

TRANSFER SYSTEM (VF4AM)

3102B-05

PRECAUTION

- ★ Before disassembly, clean the transfer assy and remove any deposited sand or mud to prevent it from entering the inside of the transfer during disassembly and assembly.
- ★ When removing any light alloy part such as a transfer cover, do not pry it off with a tool like a screwdriver but tap it out with a plastic hammer.
- ★ Always organize the removed parts properly and protect them away from dust.
- ★ After cleaning and drying completely before installation, apply hypoid gear oil to each part. Do not use alkaline chemicals when cleansing aluminum or rubber parts and ring gear set bolts. Also, do not use any cleansing oil (ex. white gasoline) to clean the rubber parts such as oil seals.
- ★ Sufficiently apply hypoid gear oil to any sliding surface or rotating part.
- ★ Do not directly hold a part by vise. Make sure to put an aluminum sheet between them.
- ★ Replace any damaged or deformed snap ring with new one.
- ★ If mating surface of the case is scratched, it may cause oil leakage. Therefore, carefully avoid such damage when handling.
- ★ Using a razor blade and gasket scraper, remove old FIPG from seal surface.
- ★ Clean all the components to remove the redundant FIPG completely.
- ★ Clean sealing surface with solvent so that any residue does not remain on the seal surface.
- ★ Apply FIPG in an approx. 1.2 mm (0.047 in.) diameter of bead state along the sealing surface.
- ★ Be sure to assemble parts within 10 minutes of application. Otherwise, the FIPG must be removed and reapplied.
- ★ Do not fill oil immediately after installing sealed parts. Leave it 1 hour or more.
- ★ Scratches on the contact surface with an oil seal or gasket may result in oil leakage. Handle with care to prevent such damage.
- ★ When press-fitting an oil seal, take care to prevent the oil seal lip and its periphery from being damaged.

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PROBLEM SYMPTOMS TABLE

Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order.

If necessary, replace these parts.

Symptom	Suspect Area	See page
Noise	3. Oil (Level low) 4. Oil (Wrong) 5. Transfer faulty	31-5 31-5 31-8
Oil leakage	1. Oil (Level too high) 2. Gasket (Damaged) 3. Oil seal (Worn or damaged) 4. O-ring (Worn or damaged)	31-5 31-8 31-8 31-8
Tight corner braking	Center differential or transfer faulty	31-14
Shift from 4WD (H4) to 4WD (L4) impossible	1. Four wheel drive control switch 2. Differential lock switch 3. Wire harness 4. Four wheel drive control ECU	31-75 31-75 – 31-75
Shift from 4WD (L4) to 4WD (H4) impossible	1. Four wheel drive control switch 2. Differential lock switch 3. Wire harness 4. Four wheel drive control ECU	31-75 31-75 – 31-75
Shift from 2WD (H2) to 4WD (H4) impossible	1. Four wheel drive control switch 2. Wire harness 3. Four wheel drive control ECU	31-75 – 31-75
Shift from 4WD (H4) to 2WD (H2) impossible	1. Four wheel drive control switch 2. Wire harness 3. Four wheel drive control ECU	31-75 – 31-75
Shift from 2WD (H2) to 4WD (L4) impossible	1. Four wheel drive control switch 2. Differential lock switch 3. Wire harness 4. Four wheel drive control ECU	31-75 31-75 – 31-75
Shift from 4WD (L4) to 2WD (H2) impossible	1. Four wheel drive control switch 2. Differential lock switch 3. Wire harness 4. Four wheel drive control ECU	31-75 31-75 – 31-75

TRANSFER SYSTEM (VF4BM)

3102B-02

PRECAUTION

- ★ Before disassembly, clean the transfer assy and remove any deposited sand or mud to prevent it from entering the inside of the transfer during disassembly and assembly.
- ★ When removing any light alloy part such as a transfer cover, do not pry it off with a tool like a screwdriver but tap it out with a plastic hammer.
- ★ Always organize the removed parts properly and protect them away from dust.
- ★ After cleaning and drying completely before installation, apply hypoid gear oil to each part. Do not use alkaline chemicals when cleansing aluminum or rubber parts and ring gear set bolts. Also, do not use any cleansing oil (ex. white gasoline) to clean the rubber parts such as oil seals.
- ★ Sufficiently apply hypoid gear oil to any sliding surface or rotating part.
- ★ Do not directly hold a part by vise. Make sure to put an aluminum sheet between them.
- ★ Replace any damaged or deformed snap ring with new one.
- ★ If mating surface of the case is scratched, it may cause oil leakage. Therefore, carefully avoid such damage when handling.
- ★ Using a razor blade and gasket scraper, remove old FIPG from seal surface.
- ★ Clean all the components to remove the redundant FIPG completely.
- ★ Clean sealing surface with solvent so that any residue does not remain on the seal surface.
- ★ Apply FIPG in an approx. 1.2 mm (0.047 in.) diameter of bead state along the sealing surface.
- ★ Be sure to assemble parts within 10 minutes of application. Otherwise, the FIPG must be removed and reapplied.
- ★ Do not fill oil immediately after installing sealed parts. Leave it 1 hour or more.
- ★ Scratches on the contact surface with an oil seal or gasket may result in oil leakage. Handle with care to prevent such damage.
- ★ When press-fitting an oil seal, take care to prevent the oil seal lip and its periphery from being damaged.

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PROBLEM SYMPTOMS TABLE

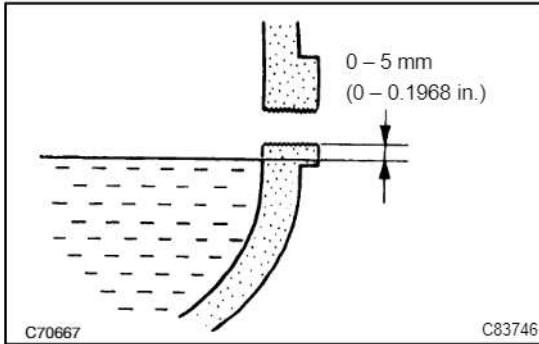
Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order.

If necessary, replace these parts.

Symptom	Suspect Area	See page
Noise	5. Oil (Level low)	31-5
	6. Oil (Wrong)	31-5
	7. Transfer faulty	31-40
Oil leakage	1. Oil (Level too high)	31-5
	2. Gasket (Damaged)	31-40
	3. Oil seal (Worn or damaged)	31-40
	4. O-ring (Worn or damaged)	31-40
Tight corner braking	Center differential or transfer faulty	31-40
Shift from 4WD (H4) to 4WD (L4) impossible	1. Four wheel drive control switch	31-70
	2. Wire harness	–
	3. Four wheel drive control ECU	31-70
Shift from 4WD (L4) to 4WD (H4) impossible	1. Four wheel drive control switch	31-70
	2. Wire harness	–
	3. Four wheel drive control ECU	31-70

TRANSFER OIL ADJUSTMENT

3102D-03



1. INSPECT TRANSFER OIL

- (a) Remove the filler plug and gasket.
- (b) Check the oil level is within 0 – 5 mm (0 – 0.1968 in.) down from the lowest end of the hole for filler plug.

NOTICE:

- ★ When changing oil, recheck the oil level after driving.
 - ★ Excessively large or small quantity of oil may cause some trouble.
- (c) When the oil level is too low, check for oil leakage.
 - (d) Tighten the filler plug with a new gasket.
Torque: 37 N·m (377 kgf·cm, 27 ft·lbf)

2. ADJUST TRANSFER OIL

- (a) Remove the filler plug and gasket, and supply oil.

NOTICE:

- ★ When supplying oil, pour it slowly.
- ★ Repeat supplying oil several times at several minutes interval.

HINT:

Within 0 – 5 mm (0 – 0.1968 in.) down from the lowest end of the hole for the filler plug.

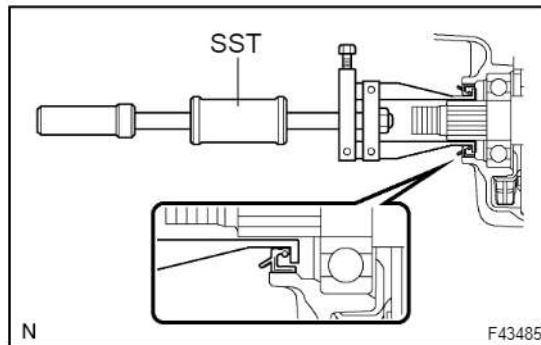
- (b) After leaving it alone for 5 min., check the oil level again.
- (c) Tighten the filler plug with a new gasket.

Torque: 37 N·m (377 kgf·cm, 27 ft·lbf)

TRANSFER CASE OIL SEAL REPLACEMENT

3102F-06

1. DRAIN TRANSFER OIL
2. REMOVE TRANSFER CASE LOWER PROTECTOR (See page 31-46)
3. REMOVE AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29 or 40-37)
4. REMOVE OUTPUT SHAFT COMPANION FLANGE SUB-ASSY (See page 31-46)



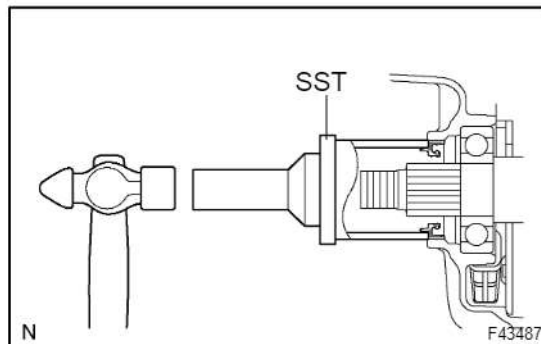
5. REMOVE TRANSFER CASE OIL SEAL

- (a) Using SST, remove the oil seal.

SST 09308-00010

NOTICE:

Do not damage the oil-seal-fitted surface of the case.



6. INSTALL TRANSFER CASE OIL SEAL

- (a) Coat the lip of a new oil seal with MP grease.
- (b) Using SST and a hammer, drive in the oil seal until its surface is flush with the case upper surface.

SST 09316-60011 (09316-00011)

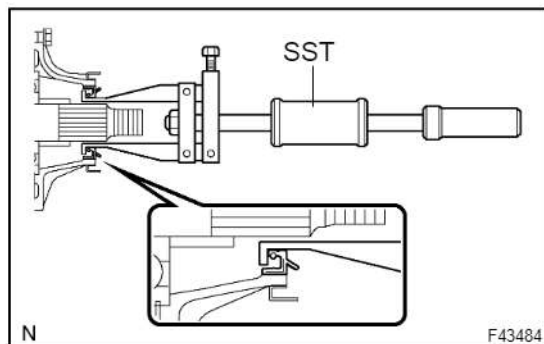
7. INSTALL OUTPUT SHAFT COMPANION FLANGE SUB-ASSY (See page 31-46)
8. INSTALL AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29 or 40-37)
9. INSTALL TRANSFER CASE LOWER PROTECTOR (See page 31-46)
10. ADD TRANSFER OIL (See page 31-5)
11. ADD AUTOMATIC TRANSMISSION FLUID (See page 40-3 or 40-4)
12. INSPECT AUTOMATIC TRANSMISSION FLUID (See page 40-3 or 40-4)
13. WARMING UP
14. DRIVING TEST

OIL (TRANSFER EXTENSION FRONT HOUSING SUB-ASSY) SEAL

3102G-05

REPLACEMENT

1. DRAIN TRANSFER OIL
2. REMOVE TRANSFER CASE LOWER PROTECTOR (See page 31-46)
3. REMOVE AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29 or 40-37)
4. REMOVE OUTPUT SHAFT COMPANION FLANGE SUB-ASSY (See page 31-46)



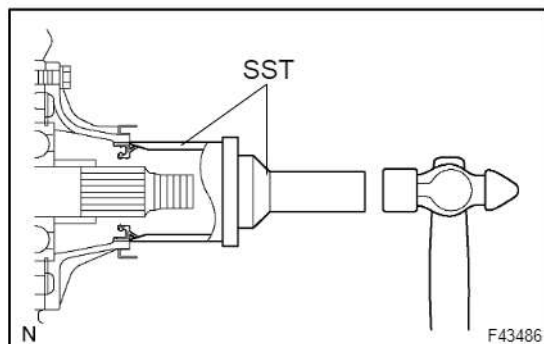
5. REMOVE OIL (TRANSFER EXTENSION FRONT HOUSING SUB-ASSY) SEAL

- (a) Using SST, remove the oil seal.

SST 09308-00010

NOTICE:

Do not damage the oil-seal fitted surface of the extension housing sub-assy rear.



6. INSTALL OIL (TRANSFER EXTENSION FRONT HOUSING SUB-ASSY) SEAL

- (a) Coat the lip of a new oil seal with the MP grease.
- (b) Using SST and a hammer, drive in the oil seal until its surface is flush with the housing upper surface.

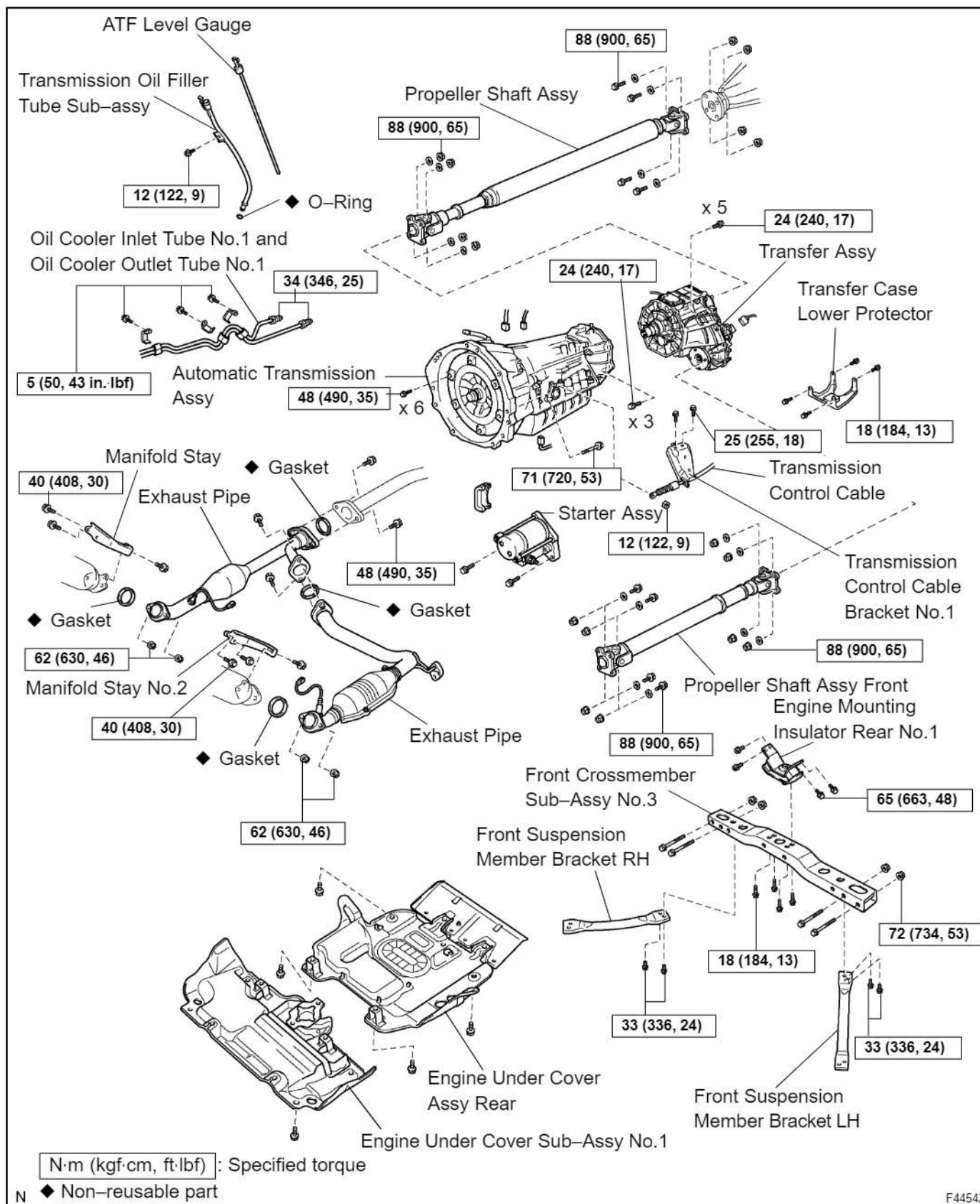
SST 09223-46011, 09631-32020

7. INSTALL OUTPUT SHAFT COMPANION FLANGE SUB-ASSY (See page 31-46)
8. INSTALL AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29 or 40-37)
9. INSTALL TRANSFER CASE LOWER PROTECTOR (See page 31-46)
10. ADD TRANSFER OIL (See page 31-5)
11. ADD AUTOMATIC TRANSMISSION FLUID (See page 40-3 or 40-4)
12. INSPECT AUTOMATIC TRANSMISSION FLUID (See page 40-3 or 40-4)
13. WARMING UP
14. DRIVING TEST

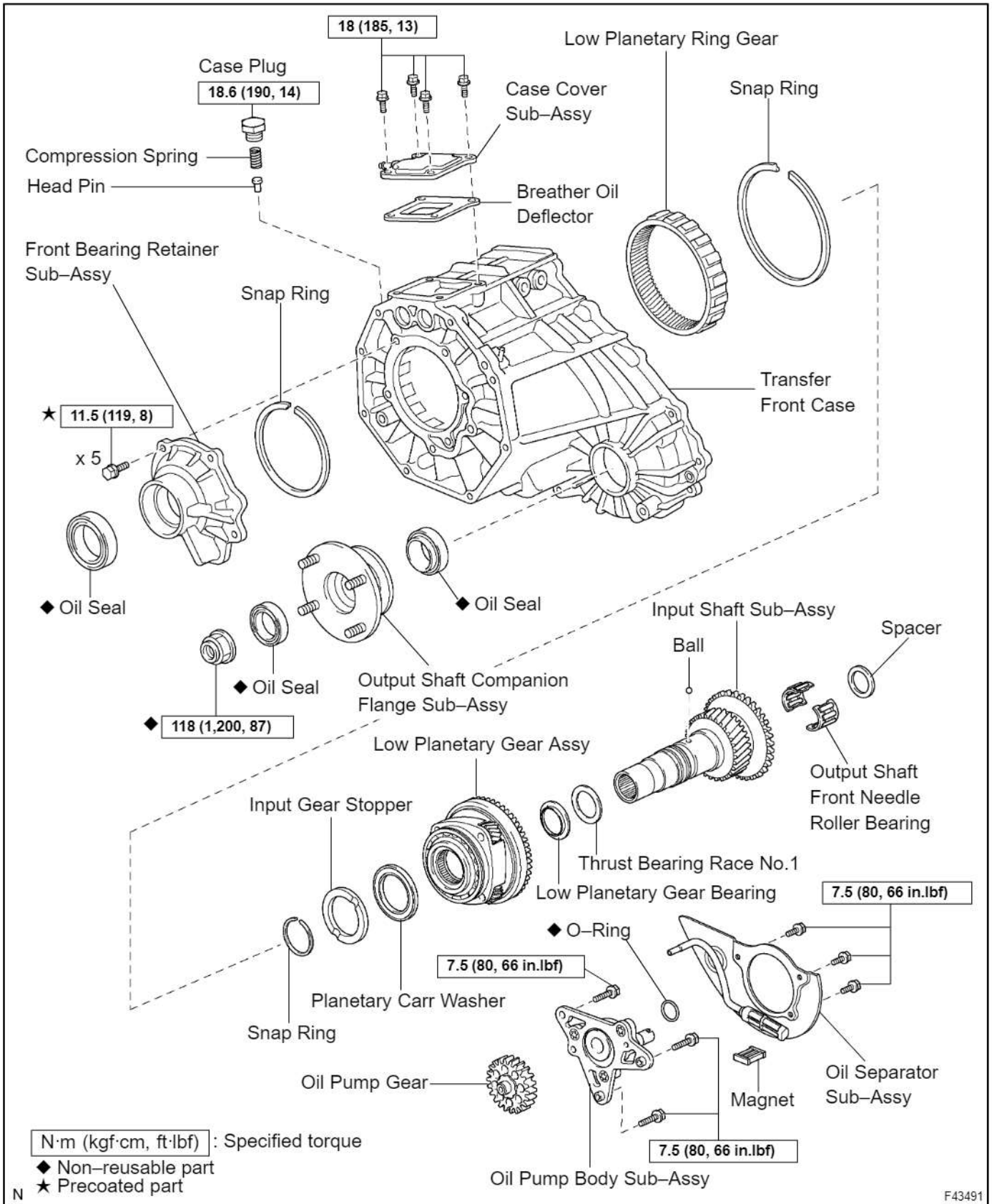
TRANSFER ASSY (VF4AM)

COMPONENTS

31032-03

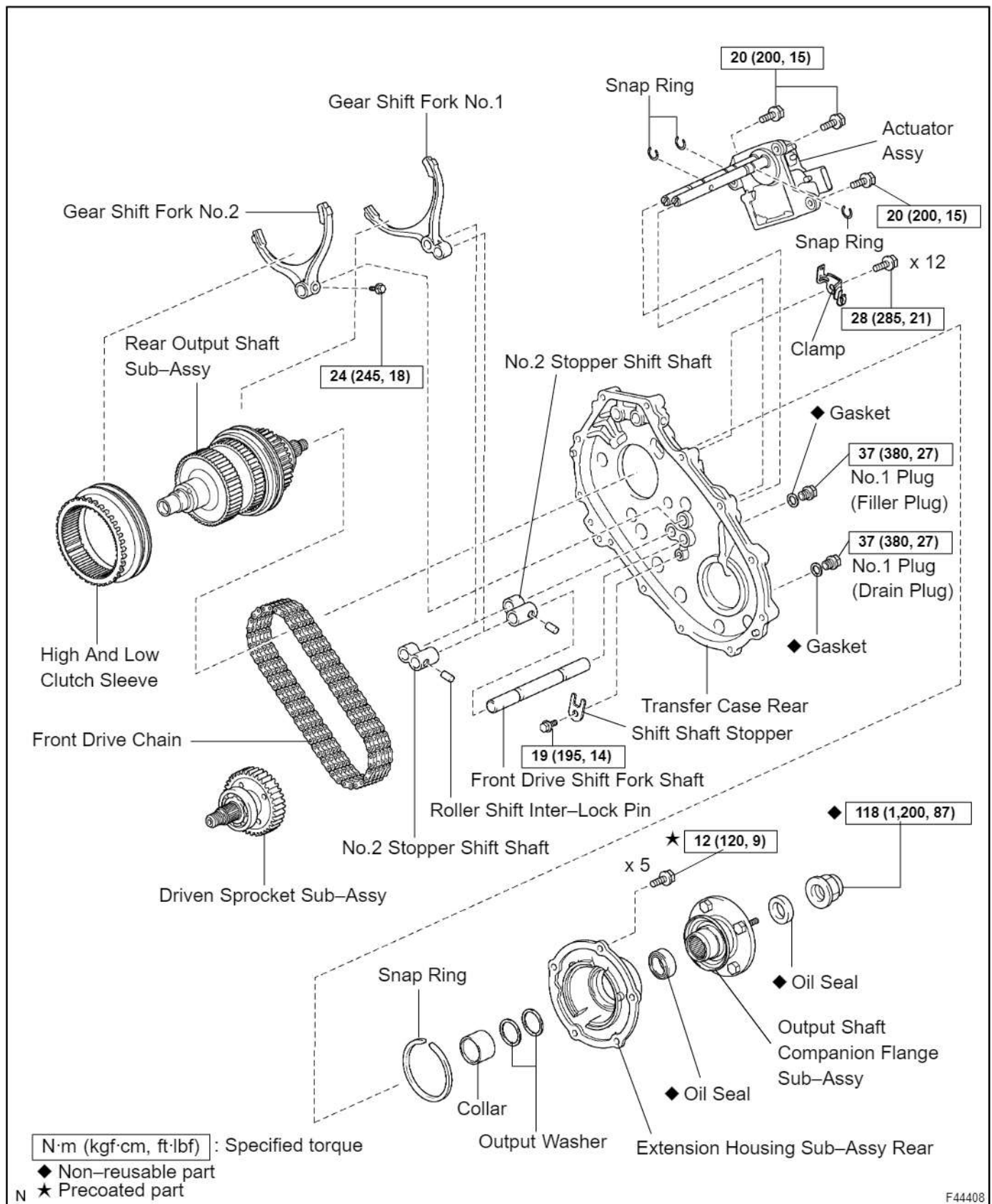


F44542



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F43491

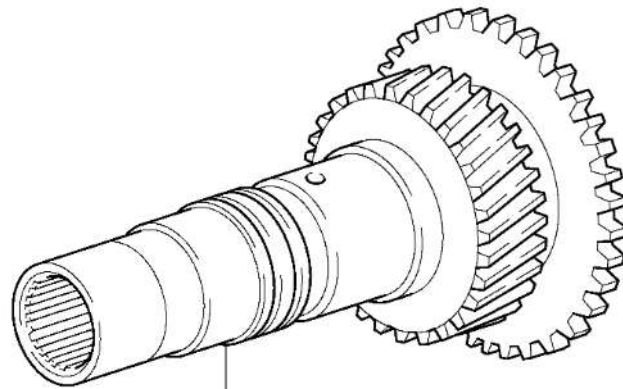
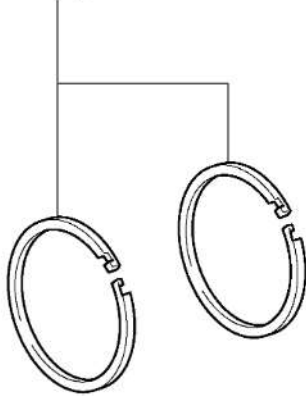


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F44408

Input Shaft Sub-Assy:

◆ Seal Ring No.1



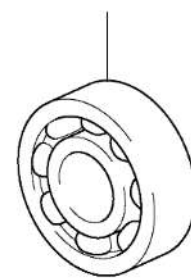
Input Shaft

N ◆ Non-reusable part

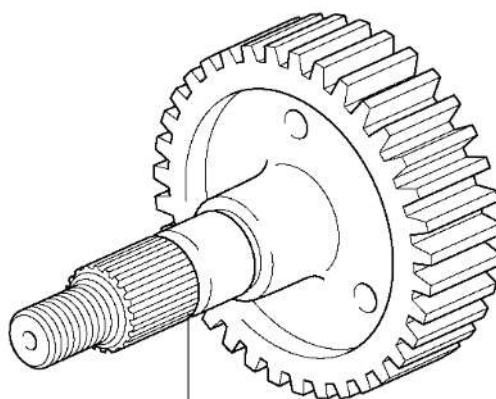
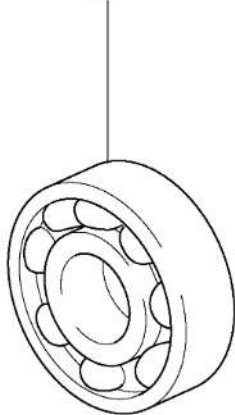
F43496

Driven Sprocket Sub-Assy:

◆ Input Gear Radial Ball Bearing



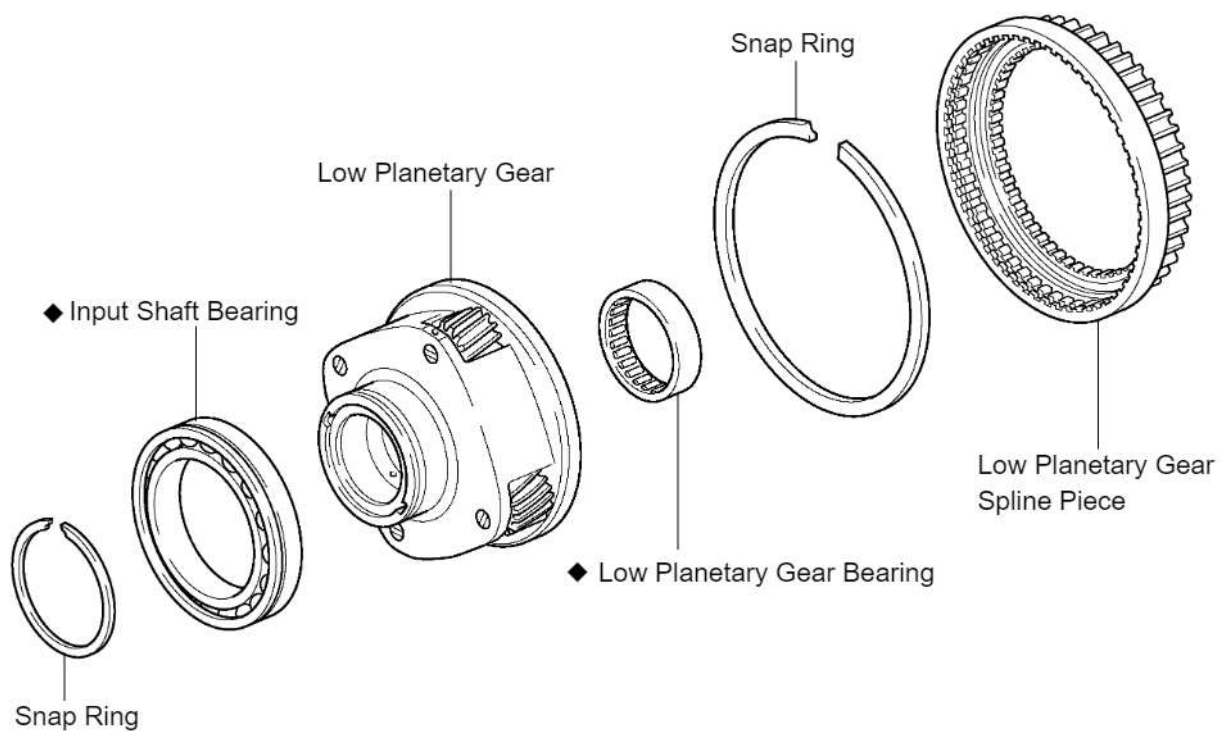
◆ Driven Sprocket Bearing



Driven Sprocket

N ◆ Non-reusable part

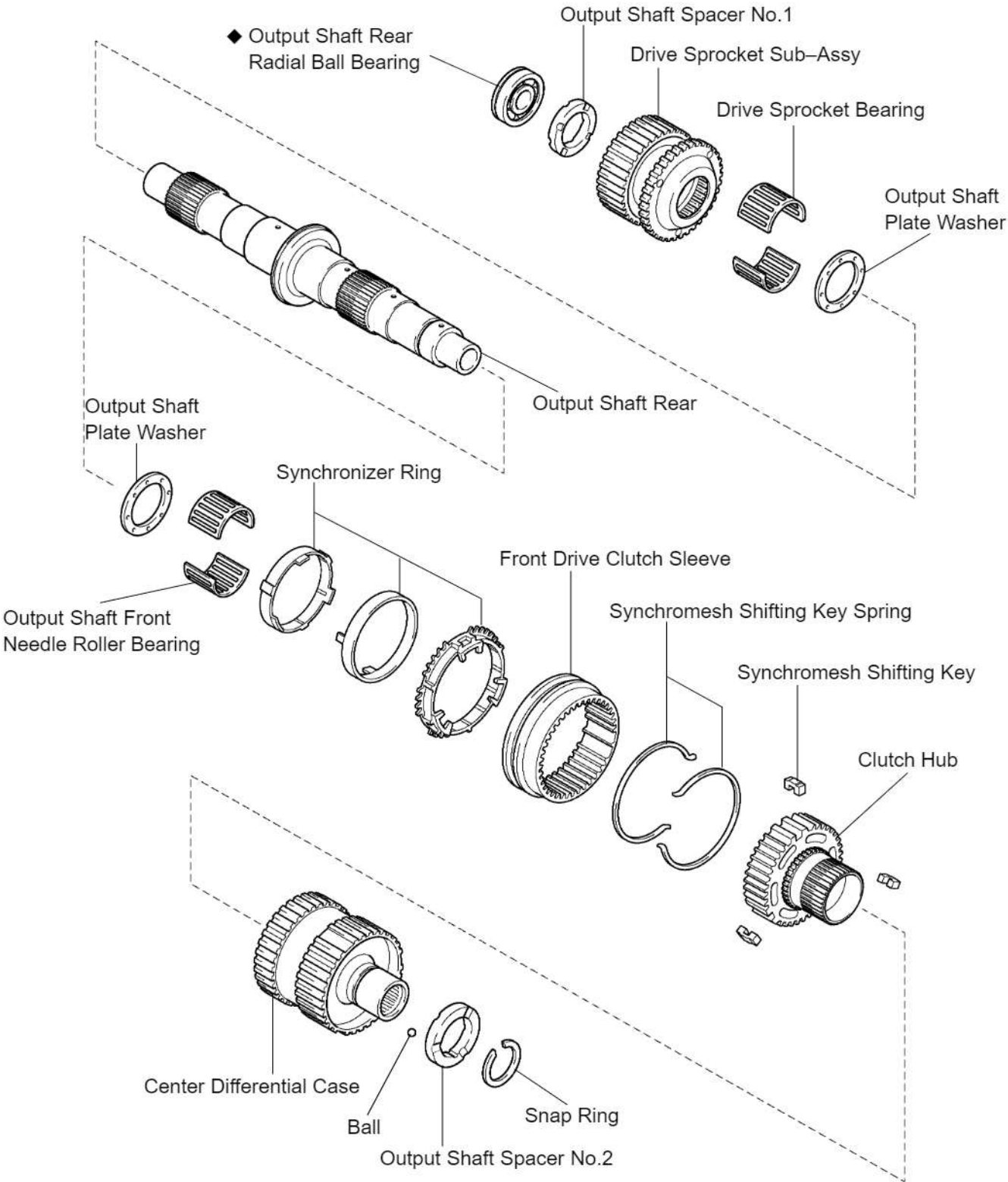
F43494

Low Planetary Gear Sub-Assy:

N ♦ Non-reusable part

F43495

Rear Output Shaft Sub-Assy:

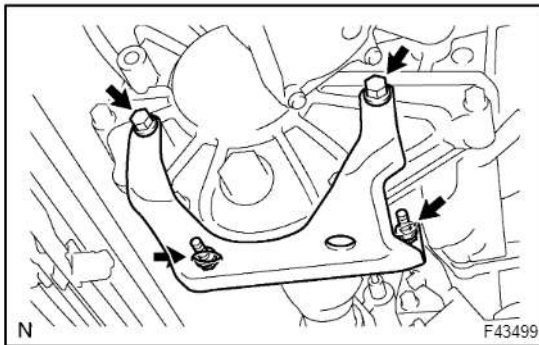


N

F44409

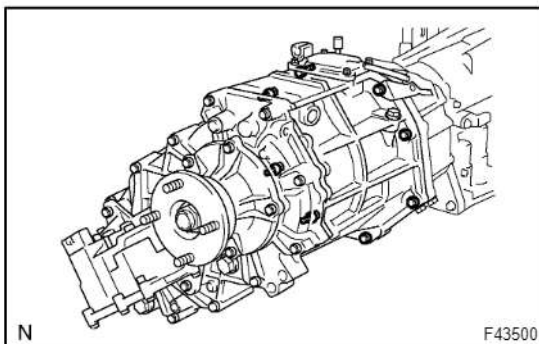
OVERHAUL

1. REMOVE ENGINE UNDER COVER SUB-ASSY NO.1 (See page 14-34)
2. REMOVE ENGINE UNDER COVER ASSY REAR (See page 14-34)
3. DISCONNECT OXYGEN SENSOR (See page 14-34)
4. REMOVE EXHAUST PIPE ASSY (See page 15-1)
5. REMOVE PROPELLER SHAFT ASSY FRONT (See page 30-4)
6. REMOVE PROPELLER SHAFT ASSY (See page 30-11)
7. DRAIN AUTOMATIC TRANSMISSION FLUID (See page 40-29)
8. DRAIN TRANSFER OIL
9. REMOVE FRONT SUSPENSION MEMBER BRACKET (See page 14-34)
10. REMOVE FRONT SUSPENSION MEMBER BRACKET LH (See page 14-34)
11. REMOVE TRANSMISSION OIL FILLER TUBE SUB-ASSY (See page 40-29)
12. DISCONNECT OIL COOLER OUTLET TUBE NO.1 (See page 40-29)
SST 09023-12700
13. REMOVE OIL COOLER INLET TUBE NO.1 (See page 40-29)
SST 09023-12700
14. DISCONNECT TRANSMISSION CONTROL CABLE ASSY (See page 40-29)
15. REMOVE TRANSMISSION CONTROL CABLE BRACKET NO.1 (See page 40-29)

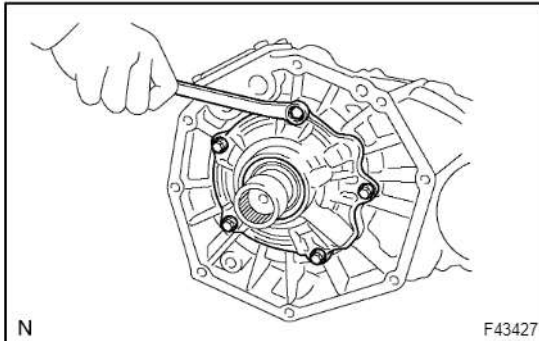


16. REMOVE TRANSFER CASE LOWER PROTECTOR
 - (a) Remove the 4 bolts and transfer case lower protector.

17. SUPPORT AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29)
18. REMOVE FRAME CROSSMEMBER SUB-ASSY NO.3 (See page 40-29 or 40-37)
19. DISCONNECT CONNECTOR (See page 40-29)
20. DISCONNECT WIRE HARNESS (See page 40-29)
21. REMOVE STARTER ASSY (See page 14-34)
22. REMOVE MANIFOLD STAY (See page 14-34)
23. REMOVE MANIFOLD STAY NO.2 (See page 14-34)
24. SEPARATE FRONT DIFFERENTIAL ASSY (See page 40-29)
25. REMOVE AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29)



26. REMOVE TRANSFER ASSY
 - (a) Remove the 8 bolts and 2 clamps.
 - (b) Remove the transfer from the automatic transmission.

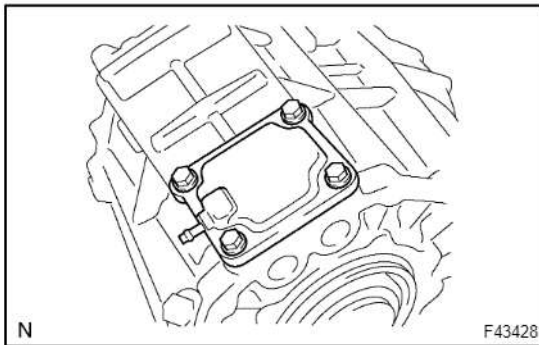
27. REMOVE HOSE**28. REMOVE TRANSFER RH BEARING RETAINER SUB-ASSY**

- (a) Remove the 5 bolts and front bearing retainer sub-assy.
HINT:

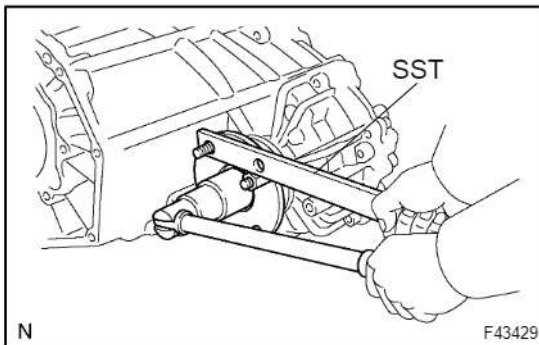
If necessary, tap the front bearing retainer sub-assy with a plastic hammer to remove it.

29. REMOVE TRANSFER COVER TYPE T OIL SEAL

- (a) Using a screwdriver and hammer, remove the oil seal from the front bearing retainer sub-assy.

**30. REMOVE TRANSFER CASE COVER SUB-ASSY**

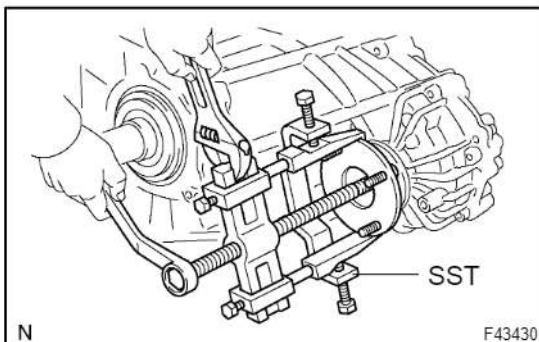
- (a) Remove the 4 bolts and case cover sub-assy.

31. REMOVE BREATHER OIL DEFLECTOR**32. REMOVE OUTPUT SHAFT COMPANION FLANGE SUB-ASSY**

- (a) Using a chisel and hammer, loosen the staked part of the output shaft companion flange lock nut.

- (b) Using SST to hold the output shaft companion flange, remove the output shaft companion flange lock nut.

SST 09330-00021



- (c) Using SST, remove the output shaft companion flange sub-assy.

SST 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04051, 09957-04010, 09958-04011)

33. REMOVE TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

- (a) Using a screwdriver and hammer, remove the oil seal from the output shaft companion flange sub-assy.

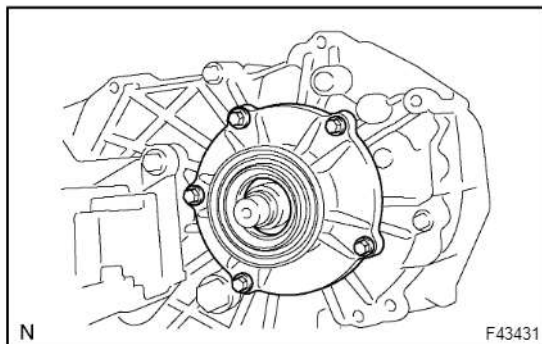
34. REMOVE OUTPUT SHAFT COMPANION FLANGE SUB-ASSY

- (a) Remove the rear output shaft companion flange sub-assy in the same way as the front output shaft companion flange sub-assy.

SST 09330-00021, 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04051, 09957-04010, 09958-04011)

35. REMOVE TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

- (a) Using a screwdriver and hammer, remove the oil seal from the rear output shaft companion flange sub-assy.

**36. REMOVE TRANSFER EXTENSION HOUSING SUB-ASSY FRONT**

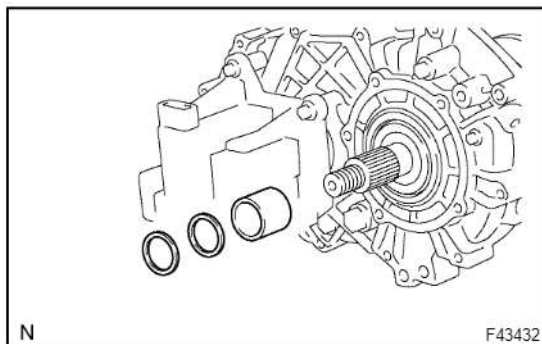
- (a) Remove the 5 bolts and extension housing sub-assy rear.

HINT:

If necessary, tap the extension housing sub-assy rear with a plastic hammer to remove it.

37. REMOVE OIL (TRANSFER EXTENSION FRONT HOUSING SUB-ASSY) SEAL

- (a) Using a screwdriver and hammer, remove the oil seal.

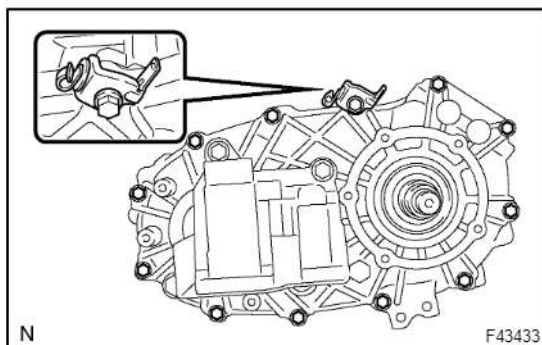
38. REMOVE TRANSFER OUTPUT WASHER**39. REMOVE COLLAR****40. REMOVE TRANSFER CASE REAR**

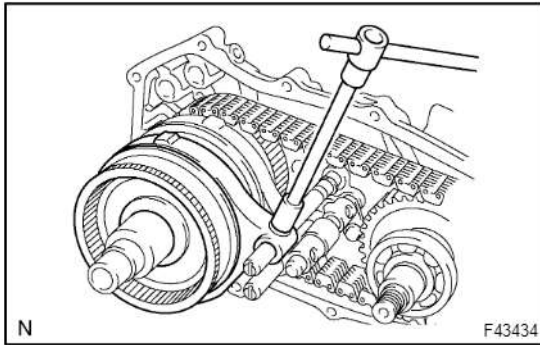
- (a) Remove the 12 bolts and clamp.

- (b) Remove the transfer case rear.

HINT:

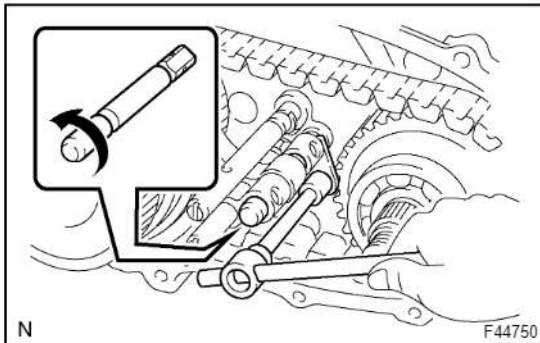
If necessary, tap the transfer case rear with a plastic hammer to remove it.





41. REMOVE TRANSFER GEAR SHIFT FORK NO.2 W/TRANSFER HIGH AND LOW CLUTCH SLEEVE

- (a) Remove the bolt, gear shift fork No.2 and high and low clutch sleeve.

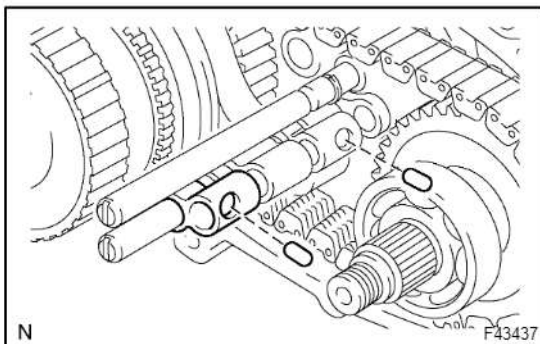


42. REMOVE TRANSFER SHIFT SHAFT STOPPER

- (a) Remove the bolt and shift shaft stopper.

43. REMOVE TRANSFER FRONT DRIVE SHIFT FORK SHAFT

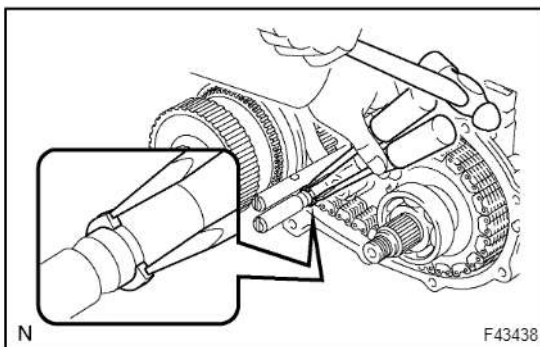
- (a) Turn the front drive shift fork shaft, and remove it from the rear case aligning the cut out position and the inter-lock pin position.



44. REMOVE OR ROLLER SHIFT INTER-LOCK PIN

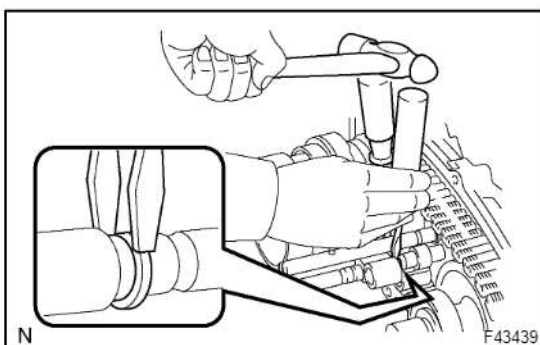
- (a) Using a magnetic finger, remove the 2 shift inter-lock pin.

45. REMOVE NO.2 STOPPER TRANSFER SHIFT SHAFT

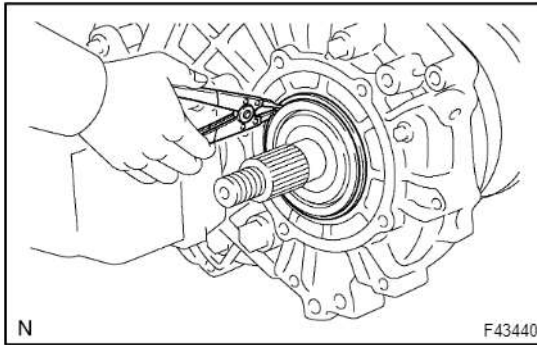


46. REMOVE REAR OUTPUT SHAFT SUB-ASSY, GEAR SHIFT FORK NO.1, FRONT DRIVE CLUTCH SLEEVE, FRONT DRIVE CHAIN AND DRIVEN SPROCKET

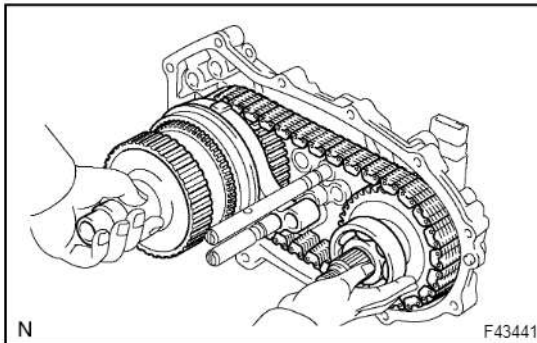
- (a) Using 2 screwdrivers and a hammer, tap out the snap ring.



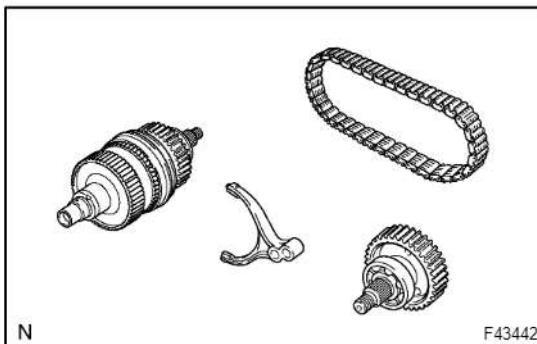
- (b) Using 2 screwdrivers and a hammer, tap out the snap ring.



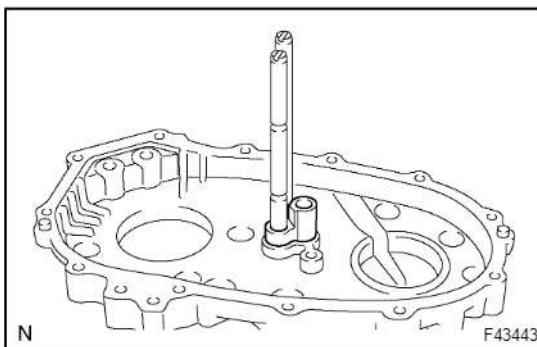
- (c) Using a snap ring expander, remove the snap ring.



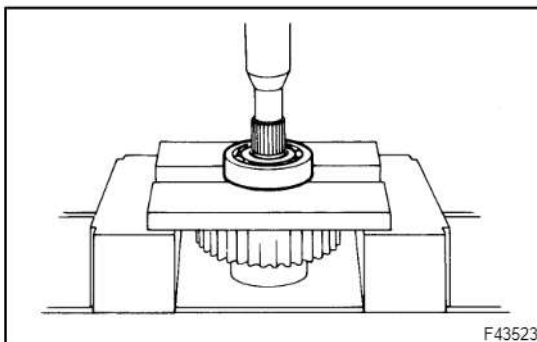
- (d) Mount the transfer case rear in a vise.
 (e) Using a plastic hammer, carefully tap the transfer case rear, and remove the rear output shaft sub-assy together with gear shift fork No.1, front drive clutch sleeve, front drive chain and driven sprocket sub-assy.



- (f) Remove the rear output shaft sub-assy, gear shift fork No.1, front drive chain and driven sprocket sub-assy.

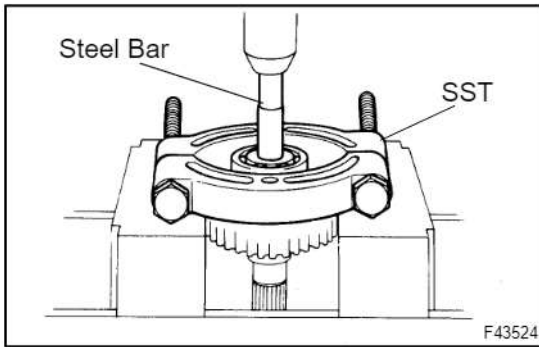


47. REMOVE NO.2 STOPPER TRANSFER SHIFT SHAFT



48. REMOVE TRANSFER DRIVEN SPROCKET BEARING

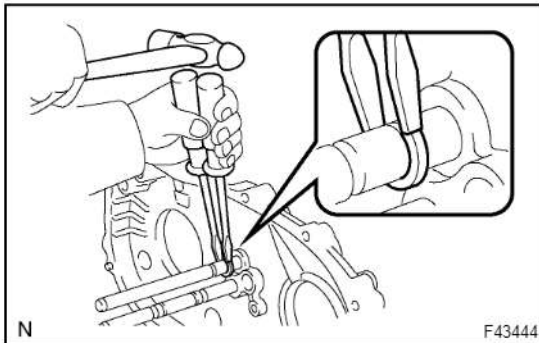
- (a) Using a press, remove the driven sprocket bearing.



49. REMOVE TRANSFER INPUT GEAR RADIAL BALL BEARING

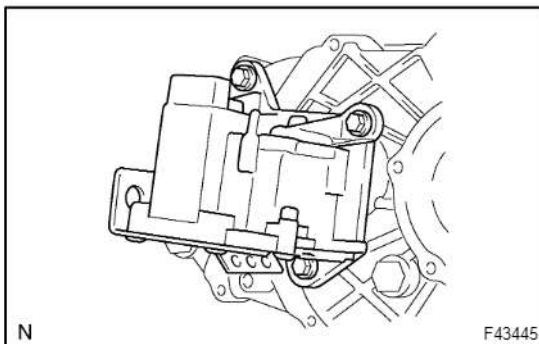
- (a) Using SST, a press and steel bar, remove the transfer input gear radial ball bearing.

SST 09555-55010



50. REMOVE TRANSFER SHIFT ACTUATOR ASSY

- (a) Using 2 screwdrivers and a hammer, tap out the snap ring.



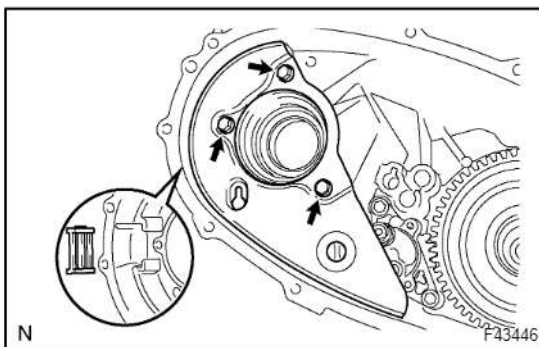
- (b) Remove the 3 bolts and transfer shift actuator assy.

51. REMOVE TRANSFER CASE NO.1 PLUG

- (a) Remove the transfer case No.1 plug (filler plug) and gasket.

52. REMOVE TRANSFER CASE NO.1 PLUG

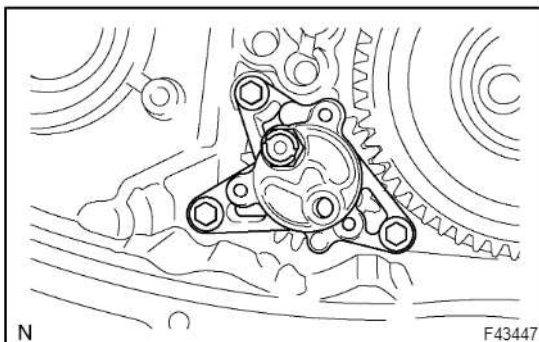
- (a) Remove the transfer case No.1 plug (drain plug) and gasket.



53. REMOVE TRANSFER OIL SEPARATOR SUB-ASSY

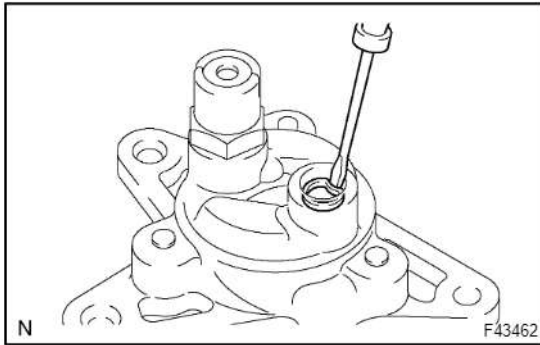
- (a) Remove the 3 bolts and oil separator sub-assy.

54. REMOVE TRANSFER CASE MAGNET

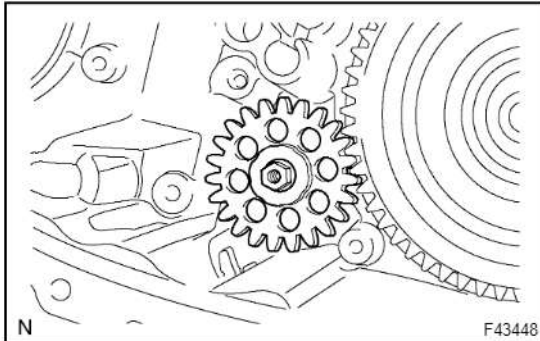
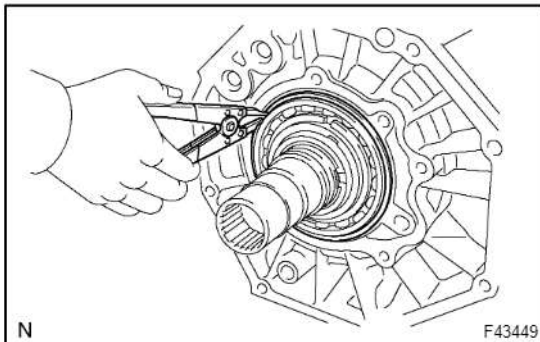


55. REMOVE TRANSFER OIL PUMP BODY SUB-ASSY

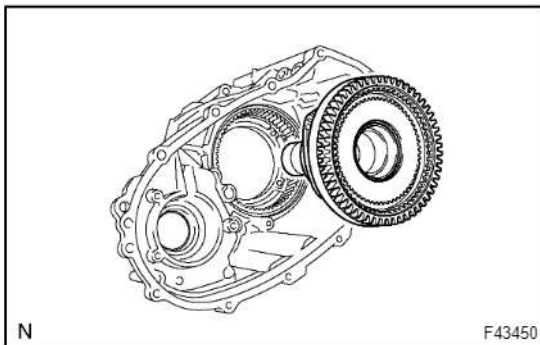
- (a) Remove the 3 bolts and oil pump body sub-assy.

**56. REMOVE TRANSFER OIL PUMP BODY O-RING**

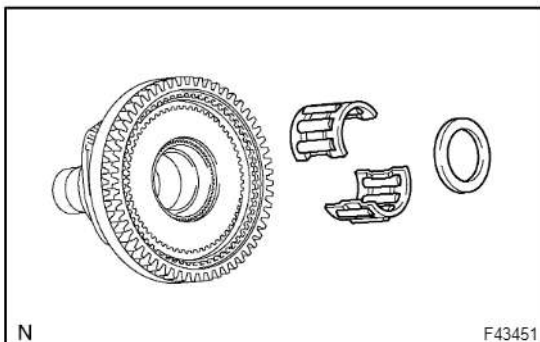
- (a) Using a screwdriver, remove the oil pump body O-ring.

**57. REMOVE TRANSFER OIL PUMP GEAR****58. REMOVE LOW PLANETARY GEAR ASSY W/INPUT SHAFT SUB-ASSY**

- (a) Using a snap ring expander, remove the snap ring.

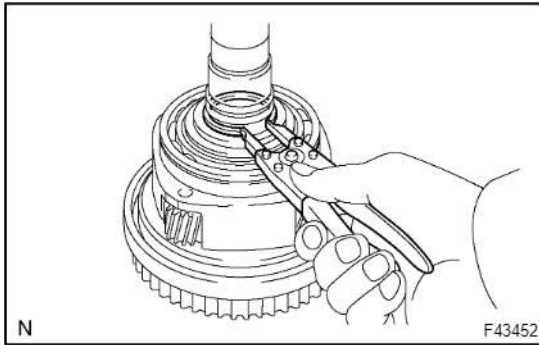


- (b) Remove the low planetary gear assy and input shaft sub-assy.



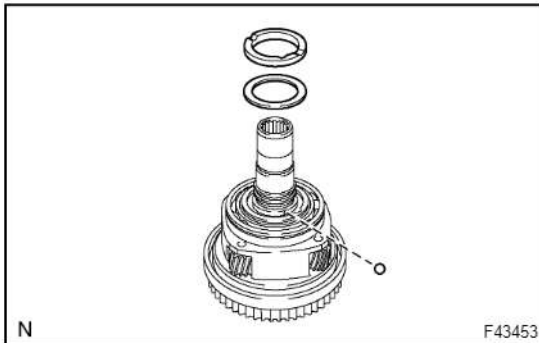
- 59. REMOVE TRANSFER OUTPUT SHAFT SPACER**
60. REMOVE TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING
61. REMOVE TRANSFER CASE OIL SEAL

- (a) Using a screwdriver and hammer, remove the transfer case oil seal.

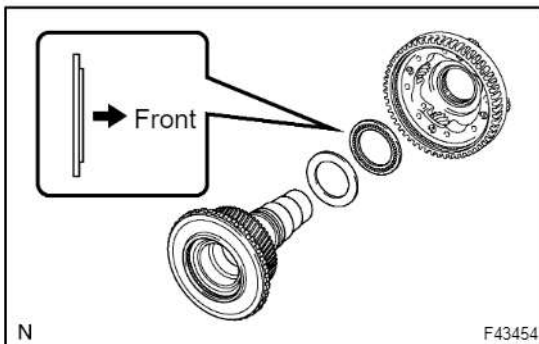


62. REMOVE TRANSFER INPUT GEAR STOPPER SHAFT SNAP RING

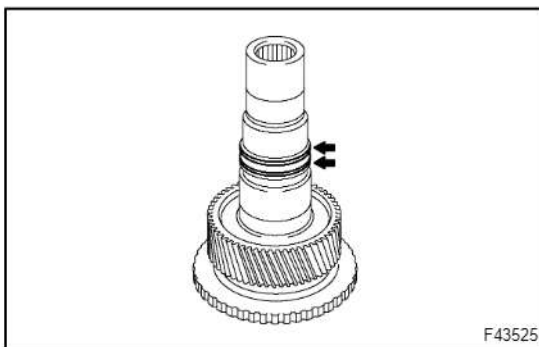
- (a) Using a snap ring expander, remove the input gear stopper shaft snap ring.



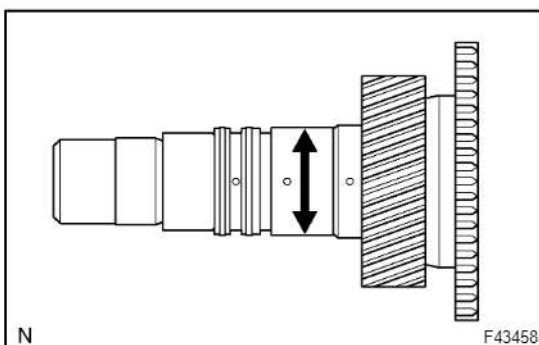
63. REMOVE TRANSFER INPUT GEAR STOPPER
64. REMOVE TRANSFER INPUT GEAR STOPPER BALL
65. REMOVE MANUAL TRANSFER PLANETARY CARR WASHER



66. REMOVE SHAFT, TRANSFER INPUT
67. REMOVE TRANSFER THRUST BEARING RACE NO.1
68. REMOVE TRANSFER LOW PLANETARY GEAR BEARING



69. REMOVE TRANSFER INPUT SHAFT SEAL RING NO.1

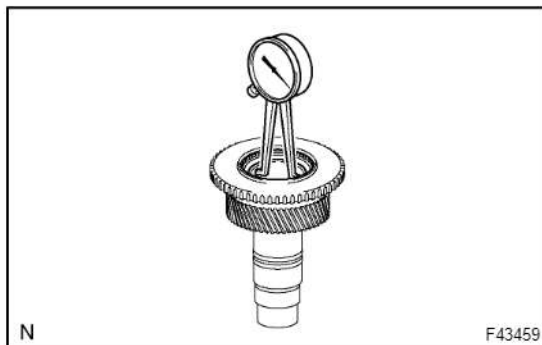


70. INSPECT SHAFT, TRANSFER INPUT

- (a) Using a micrometer, measure the outer diameter of the input shaft journal surface.

Minimum diameter: 47.59 mm (1.8736 in.)

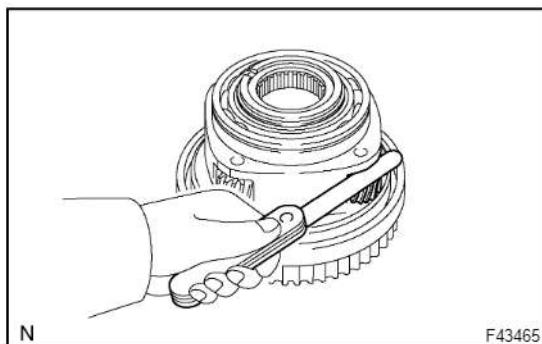
If the outer diameter is less than the minimum, replace the input shaft.



- (b) Using a dial indicator, measure the inside diameter of the input shaft bushing.

Maximum diameter: 48.14 mm (1.8953 in.)

If the inside diameter exceeds the maximum, replace the input shaft.



71. INSPECT PLANETARY PINION GEAR THRUST CLEARANCE

- (a) Using a feeler gauge, measure the thrust clearance of the planetary pinion gear.

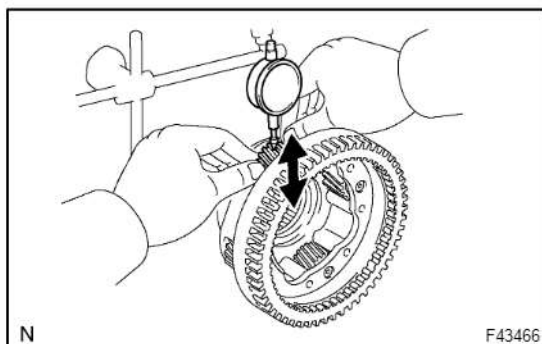
Standard clearance:

0.11 – 0.84 mm (0.0043 – 0.0331 in.)

Maximum clearance:

0.84 mm (0.0331 in.)

If the clearance exceeds the maximum, replace the planetary gear assy.



72. INSPECT PLANETARY PINION GEAR RADIAL CLEARANCE

- (a) Using a dial indicator, measure the radial clearance of the planetary pinion gear.

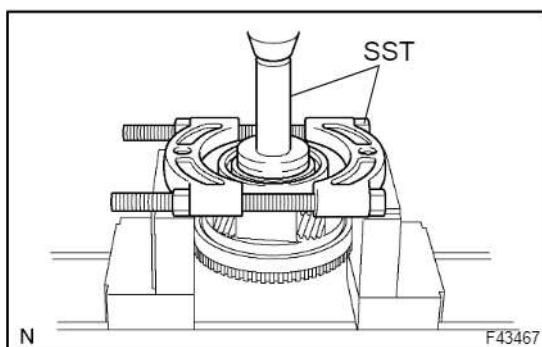
Standard clearance:

0.009 – 0.038 mm (0.0004 – 0.0015 in.)

Maximum clearance:

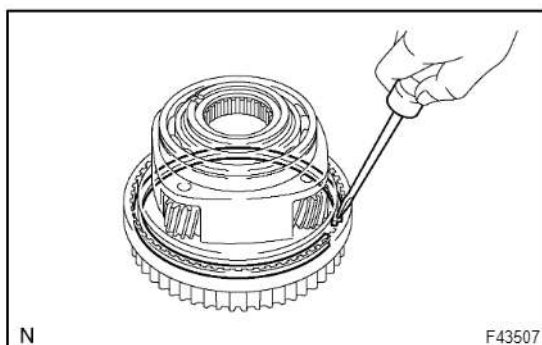
0.038 mm (0.0015 in.)

If the clearance exceeds the maximum, replace the planetary gear assy.



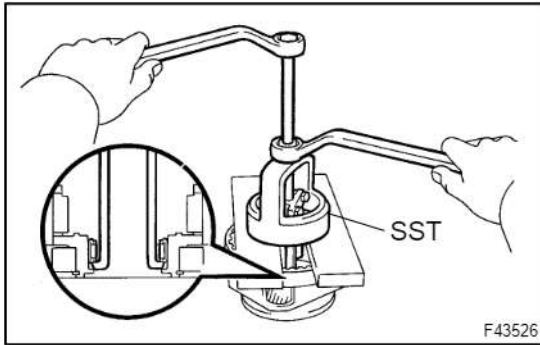
73. REMOVE TRANSFER INPUT SHAFT BEARING

- (a) Using a snap ring expander, remove the snap ring.
 (b) Using SST and a press, remove the input shaft bearing.
 SST 09554-30011, 09555-55010



74. REMOVE TRANSFER LOW PLANETARY GEAR SPLINE PIECE

- (a) Using a screwdriver, remove the snap ring.
 (b) Remove the low planetary gear spline piece.



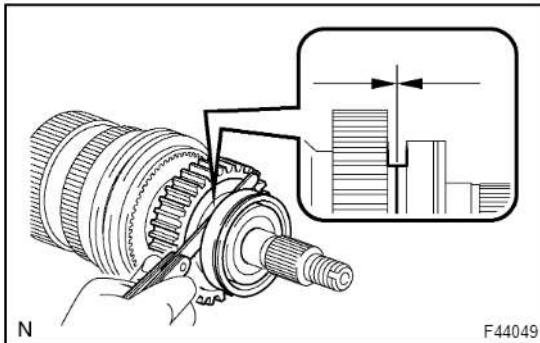
75. REMOVE TRANSFER LOW PLANETARY GEAR BEARING

- (a) Using SST, remove the low planetary gear bearing.

NOTICE:

Hang SST securely to the clearance between the bearing and low planetary gear.

SST 09612-65014 (09612-01030, 09612-01050)



76. INSPECT DRIVE SPROCKET THRUST CLEARANCE

- (a) Using a feeler gauge, measure the thrust clearance of the drive sprocket.

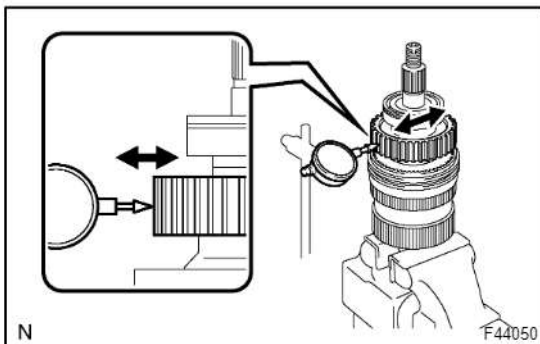
Standard clearance:

0.15 - 0.24 mm (0.0059 - 0.0094 in.)

Maximum clearance:

0.24 mm (0.0094 in.)

If the clearance exceeds the maximum, replace the drive sprocket.



77. INSPECT DRIVE SPROCKET RADIAL CLEARANCE

- (a) Using a dial indicator, measure the radial clearance of the drive sprocket.

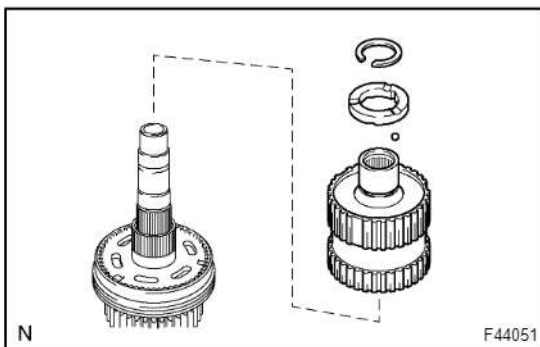
Standard clearance:

0.01 - 0.06 mm (0.0004 - 0.0024 in.)

Maximum clearance:

0.06 mm (0.0024 in.)

If the clearance exceeds the maximum, replace the drive sprocket, output shaft rear or needle roller bearing.



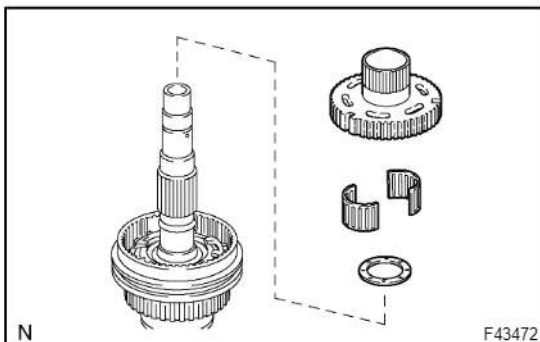
78. REMOVE TRANSFER LOW PLANETARY RING GEAR HOLE SNAP RING

- (a) Using a snap ring expander, remove the snap ring.

79. REMOVE TRANSFER OUTPUT SHAFT SPACER NO.2

80. REMOVE TRANSFER OUTPUT SHAFT SPACER BALL

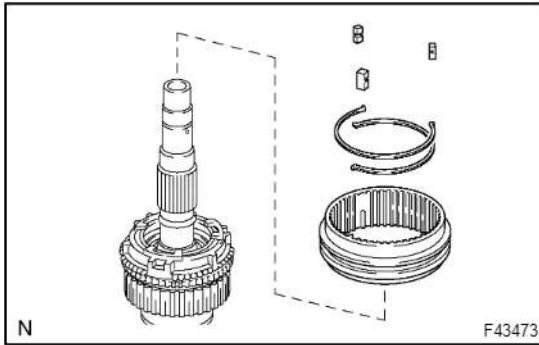
81. REMOVE CENTER DIFFERENTIAL CASE



82. REMOVE TRANSFER CLUTCH HUB

83. REMOVE TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING

84. REMOVE TRANSFER OUTPUT SHAFT PLATE WASHER



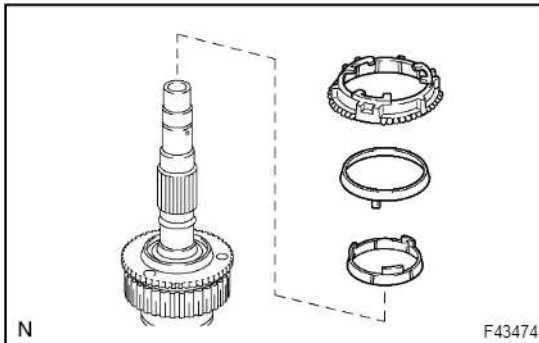
85. REMOVE TRANSFER SYNCHROMESH SHIFTING KEY SPRING

- (a) Using a screwdriver, remove the 2 shifting key springs.

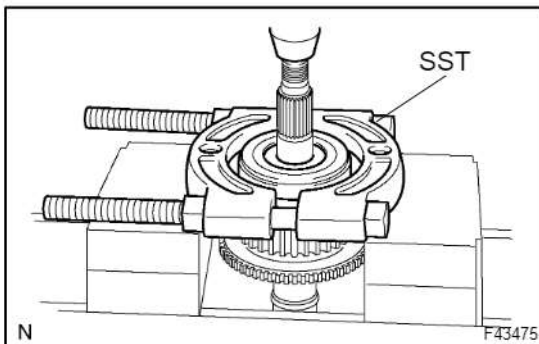
86. REMOVE SYNCHROMESH SHIFTING KEY TRANSFER DRIVE

- (a) Remove the 3 shifting keys.

87. REMOVE FRONT DRIVE CLUTCH SLEEVE



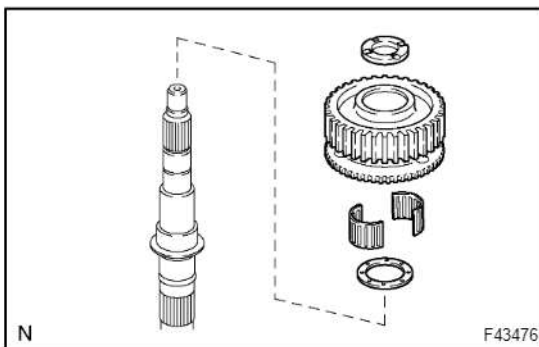
88. REMOVE TRANSFER SYNCHRONIZER RING SET



89. REMOVE TRANSFER OUTPUT SHAFT REAR RADIAL BALL BEARING

- (a) Using SST and a press, remove the output shaft rear radial ball bearing.

SST 09555-55010

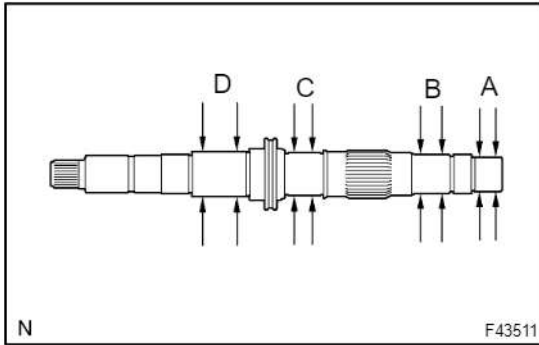


90. REMOVE TRANSFER OUTPUT SHAFT SPACER NO.1

91. REMOVE TRANSFER DRIVE SPROCKET SUB-ASSY

92. REMOVE TRANSFER DRIVE SPROCKET BEARING

93. REMOVE TRANSFER OUTPUT SHAFT PLATE WASHER

**94. INSPECT TRANSFER OUTPUT SHAFT REAR**

- (a) Using a micrometer, measure the outer diameter of the output shaft rear journal surface.

Standard diameter:

Part A: 27.98 – 27.99 mm (1.1016 – 1.1020 in.)

Part B: 31.98 – 32.00 mm (1.2591 – 1.2598 in.)

Part C: 34.98 – 35.00 mm (1.3772 – 1.3780 in.)

Part D: 36.98 – 37.00 mm (1.4559 – 1.4567 in.)

Minimum Diameter:

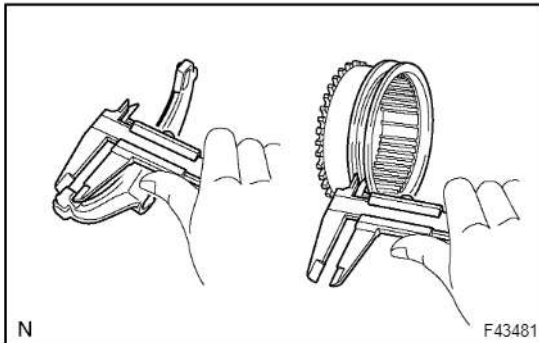
Part A: 27.98 mm (1.1016 in.)

Part B: 31.98 mm (1.2591 in.)

Part C: 34.98 mm (1.3772 in.)

Part D: 36.98 mm (1.4559 in.)

If the outer diameter is less than the minimum, replace the output shaft rear.

**95. INSPECT HIGH AND LOW CLUTCH SLEEVE AND GEAR SHIFT FORK NO.2 CLEARANCE**

- (a) Using vernier calipers, measure the thickness of the gear shift fork No.2 claw.

Thickness: 10 mm (0.3937 in.)

- (b) Using vernier calipers, measure the groove of the high and low clutch sleeve.

Distance: 10.5 mm (0.4134 in.)

- (c) Calculate a clearance between the high and low clutch sleeve and gear shift fork No.2 clearance.

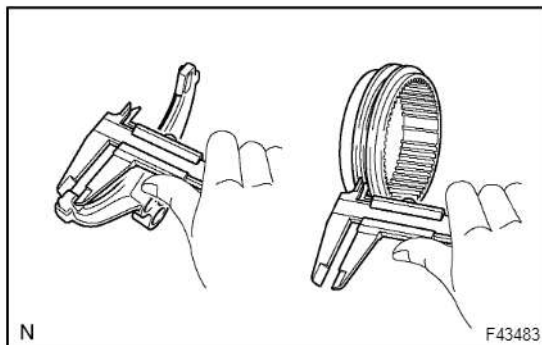
Standard clearance:

0.26 – 0.84 mm (0.0102 – 0.0331 in)

Maximum clearance:

0.84 mm (0.0331 in.)

If the clearance exceeds the maximum, replace the high and low clutch sleeve or gear shift fork No.2.



96. INSPECT FRONT DRIVE CLUTCH SLEEVE AND GEAR SHIFT FORK NO.1

- (a) Using vernier calipers, measure the thickness of the gear shift fork No.1 claw.

Thickness: 10 mm (0.3937 in.)

- (b) Using vernier calipers, measure the groove of the front drive clutch sleeve.

Distance: 10.5 mm (0.4134 in.)

- (c) Calculate a clearance between the front drive clutch sleeve and gear shift fork No.1.

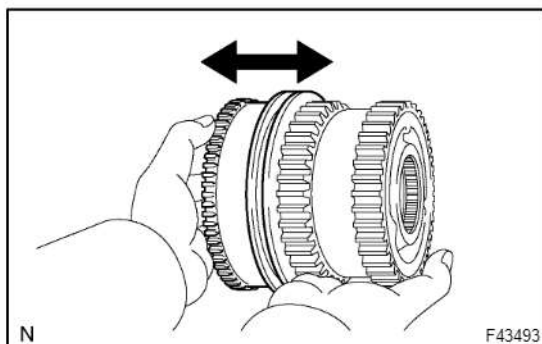
Standard clearance:

0.26 – 0.84 mm (0.0102 – 0.0331 in.)

Maximum clearance:

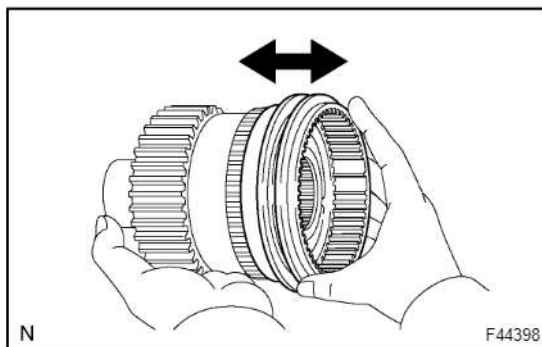
0.84 mm (0.0331 in.)

If the clearance exceeds the maximum, replace the front drive clutch sleeve or gear shift fork No.1.



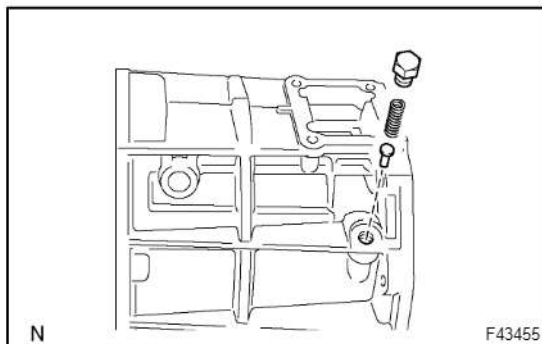
97. INSPECT CENTER DIFFERENTIAL CASE AND HIGH AND LOW CLUTCH SLEEVE

- (a) Check that the tip of the spline gear of the front drive clutch sleeve is not worn.
- (b) Install the front drive clutch sleeve to the center differential case and check that the front drive clutch sleeve moves smoothly.



98. INSPECT CENTER DIFFERENTIAL CASE AND FRONT DRIVE CLUTCH SLEEVE

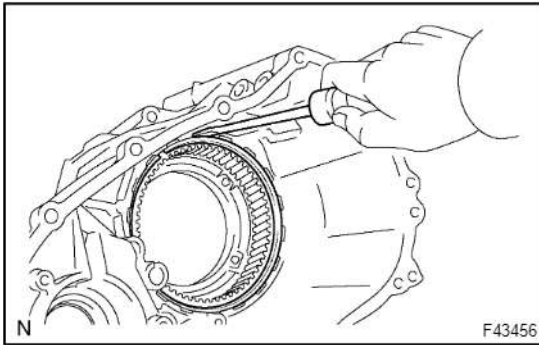
- (a) Check that the tip of the spline gear of the front drive clutch sleeve is not worn.
- (b) Install the front drive clutch sleeve to the center differential case and check that the front drive clutch sleeve moves smoothly.



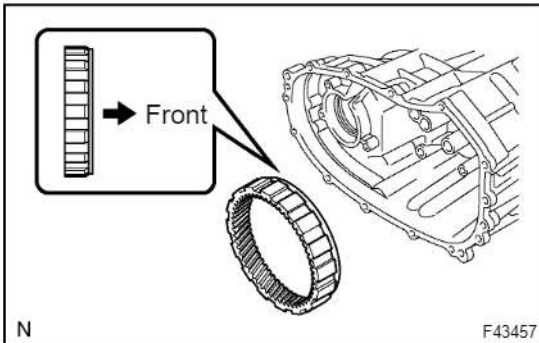
99. REMOVE TRANSFER CASE PLUG

100. REMOVE SPRING, COMPRESSION

101. REMOVE PIN, W/HEAD

**102. REMOVE TRANSFER LOW PLANETARY RING GEAR**

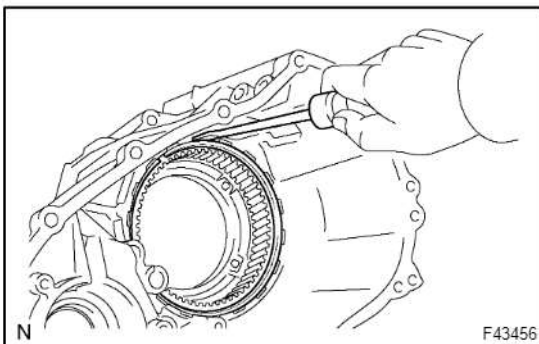
- (a) Using a screwdriver, remove the snap ring.



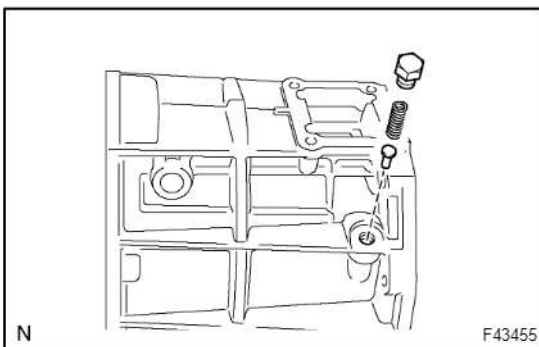
- (b) Remove the low planetary ring gear from the front case.

103. INSTALL TRANSFER LOW PLANETARY RING GEAR

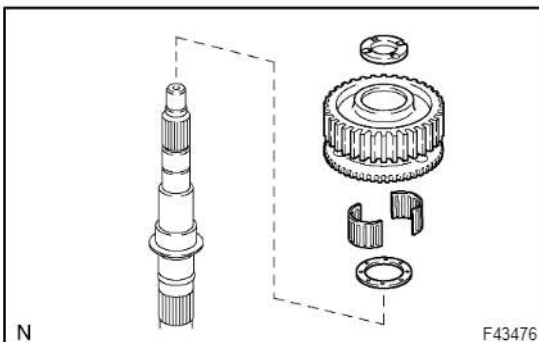
- (a) Install the low planetary ring gear to the front case.

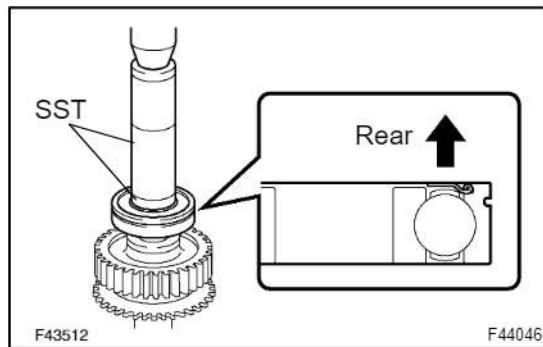


- (b) Using a screwdriver, install the snap ring.

**104. INSTALL PIN, W/HEAD****105. INSTALL SPRING, COMPRESSION****106. INSTALL TRANSFER CASE PLUG**

Torque: 18.6 N·m (190 kgf·cm, 14 ft·lbf)

**107. INSTALL TRANSFER OUTPUT SHAFT PLATE WASHER****108. INSTALL TRANSFER DRIVE SPROCKET BEARING****109. INSTALL TRANSFER DRIVE SPROCKET SUB-ASSY****110. INSTALL TRANSFER OUTPUT SHAFT SPACER NO.1**



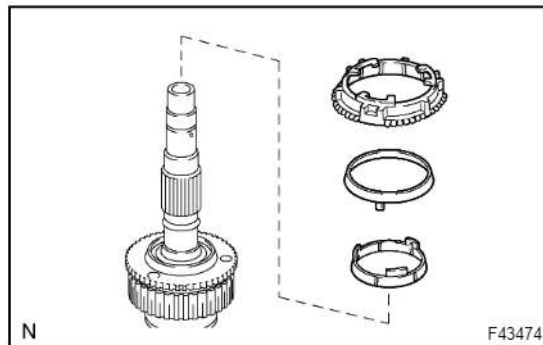
111. INSTALL TRANSFER OUTPUT SHAFT REAR RADIAL BALL BEARING

- (a) Using SST and a press, install a new output shaft rear radial ball bearing.

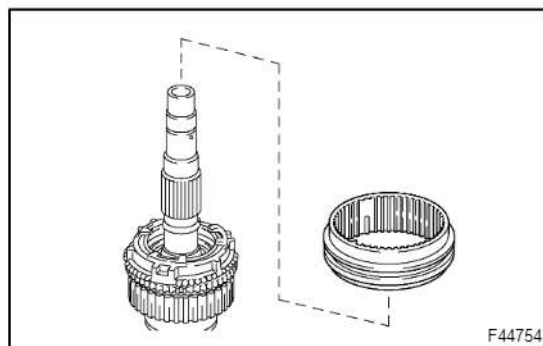
SST 09316-60011 (09316-00011, 09316-00071)

NOTICE:

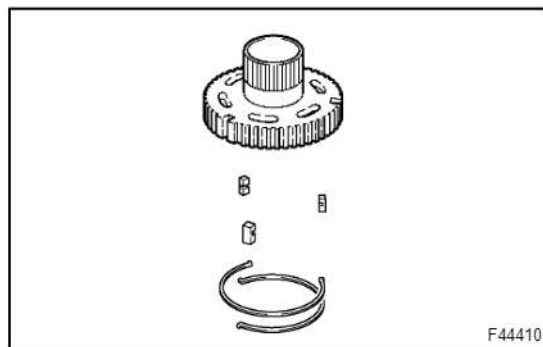
Install the output shaft rear radial ball bearing so that the bearing snap ring groove faces to the rear.



112. INSTALL TRANSFER SYNCHRONIZER RING SET



113. INSTALL FRONT DRIVE CLUTCH SLEEVE



114. INSTALL SYNCHROMESH SHIFTING KEY TRANSFER DRIVE

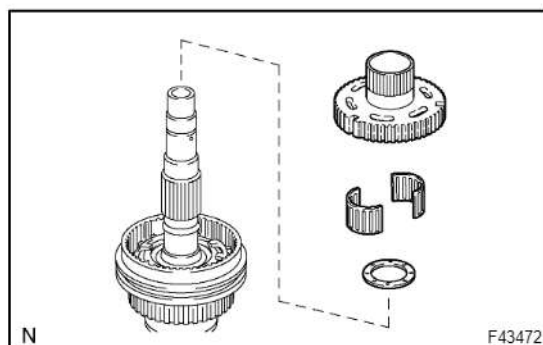
- (a) Install the 3 shifting keys to the clutch hub.

115. INSTALL TRANSFER SYNCHROMESH SHIFTING KEY SPRING

- (a) Install the 2 shifting key springs to the clutch hub.

NOTICE:

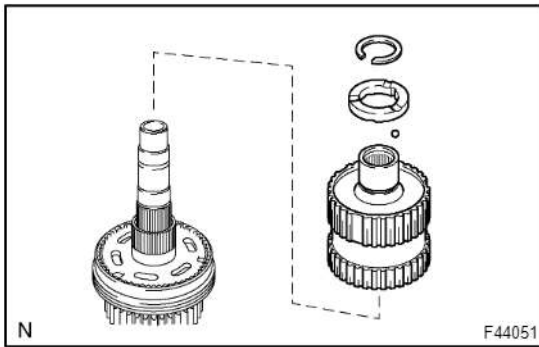
Position the shifting key springs so that their end gaps are not aligned.



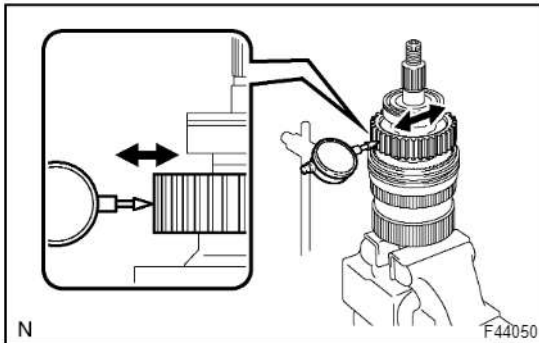
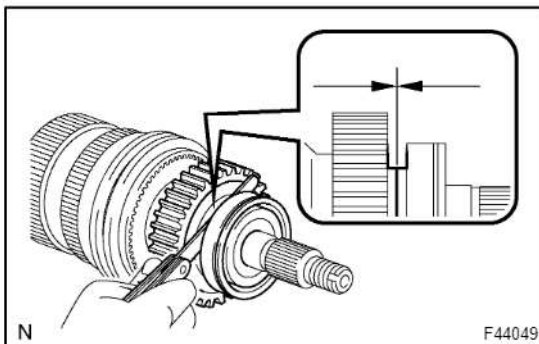
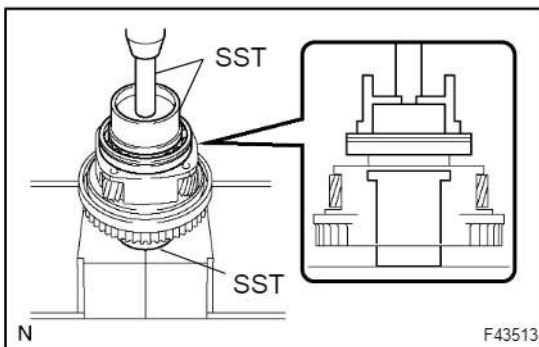
116. INSTALL TRANSFER OUTPUT SHAFT PLATE WASHER

117. INSTALL TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING

118. INSTALL TRANSFER CLUTCH HUB

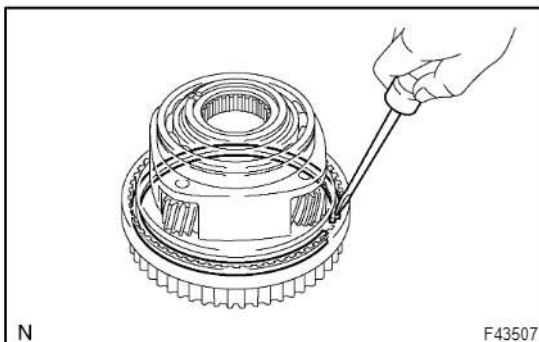
**119. INSTALL CENTER DIFFERENTIAL CASE****120. INSTALL TRANSFER OUTPUT SHAFT SPACER BALL****121. INSTALL TRANSFER OUTPUT SHAFT SPACER NO.2****122. INSTALL TRANSFER LOW PLANETARY RING GEAR HOLE SNAP RING**

- (a) Using a snap ring expander, install the snap ring.

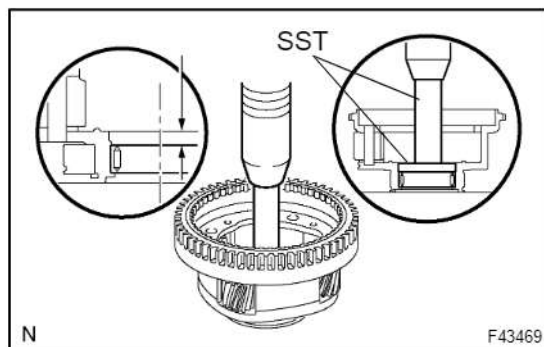
**123. INSPECT DRIVE SPROCKET RADIAL CLEARANCE**
(See step 77)**124. INSPECT DRIVE SPROCKET THRUST CLEARANCE**
(See step 76)**125. INSTALL TRANSFER INPUT SHAFT BEARING**

- (a) Using SST and a press, install a new bearing with the groove facing forward.

SST 09223-15020, 09515-30010, 09950-70010
(09951-07100)

**126. INSTALL TRANSFER LOW PLANETARY GEAR SPLINE PIECE**

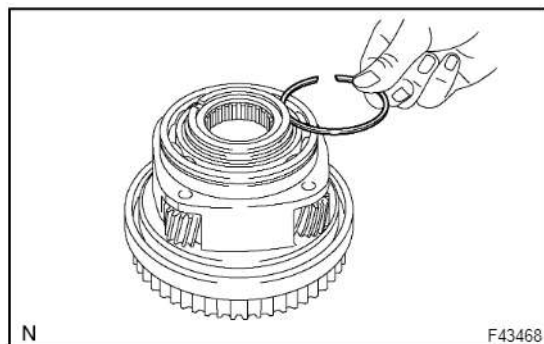
- (a) Using a screwdriver, install the spline piece and low planetary gear with the snap ring.



127. INSTALL TRANSFER LOW PLANETARY GEAR BEARING

- (a) Using SST and a press, drive in a new bearing.
SST 09950-60010 (09951-00570), 09950-70010 (09951-07100)

Bearing press in depth: 7.7 – 8.3 mm (0.303 – 0.327 in.)

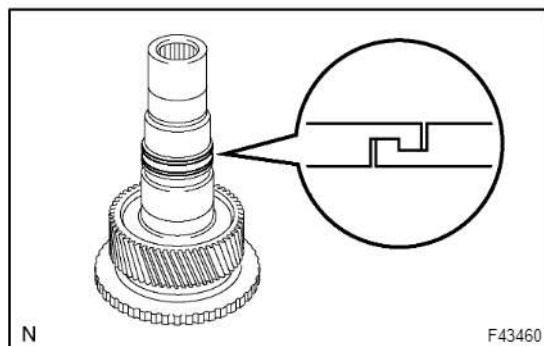


128. INSTALL TRANSFER INPUT BEARING SHAFT SNAP RING

- (a) Select a snap ring that allows the minimum axial play.

Mark	Thickness mm (in.)
1	1.45 – 1.50 (0.0571 – 0.0591)
2	1.50 – 1.55 (0.0591 – 0.0610)
3	1.55 – 1.60 (0.0610 – 0.0630)
4	1.60 – 1.65 (0.0630 – 0.0650)
5	1.65 – 1.70 (0.0650 – 0.0669)

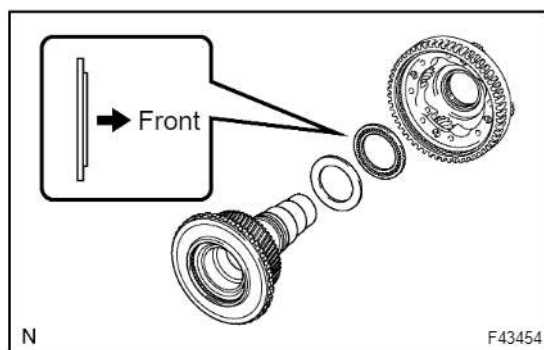
- (b) Using a snap ring expander, install a new snap ring.



129. INSTALL TRANSFER INPUT SHAFT SEAL RING NO.1

HINT:

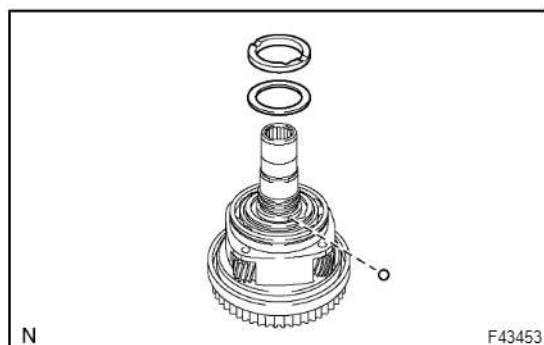
- ★ Apply gear oil to the oil seal ring.
- ★ Engage securely to eliminate clearance as shown in the illustration.



130. INSTALL TRANSFER LOW PLANETARY GEAR BEARING

131. INSTALL TRANSFER THRUST BEARING RACE NO.1

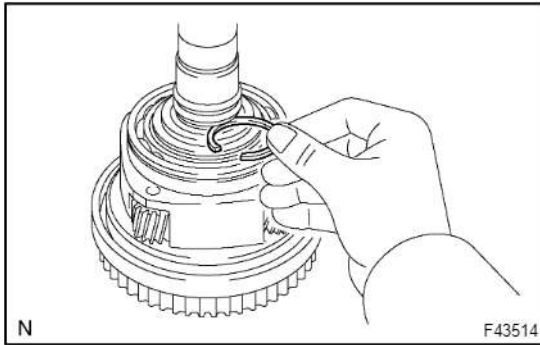
132. INSTALL SHAFT, TRANSFER INPUT



133. INSTALL MANUAL TRANSFER PLANETARY CARR WASHER

134. INSTALL TRANSFER INPUT GEAR STOPPER BALL

135. INSTALL TRANSFER INPUT GEAR STOPPER

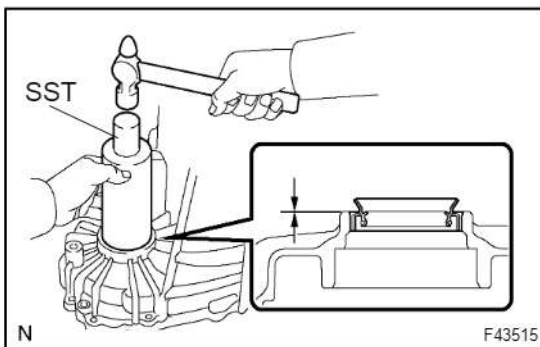


136. INSTALL TRANSFER INPUT GEAR STOPPER SHAFT SNAP RING

- (a) Select a input gear stopper snap ring that allows 0.05 – 0.15 mm (0.0020 – 0.0059 in.) axial play.

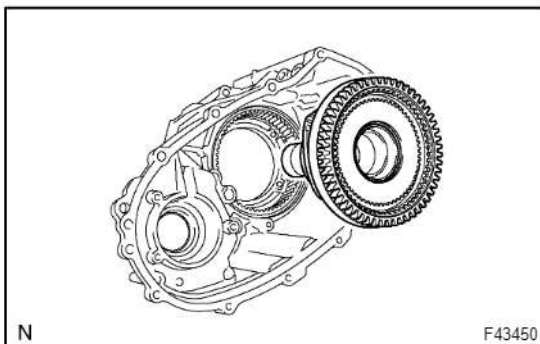
Mark	Thickness mm (in.)
A	2.10 – 2.15 (0.0827 – 0.0846)
B	2.15 – 2.20 (0.0846 – 0.0866)
C	2.20 – 2.25 (0.0866 – 0.0886)
D	2.25 – 2.30 (0.0886 – 0.0906)
E	2.30 – 2.35 (0.0906 – 0.0925)
F	2.35 – 2.40 (0.0925 – 0.0945)
G	2.40 – 2.45 (0.0945 – 0.0965)
H	2.45 – 2.50 (0.0965 – 0.0984)
J	2.50 – 2.55 (0.0984 – 0.1004)
K	2.55 – 2.60 (0.1004 – 0.1024)
L	2.60 – 2.65 (0.1024 – 0.1043)
M	2.65 – 2.70 (0.1043 – 0.1063)
N	2.70 – 2.75 (0.1063 – 0.1083)
P	2.75 – 2.80 (0.1083 – 0.1102)
Q	2.80 – 2.85 (0.1102 – 0.1122)
R	2.85 – 2.90 (0.1122 – 0.1142)
S	2.90 – 2.95 (0.1142 – 0.1161)
T	2.95 – 3.00 (0.1161 – 0.1181)
U	3.00 – 3.05 (0.1181 – 0.1201)

- (b) Using a snap ring expander, install a new input gear stopper snap ring.



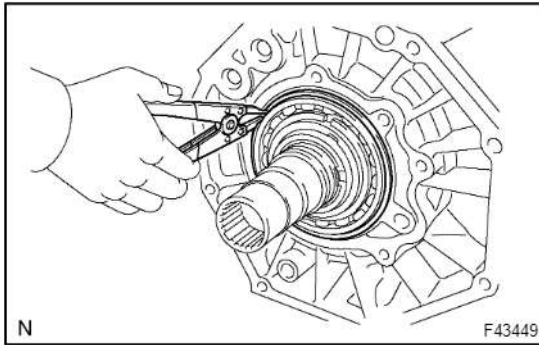
137. INSTALL TRANSFER CASE OIL SEAL

- (a) Using SST and a hammer, drive in a new oil seal until its surface is flush with the case upper surface.
SST 09316-60011 (09316-00011)
- (b) Coat the lip of the oil seal with MP grease.

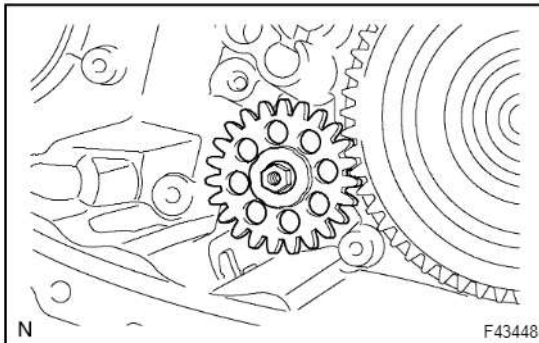


138. INSTALL LOW PLANETARY GEAR ASSY W/INPUT SHAFT SUB-ASSY

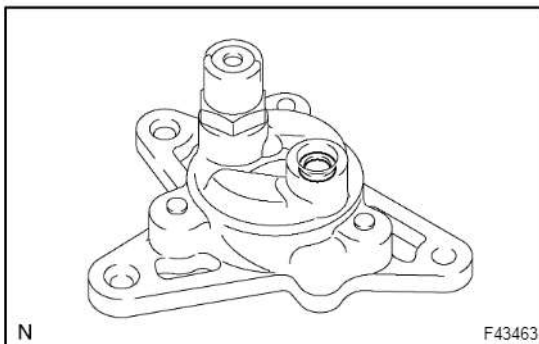
- (a) Install the low planetary gear assy and input shaft sub-assy.



- (b) Using a snap ring expander, install the snap ring.

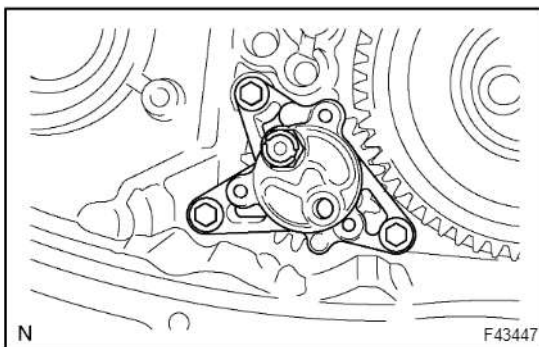


139. INSTALL TRANSFER OIL PUMP GEAR



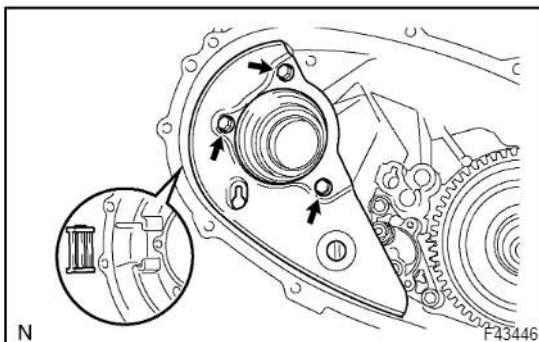
140. INSTALL TRANSFER OIL PUMP BODY O-RING

- (a) Coat a new O-ring with gear oil and install it to the oil pump body.



141. INSTALL TRANSFER OIL PUMP BODY SUB-ASSY

- (a) Install the oil pump body sub-assy with the 3 bolts.
Torque: 7.5 N·m (80 kgf·cm, 69 in.·lbf)



142. INSTALL TRANSFER CASE MAGNET

143. INSTALL TRANSFER OIL SEPARATOR SUB-ASSY

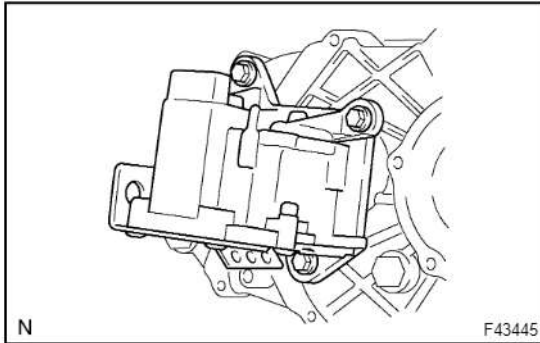
- (a) Install the oil separator sub-assy with the 3 bolts.
Torque: 7.5 N·m (80 kgf·cm, 69 in.·lbf)

144. INSTALL TRANSFER CASE NO.1 PLUG

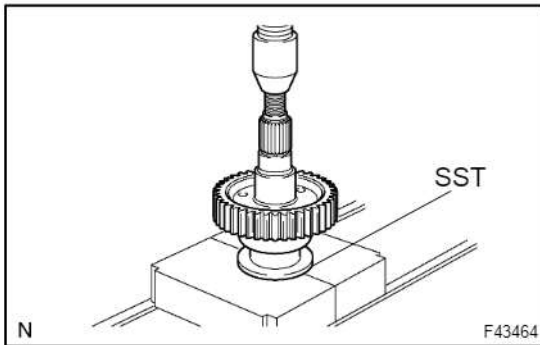
- (a) Install the case No.1 plug (filler plug) and a new gasket.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

145. INSTALL TRANSFER CASE NO.1 PLUG

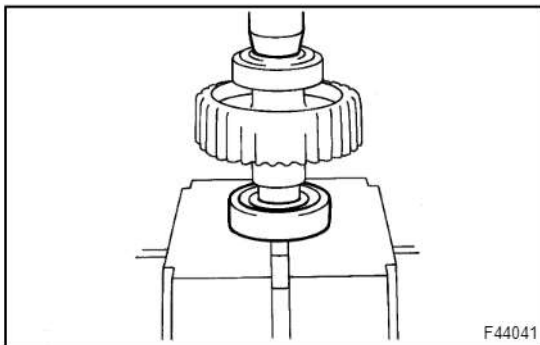
- (a) Install the case No.1 plug (drain plug) and a new gasket.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

**146. INSTALL TRANSFER SHIFT ACTUATOR ASSY**

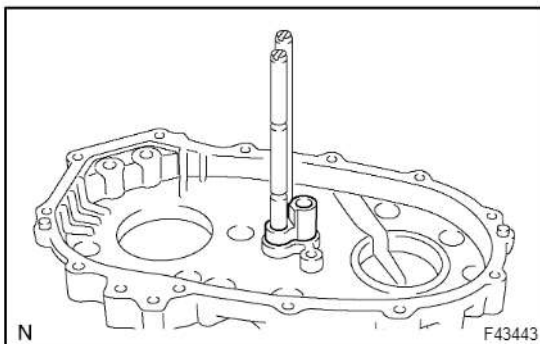
- (a) Install the actuator assy with the 3 bolts.
Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)
 (b) Using a screwdriver and hammer, drive in the snap ring.

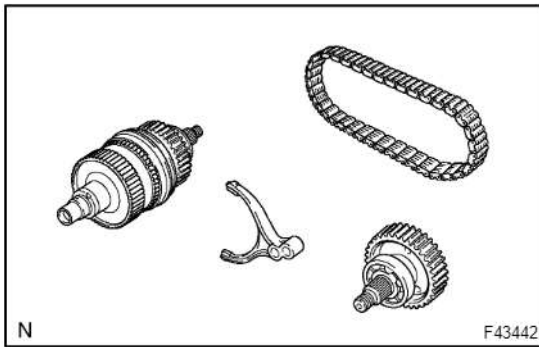
**147. INSTALL TRANSFER INPUT GEAR RADIAL BALL BEARING**

- (a) Using SST and a press, install a new input gear radial ball bearing.
 SST 09316-60011 (09316-00031)

**148. INSTALL TRANSFER DRIVEN SPROCKET BEARING**

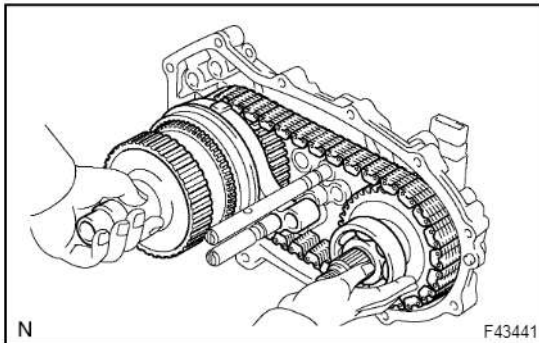
- (a) Using a press, install a new driven sprocket bearing.

**149. INSTALL NO.2 STOPPER TRANSFER SHIFT SHAFT**



150. INSTALL REAR OUTPUT SHAFT SUB-ASSY, GEAR SHIFT FORK NO.1, FRONT DRIVE CLUTCH SLEEVE, FRONT DRIVE CHAIN AND DRIVEN SPROCKET

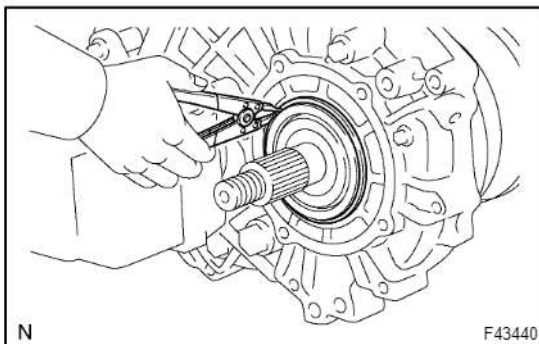
- (a) Install the rear output shaft sub-assy, gear shift fork No.1 and drive sprocket to the front drive chain.



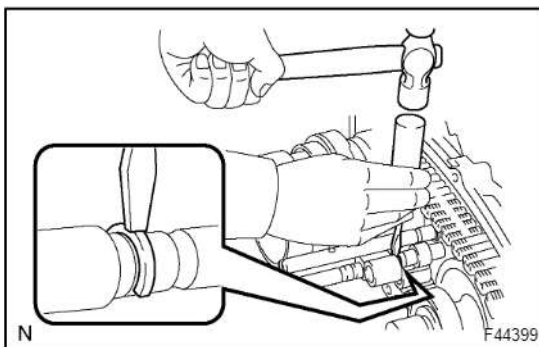
- (b) Install the rear output shaft sub-assy, gear shift fork No.1, front drive clutch sleeve, front drive chain and driven sprocket sub-assy to the case rear.

HINT:

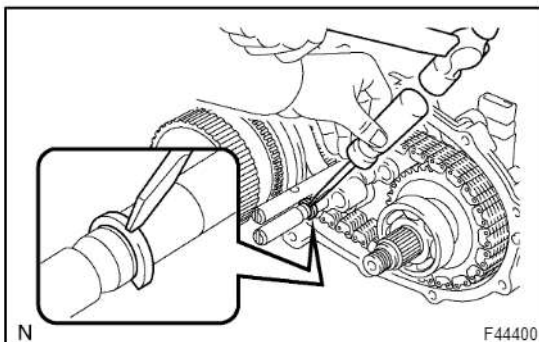
Check that the rear output shaft sub-assy and driven sprocket sub-assy turn lightly.



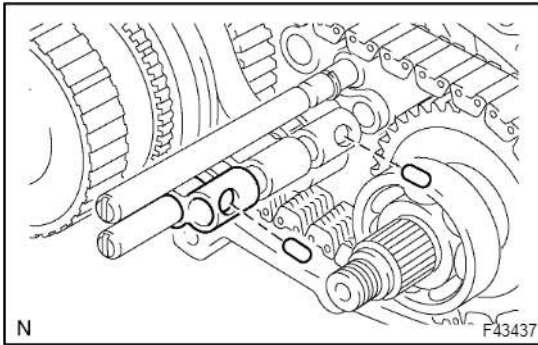
- (c) Using a snap ring expander, install the snap ring.



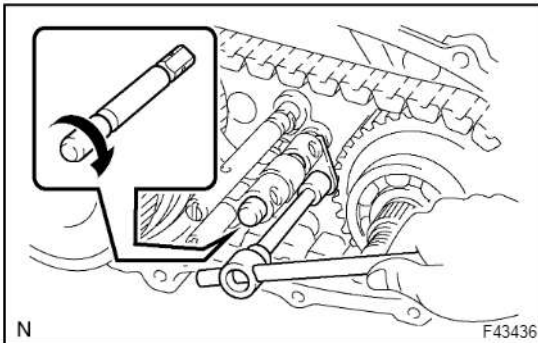
- (d) Using a screwdriver and hammer, drive in the snap ring.



- (e) Using a screwdriver and hammer, drive in the snap ring.



- 151. INSTALL NO.2 STOPPER TRANSFER SHIFT SHAFT**
152. INSTALL OR ROLLER SHIFT INTER-LOCK PIN

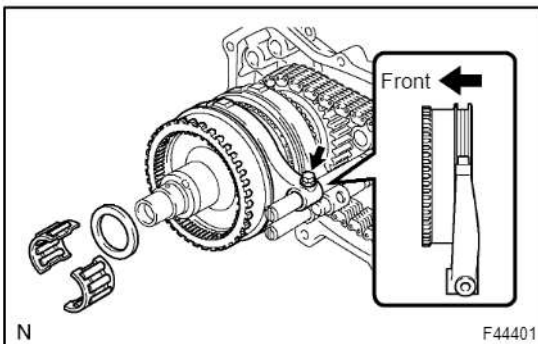


- 153. INSTALL TRANSFER FRONT DRIVE SHIFT FORK SHAFT**

- (a) Turn the front drive shift fork shaft, and install it on the rear case aligning the cut out position and the inter-lock pin position.

- 154. INSTALL TRANSFER SHIFT SHAFT STOPPER**

- (a) Install the shift shaft stopper with the bolt.
Torque: 19 N·m (195 kgf·cm, 14 ft·lbf)



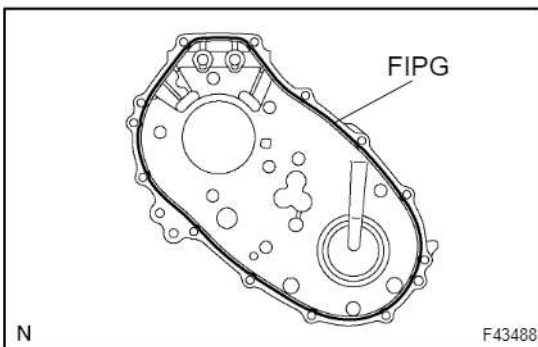
- 155. INSTALL TRANSFER GEAR SHIFT FORK NO.2 W/TRANSFER HIGH AND LOW CLUTCH SLEEVE**

- (a) Install the gear shift fork No.2 and high and low clutch sleeve.
 (b) Install the bolt.

Torque: 24 N·m (245 kgf·cm, 18 ft·lbf)

- 156. INSTALL TRANSFER OUTPUT SHAFT SPACER**

- 157. INSTALL TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING**

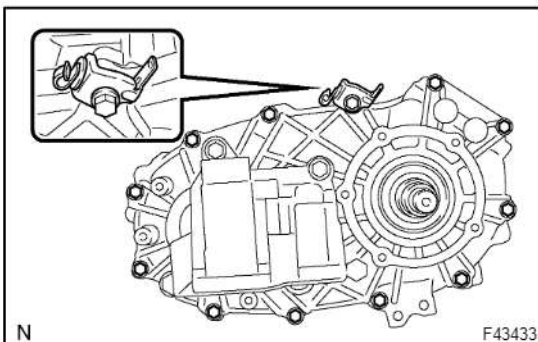


- 158. INSTALL TRANSFER CASE REAR**

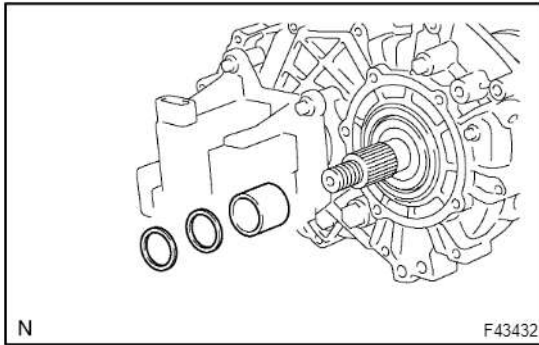
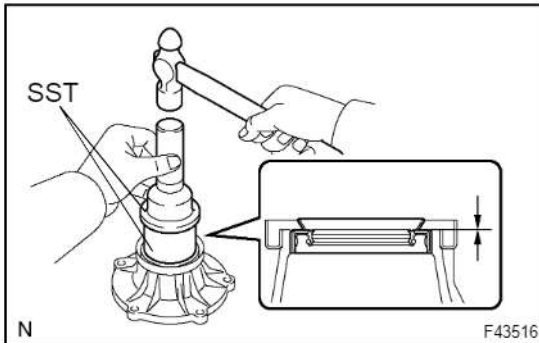
- (a) Apply FIPG to the case rear, as shown.

FIPG:

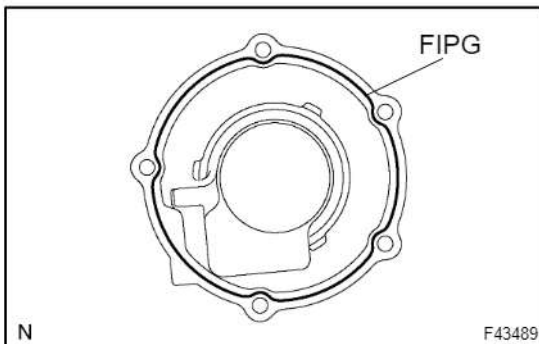
Part No. 08826-00090, THREE BOND 1281 or equivalent



- (b) Install the clamp and case rear with the 12 bolts.
Torque: 28 N·m (285 kgf·cm, 21 ft·lbf)

**159. INSTALL COLLAR****160. INSTALL TRANSFER OUTPUT WASHER****161. INSTALL OIL (TRANSFER EXTENSION FRONT HOUSING SUB-ASSY) SEAL**

- (a) Using SST and a hammer, drive in a new oil seal until its surface is flush with the housing upper surface.
SST 09223-46011, 09631-32020
- (b) Coat the lip of the oil seal with MP grease.

**162. INSTALL TRANSFER EXTENSION HOUSING SUB-ASSY FRONT**

- (a) Apply FIPG to the extension housing sub-assy rear, as shown.

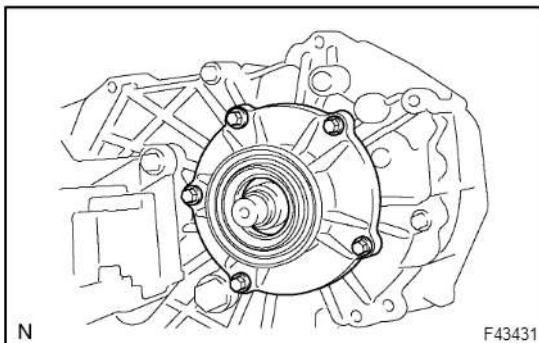
FIPG:

Part No. 08826-00090, THREE BOND 1281 or equivalent

- (b) Apply sealant to the bolt threads.

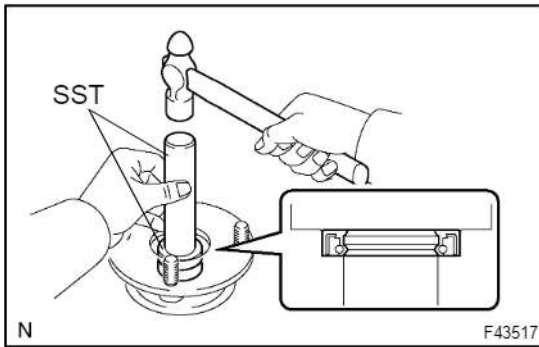
Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent



- (c) Install the extension housing sub-assy rear with the 5 bolts.

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)



163. INSTALL TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

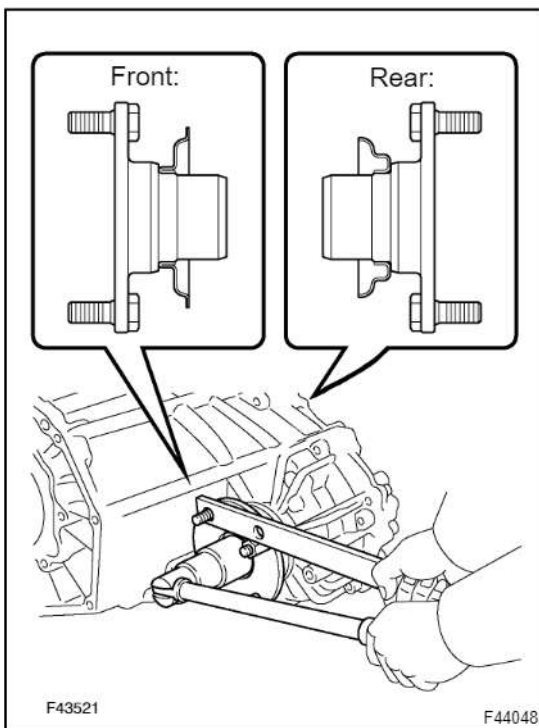
- (a) Using SST and a hammer, drive in a new oil seal (front).
SST 09950-60010 (09951-00320), 09950-70010 (09951-07100)

- (b) Coat the lip of the oil seal with MP grease.

164. INSTALL TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

- (a) Drive in a new oil seal (rear) in the same way as the oil seal (front).

SST 09950-60010 (09951-00320), 09950-70010 (09951-07100)



165. INSTALL OUTPUT SHAFT COMPANION FLANGE SUB-ASSY

- (a) Install the companion flange sub-assy (front) to the drive sprocket sub-assy.
- (b) Using SST to hold the companion flange, install a new companion flange lock nut.

Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

- (c) Using a chisel and hammer, stake the companion flange lock nut.

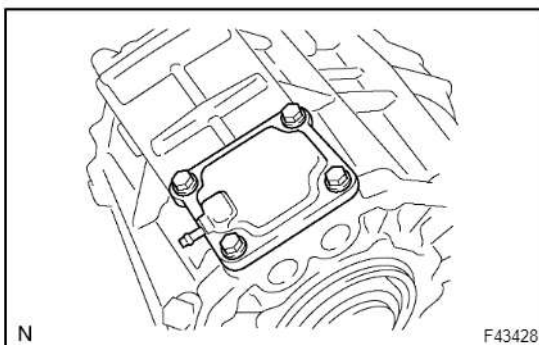
SST 09330-00021

166. INSTALL OUTPUT SHAFT COMPANION FLANGE SUB-ASSY

- (a) Using SST, install the companion flange sub-assy (rear) in the same way as the companion flange sub-assy (front).

Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

SST 09330-00021

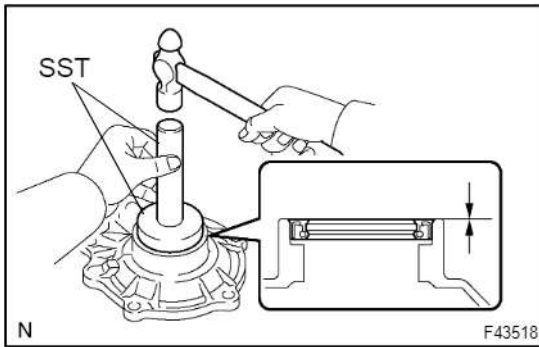


167. INSTALL BREATHER OIL DEFLECTOR

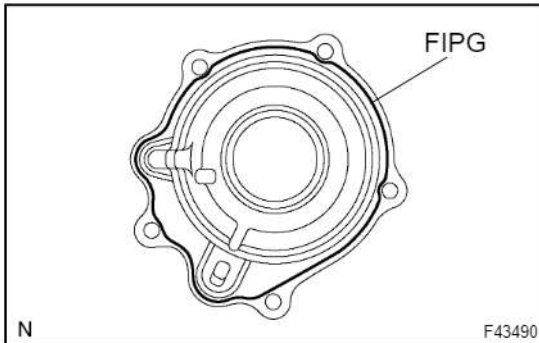
168. INSTALL TRANSFER CASE COVER SUB-ASSY

- (a) Install the case cover sub-assy with the 4 bolts.

Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

**169. INSTALL TRANSFER COVER TYPE T OIL SEAL**

- Using SST and a hammer, drive in a new oil seal until its surface is flush with the retainer upper surface.
 - Coat the lip of the oil seal with MP grease.
- SST 09950-60010 (09951-00590), 09950-70010 (09951-07100)

**170. INSTALL TRANSFER RH BEARING RETAINER SUB-ASSY**

- Apply FIPG to the front bearing retainer sub-assy, as shown.

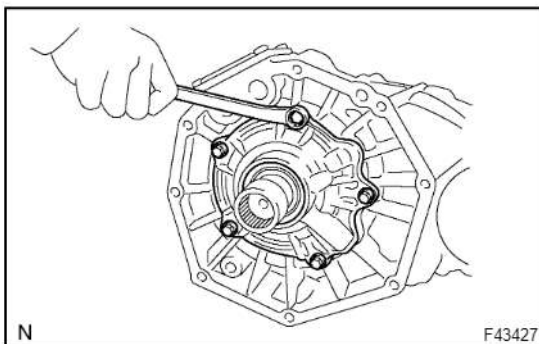
FIPG:

Part No. 08826-00090, THREE BOND 1281 or equivalent

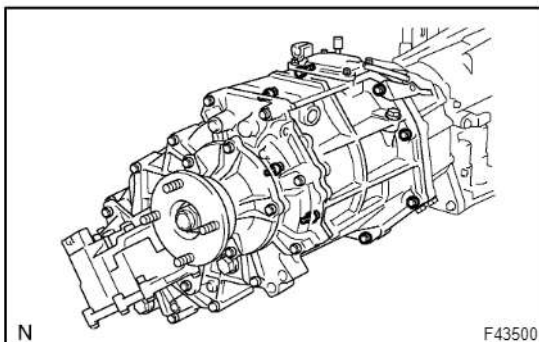
- Apply sealant to the bolt thread.

Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent

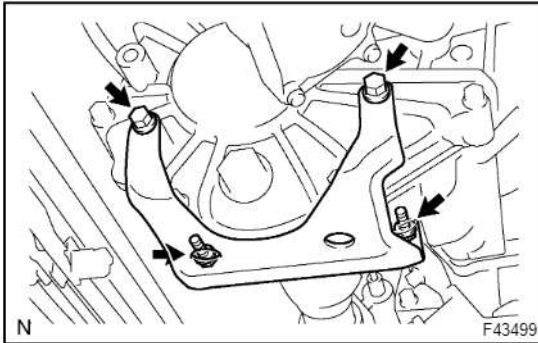


- Install the front bearing retainer sub-assy with the 5 bolts.
Torque: 11.5 N·m (117 kgf·cm, 8 ft·lbf)

171. INSTALL HOSE**172. INSTALL TRANSFER ASSY**

- Install the transfer to the automatic transmission.
- Install the 2 clamps and 8 bolts.
Torque: 24 N·m (240 kgf·cm, 17 ft·lbf)

- 173. INSTALL AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29)
- 174. CONNECT FRONT DIFFERENTIAL ASSY
- 175. INSTALL MANIFOLD STAY NO.2 (See page 14-34)
- 176. INSTALL MANIFOLD STAY (See page 14-34)
- 177. INSTALL STARTER ASSY (See page 14-34)
- 178. CONNECT WIRE HARNESS (See page 40-29)
- 179. CONNECT CONNECTOR (See page 40-29)
- 180. INSTALL FRAME CROSSMEMBER SUB-ASSY NO.3 (See page 40-29)



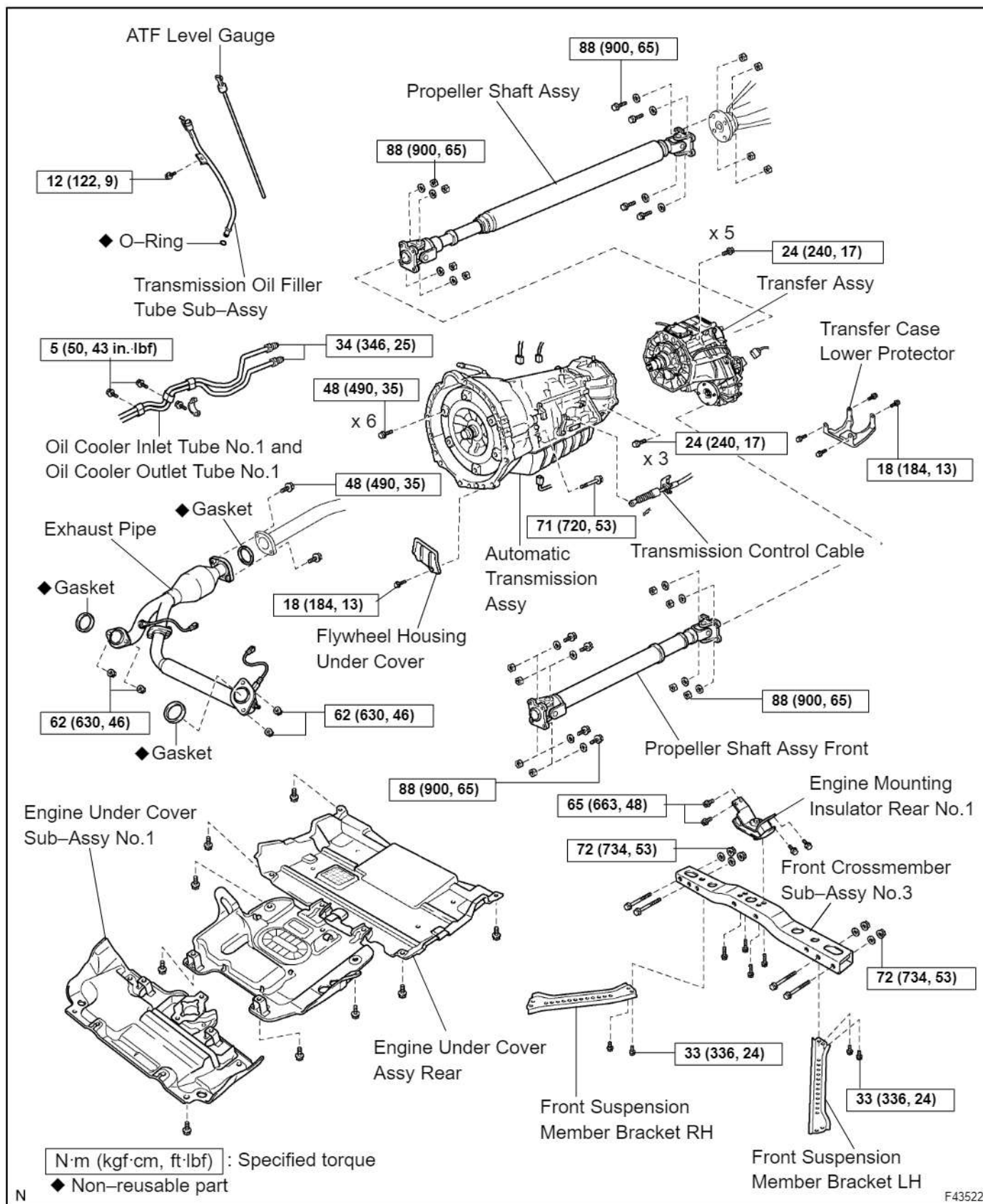
- 181. INSTALL TRANSFER CASE LOWER PROTECTOR
 - (a) Install the transfer case lower protector with the 4 bolts.
Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

- 182. INSTALL TRANSMISSION CONTROL CABLE BRACKET NO.1 (See page 40-29)
- 183. CONNECT TRANSMISSION CONTROL CABLE ASSY (See page 40-29)
- 184. INSTALL OIL COOLER INLET TUBE NO.1 (See page 40-29)
SST 09023-12700
- 185. CONNECT OIL COOLER OUTLET TUBE NO.1 (See page 40-29)
SST 09023-12700
- 186. INSTALL TRANSMISSION OIL FILLER TUBE SUB-ASSY (See page 40-29)
- 187. INSTALL FRONT SUSPENSION MEMBER BRACKET LH (See page 40-29)
- 188. INSTALL FRONT SUSPENSION MEMBER BRACKET (See page 40-29)
- 189. ADD TRANSFER OIL
- 190. ADD AUTOMATIC TRANSMISSION FLUID (See page 40-29)
- 191. INSPECT AUTOMATIC TRANSMISSION FLUID (See page 40-29)
- 192. INSTALL PROPELLER SHAFT ASSY (See page 30-11)
- 193. INSTALL PROPELLER SHAFT ASSY FRONT (See page 30-4)
- 194. INSTALL EXHAUST PIPE ASSY (See page 15-1)
- 195. CONNECT OXYGEN SENSOR (See page 15-1)
- 196. INSTALL ENGINE UNDER COVER ASSY REAR (See page 14-34)
- 197. INSTALL ENGINE UNDER COVER SUB-ASSY NO.1 (See page 14-34)
- 198. INSPECT AUTOMATIC TRANSMISSION FLUID (See page 40-29)
- 199. INSPECT SHIFT LEVER POSITION (See page 40-29)
- 200. CHECK FOR EXHAUST GAS LEAKS
- 201. WARM UP
- 202. DRIVING TEST

TRANSFER ASSY (VF4BM)

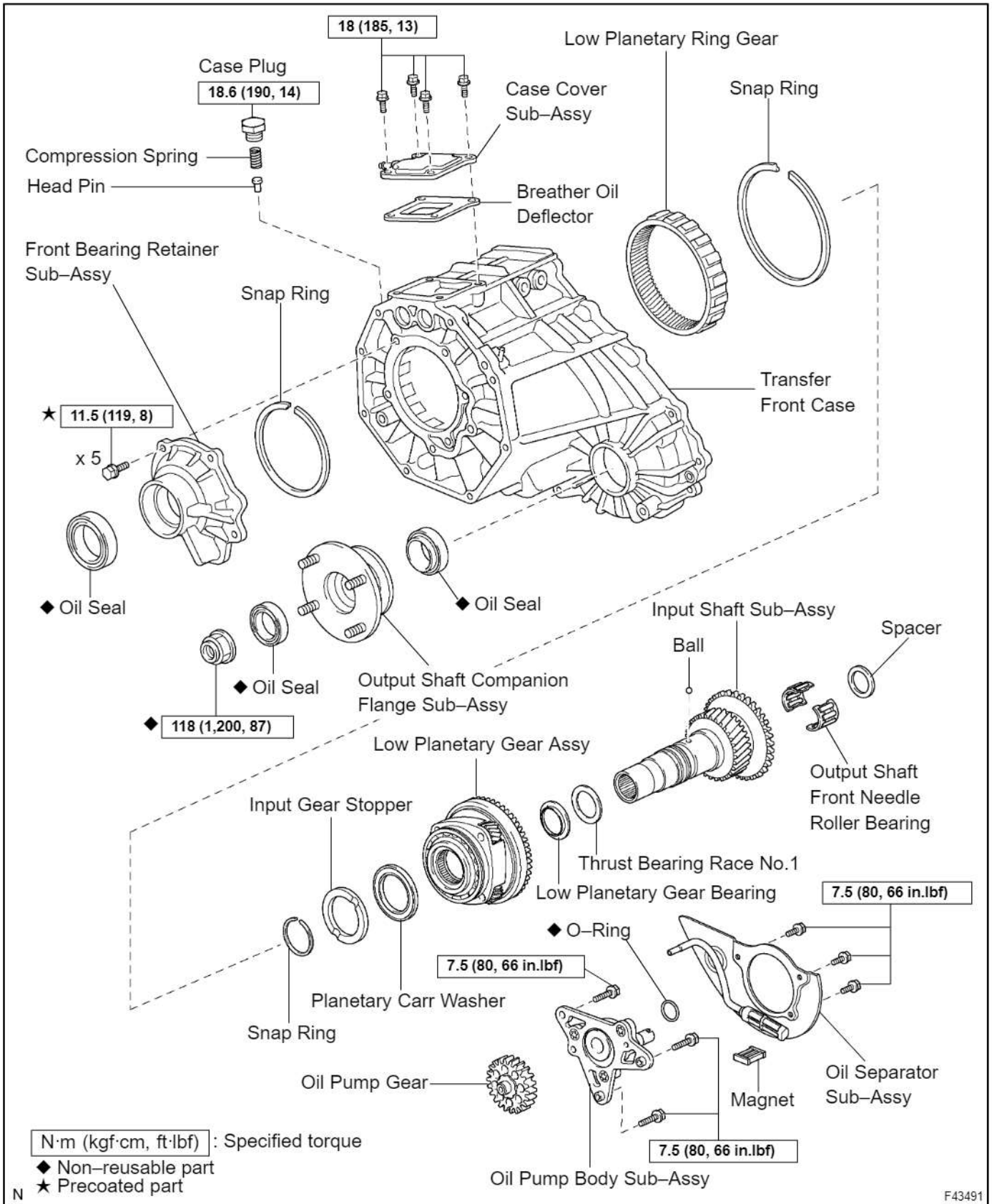
COMPONENTS

31032-01



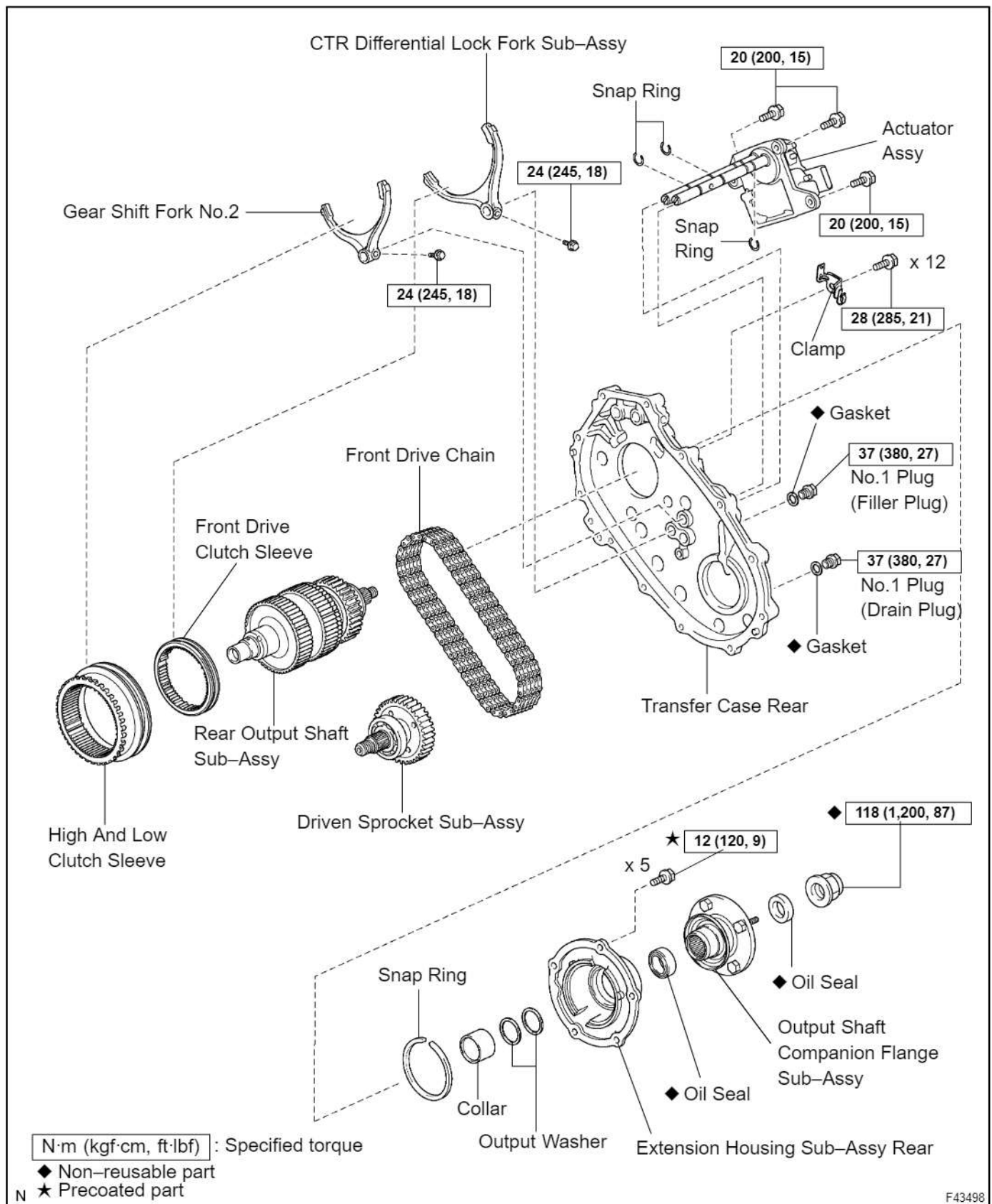
cardiagn.com

F43522



cardiagn.com

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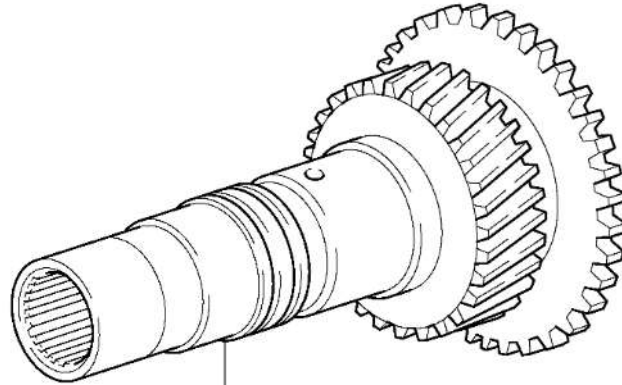
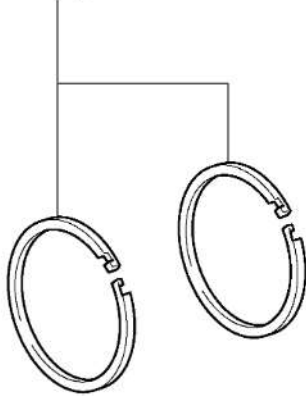


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Input Shaft Sub-Assy:

◆ Seal Ring No.1



Input Shaft

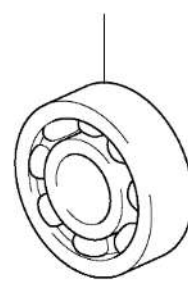
◆ Non-reusable part

N

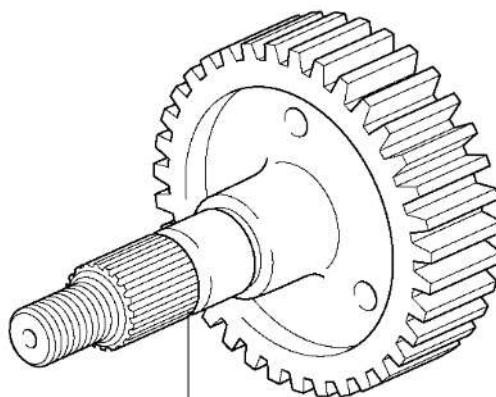
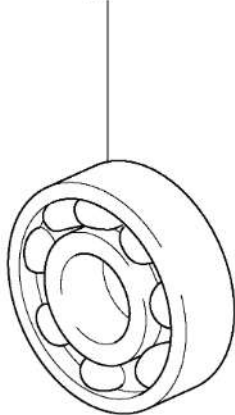
F43496

Driven Sprocket Sub-Assy:

◆ Input Gear Radial Ball Bearing



◆ Driven Sprocket Bearing

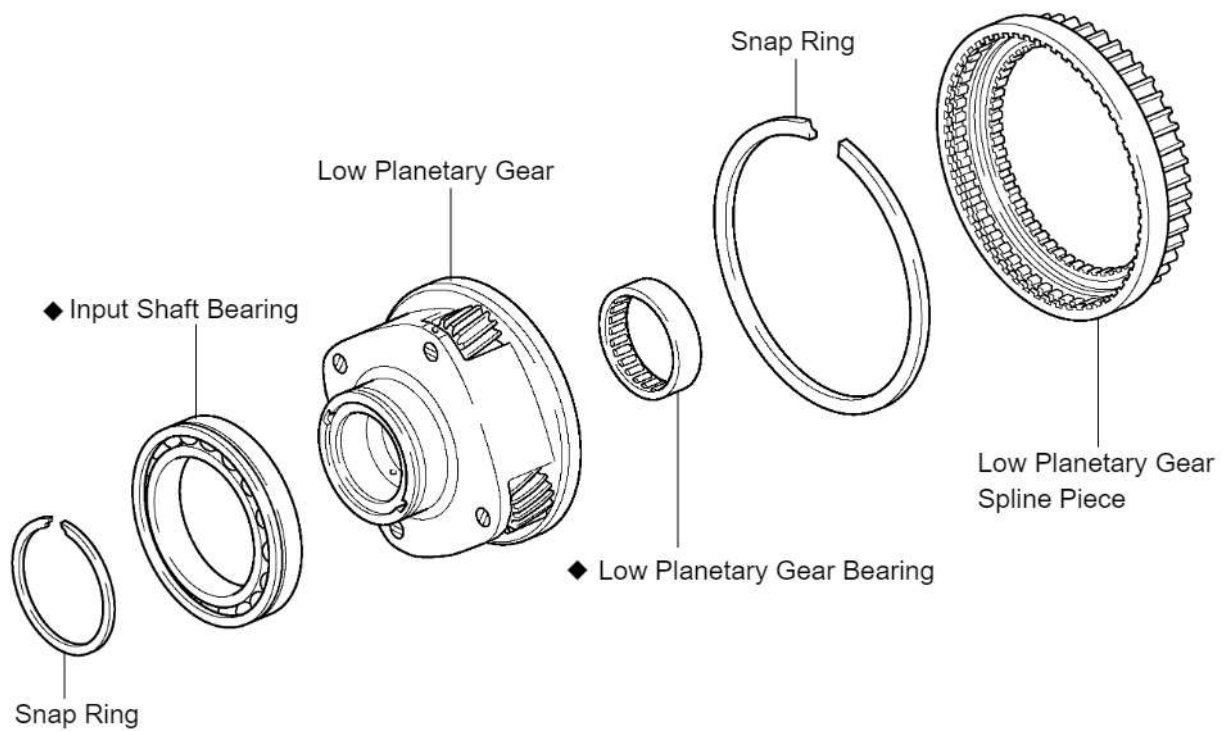


Driven Sprocket

◆ Non-reusable part

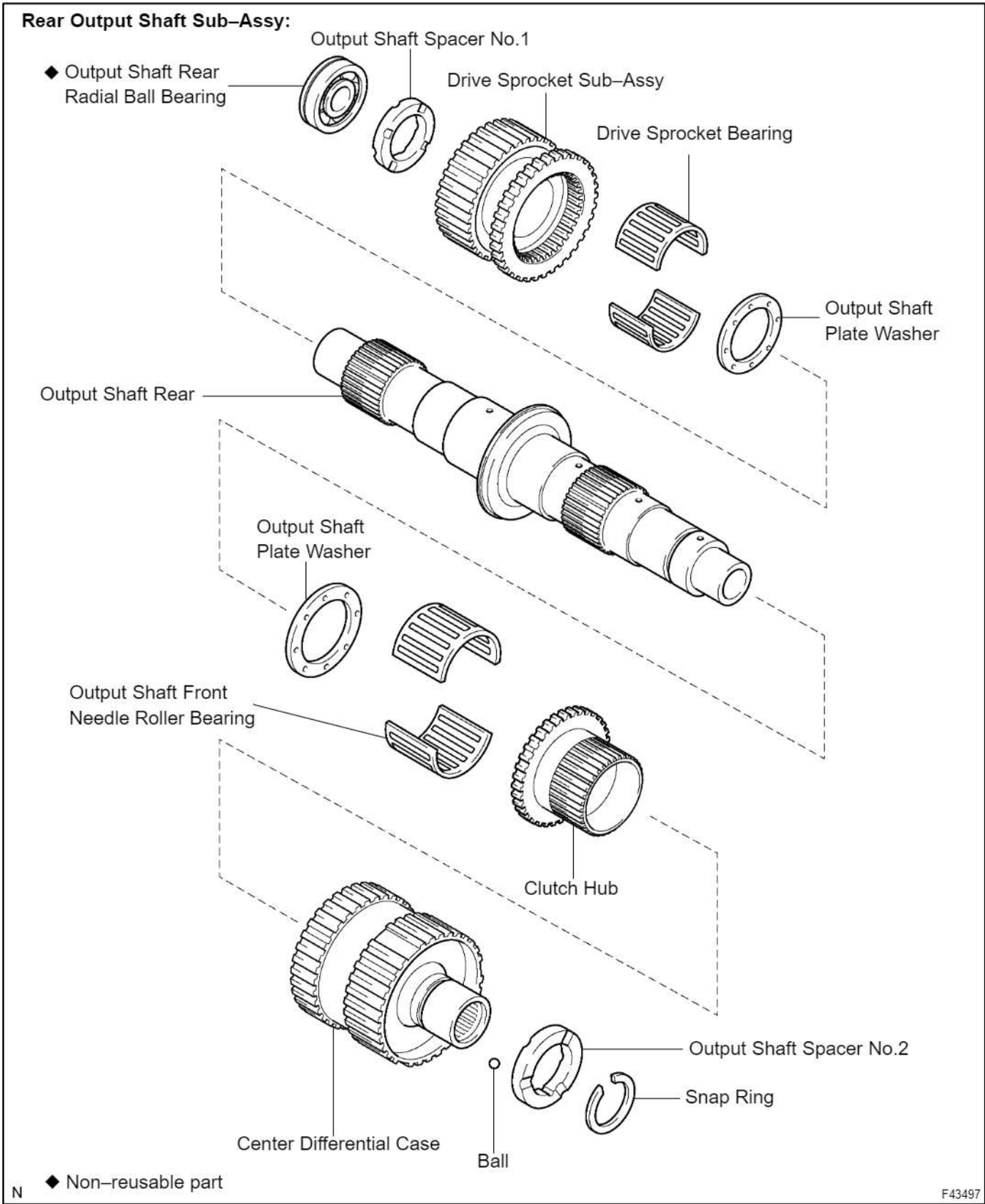
N

F43494

Low Planetary Gear Sub-Assy:

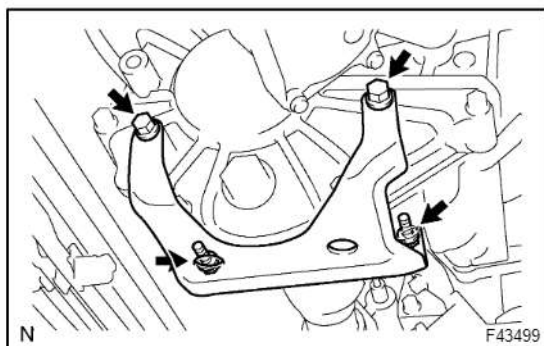
N ◆ Non-reusable part

F43495



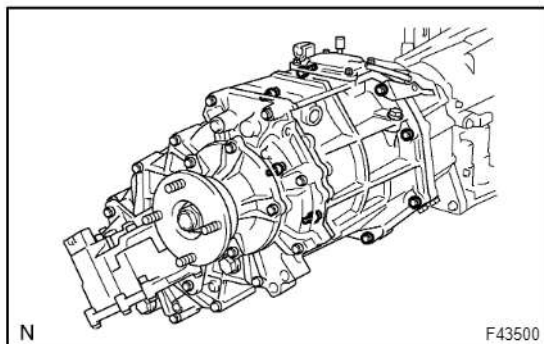
OVERHAUL

1. REMOVE ENGINE UNDER COVER SUB-ASSY NO.1 (See page 14-210)
2. REMOVE ENGINE UNDER COVER ASSY REAR (See page 14-210)
3. DISCONNECT OXYGEN SENSOR (See page 14-210)
4. REMOVE EXHAUST PIPE ASSY (See page 30-4)
5. REMOVE PROPELLER SHAFT ASSY FRONT (See page 30-4)
6. REMOVE PROPELLER SHAFT ASSY (See page 30-11)
7. DRAIN AUTOMATIC TRANSMISSION FLUID (See page 40-29 or 40-37)
8. DRAIN TRANSFER OIL
9. REMOVE FRONT SUSPENSION MEMBER BRACKET (See page 40-29 or 40-37)
10. REMOVE FRONT SUSPENSION MEMBER BRACKET LH (See page 40-29 or 40-37)
11. REMOVE TRANSMISSION OIL FILLER TUBE SUB-ASSY (See page 40-29 or 40-37)
12. DISCONNECT OIL COOLER OUTLET TUBE NO.1 (See page 40-29 or 40-37)
SST 09023-12700
13. REMOVE OIL COOLER INLET TUBE NO.1 (See page 40-29 or 40-37)
SST 09023-12700
14. DISCONNECT TRANSMISSION CONTROL CABLE ASSY (See page 40-29 or 40-37)
15. REMOVE TRANSMISSION CONTROL CABLE BRACKET NO.1 (See page 40-29 or 40-37)

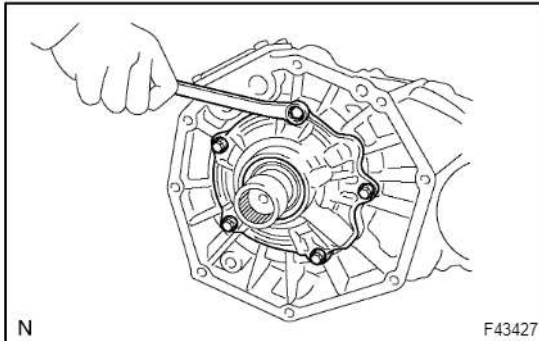


16. REMOVE TRANSFER CASE LOWER PROTECTOR
 - (a) Remove the 4 bolts and transfer case lower protector.

17. SUPPORT AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29 or 40-37)
18. REMOVE FRAME CROSSMEMBER SUB-ASSY NO.3 (See page 40-29 or 40-37)
19. DISCONNECT CONNECTOR (See page 40-29 or 40-37)
20. DISCONNECT WIRE HARNESS (See page 40-29 or 40-37)
21. REMOVE FLYWHEEL HOUSING UNDER COVER (See page 40-29 or 40-37)
22. REMOVE AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29 or 40-37)



23. REMOVE TRANSFER ASSY
 - (a) Remove the 8 bolts and 2 clamps.
 - (b) Remove the transfer from the automatic transmission.

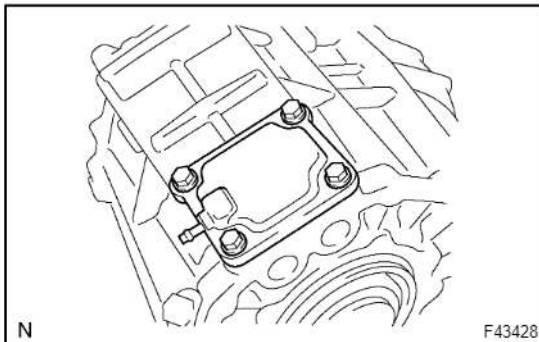
24. REMOVE HOSE**25. REMOVE TRANSFER FRONT BEARING RETAINER SUB-ASSY**

- (a) Remove the 5 bolts and front bearing retainer sub-assy.
HINT:

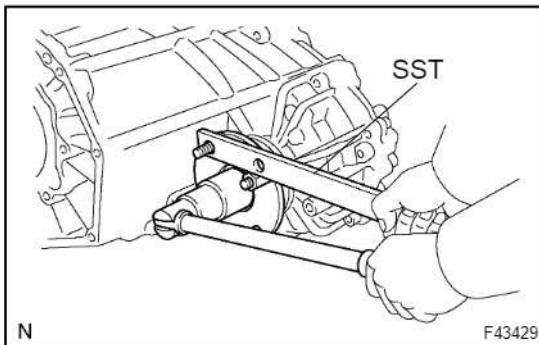
If necessary, tap the front bearing retainer sub-assy with a plastic hammer to remove it.

26. REMOVE TRANSFER COVER TYPE T OIL SEAL

- (a) Using a screwdriver and hammer, remove the oil seal from the front bearing retainer sub-assy.

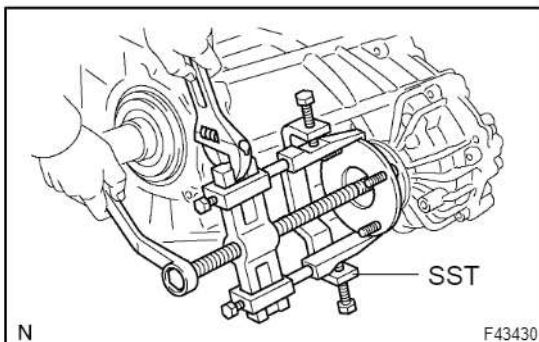
**27. REMOVE TRANSFER CASE COVER SUB-ASSY**

- (a) Remove the 4 bolts and case cover sub-assy.

28. REMOVE BREATHER OIL DEFLECTOR**29. REMOVE OUTPUT SHAFT COMPANION FLANGE SUB-ASSY**

- (a) Using a chisel and hammer, loosen the staked part of the output shaft companion flange lock nut.
(b) Using SST to hold the output shaft companion flange, remove the output shaft companion flange lock nut.

SST 09330-00021



- (c) Using SST, remove the output shaft companion flange sub-assy.

SST 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04051, 09957-04010, 09958-04011)

30. REMOVE TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

- (a) Using a screwdriver and hammer, remove the oil seal from the output shaft companion flange sub-assy.

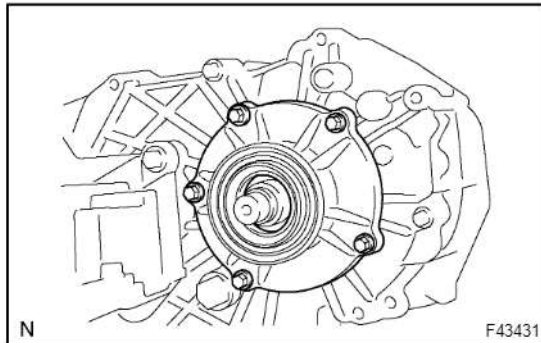
31. REMOVE OUTPUT SHAFT COMPANION FLANGE SUB-ASSY

- (a) Remove the rear output shaft companion flange sub-assy in the same way as the front output shaft companion flange sub-assy.

SST 09330-00021, 09950-40011 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04051, 09957-04010, 09958-04011)

32. REMOVE TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

- (a) Using a screwdriver and hammer, remove the oil seal from the rear output shaft companion flange sub-assy.

**33. REMOVE TRANSFER EXTENSION HOUSING SUB-ASSY REAR**

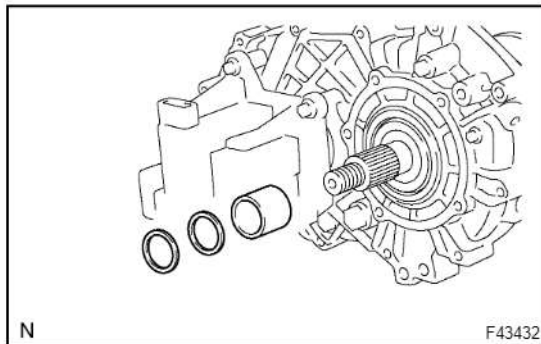
- (a) Remove the 5 bolts and extension housing sub-assy rear.

HINT:

If necessary, tap the extension housing sub-assy rear with a plastic hammer to remove it.

34. REMOVE OIL (TRANSFER EXTENSION REAR HOUSING SUB-ASSY) SEAL

- (a) Using a screwdriver and hammer, remove the oil seal.

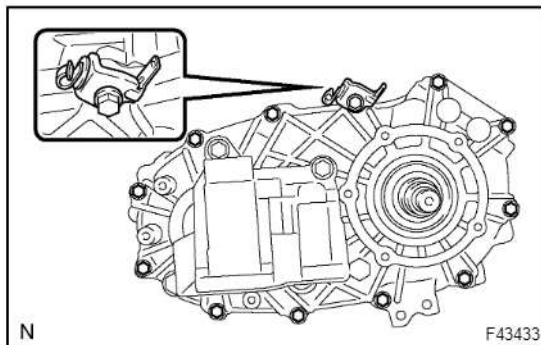
35. REMOVE TRANSFER OUTPUT WASHER**36. REMOVE COLLAR****37. REMOVE TRANSFER CASE REAR**

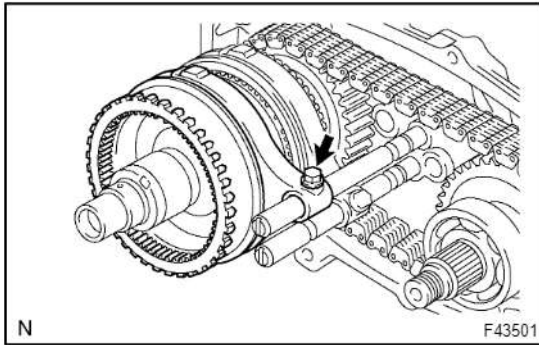
- (a) Remove the 12 bolts and clamp.

- (b) Remove the transfer case rear.

HINT:

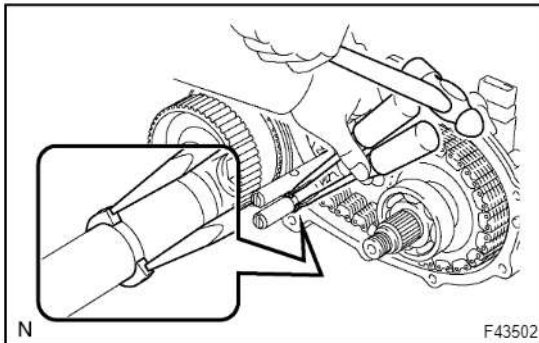
If necessary, tap the transfer case rear with a plastic hammer to remove it.





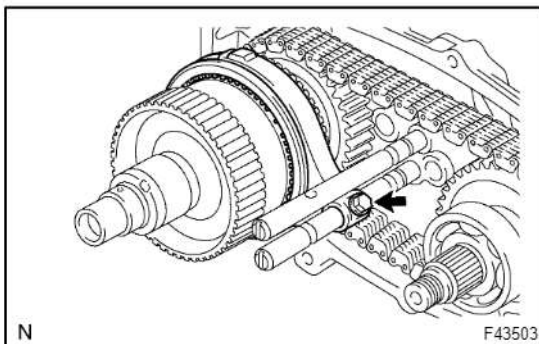
38. REMOVE TRANSFER GEAR SHIFT FORK NO.2 W/TRANSFER HIGH AND LOW CLUTCH SLEEVE

- (a) Remove the bolt, gear shift fork No.2 and high and low clutch sleeve.

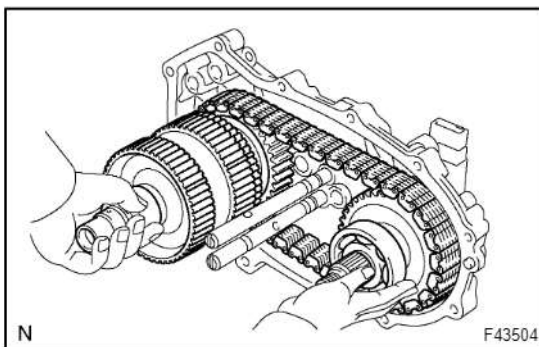


39. REMOVE CTR DIFFERENTIAL LOCK FORK SUB-ASSY W/FRONT DRIVE CLUTCH SLEEVE

- (a) Using 2 screwdrivers and a hammer, tap out the snap ring.

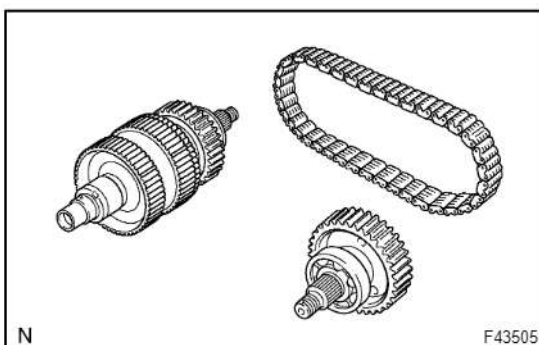


- (b) Remove the bolt, CTR differential lock fork sub-assy and front drive clutch sleeve.

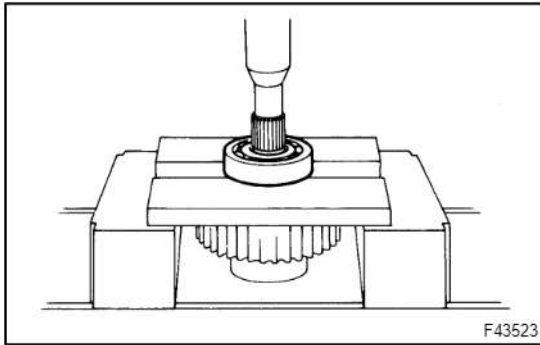


40. REMOVE REAR OUTPUT SHAFT SUB-ASSY, FRONT DRIVE CHAIN AND DRIVEN SPROCKET SUB-ASSY

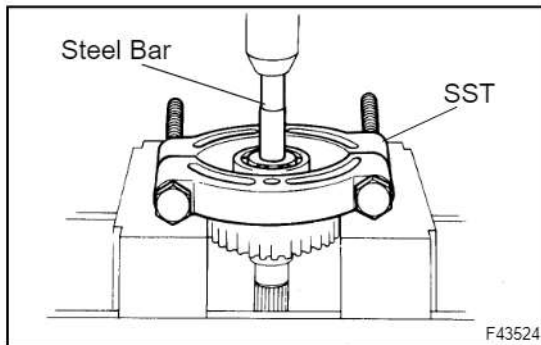
- (a) Mount the transfer case rear in a vise.
 (b) Using a plastic hammer, carefully tap the transfer case rear, and remove the rear output shaft sub-assy together with front drive chain and driven sprocket sub-assy.



- (c) Remove the rear output shaft sub-assy, front drive chain and driven sprocket sub-assy.

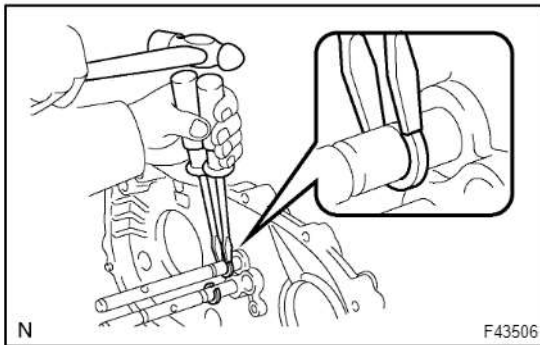
**41. REMOVE TRANSFER DRIVEN SPROCKET BEARING**

- (a) Using a press, remove the driven sprocket bearing.

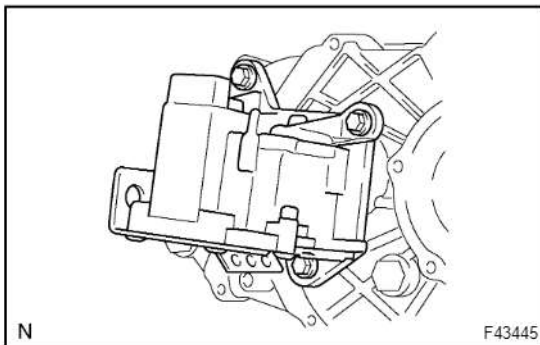
**42. REMOVE TRANSFER INPUT GEAR RADIAL BALL BEARING**

- (a) Using SST, a press and steel bar, remove the transfer input gear radial ball bearing.

SST 09555-55010

**43. REMOVE TRANSFER SHIFT ACTUATOR ASSY**

- (a) Using 2 screwdrivers and a hammer, tap out the 2 snap rings.



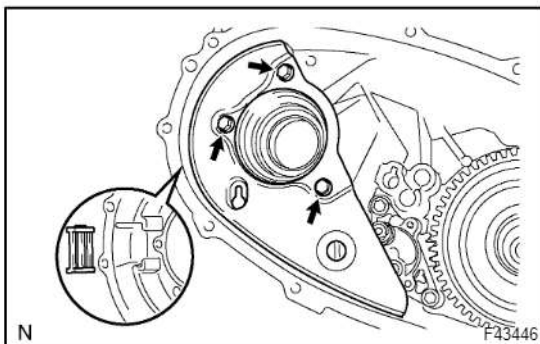
- (b) Remove the 3 bolts and transfer shift actuator assy.

44. REMOVE TRANSFER CASE NO.1 PLUG

- (a) Remove the transfer case No.1 plug (filler plug) and gasket.

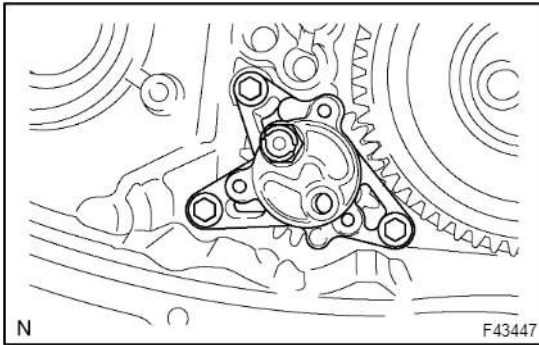
45. REMOVE TRANSFER CASE NO.1 PLUG

- (a) Remove the transfer case No.1 plug (drain plug) and gasket.

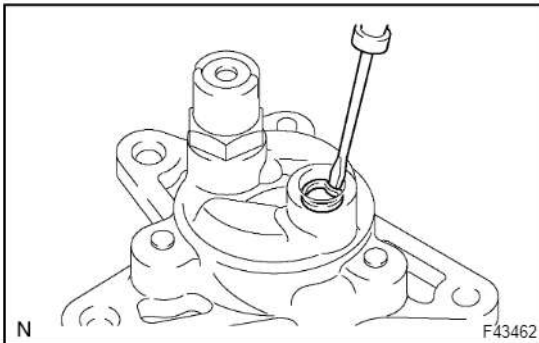
**46. REMOVE TRANSFER OIL SEPARATOR SUB-ASSY**

- (a) Remove the 3 bolts and oil separator sub-assy.

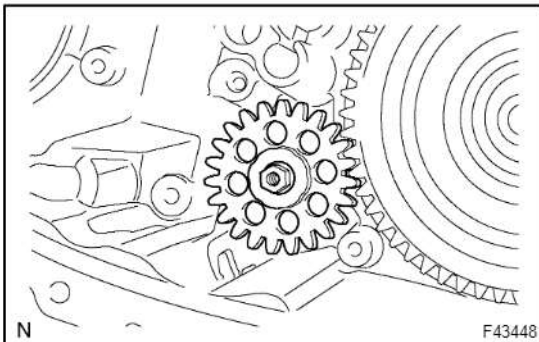
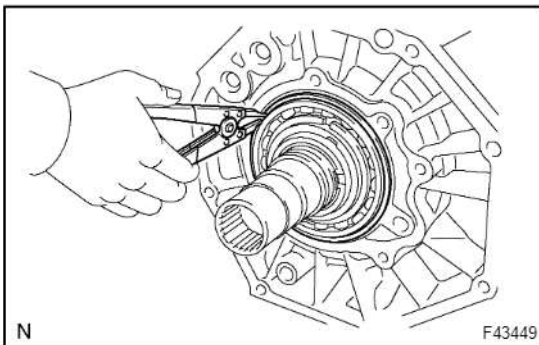
47. REMOVE TRANSFER CASE MAGNET

**48. REMOVE TRANSFER OIL PUMP BODY SUB-ASSY**

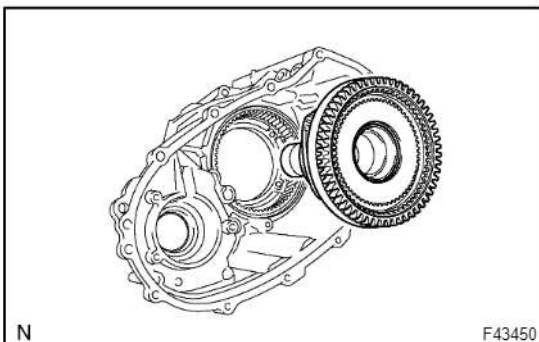
- (a) Remove the 3 bolts and oil pump body sub-assy.

**49. REMOVE TRANSFER OIL PUMP BODY O-RING**

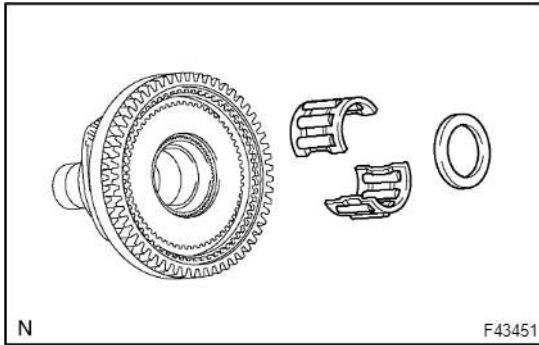
- (a) Using a screwdriver, remove the oil pump body O-ring.

**50. REMOVE TRANSFER OIL PUMP GEAR****51. REMOVE LOW PLANETARY GEAR ASSY W/INPUT SHAFT SUB-ASSY**

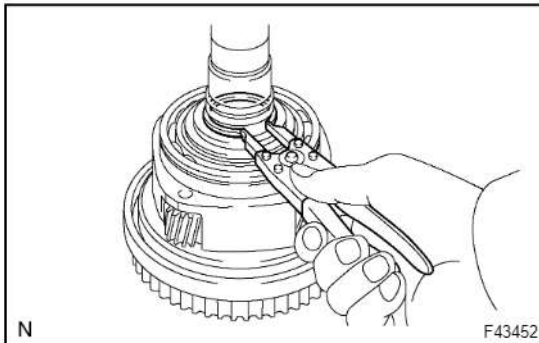
- (a) Using a snap ring expander, remove the snap ring.



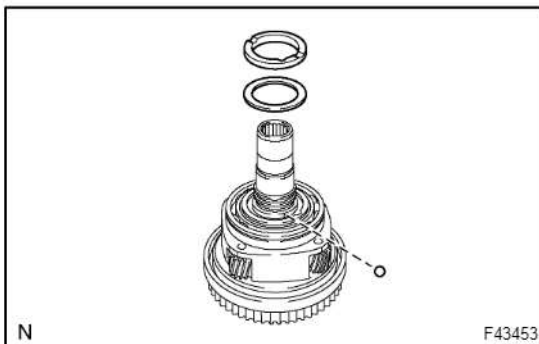
- (b) Remove the low planetary gear assy and input shaft sub-assy.



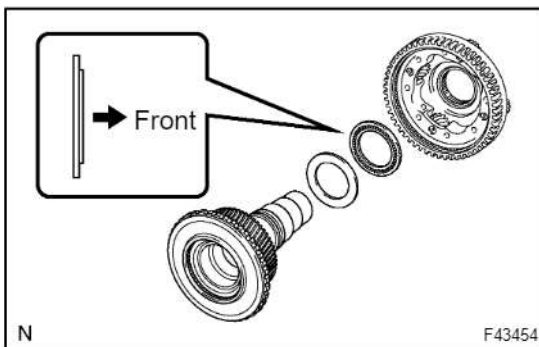
52. REMOVE TRANSFER OUTPUT SHAFT SPACER
53. REMOVE TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING
54. REMOVE TRANSFER CASE OIL SEAL
 - (a) Using a screwdriver and hammer, remove the transfer case oil seal.



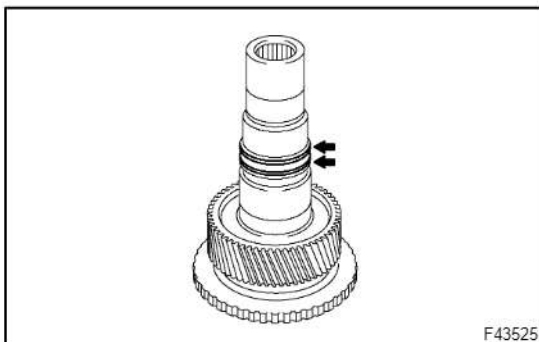
55. REMOVE TRANSFER INPUT GEAR STOPPER SHAFT SNAP RING
 - (a) Using a snap ring expander, remove the input gear stopper shaft snap ring.



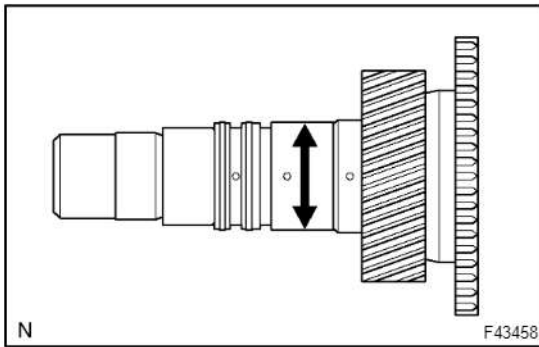
56. REMOVE TRANSFER INPUT GEAR STOPPER
57. REMOVE TRANSFER INPUT GEAR STOPPER BALL
58. REMOVE MANUAL TRANSFER PLANETARY CARR WASHER



59. REMOVE SHAFT, TRANSFER INPUT
60. REMOVE TRANSFER THRUST BEARING RACE NO.1
61. REMOVE TRANSFER LOW PLANETARY GEAR BEARING



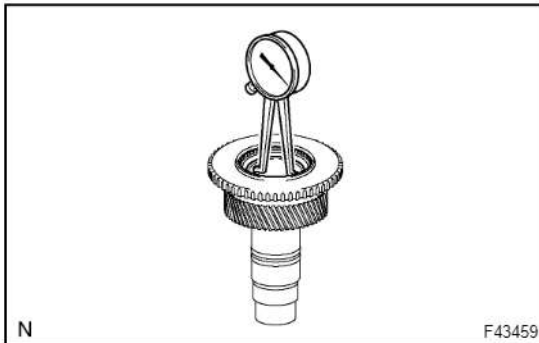
62. REMOVE TRANSFER INPUT SHAFT SEAL RING NO.1

**63. INSPECT SHAFT, TRANSFER INPUT**

- (a) Using a micrometer, measure the outer diameter of the input shaft journal surface.

Minimum diameter: 47.59 mm (1.8736 in.)

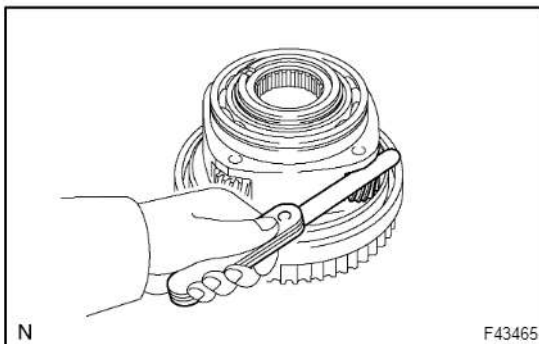
If the outer diameter is less than the minimum, replace the input shaft.



- (b) Using a dial indicator, measure the inside diameter of the input shaft bushing.

Maximum diameter: 48.14 mm (1.8953 in.)

If the inside diameter exceeds the maximum, replace the input shaft.

**64. INSPECT PLANETARY PINION GEAR THRUST CLEARANCE**

- (a) Using a feeler gauge, measure the thrust clearance of the planetary pinion gear.

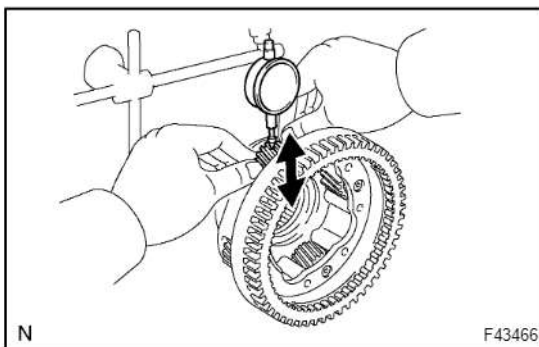
Standard clearance:

0.11 – 0.84 mm (0.0043 – 0.0331 in.)

Maximum clearance:

0.84 mm (0.0331 in.)

If the clearance exceeds the maximum, replace the planetary gear assy.

**65. INSPECT PLANETARY PINION GEAR RADIAL CLEARANCE**

- (a) Using a dial indicator, measure the radial clearance of the planetary pinion gear.

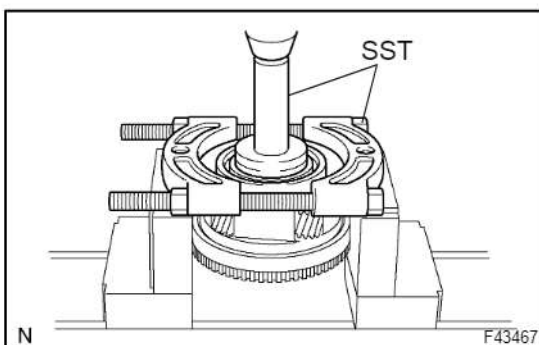
Standard clearance:

0.009 – 0.038 mm (0.0004 – 0.0015 in.)

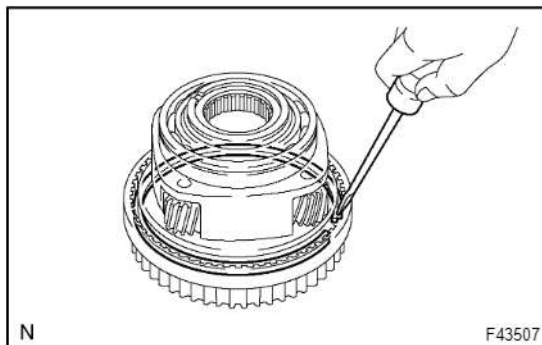
Maximum clearance:

0.038 mm (0.0015 in.)

If the clearance exceeds the maximum, replace the planetary gear assy.

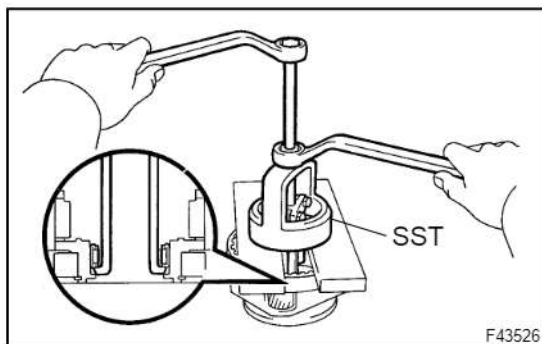
**66. REMOVE TRANSFER INPUT SHAFT BEARING**

- (a) Using a snap ring expander, remove the snap ring.
 (b) Using SST and a press, remove the input shaft bearing.
 SST 09554-30011, 09555-55010



67. REMOVE TRANSFER LOW PLANETARY GEAR SPLINE PIECE

- (a) Using a screwdriver, remove the snap ring.
- (b) Remove the low planetary gear spline piece.



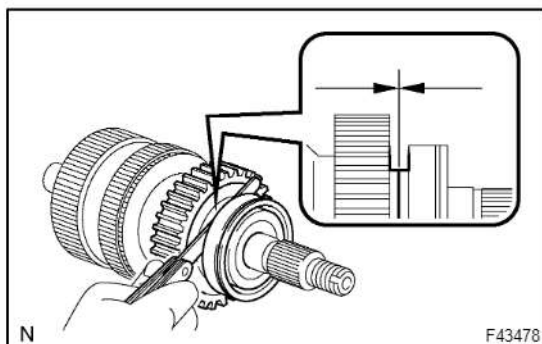
68. REMOVE TRANSFER LOW PLANETARY GEAR BEARING

- (a) Using SST, remove the low planetary gear bearing.

NOTICE:

Hang SST securely to the clearance between the bearing and low planetary gear.

SST 09612-65014 (09612-01030, 09612-01050)



69. INSPECT DRIVE SPROCKET THRUST CLEARANCE

- (a) Using a feeler gauge, measure the thrust clearance of the drive sprocket.

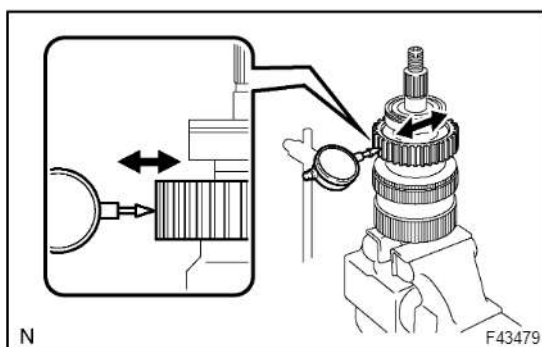
Standard clearance:

0.15 – 0.24 mm (0.0059 – 0.0094 in.)

Maximum clearance:

0.24 mm (0.0094 in.)

If the clearance exceeds the maximum, replace the drive sprocket.



70. INSPECT DRIVE SPROCKET RADIAL CLEARANCE

- (a) Using a dial indicator, measure the radial clearance of the drive sprocket.

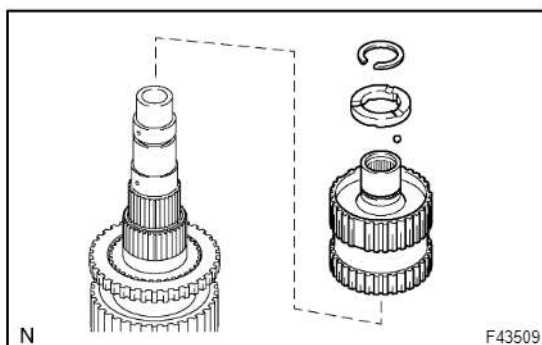
Standard clearance:

0.01 – 0.06 mm (0.0004 – 0.0024 in.)

Maximum clearance:

0.06 mm (0.0024 in.)

If the clearance exceeds the maximum, replace the drive sprocket, output shaft rear or needle roller bearing.



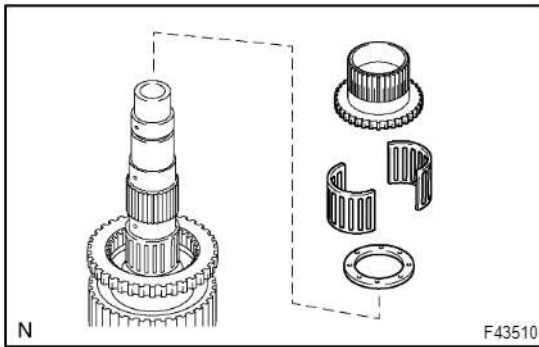
71. REMOVE TRANSFER LOW PLANETARY RING GEAR HOLE SNAP RING

- (a) Using a snap ring expander, remove the snap ring.

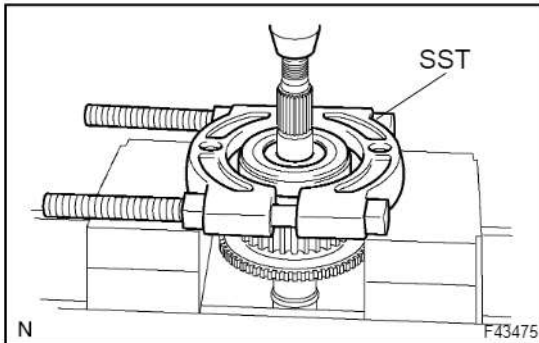
72. REMOVE TRANSFER OUTPUT SHAFT SPACER NO.2

73. REMOVE TRANSFER OUTPUT SHAFT SPACER BALL

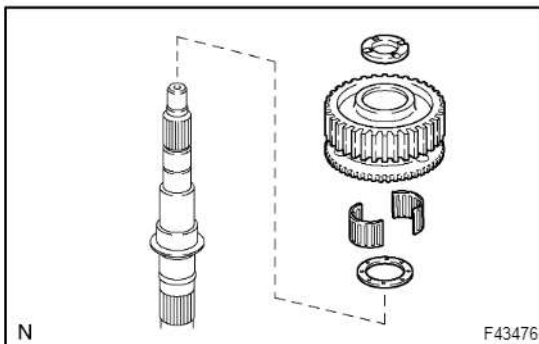
74. REMOVE CENTER DIFFERENTIAL CASE



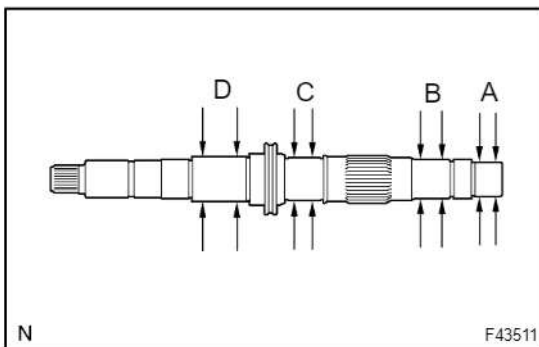
75. REMOVE TRANSFER CLUTCH HUB
76. REMOVE TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING
77. REMOVE TRANSFER OUTPUT SHAFT PLATE WASHER



78. REMOVE TRANSFER OUTPUT SHAFT REAR RADIAL BALL BEARING
- (a) Using SST and a press, remove the output shaft rear radial ball bearing.
SST 09555-55010



79. REMOVE TRANSFER OUTPUT SHAFT SPACER NO.1
80. REMOVE TRANSFER DRIVE SPROCKET SUB-ASSY
81. REMOVE TRANSFER DRIVE SPROCKET BEARING
82. REMOVE TRANSFER OUTPUT SHAFT PLATE WASHER



83. INSPECT TRANSFER OUTPUT SHAFT REAR
- (a) Using a micrometer, measure the outer diameter of the output shaft rear journal surface.

Standard diameter:

Part A: 27.98 – 27.99 mm (1.1016 – 1.1020 in.)

Part B: 31.98 – 32.00 mm (1.2591 – 1.2598 in.)

Part C: 34.98 – 35.00 mm (1.3772 – 1.3780 in.)

Part D: 36.98 – 37.00 mm (1.4559 – 1.4567 in.)

Minimum Diameter:

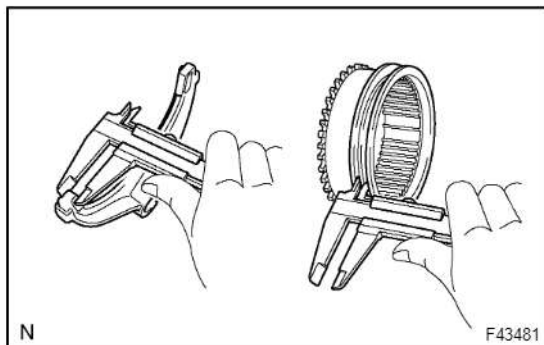
Part A: 27.98 mm (1.1016 in.)

Part B: 31.98 mm (1.2591 in.)

Part C: 34.98 mm (1.3772 in.)

Part D: 36.98 mm (1.4559 in.)

If the outer diameter is less than the minimum, replace the output shaft rear.



84. INSPECT HIGH AND LOW CLUTCH SLEEVE AND GEAR SHIFT FORK NO.2 CLEARANCE

- (a) Using vernier calipers, measure the thickness of the gear shift fork No.2 claw.

Thickness: 10 mm (0.3937 in.)

- (b) Using vernier calipers, measure the groove of the high and low clutch sleeve.

Distance: 10.5 mm (0.4134 in.)

- (c) Calculate a clearance between the high and low clutch sleeve and gear shift fork No.2 clearance.

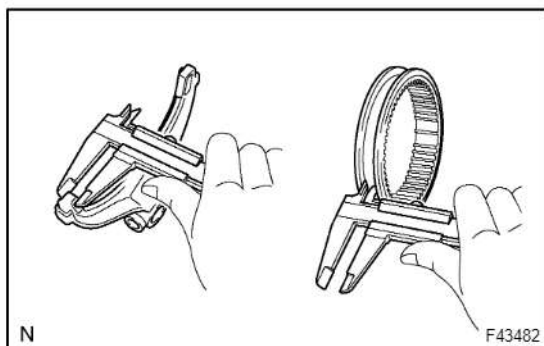
Standard clearance:

0.26 – 0.84 mm (0.0102 – 0.0331 in)

Maximum clearance:

0.84 mm (0.0331 in.)

If the clearance exceeds the maximum, replace the high and low clutch sleeve or gear shift fork No.2.



85. INSPECT FRONT DRIVE CLUTCH SLEEVE AND CTR DIFFERENTIAL LOCK FORK SUB-ASSY CLEARANCE

- (a) Using vernier calipers, measure the thickness of the CTR differential lock fork claw.

Thickness: 10 mm (0.3937 in.)

- (b) Using vernier calipers, measure the groove of the front drive clutch sleeve.

Distance: 10.5 mm (0.4134 in.)

- (c) Calculate a clearance between the front drive clutch sleeve and CTR differential lock fork.

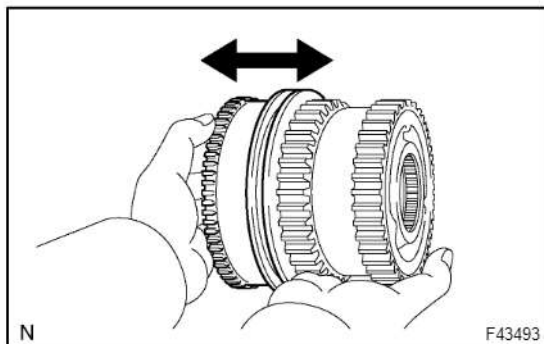
Standard clearance:

0.26 – 0.84 mm (0.0102 – 0.0331 in)

Maximum clearance:

0.84 mm (0.0331 in.)

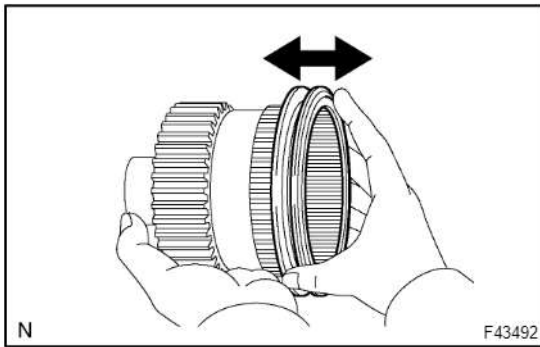
If the clearance exceeds the maximum, replace the front drive clutch sleeve or CTR differential lock fork.



86. INSPECT CENTER DIFFERENTIAL CASE AND HIGH AND LOW CLUTCH SLEEVE

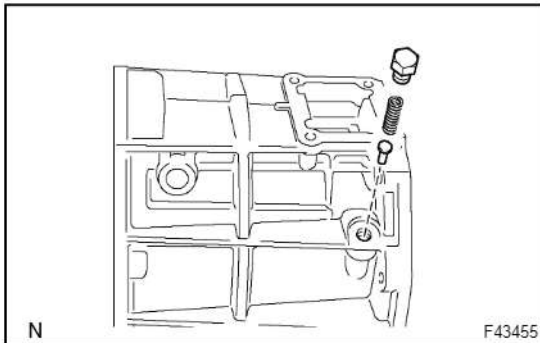
- (a) Check that the tip of the spline gear of the front drive clutch sleeve is not worn.

- (b) Install the front drive clutch sleeve to the center differential case and check that the front drive clutch sleeve moves smoothly.

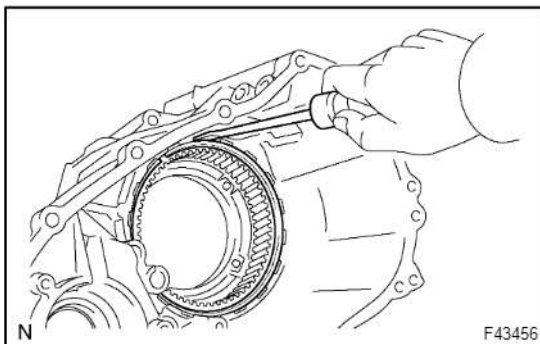


87. INSPECT CENTER DIFFERENTIAL CASE AND FRONT DRIVE CLUTCH SLEEVE

- (a) Check that the tip of the spline gear of the front drive clutch sleeve is not worn.
- (b) Install the front drive clutch sleeve to the center differential case and check that the front drive clutch sleeve moves smoothly.

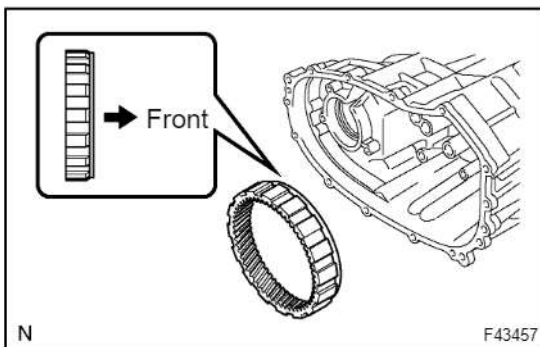


88. REMOVE TRANSFER CASE PLUG
89. REMOVE SPRING, COMPRESSION
90. REMOVE PIN, W/HEAD



91. REMOVE TRANSFER LOW PLANETARY RING GEAR

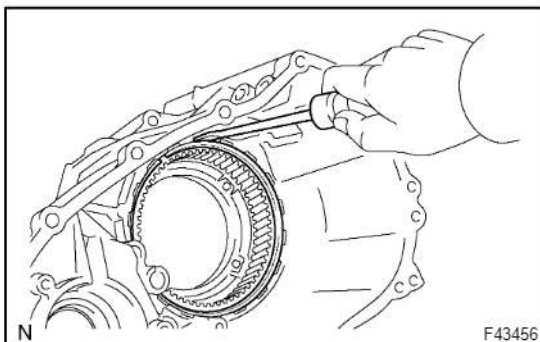
- (a) Using a screwdriver, remove the snap ring.



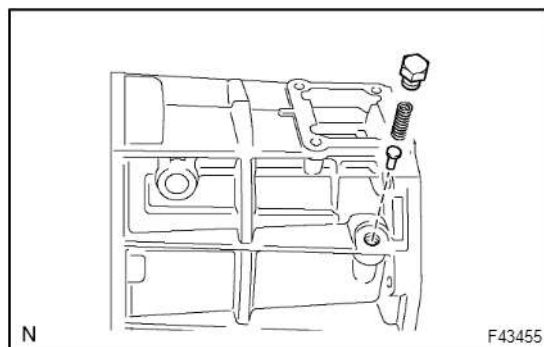
- (b) Remove the low planetary ring gear from the front case.

92. INSTALL TRANSFER LOW PLANETARY RING GEAR

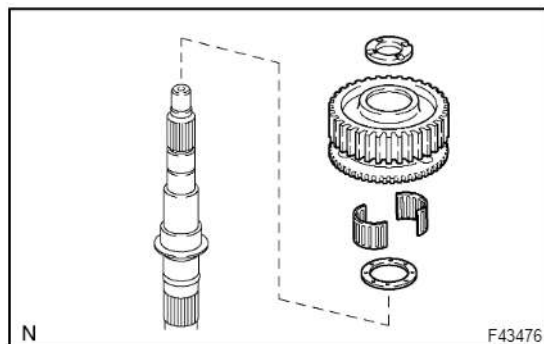
- (a) Install the low planetary ring gear to the front case.



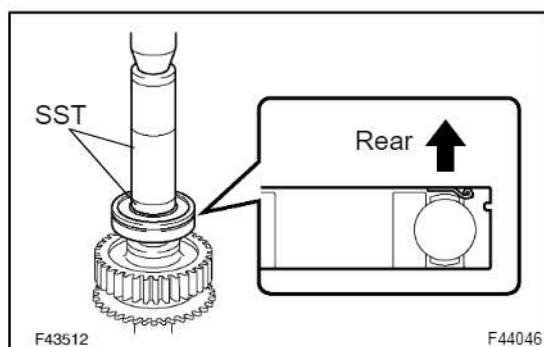
- (b) Using a screwdriver, install the snap ring.



93. INSTALL PIN, W/HEAD
 94. INSTALL SPRING, COMPRESSION
 95. INSTALL TRANSFER CASE PLUG
- Torque: 18.6 N·m (190 kgf·cm, 14 ft·lbf)



96. INSTALL TRANSFER OUTPUT SHAFT PLATE WASHER
97. INSTALL TRANSFER DRIVE SPROCKET BEARING
98. INSTALL TRANSFER DRIVE SPROCKET SUB-ASSY
99. INSTALL TRANSFER OUTPUT SHAFT SPACER NO.1



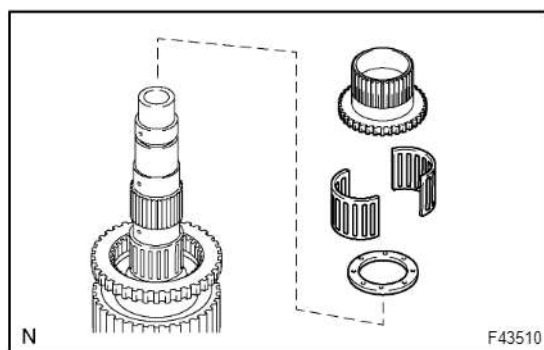
100. INSTALL TRANSFER OUTPUT SHAFT REAR RADIAL BALL BEARING

(a) Using SST and a press, install a new output shaft rear radial ball bearing.

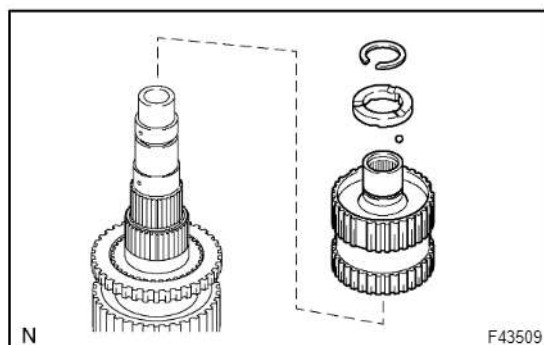
SST 09316-60011 (09316-00011, 09316-00071)

NOTICE:

Install the output shaft rear radial ball bearing so that the bearing snap ring groove faces to the rear.

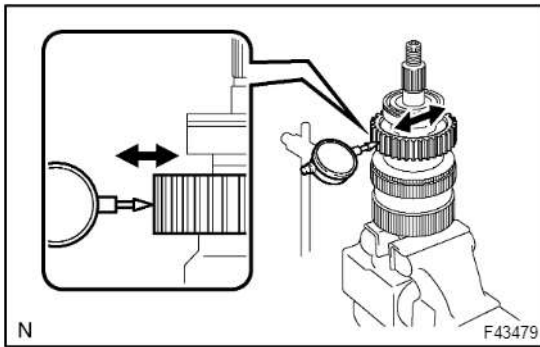


101. INSTALL TRANSFER OUTPUT SHAFT PLATE WASHER
102. INSTALL TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING
103. INSTALL TRANSFER CLUTCH HUB

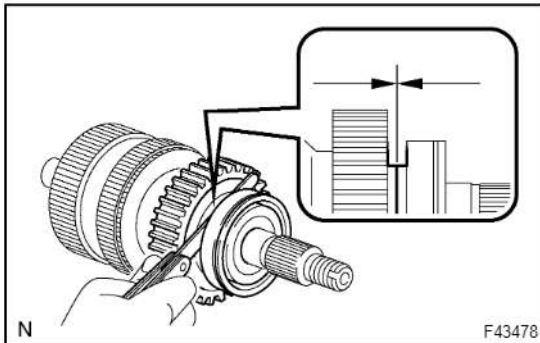


104. INSTALL CENTER DIFFERENTIAL CASE
105. INSTALL TRANSFER OUTPUT SHAFT SPACER BALL
106. INSTALL TRANSFER OUTPUT SHAFT SPACER NO.2
107. INSTALL TRANSFER LOW PLANETARY RING GEAR HOLE SNAP RING

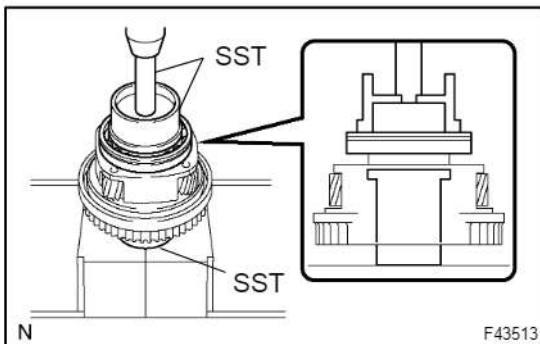
(a) Using a snap ring expander, install the snap ring.



108. INSPECT DRIVE SPROCKET RADIAL CLEARANCE
(See step 70)



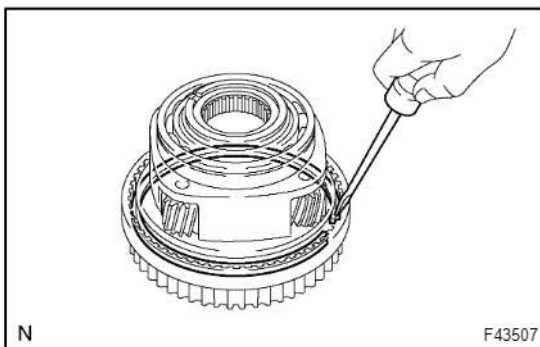
109. INSPECT DRIVE SPROCKET THRUST CLEARANCE
(See step 69)



110. INSTALL TRANSFER INPUT SHAFT BEARING

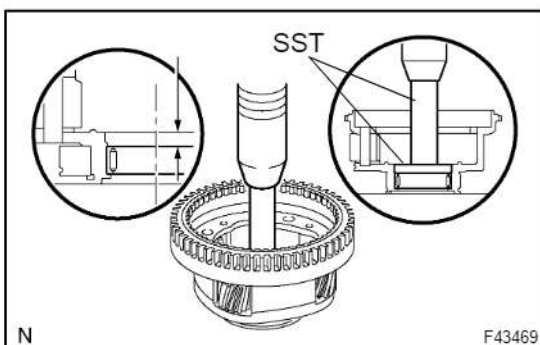
- (a) Using SST and a press, install a new bearing with the groove facing forward.

SST 09223-15020, 09515-30010, 09950-70010
(09951-07100)



111. INSTALL TRANSFER LOW PLANETARY GEAR SPLINE PIECE

- (a) Using a screwdriver, install the spline piece and low planetary gear with the snap ring.

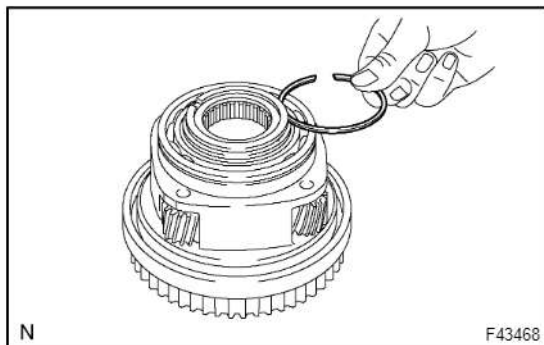


112. INSTALL TRANSFER LOW PLANETARY GEAR BEARING

- (a) Using SST and a press, drive in a new bearing.

SST 09950-60010 (09951-00570), 09950-70010
(09951-07100)

Bearing press in depth: 7.7 – 8.3 mm (0.303 – 0.327 in.)



113. INSTALL TRANSFER INPUT BEARING SHAFT SNAP RING

- (a) Select a snap ring that allows the minimum axial play.

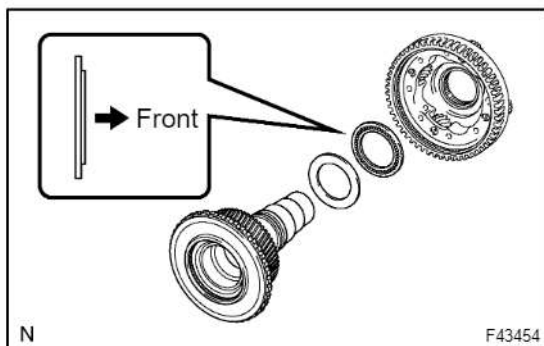
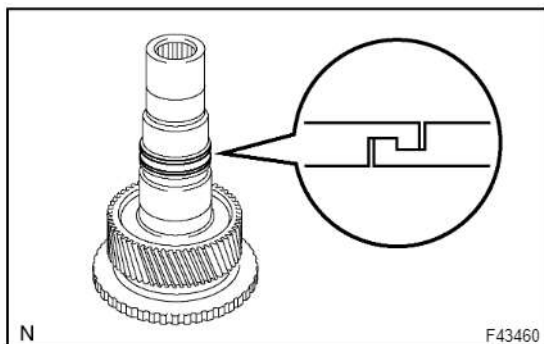
Mark	Thickness mm (in.)
1	1.45 – 1.50 (0.0571 – 0.0591)
2	1.50 – 1.55 (0.0591 – 0.0610)
3	1.55 – 1.60 (0.0610 – 0.0630)
4	1.60 – 1.65 (0.0630 – 0.0650)
5	1.65 – 1.70 (0.0650 – 0.0669)

- (b) Using a snap ring expander, install a new snap ring.

114. INSTALL TRANSFER INPUT SHAFT SEAL RING NO.1

HINT:

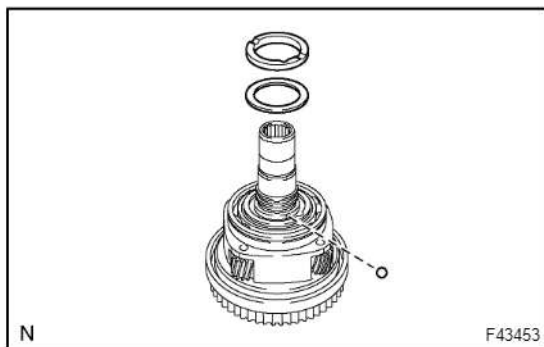
- ★ Apply gear oil to the oil seal ring.
- ★ Engage securely to eliminate clearance as shown in the illustration.



115. INSTALL TRANSFER LOW PLANETARY GEAR BEARING

116. INSTALL TRANSFER THRUST BEARING RACE NO.1

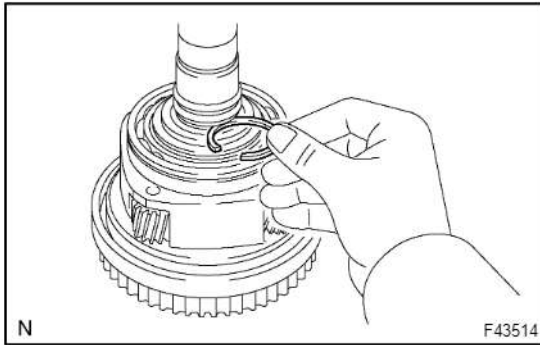
117. INSTALL SHAFT, TRANSFER INPUT



118. INSTALL MANUAL TRANSFER PLANETARY CARR WASHER

119. INSTALL TRANSFER INPUT GEAR STOPPER BALL

120. INSTALL TRANSFER INPUT GEAR STOPPER

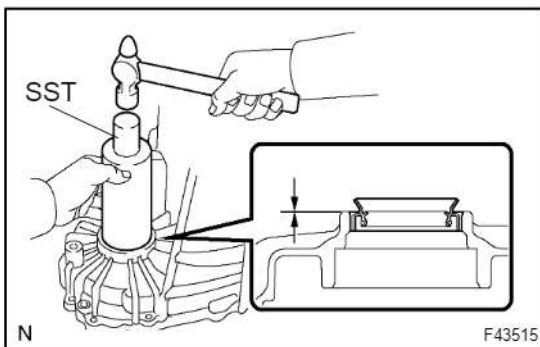


121. INSTALL TRANSFER INPUT GEAR STOPPER SHAFT SNAP RING

- (a) Select a input gear stopper snap ring that allows 0.05 – 0.15 mm (0.0020 – 0.0059 in.) axial play.

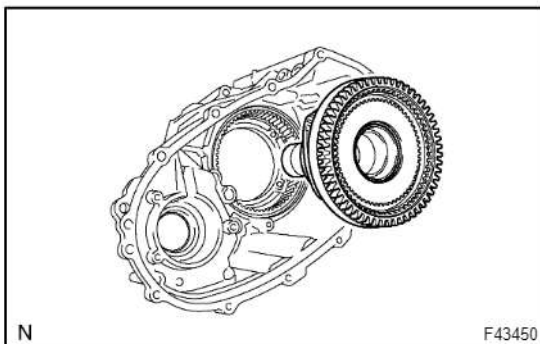
Mark	Thickness mm (in.)
A	2.10 – 2.15 (0.0827 – 0.0846)
B	2.15 – 2.20 (0.0846 – 0.0866)
C	2.20 – 2.25 (0.0866 – 0.0886)
D	2.25 – 2.30 (0.0886 – 0.0906)
E	2.30 – 2.35 (0.0906 – 0.0925)
F	2.35 – 2.40 (0.0925 – 0.0945)
G	2.40 – 2.45 (0.0945 – 0.0965)
H	2.45 – 2.50 (0.0965 – 0.0984)
J	2.50 – 2.55 (0.0984 – 0.1004)
K	2.55 – 2.60 (0.1004 – 0.1024)
L	2.60 – 2.65 (0.1024 – 0.1043)
M	2.65 – 2.70 (0.1043 – 0.1063)
N	2.70 – 2.75 (0.1063 – 0.1083)
P	2.75 – 2.80 (0.1083 – 0.1102)
Q	2.80 – 2.85 (0.1102 – 0.1122)
R	2.85 – 2.90 (0.1122 – 0.1142)
S	2.90 – 2.95 (0.1142 – 0.1161)
T	2.95 – 3.00 (0.1161 – 0.1181)
U	3.00 – 3.05 (0.1181 – 0.1201)

- (b) Using a snap ring expander, install a new input gear stopper snap ring.



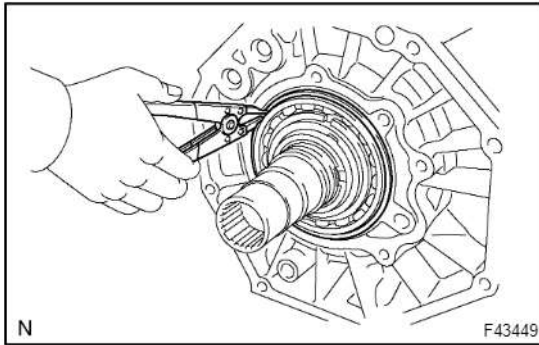
122. INSTALL TRANSFER CASE OIL SEAL

- (a) Using SST and a hammer, drive in a new oil seal until its surface is flush with the case upper surface.
SST 09316-60011 (09316-00011)
- (b) Coat the lip of the oil seal with MP grease.

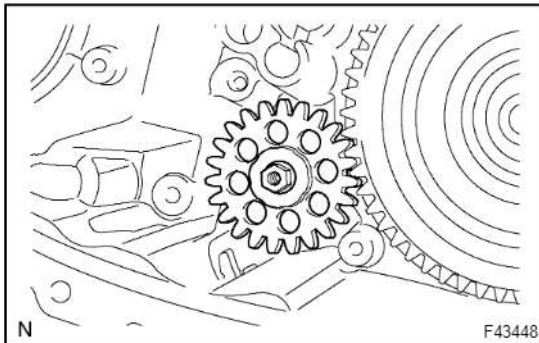


123. INSTALL LOW PLANETARY GEAR ASSY W/INPUT SHAFT SUB-ASSY

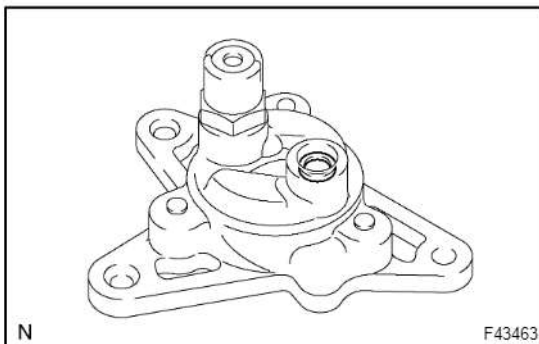
- (a) Install the low planetary gear assy and input shaft sub-assy.



- (b) Using a snap ring expander, install the snap ring.

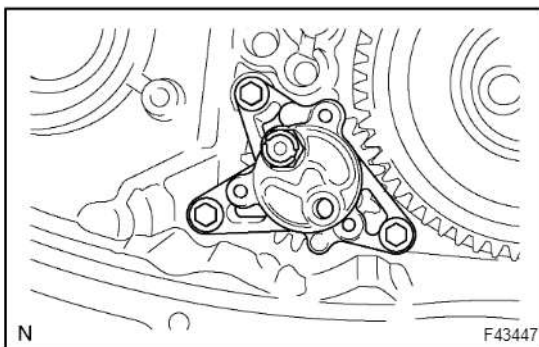


124. INSTALL TRANSFER OIL PUMP GEAR



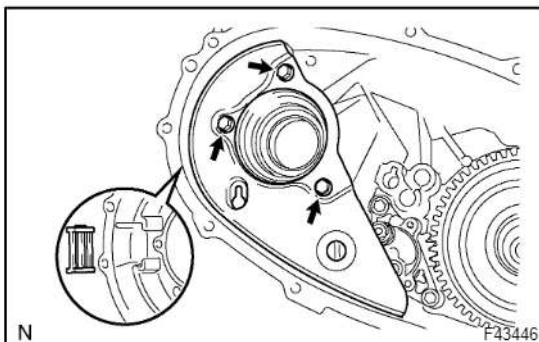
125. INSTALL TRANSFER OIL PUMP BODY O-RING

- (a) Coat a new O-ring with gear oil and install it to the oil pump body.



126. INSTALL TRANSFER OIL PUMP BODY SUB-ASSY

- (a) Install the oil pump body sub-assy with the 3 bolts.
Torque: 7.5 N·m (80 kgf·cm, 69 in.·lbf)



127. INSTALL TRANSFER CASE MAGNET

128. INSTALL TRANSFER OIL SEPARATOR SUB-ASSY

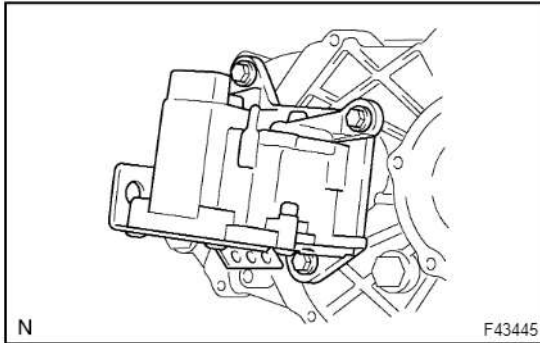
- (a) Install the oil separator sub-assy with the 3 bolts.
Torque: 7.5 N·m (80 kgf·cm, 69 in.·lbf)

129. INSTALL TRANSFER CASE NO.1 PLUG

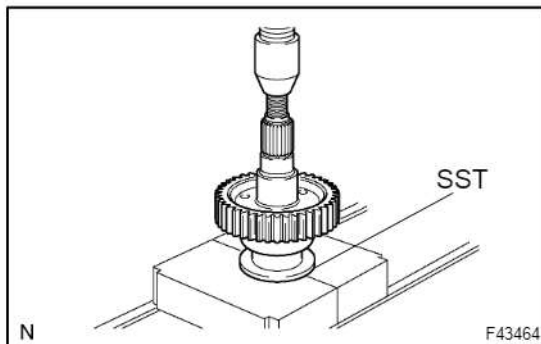
- (a) Install the case No.1 plug (filler plug) and a new gasket.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

130. INSTALL TRANSFER CASE NO.1 PLUG

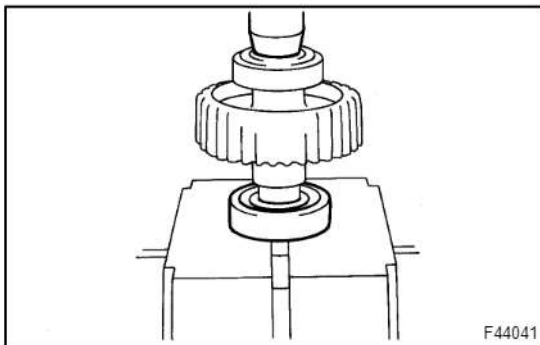
- (a) Install the case No.1 plug (drain plug) and a new gasket.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

**131. INSTALL TRANSFER SHIFT ACTUATOR ASSY**

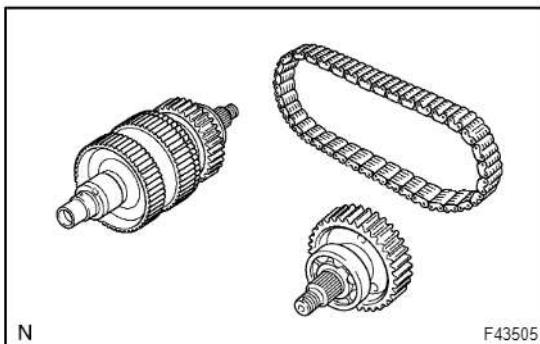
- (a) Install the actuator assy with the 3 bolts.
Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)
 (b) Using a screwdriver and hammer, drive in the 2 snap rings.

**132. INSTALL TRANSFER INPUT GEAR RADIAL BALL BEARING**

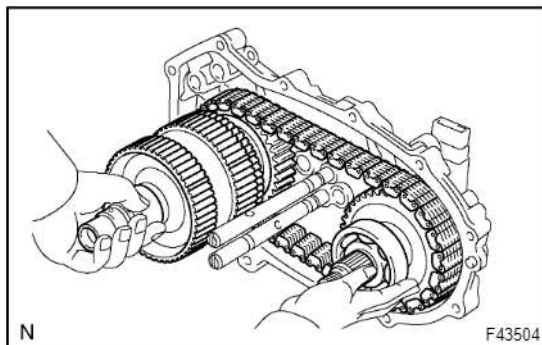
- (a) Using SST and a press, install a new input gear radial ball bearing.
 SST 09316-60011 (09316-00031)

**133. INSTALL TRANSFER DRIVEN SPROCKET BEARING**

- (a) Using a press, install a new driven sprocket bearing.

**134. INSTALL REAR OUTPUT SHAFT SUB-ASSY, FRONT DRIVE CHAIN AND DRIVEN SPROCKET SUB-ASSY**

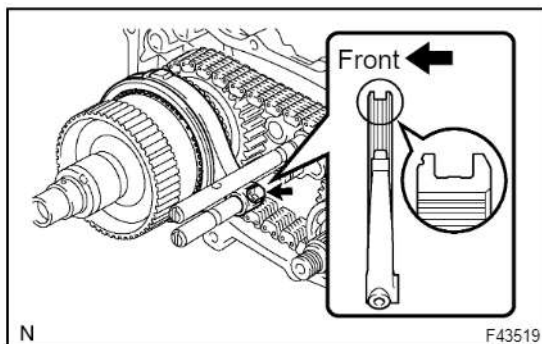
- (a) Install the rear output shaft sub-assy and drive sprocket to the front drive chain.



- (b) Install the rear output shaft sub-assy, front drive chain and driven sprocket sub-assy to the rear case.

HINT:

Check that the rear output shaft sub-assy and driven sprocket sub-assy turn lightly.



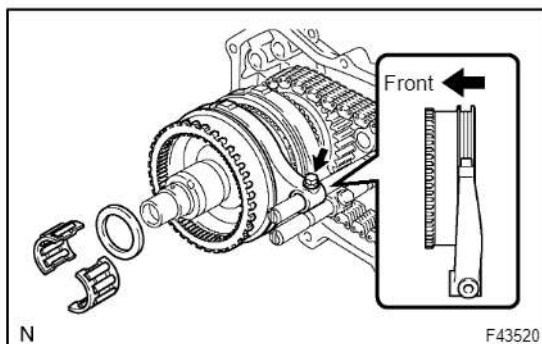
135. INSTALL CTR DIFFERENTIAL LOCK FORK SUB-ASSY W/FRONT DRIVE CLUTCH SLEEVE

- (a) Install the CTR differential lock fork sub-assy and front drive clutch sleeve.

- (b) Install the bolt.

Torque: 24 N·m (245 kgf·cm, 18 ft·lbf)

- (c) Using a screwdriver and hammer, drive in the snap ring.



136. INSTALL TRANSFER GEAR SHIFT FORK NO.2 W/TRANSFER HIGH AND LOW CLUTCH SLEEVE

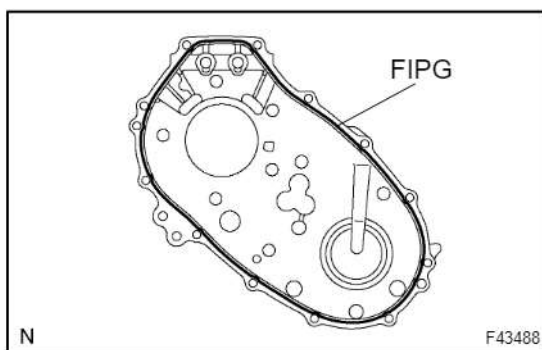
- (a) Install the gear shift fork No.2 and high and low clutch sleeve.

- (b) Install the bolt.

Torque: 24 N·m (245 kgf·cm, 18 ft·lbf)

137. INSTALL TRANSFER OUTPUT SHAFT SPACER

138. INSTALL TRANSFER OUTPUT SHAFT FRONT NEEDLE ROLLER BEARING

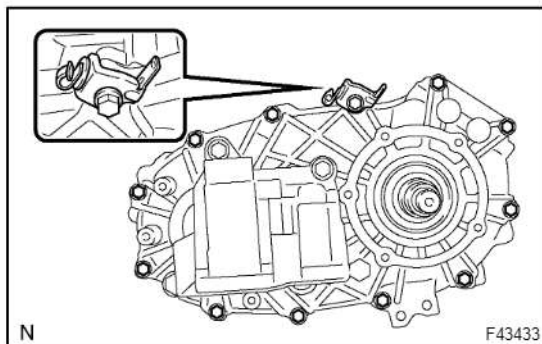


139. INSTALL TRANSFER CASE REAR

- (a) Apply FIPG to the case rear, as shown.

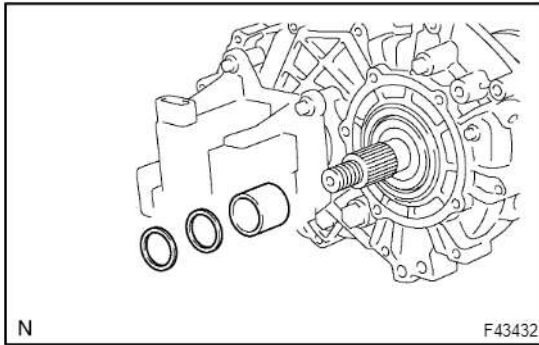
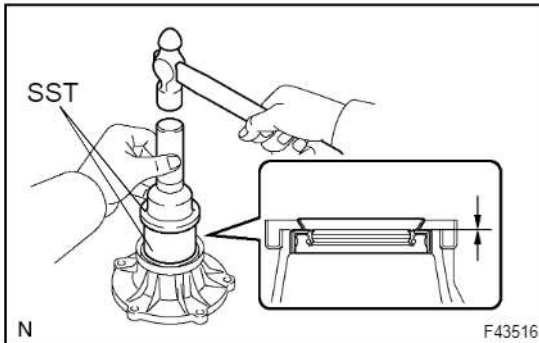
FIPG:

Part No. 08826-00090, THREE BOND 1281 or equivalent

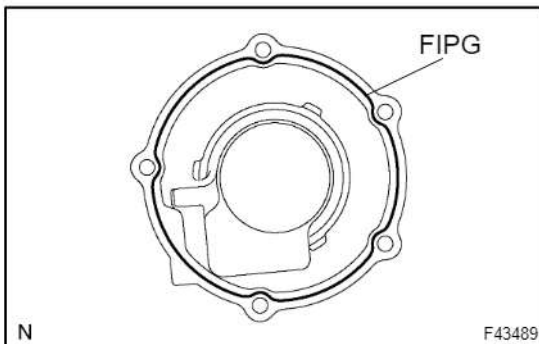


- (b) Install the clamp and case rear with the 12 bolts.

Torque: 28 N·m (285 kgf·cm, 21 ft·lbf)

**140. INSTALL COLLAR****141. INSTALL TRANSFER OUTPUT WASHER****142. INSTALL OIL (TRANSFER EXTENSION REAR HOUSING SUB-ASSY) SEAL**

- (a) Using SST and a hammer, drive in a new oil seal until its surface is flush with the housing upper surface.
SST 09223-46011, 09631-32020
- (b) Coat the lip of the oil seal with MP grease.

**143. INSTALL TRANSFER EXTENSION HOUSING SUB-ASSY REAR**

- (a) Apply FIPG to the extension housing sub-assy rear, as shown.

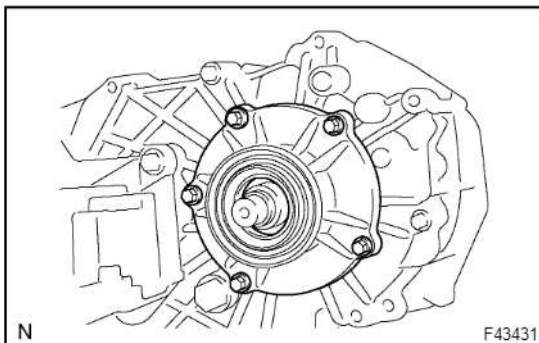
FIPG:

Part No. 08826-00090, THREE BOND 1281 or equivalent

- (b) Apply sealant to the bolt threads.

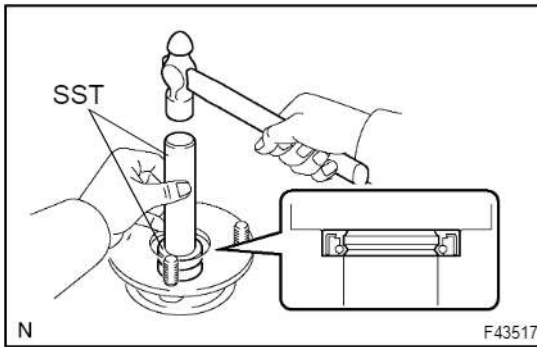
Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent



- (c) Install the extension housing sub-assy rear with the 5 bolts.

Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)



144. INSTALL TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

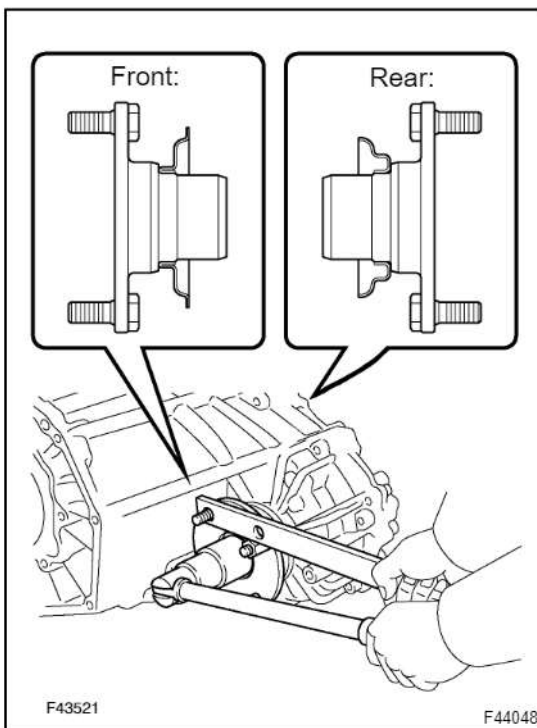
- (a) Using SST and a hammer, drive in a new oil seal (front).
SST 09950-60010 (09951-00320), 09950-70010 (09951-07100)

- (b) Coat the lip of the oil seal with MP grease.

145. INSTALL TRANSFER OUTPUT SHAFT COMPANION FLANGE OIL SEAL

- (a) Drive in a new oil seal (rear) in the same way as the oil seal (front).

SST 09950-60010 (09951-00320), 09950-70010 (09951-07100)



146. INSTALL OUTPUT SHAFT COMPANION FLANGE SUB-ASSY

- (a) Install the companion flange sub-assy (front) to the drive sprocket sub-assy.
- (b) Using SST to hold the companion flange, install a new companion flange lock nut.

Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

- (c) Using a chisel and hammer, stake the companion flange lock nut.

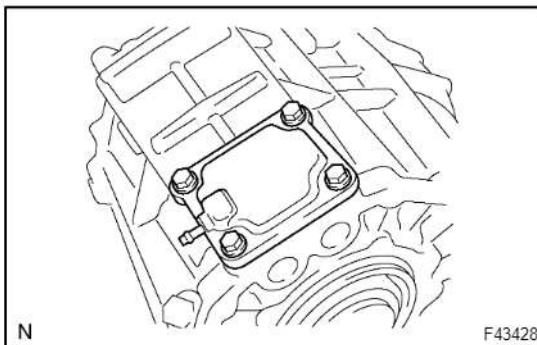
SST 09330-00021

147. INSTALL OUTPUT SHAFT COMPANION FLANGE SUB-ASSY

- (a) Using SST, install the companion flange sub-assy (rear) in the same way as the companion flange sub-assy (front).

Torque: 118 N·m (1,200 kgf·cm, 87 ft·lbf)

SST 09330-00021

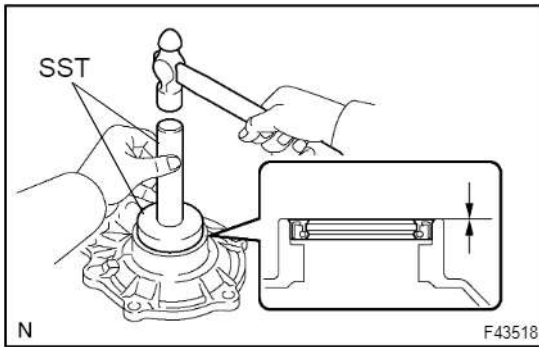


148. INSTALL BREATHER OIL DEFLECTOR

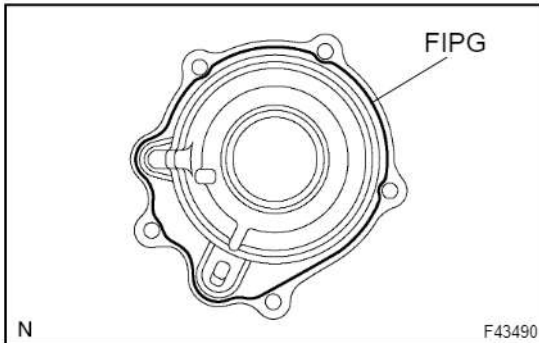
149. INSTALL TRANSFER CASE COVER SUB-ASSY

- (a) Install the case cover sub-assy with the 4 bolts.

Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

**150. INSTALL TRANSFER COVER TYPE T OIL SEAL**

- Using SST and a hammer, drive in a new oil seal until its surface is flush with the retainer upper surface.
 - Coat the lip of the oil seal with MP grease.
- SST 09950-60010 (09951-00590), 09950-70010 (09951-07100)

**151. INSTALL TRANSFER FRONT BEARING RETAINER SUB-ASSY**

- Apply FIPG to the front bearing retainer sub-assy, as shown.

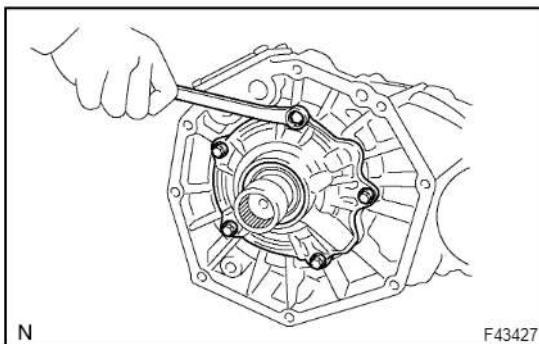
FIPG:

Part No. 08826-00090, THREE BOND 1281 or equivalent

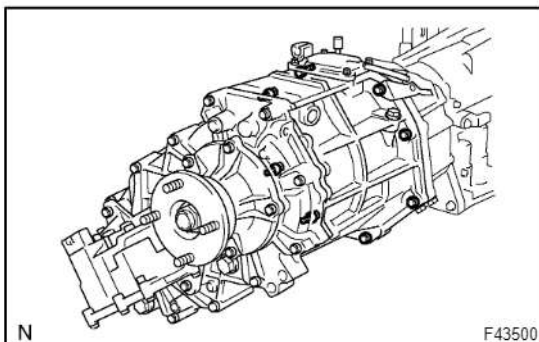
- Apply sealant to the bolt thread.

Sealant:

Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent

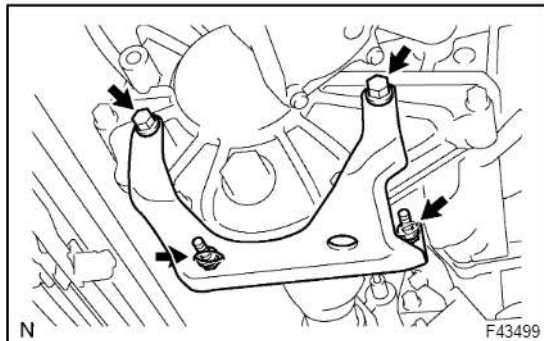


- Install the front bearing retainer sub-assy with the 5 bolts.
Torque: 11.5 N·m (117 kgf·cm, 8 ft·lbf)

152. INSTALL HOSE**153. INSTALL TRANSFER ASSY**

- Install the transfer to the automatic transmission.
- Install the 2 clamps and 8 bolts.
Torque: 24 N·m (240 kgf·cm, 17 ft·lbf)

- 154. INSTALL AUTOMATIC TRANSMISSION W/TRANSFER (See page 40-29 or 40-37)
- 155. INSTALL FLYWHEEL HOUSING UNDER COVER (See page 40-29 or 40-37)
- 156. CONNECT WIRE HARNESS (See page 40-29 or 40-37)
- 157. CONNECT CONNECTOR (See page 40-29 or 40-37)
- 158. INSTALL FRAME CROSSMEMBER SUB-ASSY NO.3 (See page 40-29 or 40-37)



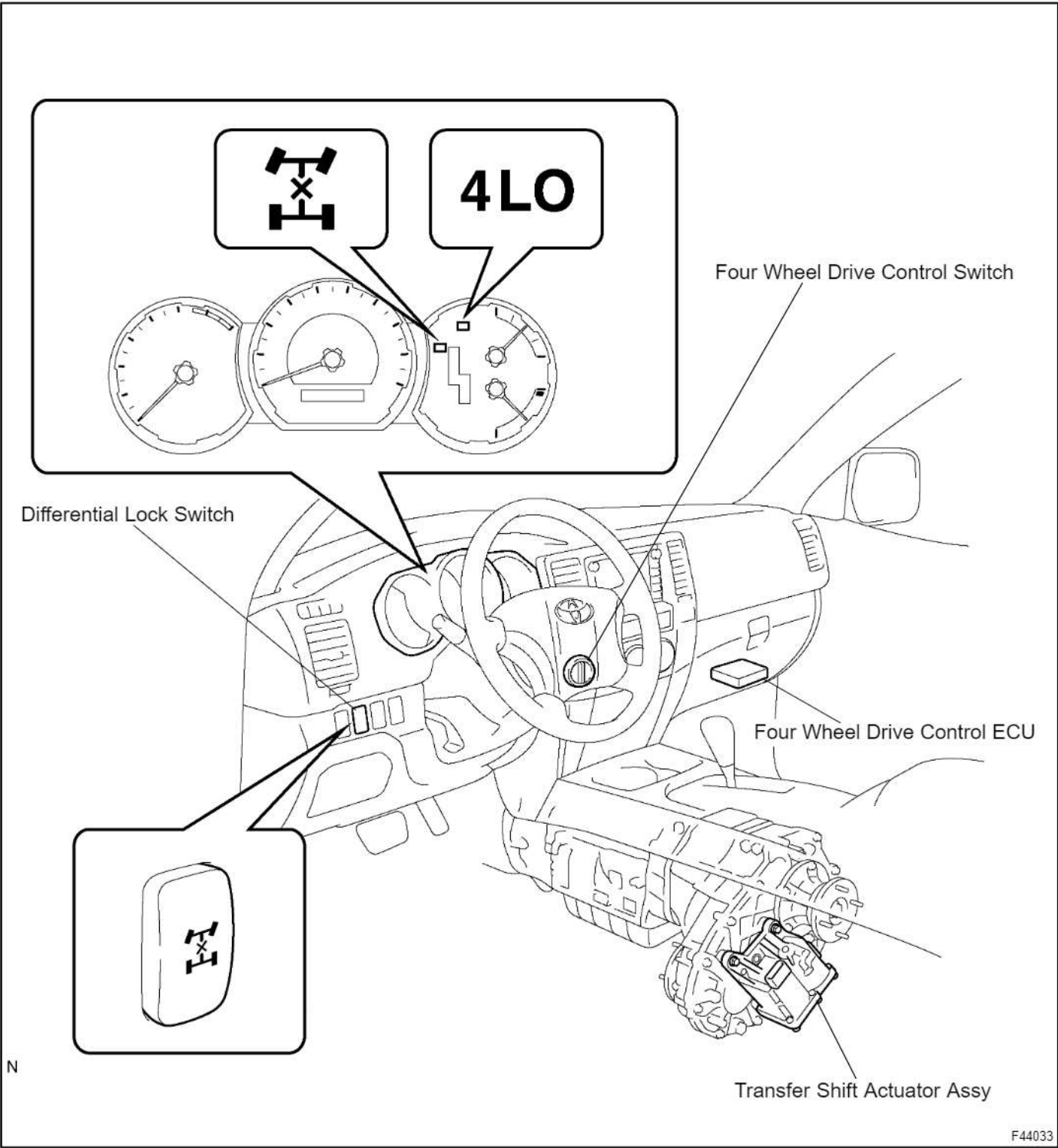
- 159. INSTALL TRANSFER CASE LOWER PROTECTOR
 - (a) Install the transfer case lower protector with the 4 bolts.
Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

- 160. INSTALL TRANSMISSION CONTROL CABLE BRACKET NO.1 (See page 40-29 or 40-37)
- 161. CONNECT TRANSMISSION CONTROL CABLE ASSY (See page 40-29 or 40-37)
- 162. INSTALL OIL COOLER INLET TUBE NO.1 (See page 40-29 or 40-37)
SST 09023-12700
- 163. CONNECT OIL COOLER OUTLET TUBE NO.1 (See page 40-29 or 40-37)
SST 09023-12700
- 164. INSTALL TRANSMISSION OIL FILLER TUBE SUB-ASSY (See page 40-29 or 40-37)
- 165. INSTALL FRONT SUSPENSION MEMBER BRACKET LH (See page 40-29 or 40-37)
- 166. INSTALL FRONT SUSPENSION MEMBER BRACKET (See page 40-29 or 40-37)
- 167. ADD TRANSFER OIL (See page 31-5)
- 168. ADD AUTOMATIC TRANSMISSION FLUID (See page 40-29 or 40-37)
- 169. INSPECT AUTOMATIC TRANSMISSION FLUID (See page 40-29 or 40-37)
- 170. INSTALL PROPELLER SHAFT ASSY (See page 30-4)
- 171. INSTALL PROPELLER SHAFT ASSY FRONT (See page 30-4)
- 172. INSTALL EXHAUST PIPE ASSY (See page 30-4)
- 173. CONNECT OXYGEN SENSOR (See page 14-210)
- 174. INSTALL ENGINE UNDER COVER ASSY REAR (See page 14-210)
- 175. INSTALL ENGINE UNDER COVER SUB-ASSY NO.1 (See page 14-210)
- 176. INSPECT AUTOMATIC TRANSMISSION FLUID (See page 40-29 or 40-37)
- 177. INSPECT SHIFT LEVER POSITION (See page 40-29 or 40-37)
- 178. CHECK FOR EXHAUST GAS LEAK
- 179. WARM UP
- 180. DRIVING TEST

SELECT HIGH-LOW SYSTEM (VF4BM)

LOCATION

31034-01

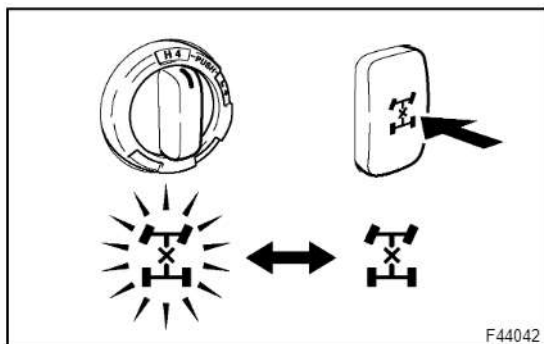


F44033

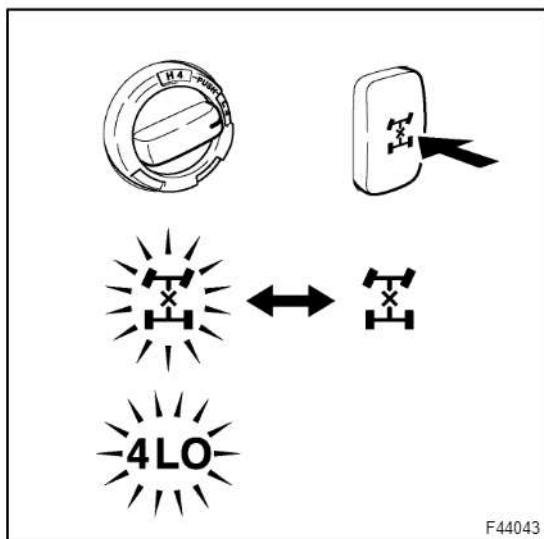
INSPECTION

NOTICE:

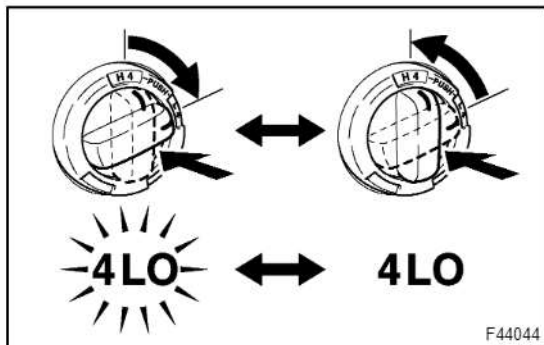
- ★ Switch the four wheel drive control switch under the condition that A/T shift lever is in "N" position and the vehicle speed is 5 km/h or less.
- ★ Do not operate the four wheel drive control switch and the differential lock switch at the same time.



F44042



F44043



F44044

1. INSPECT H4 (Differential lock "FREE") ⇔ H4 (Differential lock "LOCK") SHIFT

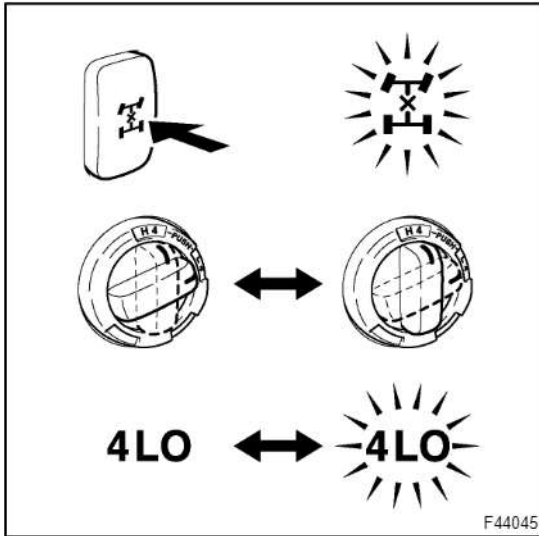
- (a) Start the engine, and the differential lock switch is in "OFF" position.
- (b) Turn the four wheel drive control switch to "H4" position while pressing it.
- (c) Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds. Check that the center diff. lock indicator light goes off after pressing the differential lock switch for 2 seconds.

2. INSPECT L4 (Differential lock "FREE") ⇔ L4 (Differential lock "LOCK") SHIFT

- (a) Start the engine, and differential lock switch is in "OFF" position.
- (b) Turn the four wheel drive control switch to "L4" position while pressing it.
- (c) Check that the 4LO indicator light comes on after it is blinking.
- (d) Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds. Check that the center diff. lock indicator light goes off after pressing the differential lock switch for 2 seconds.

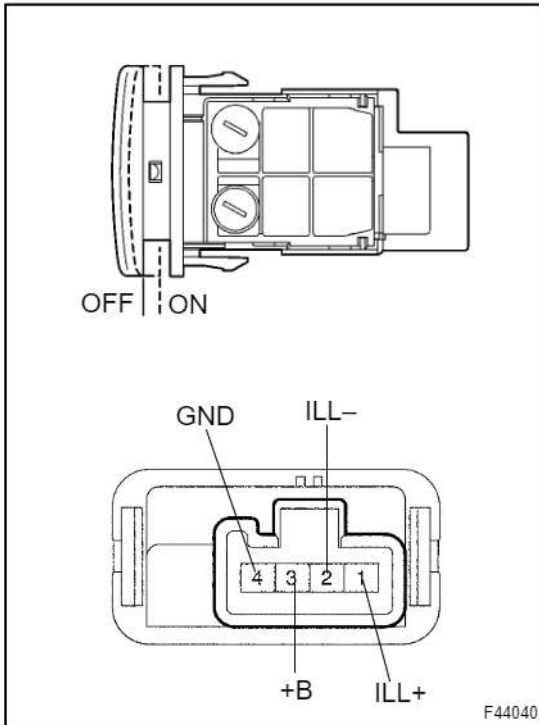
3. INSPECT H4 (Differential lock "FREE") ⇔ L4 (Differential lock "FREE") SHIFT

- (a) Start the engine, and differential lock switch is in "OFF" position.
- (b) Turn the four wheel drive control switch from the "H4" position to the "L4" position while pressing it.
- (c) Check that the 4LO indicator light comes on after it is blinking.
- (d) Turn the four wheel drive control switch from the "L4" position to the "H4" position while pressing it.
- (e) Check that the 4LO indicator light goes off after it is blinking.



4. INSPECT H4 (Differential lock "LOCK") ⇔ L4 (Differential lock "LOCK") SHIFT

- Start the engine, and differential lock switch is in "OFF" position.
- Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds.
- Turn the four wheel drive control switch from the "H4" position to the "L4" position while pressing it.
- Check that the 4LO indicator light comes on after it is blinking.
- Turn the four wheel drive control switch from the "L4" position to the "H4" position while pressing it.
- Check that the 4LO indicator light goes off after it is blinking.

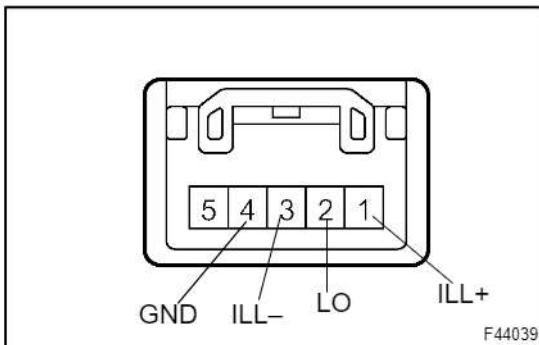


5. INSPECT DIFFERENTIAL LOCK SWITCH CONTINUITY

- Remove the instrument panel finish lower panel sub-assy.
- Remove the differential lock switch from the instrument panel finish lower sub-assy.
- Inspect the continuity between the each terminal.

Switch position	Tester connection	Specified condition
OFF	+B (3) ⇔ GND (4)	No continuity
Hold ON	+B (3) ⇔ GND (4)	Continuity
Illumination	ILL+ (1) ⇔ ILL- (2)	Continuity

If continuity is not as specified, replace the differential lock switch or bulb.



6. INSPECT FOUR WHEEL DRIVE CONTROL SWITCH

- Remove the center instrument cluster finish panel sub-assy.
- Remove the four wheel drive control switch from the center instrument cluster finish panel sub-assy.
- Inspect the continuity between the each terminals.

Switch position	Tester connection	Specified condition
H4	LO (2) ⇔ GND (4)	No continuity
L4	LO (2) ⇔ GND (4)	Continuity
Illumination	ILL+ (1) ⇔ ILL- (3)	Continuity

If continuity is not as specified, replace the four wheel drive control switch or bulb.

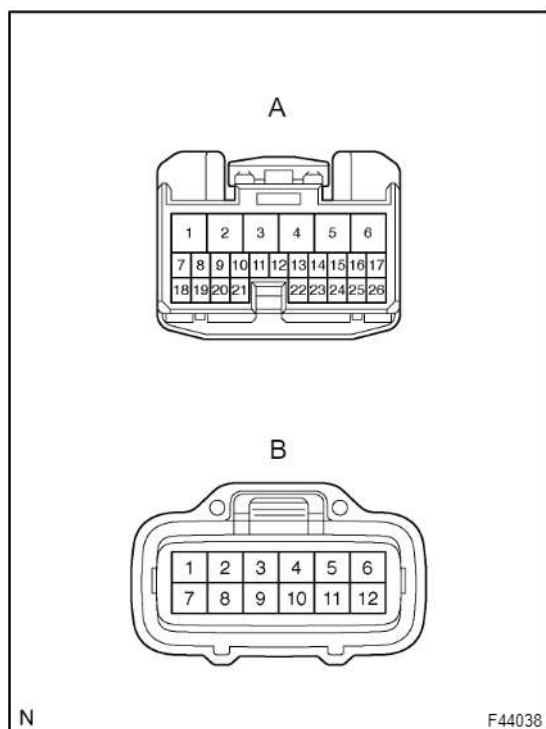
7. INSPECT ACTUATOR

NOTICE:

Do as inspect the actuator while overhauling the transfer or as a unit.

- Turn the ignition switch to ON.
- Check the operating sound produced by four wheel drive control switch operation and the differential lock switch operation.

If the operating sound cannot be heard, check the four wheel control ECU and the wire harness in the next step. When the wire harness and four wheel drive control ECU is normal, replace the actuator.



8. INSPECT WIRE HARNESS

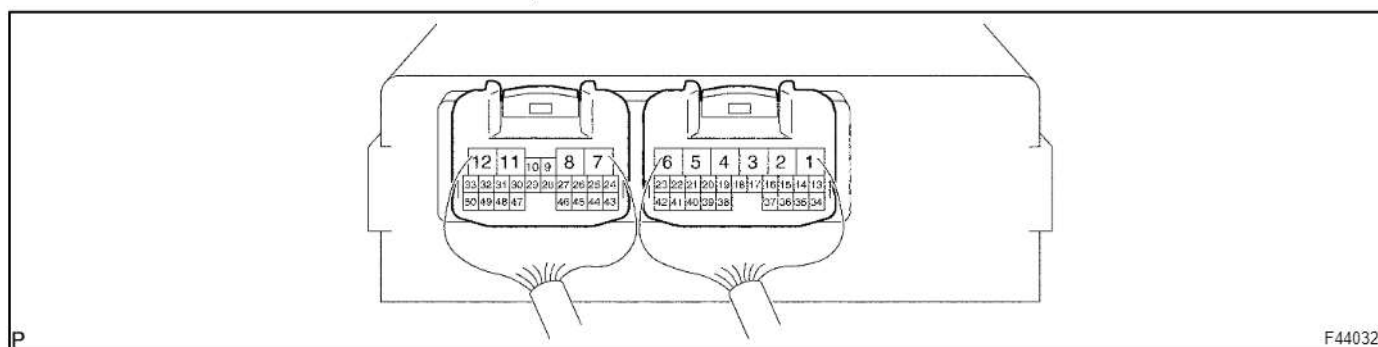
- Disconnect the actuator connector and four wheel drive control ECU connector.
- Check continuity on the wire harness between four wheel drive control ECU and the actuator.

Tester connection	Specified condition
TM1 (A-2) – TM1 (B-2)	Continuity
TM2 (A-5) – TM2 (B-1)	Continuity
TL2 (A-24) – TL2 (B-4)	Continuity
TL3 (A-23) – TL3 (B-5)	Continuity
HM2 (A-4) – HM2 (B-7)	Continuity
HM1 (A-1) – HM1 (B-8)	Continuity
P1 (A-22) – CDL (B-9)	Continuity
HL2 (A-26) – HL2 (B-11)	Continuity
HL1 (A-17) – HL1 (B-12)	Continuity

If continuity is not as specified, repair or replace the wire harness.

9. INSPECT FOUR WHEEL DRIVE CONTROL ECU

- Connect the wire harness side connector to the four wheel drive control ECU and inspect wire harness side connector from the back side, as shown.



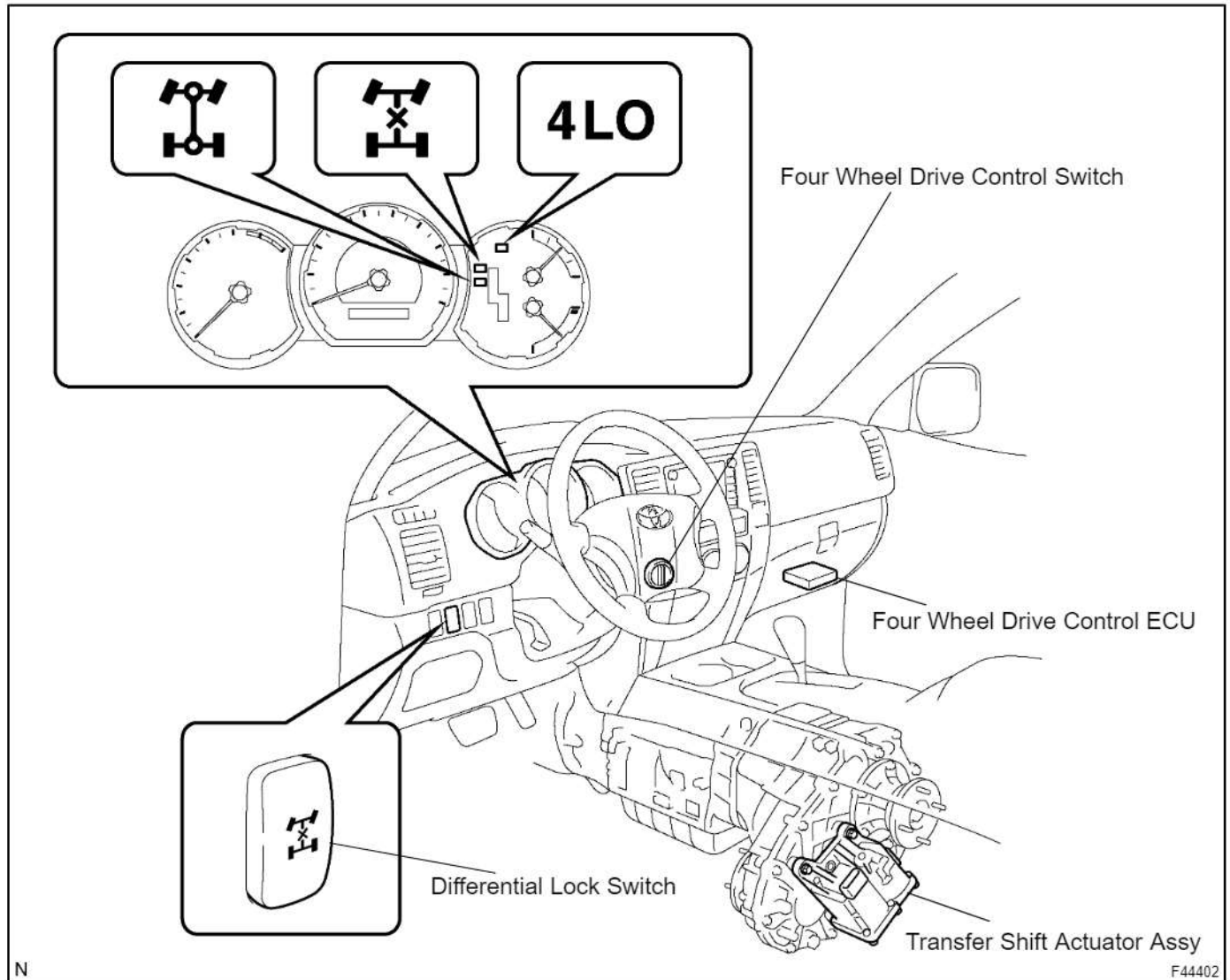
STANDARD VALUE OF ECU TERMINAL

Terminals (Symbols)	Condition	STD Voltage (V)
26 (SPD) – 7 (GND)	During driving	Pulse generation
48 (N) – 7 (GND)	★Ignition switch ON ★Transmission shift lever other position → Transmission shift lever N position	10 – 14 → 2 or less
33 (DL) – 7 (GND)	★Ignition switch ON ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	10 – 14 → 2 or less
39 (TL3) – 7 (GND)	★Ignition switch ON ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	2 or less → 10 – 14
12 (IG) – 7 (GND)	Ignition switch ON	10 – 14
2 (TM1) – 5 (TM2)	★Ignition switch ON ★Differential lock switch is in "OFF" position	10 – 14 (for about 5 seconds) then less than 0.5
	★Ignition switch ON ★Keep pressing the differential lock switch approx. 2 seconds to turn it ON	
32 (LO) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less
46 (IND2) – 7 (GND)	★Ignition switch ON ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	10 – 14 → 1.5 – 3.5
28 (IND3) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 1.5 – 3.5
40 (TL2) – 7 (GND)	★Ignition switch ON ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	10 – 14 → 2 or less
7 (GND) – Body ground	Ignition switch OFF	Continuity
50 (L4) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less
1 (HM1) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less
4 (HM2) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	2 or less → 10 – 14
23 (HL1) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less
42 (HL2) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	2 or less → 10 – 14

SELECT 2-4 AND HIGH-LOW SYSTEM (VF4AM)

LOCATION

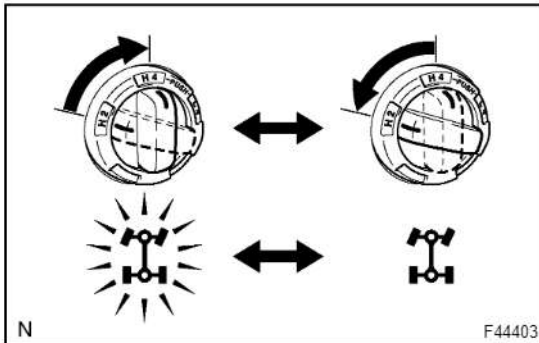
3103Z-02



INSPECTION

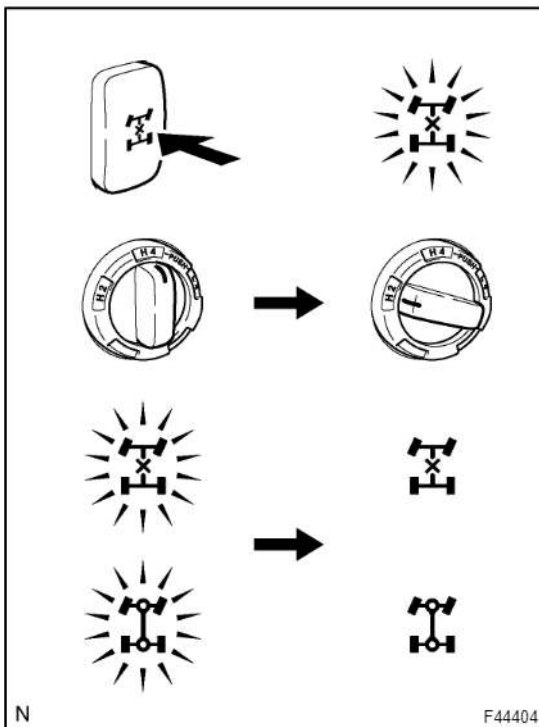
NOTICE:

- ★ **H4 ⇔ L4:** Stop the vehicle and apply brake, then shift the transmission shift lever into "N" position first.
- ★ **Do not operate the four wheel drive control switch and the differential lock switch at the same time.**
- ★ **Do not change from 2WD to 4WD when the vehicle speed is 100 km/h or more.**



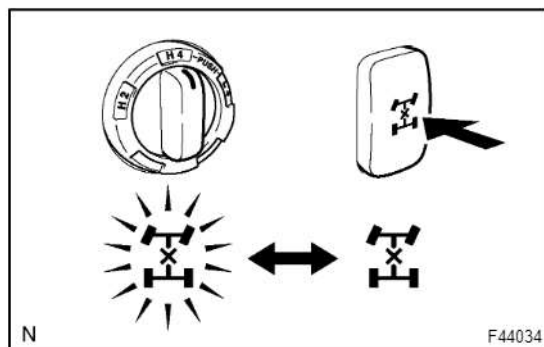
1. INSPECT H2 (2WD) ⇔ H4 (4WD and Differential lock "FREE") SHIFT

- (a) Start the engine, and the differential lock switch is in "OFF" position.
- (b) Turn the four wheel drive control switch from the "H2" position to the "H4" position.
- (c) Check that the 4WD indicator light comes on after it is blinking. (The center diff. lock indicator blinks while shifting.)
- (d) Turn the four wheel drive control switch from the "H4" position to the "H2" position. (The center diff. lock indicator blinks while shifting.)
- (e) Check that the 4WD indicator light goes off after it is blinking.



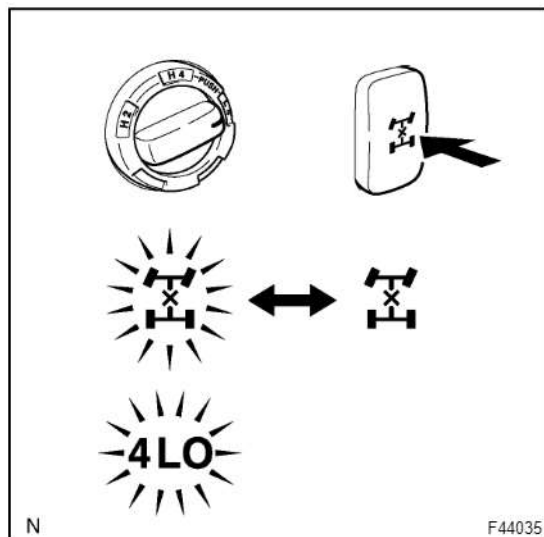
2. INSPECT H4 (4WD and Differential lock "LOCK") → H2 (2WD) SHIFT

- (a) Start the engine, and differential lock switch is in "OFF" position.
- (b) Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds.
- (c) Turn the four wheel drive control switch from the "H4" position to the "H2" position.
- (d) Check that the 4WD indicator light and center diff. lock indicator light goes off after those are blinking.



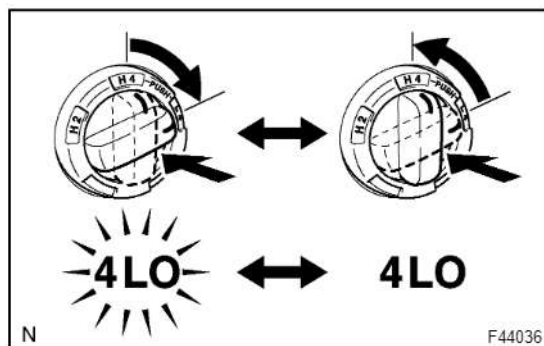
3. INSPECT H4 (4WD and Differential lock "FREE") ⇔ H4 (4WD and Differential lock "LOCK") SHIFT

- Start the engine, and the differential lock switch is in "OFF" position.
- Turn the four wheel drive control switch to "H4" position while pressing it.
- Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds. Check that the center diff. lock indicator light goes off after pressing the differential lock switch for 2 seconds.



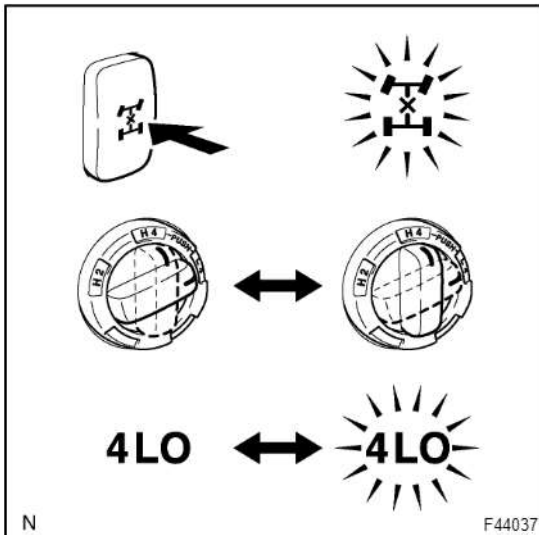
4. INSPECT L4 (4WD and Differential lock "FREE") ⇔ L4 (4WD and Differential lock "LOCK") SHIFT

- Start the engine, and differential lock switch is in "OFF" position.
- Turn the four wheel drive control switch to "L4" position while pressing it.
- Check that the 4LO indicator light comes on after it is blinking.
- Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds. Check that the center diff. lock indicator light goes off after pressing the differential lock switch for 2 seconds.



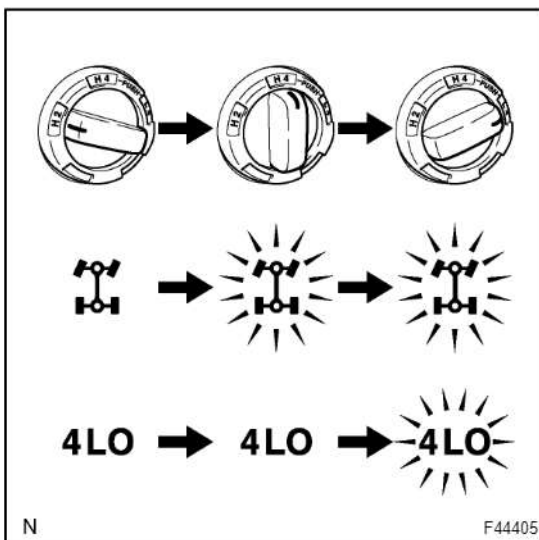
5. INSPECT H4 (4WD and Differential lock "FREE") ⇔ L4 (4WD and Differential lock "FREE") SHIFT

- Start the engine, and differential lock switch is in "OFF" position.
- Turn the four wheel drive control switch from the "H4" position to the "L4" position while pressing it.
- Check that the 4LO indicator light comes on after it is blinking.
- Turn the four wheel drive control switch from the "L4" position to the "H4" position while pressing it.
- Check that the 4LO indicator light goes off after it is blinking.



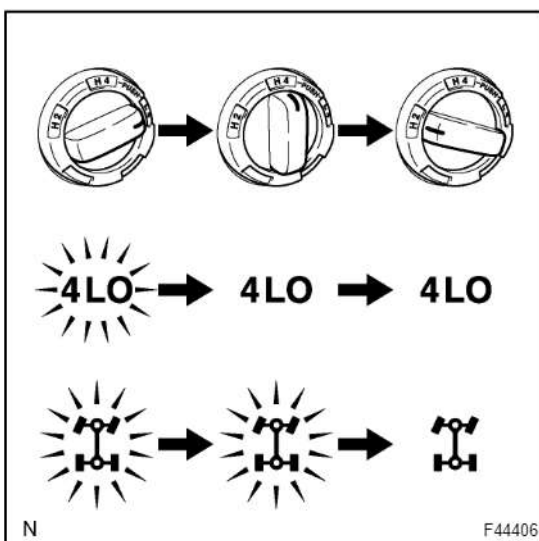
6. INSPECT H4 (4WD and Differential lock "LOCK") ⇔ L4 (4WD and Differential lock "LOCK") SHIFT

- Start the engine, and differential lock switch is in "OFF" position.
- Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds.
- Turn the four wheel drive control switch from the "H4" position to the "L4" position while pressing it.
- Check that the 4LO indicator light comes on after it is blinking.
- Turn the four wheel drive control switch from the "L4" position to the "H4" position while pressing it.
- Check that the 4LO indicator light goes off after it is blinking.



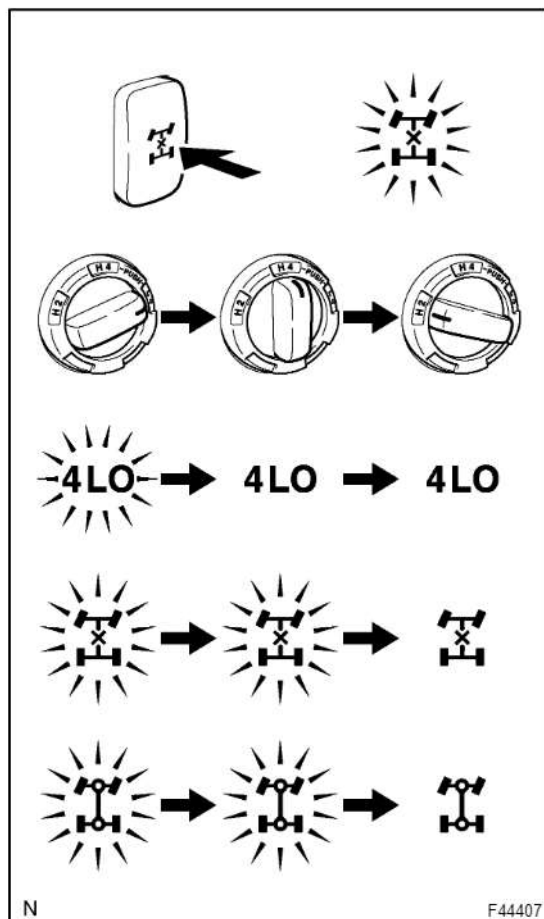
7. INSPECT H2 (2WD) → L4 (4WD and Differential lock "FREE") SHIFT

- Start the engine, and differential lock switch is in "OFF" position.
- Turn the four wheel drive control switch from the "H2" position to the "H4" position.
- Check that the 4WD indicator light comes on after it is blinking. (The center diff. lock indicator blinks while shifting.)
- Turn the four wheel drive control switch from the "H4" position to the "L4" position while pressing it.
- Check that the 4LO indicator light comes on after it is blinking.



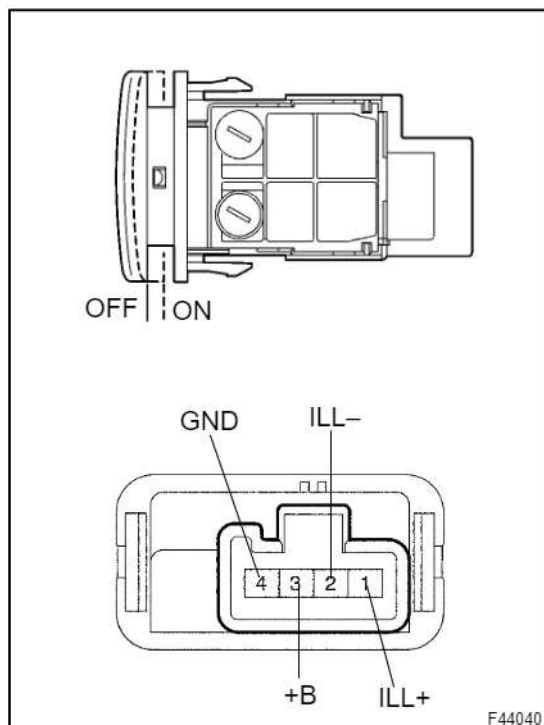
8. INSPECT L4 (4WD and Differential lock "FREE") → H2 (2WD) SHIFT

- Start the engine, and differential lock switch is in "OFF" position.
- Turn the four wheel drive control switch from the "L4" position to the "H4" position while pressing it.
- Check that the 4LO indicator light goes off after it is blinking.
- Turn the four wheel drive control switch from the "H4" position to the "H2" position.
- Check that the 4WD indicator light goes off after it is blinking. (The center diff. lock indicator blinks while shifting.)



9. INSPECT L4 (4WD and Differential lock "LOCK") → H2 (2WD) SHIFT

- Start the engine, and differential lock switch is in "OFF" position.
- Check that the center diff. lock indicator light comes on after pressing the differential lock switch for 2 seconds.
- Turn the four wheel drive control switch from the "L4" position to the "H4" position while pressing it.
- Check that the 4LO indicator light goes off after it is blinking.
- Turn the four wheel drive control switch from the "H4" position to the "H2" position.
- Check that the 4WD indicator light and center diff. lock indicator light goes off after those are blinking.

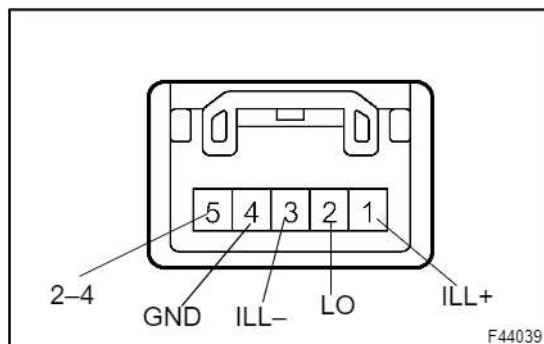


10. INSPECT DIFFERENTIAL LOCK SWITCH CONTINUITY

- Remove the instrument panel finish lower panel sub-assy.
- Remove the differential lock switch from the instrument panel finish lower sub-assy.
- Inspect the continuity between the each terminal.

Switch position	Tester connection	Specified condition
OFF	+B (3) $\Rightarrow$ GND (4)	No continuity
Hold ON	+B (3) $\Rightarrow$ GND (4)	Continuity
Illumination	ILL+ (1) $\Rightarrow$ ILL- (2)	Continuity

If continuity is not as specified, replace the differential lock switch or bulb.



11. INSPECT FOUR WHEEL DRIVE CONTROL SWITCH

- Remove the center instrument cluster finish panel sub-assy.
- Remove the four wheel drive control switch from the center instrument cluster finish panel sub-assy.
- Inspect the continuity between the each terminals.

Switch position	Tester connection	Specified condition
H2	2-4 (5) $\Rightarrow$ GND (4)	Continuity
H4	2-4 (5) $\rightarrow$ GND (4)	Continuity
	2-4 (5) $\leftarrow$ GND (4)	No continuity
	LO (2) $\rightarrow$ GND (4)	Continuity
	LO (2) $\leftarrow$ GND (4)	No continuity
L4	LO (2) $\Rightarrow$ GND (4)	Continuity
Illumination	ILL+ (1) $\Rightarrow$ ILL- (3)	Continuity

If continuity is not as specified, replace the four wheel drive control switch or bulb.

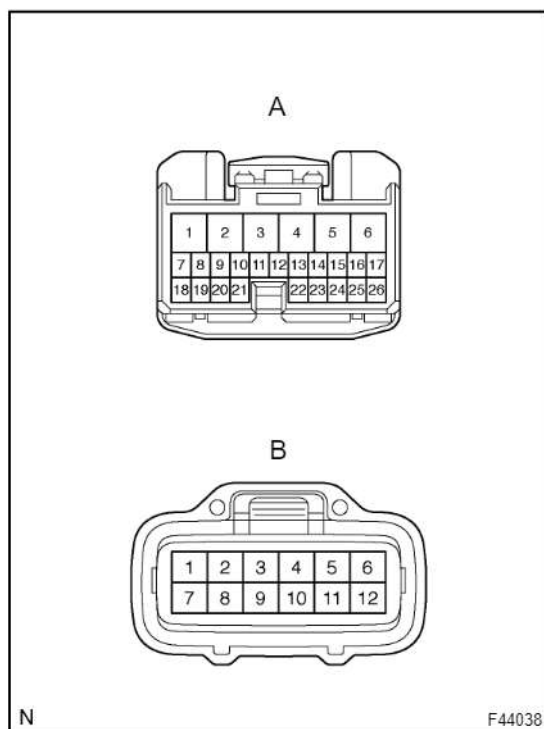
12. INSPECT ACTUATOR

NOTICE:

Do as inspect the actuator while overhauling the transfer or as a unit.

- Turn the ignition switch to ON.
- Check the operating sound produced by four wheel drive control switch operation and the differential lock switch operation.

If the operating sound cannot be heard, check the four wheel control ECU and the wire harness in the next step. When the wire harness and four wheel drive control ECU is normal, replace the actuator.



13. INSPECT WIRE HARNESS

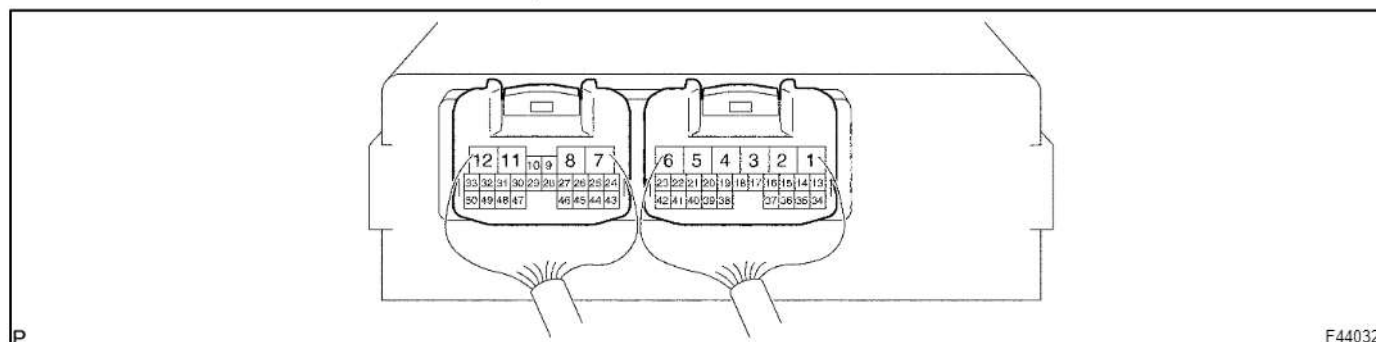
- Disconnect the actuator connector and four wheel drive control ECU connector.
- Check continuity on the wire harness between four wheel drive control ECU and the actuator.

Tester connection	Specified condition
TM1 (A-2) - TM1 (B-2)	Continuity
TM2 (A-5) - TM2 (B-1)	Continuity
TL1 (A-41) - TL1 (B-3)	Continuity
TL2 (A-24) - TL2 (B-4)	Continuity
TL3 (A-23) - TL3 (B-5)	Continuity
HM2 (A-4) - HM2 (B-7)	Continuity
HM1 (A-1) - HM1 (B-8)	Continuity
P1 (A-22) - CDL (B-9)	Continuity
HL2 (A-26) - HL2 (B-11)	Continuity
HL1 (A-17) - HL1 (B-12)	Continuity

If continuity is not as specified, repair or replace the wire harness.

14. INSPECT FOUR WHEEL DRIVE CONTROL ECU

- (a) Connect the wire harness side connector to the four wheel drive control ECU and inspect wire harness side connector from the back side, as shown.



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STANDARD VALUE OF ECU TERMINAL

Terminals (Symbols)	Condition	STD Voltage (V)
1 (HM1) – 4 (HM2)	★ Ignition switch ON ★ Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less or 0 (0.5 s) – 14 (50 ms) pulse generation
4 (HM2) – 1 (HM1)	★ Ignition switch ON ★ Four wheel drive control switch "L4" position → Four wheel drive control switch "H4" position	
2 (TM1) – 5 (TM2)	★ Ignition switch ON ★ Differential lock switch is in "OFF" position ★ Four wheel drive control switch "H2" position → Four wheel drive control switch "H4" position	10 – 14 → 2 or less or 0 (0.5 s) – 14 (50 ms) pulse generation
5 (TM2) – 2 (TM1)	★ Ignition switch ON ★ Keep pressing the differential lock switch approx. 2 seconds to turn it ON ★ Four wheel drive control switch "H4" position or "L4" position → Four wheel drive control switch "H2" position	
3 (DM1) – 6 (DM2)	★ Ignition switch ON ★ A.D.D. FREE → A.D.D. LOCK	10 – 14 → 2 or less or 0 (0.5 s) – 14 (50 ms) pulse generation
6 (DM2) – 3 (DM1)	★ Ignition switch ON ★ A.D.D. LOCK → A.D.D. FREE	
4 (HM2) – 7 (GND)	★ Ignition switch ON ★ Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	2 or less → 10 – 14
7 (GND) – Body ground	Ignition switch OFF	Continuity
12 (IG) – 7 (GND)	Ignition switch ON	10 – 14
18 (DL2) – 7 (GND)	★ Ignition switch ON ★ A.D.D. LOCK → A.D.D. FREE	2 or less → 10 – 14
19 (DL1) – 7 (GND)	★ Ignition switch ON ★ A.D.D. FREE → A.D.D. LOCK	2 or less → 10 – 14
23 (HL1) – 7 (GND)	★ Ignition switch ON ★ Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less
25 (2-4) – 7 (GND)	★ Ignition switch ON ★ Four wheel drive control switch "L4" position → Four wheel drive control switch "H2" position or "H4" position	10 – 14 → 2 or less
26 (SPD) – 7 (GND)	During driving	Pulse generation
28 (IND3) – 7 (GND)	★ Ignition switch ON ★ Four wheel drive control switch "H2" position → Four wheel drive control switch "L4" position	10 – 14 → 0 – 3.5

TRANSFER – SELECT 2-4 AND HIGH-LOW SYSTEM (VF4AM)

Terminals (Symbols)	Condition	STD Voltage (V)
32 (LO) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H2" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less
33 (DL) – 7 (GND)	★Ignition switch ON ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	10 – 14 → 2 or less
34 (ADD) – 7 (GND)	★Ignition switch ON ★A.D.D. FREE → A.D.D. LOCK	10 – 14 → 2 or less
39 (TL3) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H2" position → Four wheel drive control switch "L4" position ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	2 or less → 10 – 14
40 (TL2) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H2" position → Four wheel drive control switch "H4" position ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	10 – 14 → 2 or less
41 (TL1) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H2" position → Four wheel drive control switch "H4" position or "L4" position ★Differential lock switch is in "OFF" position → "ON" position	2 or less → 10 – 14
42 (HL2) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	2 or less → 10 – 14
45 (IND1) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H2" position → Four wheel drive control switch "H4" position or "L4" position	10 – 14 → 0 – 3.5
46 (IND2) – 7 (GND)	★Ignition switch ON ★Differential lock switch is in "OFF" position → Keep pressing the differential lock switch approx. 2 seconds to turn it ON	10 – 14 → 0 – 3.5
48 (N) – 7 (GND)	★Ignition switch ON ★Transmission shift lever other position → Transmission shift lever N position	2 or less → 10 – 14
50 (L4) – 7 (GND)	★Ignition switch ON ★Four wheel drive control switch "H4" position → Four wheel drive control switch "L4" position	10 – 14 → 2 or less