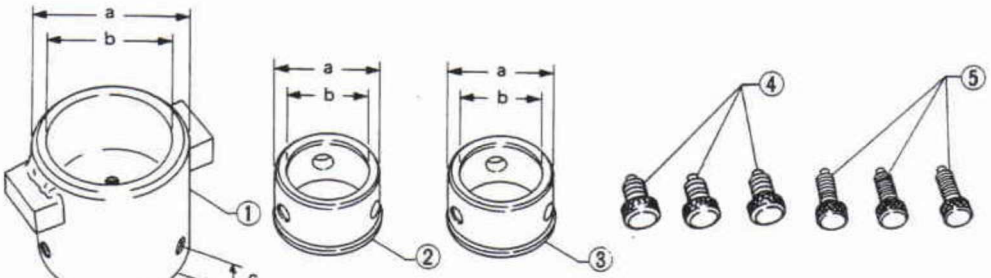
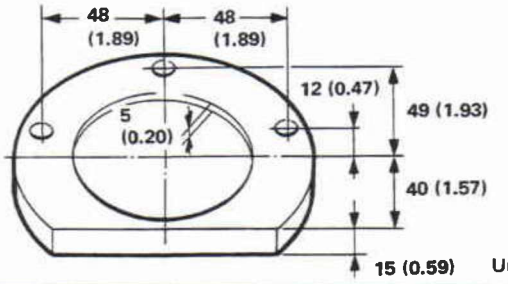
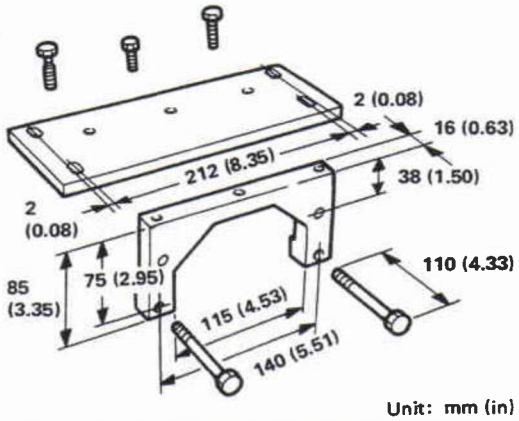
MANUAL TRANSMISSION

SECTION MT

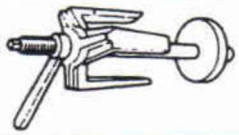
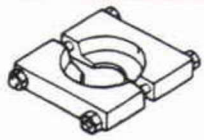
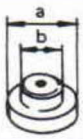
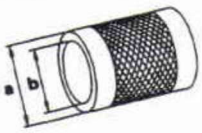
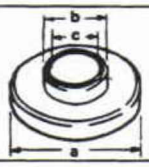
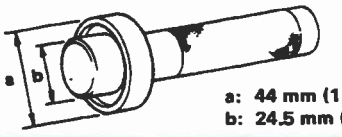
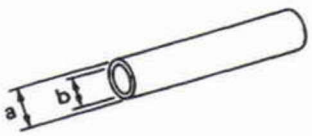
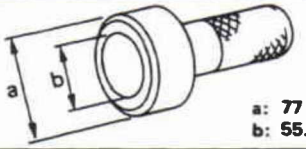
CONTENTS

SPECIAL SERVICE TOOLS

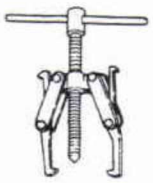
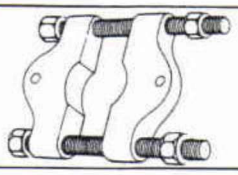
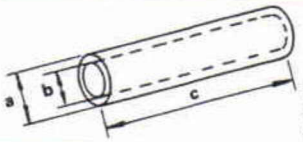
*: Special tool or commercial equivalent

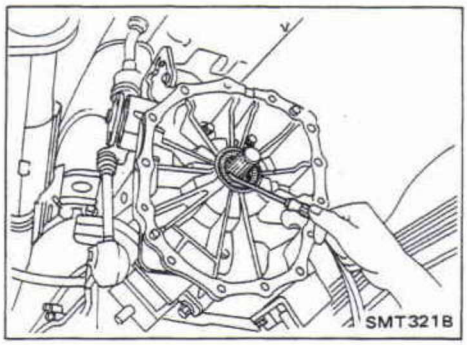
Tool number Tool name	Description
KV321022S1* Bushing hook set ① KV32102211* Bushing hook ② KV32102221* Spacer ③ KV32102240* Spacer ④ KV32102231* Bolt (M12) ⑤ KV32102250* Bolt (M8)	Removing O.D. gear bushing Removing 3rd gear bushing  a = 75 (2.95) dia. b = 59 (2.32) dia. c = 15 (0.59) a = 55 (2.17) dia. b = 42.2 (1.661) dia. a = 55 (2.17) dia. b = 40.2 (1.583) dia. Unit: mm (in)
KV32102400* Counter gear stopper	Installing O.D. gear bushing  Unit: mm (in)
KV32102501* Mainshaft stopper	Installing mainshaft bearing Installing O.D. main gear Installing mainshaft rear end bearing  Unit: mm (in)
KV31100900* Pin punch	Removing and installing retaining pins to control arm 
KV31100300* Pin punch	Removing and installing retaining pin for reverse check assembly, reverse shift fork, reverse fork rod bracket, striking lever, and control lever bracket 

*: Special tool or commercial equivalent

Tool number Tool name	Description	
ST25420001* Clutch spring compressor		Installing sub-gear components
ST30031000* Puller		Remvoing O.D. main gear Removing main drive gear bearing
ST30613000* Drift	 a: 71.5 mm (2.815 in) dia. b: 47.5 mm (1.870 in) dia.	Installing main drive gear bearing Installing O.D. synchronizer cone
ST33200000* Drift	 a: 60 mm (2.36 in) dia. b: 44.5 mm (1.752 in) dia.	Installing 3rd gear bushing Installing 3rd & 4th synchronizer assembly Installing counter gear front bearing Installing counter gear rear bearing (Use with KV40100630)
KV40100630* Drift	 a: 67.5 mm (2.657 in) dia. b: 44 mm (1.73 in) dia. c: 38.5 mm (1.516 in) dia.	Installing counter gear rear bearing (Use with ST33200000)
KV38102100 Drift	 a: 44 mm (1.73 in) dia. b: 24.5 mm (0.965 in) dia.	Installing front cover oil seal
ST22452000* Drift	 a: 45 mm (1.77 in) dia. b: 36 mm (1.42 in) dia.	Installing O.D. gear bushing Installing O.D. main gear Installing mainshaft rear end bearing
ST30720000* Drift	 a: 77 mm (3.03 in) dia. b: 55.5 mm (2.185 in) dia.	Installing rear oil seal

COMMERCIAL SERVICE TOOLS

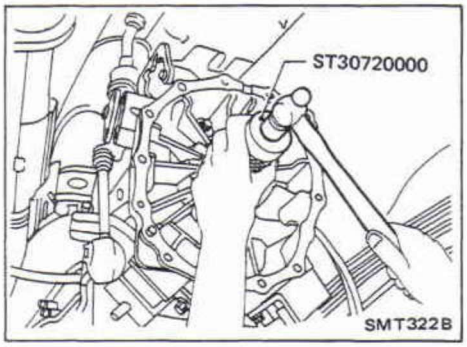
Tool name	Description	
Puller		Removing companion flange Removing mainshaft rear end bearing Removing O.D. synchronizer assembly Removing O.D. gear bushing Removing O.D. main gear Removing mainshaft bearing Removing reverse synchronizer hub Removing 3rd & 4th synchronizer hub Removing 3rd gear bushing
Puller		Removing mainshaft low gear bearing Removing counter low & high gear front bearing Removing counter gear front and rear bearing
Drift	 a: 48.6 mm (1.913 in) dia. b: 41.6 mm (1.638 in) dia. c: 410 mm (16.14 in)	Installing reverse synchronizer hub Installing 1st & 2nd synchronizer hub Installing mainshaft bearing



Replacing Rear Oil Seal

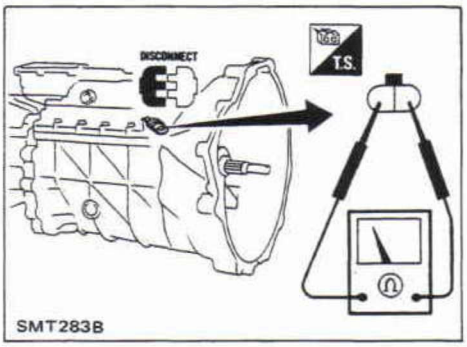
REMOVAL

1. Remove transfer assembly. — Refer to section TF.
2. Pull out rear oil seal.



INSTALLATION

1. Install rear oil seal.
- **Before installing apply multi-purpose grease to seal lip.**
2. Install transfer assembly. — Refer to section TF.

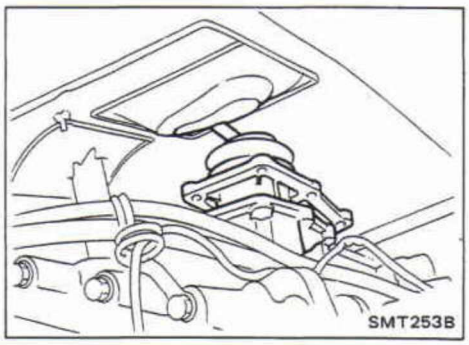


Check of Position Switch

BACK-UP LAMP SWITCH

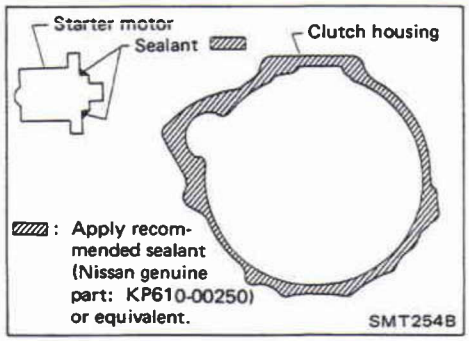
- Check continuity.

Shift position	Continuity
Reverse	Yes
Except reverse	No


SMT253B

Removal

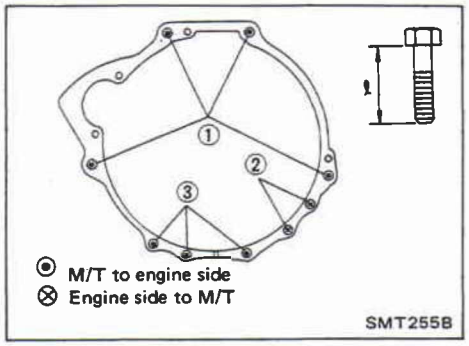
- Remove front and rear propeller shafts. — Refer to section PD.
- Disconnect transfer control lever from transfer.
- Disconnect transmission control housing from gear shift housing cover after engine rear mounting member is disconnected from frame.
- Remove transmission with transfer from engine.
- **Support manual transmission with transfer, while removing it.**



SMT254B

Installation

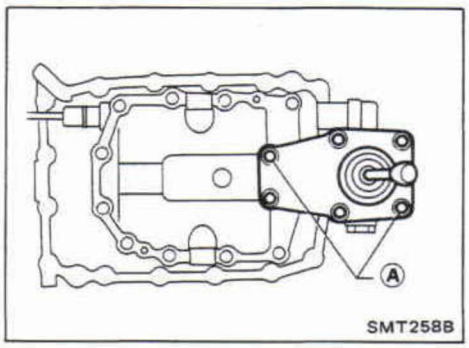
- Apply recommended sealant to mating surface of engine rear plate.



SMT255B

- Tighten all transmission bolts.

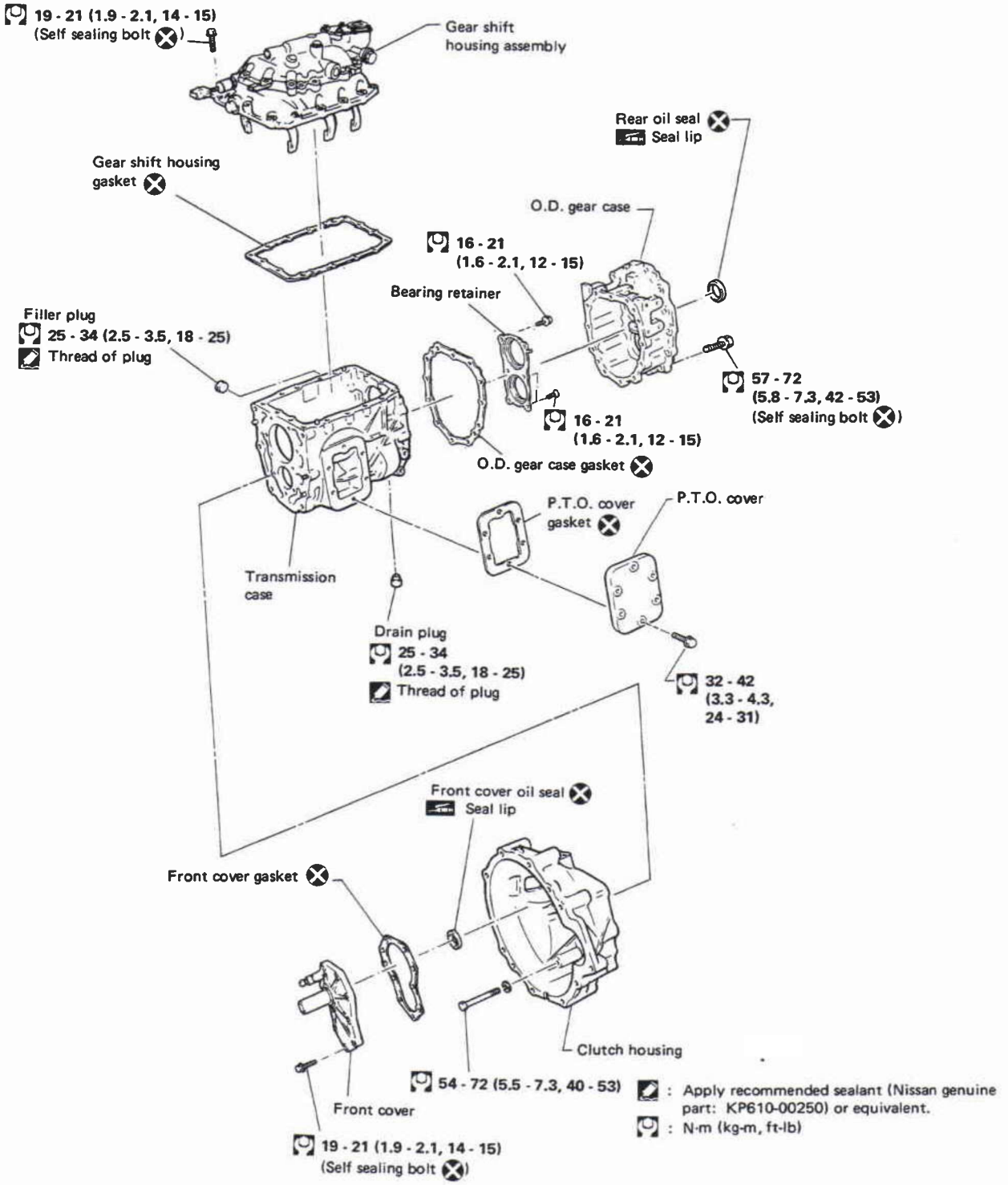
Bolt	Tightening torque N·m (kg-m, ft-lb)	ℓ mm (in)
1	83 - 113 (8.5 - 11.5, 61 - 83)	65 (2.56)
2	29 - 39 (3.0 - 4.0, 22 - 29)	35 (1.38)
3	29 - 39 (3.0 - 4.0, 22 - 29)	75 (2.95)
Gusset to engine	29 - 39 (3.0 - 4.0, 22 - 29)	35 (1.38) 75 (2.95)



SMT258B

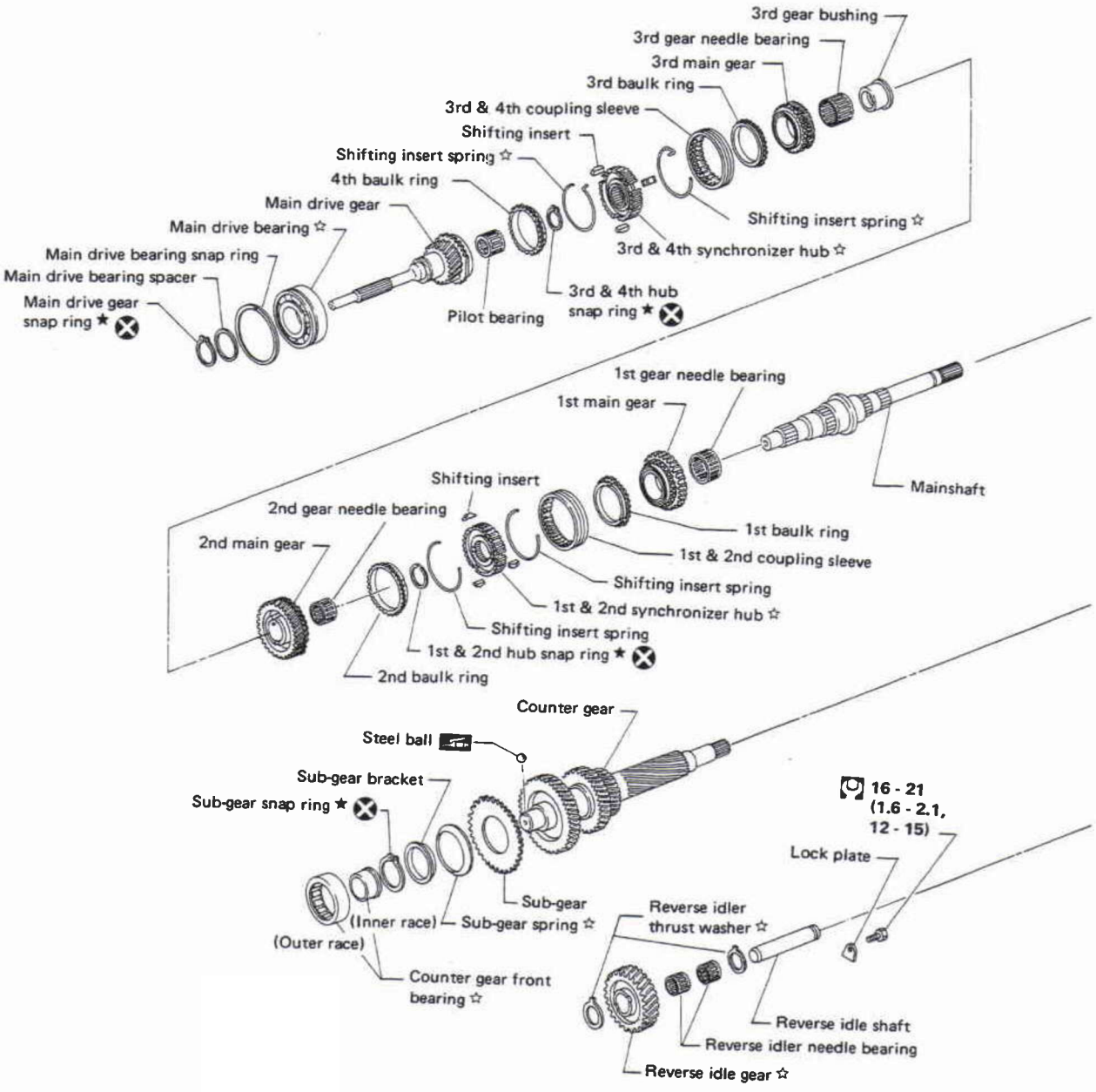
- Connect control housing.
- **Bolts at portion Ⓐ are longer than others.**

Case Components

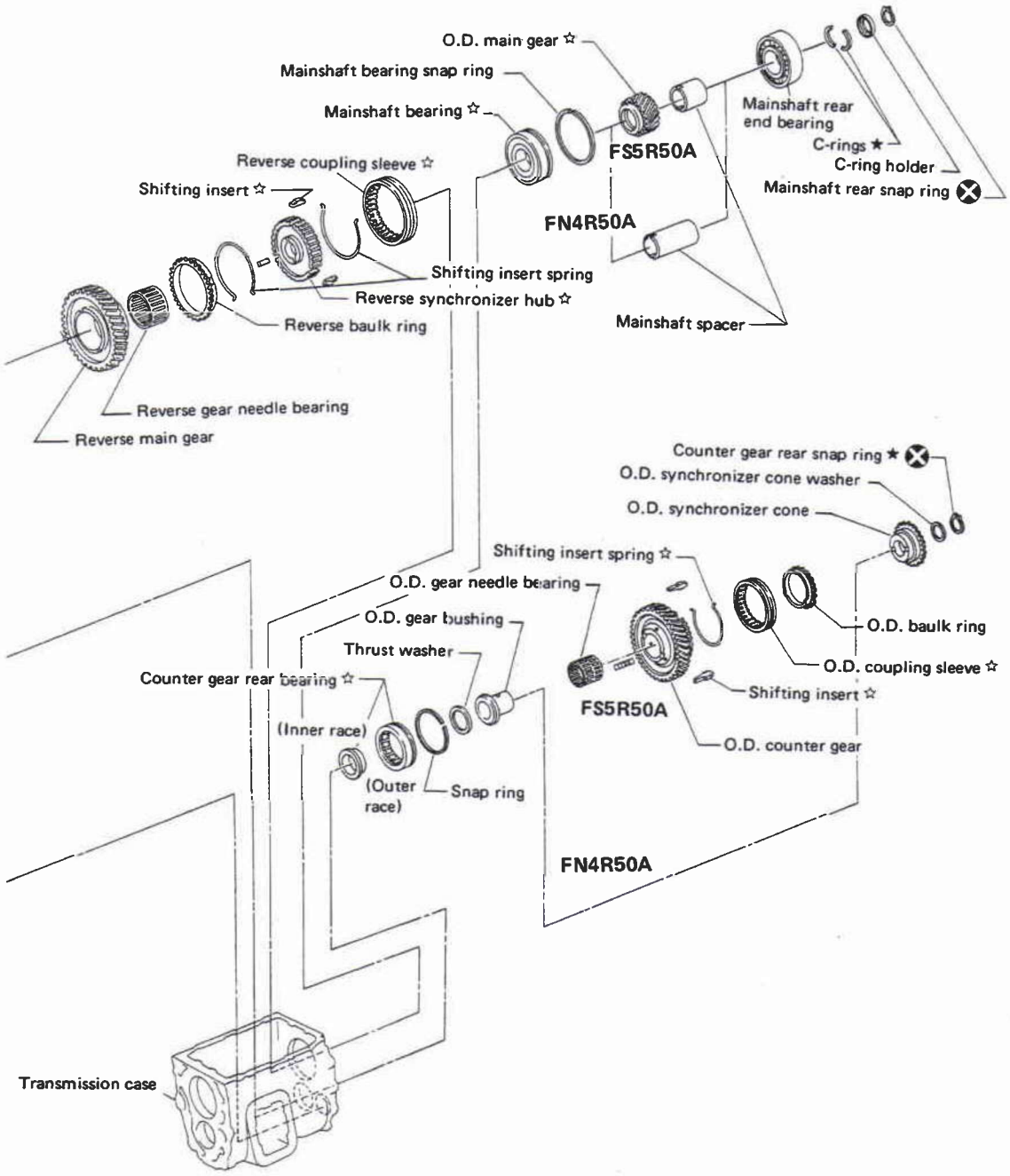


SMT256B

Gear Components



Gear Components (Cont'd)



Apply gear oil to gears, shafts, synchronizers and bearings when assembling.

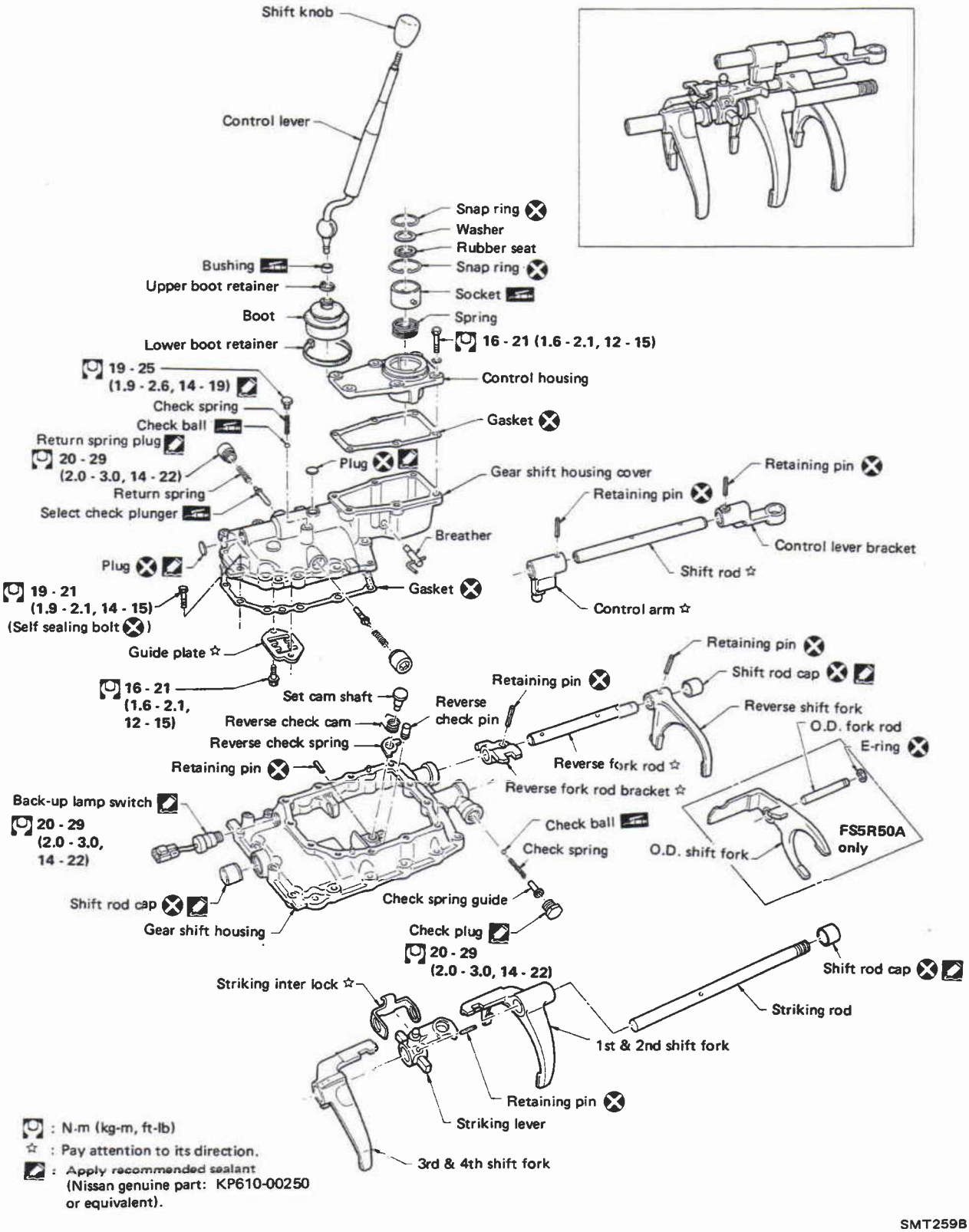
★ : Select with proper thickness.

☆ : Pay attention to its direction.

: N·m (kg-m, ft-lb)

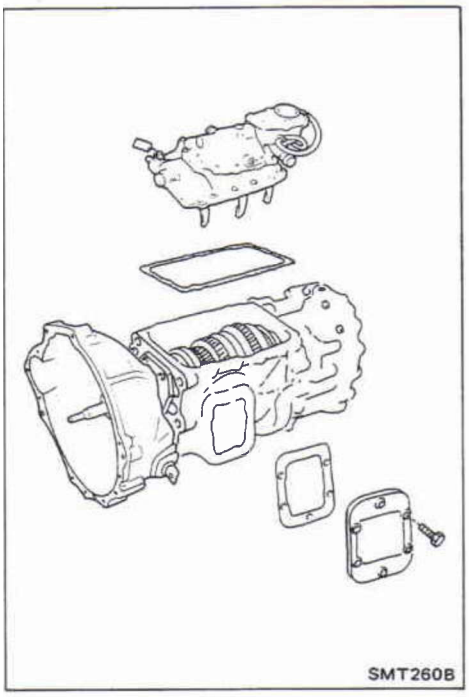
SMT257B

Shift Control Components

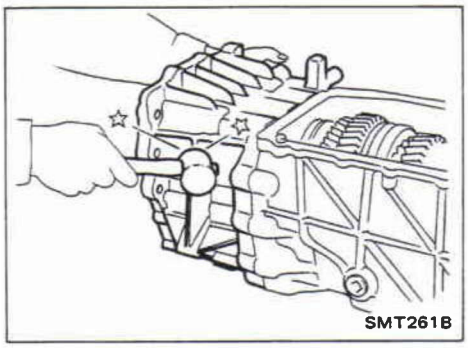


: N·m (kg-m, ft-lb)
☆ : Pay attention to its direction.
: Apply recommended sealant (Nissan genuine part: KP610-00250 or equivalent).

SMT259B

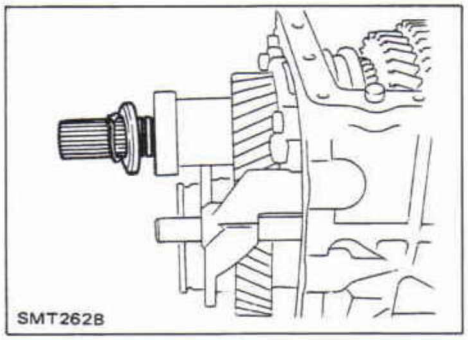


1. Remove transmission outer parts.
- Shift control components
- Clutch housing
- P.T.O. cover or assembly if equipped
- Transfer assembly

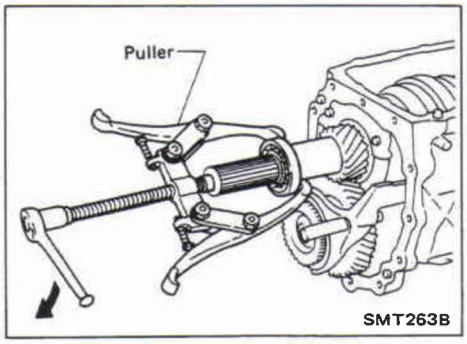


2. Remove O.D. gear case components.

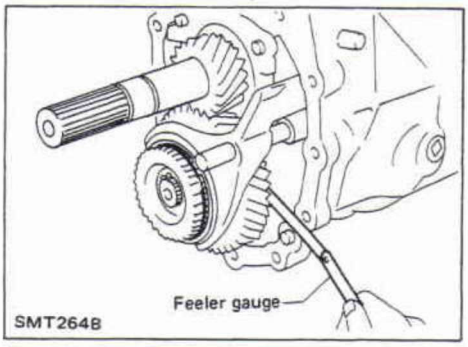
a. Remove O.D. gear case.



b. Remove mainshaft rear C-ring holder and C-rings after removing snap ring.



c. Pull out mainshaft rear end bearing, then remove spacer.

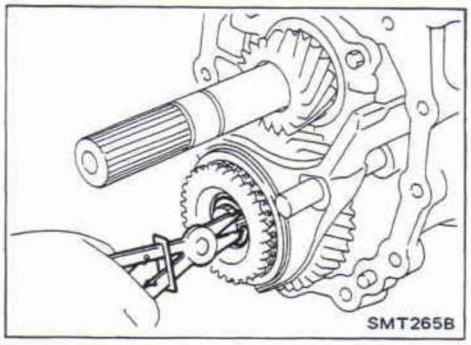


d. Check O.D. counter gear end play. (FS5R50A only)

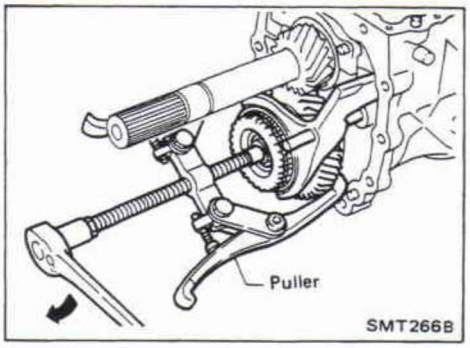
Gear end play

Gear	End play mm (in)
O.D. counter gear	0.20 - 0.47 (0.0079 - 0.0185)

- If not within specification, disassemble and check contact surface of gear to hub, washer, bushing, needle bearing and shaft.



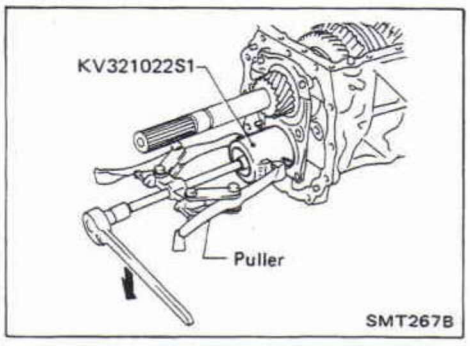
e. Remove counter gear rear snap ring.



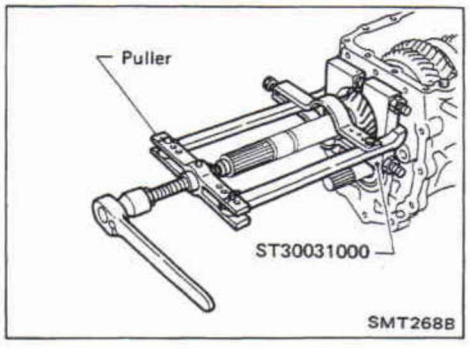
f. Pull out the following parts.

— **FN4R50A** —
- O.D. synchronizer cone

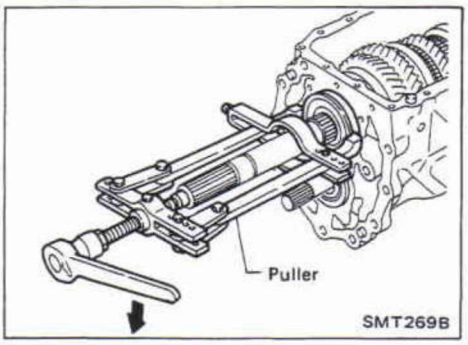
— **FS5R50A** —
- O.D. counter gear
- O.D. synchronizer assembly with O.D. shift fork and rod



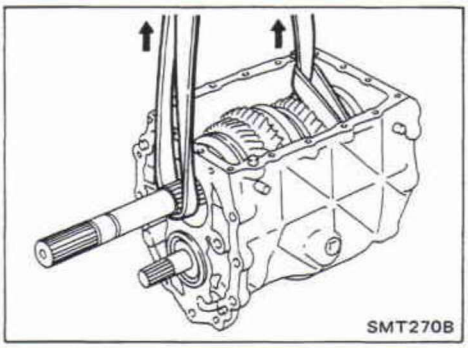
g. Pull out O.D. gear bushing.
h. Remove bolts securing bearing retainer and then remove bearing retainer.



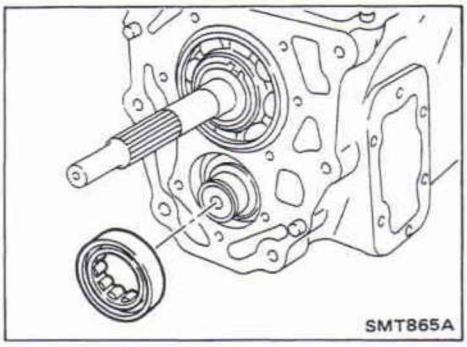
i. Pull out O.D. main gear. (FS5R50A only)



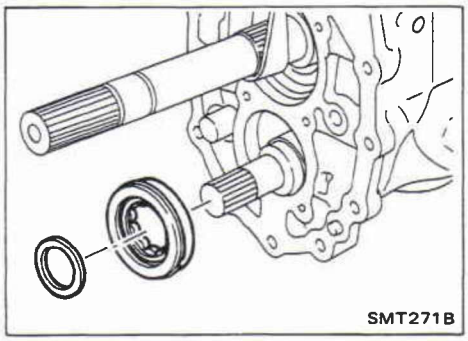
3. Remove transmission case components.
a. Remove mainshaft bearing snap ring.
b. Pull out mainshaft bearing.



c. Support mainshaft with hoist.
d. Remove bolts securing front cover and then remove front cover.

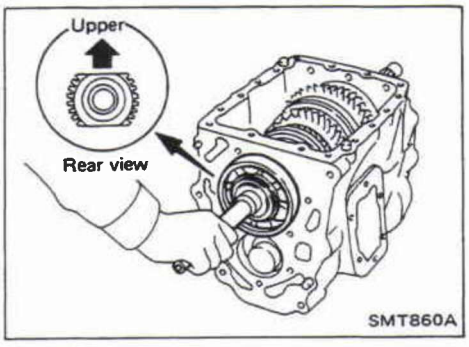


e. Remove counter gear front bearing outer race.
- **Tap rear end of counter gear lightly before removing bearing.**

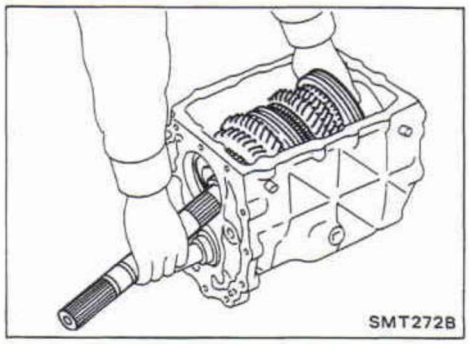


f. Remove counter gear rear bearing outer race.
- **Tap front end of counter gear lightly before removing bearing.**

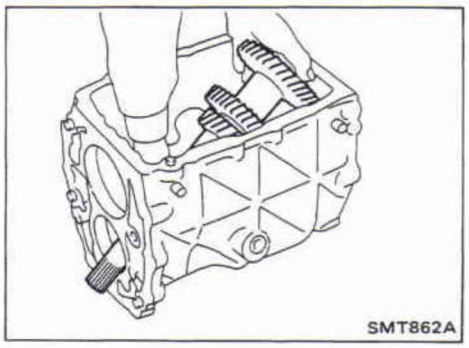
g. Settle counter gear assembly down on bottom of transmission case.



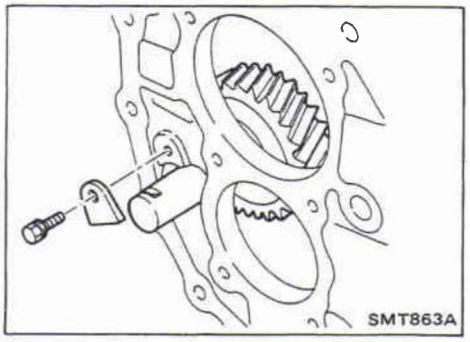
h. Remove main drive gear assembly.
- **Set cutting portion of clutch gear on main drive gear to upper side.**



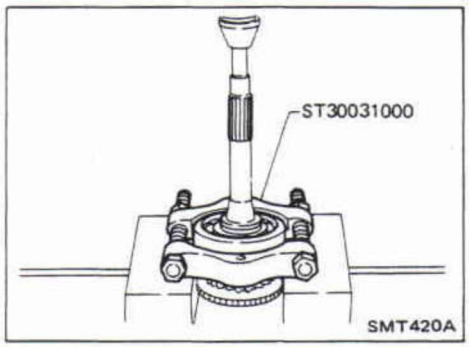
i. Remove mainshaft assembly.



j. Remove counter gear assembly.



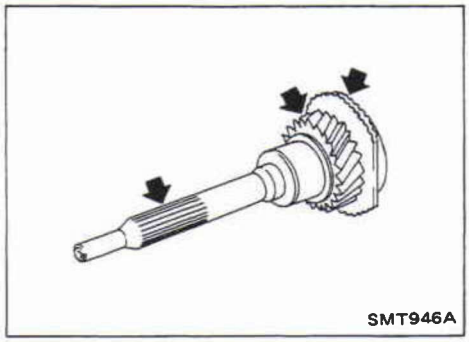
k. Remove lock plate of reverse idler shaft and then remove reverse idler gear, washers, needle bearings and shaft.



Main Drive Gear

DISASSEMBLY

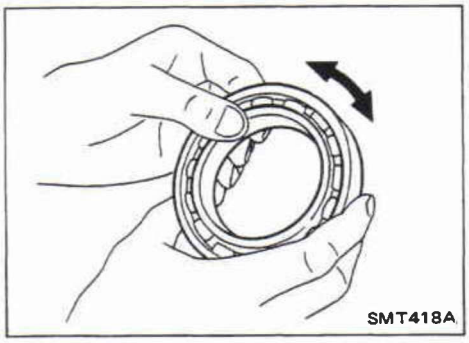
1. Remove main drive gear snap ring and spacer.
2. Press out main drive gear bearing.



INSPECTION

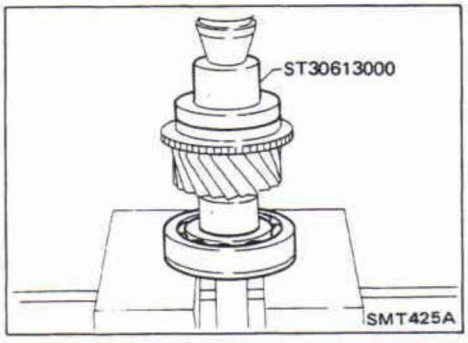
Gears and shafts

- Check shafts for cracks, wear or bending.
- Check gears for excessive wear, chips or cracks.



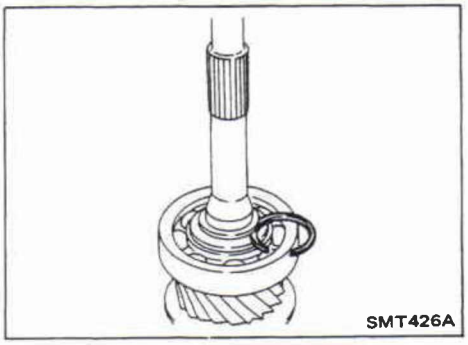
Bearing

- Make sure bearing rolls freely and is free from noise, cracks, pitting or wear.



ASSEMBLY

1. Press main drive gear bearing in place.
2. Install main drive gear spacer.



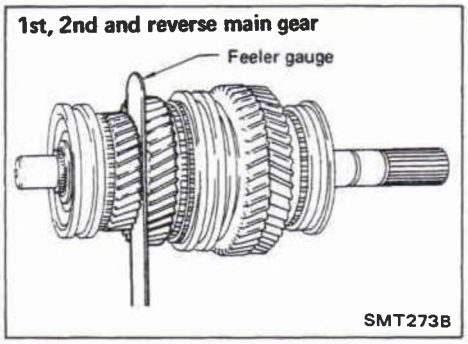
3. Select proper main drive gear snap ring to minimize clearance of groove, then install it.

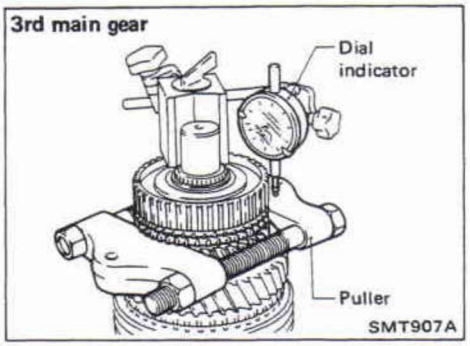
   Allowable clearance of groove:

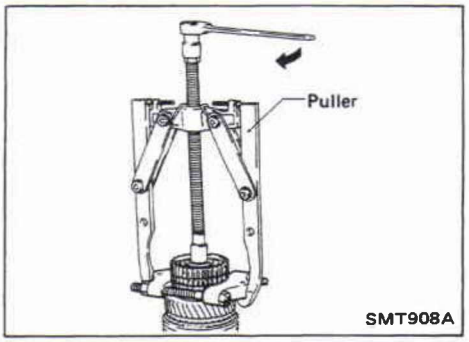
   0 - 0.15 mm (0 - 0.0059 in)

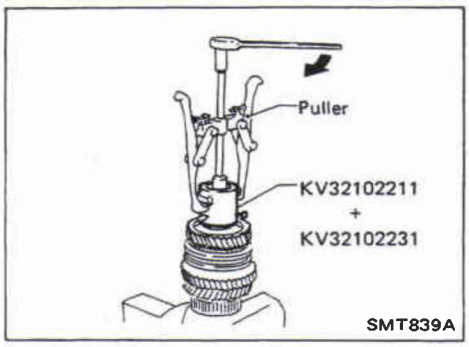
   Main drive gear snap ring:

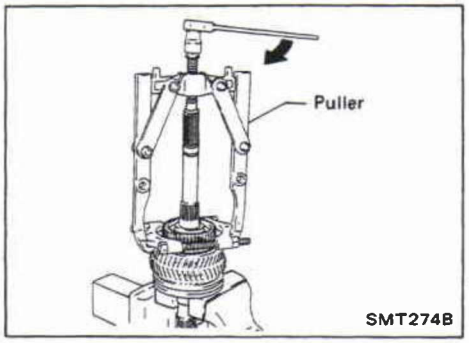
   Refer to S.D.S.











Mainshaft and Gears

DISASSEMBLY

1. Before disassembly, check 1st, 2nd, 3rd and reverse main gear end play.

Gear end play

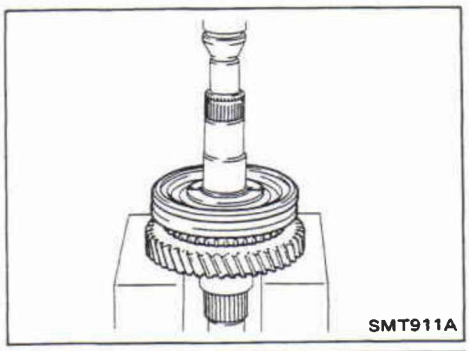
Gears	End play mm (in)
1st main gear	0.20 - 0.48 (0.0079 - 0.0189)
2nd main gear	0.20 - 0.60 (0.0079 - 0.0236)
3rd main gear	0.20 - 0.45 (0.0079 - 0.0177)
Reverse main gear	0.20 - 0.44 (0.0079 - 0.0173)

- If not within specification, disassemble and check contact surface of gears to hub, washer, bushing, needle bearing and shaft.

2. Remove 3rd & 4th hub snap ring.
3. Pull out 3rd main gear together with 3rd & 4th synchronizer assembly and 3rd gear needle bearing.
4. Pull out 3rd gear bushing.
5. Remove 2nd main gear and 2nd gear needle bearing.
6. Pull out reverse synchronizer assembly.
7. Remove reverse main gear and reverse gear needle bearing.
8. Remove 1st & 2nd hub snap ring.

Mainshaft and Gears (Cont'd)

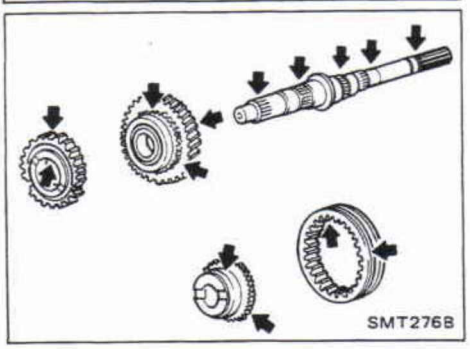
9. Press out 1st main gear together with 1st & 2nd synchronizer assembly.



INSPECTION

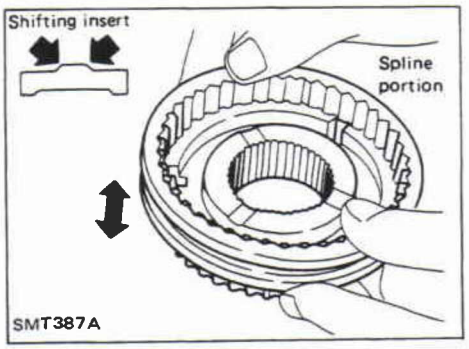
Gear and shaft

- Check for cracks, wear or bending.
- Check gears for excessive wear, chips or cracks.



Synchronizer

- Check spline portion of coupling sleeves, hubs and gears for wear or cracks.
- Check baulk rings for cracks or deformation.
- Check shifting inserts for wear or deformation.

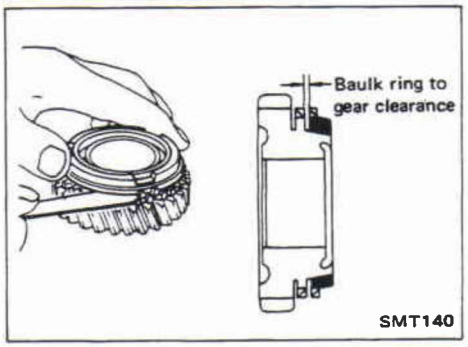


- Measure clearance between baulk ring and gear.

Clearance between baulk rings and main gears:

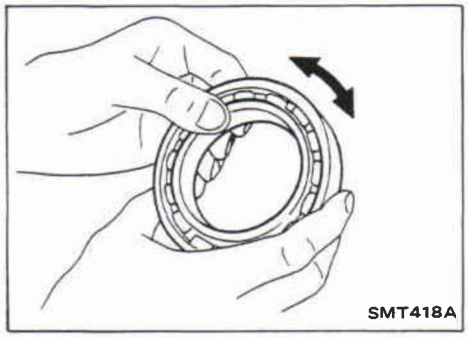
Unit: mm (in)

	Standard	Wear limit
1st	1.00 - 1.45 (0.0394 - 0.0571)	0.7 (0.028)
2nd	1.1 - 1.5 (0.043 - 0.059)	
3rd & main drive	1.00 - 1.45 (0.0394 - 0.0571)	
Reverse	1.00 - 1.45 (0.0394 - 0.0571)	



Bearing

- Make sure bearings roll freely and are free from noise, cracks, pitting or wear.



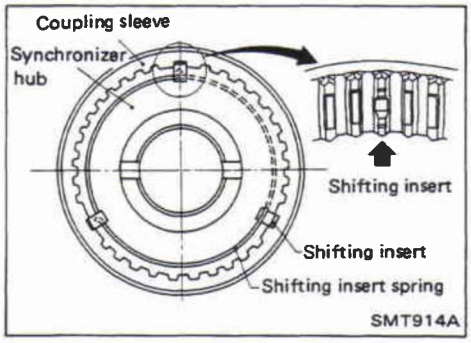
Mainshaft and Gears (Cont'd)

ASSEMBLY

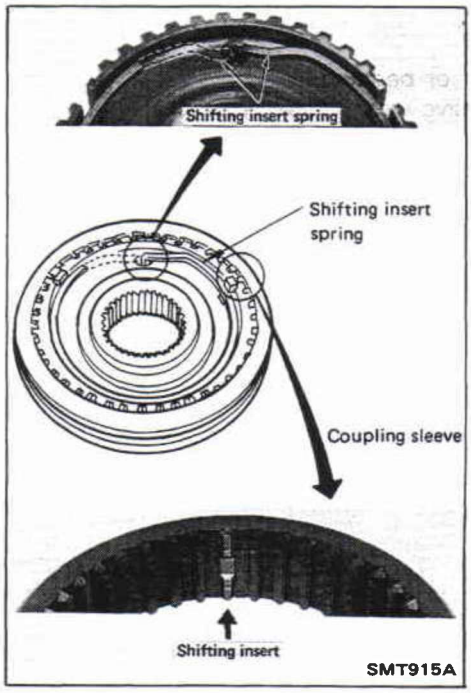
1. Assemble synchronizers.

1st & 2nd synchronizer

- **Opening of shifting insert springs must not be aligned with each other.**

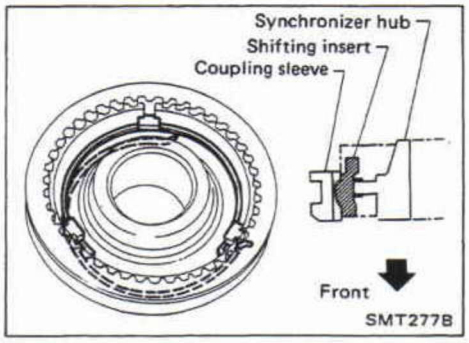


3rd & 4th synchronizer

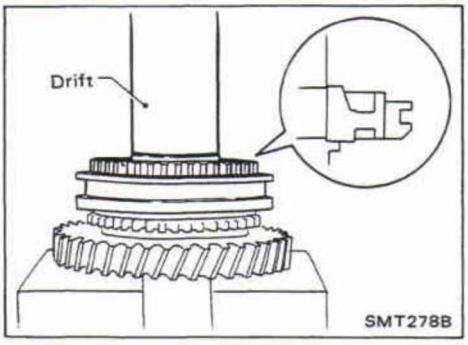


Reverse synchronizer

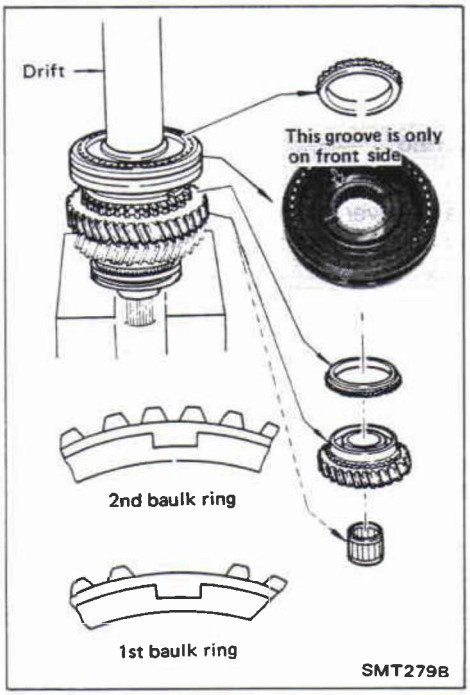
- **Pay attention to direction of synchronizer hub, shifting inserts and coupling sleeve.**
- **Openings of shift insert springs must not be aligned with each other.**



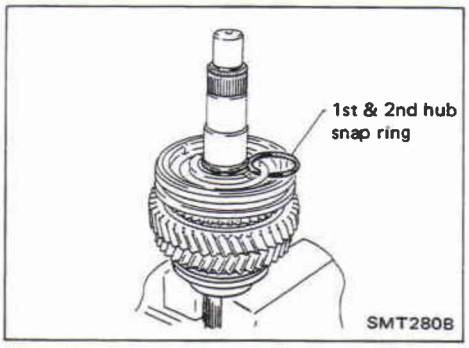
2. Press reverse synchronizer assembly together with reverse main gear and reverse gear needle bearing.
   - **Pay attention to direction of reverse synchronizer hub assembly.**
3. Install 1st main gear and 1st gear needle bearing.



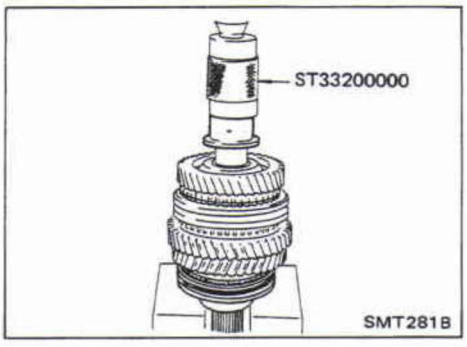
Mainshaft and Gears (Cont'd)



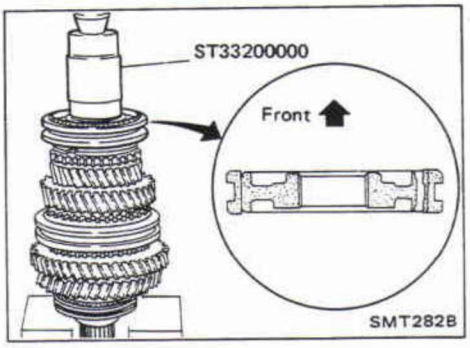
4. Press 1st & 2nd synchronizer assembly.
● **1st baulk ring and 2nd baulk ring are different.**



5. Select proper 1st & 2nd hub snap ring to minimize clearance of groove, then install it.
Allowable clearance of groove:
0 - 0.13 mm (0 - 0.0051 in)
1st & 2nd hub snap ring:
Refer to S.D.S.

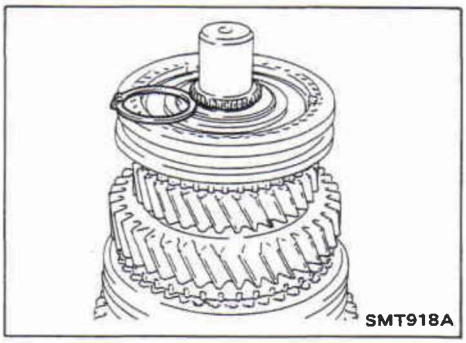


6. Install 2nd main gear and 2nd gear needle bearing.
7. Press 3rd gear bushing.
8. Install 3rd main gear and 3rd gear needle bearing.



9. Press 3rd & 4th synchronizer assembly.
● **Pay attention to direction of synchronizer assembly.**

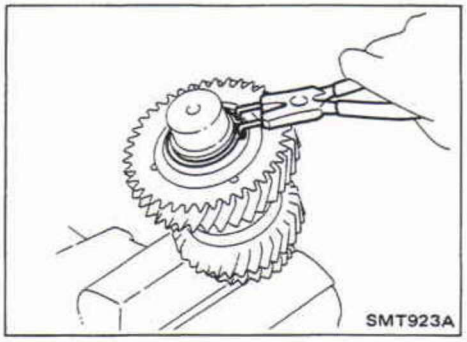
Mainshaft and Gears (Cont'd)



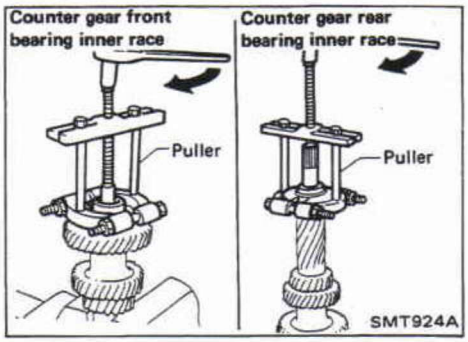
10. Select proper 3rd & 4th hub snap ring to minimize clearance of groove, then install it.
    Allowable clearance of groove:
    0 - 0.1 mm (0 - 0.004 in)
    3rd & 4th hub snap ring:
    Refer to S.D.S.
11. Measure 1st, 2nd, 3rd and reverse main gear end plays as the final check. — Refer to "Disassembly".

Counter Gear

DISASSEMBLY



1. Remove sub-gear components.
a. Remove sub-gear snap ring.
b. Remove sub-gear, sub-gear bracket, sub-gear spring and steel ball.



2. Pull out counter gear front and rear bearing inner race.

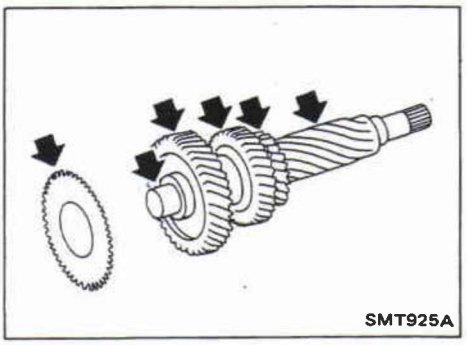
INSPECTION

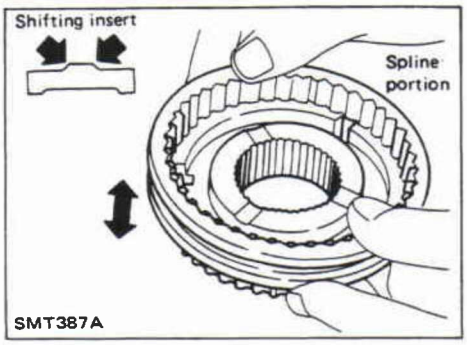
Gear and shaft

- Check shaft for cracks or bending.

Bearing

- Make sure bearing rolls freely and is free from noise.

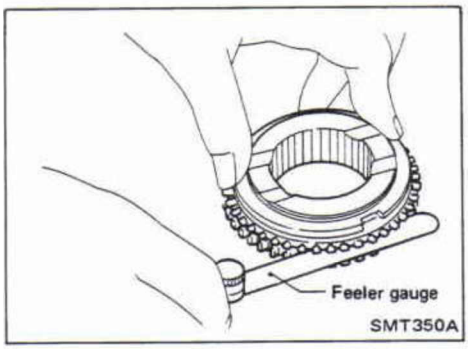




Synchronizer

- Check spline portion of coupling sleeve, hub and gear for wear or cracks.
- Check shifting inserts for wear or deformation.
- Check baulk ring for cracks or deformation.

Counter Gear (Cont'd)

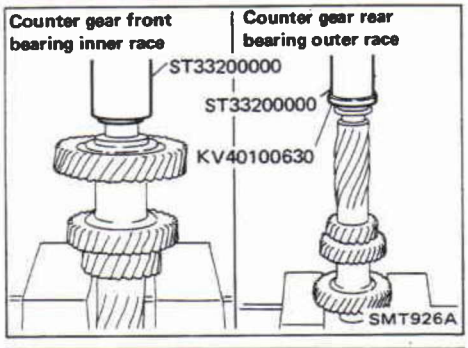


- Measure clearance between baulk ring and synchronizer cone.

Clearance between baulk ring and synchronizer cone

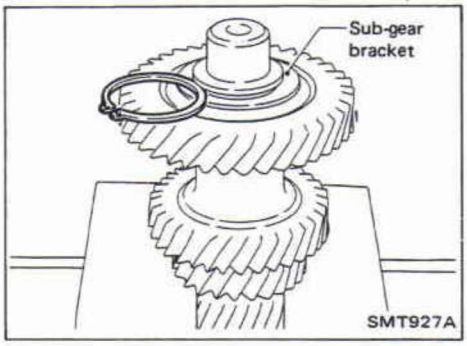
Unit: mm (in)

	Standard	Wear limit
O.D.	1.00 - 1.45 (0.0394 - 0.0571)	0.7 (0.028)



ASSEMBLY

1. Press on counter gear front and rear bearing inner race.



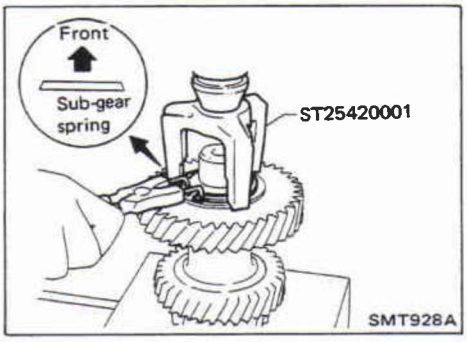
2. Place sub-gear bracket on counter gear to select proper sub-gear snap ring to minimize clearance of groove.

   Allowable clearance of groove:

   0 - 0.15 mm (0 - 0.0059 in)

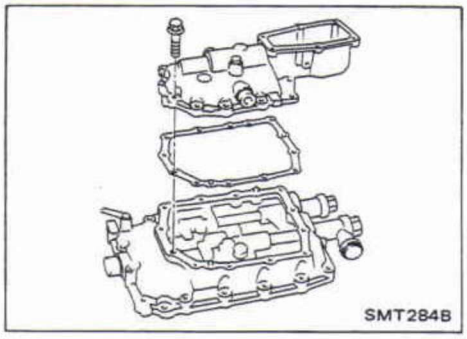
   Sub-gear snap ring:

   Refer to S.D.S.



3. Install sub-gear, sub-gear spring, sub-gear bracket, steel ball and selected snap ring, while compressing sub-gear spring.

- **Pay attention to direction of sub-gear spring.**
- **Apply multi-purpose grease to steel ball.**



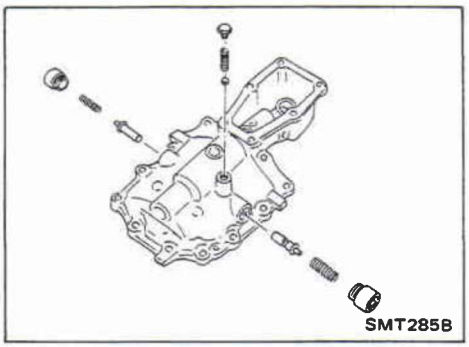
Shift Control Components

DISASSEMBLY

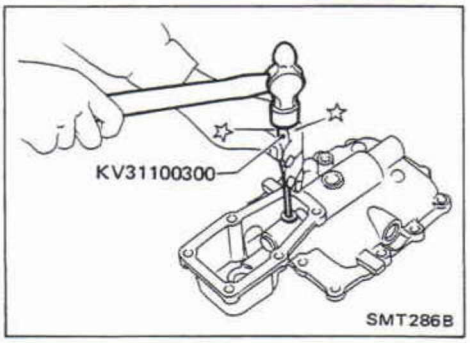
1. Remove and disassemble gear shift housing cover.

a. Remove gear shift housing cover assembly from gear shift housing.

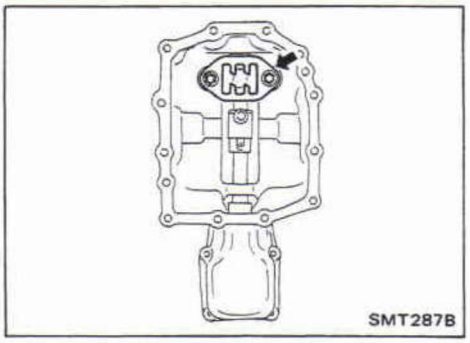
Shift Control Components (Cont'd)



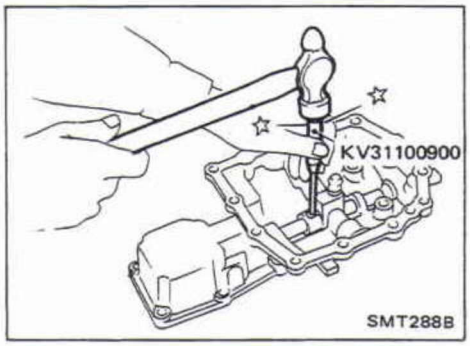
b. Remove the following parts.
- Select check plunger
- Return spring plugs
- Return springs
- Check balls



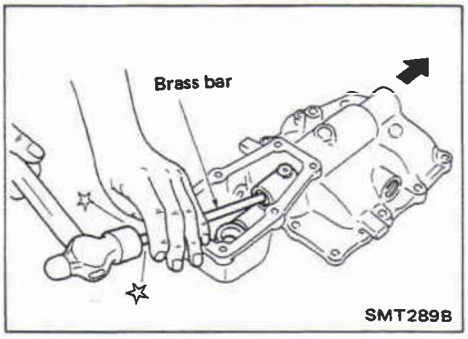
c. Drive out retaining pin from control lever bracket.



d. Remove guide plate.

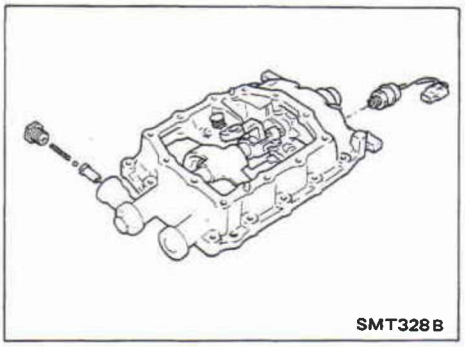


e. Drive out retaining pin from control arm through plug on housing cover.



f. Drive out striking rod with brass bar through plug on housing cover.

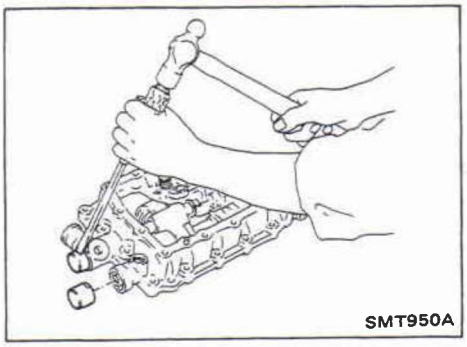
Shift Control Components (Cont'd)



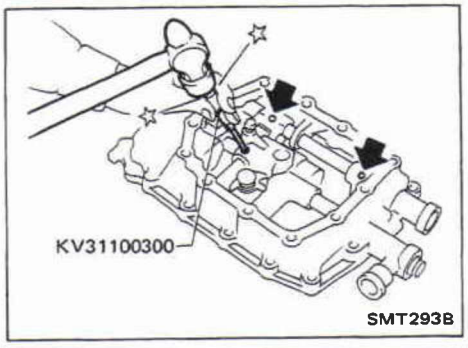
2. Remove and disassemble gear shift housing.

a. Remove the following parts.

- Reverse lamp switch
- Shift check plug
- Return spring
- Check spring guide
- Check ball

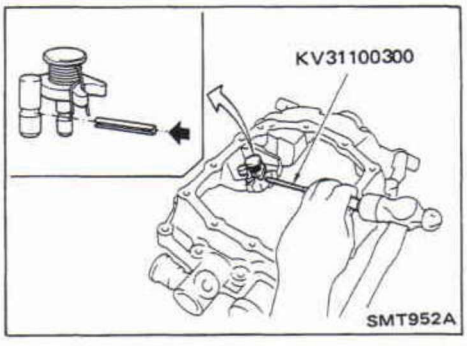


b. Remove shift rod caps.

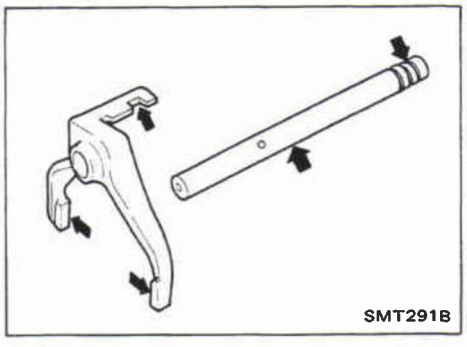


c. Drive out retaining pins from striking lever, reverse shift fork and reverse fork rod bracket.

d. While pulling out striking rod and reverse fork rod, remove striking lever, striking interlock, 1st & 2nd, 3rd & 4th and reverse shift fork and reverse fork rod bracket.



e. Drive out retaining pin from reverse check assembly and then remove reverse check assembly.



INSPECTION

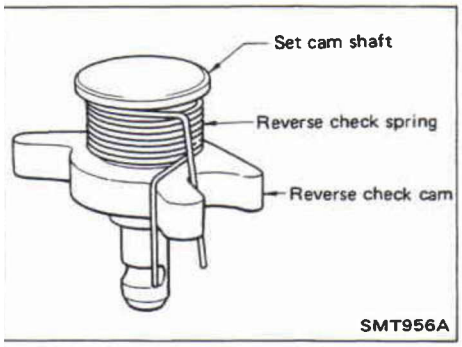
- Check contact surface and sliding surface for wear scratches projections or other damage.

Shift Control Components (Cont'd)

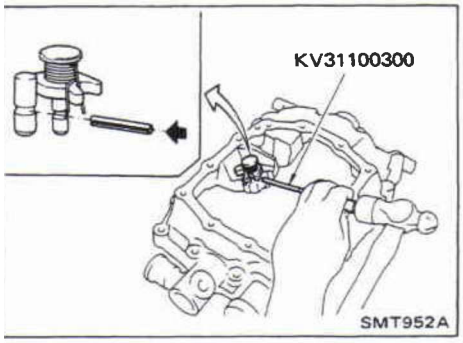
ASSEMBLY

1. Assemble gear shift housing.

a. Assemble reverse check.



b. Install reverse check assembly and then install retaining pin.



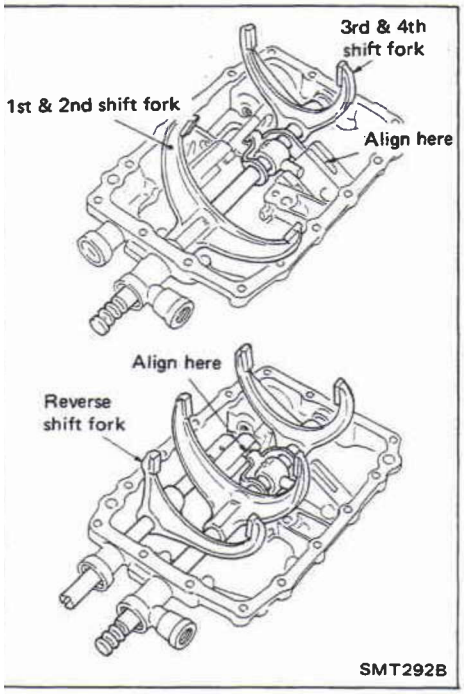
c. Install striking rod through 1st & 2nd shift fork, striking interlock, striking lever and 3rd & 4th shift fork.

- **Pay attention to direction of each part.**

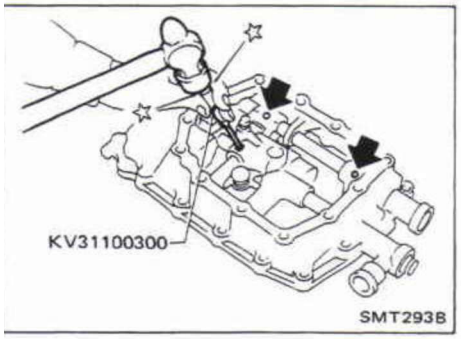
d. Install reverse fork rod through reverse shift fork and reverse fork rod bracket.

- **Pay attention to direction of each part.**

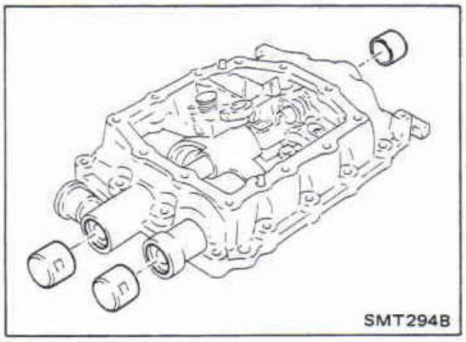
e. Align cut out portion of 1st & 2nd shift fork, 3rd & 4th shift fork and reverse fork rod bracket to striking interlock.



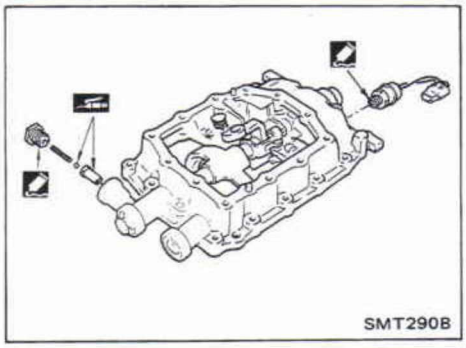
f. Install retaining pins into striking lever, reverse shift fork and reverse fork rod bracket.



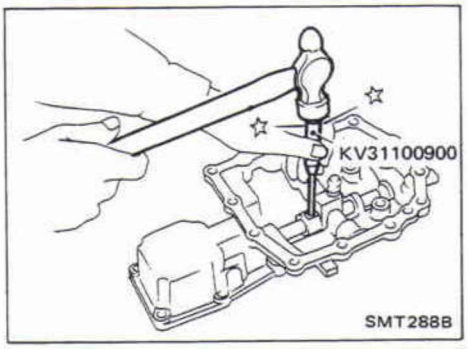
Shift Control Components (Cont'd)



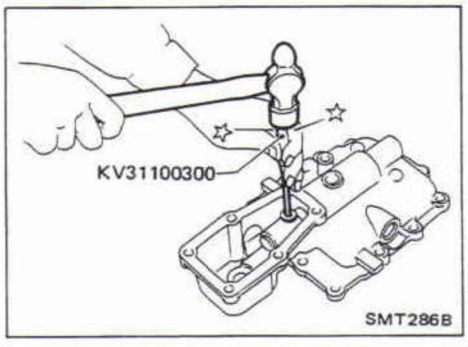
g. Install shift rod caps by tapping them lightly.
- **Apply recommended sealant to mating surface of shift rod caps.**



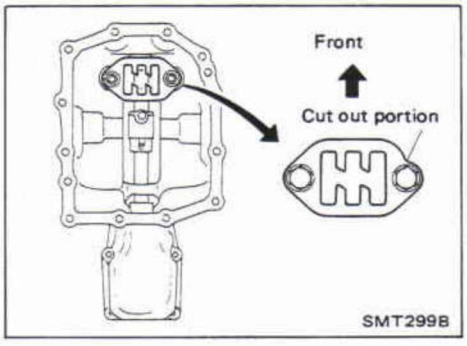
h. Install the following parts.
- Reverse lamp switch (Apply recommended sealant to thread.)
- Check ball (Apply multi-purpose grease.)
- Check spring guide (Apply multi-purpose grease.)
- Check spring
- Check plug (Apply recommended sealant to thread.)



2. Assemble gear shift housing cover.
a. Install control arm, control lever bracket and shift rod onto gear shift housing cover.
b. Install retaining pin into control arm.

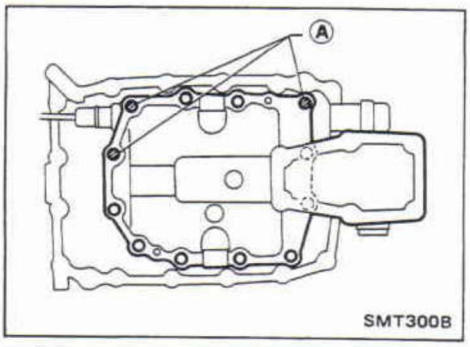


c. Install retaining pin into control lever bracket.
d. Install plugs on housing cover.
- **Apply recommended sealant to mating surface of plugs.**



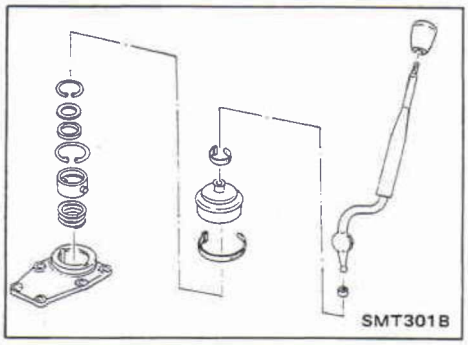
e. Install guide plate.
- **Pay attention to its direction.**

Shift Control Components (Cont'd)



f. Install gear shift housing cover onto gear shift housing.

- **Always use new bolts at portion Ⓐ as they are self sealing bolts.**

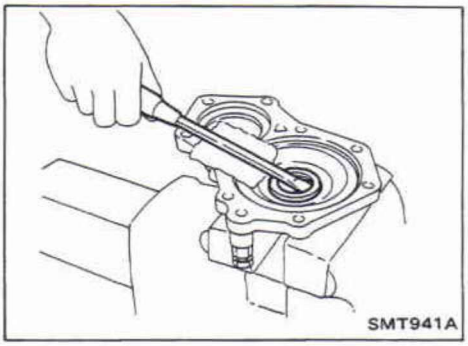


3. Assemble control housing parts as shown on left.

Case Components

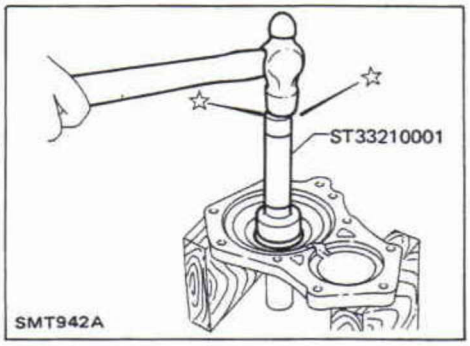
FRONT COVER OIL SEAL

Removal



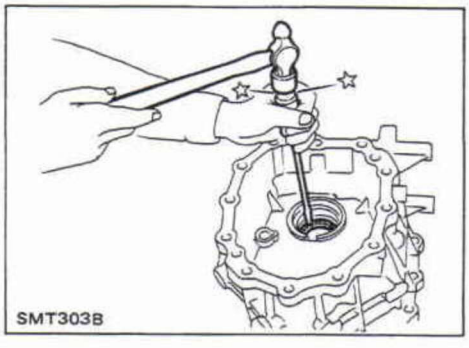
Installation

- **Apply multi-purpose grease to lip of oil seal before installing.**

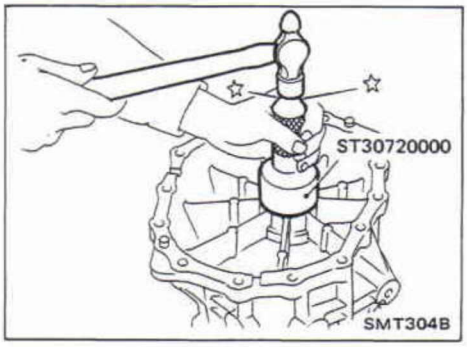


REAR OIL SEAL

Removal

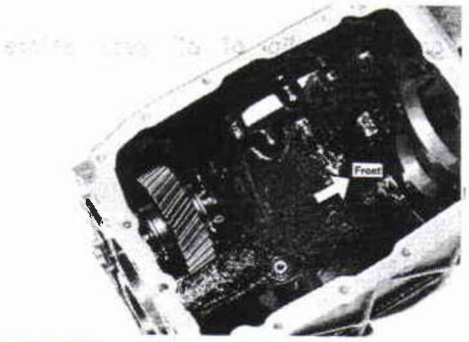


Case Components (Cont'd)



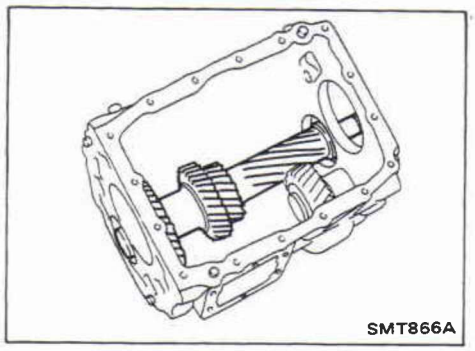
Installation

- **Apply multi-purpose grease to lip of oil seal before installing.**

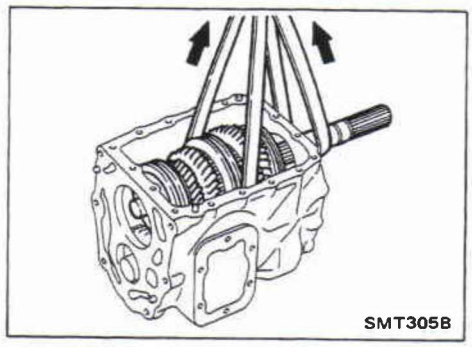


1. Install transmission case components.
a. Install reverse idler shaft, thrust washers, needle bearings and gear.
- **Pay attention to direction of reverse idler gear and washers.**

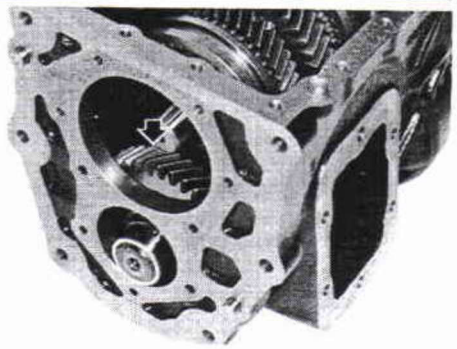
b. Install lock plate of reverse idler shaft.



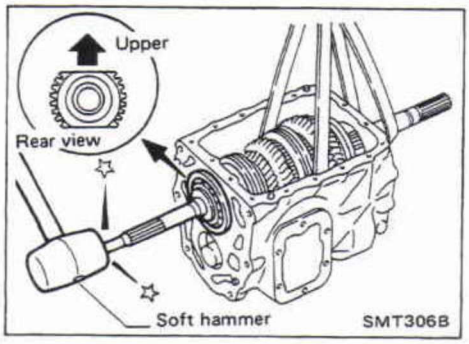
c. Settle counter gear assembly on bottom of transmission case.



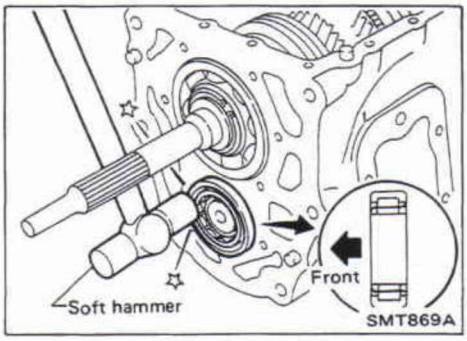
d. Place mainshaft assembly on top of counter gear assembly and then support it with hoist.



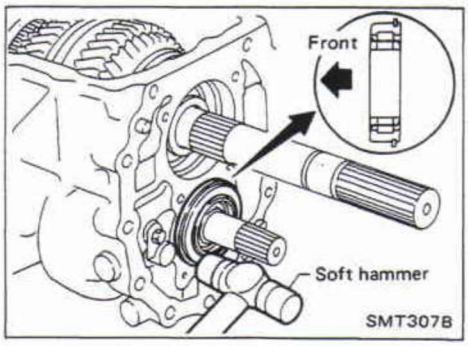
- **Align matching portion of counter gear and sub-gear tooth to upper side.**



e. Install main drive gear assembly by tapping front end of it lightly.
- **Set cutting portion of clutch gear on main drive gear to the upper side.**

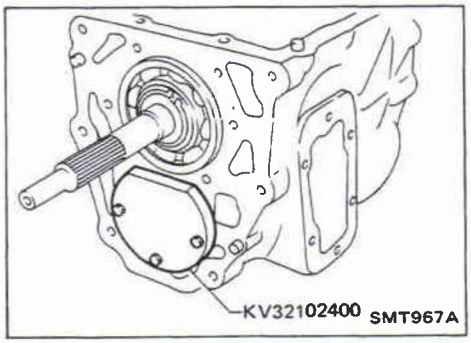


f. Install counter gear front bearing outer race by tapping it lightly while holding counter gear assembly.
- **Pay attention to direction.**

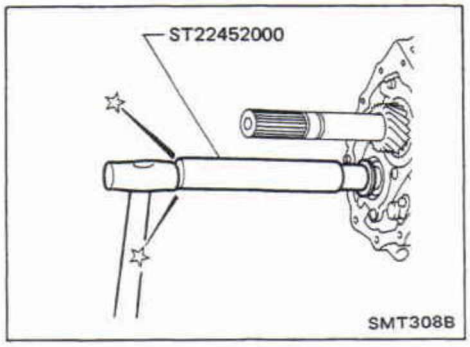


g. Install counter gear rear bearing outer race by tapping it lightly while holding counter gear assembly.
- **Pay attention to direction.**

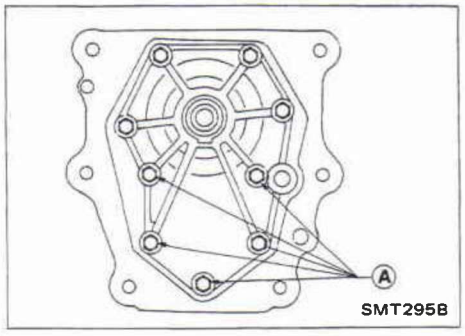
h. Take off hoist from mainshaft.



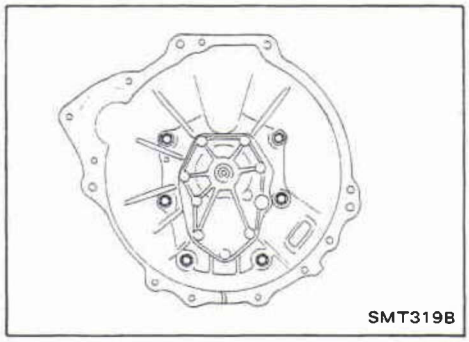
2. Install O.D. gear case components.
a. Install Tool onto transmission case.



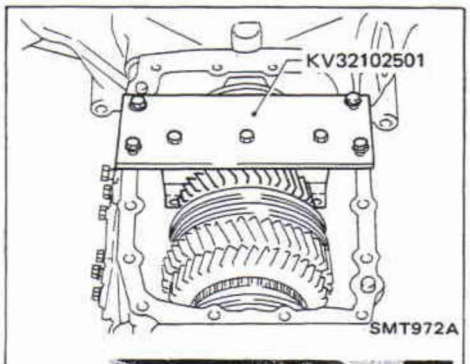
b. Install O.D. gear bushing.
c. Remove KV32102400 (Counter gear stopper).

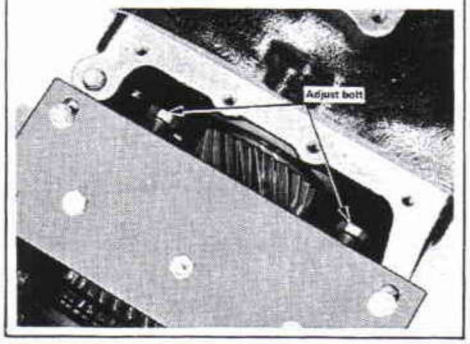


d. Install front cover.
- **Always use new bolts at portion Ⓐ as they are self sealing bolts.**

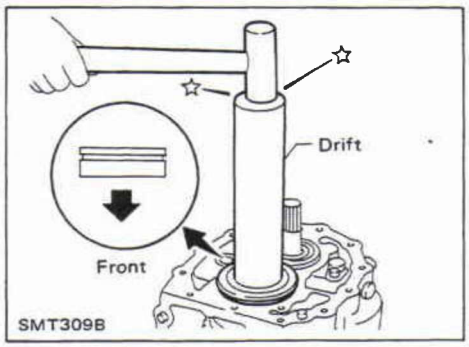


e. Install clutch housing.



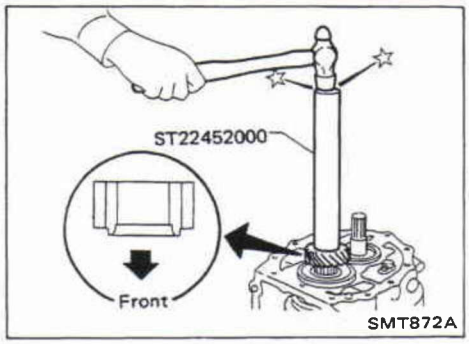


f. Install Tool onto transmission case.



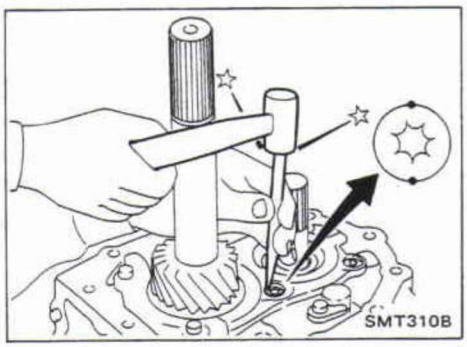
g. Stand transmission case assembly on two wooden blocks placed under clutch housing.
h. Install mainshaft bearing without snap ring to prevent it from damaging transmission case.
- **Pay attention to direction.**

i. Put snap ring back in place.

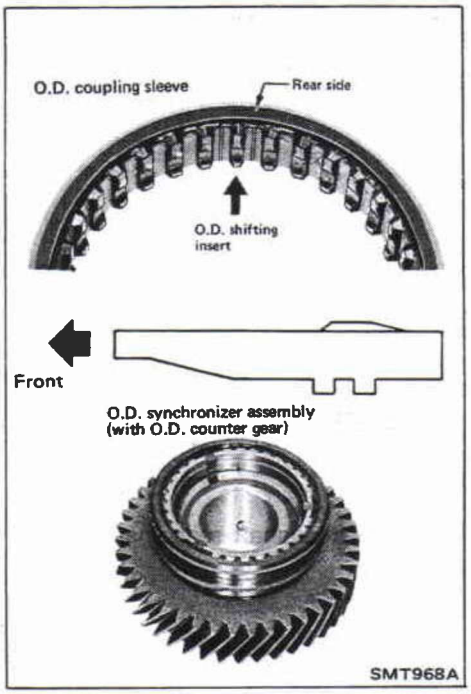


j. Install O.D. main gear. (FS5R50A only)
- **Pay attention to direction.**

k. Remove KV32102500 (Mainshaft stopper)



l. Install bearing retainer and then stake 4 torx bolts at two points.

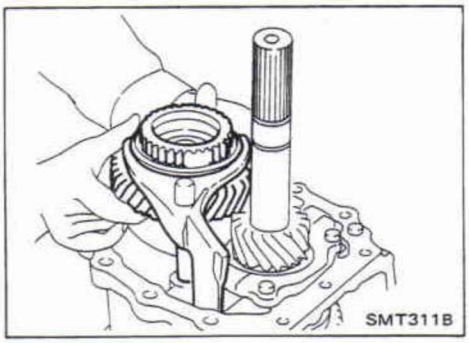


m. Install the following parts.

— **FS5R50A** —

(1) Assemble O.D. synchronizer onto O.D. counter gear.

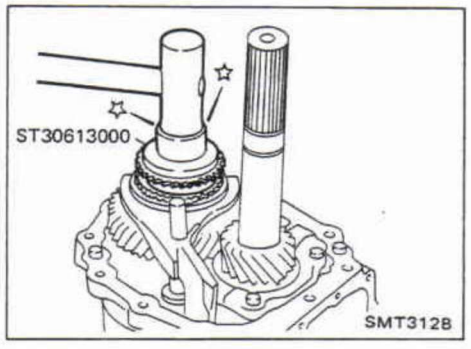
- **Pay attention to direction of shifting inserts and O.D. coupling sleeve.**



(2) Install O.D. counter gear with O.D. synchronizer assembly, O.D. shift fork and rod.

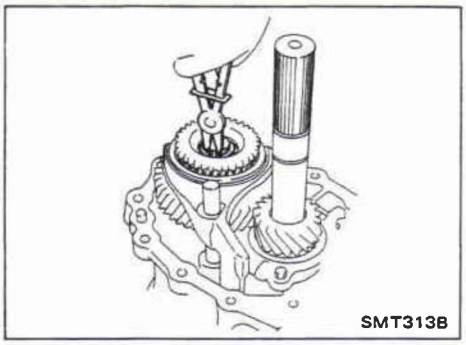
— **FN4R50A** —

- Install O.D. gear bushing.



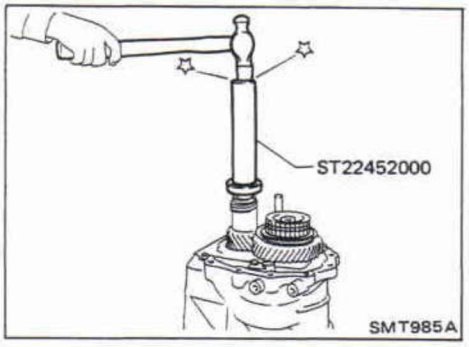
n. Install O.D. synchronizer cone.

o. Install O.D. synchronizer cone washer.

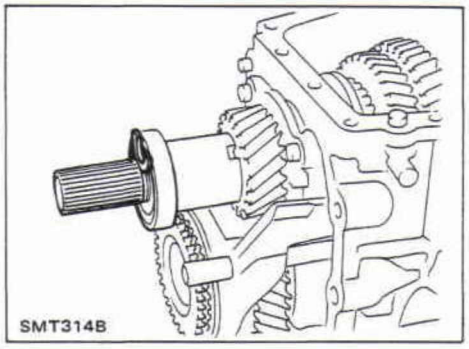


p. Select proper counter gear rear snap ring to minimize clearance of groove, then install it.
Allowable clearance of groove:
0 - 0.15 mm (0 - 0.0059 in)
Counter gear rear snap ring:
Refer to S.D.S.

q. Measure O.D. counter gear end play as the final check — Refer to "Disassembly". (FS5R50A only)

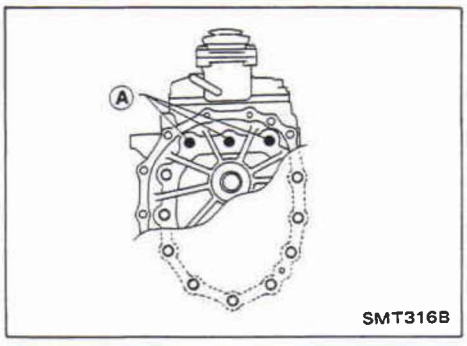


r. Install mainshaft spacer and rear end bearing.

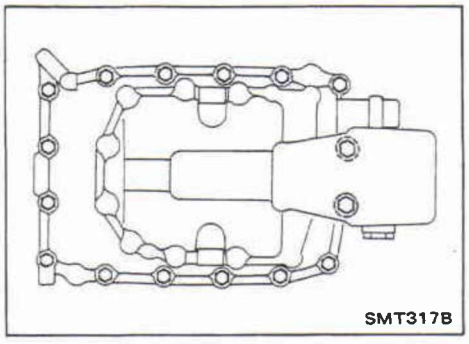


s. Select proper set of C-rings to minimize clearance of groove then install it.
Allowable clearance of groove:
0 - 0.13 mm (0.0051 in)
Mainshaft rear C-ring:
Refer to S.D.S.

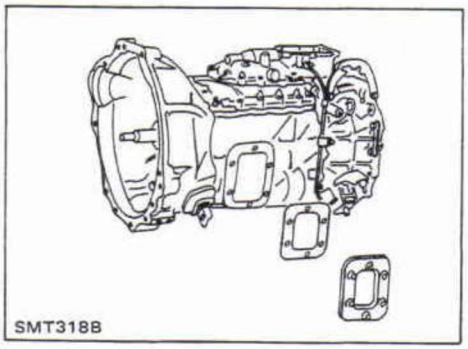
t. Install C-ring holder then install mainshaft rear snap ring.



u. Install O.D. gear case and then tighten fixing bolts.
- **Always use new bolts at portion Ⓐ as they are self sealing bolts.**

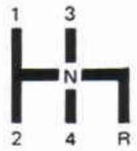


3. Install transmission outer parts.
a. Install gear shift housing assembly and gasket onto transmission case.
- **Always use new bolts at portion Ⓐ as they are self sealing bolts.**



b. Install P.T.O. cover and gasket.

General Specifications

Transmission model			FN4R50A	FS5R50A
Number of speed			4	5
Synchromesh type			Warner	
Shift pattern				
Gear ratio		1st	4.556	4.556
		2nd	2.625	2.625
		3rd	1.519	1.519
		4th	1.000	1.000
		5th	–	0.836
		Rev.	4.245	4.245
Number of teeth	Mainshaft	Drive	26	26
		1st	44	44
		2nd	39	39
		3rd	35	35
		5th	–	23
		Rev.	41	41
	Counter shaft	Drive	35	35
		1st	13	13
		2nd	20	20
		3rd	31	31
		5th	–	37
		Rev.	13	13
	Reverse idler gear		27	27
Oil capacity		ℓ (Imp pt)	3.9 (6-7/8)	

Inspection and Adjustment

GEAR END PLAY

Gear	End play mm (in)
1st main gear	0.20 - 0.48 (0.0079 - 0.0189)
2nd main gear	0.20 - 0.60 (0.0079 - 0.0236)
3rd main gear	0.20 - 0.45 (0.0079 - 0.0177)
O.D. counter gear (FS5R50A only)	0.20 - 0.47 (0.0079 - 0.0185)
Reverse main gear	0.20 - 0.44 (0.0079 - 0.0173)

CLEARANCE BETWEEN BAULK RING AND GEAR

Unit: mm (in)

	Standard	Wear limit
1st	1.00 - 1.45 (0.0394 - 0.0571)	0.7 (0.028)
2nd	1.1 - 1.5 (0.043 - 0.059)	
3rd & main drive	1.00 - 1.45 (0.0394 - 0.0571)	
O.D. (FS5R50A only)	1.00 - 1.45 (0.0394 - 0.0571)	
Reverse	1.00 - 1.45 (0.0394 - 0.0571)	

AVAILABLE SNAP RING

Main drive gear snap ring

Allowable clearance	0 - 0.15 mm (0 - 0.0059 in)
Thickness mm (in)	Part number
1.75 (0.0689)	32204-01T00
1.85 (0.0728)	32204-01T01
1.95 (0.0768)	32204-01T02
2.05 (0.0807)	32204-01T03
2.15 (0.0846)	32204-01T04

3rd & 4th hub snap ring

Allowable clerance	0 - 0.10 mm (0 - 0.0039 in)
Thickness mm (in)	Part number
1.95 (0.0768)	32348-01T10
2.00 (0.0787)	32348-01T11
2.05 (0.0807)	32348-01T12
2.10 (0.0827)	32348-01T13
2.15 (0.0846)	32348-01T14
2.20 (0.0866)	32348-01T15

1st & 2nd hub snap ring

Allowable clearance	0 - 0.13 mm (0 - 0.0051 in)
Thickness mm (in)	Part number
2.05 (0.0807)	32348-01T00
2.15 (0.0846)	32348-01T01

Sub-gear snap ring

Allowable clearance	0 - 0.15 mm (0 - 0.0059 in)
Thickness mm (in)	Part number
2.35 (0.0925)	32348-01T20
2.50 (0.0984)	32348-01T21
2.65 (0.1043)	32348-01T22
2.80 (0.1102)	32348-01T23

Counter gear rear snap ring

Allowable clearance	0 - 0.15 mm (0 - 0.0059 in)
Thickness mm (in)	Part number
1.35 (0.0531)	32204-01T10
1.45 (0.0571)	32204-01T11
1.55 (0.0610)	32204-01T12
1.65 (0.0650)	32204-01T13
1.75 (0.0689)	32204-01T14
1.85 (0.0728)	32204-01T15

AVAILABLE C-RING

Mainshaft C-ring

Allowable clearance	0 - 0.13 mm (0 - 0.0051 in)
Thickness mm (in)	Part number
5.02 (0.1976)	32528-02T00
5.10 (0.2008)	32528-02T01
5.18 (0.2039)	32528-02T02
5.26 (0.2071)	32528-02T03
5.34 (0.2102)	32528-02T04
5.42 (0.2134)	32528-02T05
5.50 (0.2165)	32528-02T06
5.58 (0.2197)	32528-02T07
5.66 (0.2228)	32528-02T08
5.74 (0.2260)	32528-02T09