PROPELLER SHAFT & DIFFERENTIAL CARRIER

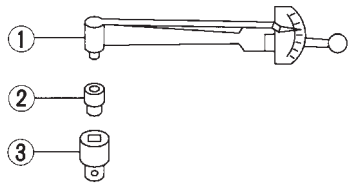
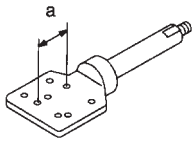
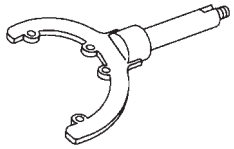
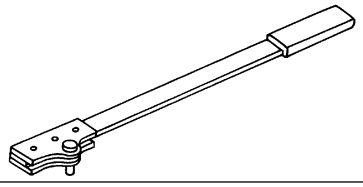
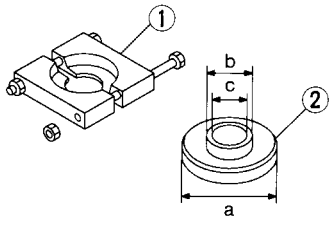
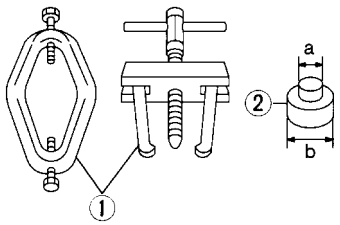
SECTION PD

MODIFICATION NOTICE:

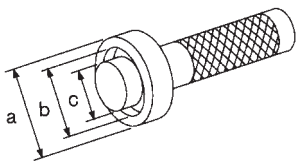
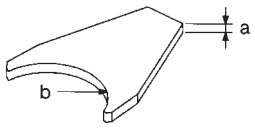
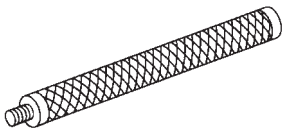
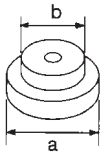
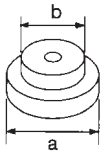
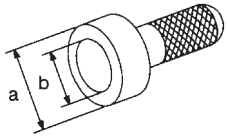
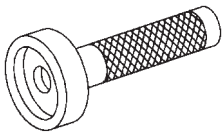
- A front final drive (R200A) has been adopted for VG30E engine models.
- A rear final drive (H233B) has been adopted for VG30E engine 2WD models.
- Service data and specifications (SDS) have been changed.

CONTENTS

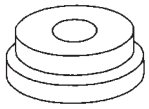
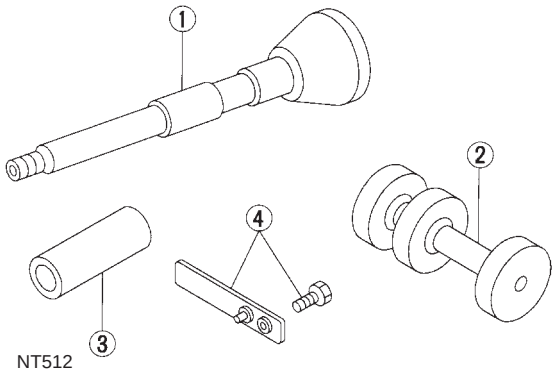
Special Service Tools

Tool number Tool name	Description	
ST3127S000 Preload gauge ① GG91030000 Torque wrench ② HT62940000 Socket adapter ③ HT62900000 Socket adapter	 NT124	Measuring pinion bearing preload and total preload
KV38100800 Differential attachment	 NT119	Mounting final drive (To use, make a new hole.) **a: 152 mm (5.98 in)**
ST06340000 Differential attachment	 NT140	Mounting final drive
KV38108300 Companion flange wrench	 NT771	Removing and installing propeller shaft lock nut, and drive pinion lock nut
ST3090S000 Drive pinion rear inner race puller set ① ST30031000 Puller ② ST30901000 Base	 NT527	Removing and installing drive pinion rear inner cone **a: 79 mm (3.11 in) dia.** **b: 45 mm (1.77 in) dia.** **c: 35 mm (1.38 in) dia.**
ST3306S001 Differential side bearing ① ST33051001 Body ② ST33061000 Adapter	 NT072	Removing and installing differential side bearing inner cone **a: 28.5 mm (1.122 in) dia.** **b: 38 mm (1.50 in) dia.**

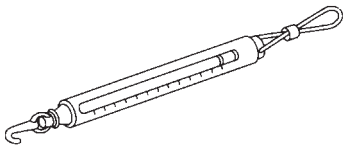
Special Service Tools (Cont'd)

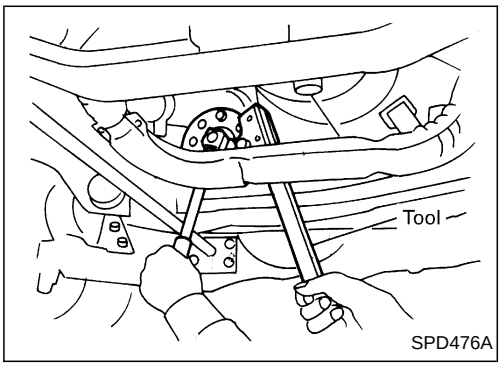
Tool number Tool name	Description	
KV38100300 Differential side bearing drift	 NT085	Installing side bearing inner cone **a: 54 mm (2.13 in) dia.** **b: 46 mm (1.81 in) dia.** **c: 32 mm (1.26 in) dia.**
KV38100600 Side bearing spacer drift	 NT528	Installing side bearing spacer **a: 8 mm (0.31 in)** **b: R42.3 mm (1.673 in)**
ST30611000 Drift	 NT090	Installing pinion rear bearing outer race (Use with ST30621000 or ST30613000)
ST30621000 Drift	 NT073	Installing pinion rear bearing outer race (Use with ST30611000) **a: 79 mm (3.11 in) dia.** **b: 59 mm (2.32 in) dia.**
ST30613000 Drift	 NT073	Installing pinion front bearing outer race (Use with ST30611000) **a: 72 mm (2.83 in) dia.** **b: 48 mm (1.89 in) dia.**
KV38100500 Gear carrier front oil seal drift	 NT115	Installing front oil seal **a: 85 mm (3.35 in) dia.** **b: 60 mm (2.36 in) dia.**
KV38100200 Gear carrier side oil seal drift	 NT120	Installing side oil seal

Special Service Tools (Cont'd)

Tool number Tool name	Description
Side bearing discs (2 Req'd)	Selecting pinion height adjusting washer  NT136
KV381001S0 Drive pinion height setting gauge set ① KV38100110 Dummy shaft ② KV38100120 Height gauge ③ KV38100130 Collar ④ KV38100140 Stopper	Selecting pinion height adjusting washer  NT512

Commercial Service Tool

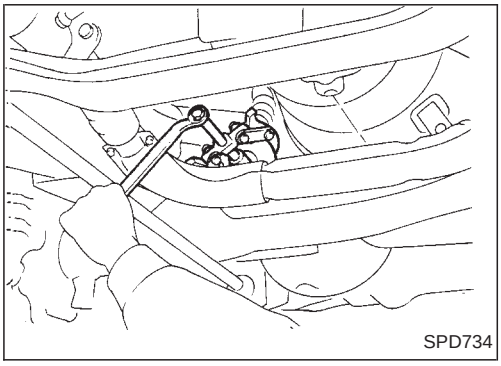
Tool number Tool name	Description
Spring gauge	Measuring carrier turning torque  NT127



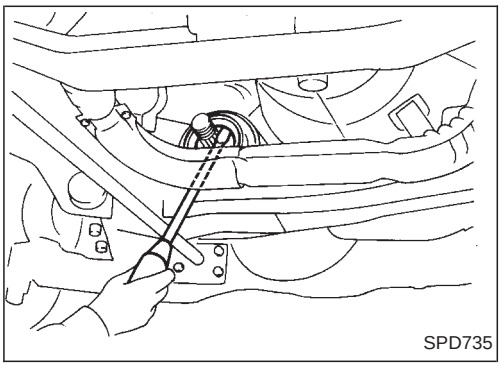
Front Oil Seal Replacement

(Front final drive: Model R200A)

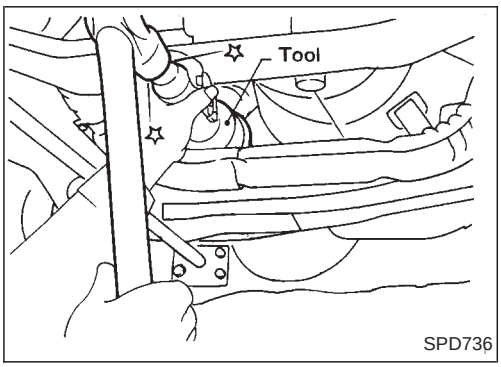
1. Remove front propeller shaft.
2. Loosen drive pinion nut.
   Tool number: KV38108300



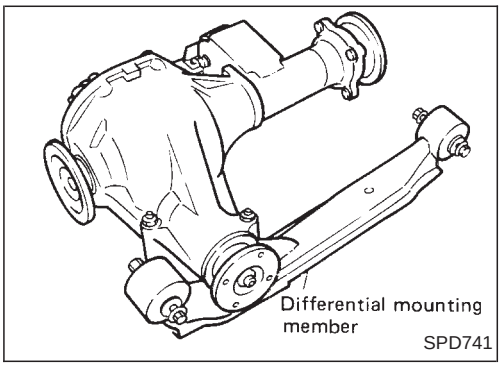
3. Remove companion flange.



4. Remove front oil seal.

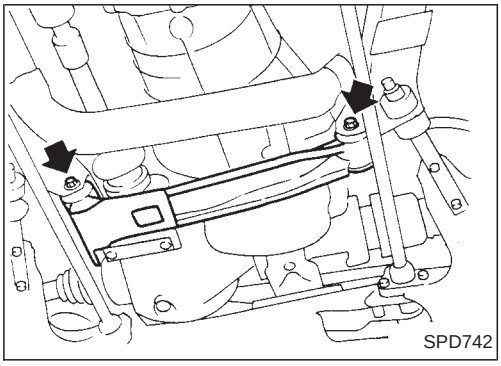


5. Apply multi-purpose grease to cavity at sealing lips of oil seal. Press front oil seal into carrier.
   Tool number: KV38100500
6. Install companion flange and drive pinion nut.
7. Install propeller shaft.



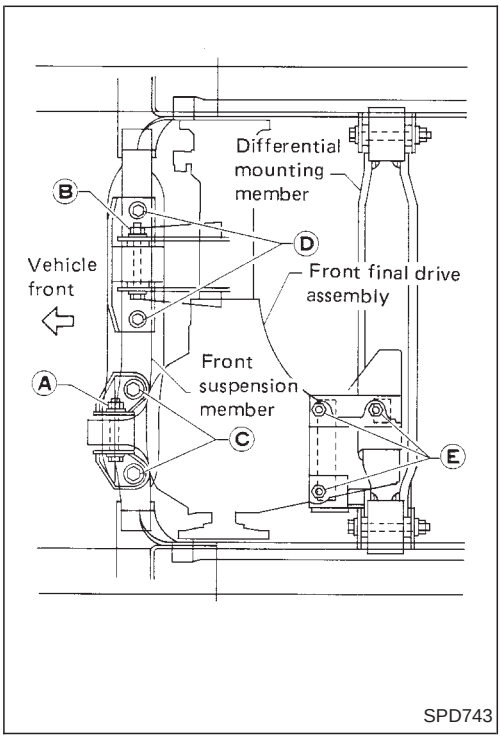
Removal

1. Remove front propeller shaft.
2. Separate drive shaft from front final drive. Refer to FA section [“Drive Shaft”, “FRONT AXLE (4WD)”] in original Service Manual.
3. Remove engine mounting bolts and raise up engine.
4. Remove front final drive together with differential mounting member.



Installation

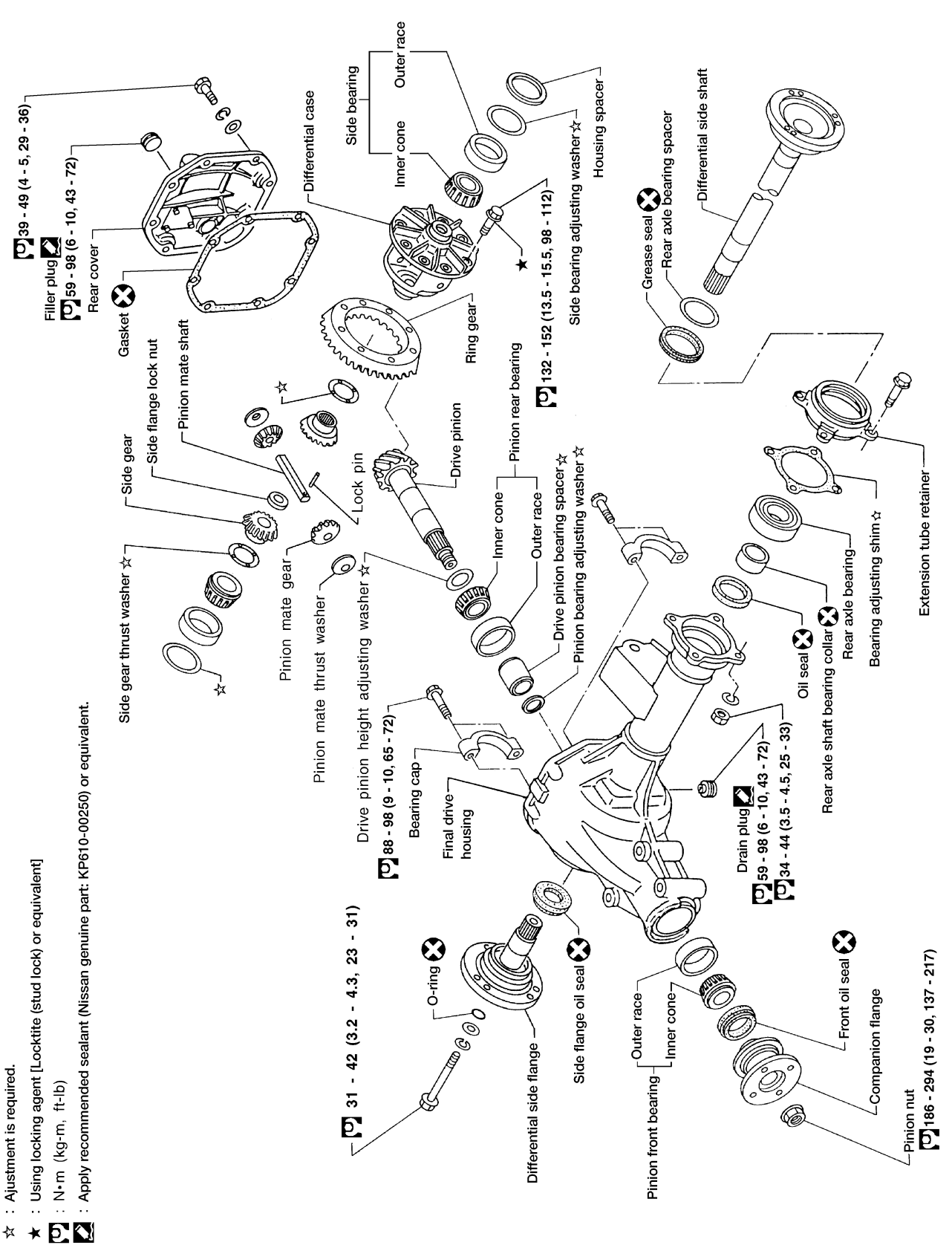
1. Install front final drive assembly together with differential mounting member.



2. Tighten front final drive securing bolts and nuts by following the procedure to prevent drive train vibration.

a. Temporarily tighten nut Ⓐ.
b. Temporarity tighten nut Ⓑ.
c. Tighten bolt Ⓒ to the torque of 68 to 87 N·m (6.9 to 8.9 kg-m, 50 to 64 ft-lb).
d. Tighten bolt Ⓓ to the torque of 68 to 87 N·m (6.9 to 8.9 kg-m, 50 to 64 ft-lb).
e. Tighten nut Ⓐ to the torque of 68 to 87 N·m (6.9 to 8.9 kg-m, 50 to 64 ft-lb).
f. Tighten nut Ⓑ to the torque of 68 to 87 N·m (6.9 t0 8.9 kg-m, 50 to 64 ft-lb).
g. Tighten nut Ⓔ to the torque of 68 to 87 N·m (6.9 to 8.9 kg-m, 50 to 64 ft-lb).

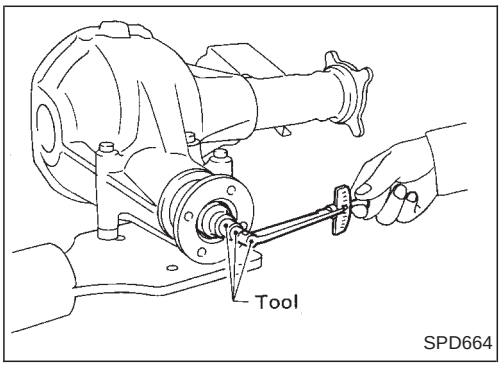
3. Install drive shaft. Refer to FA section [“Drive Shaft”, “FRONT AXLE (4WD)”] in original Service Manual.
4. Install front propeller shaft.



SEC. 381

☆ : Ajustment is required.
★ : Using locking agent [Locktite (stud lock) or equivalent]
: N•m (kg-m, ft-lb)
: Apply recommended sealant (Nissan genuine part: KP610-00250) or equivalent.

APD020

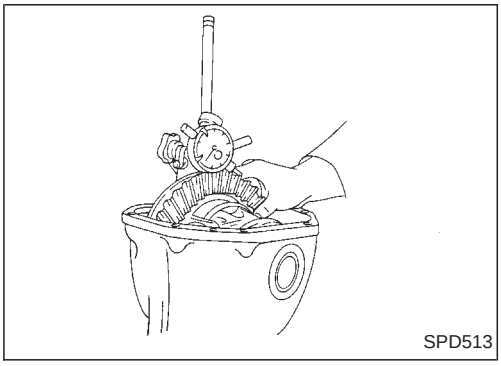


Pre-inspection

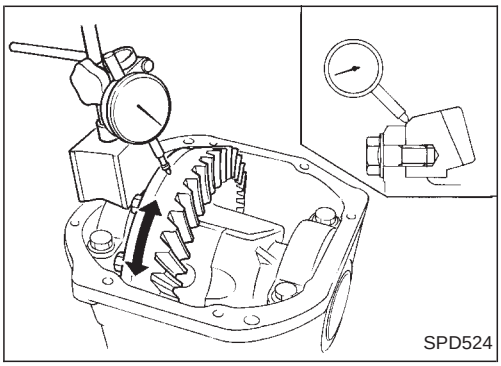
Before disassembling final drive, perform the following inspection.

- Total preload

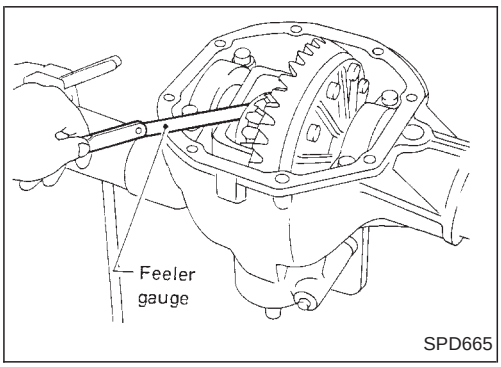
1) Turn drive pinion in both directions several times to set bearing rollers.
2) Check total preload with Tool.
   Tool number: ST3127S000
   Total preload:
   1.4 - 1.7 N·m (14 - 17 kg-cm, 12 - 15 in-lb)



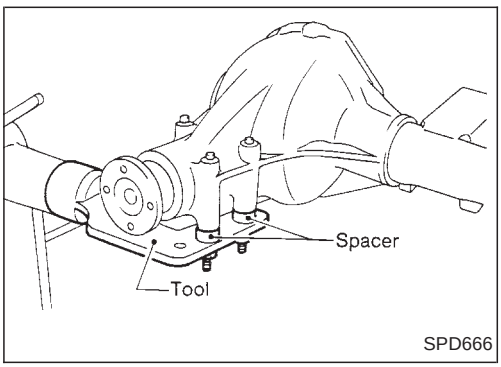
- Ring gear to drive pinion backlash
  Check backlash of ring gear with a dial indicator at several points.
  Ring gear-to-drive pinion backlash:
  0.10 - 0.15 mm (0.0039 - 0.0059 in)



- Ring gear runout
  Check runout of ring gear with a dial indicator.
  Runout limit:
  0.05 mm (0.0020 in)
- Tooth contact
  Check tooth contact. Refer to ADJUSTMENT (PD-18).



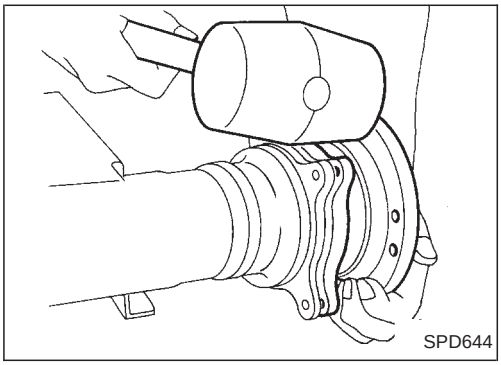
- Side gear to pinion mate gear backlash
  Using a feeler gauge, measure clearance between side gear thrust washer and differential case.
  Clearance between side gear thrust washer and differential case:
  Less than 0.15 mm (0.0059 in)



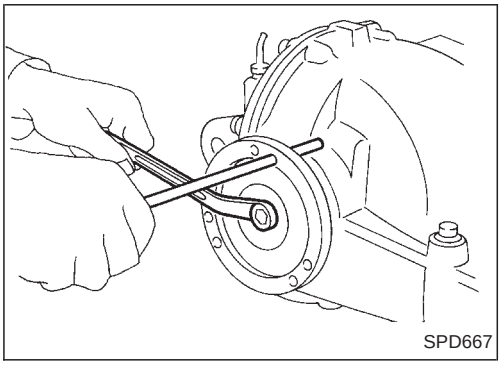
Final Drive Housing

1. Using three spacers [20 mm (0.79 in)], mount final drive assembly on Tool.
   Tool number: KV38100800

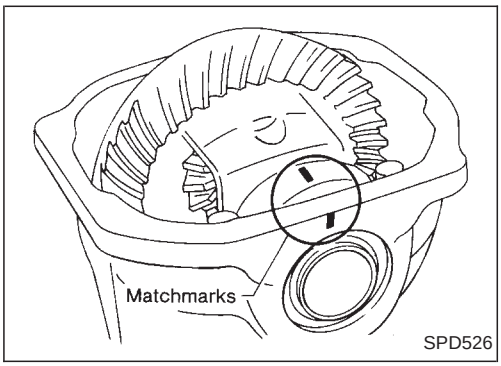
Final Drive Housing (Cont'd)


SPD644

2. Remove differential side shaft assembly.


SPD667

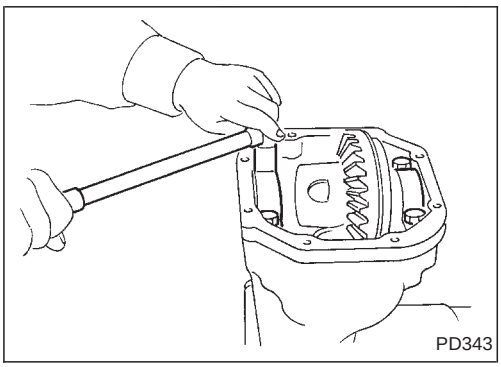
3. Remove differential side flange.



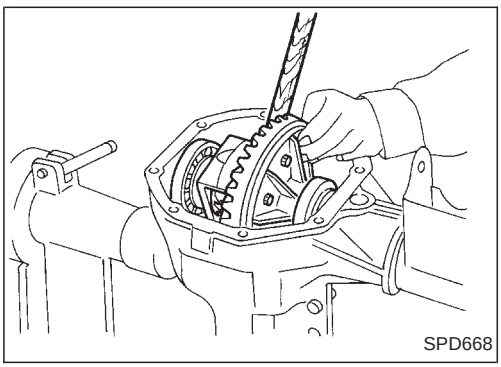
SPD526

4. Put match marks on one side of side bearing cap with paint or punch to ensure that it is replaced in proper position during reassembly.

Bearing caps are line-bored during manufacture and should be put back in their original places.

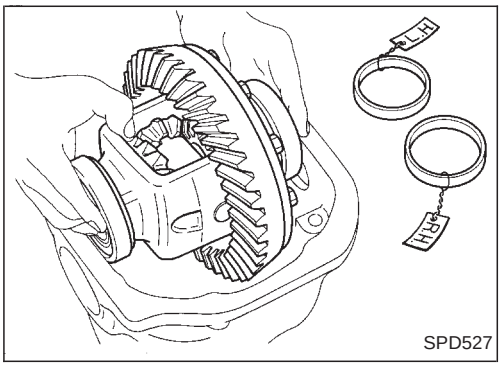

PD343

5. Remove side bearing caps.


SPD668

6. Remove differential case assembly with a pry bar.

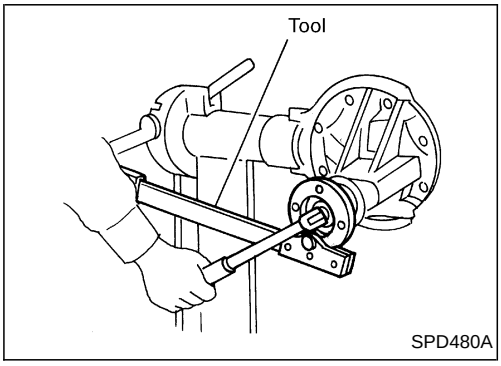
Final Drive Housing (Cont'd)



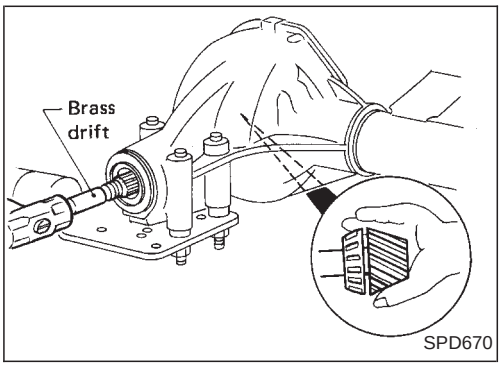
Be careful to keep the side bearing outer races together with their respective inner cones — don't mix them up.

CAUTION:

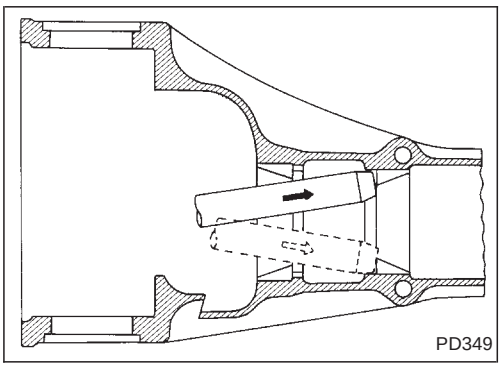
Side bearing spacer is placed on either the left or right depending upon final drive gear ratio. It should be labeled so that it may be replaced correctly.



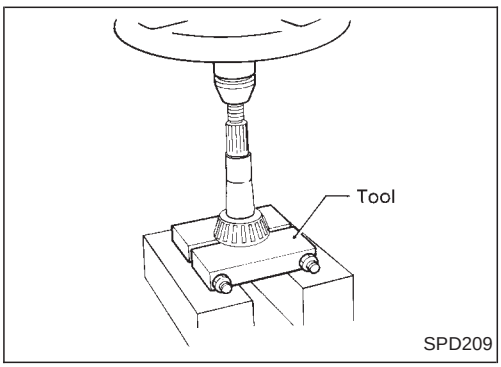
7. Loosen drive pinion nut.
   Tool number: KV38108300
8. Remove companion flange with puller.



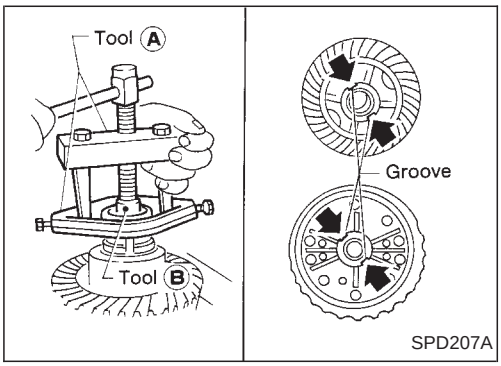
9. Take out drive pinion together with rear bearing inner cone, drive pinion bearing spacer and pinion bearing adjusting washer.
10. Remove front oil seal and pinion front bearing inner cone.



11. Remove pinion bearing outer races with a brass drift.



12. Remove pinion rear bearing inner cone and drive pinion height adjusting washer.
    Tool number: ST30031000



Differential Case

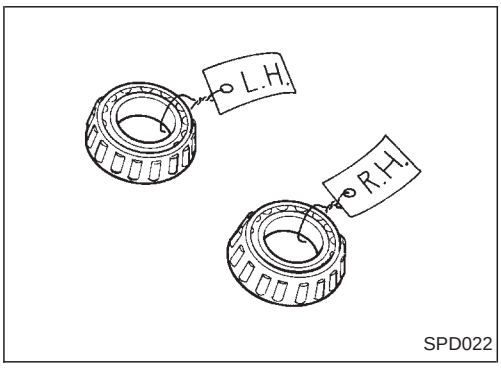
1. Remove side bearing inner cones.

To prevent damage to bearing, engage puller jaws in grooves.

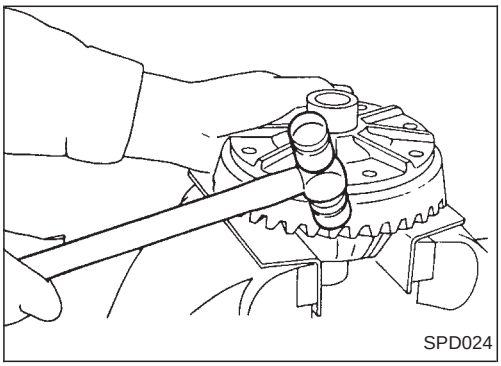
Tool number:

Ⓐ ST33051001

Ⓑ ST33061000

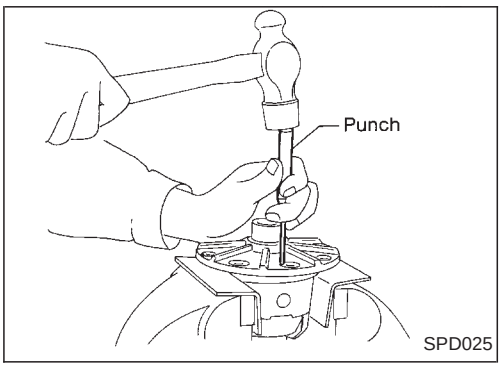


Be careful not to confuse the right and left hand parts.
Keep bearing and bearing race for each side together.

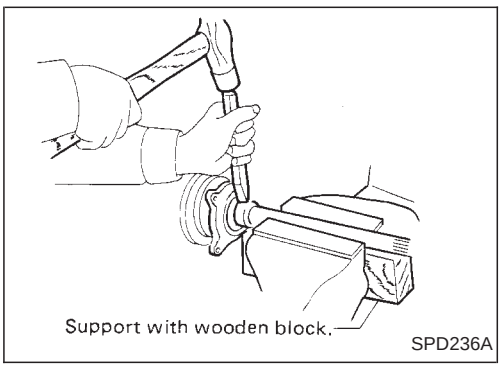


2. Loosen ring gear bolts in a criss-cross pattern.
3. Tap ring gear off the differential case with a soft hammer.

Tap evenly all around to keep ring gear from binding.



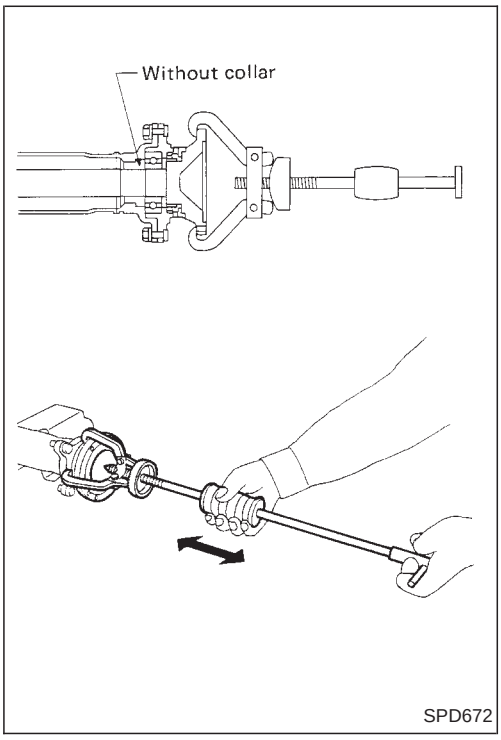
4. Punch off pinion mate shaft lock pin from ring gear side.



Differential Side Shaft

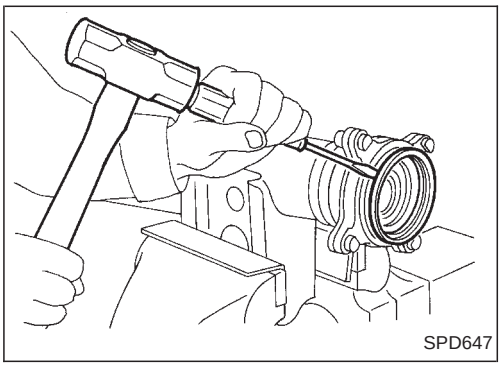
1. Cut collar with cold chisel. Be careful not to damage differential side shaft.

Differential Side Shaft (Cont'd)

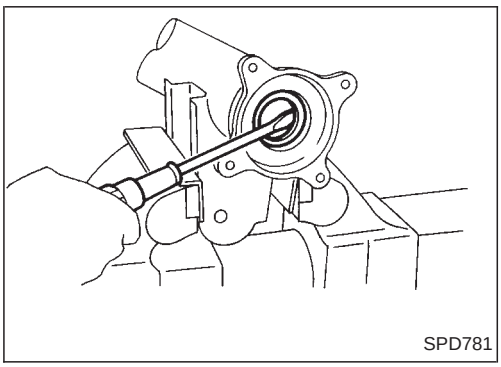


SPD672

2. Reinstall differential side shaft into extension tube and secure with bolts. Remove rear axle bearing by drawing out differential side shaft from rear axle bearing with puller.

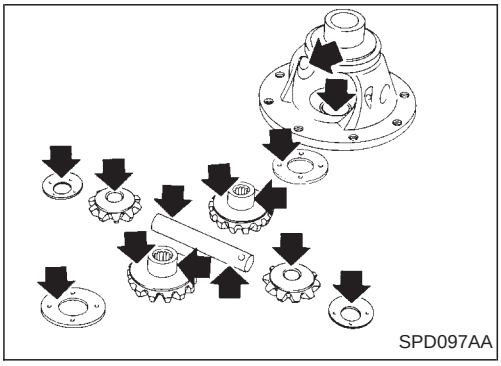

SPD647

3. Remove grease seal and oil seal.


SPD781

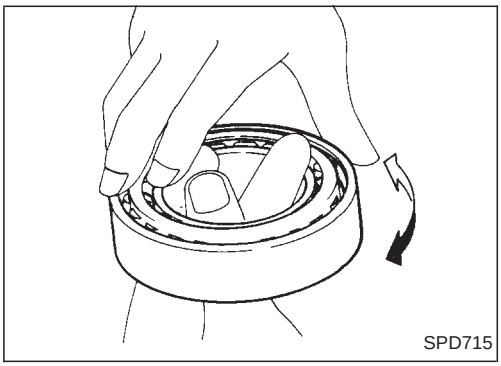
Ring Gear and Drive Pinion

Check gear teeth for scoring, cracking or chipping.
If any damaged part is evident, replace ring gear and drive pinion as a set (hypoid gear set).


SPD097AA

Differential Case Assembly

Check mating surfaces of differential case, side gears, pinion mate gears, pinion mate shaft and thrust washers.


SPD715

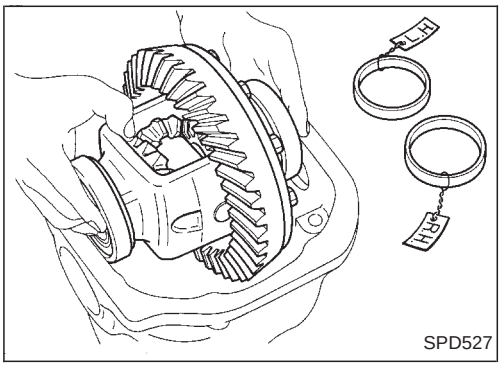
Bearing

1. Thoroughly clean bearing.
2. Check bearing for wear, scratches, pitting or flaking.
   Check tapered roller bearing for smooth rotation. If damaged, replace outer race and inner cone as a set.

For quiet and reliable final drive operation, the following five adjustments must be made correctly:
1. Side bearing preload
2. Pinion gear height
3. Pinion bearing preload
4. Ring gear-to-pinion backlash. Refer to ASSEMBLY (PD-23).
5. Ring and pinion gear tooth contact pattern

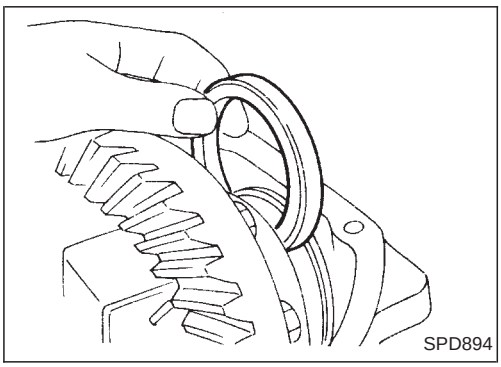
Side Bearing Preload

A selection of carrier side bearing adjusting washer is required for successful completion of this procedure.



SPD527

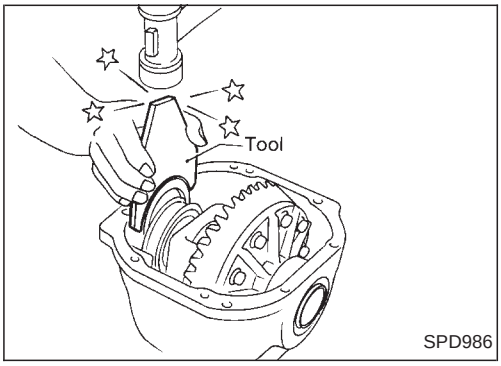
1. Make sure all parts are clean and that the bearings are well lubricated with light oil or "DEXRON™" type automatic transmission fluid.
2. Place the differential carrier, with side bearings and bearing races installed, into the final drive housing.


SPD894

3. Put the side bearing spacer in place.

CAUTION:

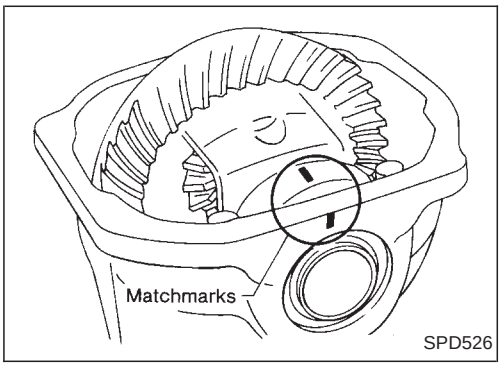
Side bearing spacer is placed on either the right or left depending upon final drive gear ratio. Be sure to replace it on the correct side.



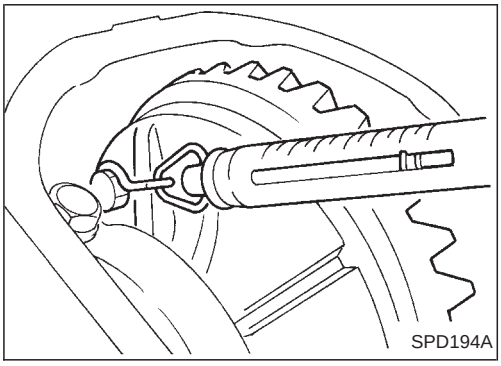
SPD986

4. Using Tool, install original carrier side bearing preload shims on the carrier end, opposite the ring gear.
   Tool number: KV38100600

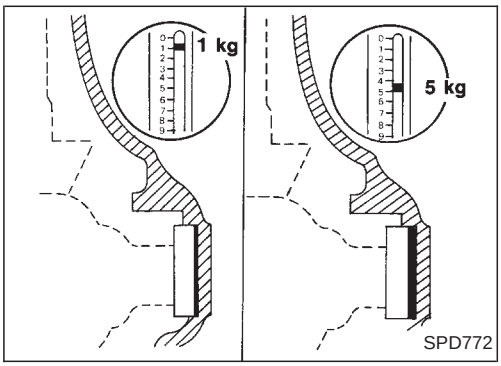
Side Bearing Preload (Cont'd)



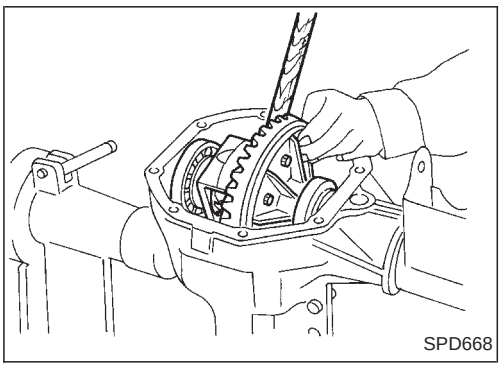
5. Install the side bearing caps in their correct locations and torque the bearing cap retaining bolts.
   Specification:
   88 - 98 N·m (9 - 10 kg-m, 65 - 72 ft-lb)
6. Turn the carrier several times to seat the bearings.



7. Measure the turning torque of the carrier at the ring gear retaining bolts with a spring gauge.
   Specification:
   34.3 - 39.2 N (3.5 - 4.0 kg, 7.7 - 8.8 lb) of pulling force at the ring gear bolt.

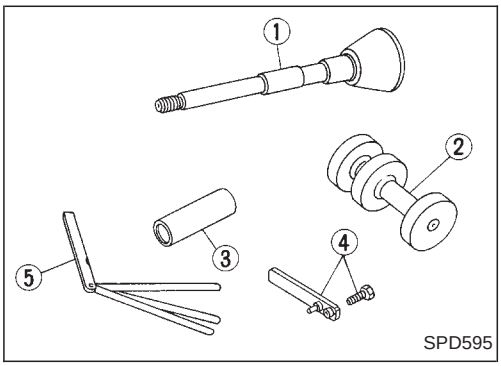


8. If the carrier turning torque is not within the specification range, increase or decrease the total thickness of the side bearing adjusting washers until the turning torque is correct. If the turning torque is less than the specified range, install washers of greater thickness; if the turning torque is greater than the specification, install thinner washers. See the SDS section for washer dimensions and part numbers.
9. Record the total amount of washer thickness required for the correct carrier side bearing preload.



10. Remove the carrier from the final drive housing, saving the selected preload washers for later use during the assembly of the final drive unit.

To avoid confusion while calculating bearing shims, it is absolutely necessary to stay with the metric system. If you measure anything in inches, **the results must be converted to the metric system.**

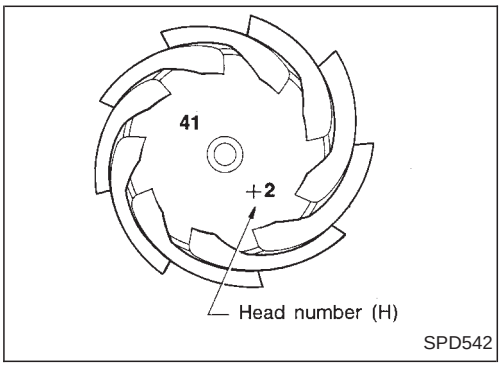


SPD595

Drive Pinion Height

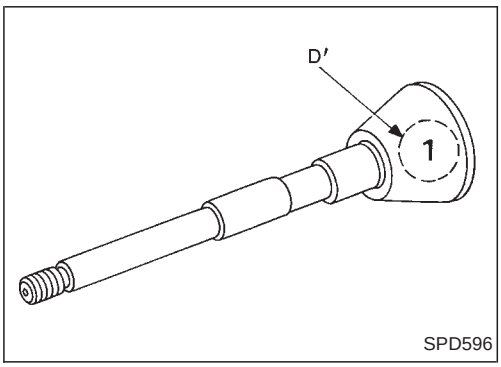
1. First prepare Tools for pinion height adjustment.
   ① Dummy Shaft (KV38100110)
   ② Height Gauge (KV38100120)
   ③ Collar (KV38100130)
   ④ Stopper (KV38100140)
   ⑤ Feeler Gauge
2. To simplify the job, make a chart, like the one below, to organize your calculations.

LETTERS	HUNDREDTHS OF A MILLIMETER
H: Head number	
D′: Figure marked on dummy shaft	
N: Measuring clearance	



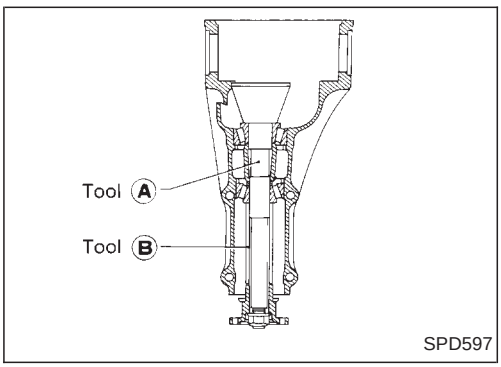
SPD542

3. Write the following numbers down the chart.
   H: Head number



SPD596

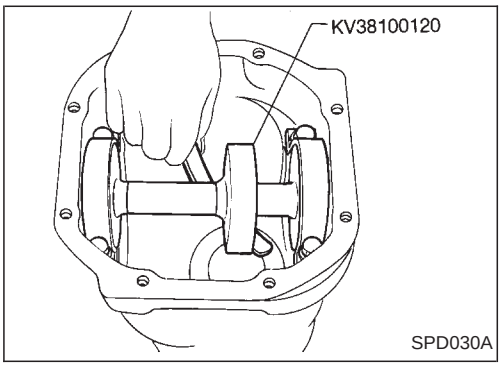
D′: Figure marked on dummy shaft.



SPD597

4. Set Tool (Dummy shaft) as shown below and tighten drive pinion nut carefully to correct preload of 1.1 to 1.4 N·m (11 to 14 kg-cm, 9.5 to 12.2 in-lb).
   Tool number:
   Ⓐ Dummy shaft (KV38100110)
   Ⓑ Collar (KV38100130)

Drive Pinion Height (Cont'd)



5. Attach Tool (Height gauge) to gear carrier, and measure the clearance between the height gauge and the dummy shaft face.
6. Substitute these values into the equation to calculate the thickness of the washer.

If values signifying H and D′ are not given, regard them as zero and calculate.

T (Thickness of washer) = N − [(H − D′) x 0.01] + 3.00

Example:

N = 0.23
H = 2
D′ = 1

T = N − [(H − D′) x 0.01] + 3.00
= 0.23 − [(2 − 1) x 0.01] + 3.00

(1) H 2
−D′ ..... −1
+1

(2) +1
x 0.01
+0.01

(3) N 0.23
− (+0.01)
0.22

(4) 0.22
+3.00
3.22

∴T = 3.22

7. Select the proper pinion height washer.

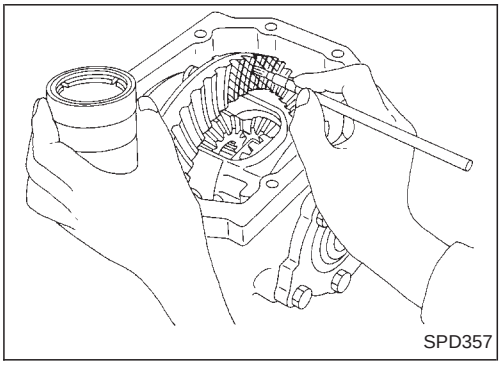
Drive pinion height adjusting washer:
Refer to SDS (PD-26).

If you cannot find the desired thickness of washer, use washer with thickness closest to the calculated value.

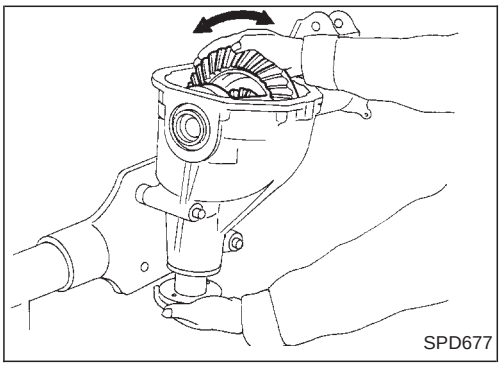
Example:
Calculated value ... T = 3.22 mm
Used washer ... T = 3.21 mm

Tooth Contact

Gear tooth contact pattern check is necessary to verify correct relationship between ring gear and drive pinion.
Hypoid gear sets which are not positioned properly in relation to one another may be noisy, or have short life, or both. With a pattern check, the most desirable contact for low noise level and long life can be assured.

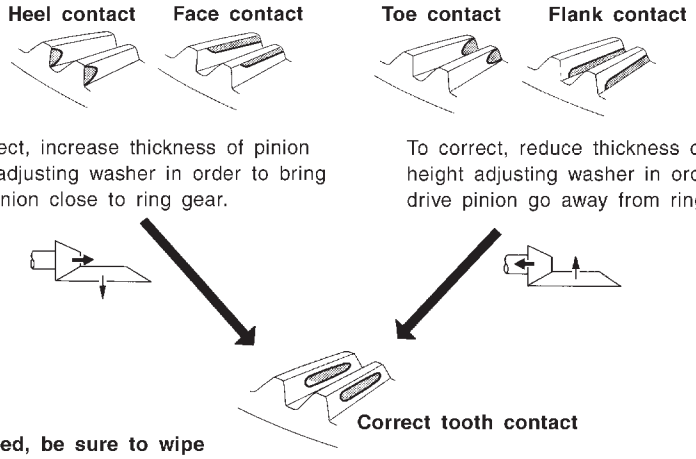

SPD357

1. Thoroughly clean ring gear and drive pinion teeth.
2. Sparingly apply a mixture of powdered ferric oxide and oil or equivalent to 3 or 4 teeth of ring gear drive side.


SPD677

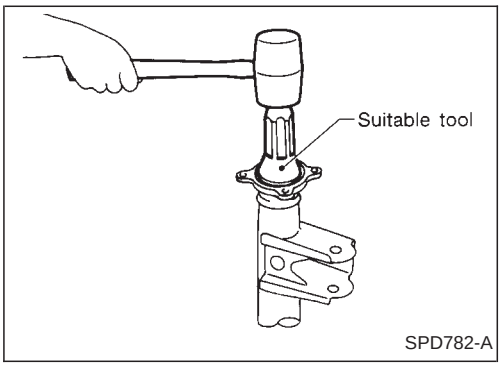
3. Hold companion flange steady by hand and rotate the ring gear in both directions.

Usually the pattern will be correct if shims are correctly calculated and the backlash is correct.
However, in rare cases, trial and error processes may be employed to obtain a correct pattern.
The tooth pattern is the best indication of how well a differential has been set up.



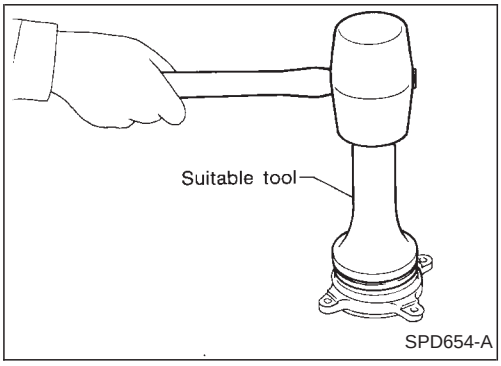
When adjustment is completed, be sure to wipe off completely the ferric oxide and oil or their equivalent.

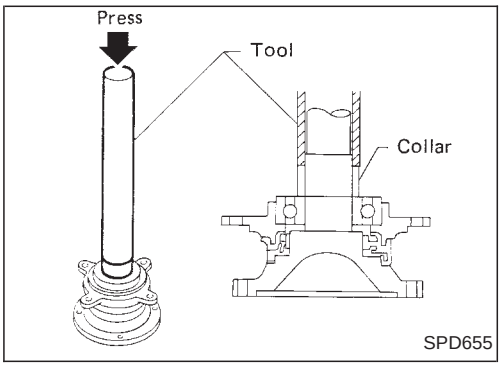
SPD007-B



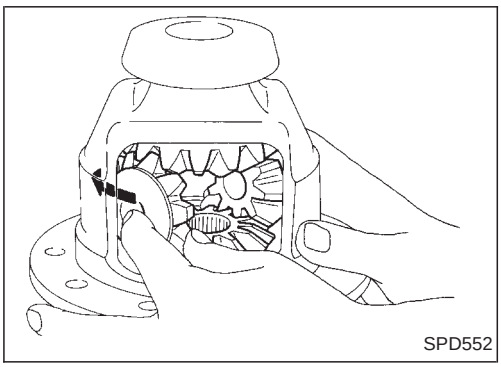
Differential Side Shaft

1. Install oil seal and grease seal.



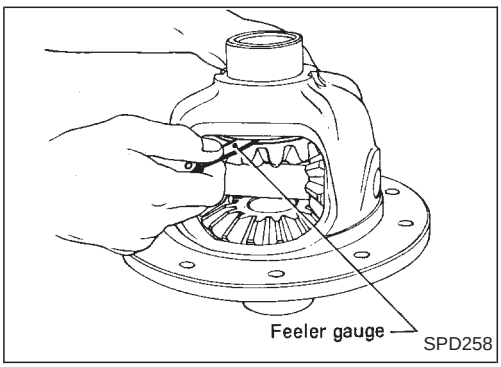


2. Install extension tube retainer, rear axle bearing and rear axle shaft bearing collar on differential side shaft.



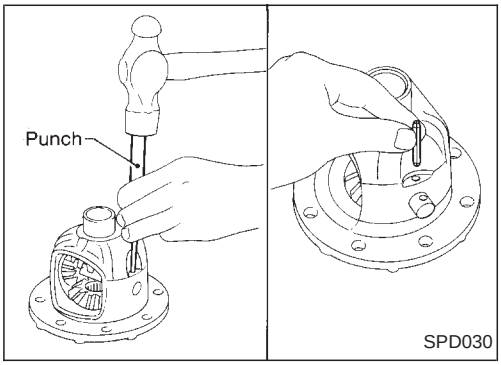
Differential Case

1. Install side gears, pinion mate gears and thrust washers into differential case.



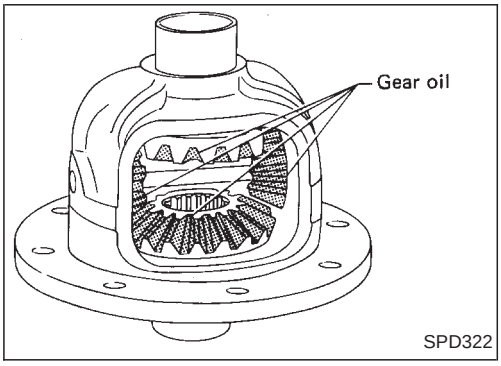
2. Fit pinion mate shaft to differential case so that it meets lock pin holes.
3. Adjust backlash between side gear and pinion mate gear by selecting side gear thrust washer.
   Refer to SDS (PD-26).
   Backlash between side gear and pinion mate gear (Clearance between side gear thrust washer and differential case):
   Less than 0.15 mm (0.0059 in)

Differential Case (Cont'd)

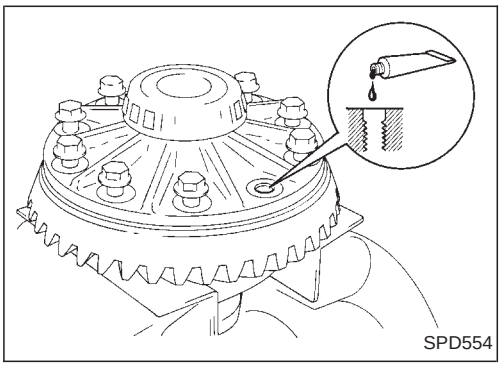


4. Install pinion mate shaft lock pin with a punch.

Make sure lock pin is flush with case.

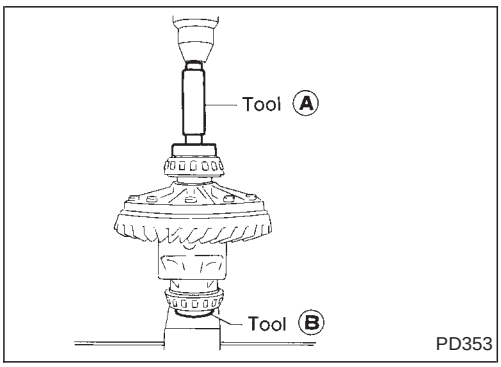


5. Apply gear oil to gear tooth surfaces and thrust surfaces and check to see they turn properly.



6. Install differential case assembly on ring gear.
7. Apply locking agent [Locktite (stud lock) or equivalent] to ring gear bolts, and install them.

Tighten bolts in a criss-cross pattern, lightly tapping bolt head with a hammer.

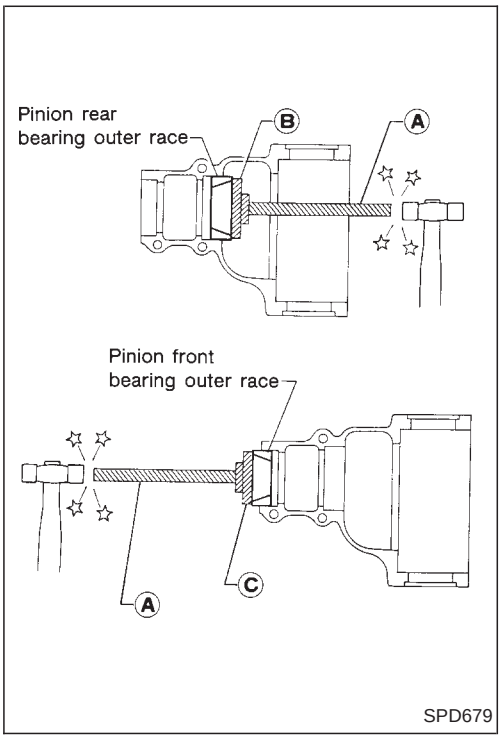


8. Press-fit side bearing inner cones on differential case with Tool.

Tool number:

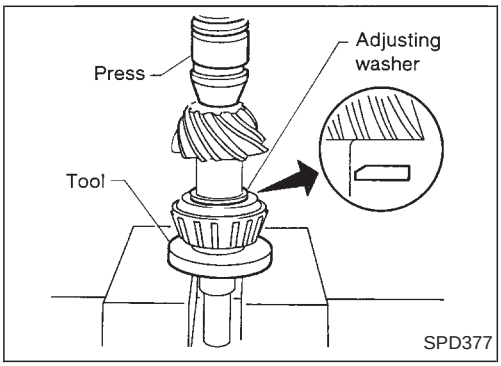
Ⓐ KV38100300

Ⓑ ST33061000

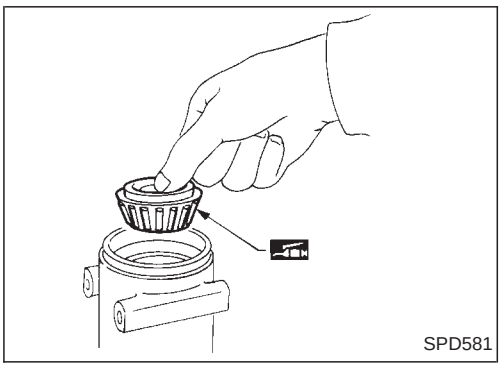


Final Drive Housing

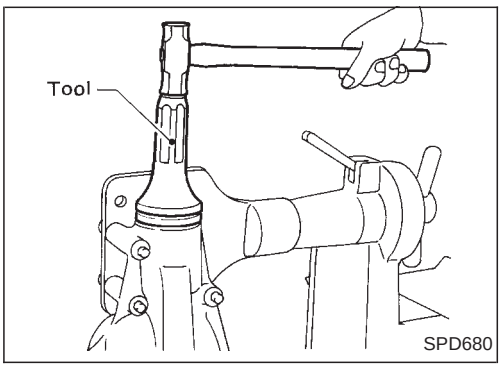
1. Press-fit front and rear bearing outer races with Tools.
   Tool number:
   - Ⓐ **ST30611000**
   - Ⓑ **ST30621000**
   - Ⓒ **ST30613000**



2. Select drive pinion height adjusting washer and pinion bearing adjusting washer. Refer to ADJUSTMENT (PD-16).
3. Install drive pinion height adjusting washer in drive pinion, and press-fit pinion rear bearing inner cone in it, using press and Tool.
   Tool number: ST30901000

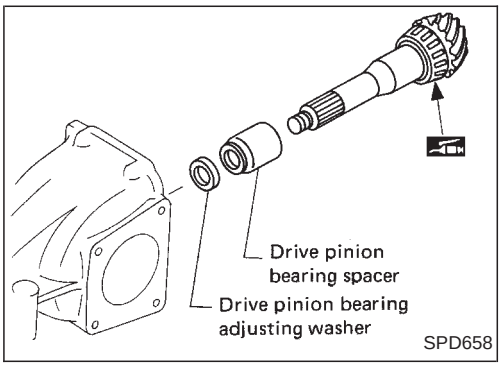


4. Place pinion front bearing inner cone in final drive housing.

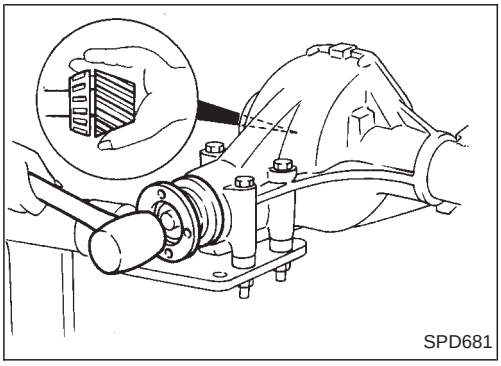


5. Apply multi-purpose grease to cavity at sealing lips of oil seal. Install front oil seal.
   Tool number: KV38100500

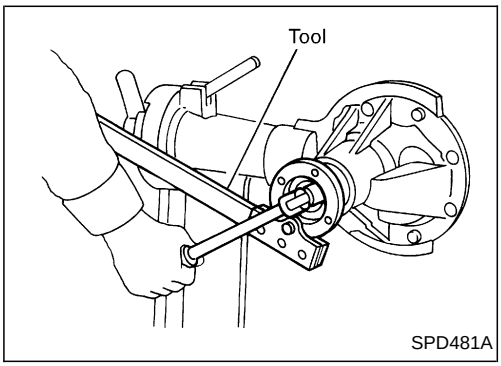
Final Drive Housing (Cont'd)



6. Place drive pinion bearing spacer, drive pinion bearing adjusting washer and drive pinion in final drive housing.



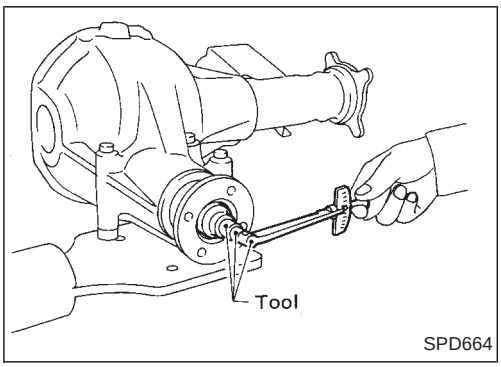
7. Insert companion flange into drive pinion by tapping the companion flange with a soft hammer.



8. Tighten pinion nut to the specified torque.

The threaded portion of drive pinion and pinion nut should be free from oil or grease.

Tool number: KV38108300



9. Turn drive pinion in both directions several revolutions, and measure pinion bearing preload.

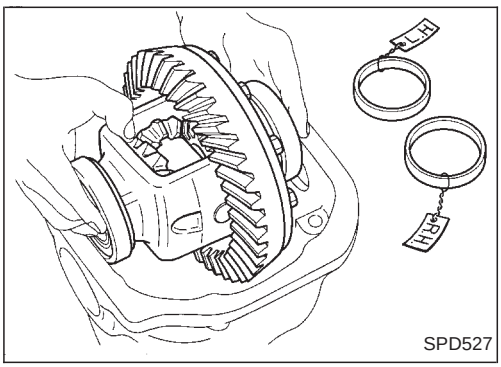
Tool number: ST3127S000

Pinion bearing preload:

1.1 - 1.4 N·m

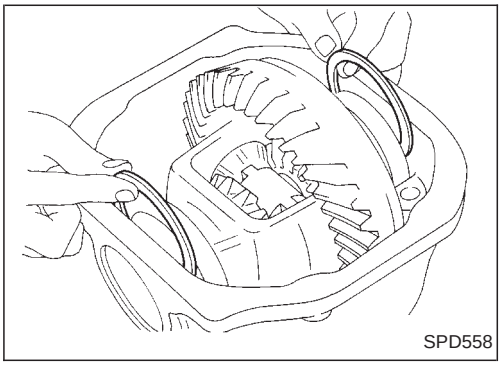
(11 - 14 kg-cm, 9.5 - 12.2 in-lb)

When pinion bearing preload is outside the specifications, replace pinion bearing adjusting washer and spacer with a different thickness.

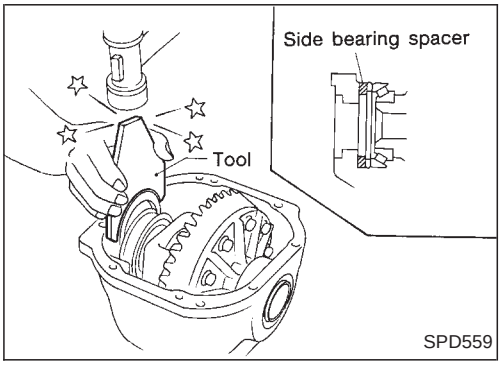


10. Select side bearing adjusting washer.
    Refer to ADJUSTMENT (PD-26).
11. Install differential case assembly with side bearing outer races into final drive housing.

Final Drive Housing (Cont'd)

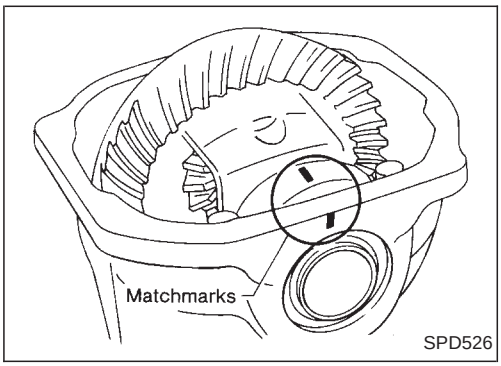

SPD558

12. Insert left and right side bearing adjusting washers in place between side bearings and final drive housing.



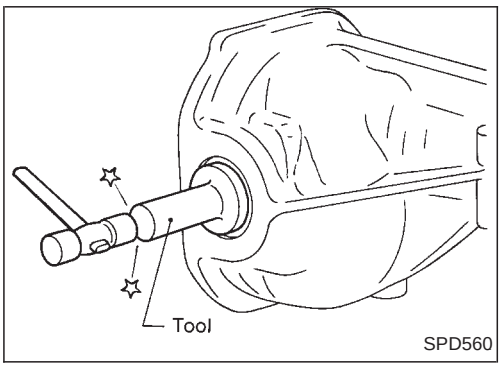
SPD559

13. Drive in side bearing spacer with Tool.
    Tool number: KV38100600



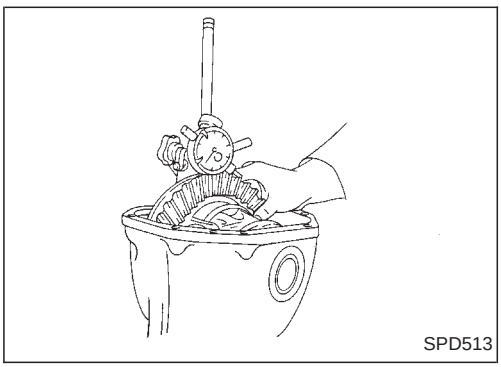
SPD526

14. Align mark on bearing cap with that on final drive housing and install bearing cap on final drive housing.



SPD560

15. Apply multi-purpose grease to cavity at sealing lips of oil seal. Install side oil seal.
    Tool number: KV38100200

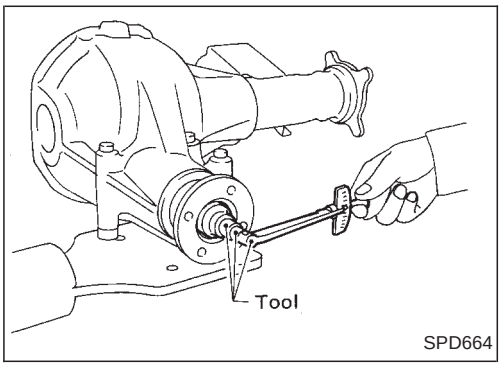

SPD513

16. Measure ring gear to drive pinion backlash with a dial indicator.
    Ring gear-to-drive pinion backlash:
    0.10 - 0.15 mm (0.0039 - 0.0059 in)

- If backlash is too small, decrease thickness of right shim and increase thickness of left shim by the same amount.
  If backlash is too great, reverse the above procedure.

Never change the total amount of shims as it will change the bearing preload.

Final Drive Housing (Cont'd)



SPD664

17. Check total preload with Tool.

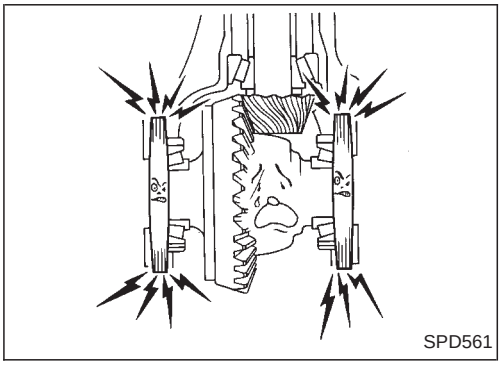
When checking preload, turn drive pinion in both directions several times to set bearing rollers.

Tool number: ST3127S000

Total preload:

1.4 - 1.7 N·m

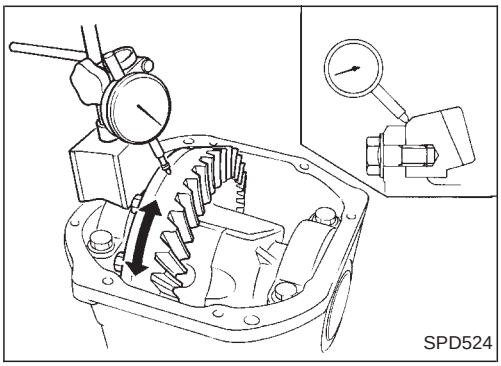
(14 - 17 kg-cm, 12 - 15 in-lb)


SPD561

- If preload is too great, remove the same amount of shim from each side.
- If preload is too small, add the same amount of shim to each side.

Never add or remove a different number of shims for each side as it will change ring gear to drive pinion backlash.

18. Recheck ring gear to drive pinion backlash because increase or decrease in thickness of shims will cause change of ring gear-to-pinion backlash.


SPD524

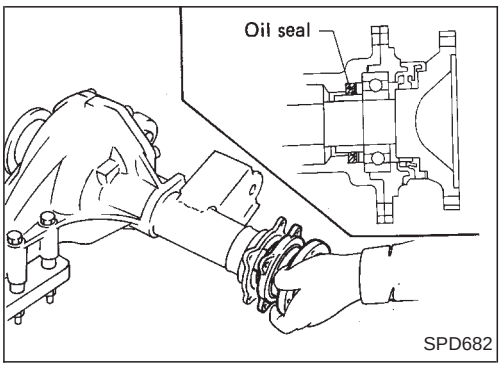
19. Check runout of ring gear with a dial indicator.

Runout limit:

0.05 mm (0.0020 in)

- If backlash varies excessively in different places, the variance may have resulted from foreign matter caught between the ring gear and the differential case.
- If the backlash varies greatly when the runout of the ring gear is within a specified range, the hypoid gear set or differential case should be replaced.

20. Check tooth contact. Refer to ADJUSTMENT (PD-18).
21. Install rear cover and gasket.



SPD682

22. Install differential side shaft assembly.

Propeller Shaft

GENERAL SPECIFICATIONS

2WD models

Applied model		Short wheelbase		Long wheelbase				All	
		KA24DE, TD27, Z24S		KA24DE, TD27, Z24S		KA24DE		VG30E	
		Without ABS	With ABS	M/T		A/T		A/T	M/T
				Without ABS	With ABS	Without ABS	With ABS		
Propeller shaft model		3S71H						3S80B	
Number of joints		3							
Coupling method with transmission		Sleeve type							
Types of journal bearings		Solid type (disassembly type)							
Shaft length (Spider to spider) mm (in)	1st	641 (25.24)				541 (21.30)		562 (22.13)	662 (26.06)
	2nd	704 (27.72)	678 (26.69)	1,004 (39.53)	978 (38.50)	1,004 (39.53)	978 (38.50)	988 (38.90)	
Shaft outer diameter mm (in)	1st	75 (2.95)							
	2nd	65 (2.56)							

4WD models

Location		Front			Rear		
Applied model		VG30E	KA24DE	QD32	VG30E	KA24DE	QD32
Propeller shaft model		2F71H	2F63H	2F71H	3S80B	3S71H	3S80B
Number of joints		2			3		
Coupling method with transmission		Flange type			Sleeve type		
Types of journal bearings		Solid type (disassembly type)					
Shaft length (Spider to spider) mm (in)	1st	542 (21.34)	546 (21.50)	565 (22.24)	402 (15.83)	396 (15.59)	377 (14.84)
	2nd	—			847 (33.35)	846 (33.31)	847 (33.35)
Shaft outer diameter mm (in)	1st	65 (2.56)	50.8 (2.000)	50.8 (2.000)	75.0 (2.953)	75.0 (2.953)	65.0 (2.559)
	2nd	—			75.0 (2.953)	65.0 (2.559)	65.0 (2.559)

Final Drive

GENERAL SPECIFICATIONS

2WD models

Applied model		VG30E	KA24DE, TD27, Z24S					
			A/T			M/T		
Final drive model		Standard	Standard	Optional		Standard	Optional	
		H233B	C200					
		4-pinion	2-pinion	2-pinion*	LSD	2-pinion	4-pinion*	LSD
Oil capacity (Approx.) ℓ (Imp pt)		2.8 (4-7/8)	1.3 (2-1/4)					
Gear ratio		4.111	4.375			4.111		
Number of teeth	Ring gear	37	35			37		
	Drive pinion	9	8			9		

*: Models with ABS

4WD models

Applied model		VG30E			KA24DE, QD32		
Front final drive		R200			R180A		
		4-pinion					
Oil capacity (Approx.) ℓ (Imp pt)		1.5 (2-5/8)			1.3 (2-1/4)		
Rear final drive		Standard	Optional		Standard	Optional	
		H233B					
		4-pinion	4-pinion*	LSD	4-pinion	4-pinion*	LSD
Oil capacity (Approx.) ℓ (Imp pt)		2.8 (4-7/8)					
Gear ratio		4.375			4.625		
Number of teeth	Ring gear	35			37		
	Drive pinion	8					

*: Models with ABS

RING GEAR RUNOUT (R200A)

Ring gear runout limit	mm (in)	0.05 (0.0020)

SIDE GEAR ADJUSTMENT

Side gear backlash (Clearance between side gear and differential case) mm (in)		Less than 0.15 (0.0059)
	Thickness mm (in)	Part number*
Available side gear thrust washers	0.75 (0.0295)	38424-N3110
	0.78 (0.0307)	38424-N3111
	0.81 (0.0319)	38424-N3112
	0.84 (0.0331)	38424-N3113
	0.87 (0.0343)	38424-N3114
	0.90 (0.0354)	38424-N3115
	0.93 (0.0366)	38424-N3116

*: Always check with the Parts Department for the latest parts information.

SIDE BEARING ADJUSTMENT

Differential carrier assembly turning resistance N (kg, lb)		34.3 - 39.2 (3.5 - 4.0, 7.7 - 8.8)
	Thickness mm (in)	Part number*
Available side bearing adjusting washers	2.00 (0.0787)	38453-N3100
	2.05 (0.0807)	38453-N3101
	2.10 (0.0827)	38453-N3102
	2.15 (0.0846)	38453-N3103
	2.20 (0.0866)	38453-N3104
	2.25 (0.0886)	38453-N3105
	2.30 (0.0906)	38453-N3106
	2.35 (0.0925)	38453-N3107
	2.40 (0.0945)	38453-N3108
	2.45 (0.0965)	38453-N3109
	2.50 (0.0984)	38453-N3110
	2.55 (0.1004)	38453-N3111
	2.60 (0.1024)	38453-N3112

*: Always check with the Parts Department for the latest parts information.

TOTAL PRELOAD ADJUSTMENT

Total preload	N·m (kg-cm, in-lb)	1.4 - 1.7 (14 - 17, 12 - 15)
Ring gear backlash	mm (in)	0.10 - 0.15 (0.0039 - 0.0059)

DRIVE PINION HEIGHT ADJUSTMENT

	Thickness mm (in)	Part number*
Available pinion height adjusting washers	3.09 (0.1217)	38154-P6017
	3.12 (0.1228)	38154-P6018
	3.15 (0.1240)	38154-P6019
	3.18 (0.1252)	38154-P6020
	3.21 (0.1264)	38154-P6021
	3.24 (0.1276)	38154-P6022
	3.27 (0.1287)	38154-P6023
	3.30 (0.1299)	38154-P6024
	3.33 (0.1311)	38154-P6025
	3.36 (0.1323)	38154-P6026
	3.39 (0.1335)	38154-P6027
	3.42 (0.1346)	38154-P6028
	3.45 (0.1358)	38154-P6029
	3.48 (0.1370)	38154-P6030
	3.51 (0.1382)	38154-P6031
	3.54 (0.1394)	38154-P6032
	3.57 (0.1406)	38154-P6033
	3.60 (0.1417)	38154-P6034
	3.63 (0.1429)	38154-P6035
	3.66 (0.1441)	38154-P6036

*: Always check with the Parts Department for the latest parts information.

Final Drive (Cont'd)

DRIVE PINION PRELOAD ADJUSTMENT

Drive pinion bearing preload adjusting method		Adjusting washer and spacer
Drive pinion preload with front oil seal N·m (kg-cm, in-lb)		1.1 - 1.4 (11 - 14, 9.5 - 12.2)
Available drive pinion bearing preload adjusting washers	Thickness mm (in)	Part number*
	3.81 (0.1500)	38125-61001
	3.83 (0.1508)	38126-61001
	3.85 (0.1516)	38127-61001
	3.87 (0.1524)	38128-61001
	3.89 (0.1531)	38129-61001
	3.91 (0.1539)	38130-61001
	3.93 (0.1547)	38131-61001
	3.95 (0.1555)	38132-61001
	3.97 (0.1563)	38133-61001
	3.99 (0.1571)	38134-61001
	4.01 (0.1579)	38135-61001
	4.03 (0.1587)	38136-61001
	4.05 (0.1594)	38137-61001
	4.07 (0.1602)	38138-61001
	4.09 (0.1610)	38139-61001
Available drive pinion bearing preload adjusting spacers	Length mm (in)	Part number*
	54.50 (2.1457)	38165-B4000
	54.80 (2.1575)	38165-B4001
	55.10 (2.1693)	38165-B4002
	55.40 (2.1811)	38165-B4003
	55.70 (2.1929)	38165-B4004
	56.00 (2.2047)	38165-61001

*: Always check with the Parts Department for the latest parts information.

INSPECTION AND ADJUSTMENT (H233B)

Drive pinion preload adjustment

Drive pinion bearing preload adjusting method		Adjusting shim and spacer
Drive pinion preload [P_2] N·m (kg-cm, in-lb)		
	With front oil seal	1.4 - 2.2 (14 - 22, 12 - 19)
	Without front oil seal	1.2 - 2.0 (12 - 20, 10 - 17)
Available drive pinion preload adjusting shims		
Thickness mm (in)		Part number
2.31 (0.0909)		38125-82100
2.33 (0.0917)		38126-82100
2.35 (0.0925)		38127-82100
2.37 (0.0933)		38128-82100
2.39 (0.0941)		38129-82100
2.41 (0.0949)		38130-82100
2.43 (0.0957)		38131-82100
2.45 (0.0965)		38132-82100
2.47 (0.0972)		38133-82100
2.49 (0.0980)		38134-82100
2.51 (0.0988)		38135-82100
2.53 (0.0996)		38136-82100
2.55 (0.1004)		38137-82100
2.57 (0.1012)		38138-82100
2.59 (0.1020)		38139-82100
Available drive pinion preload adjusting spacers		
Length mm (in)		Part number
4.50 (0.1772)		38165-76000
4.75 (0.1870)		38166-76000
5.00 (0.1969)		38167-76000
5.25 (0.2067)		38166-01J00
5.50 (0.2165)		38166-01J10

Total preload adjustment

Total preload with front oil seal N·m (kg-cm, in-lb)	P_2* + [0.3 to 0.4 (3 to 4, 2.6 to 3.5)]
Ring gear backlash mm (in)	0.13 - 0.18 (0.0051 - 0.0071)

*: P_2: Drive pinion preload