

MANUAL TRANSAXLE

SECTION **MT**

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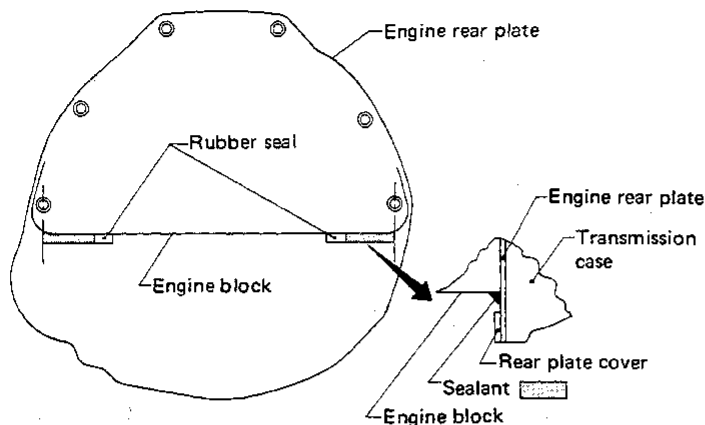
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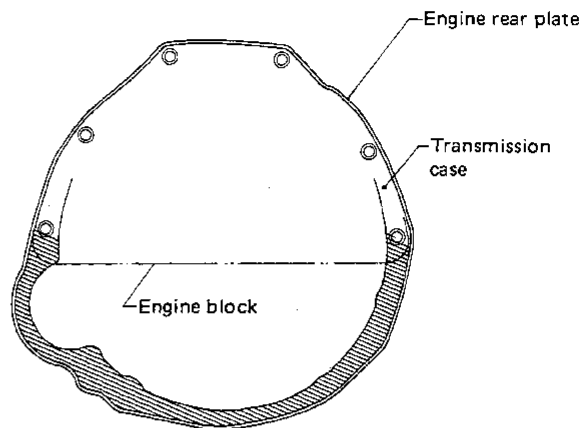
Installation

- Apply sealant as below: — 4WD model

VG30E engine model



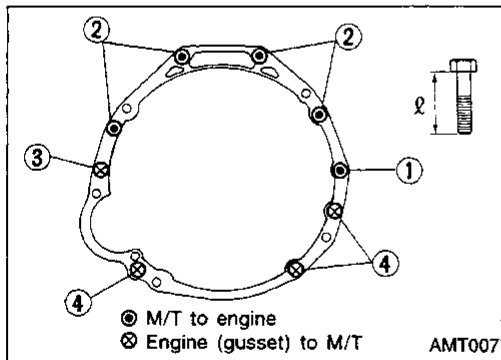
Mating surface of engine block and engine rear plate



Mating surface of engine rear plate and transmission case

- : Apply recommended sealant (Nissan genuine part: KP510-00150) or equivalent.
- : Apply recommended sealant (Nissan genuine part: KP610-00250) or equivalent.

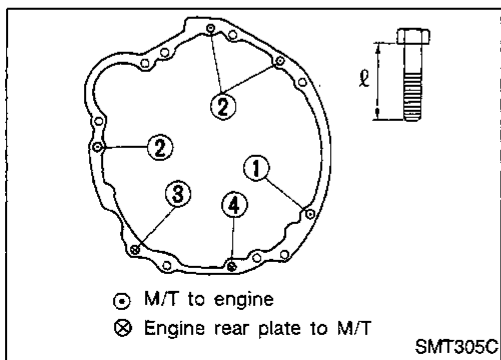
SMT499C



AMT007

• VG30E engine model

Bolt No.	Tightening torque N-m (kg-m, ft-lb)	ℓ mm (in)
①	39 - 49 (4.0 - 5.0, 29 - 36)	65 (2.56)
②	39 - 49 (4.0 - 5.0, 29 - 36)	58 (2.28)
③	39 - 49 (4.0 - 5.0, 29 - 36)	58 (2.28)
④	29 - 39 (3.0 - 4.0, 22 - 29)	25 (0.98)
Gusset to engine	29 - 39 (3.0 - 4.0, 22 - 29)	20 (0.79)



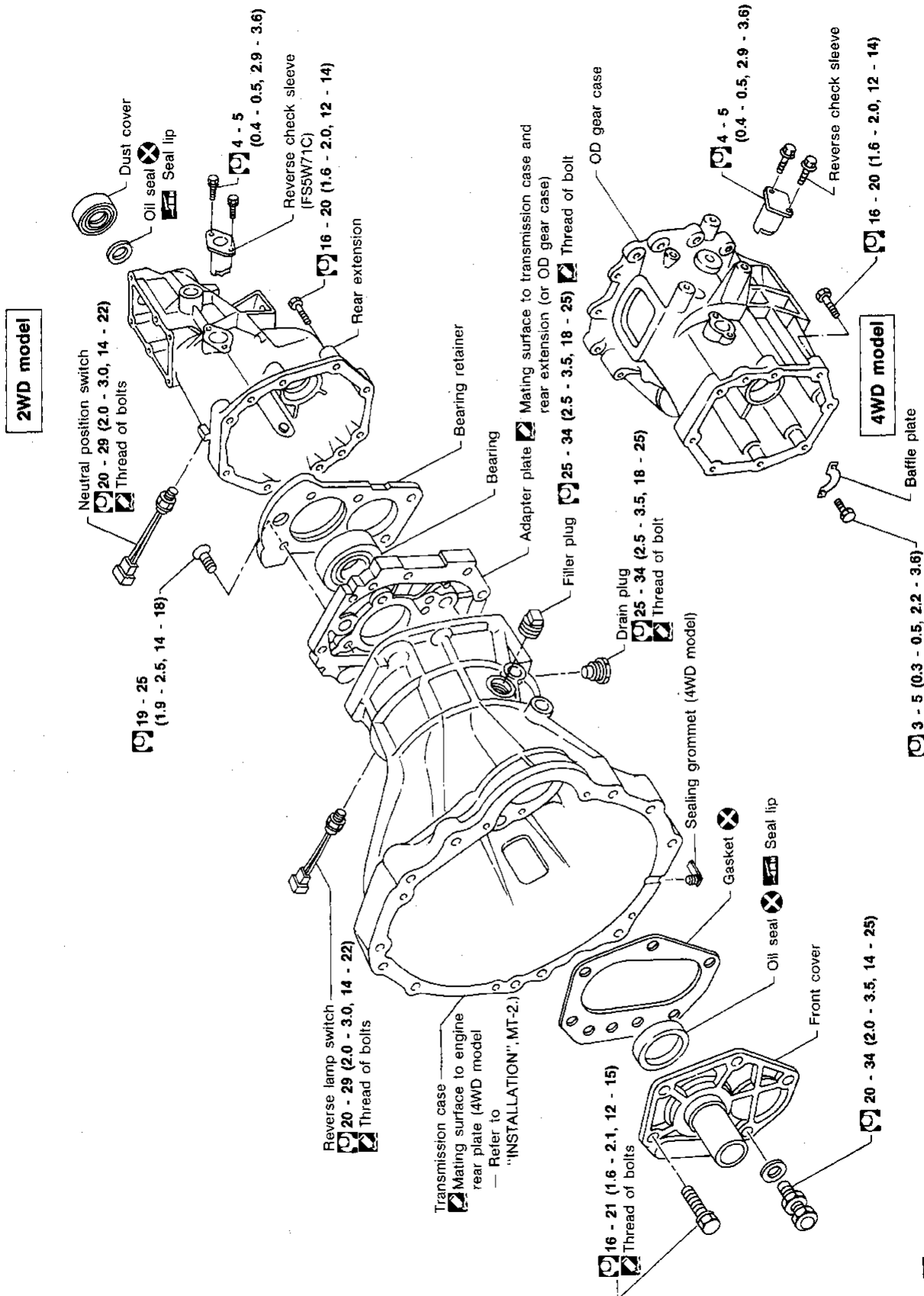
SMT305C

• KA24E engine model

Bolt No.	Tightening torque N-m (kg-m, ft-lb)	ℓ mm (in)
①	39 - 49 (4.0 - 5.0, 29 - 36)	65 (2.56)
②	39 - 49 (4.0 - 5.0, 29 - 36)	58 (2.28)
③*	16 - 22 (1.6 - 2.2, 12 - 16)	25 (0.98)
④	16 - 22 (1.6 - 2.2, 12 - 16)	16 (0.63)

*: With nut

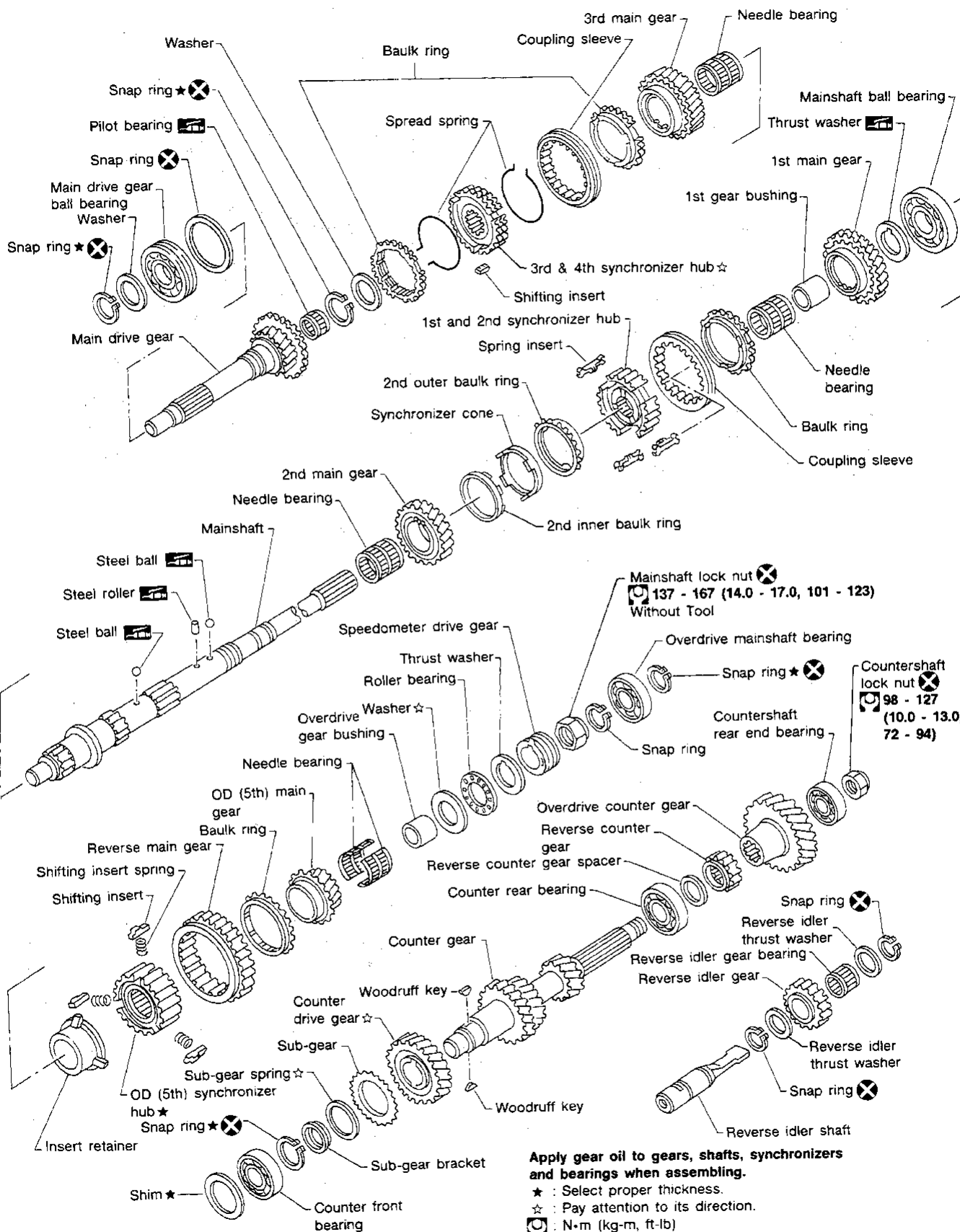
Case Components



: N·m (kg-m, ft-lb)
 : Apply recommended sealant (Nissan genuine part: KP610-00250) or equivalent.

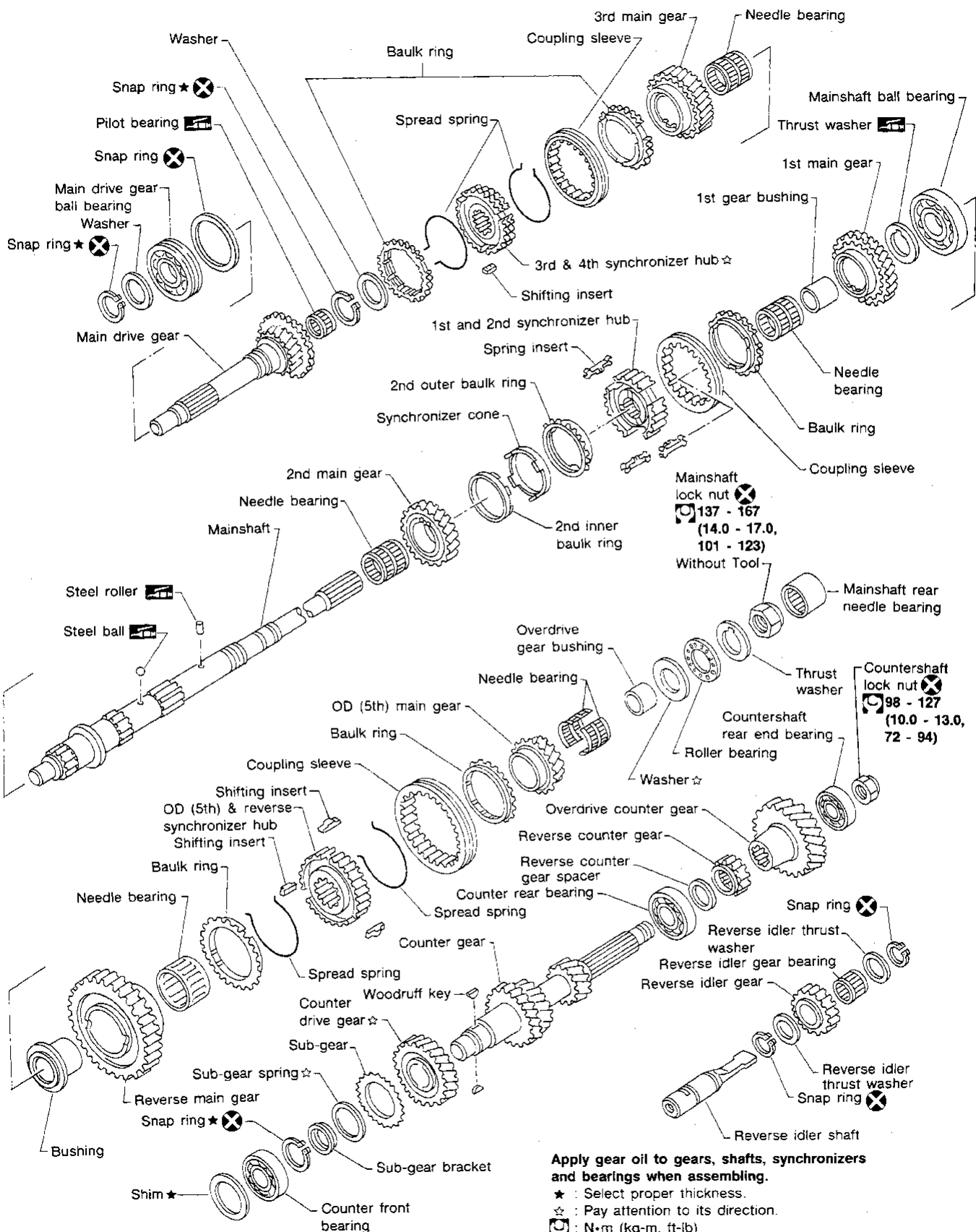
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- IDX

Gear Components — 2WD model



Apply gear oil to gears, shafts, synchronizers and bearings when assembling.
 ★ : Select proper thickness.
 ☆ : Pay attention to its direction.
 ☒ : N·m (kg·m, ft·lb)

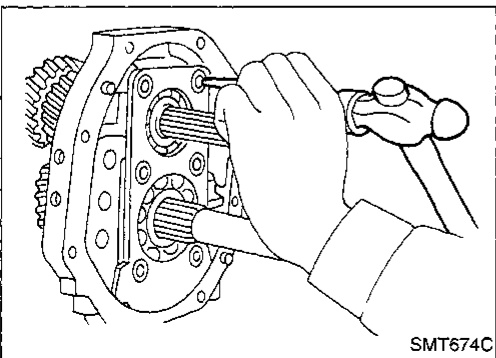
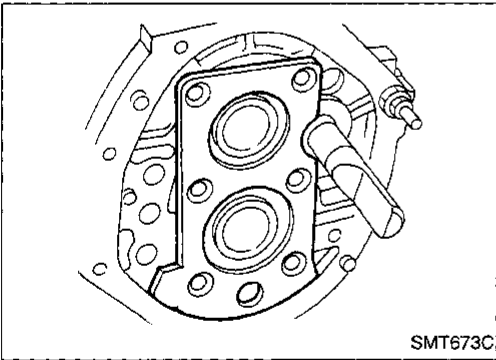
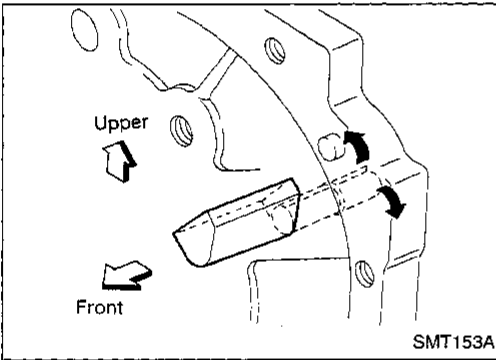
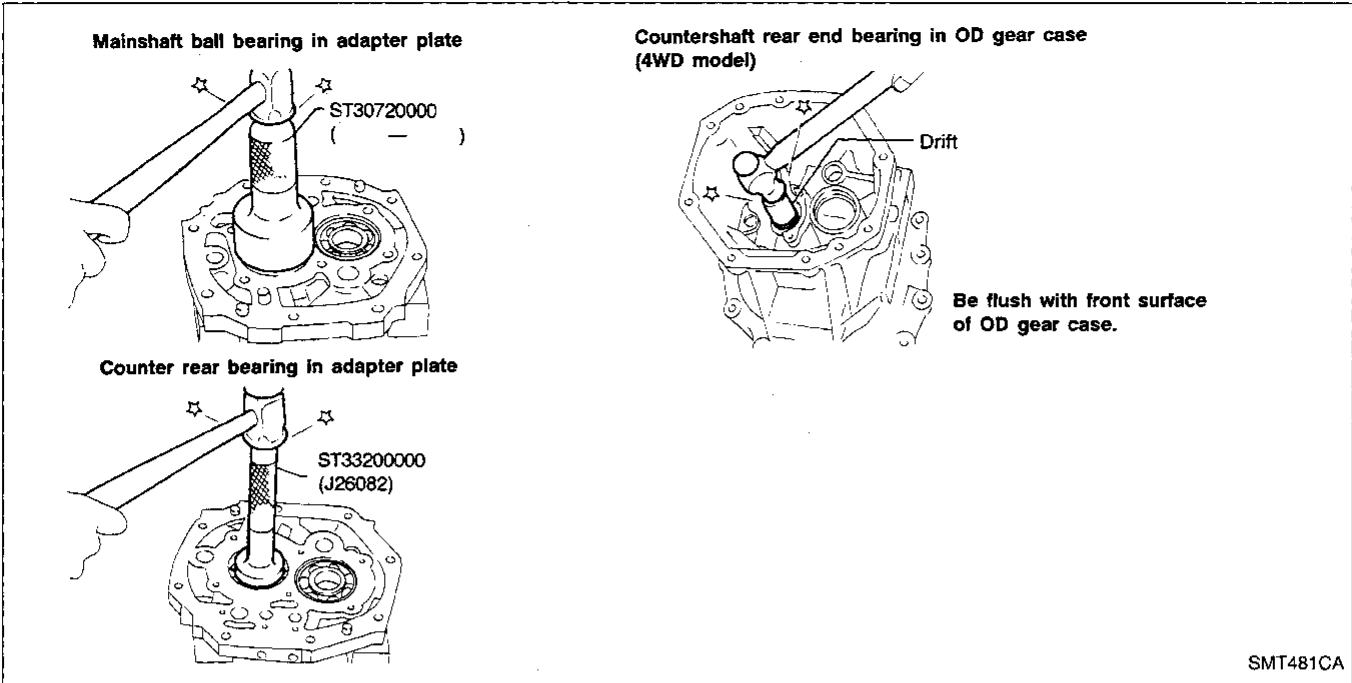
Gear Components — 4WD model



Apply gear oil to gears, shafts, synchronizers and bearings when assembling.
 ★ : Select proper thickness.
 ☆ : Pay attention to its direction.
 N•m (kg-m, ft-lb)

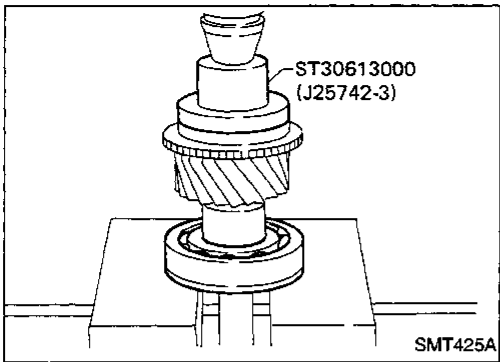
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Gear Components



1. Install bearings into case components.
2. Assemble adapter plate parts.
 - Install oil gutter on adapter plate and expand on rear side.
- Install bearing retainer.
 - a. Insert reverse shaft, then install bearing retainer.
 - b. Tighten each screw, then stake each at two points.

Gear Components (Cont'd)



3. Install main drive gear bearing.
 - a. Press main drive gear bearing.
 - b. Install main drive gear spacer.

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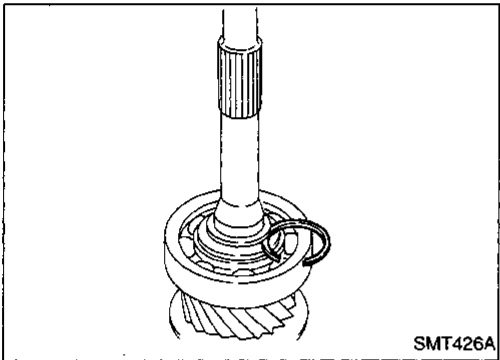
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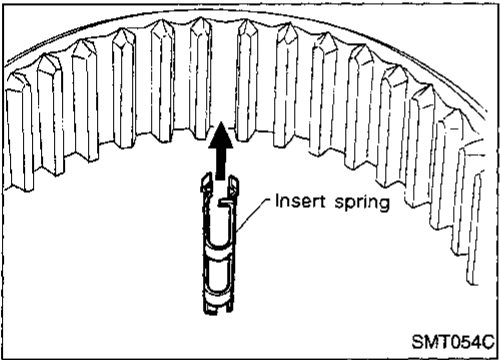
- c. Select proper main drive gear snap ring to minimize clearance of groove and install it.

Allowable clearance of groove:

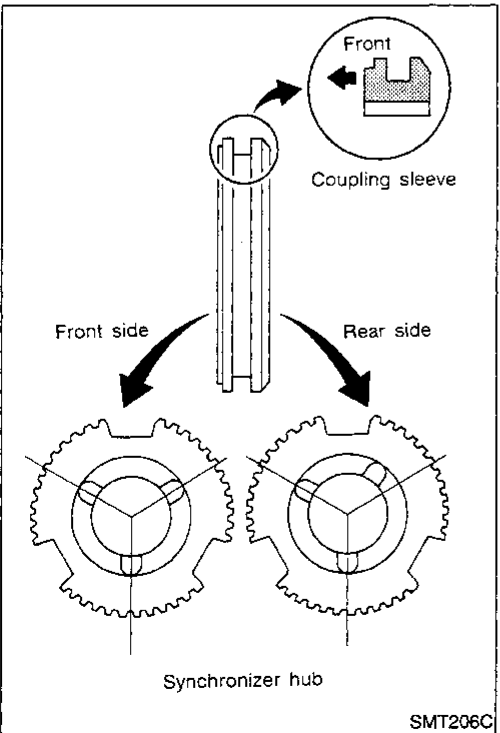
0 - 0.13 mm (0 - 0.0051 in)

Main drive gear snap ring:

Refer to SDS, MT-16.



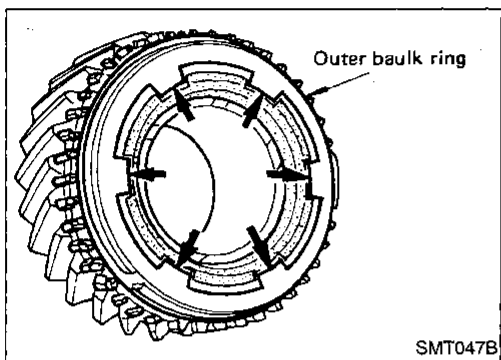
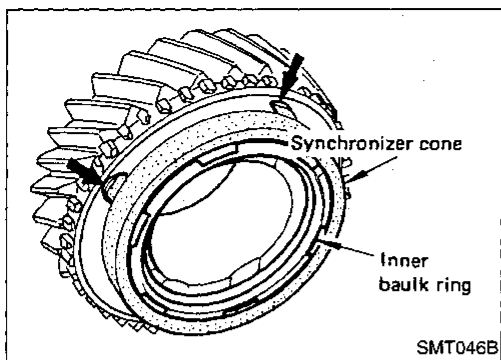
4. Assemble synchronizers.
 - 1st synchronizer



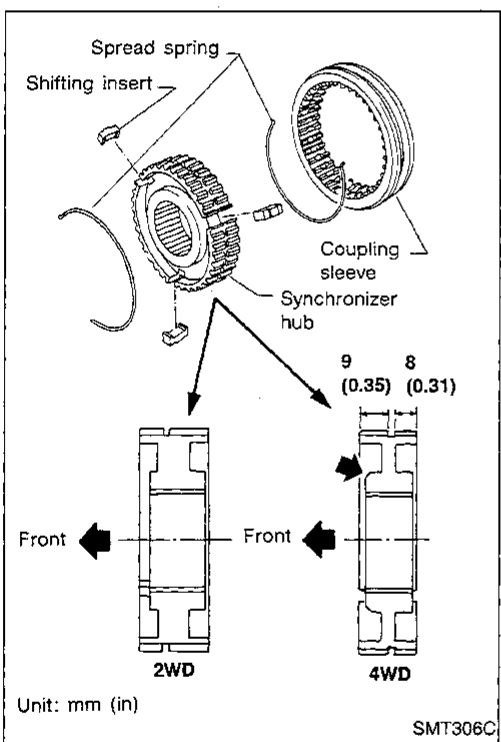
Check coupling sleeve and synchronizer hub orientation.

Gear Components (Cont'd)

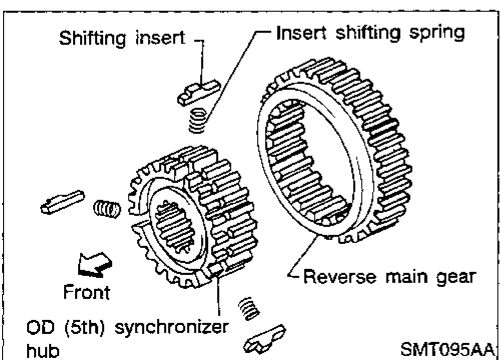
- 2nd double baulk ring type synchronizer



- 3rd & 4th synchronizer
- The 3 gutters of synchronizer should be at the rear.**

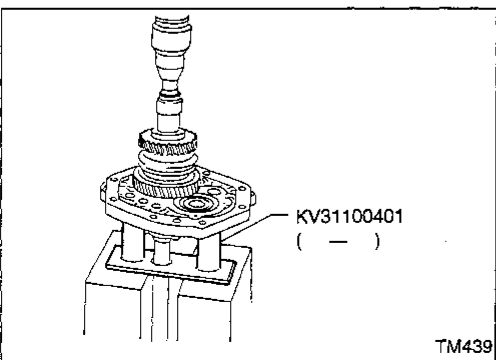
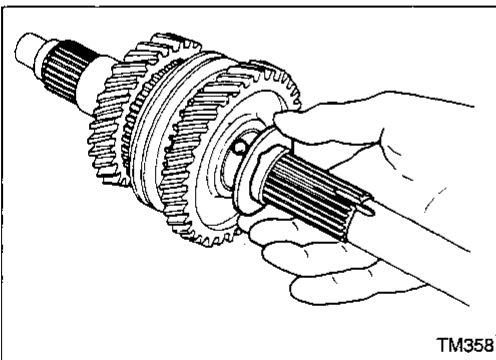
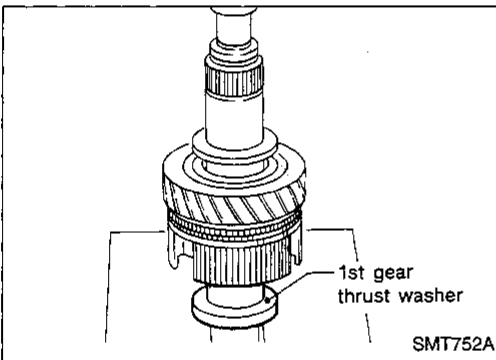
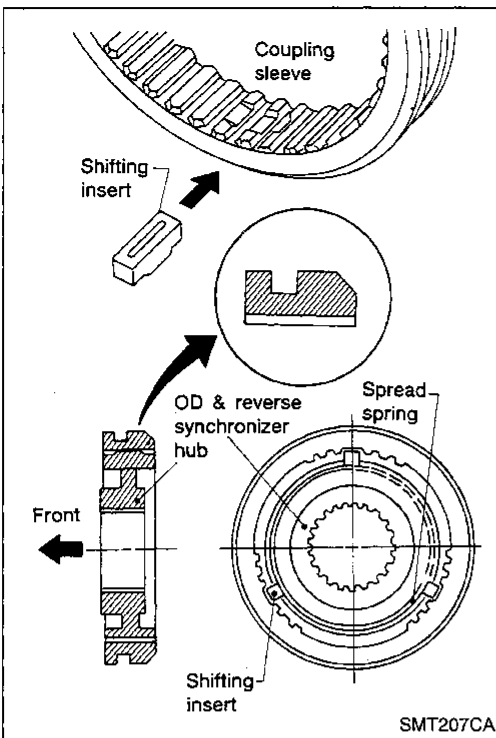


- OD & reverse synchronizer (2WD model)



Gear Components (Cont'd)

(4WD model)



5. Install front side components on mainshaft.

- a. Assemble 2nd main gear, needle bearing and 1st & 2nd synchronizer assembly, then press 1st gear bushing on mainshaft.
- b. Install 1st main gear.

c. Install steel ball and 1st gear washer.

Apply multi-purpose grease to steel ball and 1st gear washer before installing.

6. Install mainshaft and counter gear on adapter plate and main drive gear on mainshaft as follows:

- a. Press mainshaft assembly to adapter plate with Tool.

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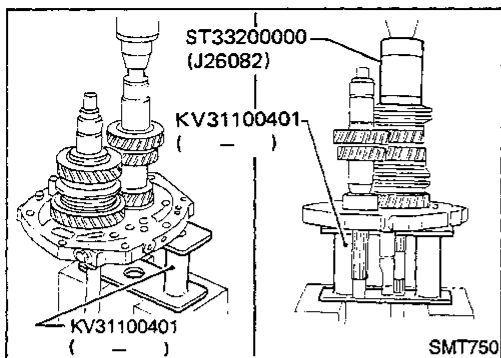
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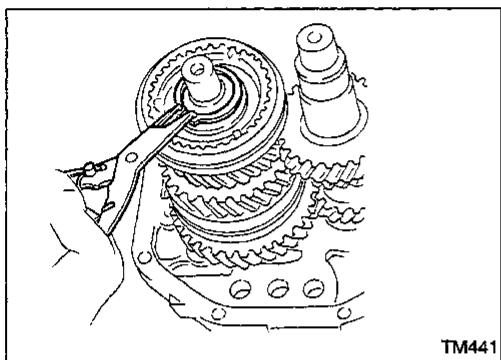
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Gear Components (Cont'd)



- b. Press counter gear into adapter plate with Tool.
- c. Install 3rd main gear and then press 3rd & 4th synchronizer assembly.
- Pay attention to direction of 3rd & 4th synchronizer.



- d. Install thrust washer on mainshaft and secure it with mainshaft front snap ring. Select proper snap ring to minimize clearance of groove in mainshaft.

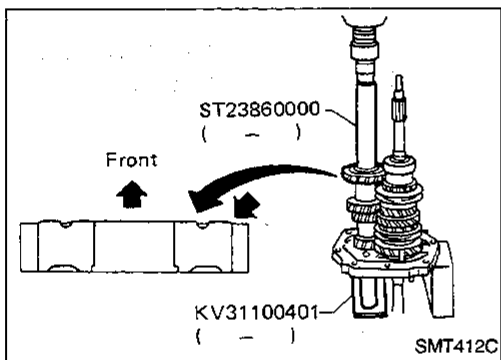
Allowable clearance of groove:

0 - 0.18 mm (0 - 0.0071 in)

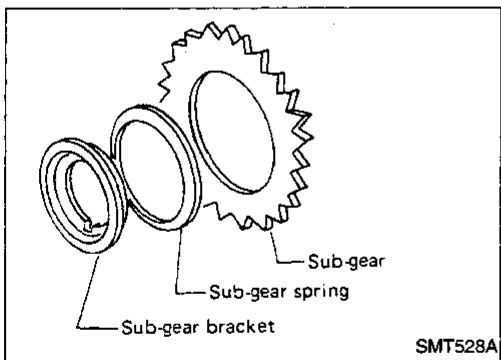
Mainshaft front snap ring:

Refer to SDS, MT-16.

- e. Apply gear oil to mainshaft pilot bearing and install it on mainshaft.



- f. Press counter drive gear with main drive gear with Tool.
- Pay attention to direction of counter drive gear.



- g. Install sub-gear components.
- (1) Install sub-gear and sub-gear bracket on counter drive gear. Select proper snap ring to minimize clearance of groove in counter gear.

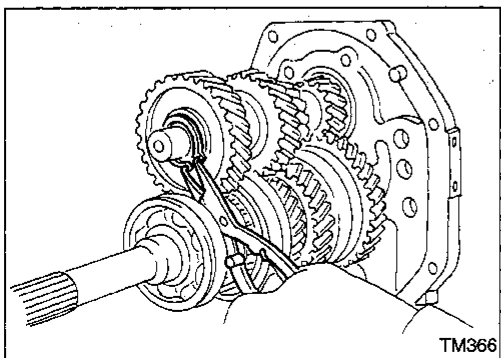
Allowable clearance of groove:

0 - 0.18 mm (0 - 0.0071 in)

Counter drive gear snap ring:

Refer to SDS, MT-57 in the Service Manual.

- (2) Remove snap ring, sub-gear bracket and sub-gear from counter gear.
- (3) Reinstall sub-gear, sub-gear spring and sub-gear bracket.



- h. Install selected counter drive gear snap ring.

Gear Components (Cont'd)

- i. Press counter gear front bearing onto counter gear.

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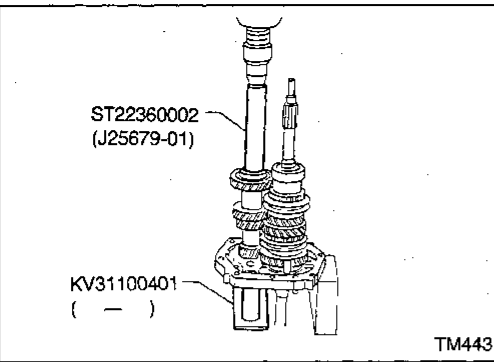
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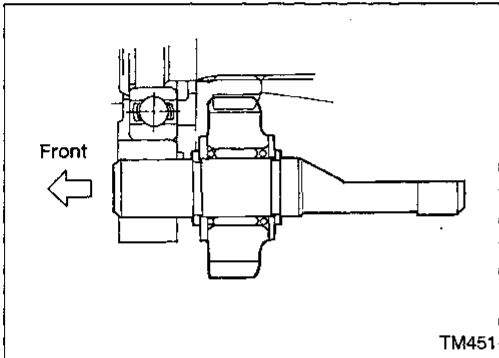
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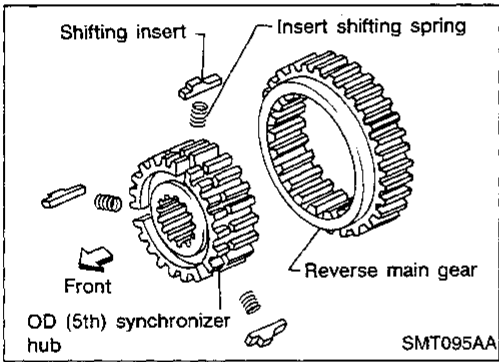
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- 7. Install rear side components on mainshaft and counter gear as follows:

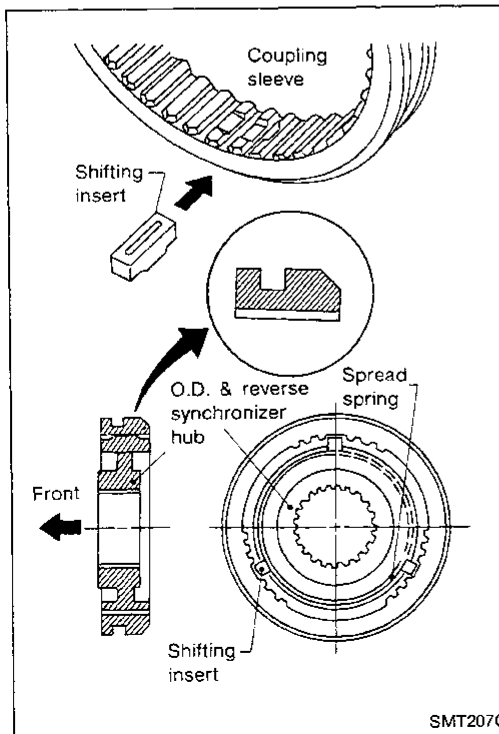
- a. Install reverse idler gear to reverse idler shaft with spacers, snap rings and needle bearing.



SMT095AA

- b. Install insert retainer and OD synchronizer to mainshaft. (2WD model)

Pay attention to direction of hub.

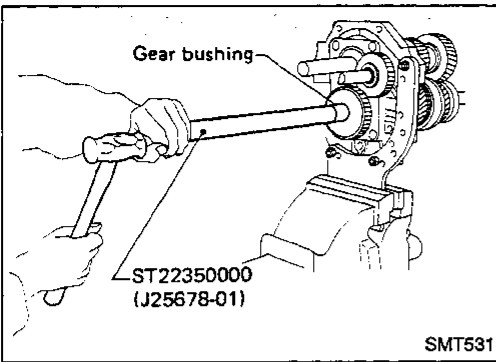


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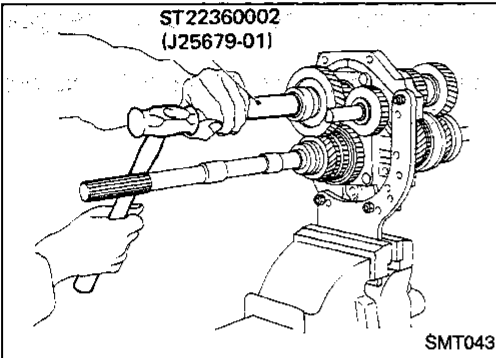
- b. Install bushing and OD & reverse synchronizer to mainshaft. (4WD model)

Pay attention to direction of hub.

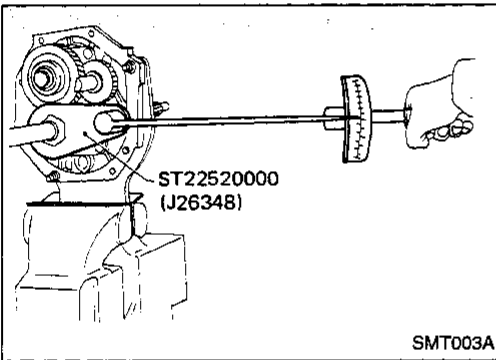
Gear Components (Cont'd)



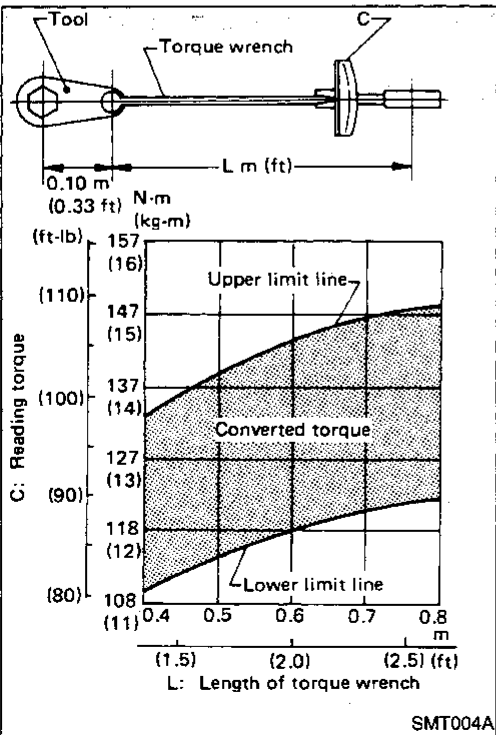
- c. Install OD gear bushing with Tool.
- d. Install OD main gear and needle bearing.
- e. Install spacer, reverse counter gear and OD counter gear.
 - **OD main gear and OD counter gear should be handled as a matched set.**
- f. Install washer, roller bearing, steel roller and thrust washer.
- g. Tighten mainshaft lock nut temporarily.
 - **Always use new lock nut.**



- h. Install countershaft rear end bearing with Tool.

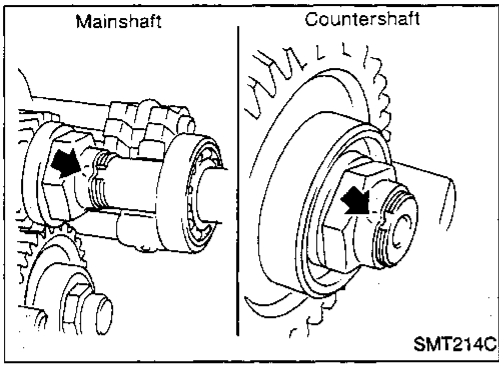


- 8. Mesh 2nd and reverse gears, then tighten mainshaft lock nut with Tool.



- Use the left chart when deciding the reading torque. (Length of torque wrench vs. setting or reading torque)
- 9. Tighten countershaft lock nut.
 - **Always use new lock nut.**

Gear Components (Cont'd)



10. Stake mainshaft lock nut and countershaft lock nut with a punch.
11. Measure gear end play. For the description, refer to DISASSEMBLY for Gear Components, MT-17 in the Service Manual.

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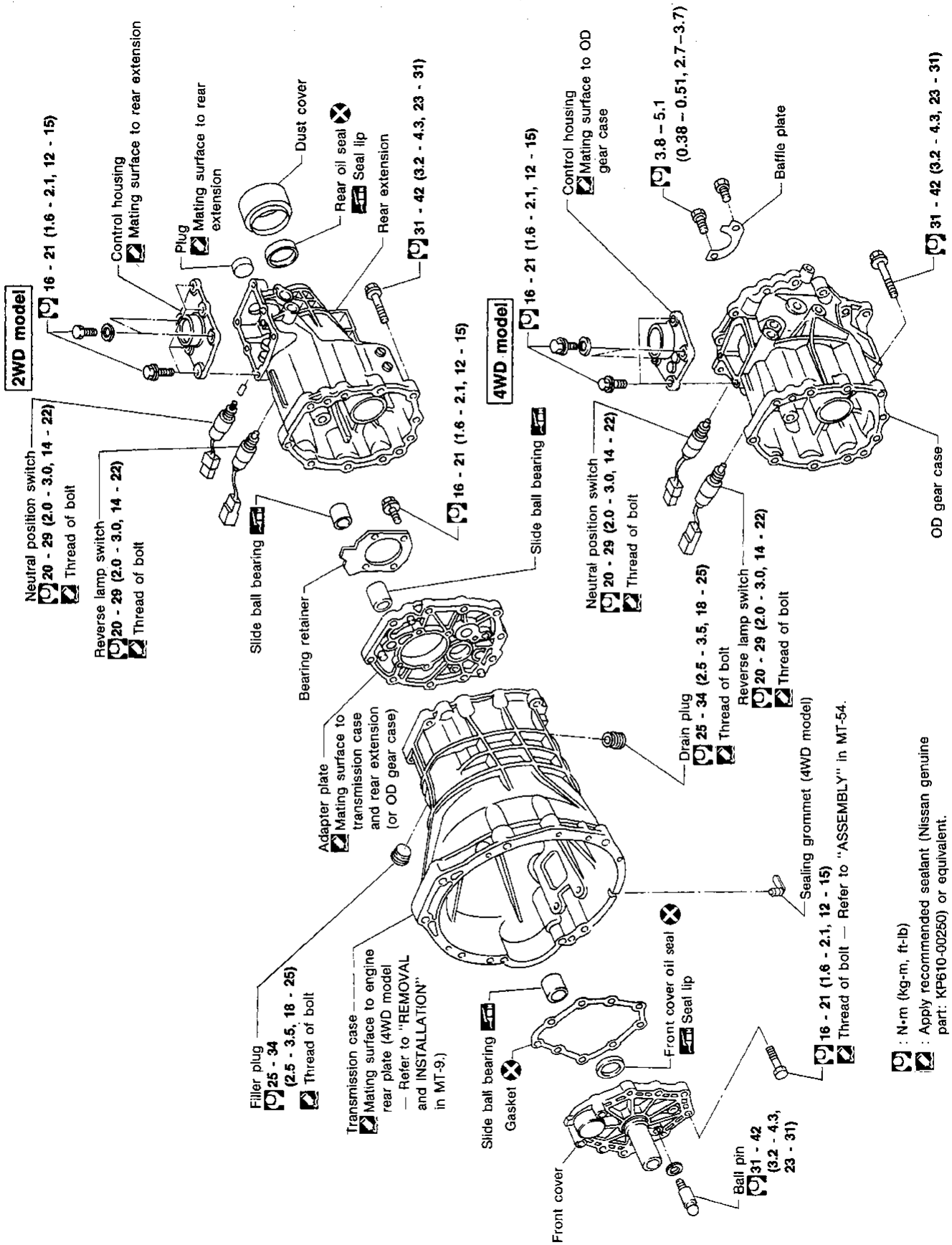
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Case Components



⊗ : N•m (kg•m, ft•lb)
 ⊠ : Apply recommended sealant (Nissan genuine part: KP610-00250) or equivalent.

General Specifications

Applied model	KA24E		VG30E	
	2WD	4WD	2WD	
			Truck	Wagon
4WD			4WD	
Transmission	FS5W71C		FS5R30A	
Number of speed	5			
Shift pattern				
Synchromesh type	Warner			
Gear ratio				
1st	3.321	3.985	3.580	4.061
2nd	1.902	2.246	2.077	2.357
3rd	1.308	1.415	1.360	1.490
4th	1.000	1.000	1.000	1.000
OD	0.838	0.821	0.811	0.862
Reverse	3.381	3.657	3.636	4.125
Number of teeth				
Mainshaft				
Drive	22	21	22	20
1st	33	34	32	32
2nd	27	28	30	30
3rd	26	26	29	28
OD	22	21	24	23
Reverse	36	36	30	30
Countershaft				
Drive	31	32	32	33
1st	14	13	13	13
2nd	20	19	21	21
3rd	28	28	31	31
OD	37	39	43	44
Reverse	15	15	12	12
Reverse idler gear	21	21	22	22
Oil capacity ℓ (US pt, Imp pt)	2.0 (4-1/4, 3-1/2)	4.0 (8-1/2, 7)	2.4 (5-1/8, 4-1/4)	3.6 (7-5/8, 6-3/8)
Remarks	Mainshaft braking mechanism	Reverse synchronizer	2nd & 3rd double baulk ring type synchronizer	
	2nd double baulk ring type synchronizer			

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Inspection and Adjustment

AVAILABLE SNAP RINGS

Main drive gear bearing

Allowable clearance		0 - 0.13 mm (0 - 0.0051 in)
Thickness	mm (in)	Part number
1.94	(0.0764)	32204-78002
2.01	(0.0791)	32204-78003
2.08	(0.0819)	32204-78004

Mainshaft front

Allowable clearance		0 - 0.18 mm (0 - 0.0071 in)
Thickness	mm (in)	Part number
2.4	(0.094)	32263-V5200
2.5	(0.098)	32263-V5201

Inspection and Adjustment

AVAILABLE SHIM AND WASHER

Table for selecting proper counter gear front bearing thrust washer

Dial indicator deflection mm (in)	Thickness of proper washer mm (in)	Part number
0.93 - 1.02 (0.0366 - 0.0402)	0.8 (0.031)	32218-01G00
1.01 - 1.10 (0.0398 - 0.0433)	0.88 (0.0346)	32218-01G11
1.09 - 1.18 (0.0429 - 0.0465)	0.96 (0.0378)	32218-01G12
1.17 - 1.26 (0.0461 - 0.0496)	1.04 (0.0409)	32218-01G13
1.25 - 1.34 (0.0492 - 0.0528)	1.12 (0.0441)	32218-01G14
1.33 - 1.42 (0.0524 - 0.0559)	1.2 (0.047)	32218-01G04
1.41 - 1.50 (0.0555 - 0.0591)	1.28 (0.0504)	32218-01G15
1.49 - 1.58 (0.0587 - 0.0622)	1.36 (0.0535)	32218-01G16
1.57 - 1.66 (0.0618 - 0.0654)	1.44 (0.0567)	32218-01G17

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