

TRANSMISSION MANUAL AND AUTOMATIC

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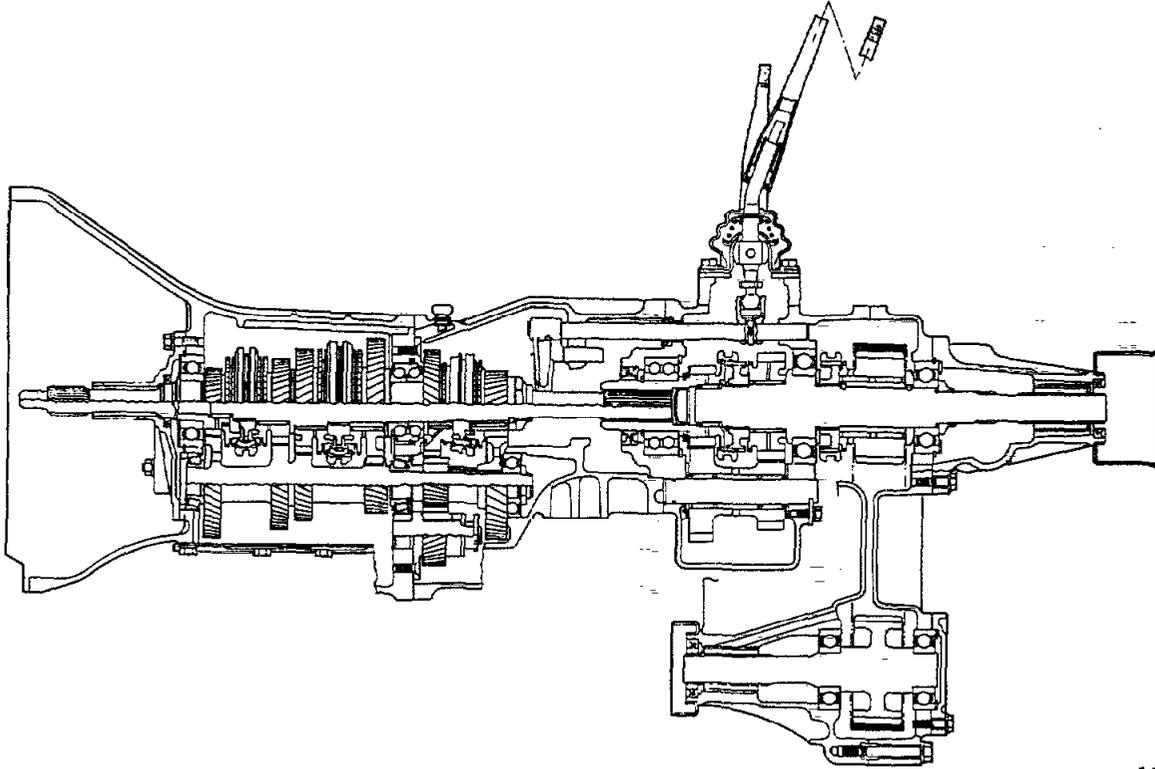
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MANUAL TRANSMISSION GENERAL INFORMATION

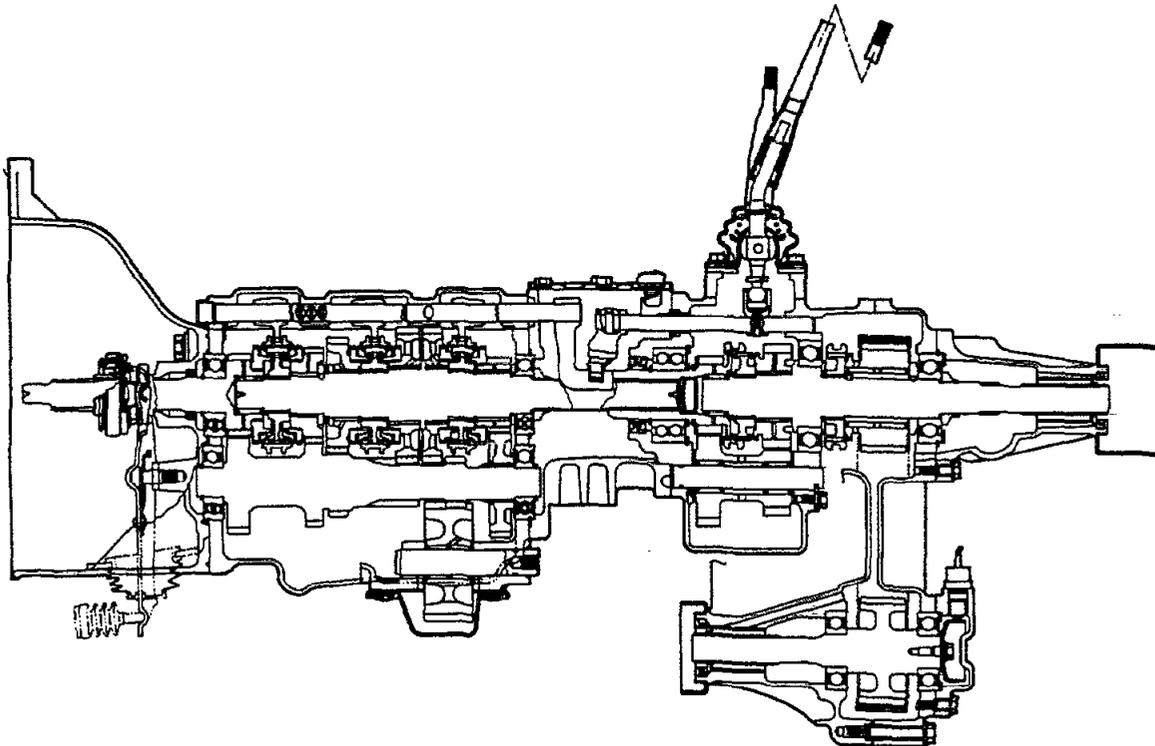
N21BAAM

<2.6L Engine>



<3.0L Engine>

145110



MT10006

SPECIFICATIONS

GENERAL SPECIFICATIONS

N21CA-0

Items	2.6 L Engine	3.0 L Engine
Model	KM145-B-FSL	V5MT1-0-AFSL
Transmission		
Type	5-speed 4-wheel drive	5-speed 4-wheel drive
Gear ratio		
1st	3.967	3.918
2nd	2.136	2.261
3rd	1.360	1.395
4th	1.000	1.000
5th	0.856	0.829
Reverse	3.578	3.925
Final gear ratio	4.625	4.625
Speedometer gear ratio	26/8	26/8
Transfer case		
Type	Constant mesh type	Constant mesh type
Gear ratio		
High	1.000	1.000
Low	1.944	1.925
Drive system		
Front wheel	Chain drive	Chain drive
Rear wheel	Direct drive	Direct drive

SERVICE SPECIFICATIONS

N21CB-0

Transmission

<2.6L Engine>

mm (in.)

Items	Specifications
Standard value	
Main drive gear preload	0–0.06 (0–.002) ... Adjusted by spacer
Front bearing retainer and bearing clearance	0–0.1 (0–.004) ... Adjusted by spacer
3-4 speed synchronizer hub end play	0–0.08 (0–.003) ... Adjusted by snap ring
Counter shaft preload	0–0.05 (0–.0020) ... Adjusted by spacer
Limit	
Synchronizer ring and clutch gear clearance	0.5 (.02) ... Replacement of gear or synchronizer ring

<3.0L Engine>

mm (in.)

Items	Specifications
Limit	
Synchronizer ring and clutch gear clearance	0.2 (.009) ... Replace of gear or synchronizer ring

Transfer

mm (in.)

Items	Specifications
Standard value	
Input gear end play	0-0.06 (0-.002) ... Adjusted by snap ring
H-L clutch hub end play	0-0.08 (0-.003) ... Adjusted by snap ring
Out put shaft bearing end play	0-0.1 (0-.004) ... Adjusted by spacer

Snap rings and spacers for transmission adjustment

<2.6L Engine>

mm (in.)

Part name	Thickness	Identification symbol	Part No.
Snap rings (for adjustment of main drive gear preload)	2.30 (.091)	White	MD701729
	2.35 (.092)	Brown	MD701730
	2.40 (.094)	None	MD701731
	2.45 (.096)	Blue	MD701732
	2.50 (.098)	Yellow	MD701733
Spacers (for adjustment of front bearing retainer and bearing clearance)	0.84 (.033)	Black	MD701845
	0.93 (.037)	None	MD701839
	1.02 (.040)	Red	MD701840
	1.11 (.044)	White	MD701841
	1.20 (.047)	Yellow	MD701842
	1.29 (.051)	Blue	MD701843
Snap rings (for adjustment of 3-4 gear synchronizer hub clearance)	1.38 (.054)	Green	MD701844
	2.15 (.085)	None	MD701761
	2.22 (.087)	Yellow	MD701762
	2.29 (.090)	Green	MD701763
Spacers (for adjustment of counter shaft preload)	2.36 (.093)	White	MD701764
	1.84 (.072)	84	MD706580
	1.87 (.074)	87	MD706581
	1.90 (.075)	90	MD706582
	1.93 (.076)	93	MD706583
	1.96 (.077)	96	MD706584
	1.99 (.078)	99	MD706585
	2.02 (.080)	02	MD706586
	2.05 (.081)	05	MD706587
	2.08 (.082)	08	MD706588
	2.11 (.083)	11	MD706589
	2.14 (.084)	14	MD706590
	2.17 (.085)	17	MD706591
	2.20 (.087)	20	MD706592
	2.23 (.088)	23	MD706593
	2.26 (.089)	26	MD706594
	2.29 (.090)	29	MD706595
	2.32 (.091)	32	MD706596
	2.35 (.093)	35	MD706597
	2.38 (.094)	38	MD706598
2.41 (.095)	41	MD706599	
2.44 (.096)	44	MD706600	
2.47 (.097)	47	MD706601	
2.50 (.098)	50	MD706602	
2.53 (.100)	53	MD706603	
2.56 (.101)	56	MD706604	
2.59 (.102)	59	MD706605	
2.62 (.103)	62	MD706606	
2.65 (.104)	65	MD706607	
2.68 (.106)	68	MD706608	

Snap rings and spacers for transfer adjustment

mm (in.)

Part name	Thickness	Identification symbol	Part No.
Snap rings (for adjustment of input gear end play)	2.30 (.091)	None	MD704199
	2.35 (.093)	Red	MD704200
	2.40 (.094)	White	MD704201
	2.45 (.096)	Blue	MD704202
	2.50 (.098)	Green	MD704203
Snap rings for adjustment of H-L clutch hub end play.)	2.14 (.084)	None	MD704212
	2.21 (.087)	Yellow	MD704213
	2.28 (.090)	White	MD704214
	2.35 (.093)	Blue	MD704215
	2.42 (.095)	Red	MD704216
Spacers (for adjustment of output shaft bearing end play)	0.84 (.033)	Black	MD701845
	0.93 (.037)	None	MD701839
	1.02 (.040)	Red	MD701840
	1.11 (.044)	White	MD701841
	1.20 (.047)	Yellow	MD701842
	1.29 (.051)	Blue	MD701843
	1.38 (.054)	Green	MD701844

TORQUE SPECIFICATIONS

N21CC-0

Items	Nm	ft.lbs.
Transmission <2.6L Engine>		
Transmission to engine	43–55	32–39
Starting motor mounting bolts	27–34	20–25
Transmission to exhaust pipe mounting bracket	20–27	15–20
Control housing to cover	10–12	7–9
Front exhaust pipe mounting bolt	20–30	15–22
No. 2 crossmember to frame	55–75	40–54
Clutch release cylinder mounting bolt	31–42	22–29
Engine mounting rear insulator to No. 2 crossmember	18–25	13–18
Engine mounting rear insulator to transmission	18–25	13–18
Mainshaft lock nut	250–270	181–195
Idler shaft lock nut	20–60	15–43
Under cover attaching bolt	8–10	5–7
Countershaft gear lock nut	160–190	116–137
Reverse idler gear shaft nut	20–60	15–43
Backup light switch	30	22
Oil drain plug	60	43
Oil filler plug	30–35	22–25
Rear bearing retainer attaching bolts	15–22	11–15
Reverse idler gear shaft attaching bolts	15–22	11–15
Front bearing retainer installation bolt	10–12	7–9
Bell housing attaching bolts	10–12	7–9
Stopper bracket assembly attaching bolt	15–22	11–15
Transfer adaptor and transmission case coupling bolt	15–22	11–15

Items	Nm	ft.lbs.
Transmission <3.0L Engine>		
Transmission to engine (A)	65-85	47-61
Transmission to engine (B)	80-100	58-72
Starting motor mounting bolt	27-34	20-25
Transmission to transmission stay	30-42	22-30
No. 2 Crossmember to frame	55-75	40-54
Clutch release cylinder mounting bolt	31-42	22-29
Engine mounting rear insulator to No. 2 crossmember	18-25	13-18
Engine mounting rear insulator to transmission	18-25	13-18
Transmission case and clutch housing	119	86
Transmission case and transfer case adapter	41	30
Transmission case and lower case	24	17
Transmission case PTO cover	19	14
Filler plug	55-85	40-61
Drain plug	55-85	40-61
Main shaft rear lock nut	250-270	181-195
Reverse shaft lock piece installation bolt	41	30
Lower arm pivot	58	42
Back light switch	30-40	22-29
Poppet spring installation screw plug	40	29
Adapter part poppet spring installation screw plug	48	35
Adapter part side poppet spring installation screw plug	30-42	22-30
Adapter cover installation bolt	24	17
Transfer case		
Pulse rotor installation bolt	15-22	11-15
Pulse generator bolt	10-12	7-9
Adapter to transfer case mounting bolts and nuts	30-42	22-30
Chain cover bolt	30-42	22-30
Side cover bolt	8-10	5-7
Rear cover bolt	15-22	11-15
Cover bolt	15-22	11-15
Control housing bolt	15-22	11-15
Oil filler plug	30-35	22-25
Drain plug	30-35	22-25
Select plunger plug	30-35	22-25
Lock plate bolt	15-22	11-15
Rear output shaft lock nut	100-130	72-94
Speedometer sleeve clamp bolt	15-22	11-15
Seal plug	30-42	22-30
4WD indicator light switch	30	22
Transfer mounting bracket to transmission	18-25	13-18
Transfer mounting bracket to body	18-25	13-18
Gear shift lever assembly		
Control housing to transfer case	15-22	11-15
Control housing cover to control housing	10-12	7-9

LUBRICANTS

N21CD-0

Items	Specified lubricant	Quantity
Transmission <2.6L Engine>	Hypoid gear oil API classification GL-4 or higher SAE viscosity 80W, 75W-85W	2.2 lit. (4.7 pints)
<3.0L Engine>	Hypoid gear oil API classification GL-4 or higher SAE viscosity 80W, 75W-85W	2.5 lit. (5.3 pints)
Transfer case	Hypoid gear oil API classification GL-4 or higher SAE viscosity 80W, 75W-85W	2.2 lit. (4.7 pints)

SEALANTS AND ADHESIVES

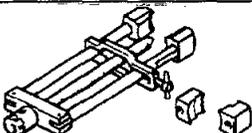
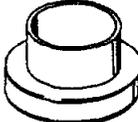
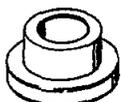
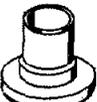
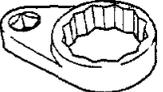
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Items	Specified sealants and adhesives	Quantity
Transmission <2.6L Engine>		
Front bearing retainer	3M ART Part No. 8660 or equivalent	As required
Extension gasket	3M ART Part No. 8660 or equivalent	As required
Rear bearing retainer bolt	3M STUD Locking No. 4170 or equivalent	As required
Reverse idler gear shaft bolt	3M STUD Locking No. 4170 or equivalent	As required
Poppet plug	3M ART Part No. 8660 or equivalent	As required
<3.0L Engine>		
Transmission case and clutch housing installation surfaces	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Transmission case and adaptor installation surfaces	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Transmission case and lower case installation surfaces	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Poppet spring part screw plug threads	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Adapter cover and adapter plug threads	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Drain plug and filler plug threads	Three Bond 1105D or equivalent	As required
Reverse shaft lock piece bolt threads	Three Bond 1105D or equivalent	As required
Adapter part poppet spring part screw plug threads	Three Bond 1104J or equivalent	As required
Transfer		
Control housing	3M ART Part No. 8660 or equivalent	As required
Control lever gasket	3M ART Part No. 8660 or equivalent	As required
Housing cover gasket	3M ART Part No. 8660 or equivalent	As required
Stopper bracket installation bolt	3M ART Part No. 8660 or equivalent	As required
Stopper bracket installation bolt (threads)	3M Scotch Grip No. 2353 or equivalent	As required
Adapter gasket	3M ART Part No. 8660 or equivalent	As required
Chain cover gasket	3M ART Part No. 8660 or equivalent	As required
Cover gasket	3M ART Part No. 8660 or equivalent	As required
Cover installation bolt (threads)	3M Adhesive Nut Locking 4171 or equivalent	As required
Rear cover gasket	3M ART Part No. 8660 or equivalent	As required
Speedometer cable grommet	3M ART Part No. 8001 or 8011, or equivalent	As required

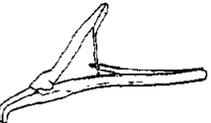
SPECIAL TOOLS

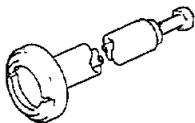
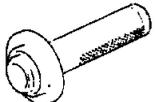
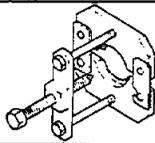
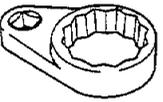
N21DA-

<2.6L Engine>

Tool	Number	Name	Use
	MD998245-01	Lock pin installer	Driving in of lock pin and spring pin
	MD998020	Bearing puller	Removal of main drive gear and main shaft bearing
	MD998067-01	Mainshaft bearing installer	Driving in of main shaft bearing
	MD998029-01	Main drive gear bearing installer	Driving in of main drive gear bearing
	MD998200-01	Front bearing retainer oil seal installer	Driving in of front oil seal
	MD998348-01	Taper bearing puller	Removal of counter shaft bearing
	MB990938-01	Handle	Use with MD998200 Driving in of front oil seal
	MIT4336	Bearing driver handle	Use with MD998067-01, MD998029-01 Driving in of main drive gear and main shaft bearing
	MD998809	Lock nut wrench	For removal/installation of main shaft lock nut

<3.0L Engine>

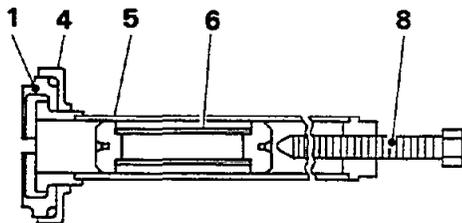
Tool	Number	Name	Use
	MH061002	Snap ring expander	For snap ring removal/installation
	MH061405	Dummy bearing	For counter shaft bearing tap-in

Tool	Number	Name	Use
	MH061400	Puller and installer kit	For removal/installation of transmission ball bearings
	MH061407	Oil seal installer	For clutch housing oil seal press-in
	MH061301	Synchronizer hub puller	For removal of 3rd gear, 3rd an 4th synchronizer hub
	MH061322	Oil seal guide	For clutch housing installation
	MD998245-01	Lock pin installer	For spring pin tap-in
	MD998809	Lock nut wrench	For removal/installation of mainshaft lock nut

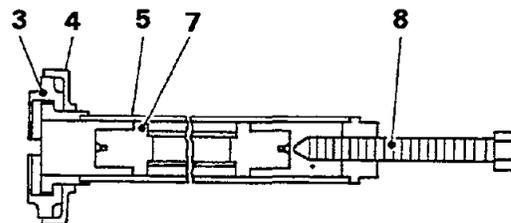
Composition of puller and installer kit (MH061400)

Code No.	Part No.	Part name	Note
1	MH061409	Main shaft bearing claw	71.8 mm (2.827 in.) For drive pinion
2	MH061410	Main shaft bearing claw	68.8 mm (2.709 in.) For main shaft (rear)
3	MH061411	Counter shaft bearing claw	64.8 mm (2.551 in.) For counter shaft (front/rear)
4	MH061306	Protector	
5	MH061412	Body	
6	MH061308	Bearing puller rod	For drive pinion
7	MH061309	Bearing puller rod	For counter shaft
8	03726-81016	Bolt	
9	03726-81017	Plug	

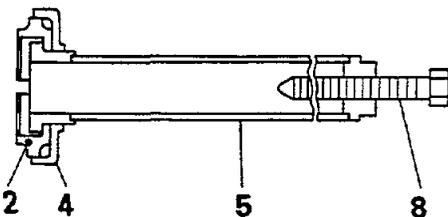
For drive pinion bearing removal



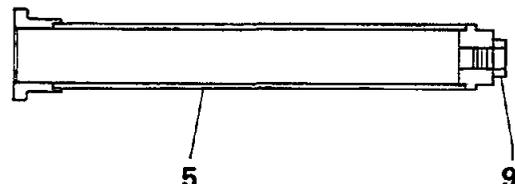
For counter shaft (front/rear) bearing removal



For main shaft (rear) bearing removal



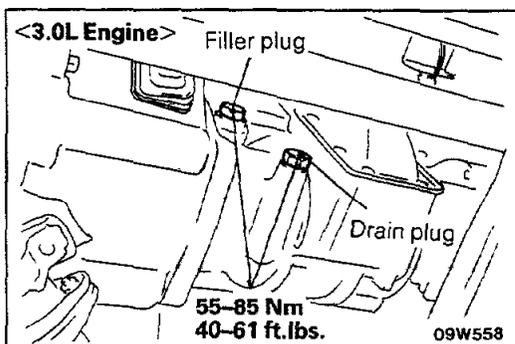
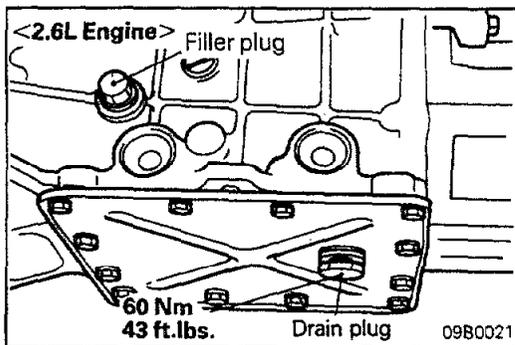
For press-in of all bearings



TROUBLESHOOTING

N21EAACa

Trouble	Cause	Service Operation
Noise, Vibration	The transmission and engine mount is loose or damaged.	Tighten or replace the mount.
	The end play of each shaft is not proper.	Correct the end play.
	Gears are worn or damaged.	Replace the gears.
	The oil grade is improper.	Replace with the specified oil.
	The oil level is low.	Add oil.
	The engine's idling speed is not proper.	Adjust the idling speed.
Oil is leaking	The oil seal or O-ring is damaged.	Replace the oil seal or O-ring.
Shifting gears is hard or troublesome	The synchronizer ring and gear cones mesh poorly or are worn.	Repair or replace.
	The synchronizer spring is fatigued.	Replace the synchronizer ring.
	The oil grade is improper.	Replace with the specified oil.
Gears slip out	The gear shift forks are worn or the poppet spring is broken.	Replace the shift forks or poppet spring.
	The clearance between the synchronizer hub and sleeve is too large.	Replace the synchronizer hub and spring.



SERVICE ADJUSTMENT PROCEDURES

N21FFAC

TRANSMISSION AND TRANSFER OIL CHANGING AND INSPECTION

1. Raise vehicle on hoist.
2. Remove the filler plug from the transmission or transfer and check that the transmission oil is up to the oil level. If it is lower, replenish specified transmission oil to the oil level and if it is higher, drain transmission oil as described below.
3. Remove drain plug to let oil drain.
4. Tighten the drain plug completely.
5. Replenish the specified transmission oil to the level.

Specified transmission oil: Hypoid gear oil API classification GL-4 or higher SAE viscosity 80W, 75W-85W

Quantity :

Transmission

<2.6L Engine>

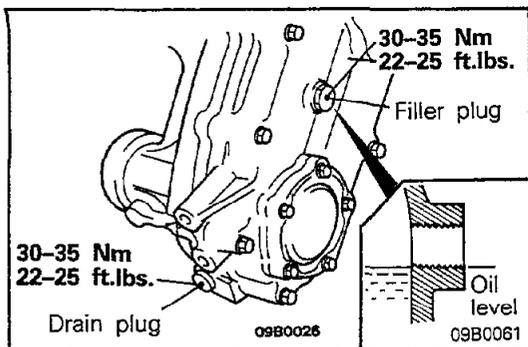
<3.0L Engine>

Transfer case

2.2 lit. (4.7 pints)

2.5 lit. (5.3 pints)

2.2 lit. (4.7 pints)

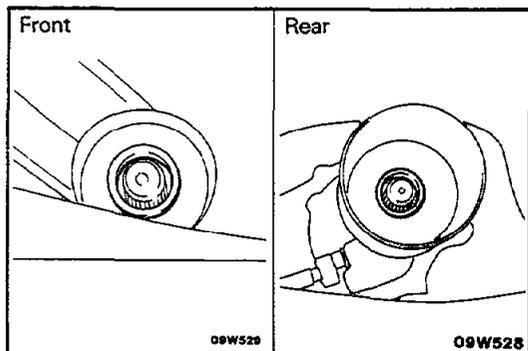


6. Tighten the filler plug.

NOTE

Apply a coating of sealant to the threaded part when installing the drain plug and the filler plug of the transmission of models with the 3.0-liter engine.

Specified sealant : Three Bond 1105D or equivalent.



PROPELLER SHAFT OIL SEALS REPLACEMENT

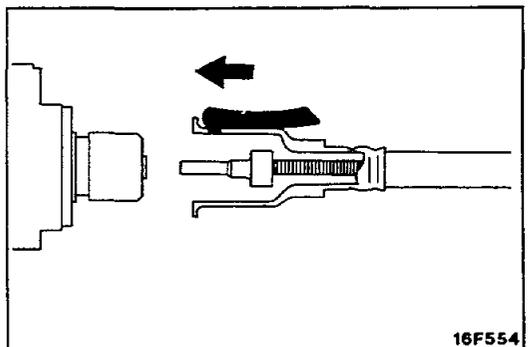
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- (1) Using a screwdriver or a similar tool, remove the oil seals.
- (2) Install the oil seals.

Caution

Use a new oil seal.

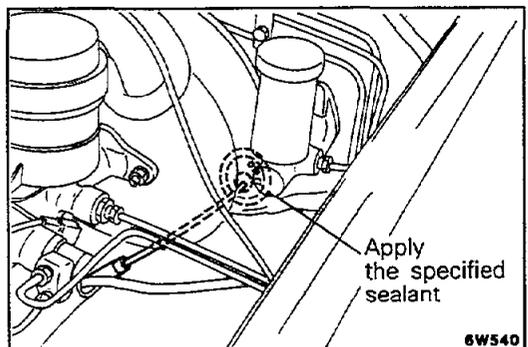
- (3) Apply a coating of the multipurpose grease to the lip of the oil seals.



SPEEDOMETER CABLE REPLACEMENT

N21FEAI

- (1) Replace the cable assembly if there is a malfunction.
- (2) When connecting the cable to the meter, insert the cable until its stopper properly fits to the meterside groove.



- (3) After installing the speedometer, pull the speedometer cable through the grommet in the toe-board until the cable marking is visible from the engine compartment side.
- (4) Apply the specified sealant to the outside surface of the grommet.

Specified sealant: 3M ART Part No. 8001 or 8011, or equivalent

- (5) Securely clamp the transmission side marking (green) of speedometer cable to the frame side clip.

Caution

Poor installation of the cable may cause a fluctuating meter pointer, or noise and a damaged harness inside the instrument panel.

TRANSMISSION AND TRANSFER ASSEMBLY <2.6L ENGINE>

REMOVAL AND INSTALLATION

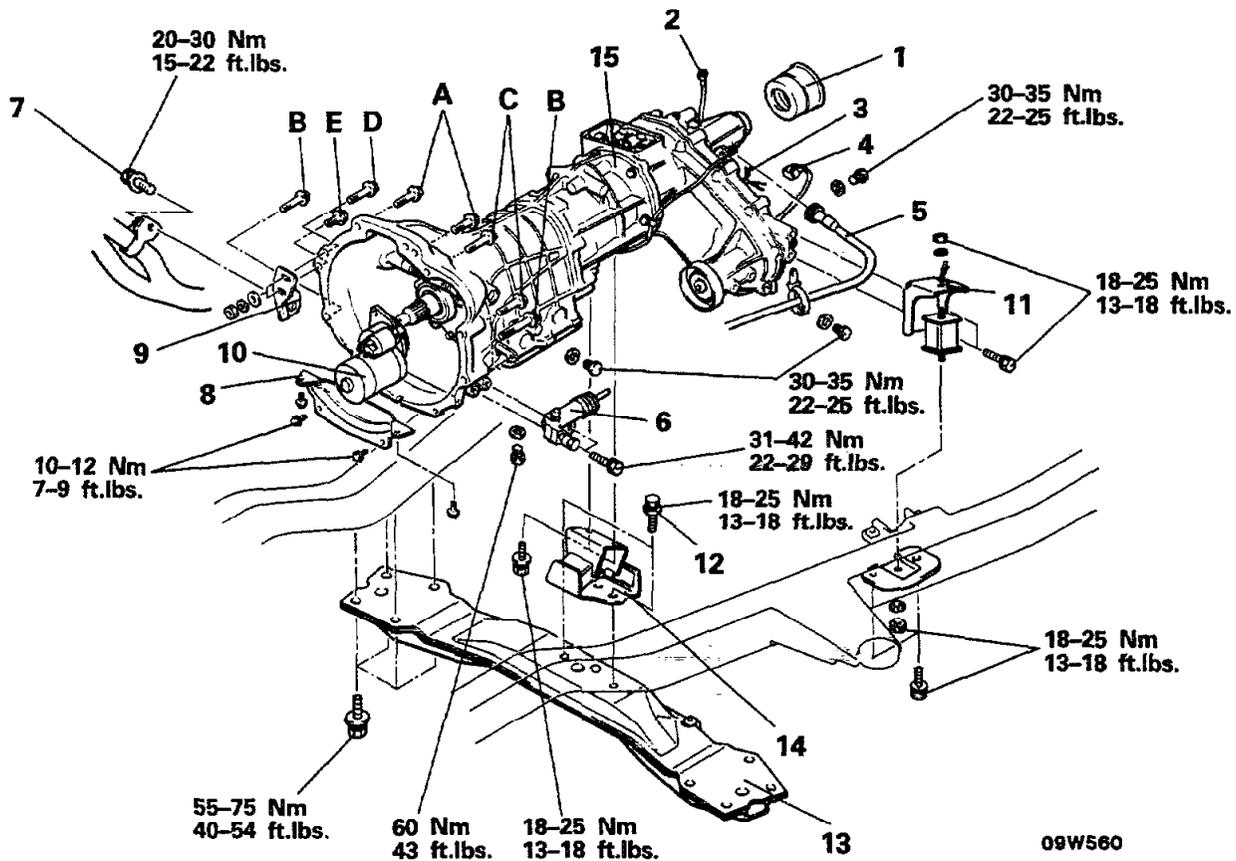
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Pre-removal Operation

- Removal of Transmission and Transfer Shift Lever Knob (Refer to P. 21-52.)
- Removal of Transfer Case Protector
- Draining of Transmission Oil and Transfer Oil (Refer to P. 21-10.)
- Removal of Front and Rear Propeller Shaft (Refer to GROUP 16 – Propeller Shaft.)

Post-installation Operation

- Installation of Front and Rear Propeller Shaft (Refer to GROUP 16 – Propeller Shaft.)
- Supplying of Transmission Oil and Transfer Oil (Refer to P. 21-10.)
- Installation of Transfer Case Protector
- Installation of Transmission and Transfer Shift Lever Knob (Refer to P. 21-52.)



Removal steps

1. Dust seal guard
2. Ground cable
3. Back-up light switch connector
4. 4WD indicator light switch connector
5. Speedometer cable
6. Clutch release cylinder
7. Front exhaust pipe mounting bolt
8. Bell housing cover
9. Exhaust pipe mounting bracket
10. Starter motor
11. Transfer mounting bracket
12. Bolt
13. No. 2 crossmember

14. Engine mounting rear insulator
15. Transmission and transfer assembly

NOTE

- (1) Reverse the removal procedures to reinstall.
- (2) ◀▶ : Refer to "Service Points of Removal".
- (3) ▶◀ : Refer to "Service Points of Installation".

	Nm	ft.lbs.	O.D. x Length	mm (in.)	Bolt identification
A	43-55	31-40	⌀ 10 x 40	(.4 x 1.6)	 D x L Y09512
B	43-55	31-40	⌀ 10 x 65	(.4 x 2.6)	
C	27-34	20-25	⌀ 10 x 60	(.4 x 2.4)	
D	20-27	15-20	⌀ 8 x 55	(.3 x 2.2)	
E	20-27	15-20	⌀ 8 x 25	(.3 x 1.0)	

SERVICE POINTS OF REMOVAL

N21MBAM

6. REMOVAL OF CLUTCH RELEASE CYLINDER

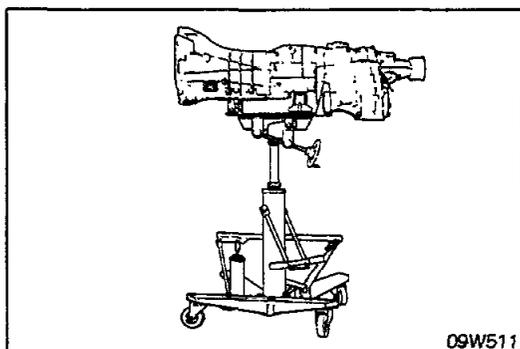
Remove the clutch-release cylinder (with the clutch hose connected to it) from the transmission, and suspend it from the body by using a piece of wire or a similar method.

10. REMOVAL OF STARTOR MOTOR

Remove the starter motor (with the harness connected to it) from the transmission, and suspend it from the body by using a piece of wire or a similar method, so that it doesn't fall.

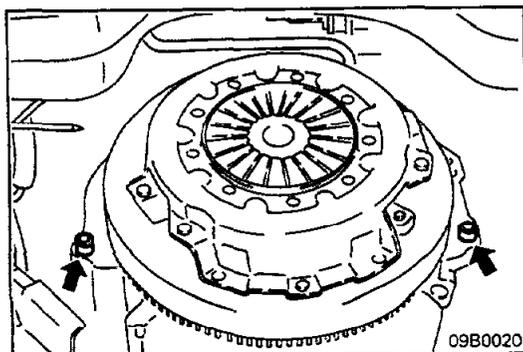
11. REMOVAL OF TRANSFER MOUNTING BRACKET

Before removing the transfer mounting bracket, use a transmission jack to hold the transfer.

**15. REMOVAL OF TRANSMISSION AND TRANSFER ASSEMBLY****Caution**

When removing the transmission from the engine, care must be taken not to shake or rock with force, because to do so might cause damage to the end of the main drive gear, the pilot bearing, or the clutch disc, etc.

- (1) Disconnect the transmission and transfer assembly from the engine by pulling it slowly toward the rear of the vehicle.
- (2) When the transmission and transfer assembly are lowered, tilt the front of the transmission downward and slowly lower forward, while using care to make sure that the rear of the transmission does not interfere with the No. 4 crossmember.

**SERVICE POINTS OF INSTALLATION**

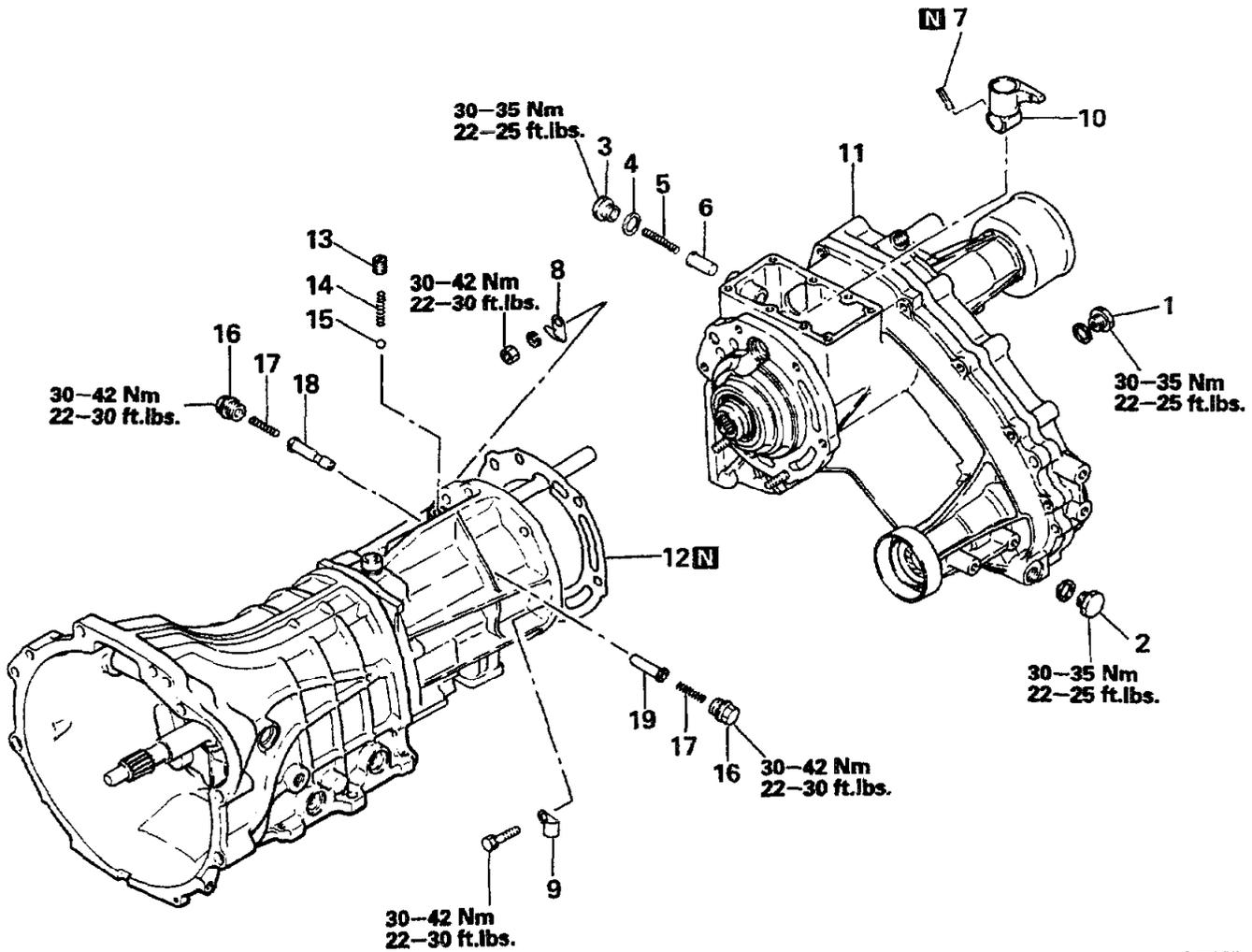
N21MDAK

15. INSTALLATION OF TRANSMISSION AND TRANSFER ASSEMBLY

- (1) Insert a wedge-shaped piece of wood between the engine oil pan and the front differential housing so that the engine is tilted toward the rear.
- (2) On the engine side, there are two centering locations. Make sure that the transmission mounting bolt holes are aligned with them *before mounting the transmission and transfer assembly to the engine.*

DISASSEMBLY AND REASSEMBLY (TRANSMISSION AND TRANSFER ASSEMBLY)

N21ME-C



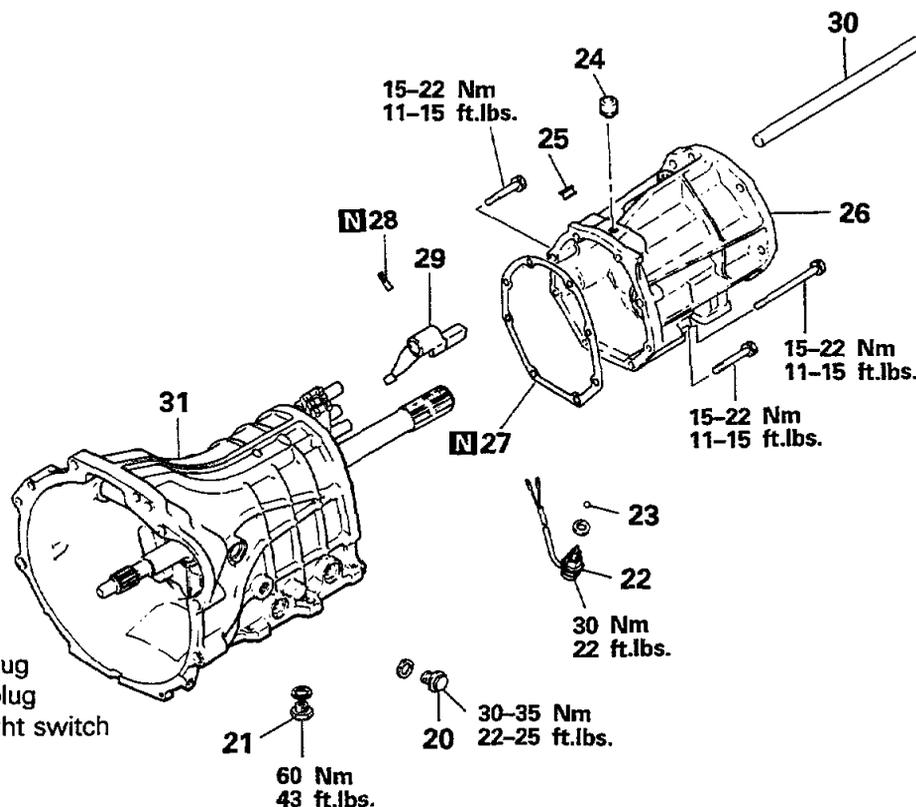
145075

Disassembly steps

1. Oil filler plug
2. Oil drain plug
3. Select plunger plug
4. Gasket
5. Select spring
6. Select plunger
- ◆◆ 7. Spring pin
8. Cord fastener
9. Cord fastener
- ◆◆◆ 10. Change shifter
- ◆◆◆ 11. Transfer case assembly
- ◆◆◆ 12. Adapter gasket
13. Plug
14. Spring
15. Steel ball
16. Seal plug
17. Neutral return spring
18. Neutral return plunger (B)
19. Neutral return plunger (A)

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Reassembly".
- (3) N : Non-reusable parts



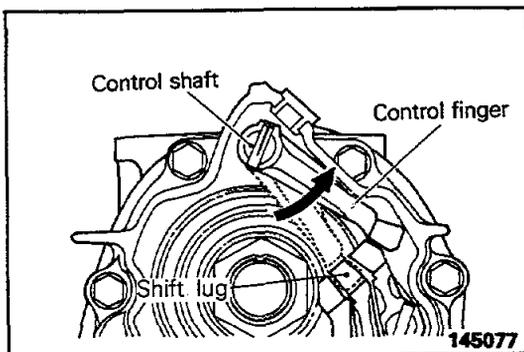
Disassembly steps

- 20. Oil filler plug
- 21. Oil drain plug
- 22. Backup light switch
- 23. Steel ball
- ◆◆24. Breather
- ◆◆◆25. Plug
- ◆◆◆◆26. Transfer adapter
- ◆◆◆27. Extension gasket
- 28. Lock pin
- 29. Control finger
- 30. Control shaft
- 31. Transmission assembly

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Disassembly".
- (3) ◆◆◆ : Refer to "Service Points of Reassembly".
- (4) [N] : Non-reusable parts

145076



SERVICE POINTS OF DISASSEMBLY

N21MFB0

26. REMOVAL OF TRANSFER ADAPTER

Turn the control shaft to the left and remove the control finger from the groove in the shift lug, then remove the transfer adapter from the transmission.

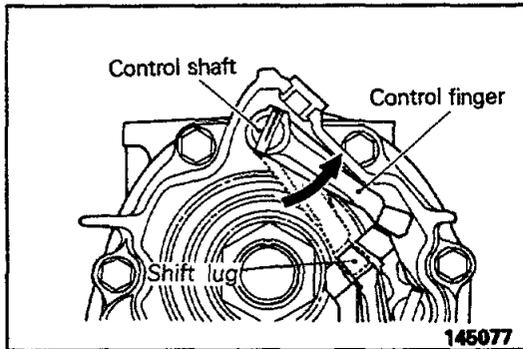
SERVICE POINTS OF REASSEMBLY

N21MGBG

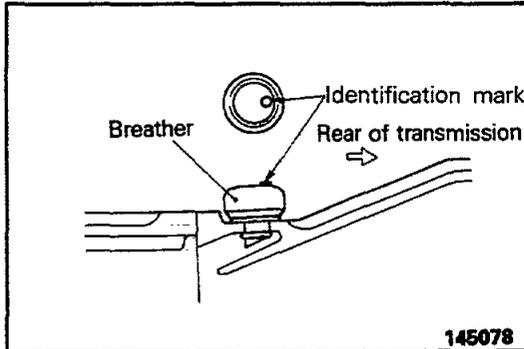
27. INSTALLATION OF EXTENSION GASKET/26. TRANSFER ADAPTER

- (1) Apply sealant to both sides of the extension gasket and affix the gasket to the rear surface of the transmission case.

Specified sealant: 3M ART Part No. 8660 or equivalent



- (2) Turn the control shaft to the left and install the transfer adapter.
- (3) Turn the control shaft to the right and insert the control finger in the groove of the shift lug.



24. INSTALLATION OF BREATHER

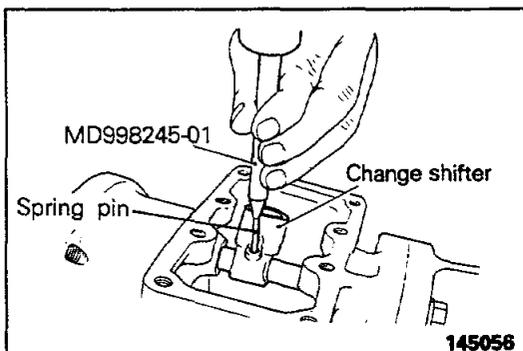
Install the breather with the identification mark toward the rear.

12. ASSEMBLY OF ADAPTER GASKET/11. TRANSFER CASE ASSEMBLY/10. CHANGE SHIFTER

- (1) Apply sealant to both sides of the gasket and affix it to the rear surface of the adapter.

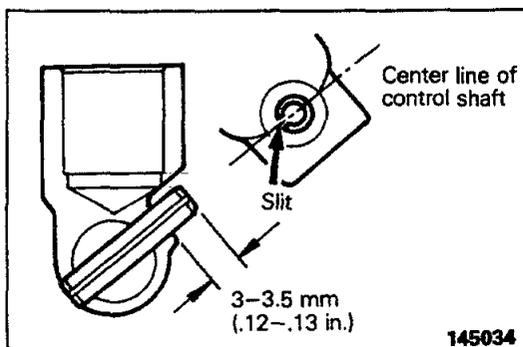
**Specified sealant: 3M ART Part No. 8660
or equivalent**

- (2) Install the transfer case installing the change shifter to the control shaft.



7. INSTALLATION OF SPRING PIN

- (1) Drive the spring pin in using the special tool.



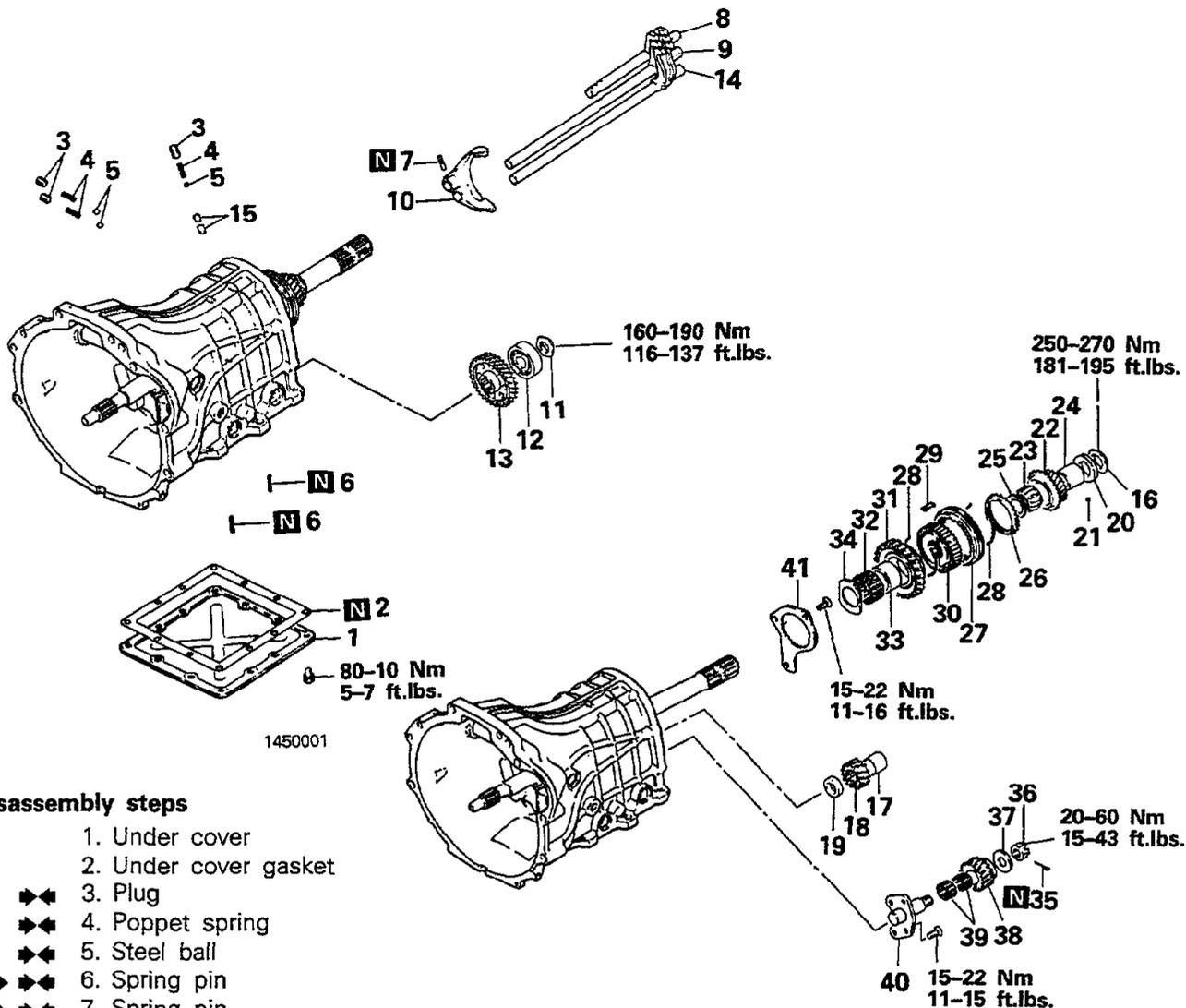
- (2) Drive the spring pin in with the slit in the spring pin parallel to the shaft center of the shift rail, so that the dimensions are as shown in the illustration.

NOTE

Do not reuse spring pin.

DISASSEMBLY AND REASSEMBLY (TRANSMISSION ASSEMBLY)

N21ME-D



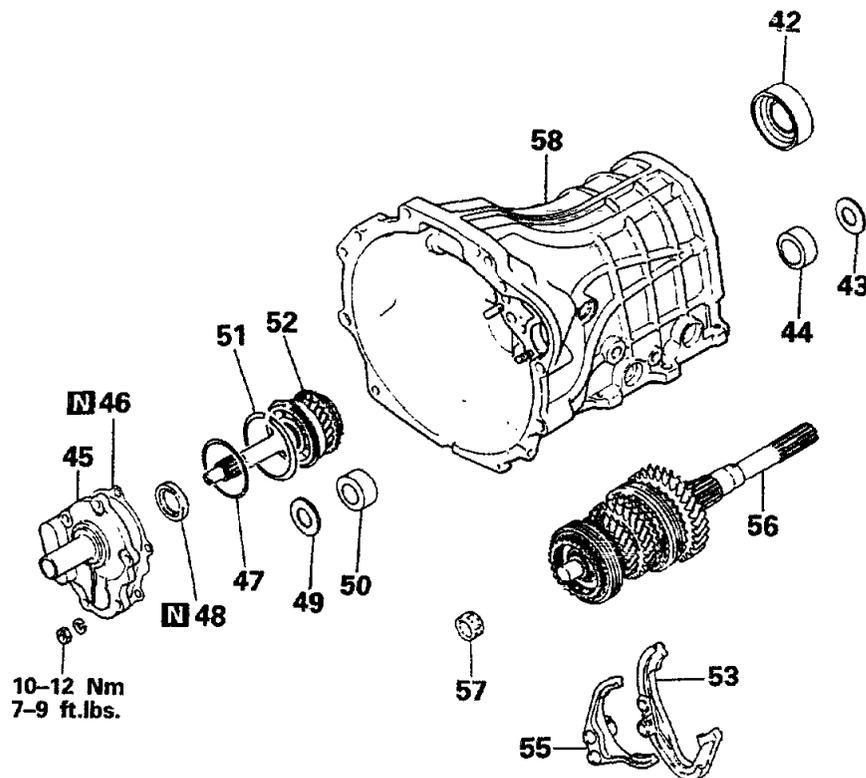
Disassembly steps

- 1. Under cover
- 2. Under cover gasket
- ▶▶▶▶ 3. Plug
- ▶▶▶▶ 4. Poppet spring
- ▶▶▶▶ 5. Steel ball
- ◀▶▶▶ 6. Spring pin
- ◀▶▶▶ 7. Spring pin
- 8. OD-R shift rail
- 9. 3-4 speed shift rail
- 10. OD-R shift fork
- ◀▶▶▶ 11. Countershaft lock nut
- ◀▶▶▶ 12. Countershaft rear bearing
- ◀▶▶▶ 13. Counter overdrive gear
- ◀▶▶▶ 14. 1-2 speed shift rail
- 15. Interlock plunger
- ◀▶▶▶ 16. Main shaft lock nut
- 17. Spacer
- 18. Reverse idler gear
- 19. Spacer
- 20. Sleeve
- 21. Steel ball
- 22. Overdrive gear
- 23. Needle bearing
- ◀▶▶▶ 24. Bearing sleeve
- 25. Bearing spacer
- ▶▶▶▶ 26. Synchronizer ring
- ▶▶▶▶ 27. OD-R synchronizer sleeve
- ▶▶▶▶ 28. Synchronizer spring

- ▶▶▶▶ 29. Synchronizer key
- ▶▶▶▶ 30. Synchronizer hub
- 31. Reverse gear
- 32. Needle bearing
- 33. Bearing sleeve
- 34. Spacer
- 35. Cotter pin
- 36. Slotted nut
- 37. Thrust washer
- 38. Reverse idler gear
- 39. Needle bearing
- ◀▶▶▶ 40. Reverse idler gear shaft
- ▶▶▶▶ 41. Rear bearing retainer

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◀▶▶▶ : Refer to "Service Points of Disassembly".
- (3) ▶▶▶▶ : Refer to "Service Points of Reassembly".
- (4) [N] : Non-reusable parts

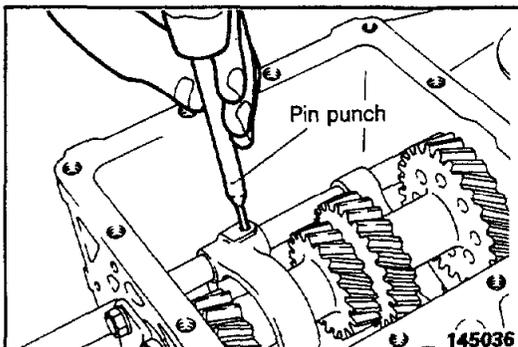
**Disassembly steps**

- ↔ ↔ 42. Main shaft bearing
- ↔ 43. Spacer
- ↔ 44. Counter rear bearing outer race
- ↔ 45. Front bearing retainer
- ↔ 46. Front bearing retainer gasket
- ↔ 47. Spacer
- ↔ 48. Oil Seal
- ↔ 49. Spacer
- ↔ 50. Counter front bearing outer race
- ↔ ↔ 51. Snap ring
- ↔ ↔ 52. Main drive gear assembly
- ↔ ↔ 53. 1-2 speed shift fork
- ↔ ↔ 54. Counter shaft assembly
- ↔ ↔ 55. 3-4 speed shift fork
- ↔ ↔ 56. Main shaft assembly
- ↔ ↔ 57. Needle bearing
- ↔ ↔ 58. Transmission case

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ↔ : Refer to "Service Points of Disassembly".
- (3) ↔ : Refer to "Service Points of Reassembly".
- (4) N : Non-reusable parts

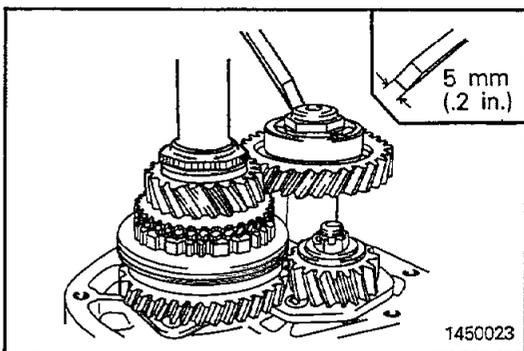
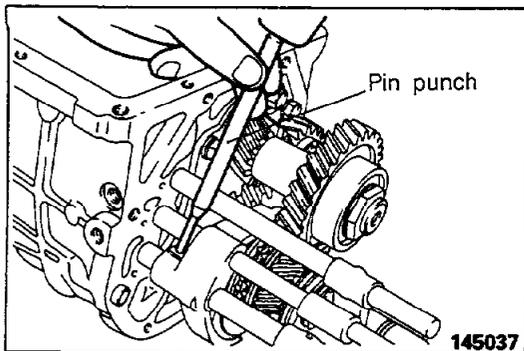
1450029

**SERVICE POINTS OF DISASSEMBLY**

N21MFBL

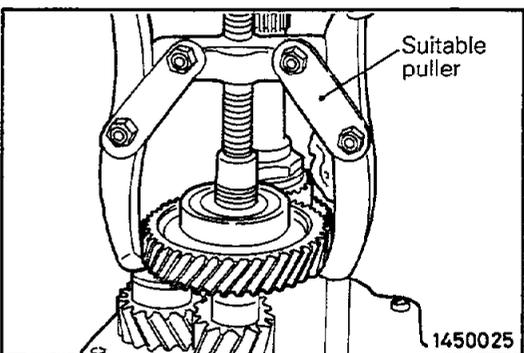
6./7. REMOVAL OF SPRING PIN

Drive the spring pin out using the pin punch.



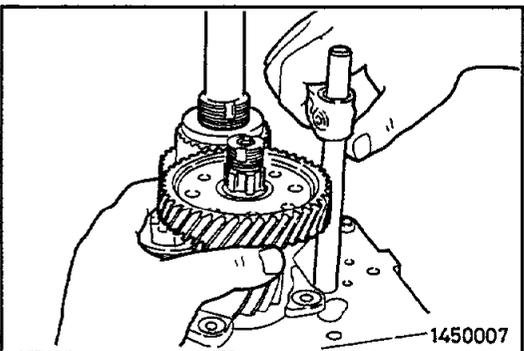
11. REMOVAL OF COUNTERSHAFT LOCK NUT

- (1) As shown in the illustration, use the front edge of the blade of a chisel or a blunt punch to loosen the baffle on the main shaft and counter shaft lock nuts.
- (2) Shift the OD-R synchronizer sleeve to the reverse side, then shift the 1-2 synchronizer sleeve to the 2nd speed side.
- (3) Remove the main shaft lock nut and the counter shaft lock nut.

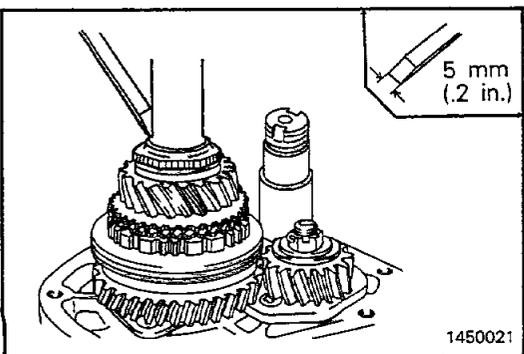


12. REMOVAL OF COUNTERSHAFT REAR BEARING/13. COUNTER OVERDRIVE GEAR/14. 1-2 SPEED SHIFT RAIL

- (1) Pull off counter overdrive gear and ball bearing by using a suitable puller.

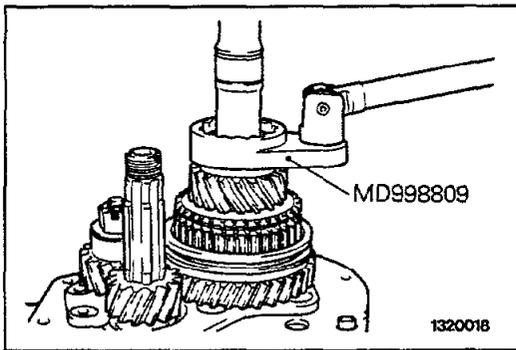


- (2) Pull off overdrive gear and 1st – 2nd speed shift rail.

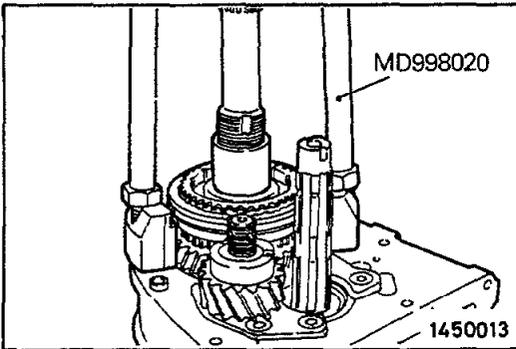


16. REMOVAL OF MAIN SHAFT LOCK NUT

- (1) As shown in the illustration, use the front edge of the blade of a chisel or a blunt punch to loosen the baffle on the main shaft lock nuts.
- (2) Shift the OD-R synchronizer sleeve to the reverse side, then shift the 1st – 2nd speed synchronizer sleeve to the 2nd speed side.

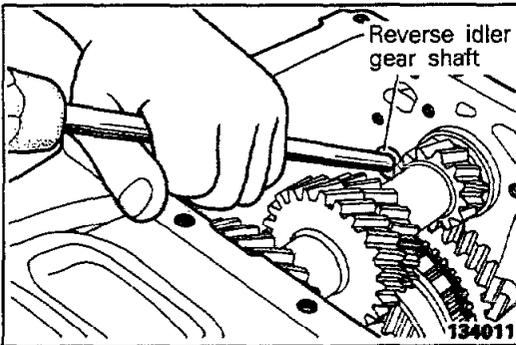


- (3) Remove the main shaft lock nut loosening it with the special tool.



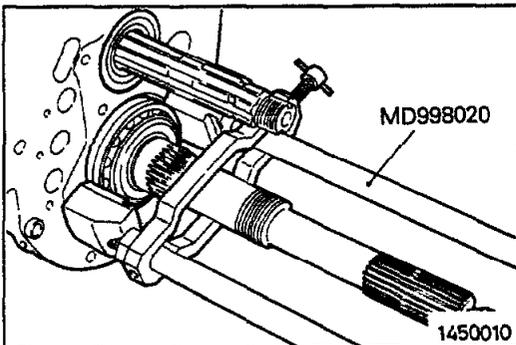
24. REMOVAL OF OVERDRIVE GEAR BEARING SLEEVE

- (1) Using the special tool, remove the overdrive gear and bearing sleeve.



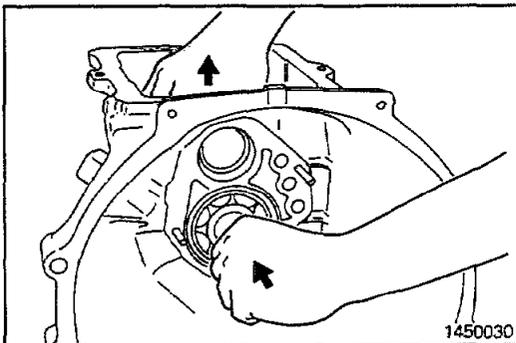
40. REMOVAL OF REVERSE IDLER GEAR SHAFT

- (1) Remove four reverse idler gear shaft mounting bolts.
- (2) Drive the reverse idler gear shaft from inside of case.



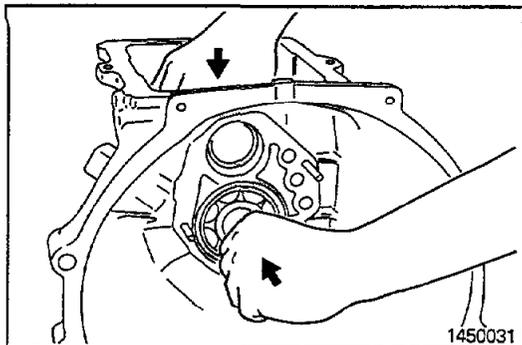
42. REMOVAL OF MAIN SHAFT CENTER BEARING

- (1) Remove main shaft bearing snap ring.
- (2) Using Special Tools remove main shaft rear bearing.



51. REMOVAL OF SNAP RING/54. COUNTER SHAFT ASSEMBLY

- (1) Remove the snap ring by using snap-ring pliers.
- (2) Remove the counter shaft assembly while pressing the main drive gear.

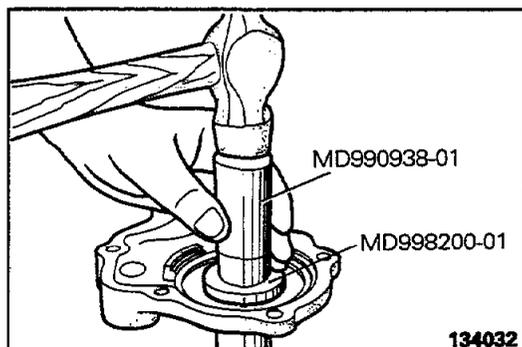


SERVICE POINTS OF REASSEMBLY

N21MGBP

54. INSTALLATION OF COUNTER SHAFT ASSEMBLY/51. SNAP RING

- (1) Install the counter shaft assembly while pressing the main drive gear.
- (2) Install the snap ring.



48. INSTALLATION OF OIL SEAL

Apply transmission oil to the lip of the oil seal, then drive the oil seal into the front bearing retainer using the special tools.

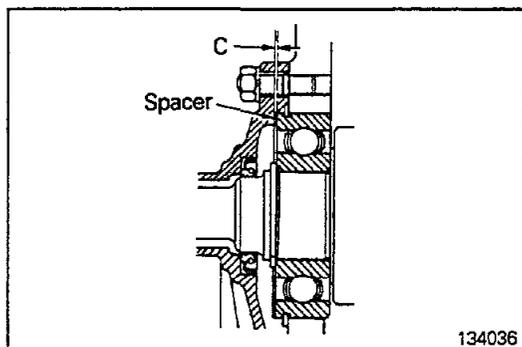
47. INSTALLATION OF SPACER/46. FRONT BEARING RETAINER GASKET/45. FRONT BEARING RETAINER

- (1) Before installing the front bearing retainer, select a spacer which will bring the clearance (c) to the standard value.

Standard value: 0-0.1 mm (0-.004 in.)

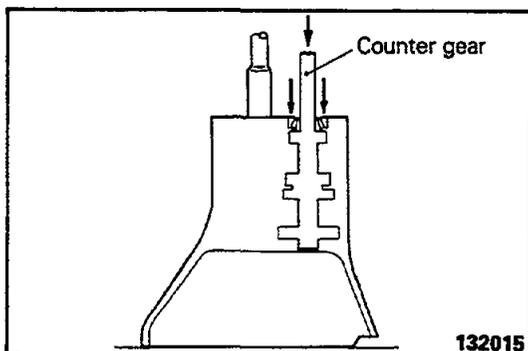
- (2) Apply sealant to both sides of the front bearing retainer gasket and affix it to the case. Then immediately set the spacer selected in (1) in place and install the bearing retainer.

Specified sealant: 3M ART Part No. 8660 or equivalent

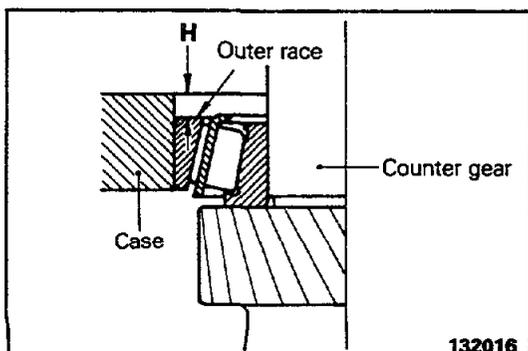


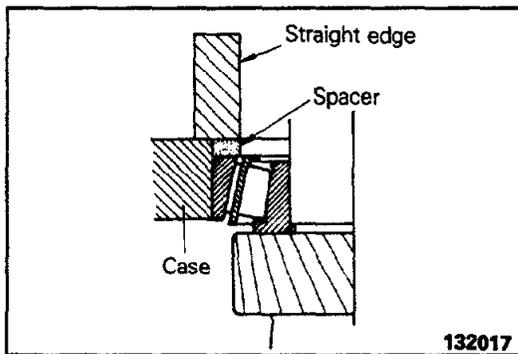
43. INSTALLATION OF SPACER

- (1) Hold down counter gear and bearing outer race (in the direction of arrow shown in illustration).



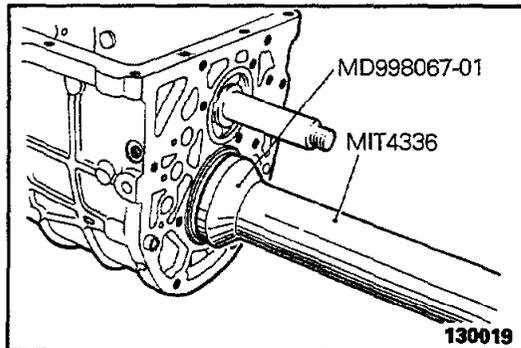
- (2) Put a spacer of proper thickness (slightly thinner than dimension "H" shown in illustration) on outer race.





- (3) Put straight edge on spacer and try to turn spacer by index finger. If spacer turns lightly, replace it with spacer one rank [0.03 mm (.0012 in.)] thicker, and similarly turn this spacer. In this manner, choose and install a spacer which makes clearance between straight edge and spacer closest to 0. Make sure that the bearings are NOT preloaded.

Standard value : 0–0.05 mm (0–.0020 in.)



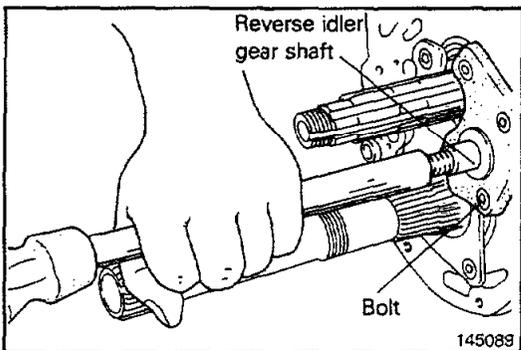
42. INSTALLATION OF MAIN SHAFT BEARING

After installing the snap ring on the main shaft bearing, drive the main shaft bearing into the transmission case using the special tool.

41. INSTALLATION OF REAR BEARING RETAINER

Apply a coating of sealant to the threaded part of the bolt, and tighten at the specified torque.

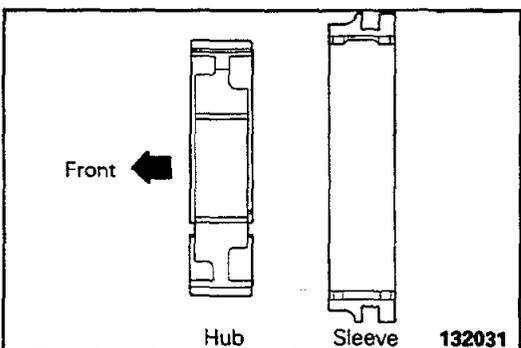
Specified sealant : 3M STUD Locking No. 4170 or equivalent.



40. INSTALLATION OF REVERSE IDLER GEAR SHAFT

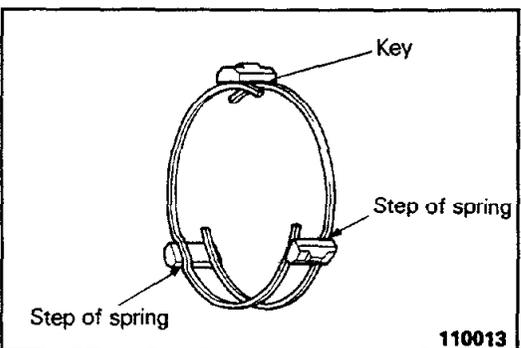
- (1) Position the reverse idler gear shaft with bolts and drive it in.
- (2) Apply a coating of sealant to the threaded part of the bolt, and tighten at the specified torque.

Specified sealant : 3M STUD locking No. 4170 or equivalent.

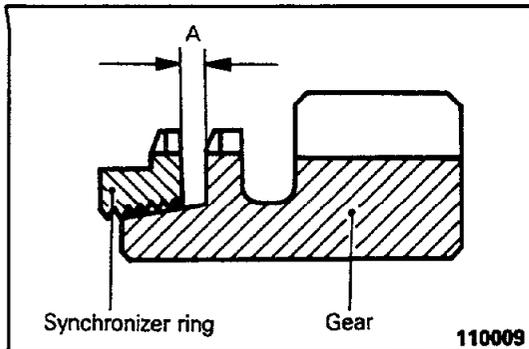


30. INSTALLATION OF SYNCHRONIZER HUB/29. SYNCHRONIZER KEY/28. SYNCHRONIZER SPRING/27. OD-R SYNCHRONIZER SLEEVE

- (1) Assemble synchronizer hub and sleeve. Make sure that hub and sleeve slide smoothly.
- (2) Insert three keys into groove of hub. Assemble hub and keys as shown in illustration since they have a definite direction to be assembled.



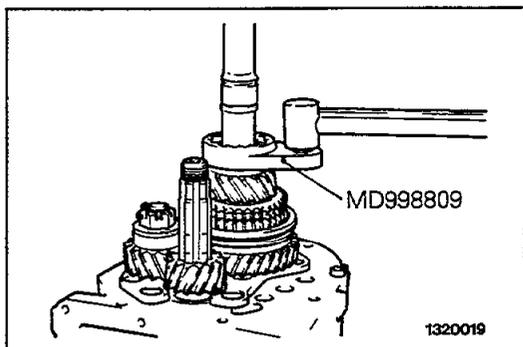
- (3) Install two synchronizer springs. When installing springs, make sure that steps of front and rear springs are positioned on synchronizer key, but not on the same key.



26. INSTALLATION OF SYNCHRONIZER RING

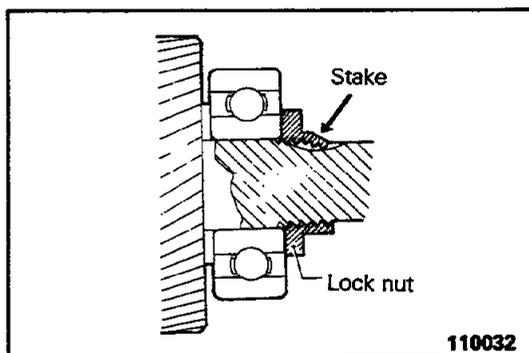
Engage synchronizer ring to OD gear as shown in illustration before installing OD gear and ensure that there is certain clearance "A".
If dimension "A" exceeds the limit, replace the ring and/or gear.

Limit : 0.5 mm (.020 in.)

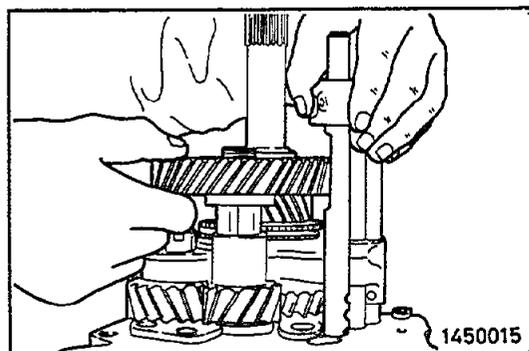


16. INSTALLATION OF MAIN SHAFT LOCK NUT

(1) Tighten main shaft lock nut to specified torque by using the special tool.

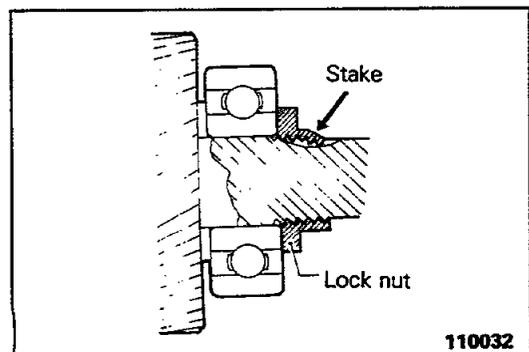


(2) Stake the area as shown in illustration without fail to prevent lock nut from loosening.
(3) Ensure that OD gear rotates smoothly.



14. INSTALLATION OF 1 – 2 SPEED SHIFT RAIL/13. COUNTER OVERDRIVE GEAR

(1) Install the over drive gear and 1st – 2nd speed shift rail.

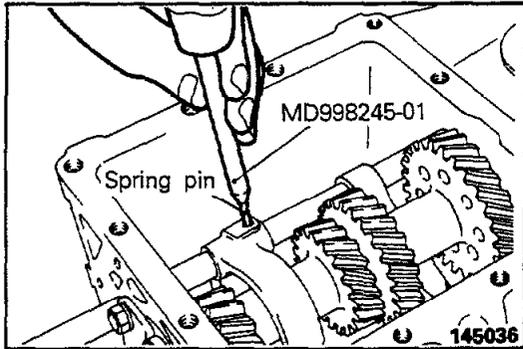
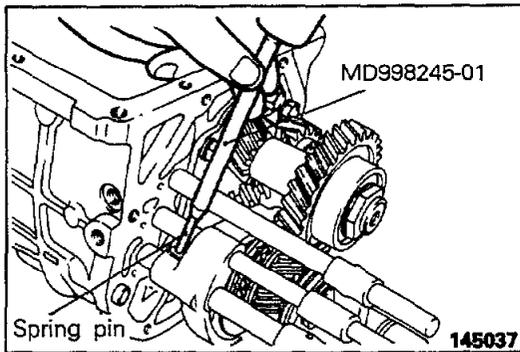


11. INSTALLATION OF COUNTER SHAFT LOCK NUT

(1) Tighten the counter shaft lock nut to specified torque.
(2) Stake the area as shown in illustration without fail to prevent lock nut from loosening.
(3) Ensure that the OD gear rotates smoothly.

7./6. INSTALLATION OF SPRING PIN

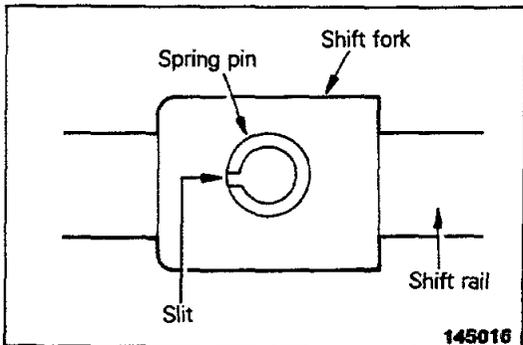
- (1) Drive in the OD-R shift fork spring pin using the special tool.



- (2) Drive in spring pin so as to place slit in direction of center line of shift rail. Drive in spring pins for 3rd-4th and 1st-2nd speed shift forks in the same manner.

NOTE

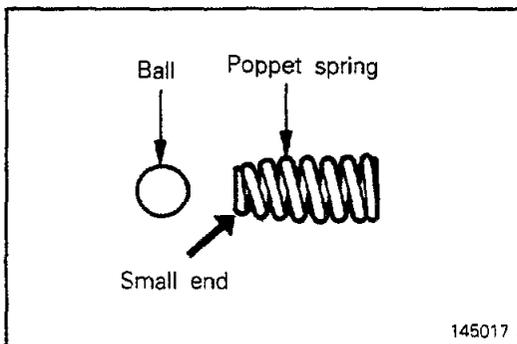
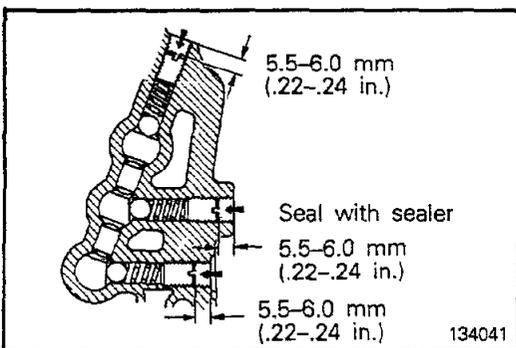
Do not reuse the spring pin.

**5. INSTALLATION OF STEEL BALL/4. POPPET SPRING/3. PLUG**

- (1) Insert the steel ball and poppet spring into each shift rail. Tighten the plug to the specified position.

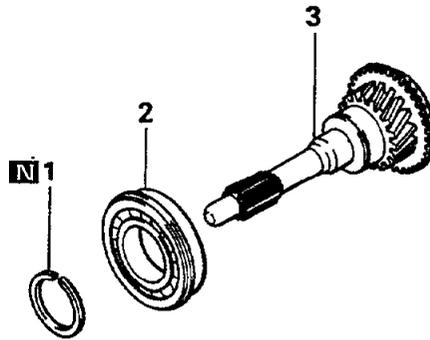
- (2) Insert the poppet spring with small end on ball side.
- (3) After installation, seal the plug head with sealer.

**Specified sealant: 3M ART Part No. 8660
or equivalent**



DISASSEMBLY AND REASSEMBLY (MAIN DRIVE GEAR ASSEMBLY)

N21MQAF



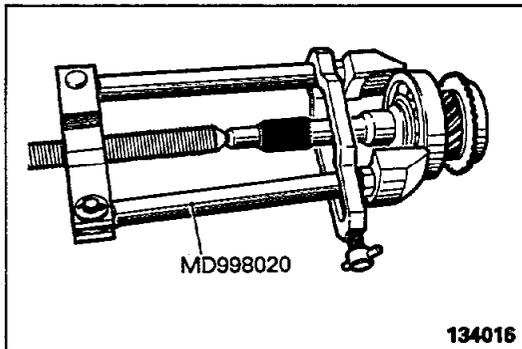
110038

Disassembly steps

- ◆◆1. Snap ring
- ◆◆◆2. Bearing
- 3. Main drive gear

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Disassembly".
- (3) ◆◆ : Refer to "Service Points of Reassembly".
- (4) N : Non-reusable parts.

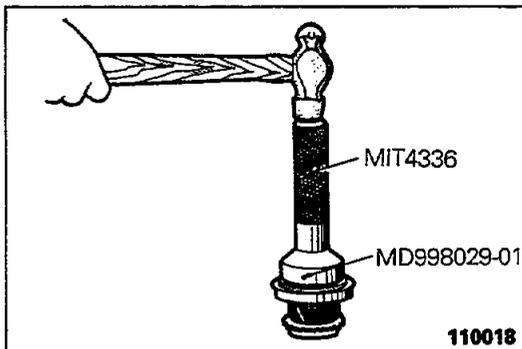


134016

SERVICE POINTS OF DISASSEMBLY

2. REMOVAL OF BEARING

- (1) Remove main drive gear snap ring.
- (2) Using Special Tool, pull ball bearing from main drive gear.

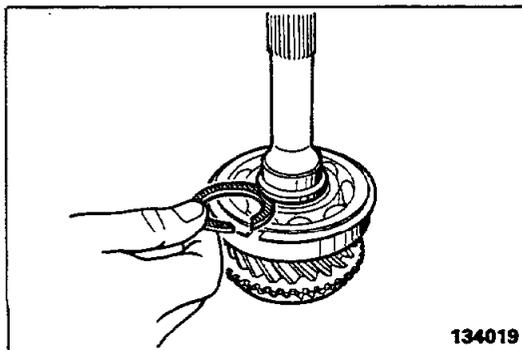


110018

SERVICE POINTS OF REASSEMBLY

2. INSTALLATION OF BEARING

With Special Tools, applied to main drive gear press bearing in by means of a hammer or a press.



134019

1. INSTALLATION OF SNAP RING

Select and install main drive gear snap ring of such thickness that will minimize clearance between snap ring and bearing. In other words, install the thickest snap ring that can fit in snap ring groove.

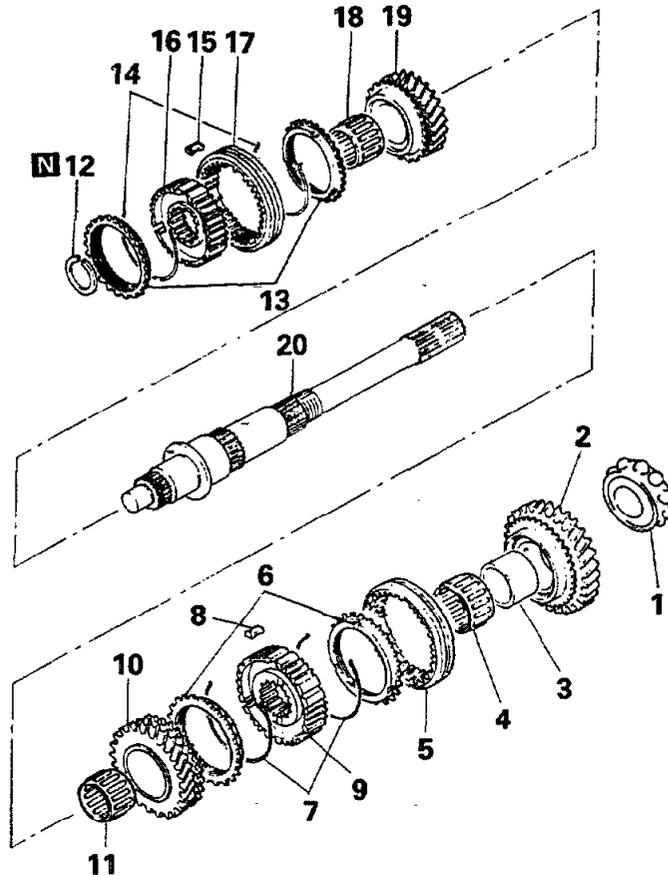
Standard value : 0–0.06 mm (0–.002 in.)

DISASSEMBLY AND REASSEMBLY (MAIN SHAFT ASSEMBLY)

N21PE-C

Disassembly steps

- ◄◄ 1. Ball bearing inner race
- 2. First speed gear
- 3. Bearing sleeve
- 4. Needle bearing
- ◆◆ 5. 1-2 speed synchronizer sleeve
- 6. Synchronizer ring
- ◆◆ 7. Synchronizer spring
- ◆◆ 8. Synchronizer key
- ◆◆ 9. 1-2 speed synchronizer hub
- ◄◆ 10. Second speed gear
- 11. Needle bearing
- ◆◆12. Snap ring
- 13. Synchronizer ring
- ◆◆14. Synchronizer spring
- ◆◆15. Synchronizer key
- ◆◆16. 3-4 speed synchronizer hub
- ◆◆17. 3-4 speed synchronizer sleeve
- 18. Needle bearing
- 19. Third speed gear
- 20. Main shaft



NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2)◆◆ : Refer to "Service Points of Disassembly".
- (3)◆◆ : Refer to "Service Points of Reassembly".
- (4) **N** : Non-reusable parts.

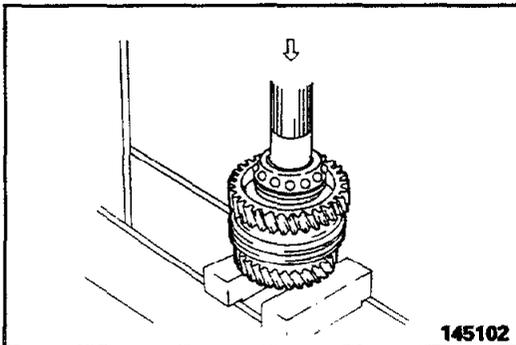
145103

SERVICE POINTS OF DISASSEMBLY

N21PFAA2

1. INSTALLATION OF BALL BEARING INNER RACE/10. SECOND SPEED GEAR

Holding second speed gear on press base, push rear end of main shaft to remove bearing inner race (double bearing only), gear bearing sleeve, first speed gear, 1-2 speed synchronizer and second speed gear.



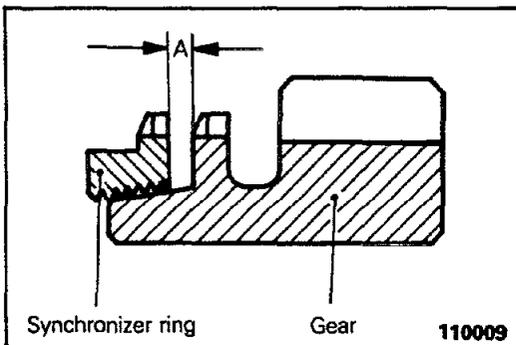
145102

INSPECTION

N21PGAA2

- Check synchronizer ring for worn and damaged internal threads.
- With synchronizer assembled to cone of each gear check dimension "A". If dimension "A" exceeds the limit, replace the synchronizer ring and/or gear.

Limit : 0.5 mm (.020 in.)



Synchronizer ring

Gear

110009

NZ1P1AAZ

SERVICE POINTS OF REASSEMBLY

17. ASSEMBLY OF 3-4 SPEED SYNCHRONIZER SLEEVE/16. 3-4 SPEED SYNCHRONIZER HUB/15. SYNCHRONIZER KEY/14. SYNCHRONIZER SPRING

- (1) Mate synchronizer hub with sleeve using mark made at disassembly. Make sure that hub and sleeve slide smoothly. If they slide unsmoothly, replace hub and sleeve assembly.
- (2) 3-4 synchronizer sleeve has teeth missing at six portions. Assemble hub to sleeve in such a way that center tooth T between two missing teeth will touch synchronizer key.
- (3) Use care when installing 3-4 synchronizer hub since only 3-4 synchronizer is directional. Smaller diameter side "A" of center boss is front of 3-4 synchronizer hub.

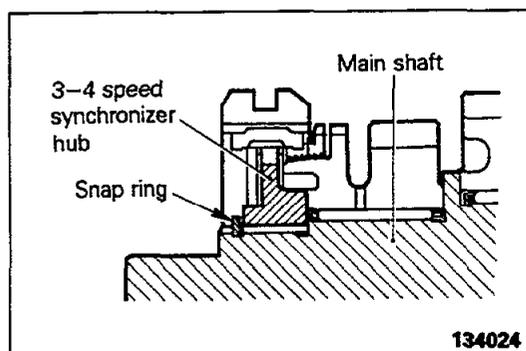
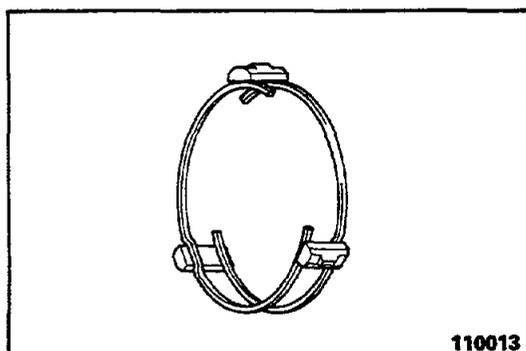
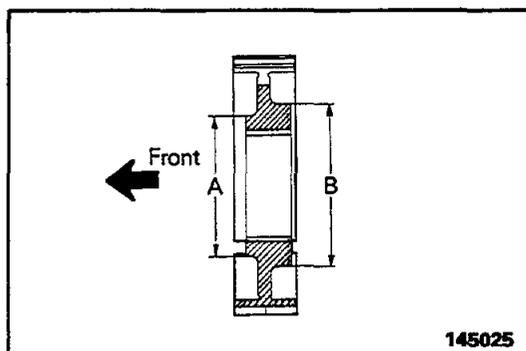
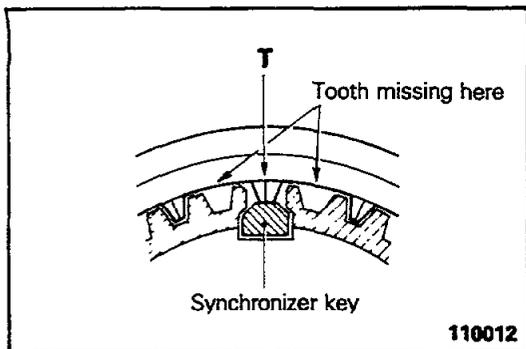
- (4) Insert three keys into groove of synchronizer hub.
- (5) Install two synchronizer springs to synchronizer. When synchronizer springs are installed, make sure that front and rear ones are not faced in same direction.

16. INSTALLATION OF 3-4 SYNCHRONIZER HUB/12. SNAP RING

- (1) Assemble 3-4 synchronizer positioning hub toward correct direction.
- (2) As for main shaft front end snap ring. select and install one of such thickness that will minimize clearance between snap ring hub. In other words, install the thickest snap ring that fits in snap ring groove.
- (3) Make sure that 3rd speed gear turns smoothly.

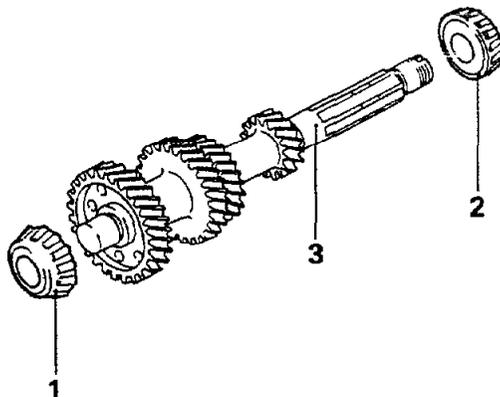
9. ASSEMBLY OF 1-2 SPEED SYNCHRONIZER HUB/8. SYNCHRONIZER KEY/7. SYNCHRONIZER SPRING/5. 1-2 SPEED SYNCHRONIZER SLEEVE

Assembly the 1-2 synchronizer by the same procedure as for the 3-4 synchronizer in the previous item.



DISASSEMBLY AND REASSEMBLY (COUNTER SHAFT ASSEMBLY)

N21XE-B

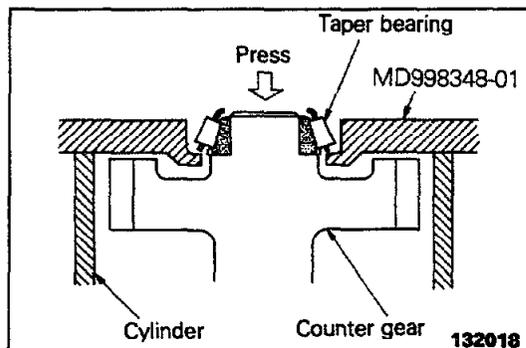
**Disassembly steps**

- ◆◆◆◆1. Counter front bearing
- ◆◆◆◆2. Counter center bearing
- 3. Counter shaft gear

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Disassembly".
- (3) ◆◆ : Refer to "Service Points of Reassembly".

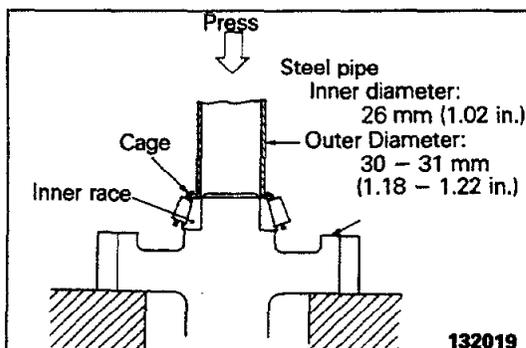
132069

**SERVICE POINTS OF DISASSEMBLY**

N21XFAB

1. REMOVAL OF COUNTER FRONT BEARING/2. COUNTER CENTER BEARING

Remove the taper roller bearing from the end of the counter shaft gear using the special tool.

**SERVICE POINTS OF REASSEMBLY**

N21XHAA1

1. PRESSURE INSERTION OF COUNTER FRONT BEARING/2. COUNTER CENTER BEARING

Pressure insert the taper roller bearing using a steel pipe with the dimensions shown in the illustration. Set the steel pipe so that it presses on the inner race only and doesn't contact the bearing cage.

**TRANSMISSION AND TRANSFER ASSEMBLY <3.0L ENGINE>
REMOVAL AND INSTALLATION**

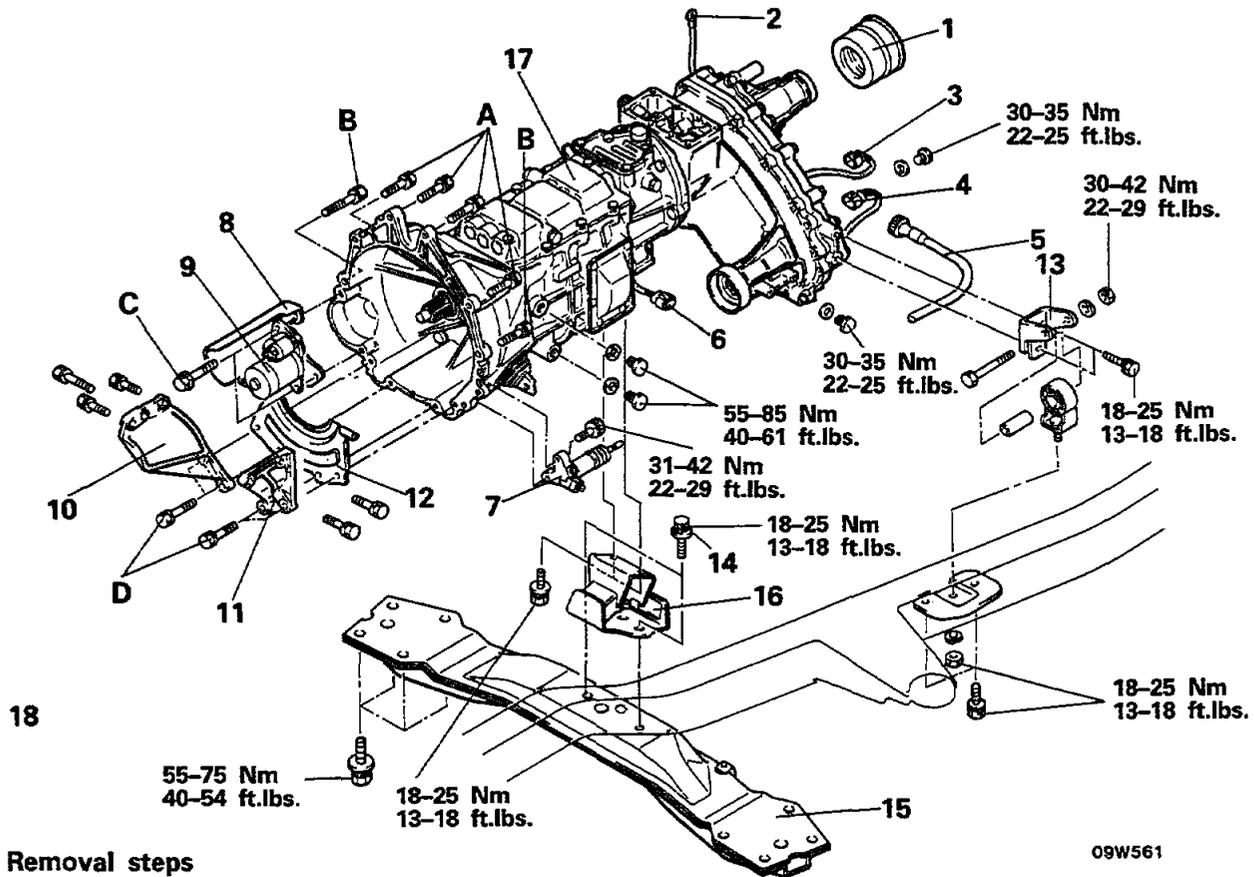
N21MA-2

Pre-removal Operation

- Removal of Transmission and Transfer Shift Lever Knob (Refer to P. 21-52.)
- Removal of Transfer Case Protector
- Removal of Front Exhaust Pipe
- Draining of Transmission Oil and Transfer Oil (Refer to P. 21-10.)
- Removal of Front and Rear Propeller Shaft (Refer to GROUP 16 – Propeller Shaft.)

Post-installation Operation

- Installation of Front and Rear Propeller Shaft (Refer to GROUP 16 – Propeller Shaft.)
- Supplying of Transmission Oil and Transfer Oil (Refer to P. 21-10.)
- Installation of Front Exhaust Pipe (Refer to GROUP 11 – Exhaust Pipe.)
- Installation of Transfer Case Protector
- Installation of Transmission and Transfer Shift Lever Knob (Refer to P. 21-52.)



Removal steps

1. Dust seal guard
2. Ground cable
3. Oxygen sensor connector
4. 4WD indicator light switch connector
5. Speedometer cable
6. Back-up light switch connector
- ↔ 7. Clutch release cylinder
- ↔ 8. Starter cover
- ↔ 9. Starter motor
- ↔↔ 10. Transmission stay (R.H.)
- ↔↔ 11. Transmission stay (L.H.)
- ↔ 12. Bell housing cover
- ↔ 13. Transfer mounting bracket
- ↔ 14. Bolt

15. No. 2 crossmember
16. Engine mounting rear insulator
- ↔↔↔↔ 17. Transmission and transfer assembly

NOTE

- (1) Reverse the removal procedures to reinstall.
- (2) ↔↔ : Refer to "Service Points of Removal".
- (3) ↔↔↔↔ : Refer to "Service Points of Installation".

	Nm	ft.lbs.	O.D. × Length	mm (in.)	Bolt identification
A	65-85	47-61	⊕ 12 × 40	(.5 × 1.6)	 Y09512
B	80-100	58-72	⊕ 12 × 55	(.5 × 2.2)	
C	27-34	20-25	⊕ 10 × 55	(.4 × 2.2)	
D	30-42	22-30	⊕ 10 × 40	(.4 × 1.6)	

SERVICE POINTS OF REMOVAL

N21MBAN

7. REMOVAL OF CLUTCH RELEASE CYLINDER

Refer to P. 21-13.

9. REMOVAL OF STARTER MOTOR

Refer to P. 21-13.

13. REMOVAL OF TRANSFER MOUNTING BRACKET

Refer to P. 21-13.

17. REMOVAL OF TRANSMISSION AND TRANSFER ASSEMBLY

Refer to P. 21-13.

SERVICE POINTS OF INSTALLATION

N21MDAL

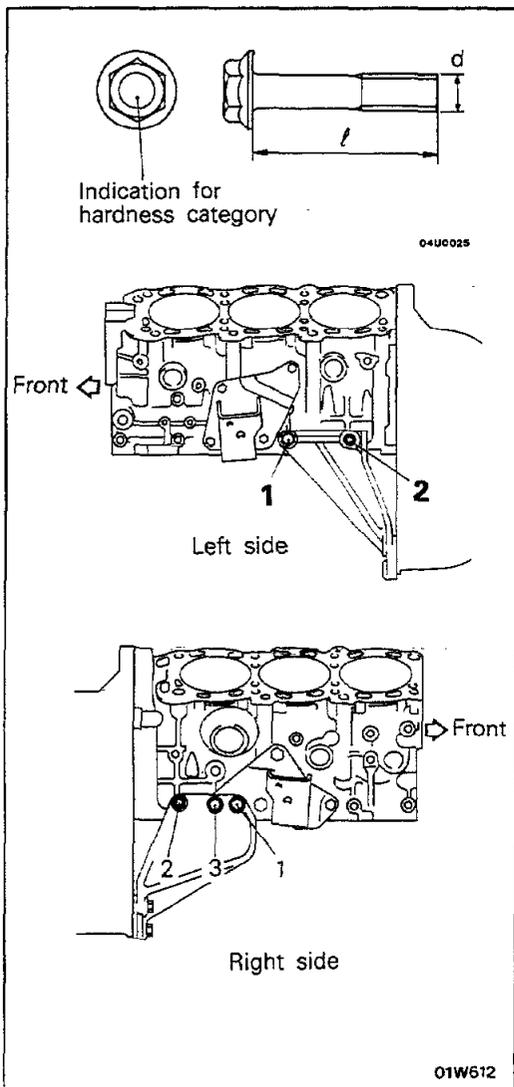
17. INSTALLATION OF TRANSMISSION AND TRANSFER ASSEMBLY

Refer to P. 21-13.

11. INSTALLATION OF TRANSMISSION STAY (L.H.)/10. TRANSMISSION STAY (R.H.)

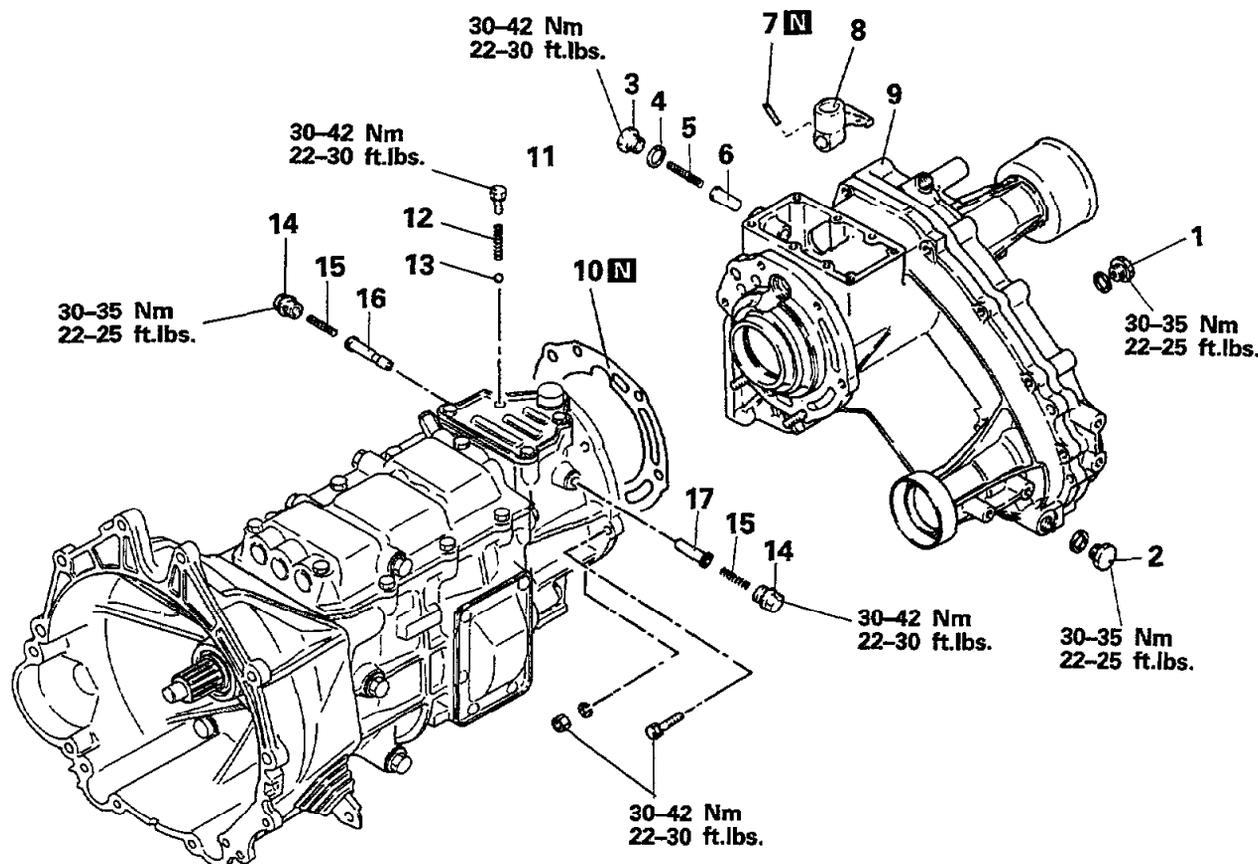
Transmission stay installation bolt size and torque are different and caution must be paid to ensure that they are properly installed.

No.	Hardness category (Head mark)	d x l mm (in.)	Torque Nm (ft.lbs.)
1	⑦	12 x 35 (.47 x 1.37)	65-85 (47-61)
2	⑦	10 x 30 (.39 x 1.18)	33-50 (24-36)
3	⑦	12 x 50 (.47 x 1.96)	65-85 (47-61)



DISASSEMBLY AND REASSEMBLY (TRANSMISSION AND TRANSFER ASSEMBLY)

N21ME-E



Disassembly steps

1. Oil filler plug
2. Oil drain plug
3. Select plunger plug
4. Gasket
5. Select spring
6. Select plunger
7. Spring pin
8. Change shifter
9. Transfer case assembly
10. Adapter gasket
11. Plug
12. Spring

13. Steel ball
14. Seal plug
15. Neutral return spring
16. Neutral return plunger (B)
17. Neutral return plunger (A)

MT10002

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) : Refer to "Service Points of Reassembly".
- (3) : Non-reusable parts

SERVICE POINTS OF REASSEMBLY

N21MGBN

10. ASSEMBLY OF ADAPTER GASKET/9. TRANSFER CASE ASSEMBLY/8. CHANGE SHIFTER

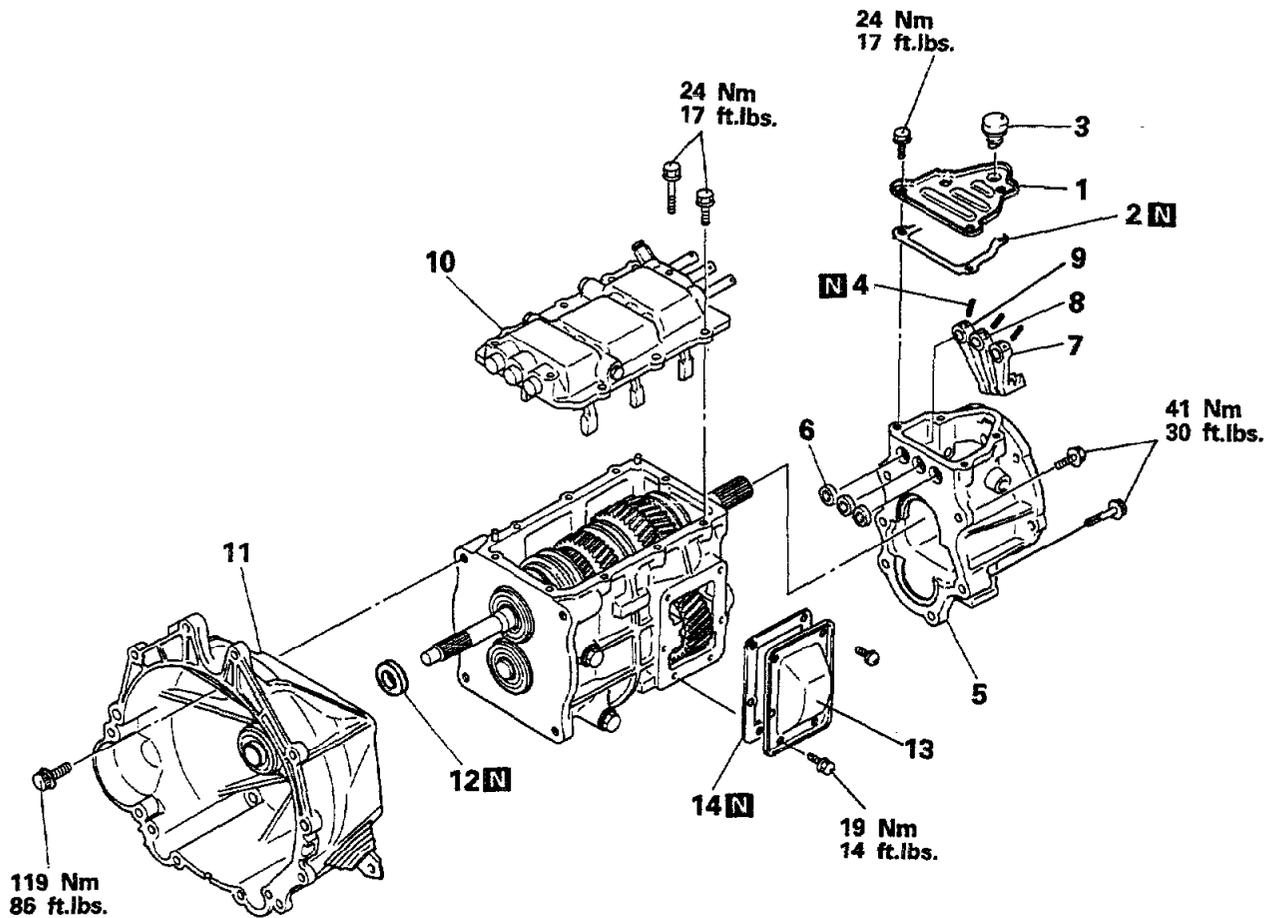
Refer to P.21-16.

7. DRIVING IN OF SPRING PIN

Refer to P.21-16.

DISASSEMBLY AND REASSEMBLY (TRANSMISSION ASSEMBLY)

N21ME-F



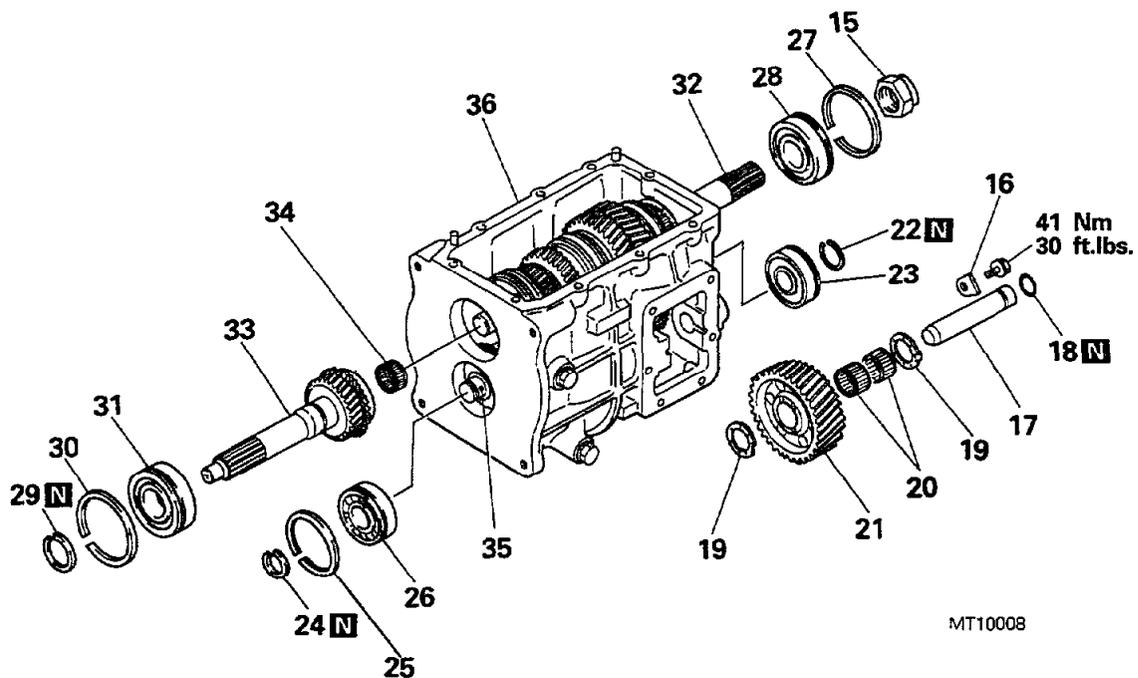
MT10003

Disassembly steps

- ◆◆ 1. Adaptor cover
- ◆◆ 2. Adaptor cover gasket
- ◆◆ 3. Air breather
- ◆◆ 4. Spring pin
- ◆◆ 5. Transfer case adaptor
- ◆◆ 6. Seal ring
- ◆◆ 7. 1st & 2nd gear shift jaw
- ◆◆ 8. 3rd & 4th gear shift jaw
- ◆◆ 9. 5th & Rev gear shift jaw
- ◆◆ 10. Gear shift lower case assembly
- ◆◆ 11. Clutch housing assembly
- ◆◆ 12. Oil Seal
- ◆◆ 13. Transmission power take off cover
- ◆◆ 14. Power take off cover gasket

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆ : Refer to "Service Points of Reassembly."
- (3) N : Non-reusable parts



MT10008

Disassembly steps

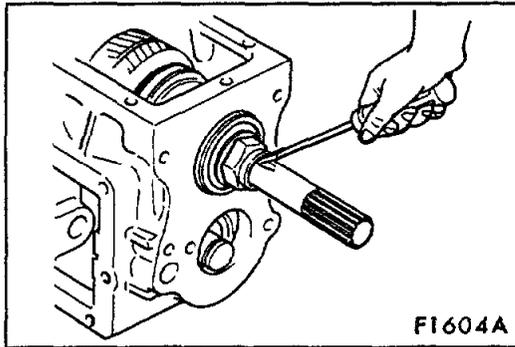
- ◄► 15. Locking nut
- ◄► 16. Lock piece
- ◄► 17. Reverse shaft
- ◄► 18. O-ring
- ◄► 19. Side washer
- ◄► 20. Needle bearing
- ◄► 21. Reverse gear
- ◄► 22. Snap ring
- ◄► 23. Ball bearing
- ◄► 24. Snap ring
- ◄► 25. Snap ring
- ◄► 26. Ball bearing
- ◄► 27. Snap ring
- ◄► 28. Ball bearing
- ◄► 29. Snap ring
- ◄► 30. Snap ring
- ◄► 31. Ball bearing
- ◄► 32. Main shaft assembly
- ◄► 33. Drive pinion
- ◄► 34. Pilot bearing
- ◄► 35. Counter shaft assembly
- ◄► 36. Transmission case

Reassembly steps

- ◄► 36. Transmission case
- ◄► 35. Counter shaft assembly
- ◄ 31. Ball bearing
- ◄ 29. Snap ring
- ◄ 33. Drive pinion
- ◄ 30. Snap ring
- ◄ 34. Pilot bearing
- ◄ 32. Main shaft assembly
- ◄ 27. Snap ring
- ◄ 28. Ball bearing
- ◄ 25. Snap ring
- ◄ 26. Ball bearing
- ◄ 24. Snap ring
- ◄ 23. Ball bearing
- ◄ 22. Snap ring
- ◄ 21. Reverse gear
- ◄ 20. Needle bearing
- ◄ 19. Side washer
- ◄ 18. O-ring
- ◄ 17. Reverse shaft
- ◄ 16. Lock piece
- ◄ 15. Locking nut

NOTE

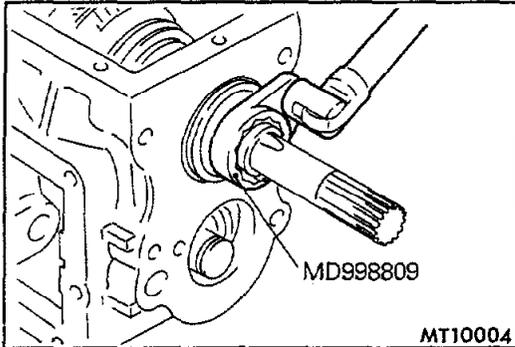
- (1) ◄► : Refer to "Service Points of Disassembly".
- (2) ►◄ : Refer to "Service Points of Reassembly".
- (3) **N** : Non-reusable parts

**SERVICE POINTS OF DISASSEMBLY**

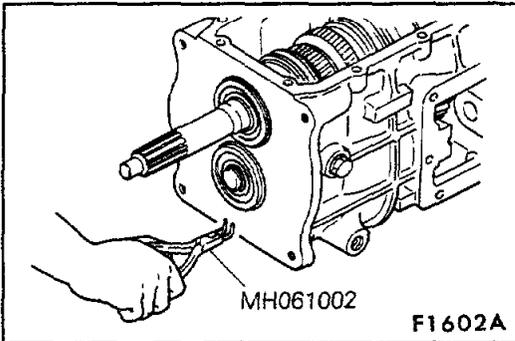
N21MFBM

15. REMOVAL OF LOCKING NUT

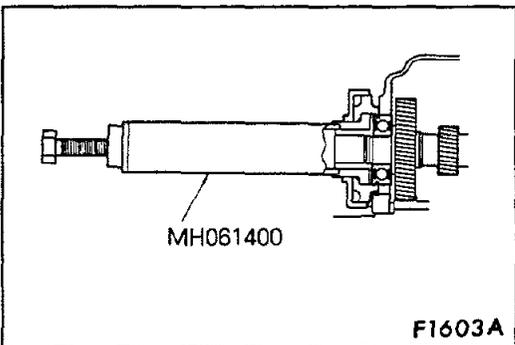
Uncrimp the locking nut by using a screwdriver with a sharp tip or a similar tool, and then use a special tool to remove.

**17. REMOVAL OF REVERSE SHAFT**

Screw in (M12 x 1.25) the slide hammer tip and remove the reverse shaft.

**22./24./29. REMOVAL OF SNAP RING**

Using the special tool, remove the snap rings.

**23./26./28./31. REMOVAL OF BALL BEARING /25./27./30 SNAP RING**

Remove the snap rings for all ball bearings, and then, using the special tool, remove the ball bearings. In order to avoid dropping the countershaft and damaging the teeth, etc., remove the bearings after first receiving at the reverse gear part.

NOTE

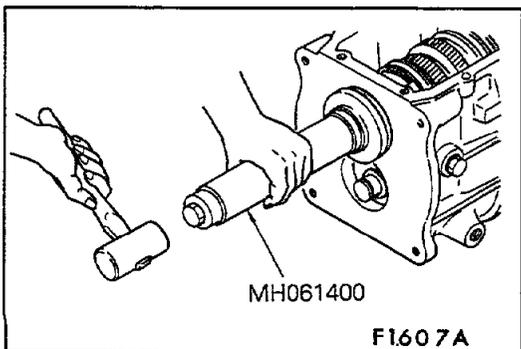
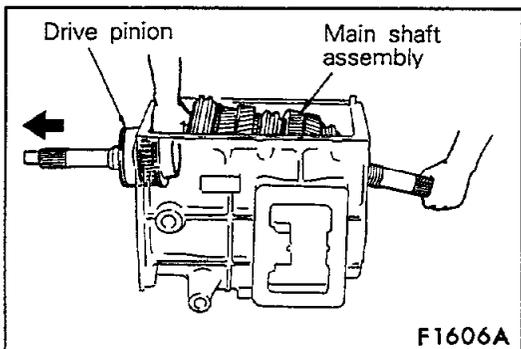
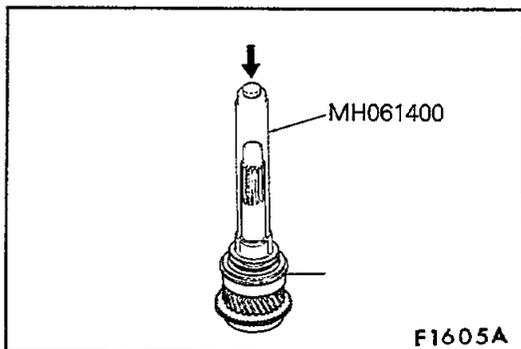
Each bearing must be removed by changing the kit combination. (Refer to 3. "Special Tools".) The illustration at the left shows the countershaft part.

33. REMOVAL OF DRIVE PINION

Take out the drive pinion after first removing the main shaft assembly from the transmission.

NOTE

The diameter of the drive pinion gear is larger than the transmission case's ball bearing outer diameter, so the drive pinion must be removed from the inner side of the transmission case.



SERVICE POINTS OF REASSEMBLY

N21MGBQ

31. INSTALLATION OF BALL BEARING/29. SNAP RING

- (1) Using the special tool, tap the ball bearing into the drive pinion.
- (2) Using the special tool, secure the ball bearing by the snap ring.

NOTE

The 29. snap ring is not to be installed.

33. INSTALLATION OF DRIVE PINION/30. SNAP RING/34. PILOT BEARING/32. MAIN SHAFT ASSEMBLY

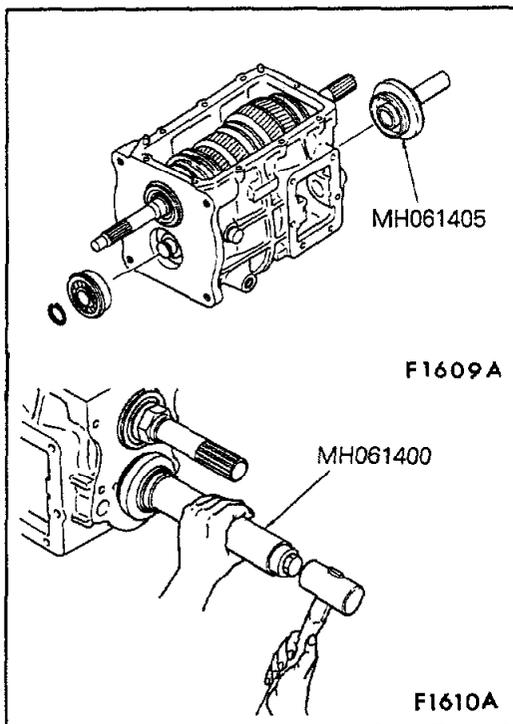
- (1) Insert the drive pinion from the inner side of the transmission case.
- (2) Tap in the drive pinion by using a soft hammer so that there is no damage at the transmission case. As shown in the illustration at the left, the tapping in must be done until the ball bearing completely comes out of the case.
- (3) Install the snap ring to the ball bearing, and insert the pilot bearing to the driver pinion.
- (4) Insert the main shaft assembly from the inner side of the case, and then insert into the pilot bearing part of the drive pinion.
- (5) Using the special tool, press-in the drive pinion until the bearing part snap ring contacts the transmission case.

NOTE

In order to prevent pilot bearing damage at the time of insertion, the main shaft assembly should be raised to the center of the shaft.

28. INSTALLATION OF BALL BEARING/27. SNAP RING

- (1) Install the snap ring at the outer circumference of the ball bearing.
- (2) Using the special tool, press-in the ball bearing until the snap ring and case contact.

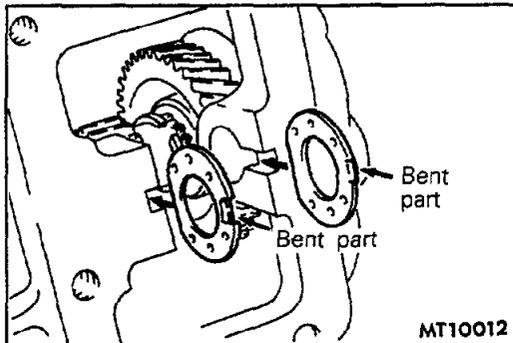


26. INSTALLATION OF COUNTER SHAFT BALL BEARING (FRONT)/24./25. SNAP RING

- (1) Install the snap ring to the ball bearing.
- (2) While using the special tool to hold the rear part of the counter shaft, use the special tool to press in.
- (3) Using the special tool, install the snap ring to the counter shaft and secure the bearing.
- (4) Remove the counter shaft's dummy bearing.

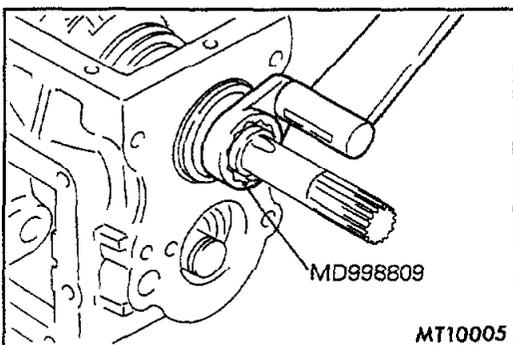
23. INSTALLATION OF COUNTER SHAFT BALL BEARING (REAR)/22. SNAP RING

- (1) Using the special tool, press-in the ball bearing.
- (2) Using the special tool, install the snap ring to the counter shaft and secure the bearing.



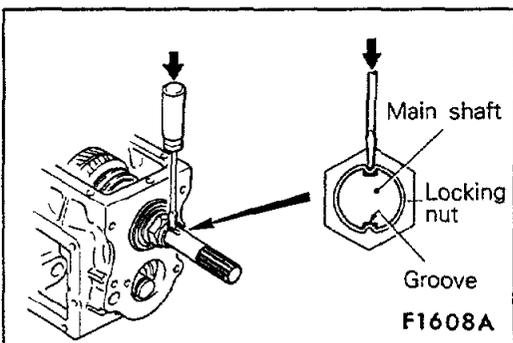
19. INSTALLATION OF SIDE WASHER

Install the side washer so that the bent part is in the groove of the transmission case.

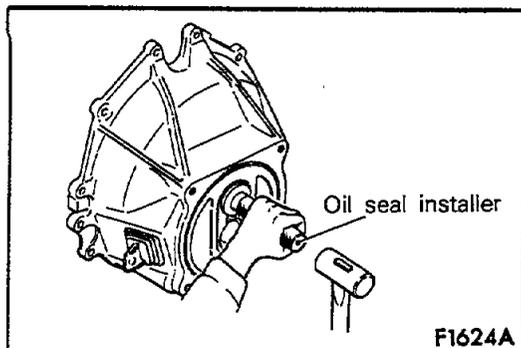


15. INSTALLATION OF LOCKING NUT

- (1) Using a special tool, tighten the lock nut at the specified torque.



- (2) After tightening, the groove of the main shaft must be crimped securely at two places.



12. INSTALLATION OF OIL SEAL

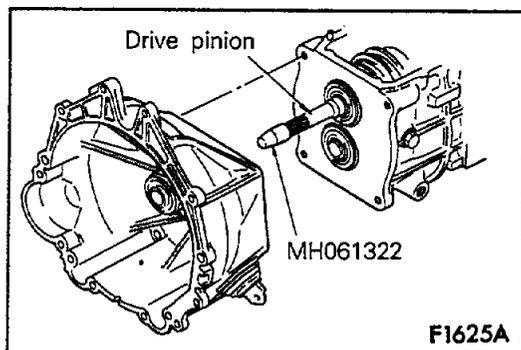
Using the special tool, press the oil seal into the clutch housing.

11. INSTALLATION OF CLUTCH HOUSING ASSEMBLY

- (1) Apply a coating of sealant to the clutch housing installation surface.

**Specified sealant : Mitsubishi genuine sealant
Part No. MD997740 or
equivalent**

- (2) Apply a coating of multipurpose grease to the lip part of the oil seal.
- (3) Install the special tool to the drive pinion, and then install to the clutch housing.



10. INSTALLATION OF GEAR SHIFT LOWER CASE ASSEMBLY

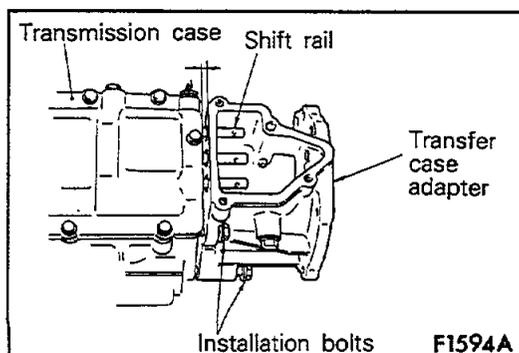
Apply a coating of sealant to the installation surface of the gear shift lower case, and then install.

**Specified Sealant : Mitsubishi genuine sealant
Part No. MD997740 or equivalent**

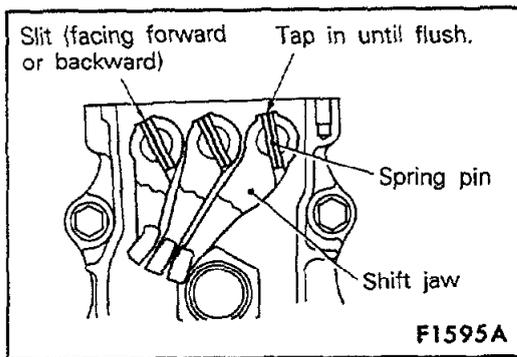
5. INSTALLATION OF TRANSFER CASE ADAPTER

- (1) Apply a coating of sealant to the installation surface of the transmission case.

**Specified sealant : Mitsubishi genuine sealant
Part No. MD997740 or
equivalent**



- (2) Align the shift rails with the shift rail holes in the transfer case adapter, and provisionally install.
- (3) After installing each shift jaw from the adapter cover holes in the transfer case adapter to each shift rail, install the transfer case adapter.

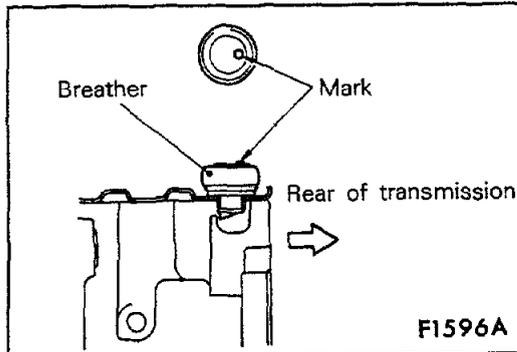


4. INSTALLATION OF SPRING PIN

Using a pin punch, tap in the spring pin.

NOTE

Tap in to the end of the shift jaw so that the slit faces forward or backward.



3. INSTALLATION OF AIR BREATHER

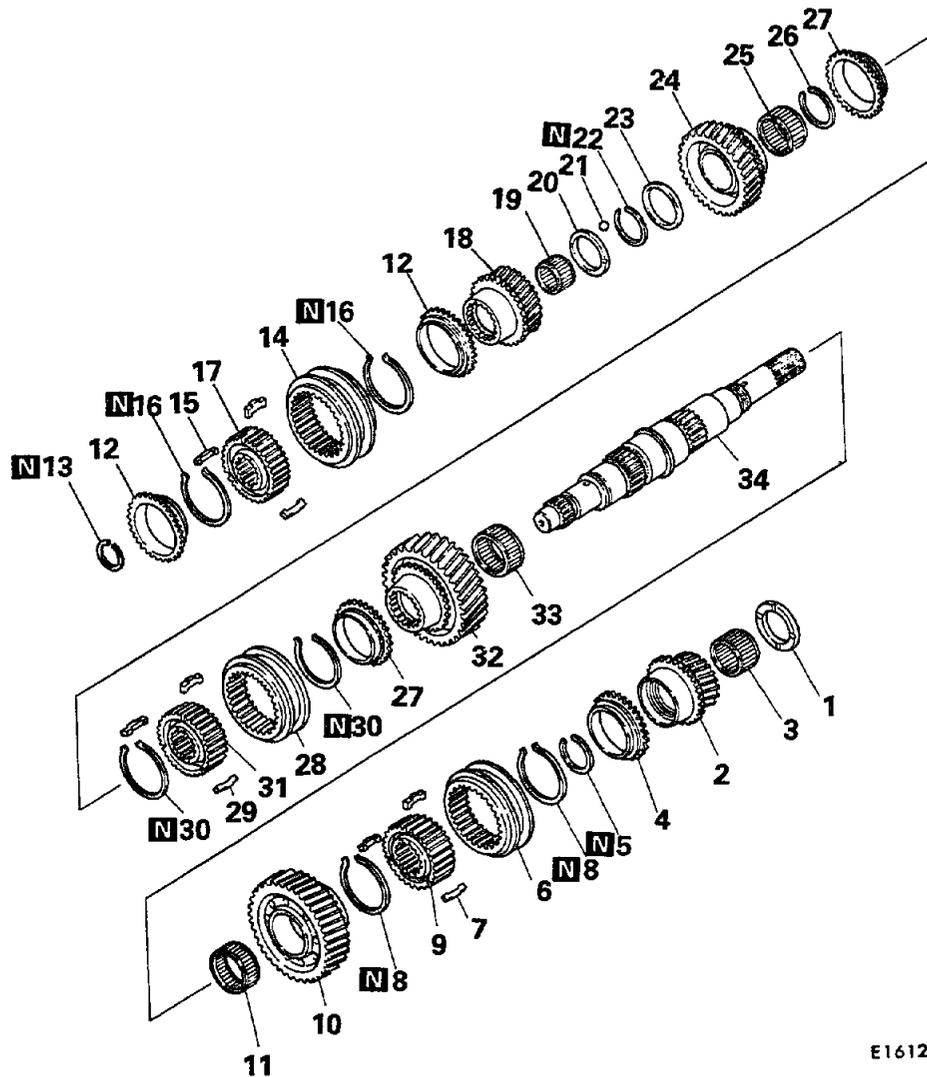
(1) Install the breather with the identification mark toward the rear.

2. INSTALLATION OF ADAPTOR COVER GASKET/1. ADAPTOR COVER

Apply a coating of sealant to the installation surface of the adaptor cover, and then install.

**Specified sealant : Mitsubishi genuine sealant
Part No. MD997740 or equivalent**

DISASSEMBLY AND REASSEMBLY (MAIN SHAFT ASSEMBLY)



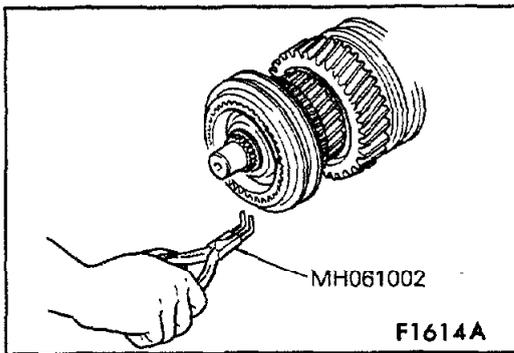
E1612A

Disassembly steps

- | | | | |
|-----|-------------------------|-----|-------------------------|
| ◆◆ | 1. Thrust washer | ◆◆◆ | 21. Steel ball |
| | 2. O.D gear | ◆◆◆ | 22. Snap ring |
| | 3. Needle bearing | ◆◆ | 23. Thrust washer |
| | 4. Synchronizer ring | ◆◆ | 24. 2nd gear |
| ◆◆◆ | 5. Snap ring | ◆◆◆ | 25. Needle bearing |
| ◆◆ | 6. Synchronizer sleeve | ◆◆◆ | 26. Snap ring |
| | 7. Shifting key | ◆◆ | 27. Synchronizer ring |
| ◆◆ | 8. Shifting key spring | ◆◆ | 28. Synchronizer sleeve |
| | 9. Synchronizer hub | ◆◆ | 29. Shifting key |
| | 10. Reverse gear | ◆◆ | 30. Shifting key spring |
| | 11. Needle bearing | | 31. Synchronizer hub |
| | 12. Synchronizer ring | | 32. 1st gear |
| ◆◆◆ | 13. Snap ring | | 33. Needle bearing |
| ◆◆ | 14. Synchronizer sleeve | | 34. Main shaft |
| | 15. Shifting key | | |
| ◆◆ | 16. Shifting key spring | | |
| ◆◆ | 17. Synchronizer hub | | |
| ◆◆ | 18. 3rd gear | | |
| | 19. Needle bearing | | |
| ◆◆ | 20. Thrust washer | | |

NOTE

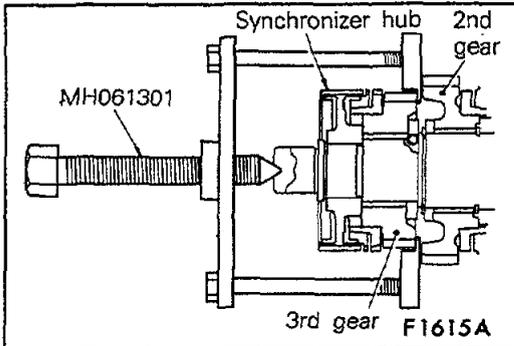
- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆◆ : Refer to "Service Points of Disassembly".
- (3) ◆◆◆ : Refer to "Service Points of Reassembly".
- (4) N : No-reusable parts

**SERVICE POINTS OF DISASSEMBLY**

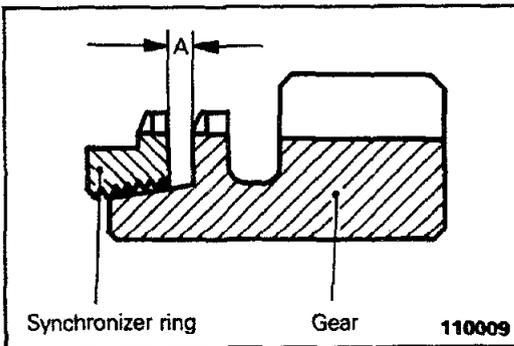
N21PFAB

5./13./22./26. REMOVAL OF SNAP RING

Using the special tool, remove each snap ring.

**17./18. REMOVAL OF 3RD GEAR, 3RD AND 4TH SYNCHRONIZER HUB**

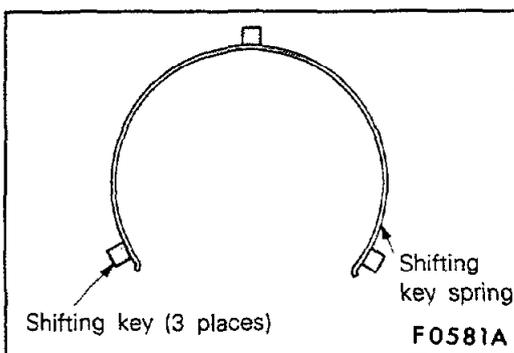
Using the special tool, remove 3rd gear and the 3rd & 4th synchronizer hub.

**INSPECTION**

N21PGAB

- Check synchronizer ring for worn and damaged internal threads.
- With synchronizer assembled to cone of each gear check dimension "A". If dimension "A" exceeds the limit replace the synchronizer ring and/or gear

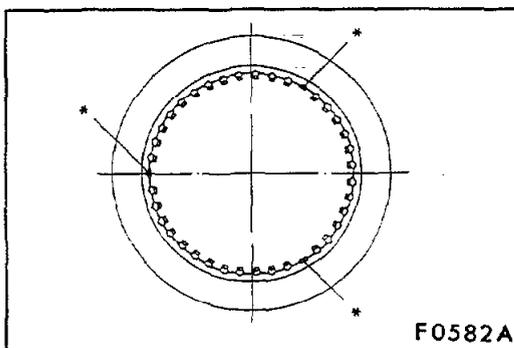
Limit : 0.2 mm (.009 in.)

**SERVICE POINTS OF REASSEMBLY**

N21PHAB

30./16./8. INSTALLATION OF SHIFTING KEY SPRING

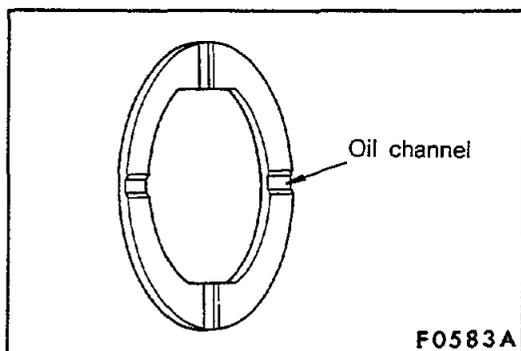
Install so that the open part of the shifting key spring is as shown in the illustration.

**28./14./6. INSTALLATION OF SYNCHRONIZER SLEEVE**

Assemble each synchronizer sleeve so that the shifting keys are at each of the three places indicated by the * symbols in the illustration.

26./22./13./5. INSTALLATION OF SNAP RING

Install each snap ring by using the special tool. (Refer to the section concerning removal.)

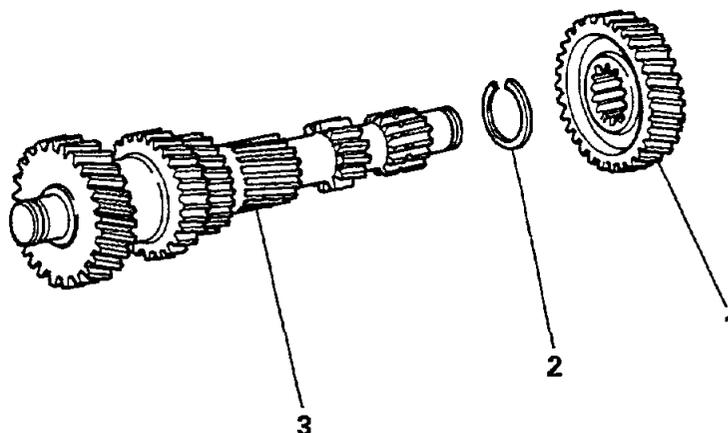


23./20./1. INSTALLATION OF THRUST WASHER

Install each thrust washer so that the surface in which there are oil channels faces toward the gear side.

DISASSEMBLY AND REASSEMBLY (COUNTER SHAFT ASSEMBLY)

N21XE-C



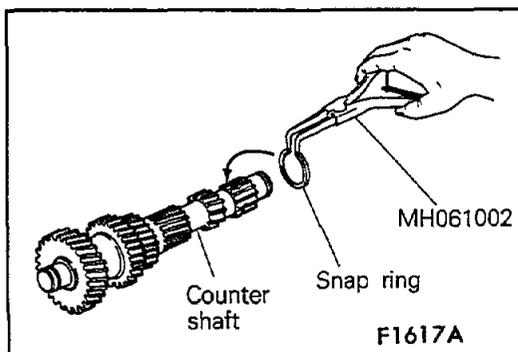
Disassembly steps

- 1. OD gear
- ◄◄ ◄◄ 2. Snap ring
- 3. Counter shaft

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◄◄ : Refer to "Service Point of Disassembly".
- (3) ◄◄ : Refer to "Service Point of Installation".
- (4) **N** : Non-reusable parts

F1616A



SERVICE POINT OF DISASSEMBLY AND REASSEMBLY

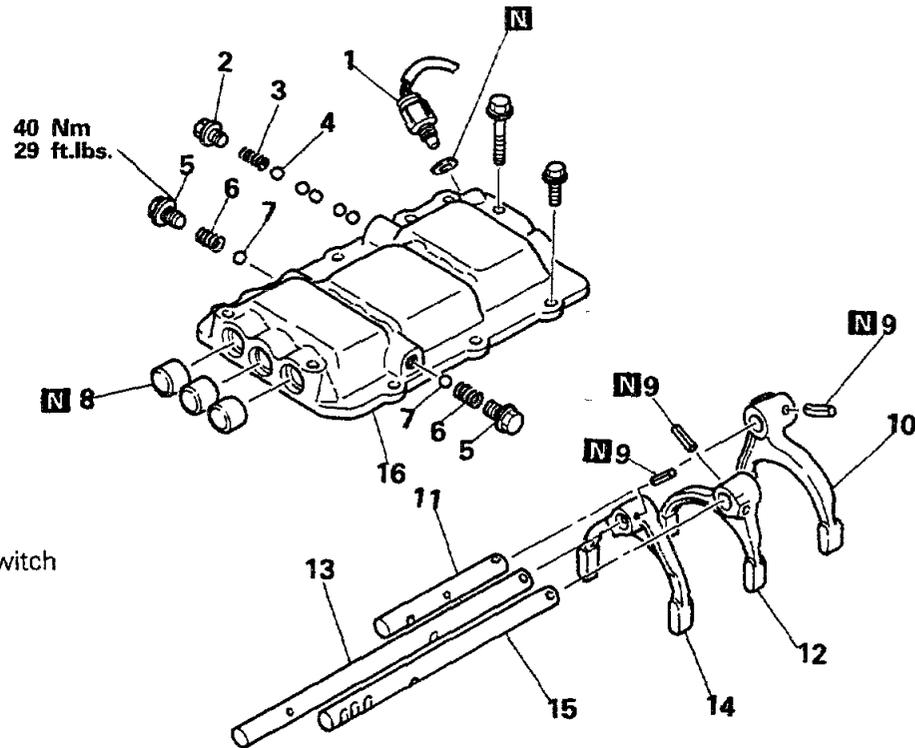
N21XFAC

2. REMOVAL AND INSTALLATION OF SNAP RING

Using the special tool, remove the snap ring from the counter shaft. Installation is in the same way.

DISASSEMBLY AND REASSEMBLY (LOWER CASE ASSEMBLY)

N212K--

**Disassembly steps**

1. Backup lamp switch
2. Screw plug
3. Puppet spring
4. Steel boot
5. Screw plug
6. Puppet spring
7. Steel boot
8. Dust plug
9. Spring pin
10. Gear shift fork
11. 5th & Rev. shift rail
12. Gear shift fork
13. 3rd & 4th shift rail
14. 3A Gear shift fork
15. 1st & 2nd shift rail
16. Gear Shift lower case

**NOTE**

- (1) Reverse the disassembly procedures to reassemble.
- (2) : Refer to "Service Point of Disassembly".
- (3) : Refer to "Service Point of Reassembly".
- (4) **N** : Non-reusable parts

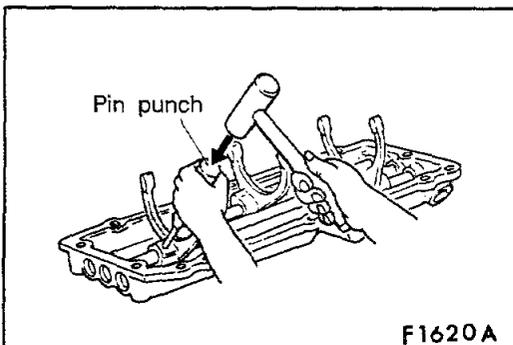
F1618A

SERVICE POINT OF DISASSEMBLY

N212KAA

9. REMOVAL OF SPRING PIN

Using a pin punch, tap out the spring pin.



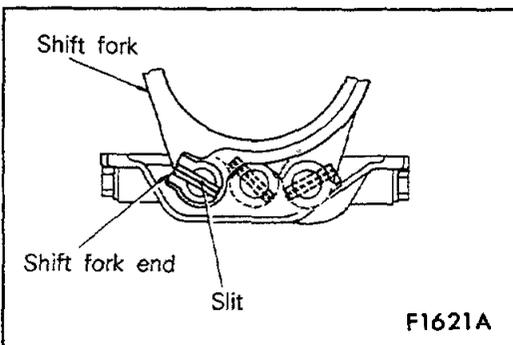
F1620A

SERVICE POINT OF REASSEMBLY

N212KCA

9. INSTALLATION OF SPRING PIN

Using a pin punch, tap in the spring pin.



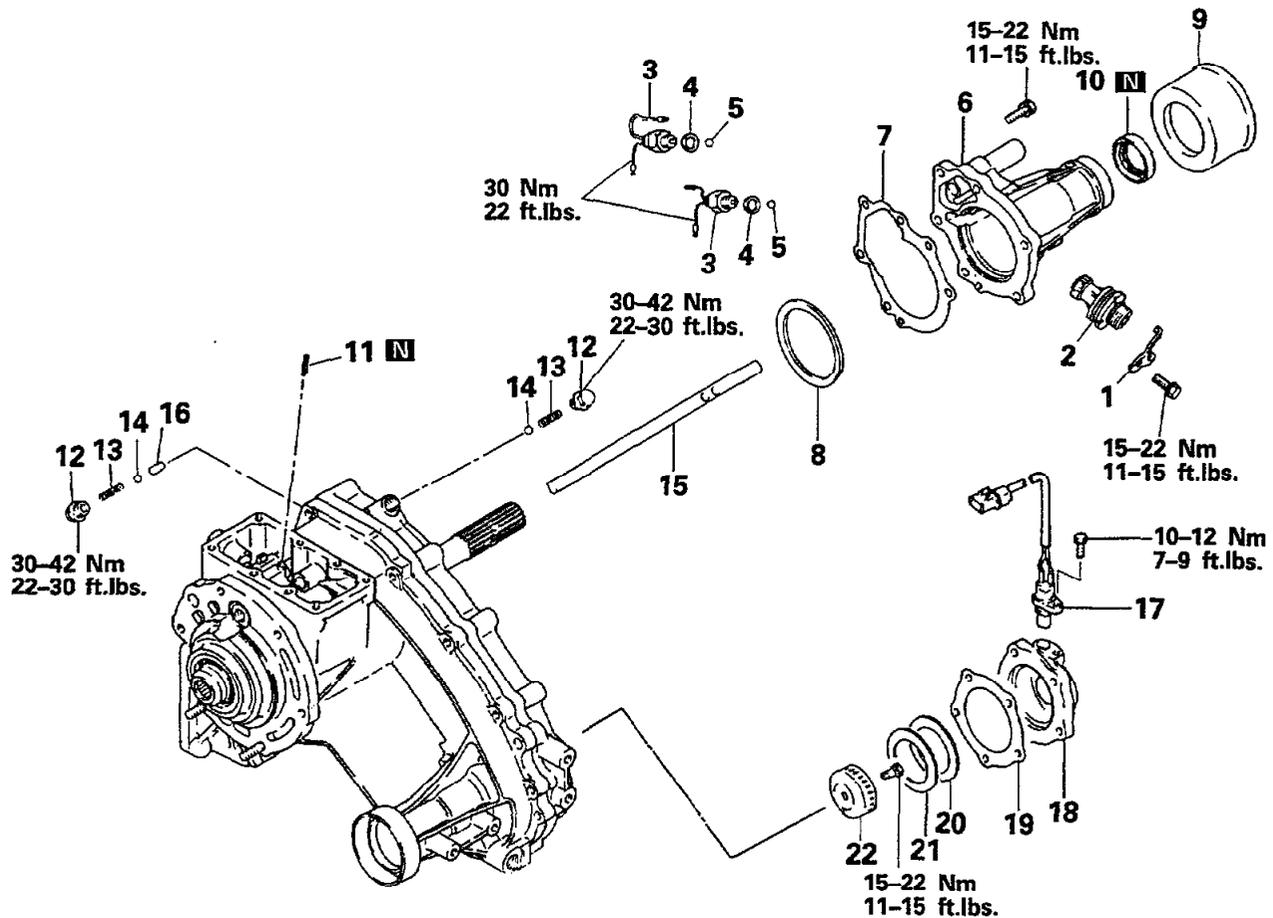
F1621A

NOTE

Tap in until the shift fork end, and so that the slit faces forward or backward.

DISASSEMBLY AND REASSEMBLY (TRANSFER ASSEMBLY)

NZ1MRAF



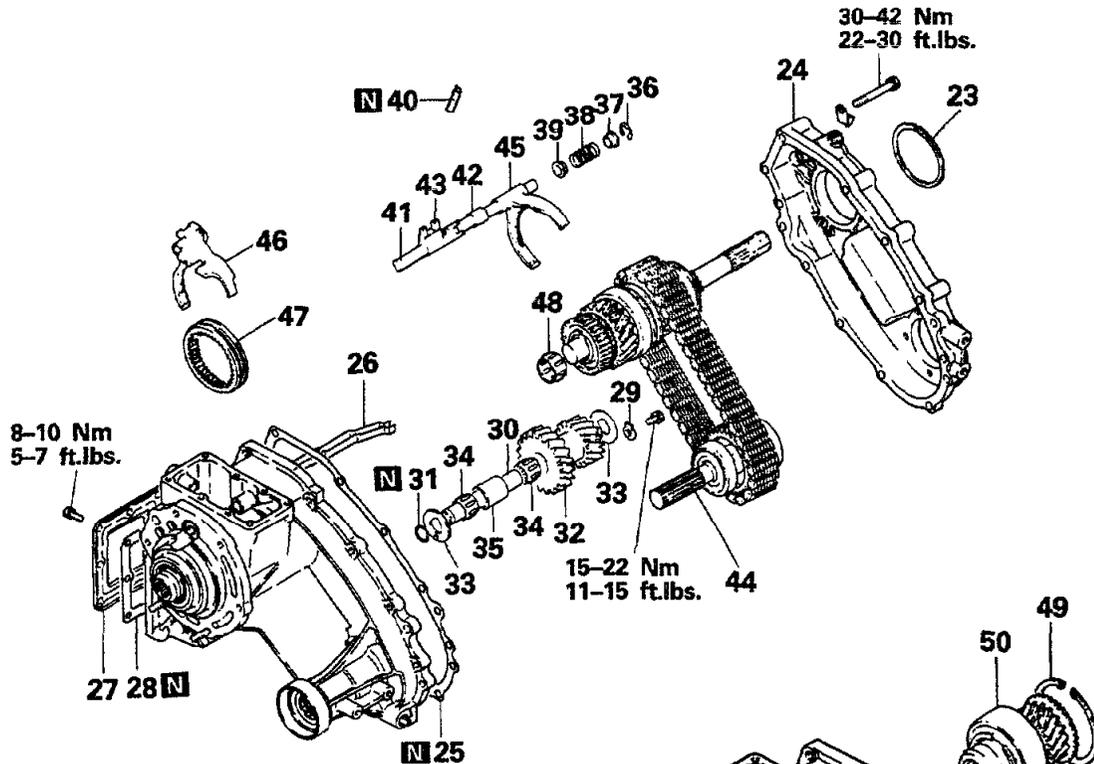
Disassembly steps

- | | |
|---------------------------------|-----------------------|
| 1. Sleeve clamp | 16. Interlock plunger |
| ◆◆ 2. Speedometer gear assembly | 17. Pulse generator |
| 3. 4WD indicator light switch | ◆◆ 18. Cover |
| 4. Gasket | ◆◆ 19. Cover gasket |
| 5. Steel ball | ◆◆ 20. Spacer |
| ◆◆ 6. Rear cover | ◆◆ 21. Wave spring |
| ◆◆ 7. Rear cover gasket | 22. Pulse rotor |
| ◆◆ 8. Spacer | |
| 9. Dust seal guard | |
| ◆◆ 10. Oil seal | |
| ◆◆ 11. Spring pin | |
| 12. Seal plug | |
| 13. Poppet spring | |
| 14. Steel ball | |
| 15. H-L shift rail | |

NOTE

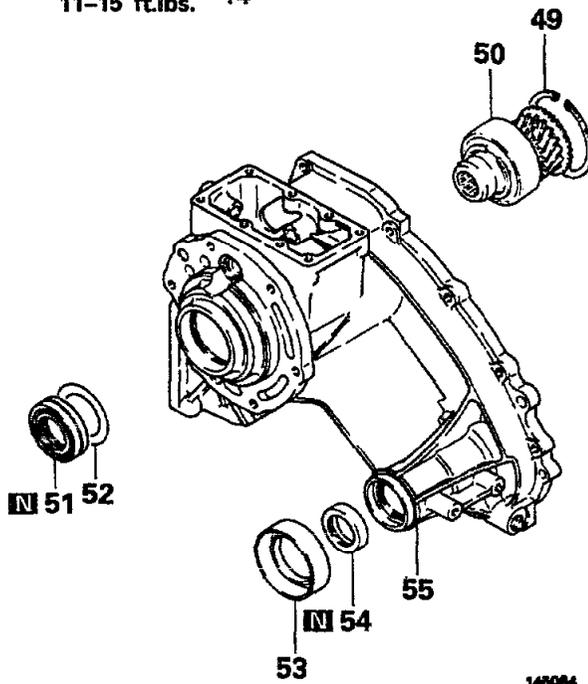
- (1) Reverse the disassembly procedures to reassemble.
 (2) ◆◆ : Refer to "Service Points of Reassembly".
 (3) N : Non-reusable parts

1450027



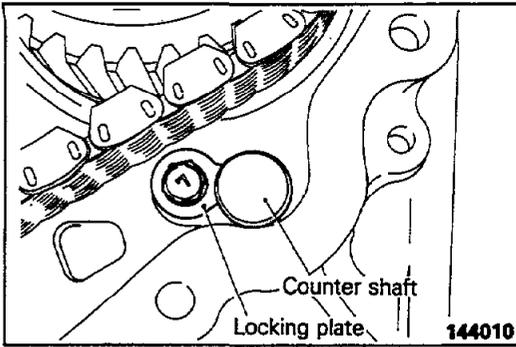
Disassembly steps

- 23. Snap ring
- ◆◆ 24. Chain cover
- ◆◆ 25. Chain cover gasket
- ◆◆ 26. Oil guide
- 27. Side cover
- 28. Side cover gasket
- ◆◆◆◆ 29. Lock plate
- ◆◆◆◆ 30. Counter gear shaft
- ◆◆◆◆ 31. O-ring
- ◆◆◆◆ 32. Counter gear
- ◆◆◆◆ 33. Thrust washer
- ◆◆◆◆ 34. Needle bearing
- ◆◆◆◆ 35. Bearing spacer
- 36. Snap ring
- 37. Spring retainer
- 38. Spring
- 39. Spring retainer
- 40. Spring pin
- 41. 2-4WD shift rail
- 42. Distance piece
- 43. 2WD-4WD shift lug
- ◆◆◆◆ 44. Output shaft assembly
- 45. 2-4WD shift fork
- ◆◆ 46. H-L shift fork
- ◆◆ 47. H-L clutch sleeve
- 48. Needle bearing



- ◆◆ 49. Snap ring
- ◆◆ 50. Input gear assembly
- ◆◆ 51. Oil seal
- 52. Baffle plate
- 53. Dust seal guide
- ◆◆ 54. Oil seal
- ◆◆ 55. Transfer case

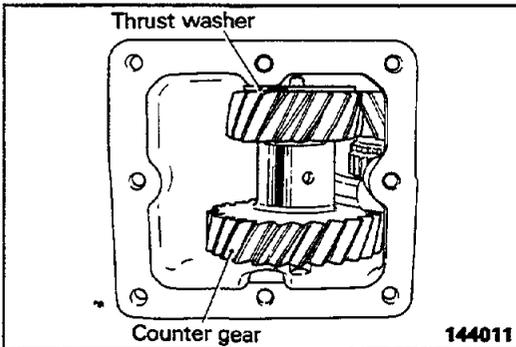
NOTE
 (1) Reverse the disassembly procedures to reassemble.
 (2) ◆◆ : Refer to "Service Points of Disassembly".
 (3) ◆◆◆◆ : Refer to "Service Points of Reassembly".
 (4) **N** : Non-reusable parts.



SERVICE POINTS OF DISASSEMBLY

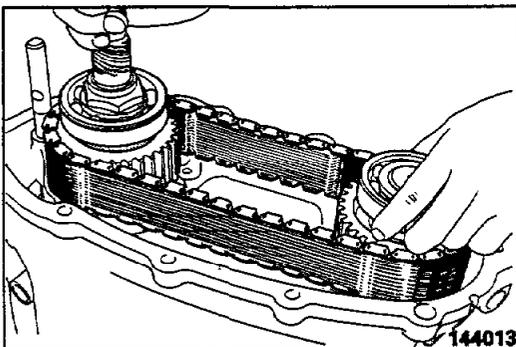
29. REMOVAL OF LOCK PLATE/30. COUNTER GEAR SHAFT

Remove the lock plate and pull out the counter gear shaft.



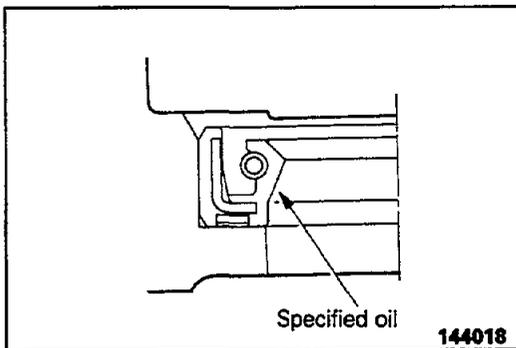
**32. REMOVAL OF COUNTER GEAR/33. THRUST WASHER/
34. NEEDLE BEARING/35. BEARING SPACER**

Remove the counter gear, two thrust washers, two needle bearings and the spacer through the side cover opening.



44. REMOVAL OF OUTPUT SHAFT ASSEMBLY

Remove the front output shaft, rear output shaft and chain together.

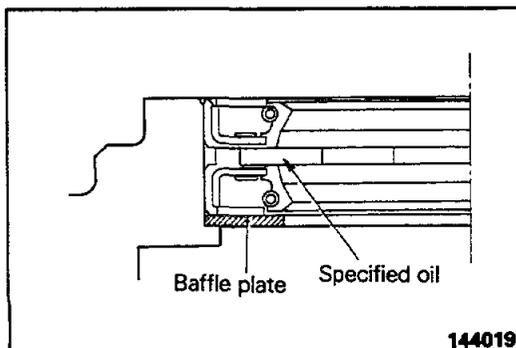


SERVICE POINTS OF REASSEMBLY

54. INSTALLATION OF OIL SEAL (FRONT OUTPUT SHAFT)

Apply transmission oil to the lip of the oil seal and pressure insert it.

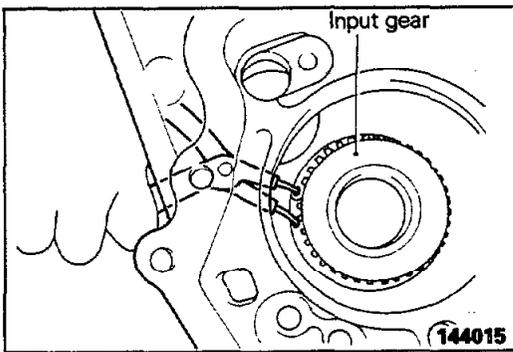
Specified oil: Hypoid gear oil API classification GL-4 or higher SAE viscosity 80W, 75W-85W



51. INSTALLATION OF OIL SEAL (INPUT GEAR)

Apply transmission oil to the lip of the oil seal and pressure insert it.

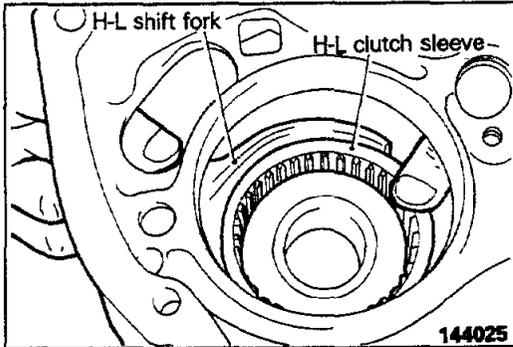
Specified oil: Hypoid gear oil API classification GL-4 or higher SAE viscosity 80W, 75W-85W



50. INSTALLATION OF INPUT GEAR/46. SNAP RING

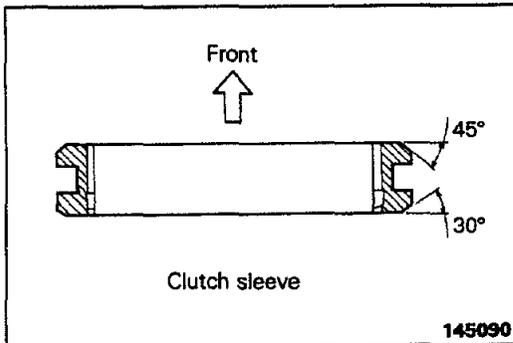
- (1) Insert the input gear assembly into the transfer case and fasten it with the snap ring.
- (2) Select the thickest snap ring that will fit into the groove and install it.

Standard value : 0–0.06 mm (0–.002 in.)

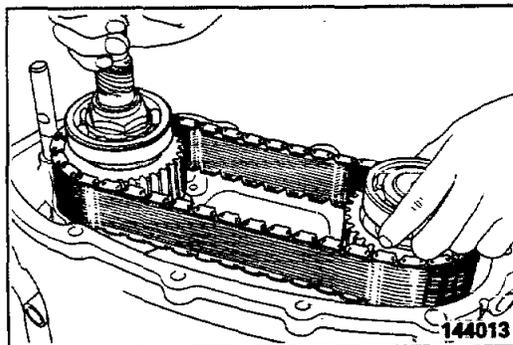


47. INSTALLATION OF H-L CLUTCH SLEEVE/46. H-L SHIFT FORK

- (1) Install the H-L clutch sleeve and H-L shift fork.

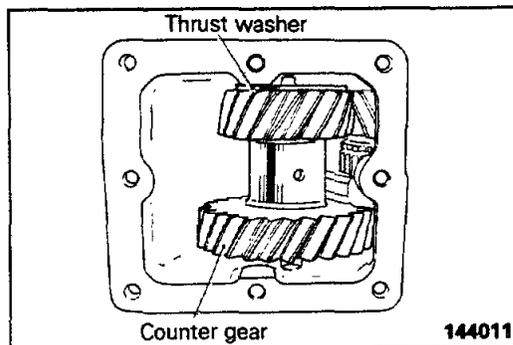


- (2) Make sure the direction of the sleeve is correct. The direction of the sleeve is the same for both 2WD and 4WD.



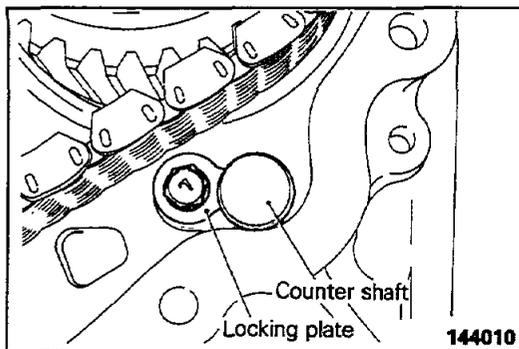
44. INSTALLATION OF OUTPUT SHAFT ASSEMBLY

- (1) Engage the chain precisely with the sprockets of the rear output shaft and the front output shaft.
- (2) Install the 2-4WD shift fork on the 2-4WD clutch sleeve. While passing them along the 2-4WD shift rail, install the rear and front output shaft and chain.



35. INSTALLATION OF BEARING SPACER/ 34. NEEDLE BEARING/ 33. THRUST WASHER/ 32. COUNTER GEAR

- (1) Assemble the needle bearings (2 pcs) in the counter gear, then after inserting the spacer, install the counter gear inside the transfer case.
- (2) Place thrust washers on the front and rear of the counter gear.



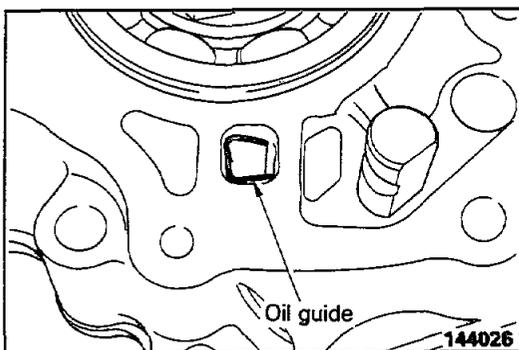
30. INSTALLATION OF COUNTER GEAR SHAFT/ 29. LOCK PLATE

- (1) Insert the counter shaft, being careful of the direction of the groove in the locking plate.
- (2) Install the lock plate.

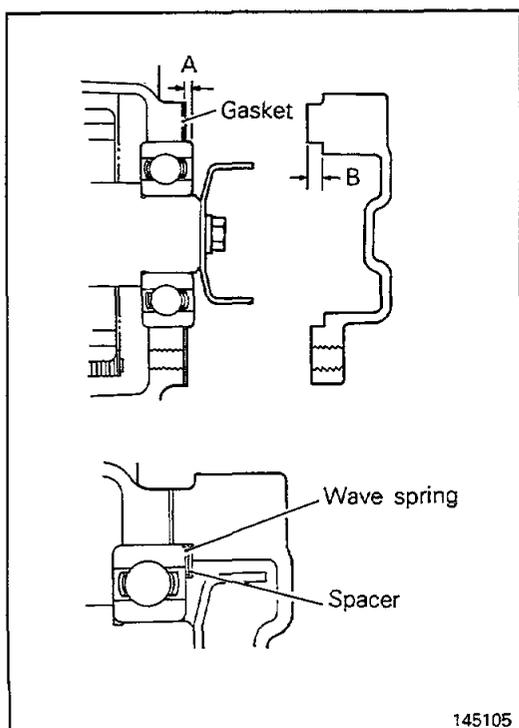
26. INSTALLATION OF OIL GUIDE/ 25. CHAIN COVER GASKET/ 24. CHAIN COVER

- (1) Install the oil guide.
- (2) Apply sealant to the gasket, then affix it to the transfer case.

Specified sealant: 3M ART Part No. 8660 or equivalent



- (3) Install the chain cover so that the end of the oil guide enters the window in the chain cover.



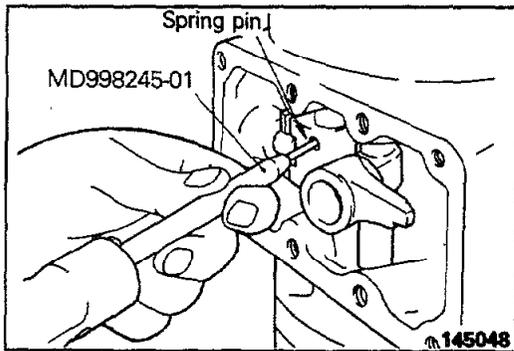
21. INSTALLATION OF THE WAVE SPRING/ 20. SPACER/ 19. COVER GASKET/ 18. COVER

- (1) Measure the amount of front output shaft rear bearing thrust ("A") and the cover's indentation ("B"). If the clearance exceeds 2 mm (.08 in.), insert spacer at the place shown in the figure.
- (2) Apply a coating of sealant to both surfaces of the cover gasket, and attach it to the chain cover.

Specified sealant: 3M ART Part No. 8660 or equivalent

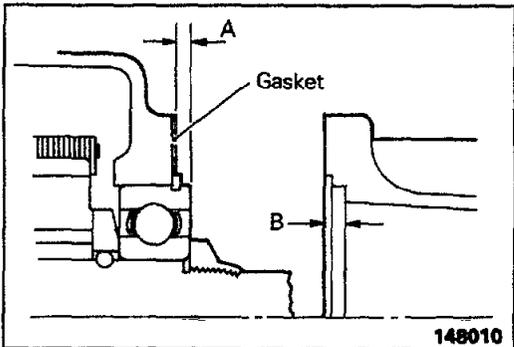
- (3) Apply a coating of sealant to the threaded part of the cover installation bolt, and then tighten it.

Specified adhesive : 3M Adhesive Nut Locking 4171 or equivalent



11. INSTALLATION OF SPRING PIN

- (1) Align the H-L shift rail spring pin hole, and then use the special tool to drive it in.
- (2) Drive in so that the slit is parallel with the axial direction of the shift rail.



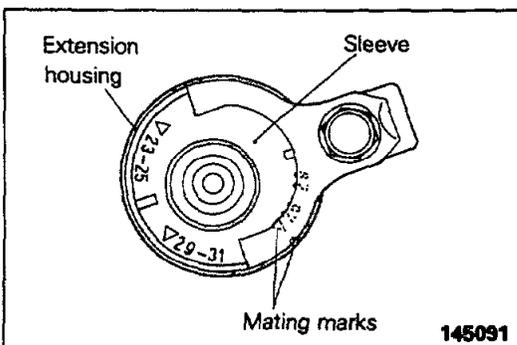
8. INSTALLATION OF SPACER/7. REAR COVER GASKET/6. REAR COVER

- (1) Measure the amount of protrusion of the rear output shaft rear bearing "A" and the amount of inset in the cover "B". Select a spacer which adjusts the end play to the standard value.

Standard value : 0 – 0.1 mm (0 – .004 in.)

- (2) Apply sealant to both sides of the rear cover gasket and affix the rear cover gasket to the chain cover.

**Specified sealant: 3M ART Part No. 8660
or equivalent**



2. INSTALLATION OF SPEEDOMETER GEAR ASSEMBLY

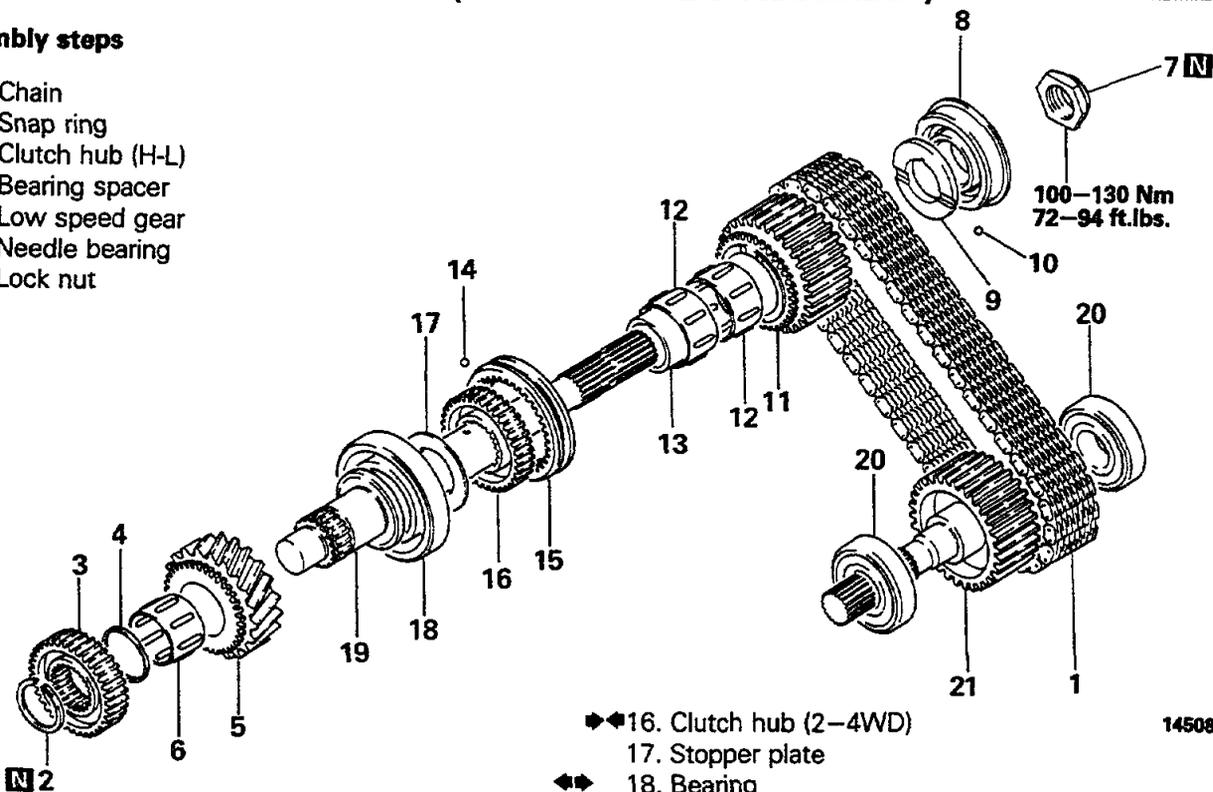
Match the mating marks to the number of teeth on the speedometer driven gear and install the speedometer gear assembly.

DISASSEMBLY AND REASSEMBLY (OUTPUT SHAFT ASSEMBLY)

N21MKBA

Disassembly steps

- 1. Chain
- ◆◆ 2. Snap ring
- ◆◆ 3. Clutch hub (H-L)
- 4. Bearing spacer
- 5. Low speed gear
- 6. Needle bearing
- ◆◆ 7. Lock nut



100–130 Nm
72–94 ft.lbs.

145085

- ◆◆ 8. Radial ball bearing
- 9. Sprocket spacer
- 10. Steel ball
- 11. Drive sprocket
- 12. Needle bearing
- 13. Sprocket spacer
- 14. Steel ball
- ◆◆ 15. Clutch sleeve

- ◆◆ 16. Clutch hub (2–4WD)
- 17. Stopper plate
- ◆◆ 18. Bearing
- ◆◆ 19. Rear output shaft
- ◆◆ 20. Bearing
- 21. Front output shaft

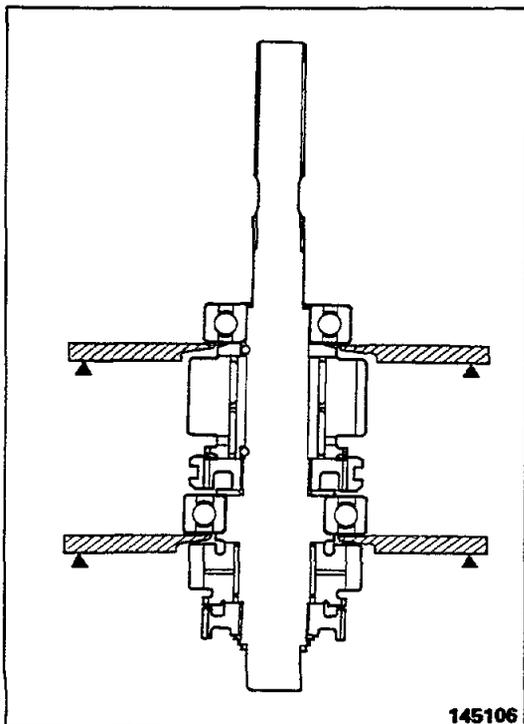
NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Disassembly".
- (3) ◆◆ : Refer to "Service Points of Reassembly".
- (4) [N] : Non-reusable parts

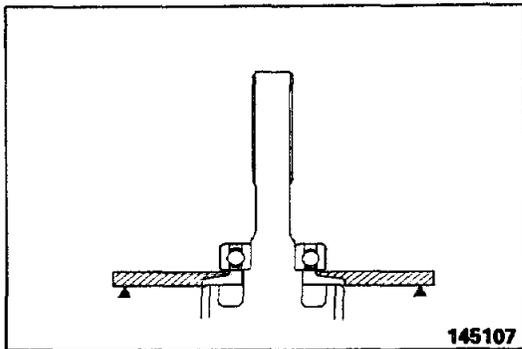
SERVICE POINTS OF DISASSEMBLY

8. REMOVAL OF RADIAL BALL BEARING/18. BEARING

Pull the bearing out using a press.

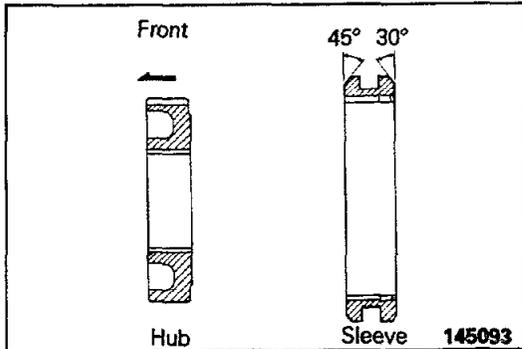


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20. REMOVAL OF BEARING

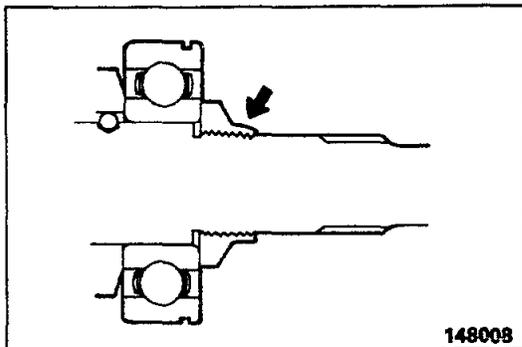
Pull out the bearing using a press.



SERVICE POINTS OF REASSEMBLY

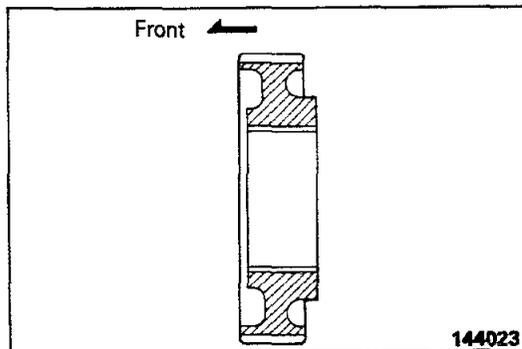
16. INSTALLATION OF CLUTCH HUB (2-4WD)/15. CLUTCH SLEEVE

Assemble the hub and sleeve as shown in the illustration.



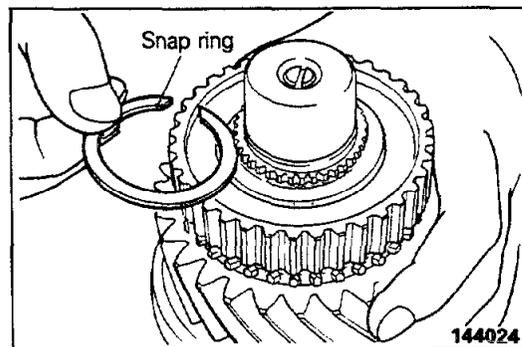
7. INSTALLATION OF LOCK NUT

After tightening the lock nut at the proper torque, crimp the lock nut in the groove in the output shaft at the location shown in the illustration.



3. INSTALLATION OF CLUTCH HUB (H-L)/2. SNAP RING

(1) Install the clutch hub in the direction shown in the illustration.



(2) Select the thickest snap ring that will fit into the groove in the front end of the rear output shaft and install it.

DISASSEMBLY AND REASSEMBLY (INPUT SHAFT ASSEMBLY)

N21MIBA

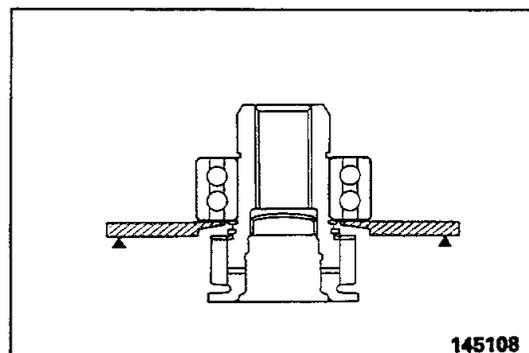
Disassembly steps

- ◆◆1. Snap ring
- ◆◆◆◆2. Bearing
- 3. Spacer
- 4. Snap ring
- 5. Cone spring
- 6. Sub gear
- 7. Input gear

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Disassembly".
- (3) ◆◆◆ : Refer to "Service Points of Reassembly".
- (4) **N** : Non-reusable parts

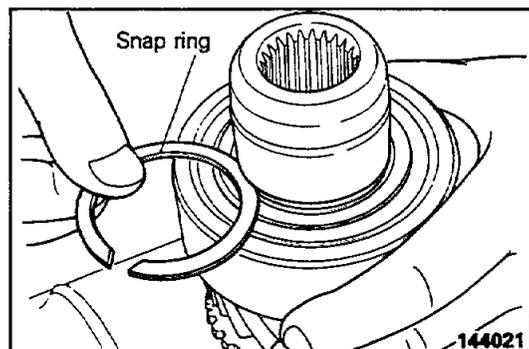
145109



SERVICE POINTS OF DISASSEMBLY

2. REMOVAL OF BEARING

Support the bearing on a press, then press on the front of the input gear and pull out the bearing.



SERVICE POINTS OF REASSEMBLY

2. PRESSURE INSERTION OF BEARING

- (1) Pressure insert the bearing into the input gear. Be sure to press the inner race.
- (2) After pressure insertion, make sure that the bearing turns smoothly.

1. INSTALLATION OF SNAP RING

Select the thickest snap ring that will fit into the groove in the front end of the input gear and install it.

DISASSEMBLY AND REASSEMBLY (SPEEDOMETER SLEEVE ASSEMBLY)

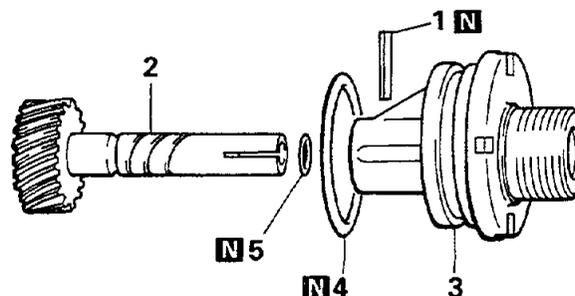
N21RE-C

Disassembly steps

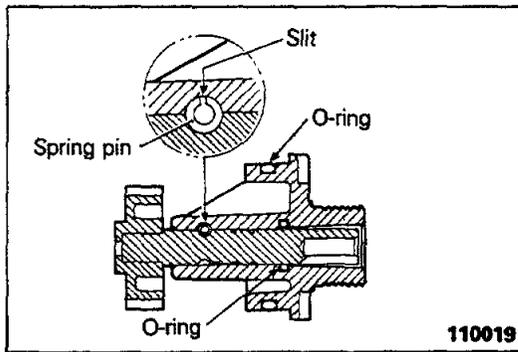
- ◆◆1. Spring pin
- 2. Driven gear
- 3. Sleeve
- 4. O-ring
- 5. O-ring

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Reassembly".
- (3) **N** : Non-reusable parts



110008



SERVICE POINTS OF REASSEMBLY

N21RHAA2

1. INSTALLATION OF SPRING PIN

Drive spring pin in while making sure that slit does not face gear shaft.

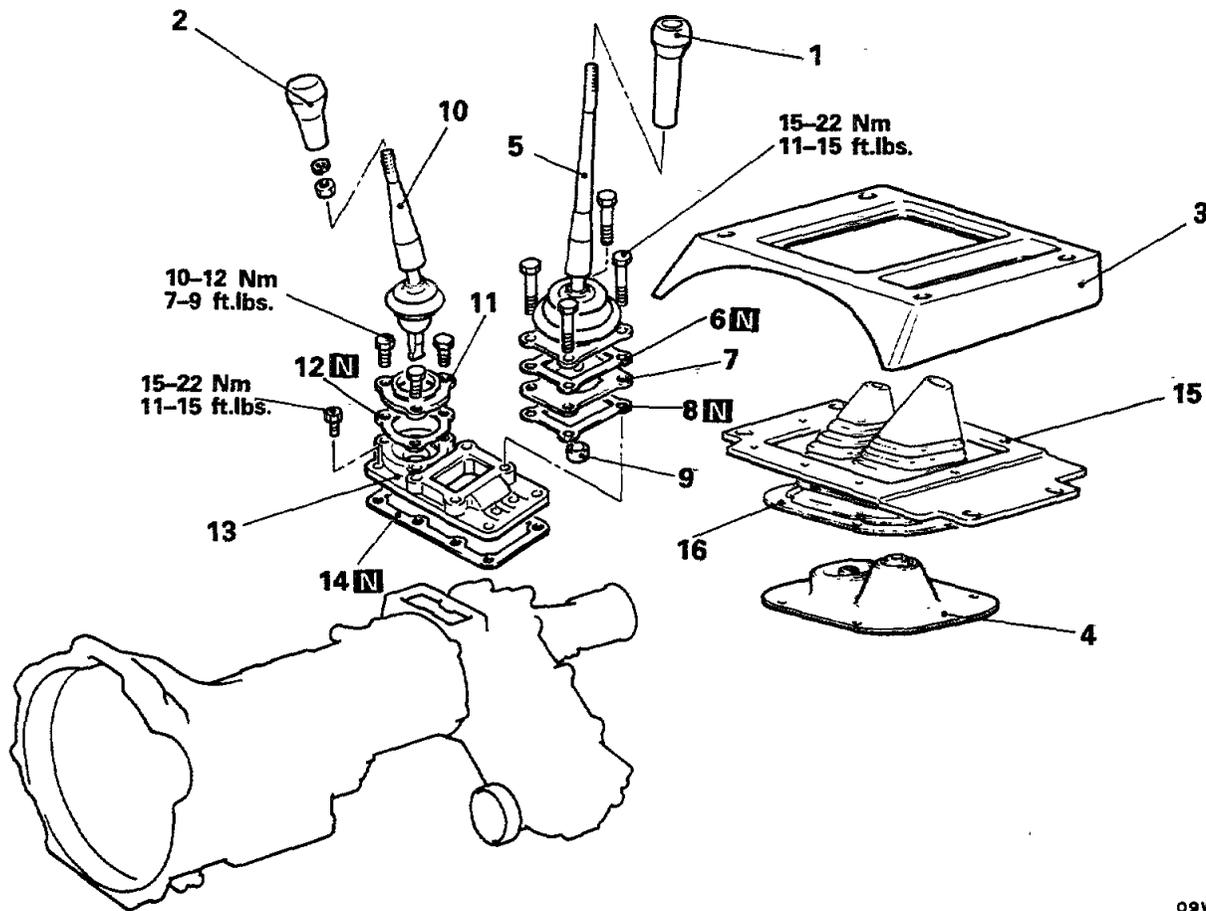
NOTE

Do not reuse spring pin.

GEARSHIFT LEVER ASSEMBLY

REMOVAL AND INSTALLATION

N21GA~



09W541

Removal steps

- 1. Transmission shift lever knob
- ◆◆ 2. Transfer shift lever knob
- 3. Front floor console
- 4. Control lever cover
- ◆◆◆◆ 5. Transmission control lever assembly
- 6. Gasket
- 7. Stopper plate
- 8. Gasket
- 9. Control lever bush
- ◆◆◆◆ 10. Transfer control lever assembly

- 11. Control housing cover
- 12. Gasket
- 13. Control housing
- 14. Gasket
- 15. Front floor console reinforcement
- 16. Shift lever boot

NOTE

- (1) Reverse the removal procedures to reinstall.
- (2) ◆◆ : Refer to "Service Points of Removal".
- (3) ◆◆◆◆ : Refer to "Service Points of Installation".
- (4) N : Non-reusable parts

SERVICE POINTS OF REMOVAL

N21GBAD

5. REMOVAL OF TRANSMISSION CONTROL LEVER ASSEMBLY/10. TRANSFER CONTROL LEVER ASSEMBLY

Remove the control lever attaching bolts and detach the control lever assembly.

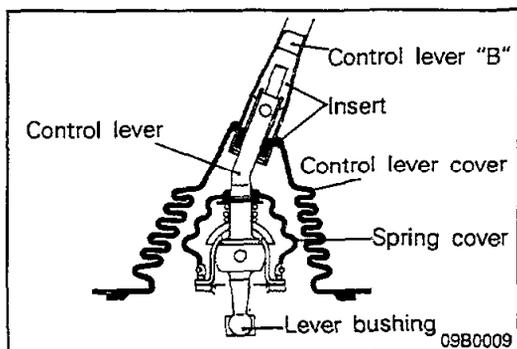
Caution

When the control lever assembly is removed, keep the transmission control lever and the transfer control lever in the following positions.

Transmission control lever – Neutral position

Transfer control lever – 2H (2-wheel drive – high range) position

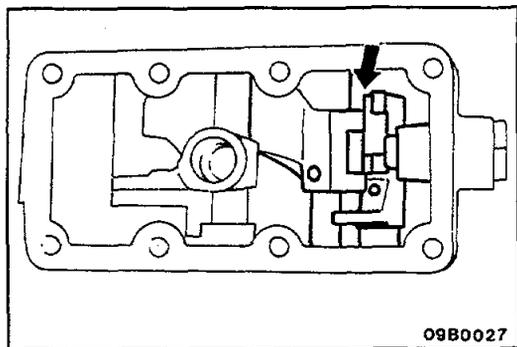
After the control lever assembly has been removed, cover with a cloth to prevent entry of foreign substances into the extension housing.



INSPECTION

N21GCAA1

- Check for play between control lever and control lever "B". If play is evident, replace lever assembly.
- Push control lever in and check to ensure that it moves smoothly up and down.
- Check the cover for damage and replace if necessary. To remove cover, cut away with knife. To install new cover, first apply thin coat of oil to periphery of control lever "B". Then install by sliding it down from top of lever "B".
- Check the lever bushing for wear and replace if necessary.

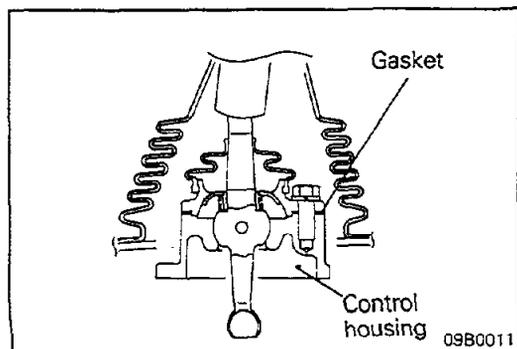


SERVICE POINTS OF INSTALLATION

N21GDAF2

10. INSTALLATION OF TRANSFER CONTROL LEVER ASSEMBLY

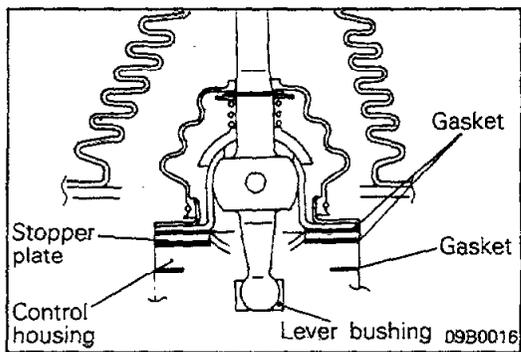
- (1) Check to be sure that the transfer lever assembly installation part (transmission side) is at the position shown in the illustration.



- (2) When assembling, replace the gaskets. Apply the specified sealant to both sides of gasket.

Specified sealant: 3M ART Part No. 8660 or equivalent

- (3) Apply the multipurpose grease generously to transfer control lever sliding surface;

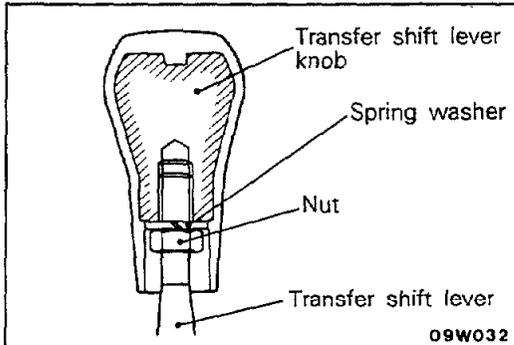


5. INSTALLATION OF TRANSMISSION CONTROL LEVER ASSEMBLY

- (1) When assembling, replace the gaskets.
Apply specified sealant to both sides of each gasket.

**Specified sealant: 3M ART Part No. 8660
or equivalent**

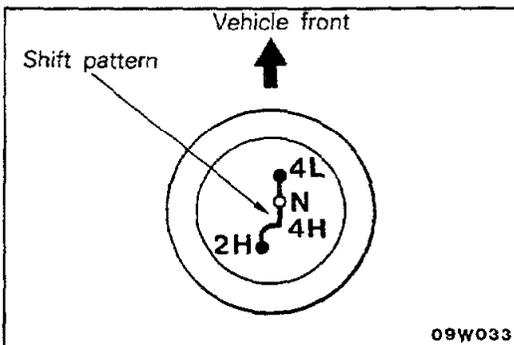
- (2) Apply the multipurpose grease generously to both inside and outside surfaces of lever bushing and control lever sliding surface.



2. INSTALLATION OF TRANSFER SHIFT LEVER KNOB

- (1) After manually screwing the nut all the way to the end of the threaded part of the shift lever, return it about a half turn and install the spring washer.

- (2) After turning the shift lever knob about one turn beyond where the spring washer begins to yield, screw in further and adjust until the shift pattern on the knob faces the front of the vehicle.

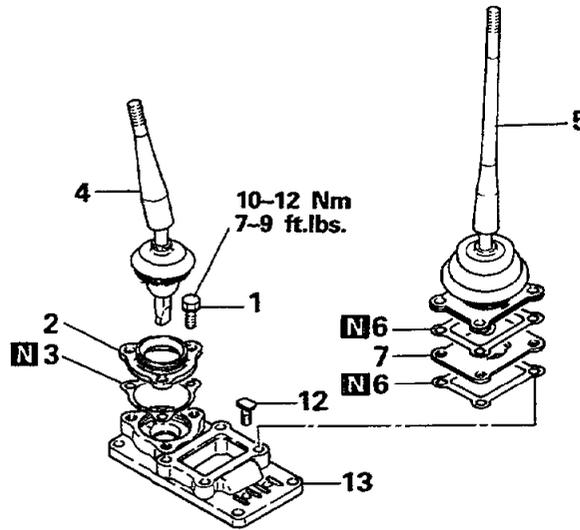


NOTE

If the adjustment cannot be made as described in (2) above, first screw the shift lever all the way in, and then return about one turn to make the adjustment.

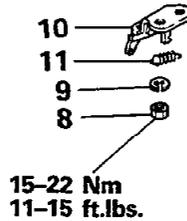
DISASSEMBLY AND REASSEMBLY (CONTROL LEVER ASSEMBLY)

N21GE-



Disassembly steps

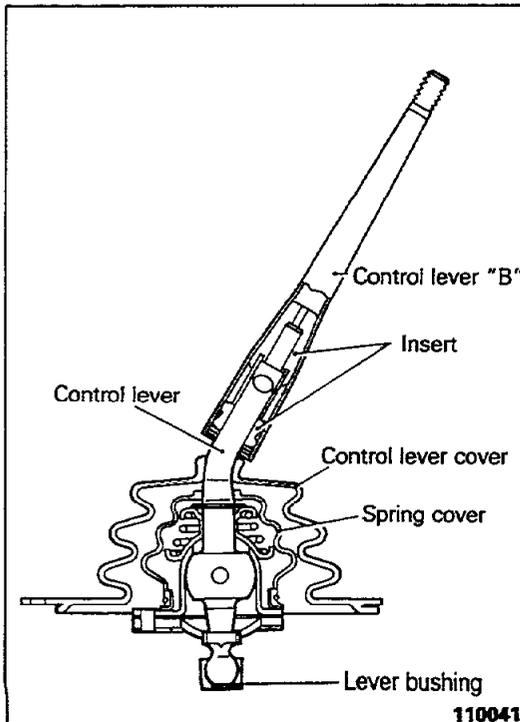
1. Bolt
2. Control housing cover
- ◆◆ 3. Control housing cover gasket
4. Transfer control lever
5. Transmission control lever
- ◆◆ 6. Gasket
7. Stopper plate
8. Nut
9. Spring washer
- ◆◆ 10. Stopper bracket assembly
11. Return spring
- ◆◆ 12. Special bolt
13. Control housing



145042

NOTE

- (1) Reverse the disassembly procedures to reassemble.
- (2) ◆◆ : Refer to "Service Points of Reassembly".
- (3) N : Non-reusable parts

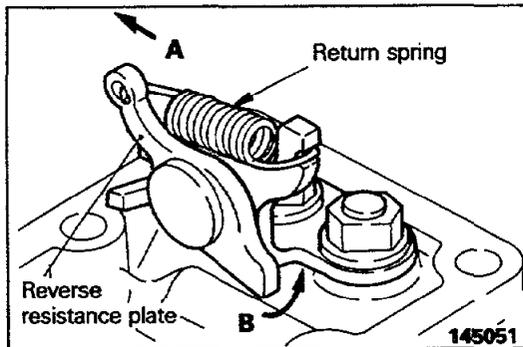
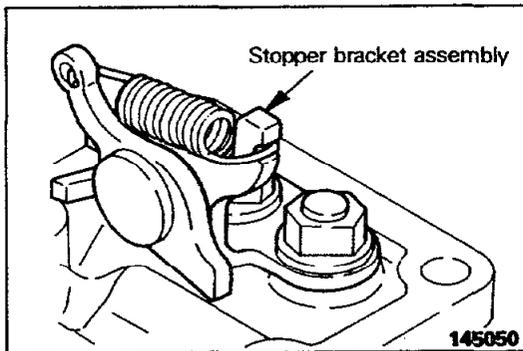


110041

INSPECTION

N21GGAC

- Check for play between control lever and control lever "B". If play is evident replace lever assembly.
- Push control lever in and check to ensure that it moves smoothly up and down.
- Check cover for damage and replace if necessary. To remove cover, cut away with knife. To install new cover, first apply thin coat of oil to periphery of control lever "B". Then install by sliding it down from top of lever "B".
- Check lever bushing for wear and replace if necessary.



SERVICE POINTS OF REASSEMBLY

N21GHAG

12. INSTALLATION OF SPECIAL BOLT/10. STOPPER BRACKET ASSEMBLY

- (1) Apply sealant to peripheries (except threaded portions) of two special bolts and install them to cover. Do not wipe away excess sealant from cover.

**Specified sealant: 3M ART Part No. 8660
or equivalent**

- (2) Mount stopper bracket assembly and apply adhesive to threaded portions of special bolts.

**Specified sealant : 3M Scotch Grip No. 2353
or equivalent**

- (3) Check to ensure that reverse resistance plate moves smoothly in directions A and B shown in illustration and is brought back by return spring.

6. INSTALLATION OF GASKET/3. CONTROL HOUSING COVER GASKET

- (1) Apply specified sealant to both surfaces of the gaskets.

**Specified sealant: 3M ART Part No. 8660
or equivalent**