip contacting surfaces have flaws.

1. SIDE GEAR BACKLASH

Using a dial gauge, check the backlash of the side gear. (Model without LSD)

Side gear backlash:
0.10 — 0.20 mm (0.0039 — 0.0079 in)

If the side gear backlash is not within the specification, adjust it as specified by selecting side gear thrust washer.

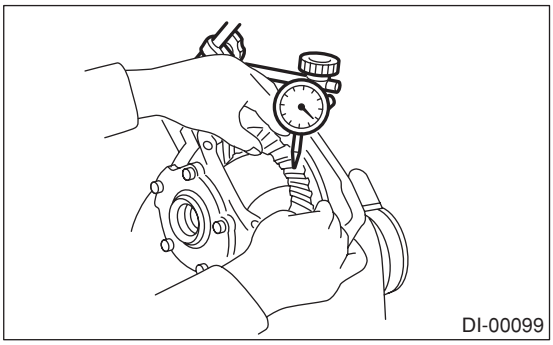

DI-00315

2. HYPOID DRIVEN GEAR BACKLASH

Using a dial gauge, check the backlash of hypoid driven gear.

Hypoid driven gear backlash:
0.10 — 0.20 mm (0.0039 — 0.0079 in)

If the hypoid driven gear backlash is not within the specification, adjust the side bearing preload or repair if necessary.

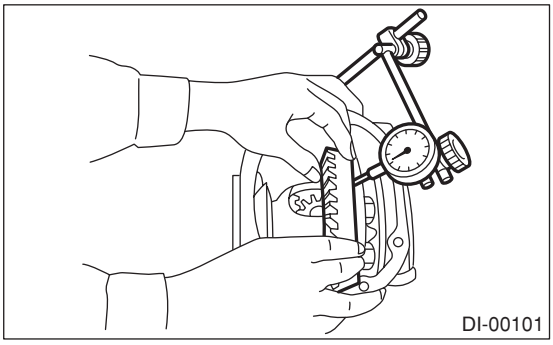

DI-00099

3. HYPOID DRIVEN GEAR RUNOUT ON ITS BACK SURFACE

Using a dial gauge, check the hypoid driven gear runout on its back surface.

Hypoid driven gear runout on its back surface:
0.05 mm (0.0020 in)

If the hypoid driven gear runout exceeds 0.05 mm (0.0020 in), replace the hypoid driven gear.


DI-00101

4. TOOTH CONTACT BETWEEN HYPOID DRIVEN GEAR AND DRIVE PINION

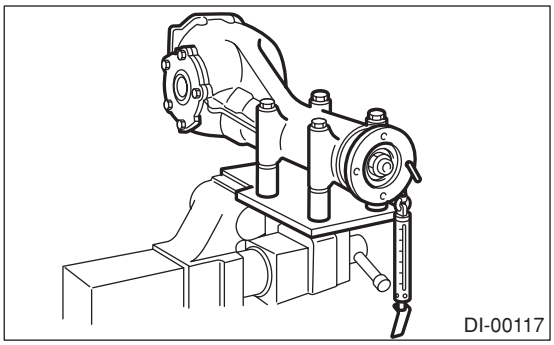
Inspect the tooth contact between hypoid driven gear and drive pinion. <Ref. to DI-34, ASSEMBLY, Rear Differential (T-type).>

5. TOTAL PRELOAD

Using a spring balance, check the total preload.

Total preload:
20.7 — 54.4 N (2.1 — 5.5 kgf, 4.7 — 12.2 lb)

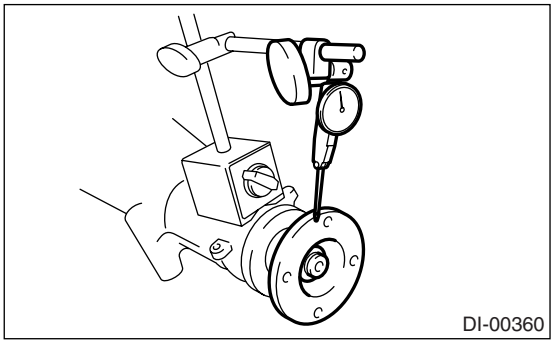
If the total preload is not within the specification, adjust the side bearing retainer shims.


DI-00117

6. COMPANION FLANGE

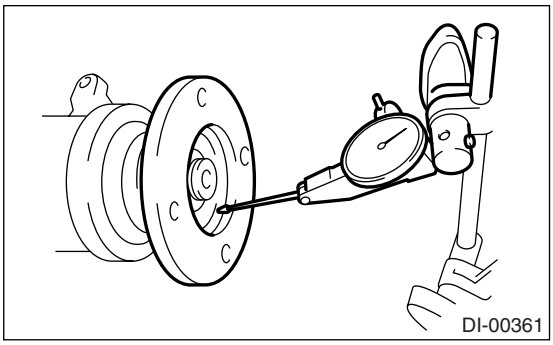
1) If rust or dirt is attached to the companion flange, remove them.
2) Set a dial gauge at a companion flange surface (mating surface of propeller shaft and companion flange), and then measure the companion flange runout.

Limit of runout:
0.08 mm (0.0031 in)


DI-00360

3) Set the gauge inside of the companion flange, and measure the runout.

Limit of runout:
0.08 mm (0.0031 in)


DI-00361

4) If either runout exceeds the limit, move the phase of companion flange and drive pinion 90° each, and find the point where the runout is within the limit.
5) If the runout exceeds the limit after changing the phase, replace the companion flange and recheck the runout.
6) If the runout exceeds the limit after replacing the companion flange, the drive pinion may be assembled incorrectly or bearing is faulty.

F: ADJUSTMENT

1. SIDE GEAR BACKLASH

Adjust the side gear backlash.
<Ref. to DI-34, ASSEMBLY, Rear Differential (T-type).>

2. HYPOID DRIVEN GEAR BACKLASH

Adjust hypoid driven gear backlash.
<Ref. to DI-34, ASSEMBLY, Rear Differential (T-type).>

3. TOOTH CONTACT BETWEEN HYPOID DRIVEN GEAR AND DRIVE PINION

Adjust the tooth contact between hypoid driven gear and drive pinion gear.
<Ref. to DI-34, ASSEMBLY, Rear Differential (T-type).>

4. TOTAL PRELOAD

Adjust the side bearing shim.
<Ref. to DI-34, ASSEMBLY, Rear Differential (T-type).>