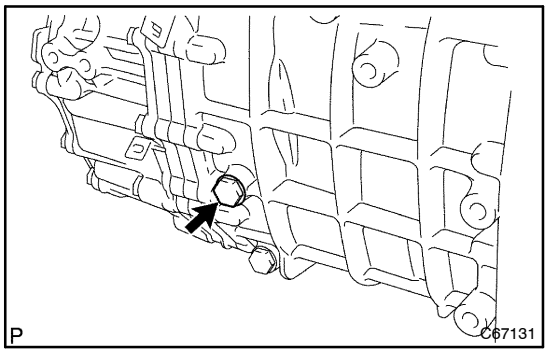
4106V–01

OVERHAUL

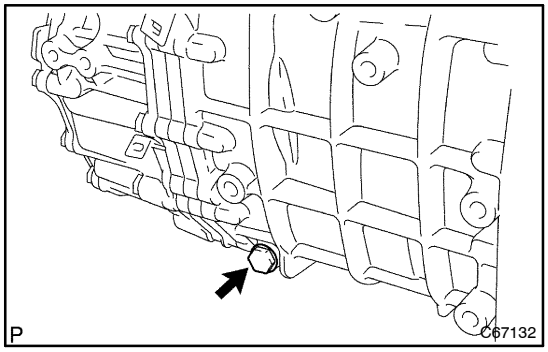
NOTICE:

When working with FIPG (seal packing) material, you must observe the following items.

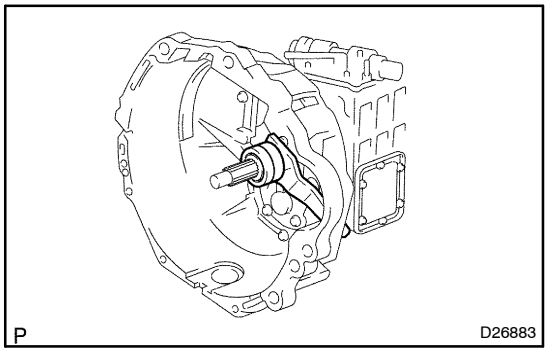
- **Using a razor blade and gasket scraper, remove all the old FIPG material from the gasket surfaces.**
- **Thoroughly clean all components to remove all the loose material.**
- **Clean both sealing surfaces with a non–residue solvent.**
- **Apply FIPG in an approx. 1.2 mm (0.05 in.) wide bead along the sealing surface.**
- **Parts must be assembled within 10 minutes of application. Otherwise, the FIPG material must be removed and reapplied.**



1. REMOVE FILLER PLUG

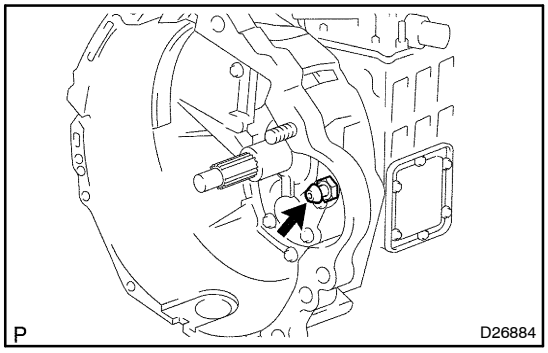


2. REMOVE DRAIN PLUG



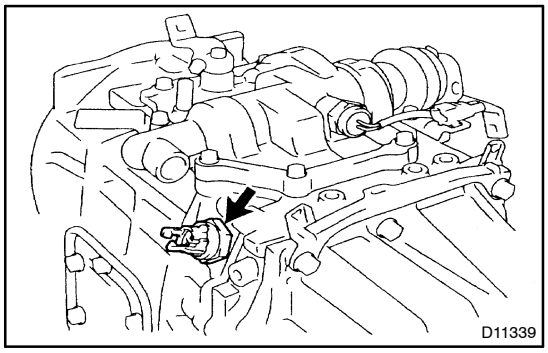
3. REMOVE CLUTCH RELEASE FORK SUB–ASSY

4. REMOVE CLUTCH RELEASE BEARING ASSY



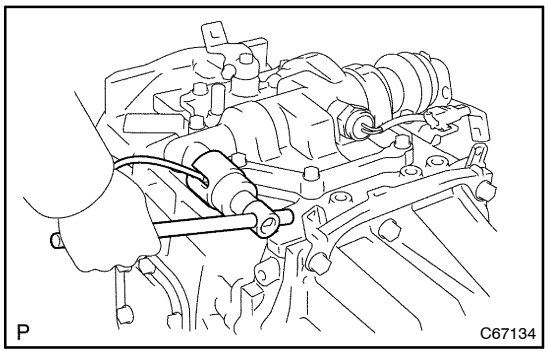
5. REMOVE RELEASE FORK SUPPORT

6. REMOVE CLUTCH RELEASE FORK BOOT



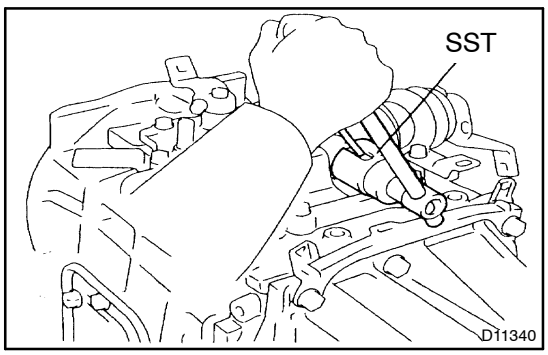
7. REMOVE BACK UP LAMP SWITCH ASSY

(a) Remove the back up lamp switch assy and gasket.



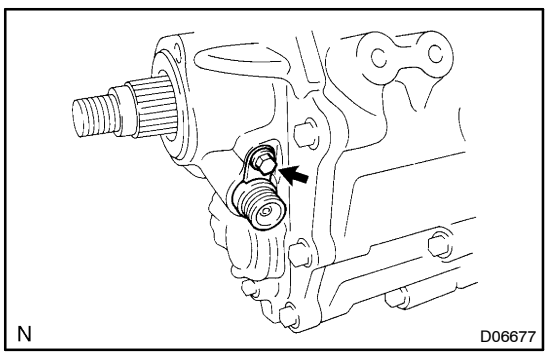
8. REMOVE SHIFT POSITION SWITCH

(a) Using SST, remove the shift position switch and gasket.
SST 09817–16011



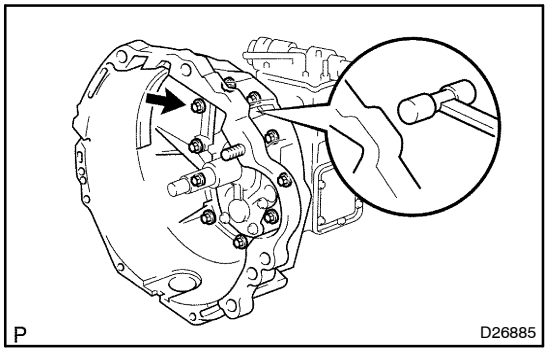
9. REMOVE EXHAUST BRAKE NEUTRAL SWITCH ASSY

(a) Using SST, remove the neutral switch and gasket.
SST 09817–16011



10. REMOVE SPEEDOMETER DRIVEN (MTM) GEAR SUB–ASSY

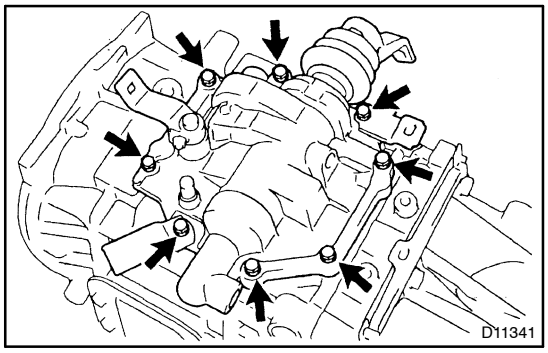
(a) Remove the bolt, lock plate driven gear sub–assy and O–ring.



11. REMOVE CLUTCH HOUSING

(a) Remove the 10 bolts.

(b) Using a plastic hammer, tap out the clutch housing.



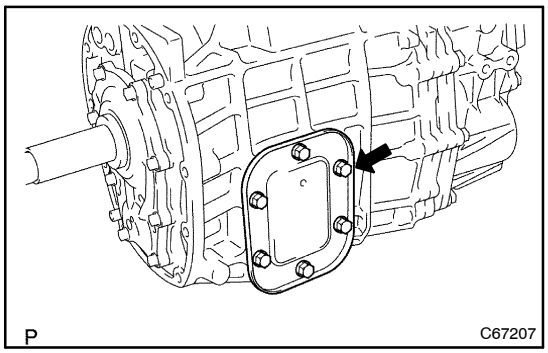
12. REMOVE SHIFT LEVER SHAFT HOUSING ASSY

HINT:

The lever must be removed after shifting it in the neutral position.

(a) Remove the 8 bolts and 2 clamps.

(b) Using a plastic hammer, carefully tap out the shift lever shaft housing.

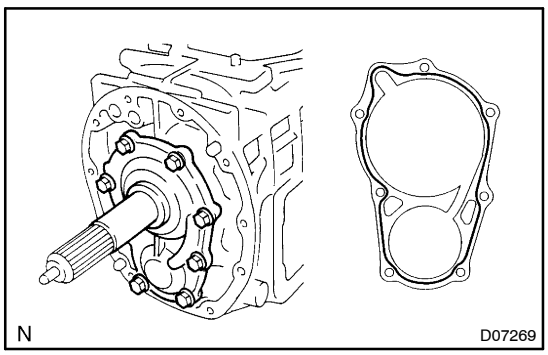


13. REMOVE MANUAL TRANSMISSION POWER TAKE–OFF COVER (W/O POWER TAKE OFF)

(a) Remove the 6 bolts, cover and gasket.

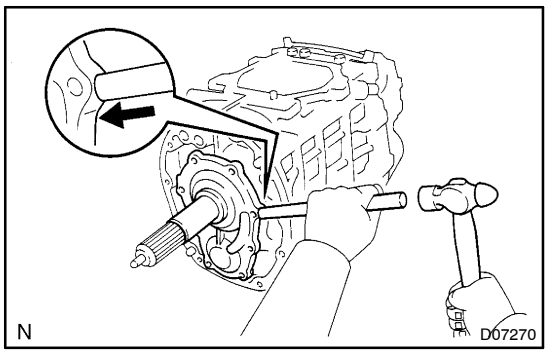
14. REMOVE POWER TAKE–OFF ASSY (W/ POWER TAKE OFF)

(See pub. No. RM931E on page 87 – 2)

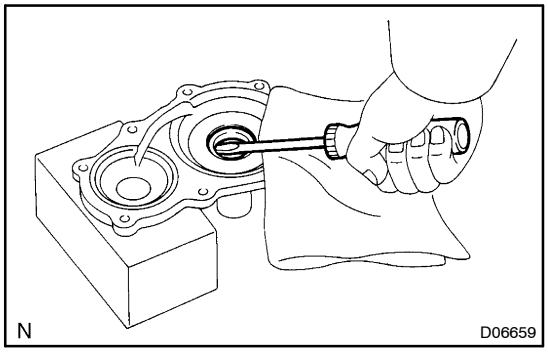


15. REMOVE BEARING RETAINER FRONT (MTM)

(a) Remove the 8 bolts.



(b) Using a brass bar and hammer, carefully tap out the front bearing retainer.

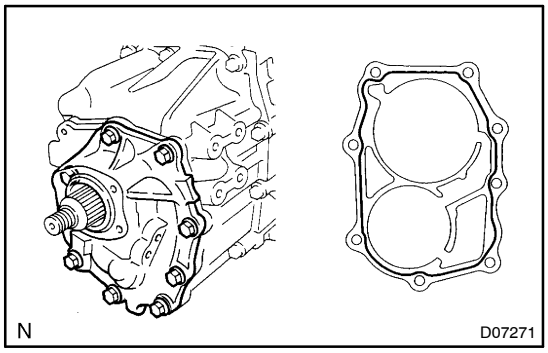


16. REMOVE TRANSMISSION FRONT BEARING RETAINER OIL SEAL

(a) Using a screwdriver, pry out the oil seal.

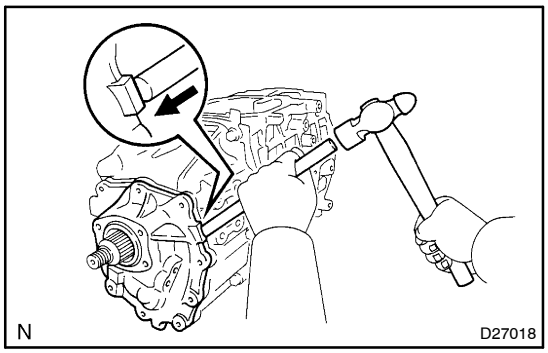
NOTICE:

Protect the bearing retainer with a shop rag to prevent damage.



17. REMOVE OUTPUT SHAFT REAR BEARING (MTM) RETAINER

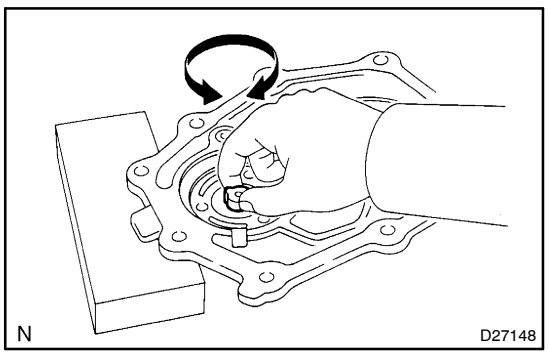
(a) Remove the 9 bolts.



(b) Using a brass bar and hammer, carefully tap out the bearing retainer.

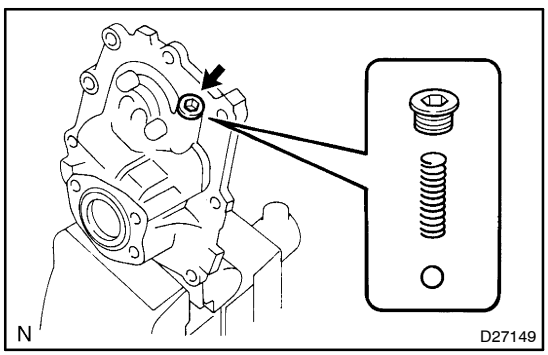
HINT:

Make the brass bar touched the lib portion of the case.



18. INSPECT OIL PUMP

(a) Rotate the oil pump drive shaft lightly and check that the drive rotor turns smoothly.



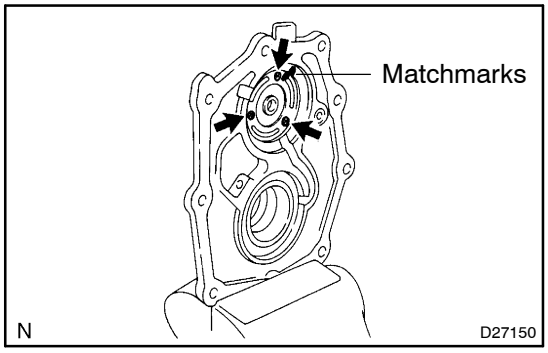
19. REMOVE OIL PUMP ASSY

(a) Remove the plug, compression spring and ball.

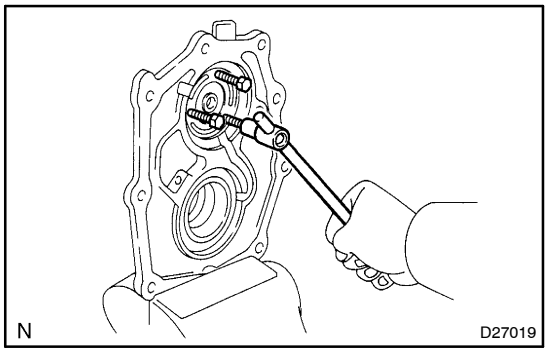
(1) Fix the rear bearing retainer onto a vise through the aluminum plate.

(2) Using a torx socket wrench (T40), remove the plug.

(3) Using a magnetic finger, remove the spring and ball.

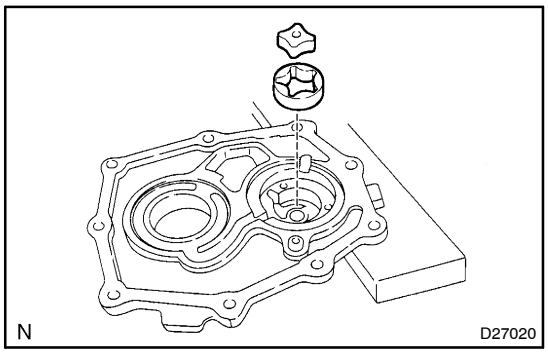


(b) Remove the oil pump cover.
(1) Remove the oil pump drive shaft.
(2) Place matchmarks on the oil pump cover and rear bearing retainer.
(3) Using a torx socket wrench (T30), remove the 3 screws.



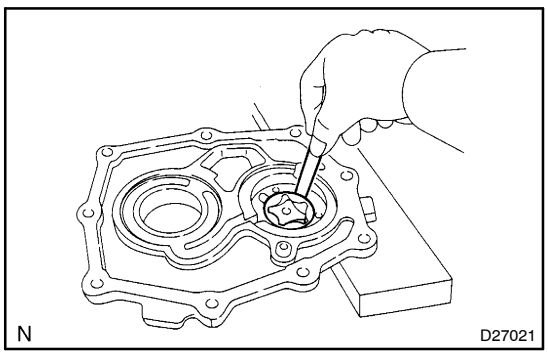
(4) Install 3 bolts (normal diameter 8 mm, pitch 1.25 mm, length under the neck 35 mm) on the oil pump cover and tighten them equally, and then remove the oil pump cover.

NOTICE:
Do not force in the bolts.



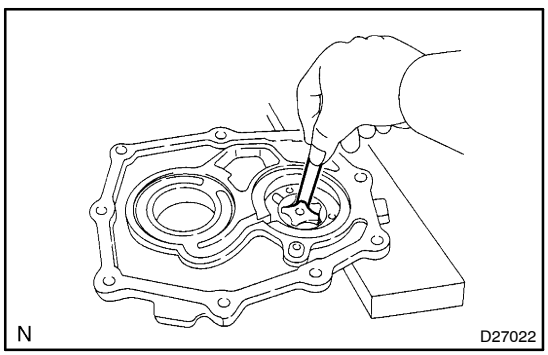
(c) Remove the drive and driven rotors.

HINT:
If the teeth section of the drive and driven rotors have scratches, replace them with the new ones.

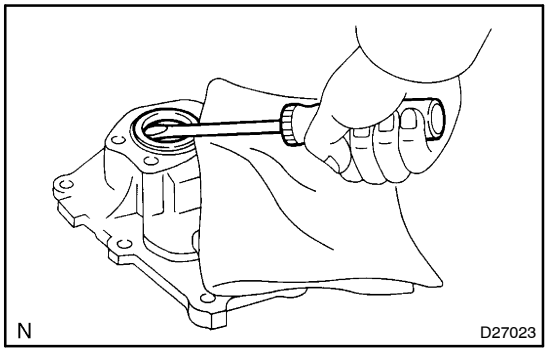


20. INSPECT ROTOR

(a) Inspect the driven rotor for body clearance.
Using a feeler gauge, measure the clearance between the driven rotor and body.
Standard body clearance:
0.02 – 0.17 mm (0.0008 – 0.0067 in.)
Maximum body clearance: 0.17 mm (0.0067 in.)



(b) Inspect the rotors for tip clearance.
Using a feeler gauge, measure the clearance between the drive rotor and driven rotor.
Standard tip clearance:
0.05 – 0.15 mm (0.0020 – 0.0059 in.)
Maximum tip clearance: 0.15 mm (0.0059 in.)

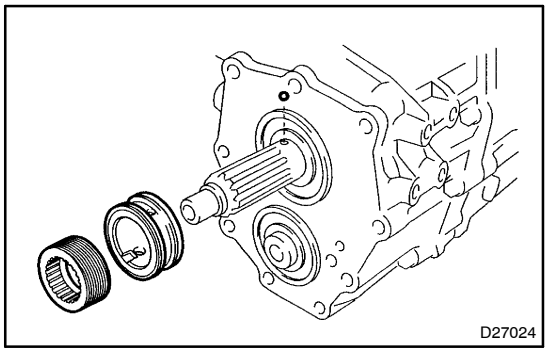


21. REMOVE TYPE T OIL SEAL

(a) Using a screwdriver, pry out the oil seal.

NOTICE:

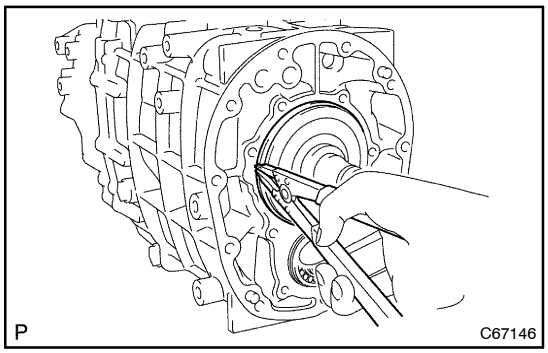
Protect the bearing retainer with a shop rag not to damage it.



22. REMOVE SPEEDOMETER DRIVE (MTM) GEAR

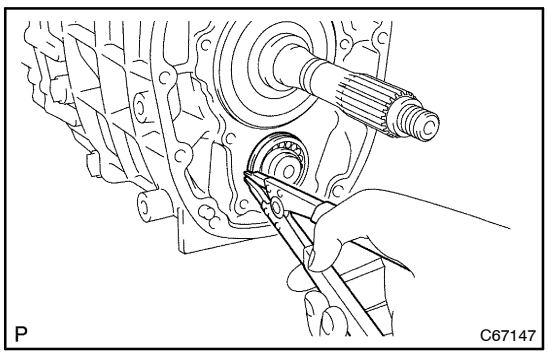
23. REMOVE SPEEDOMETER DRIVE GEAR SPACER

24. REMOVE SPEEDOMETER DRIVE GEAR (MTM) KEY OR BALL



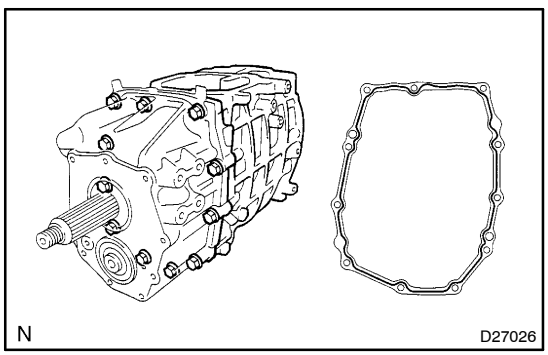
25. REMOVE FRONT BEARING SHAFT SNAP RING

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



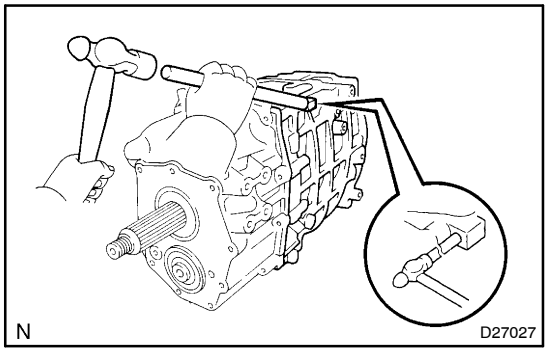
26. REMOVE COUNTER GEAR FRONT BEARING SNAP RING NO.2

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



27. REMOVE MANUAL TRANSMISSION CASE

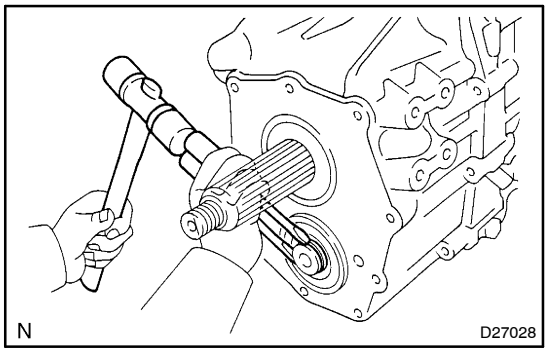
(a) Remove the 11 bolts and 2 clamps.



(b) Using a brass bar and hammer, carefully tap out the transmission case.

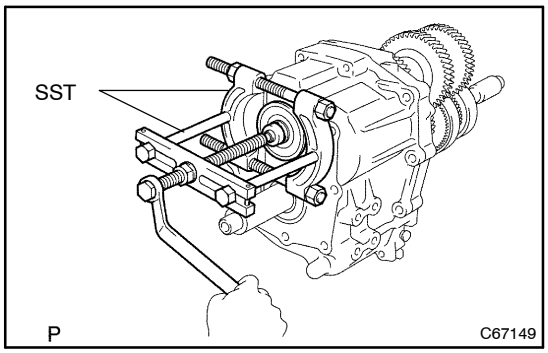
HINT:

Make the brass bar touched the lib portion of the case.



28. REMOVE SNAP RING COUNTER GEAR REAR BEARING

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



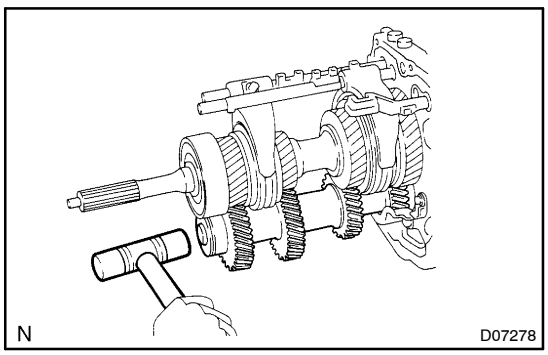
29. REMOVE COUNTER SHAFT REAR BEARING

(a) Using SST, remove the bearing.

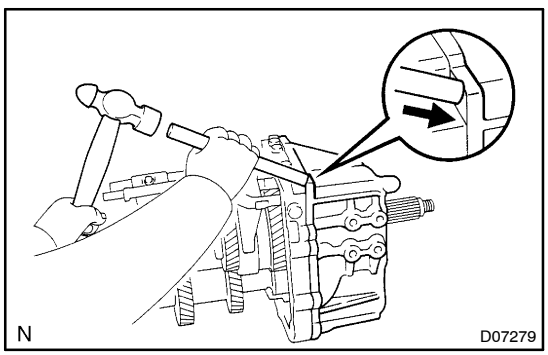
SST 09950–00020, 09950–00030, 09950–40011 (09957–04010), 09950–60010 (09951–00300)

HINT:

- Use it after applying the gear oil to the screw of SST center bolt and the attachment.



- Remove the bearing while tapping the tip of the counter gear with a plastic hammer to prevent the counter gear from being pushed to the front and attaching to the side of the gear.

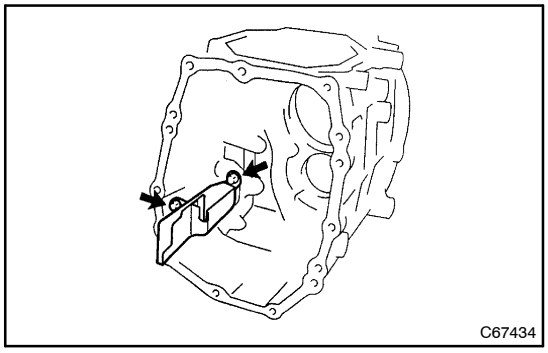


30. REMOVE TRANSMISSION CASE RR

(a) Using a brass bar and hammer, tap out the transmission case.

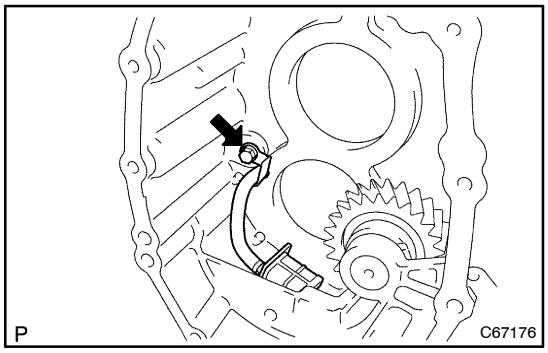
NOTICE:

Attach the brass bar to the rib of the case.



31. REMOVE OIL RECEIVER PIPE NO.1 (MTM)

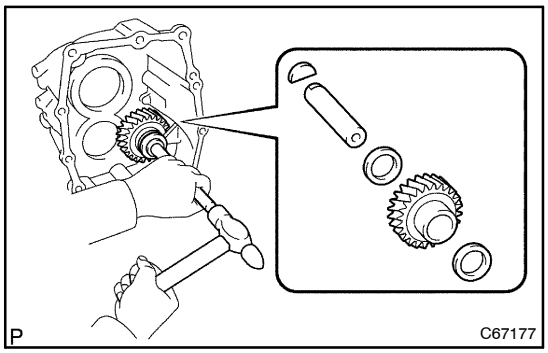
(a) Remove the 2 bolts and oil receiver pipe from the rear case.



32. REMOVE REAR CASE MANUAL TRANSMISSION OIL STRAINER SUB–ASSY

(a) Remove the bolt and oil strainer.

(b) Remove the O–ring from the oil strainer.

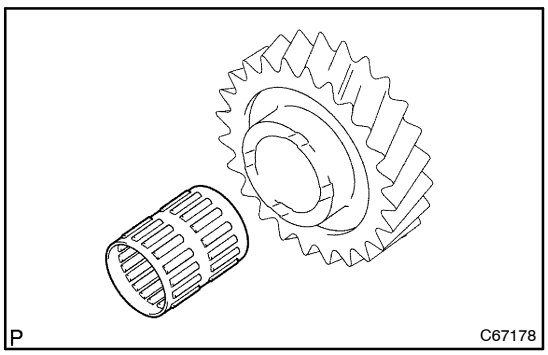


33. REMOVE REVERSE IDLER GEAR

(a) Remove the woodruff key from the reverse idler gear shaft.

(b) Using a brass bar and hammer, tap out the reverse idler gear shaft.

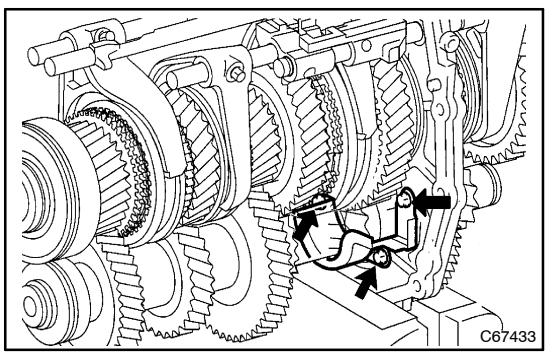
(c) Remove the reverse idler gear, 2 thrust washers.



34. REMOVE REVERSE IDLER GEAR BEARING

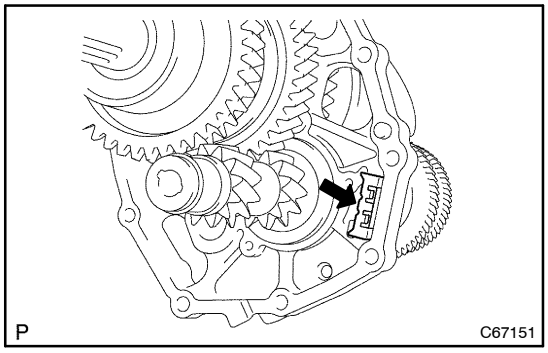
(a) Remove the reverse idler gear bearing from the reverse idler gear.

35. FIX TRANSMISSION INTERMEDIATE PLATE

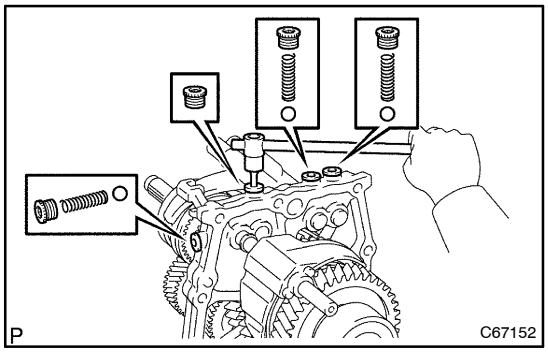


36. REMOVE MANUAL TRANSMISSION CASE RECEIVER

(a) Remove the 3 bolts and case receiver.



37. REMOVE TRANSMISSION MAGNET



38. REMOVE INTER LOCK HOLE PLUG

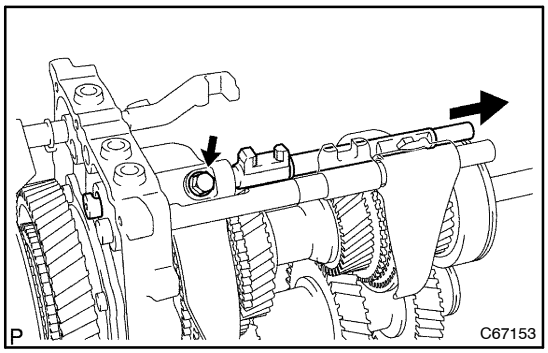
(a) Using a torx socket wrench (T40), remove the 4 plugs.

39. REMOVE SHIFT DETENT BALL LOW SIDE COMPRESSION SPRING

(a) Using a magnetic finger, remove the 3 springs.

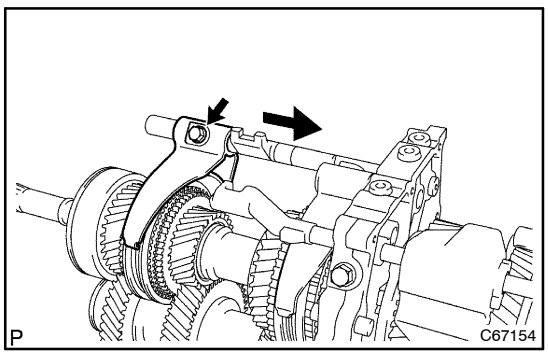
40. REMOVE SHIFT INTER LOCK BALL

(a) Using a magnetic finger, remove the 3 balls.



41. REMOVE GEAR SHIFT FORK SHAFT NO.2

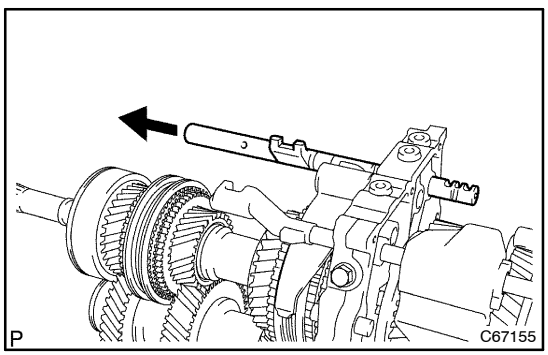
(a) Remove the bolt and gear shift fork shaft No. 2.



42. REMOVE GEAR SHIFT FORK NO.2

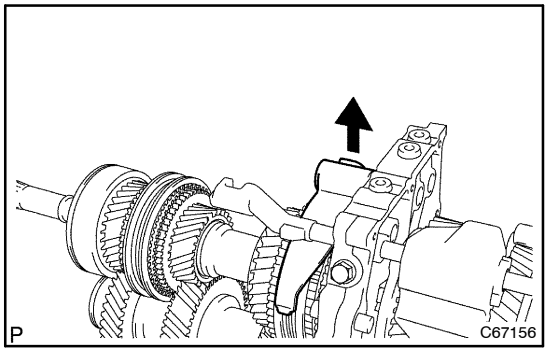
(a) Remove the bolt.

(b) Slide the gear shift fork shaft No. 3, and remove the gear shift fork No.2.



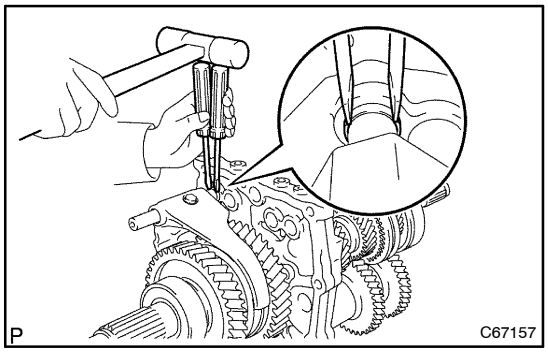
43. REMOVE GEAR SHIFT FORK SHAFT NO.3

(a) Remove the gear shift fork shaft No. 3 from the intermediate plate.



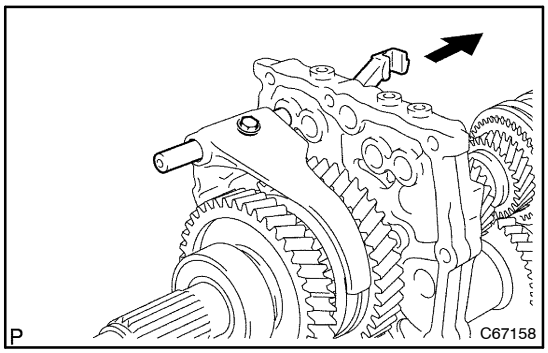
44. REMOVE GEAR SHIFT FORK NO.1 (FRONT)

(a) Remove the front gear shift fork.



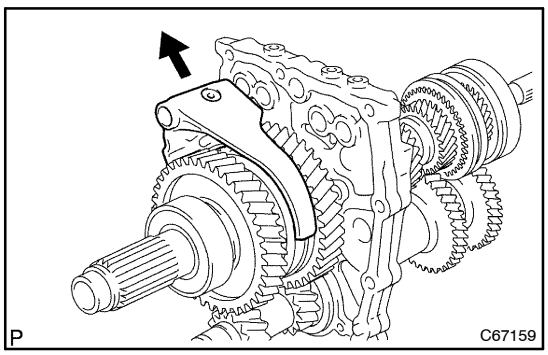
45. REMOVE 3RD & 4TH SHIFT FORK SHAFT SHAFT SNAP RING

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



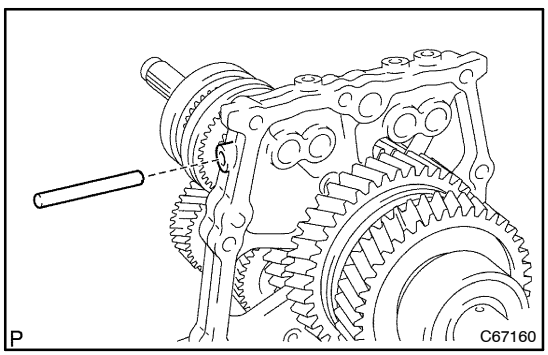
46. REMOVE GEAR SHIFT FORK SHAFT NO.1

(a) Remove the bolt and gear shift fork shaft No. 1.



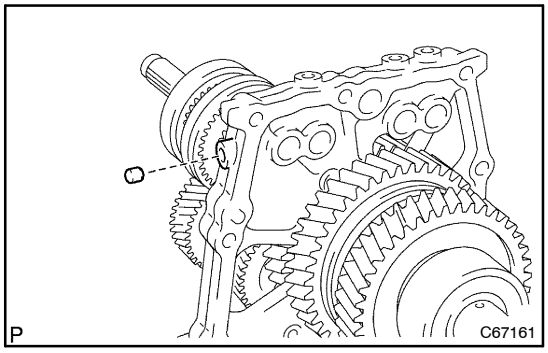
47. REMOVE GEAR SHIFT FORK NO.1 (REAR)

(a) Remove the rear gear shift fork No. 1.



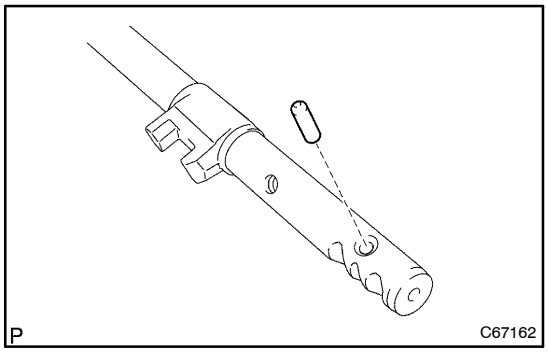
48. REMOVE SHIFT INTER LOCK PIN NO.2

(a) Using a magnetic finger, remove the inter lock pin No. 2 from the intermediate plate.



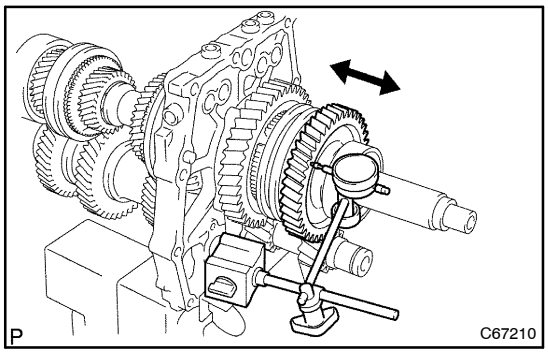
49. REMOVE SHIFT INTER LOCK NO.1 ROLLER

(a) Using a magnetic finger, remove the shift inter lock No. 1 roller from the intermediate plate.



50. REMOVE SHIFT INTER LOCK PIN

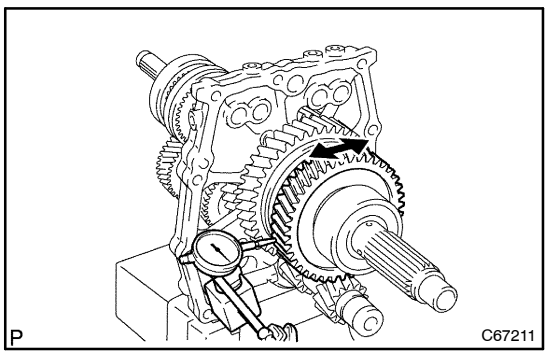
(a) Remove the shift inter lock pin from the shift fork shaft No. 2.



51. INSPECT REVERSE GEAR THRUST CLEARANCE

(a) Using a dial indicator, measure the thrust clearance.

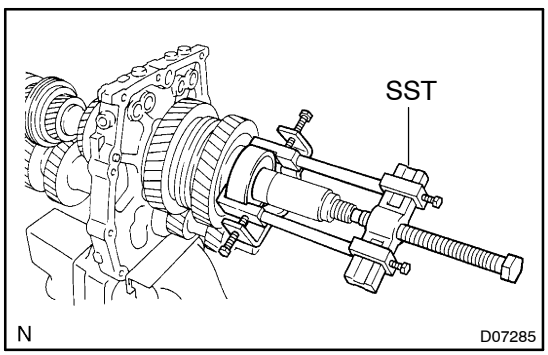
Standard thrust clearance:
0.10 – 0.25 mm (0.0039 – 0.0098 in.)
Maximum thrust clearance: 0.25 mm (0.0098 in.)



52. INSPECT REVERSE GEAR RADIAL CLEARANCE

(a) Using a dial indicator, measure the radial clearance.

Standard radial clearance:
0.015 – 0.067 mm (0.0006 – 0.0026 in.)
Maximum radial clearance: 0.067 mm (0.0026 in.)

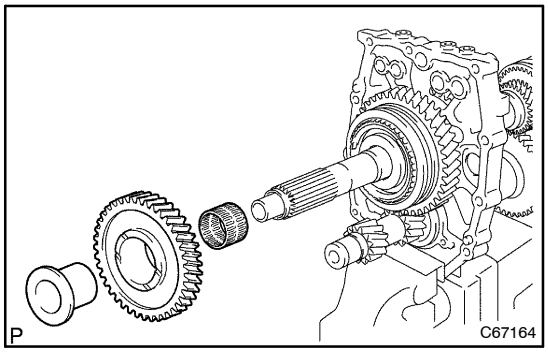


53. REMOVE OUTPUT SHAFT REAR BEARING

(a) Using SST, remove the bearing.

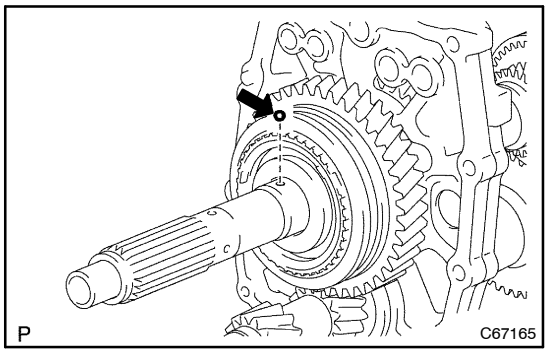
SST 09950–40011 (09951–04020, 09952–04010, 09953–04030, 09954–04020, 09955–04031, 09957–04010, 09958–04011), 09950–60010 (09951–00230)

HINT:
Use it after applying the gear oil to the screw of SST center bolt and the attachment.

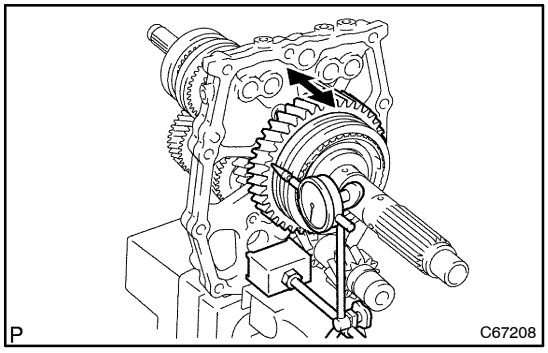


54. REMOVE REVERSE GEAR

(a) Remove the bearing inner race, reverse gear, and needle roller bearing.

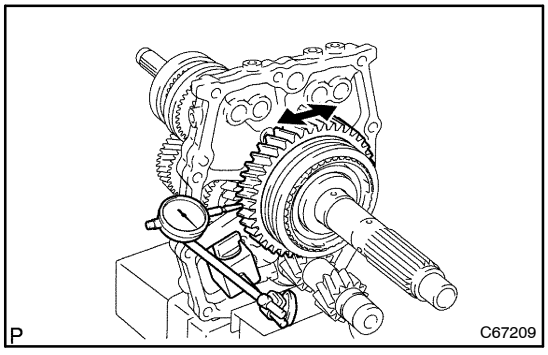


55. REMOVE SPEEDOMETER DRIVE GEAR (MTM) KEY OR BALL



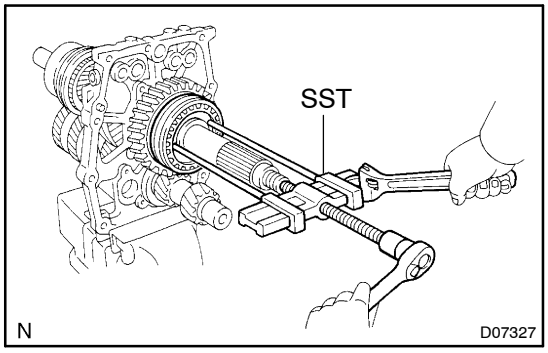
56. INSPECT 1ST GEAR THRUST CLEARANCE

(a) Using a dial indicator, measure the thrust clearance.
Standard thrust clearance:
0.10 – 0.47 mm (0.0039 – 0.0185 in.)
Maximum thrust clearance: 0.47 mm (0.0185 in.)



57. INSPECT 1ST GEAR RADIAL CLEARANCE

(a) Using a dial indicator, measure the radial clearance.
Standard radial clearance:
0.015 – 0.068 mm (0.0006 – 0.0027 in.)
Maximum radial clearance: 0.068 mm (0.0027 in.)

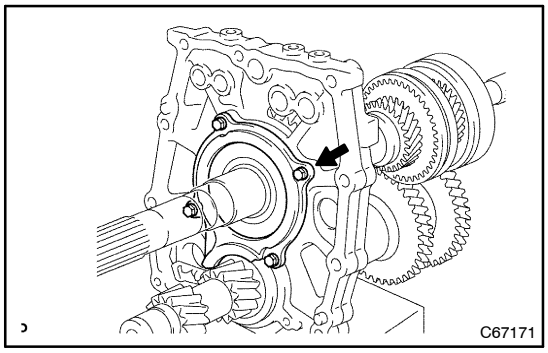


58. REMOVE TRANSMISSION CLUTCH HUB ASSY NO.1 AND 1ST GEAR

(a) Using SST, remove the hub sleeve No. 1 assy, synchronizer ring set No. 1 and 1st gear.

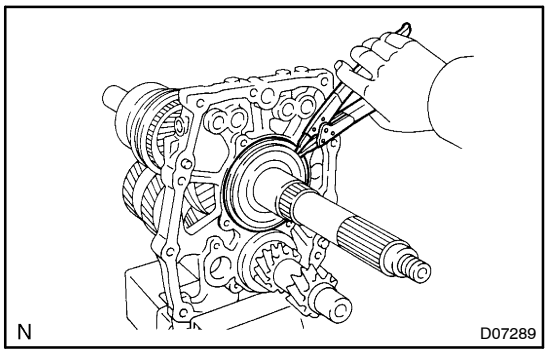
SST 09950–40011 (09957–04010), 09950–50013 (09951–05010, 09952–05010, 09953–05020, 09954–05040), 09950–60010 (09951–00230)

(b) Remove the needle roller bearing.



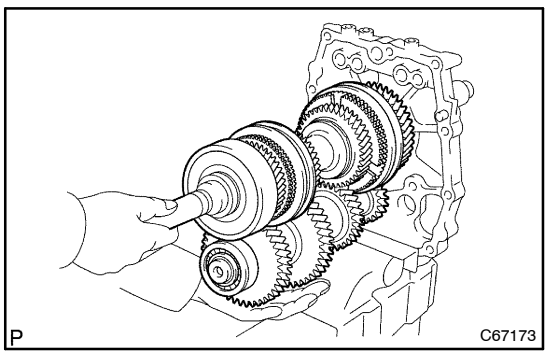
59. REMOVE BEARING RETAINER CTR

(a) Remove the 4 bolts and bearing retainer from the intermediate plate.



60. REMOVE OUTPUT SHAFT CENTER BEARING SHAFT SNAP RING

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

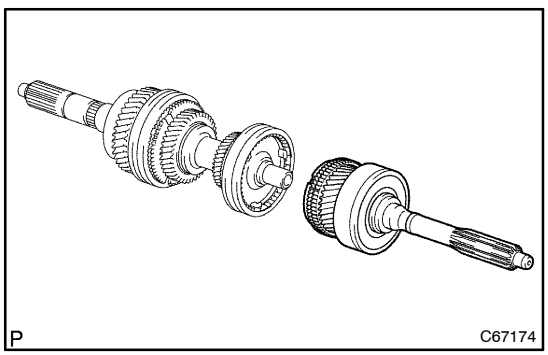


61. REMOVE OUTPUT SHAFT ASSY AND COUNTER GEAR ASSY

(a) Holding up the input shaft assy, output shaft assy and counter gear assy, and pull out.

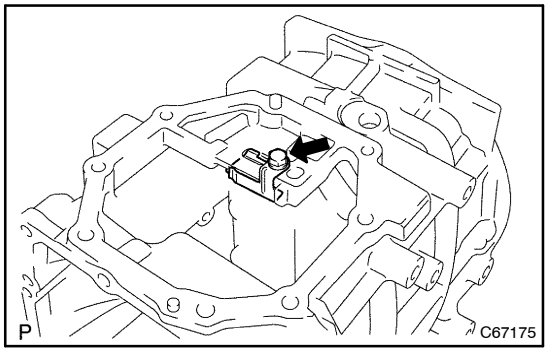
HINT:

For dust prevention, cover your arms with shop rags and the likes.



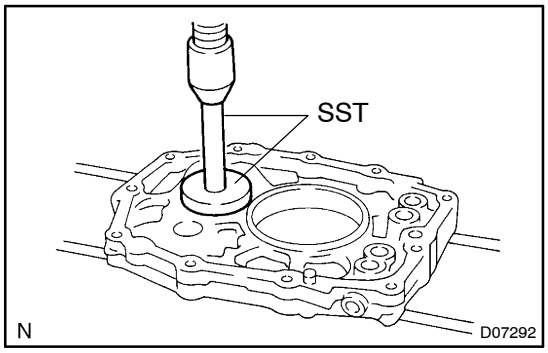
62. REMOVE INPUT SHAFT ASSY

(a) Remove the input shaft assy from the output shaft assy.



63. REMOVE TRANSMISSION OIL FILTER PLATE

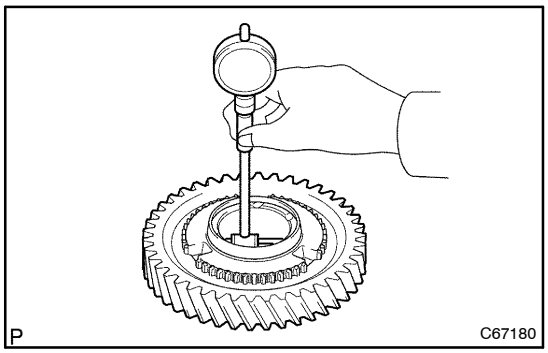
(a) Remove the bolt and oil filter plate from the transmission case.



64. REMOVE COUNTER GEAR CENTER BEARING OUTER RACE

(a) Using SST and a press, press out the outer race from the intermediate plate.

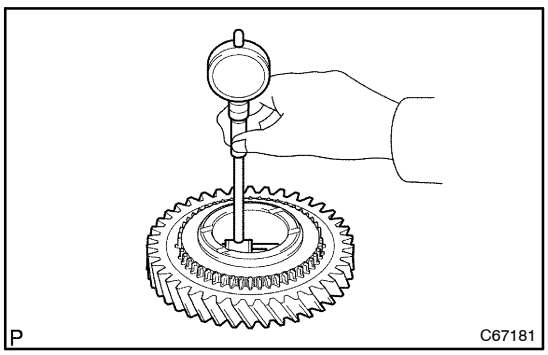
SST 09950–60020 (09951–00750), 09950–70010 (09951–07100)



65. INSPECT REVERSE GEAR

(a) Using a cylinder gauge, measure the inside diameter of the reverse gear.

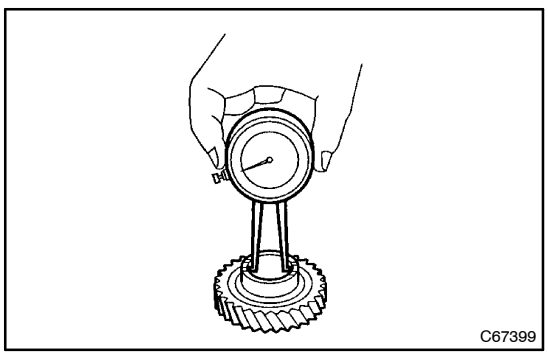
Standard inside diameter:
54.015 – 54.040 mm (2.1266 – 2.1276 in.)
Maximum inside diameter: 54.040 mm (2.1276 in.)



66. INSPECT 1ST GEAR

(a) Using a cylinder gauge, measure the inside diameter of the 1st gear.

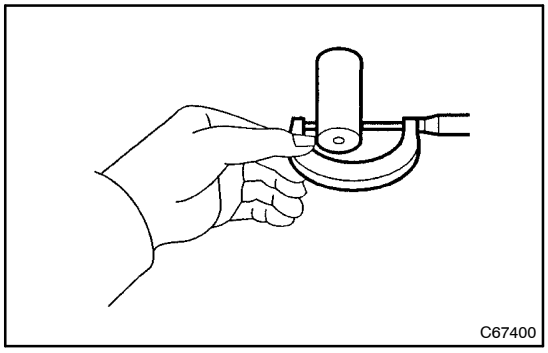
Standard inside diameter:
51.515 – 51.540 mm (2.0281 – 2.0291 in.)
Maximum inside diameter: 51.540 mm (2.0291 in.)



67. INSPECT REVERSE IDLER GEAR

(a) Using a caliper gauge, measure the inside diameter of the gear.

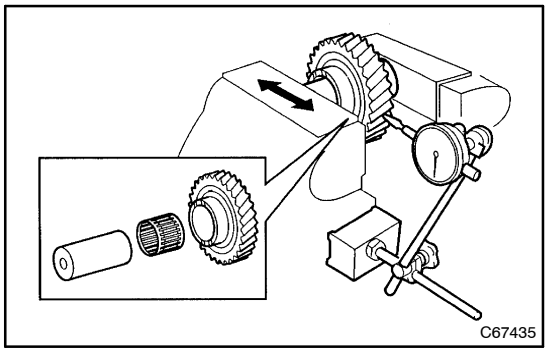
Standard inside diameter:
35.015 – 35.036 mm (1.3785 – 1.3793 in.)
Maximum inside diameter: 35.036 mm (1.3793 in.)



68. INSPECT REVERSE IDLER GEAR SHAFT

(a) Using a micrometer, measure the outside diameter of the shaft.

Standard outside diameter:
27.987 – 28.000 mm (1.1018 – 1.1023 in.)
Minimum outside diameter: 27.987 mm (1.1018 in.)

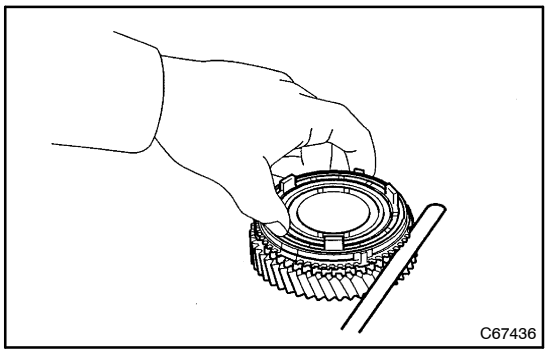


69. INSPECT REVERSE IDLER GEAR RADIAL CLEARANCE

(a) Install the reverse idler gear on the reverse idler gear shaft, and fix to the vise.

(b) Using a dial indicator, check the radial clearance of the reverse idler gear.

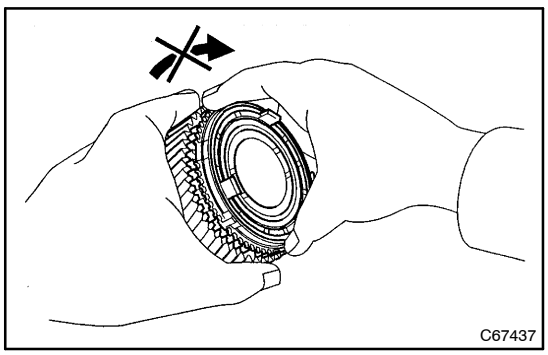
Standard radial clearance:
0.015 – 0.059 mm (0.0006 – 0.0023 in.)
Maximum radial clearance: 0.059 mm (0.0023 in.)



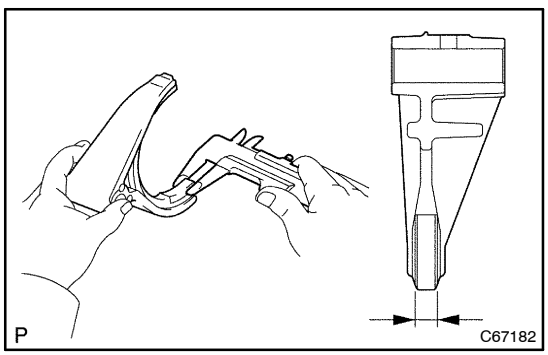
70. INSPECT SYNCHRONIZER RING SET NO.1

(a) Using a feeler gauge, measure the clearance between the synchronizer ring No. 1 and the 1st gear while synchronizer ring No. 1 is pushed to the cone of the 1st gear.

Standard clearance:
1.15 – 2.05 mm (0.0452 – 0.0807 in.)
Minimum clearance: 1.15 mm (0.0452 in.)



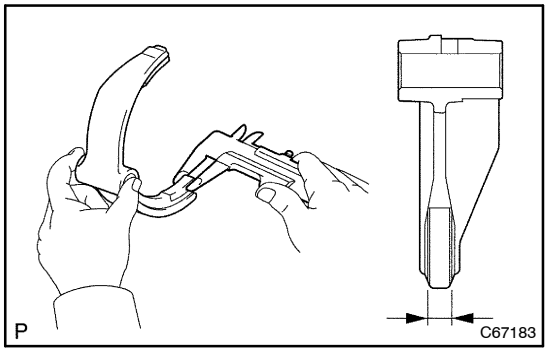
(b) Apply gear oil to the taper cone of the 1st gear, and check that it dose not rotate to the circumference direction while No. 1 synchronizer ring is pushed.



71. INSPECT GEAR SHIFT FORK NO.2

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

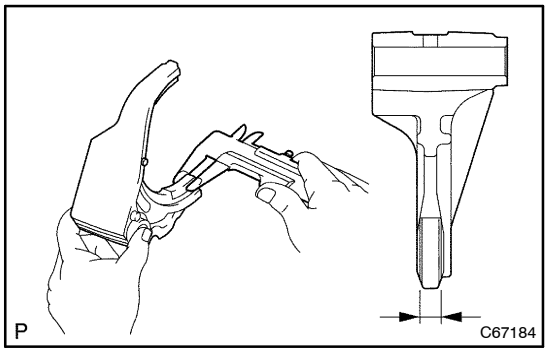
Standard thickness:
11.75 – 11.85 mm (0.4625 – 0.4665 in.)
Minimum thickness: 11.75 mm (0.4625 in.)



72. INSPECT GEAR SHIFT FORK NO.1 (FRONT)

(a) Using vernier calipers, measure the claw thickness of the gear shift fork front.

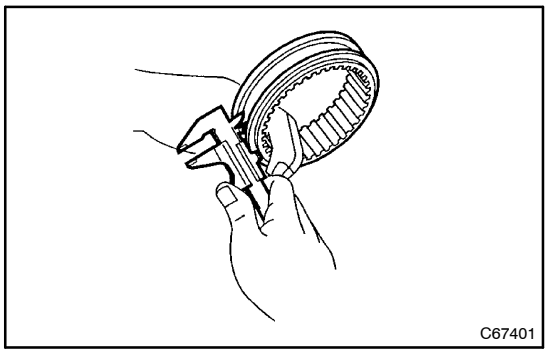
Standard thickness:
11.75 – 11.85 mm (0.4625 – 0.4665 in.)
Minimum thickness: 11.75 mm (0.4625 in.)



73. INSPECT GEAR SHIFT FORK NO.1(REAR)

(a) Using vernier calipers, measure the claw thickness of the gear shift fork rear.

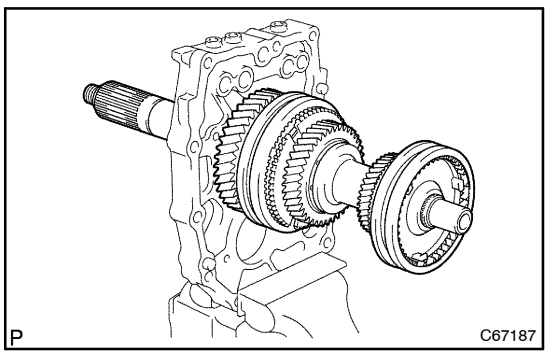
Standard thickness:
11.75 – 11.85 mm (0.4625 – 0.4665 in.)
Minimum thickness: 11.75 mm (0.4625 in.)



74. INSPECT TRANSMISSION HUB SLEEVE NO.1

(a) Using vernier calipers, measure the clearance of the hub sleeve No. 1.

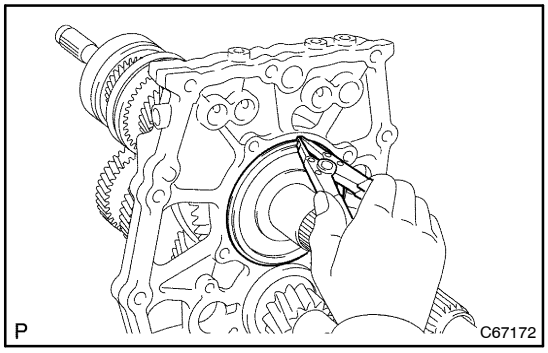
Standard clearance:
12.0 – 12.1 mm (0.4724 – 0.4763 in.)
Maximum clearance: 12.1 mm (0.4763 in.)



75. INSTALL OUTPUT SHAFT ASSY

(a) Apply gear oil to the sliding part of the output assy.

(b) Using a plastic hammer, install the output shaft assy with tapping the intermediate plate.

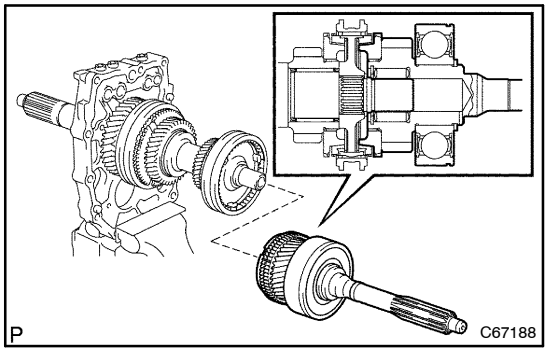


76. INSTALL OUTPUT SHAFT CENTER BEARING SHAFT SNAP RING

(a) Select a snap ring by making the thrust clearance of the bearing by 0 to 0.1 mm (0.004 in.).

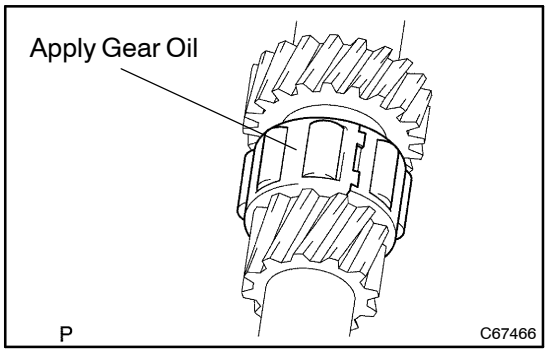
Mark	Thickness mm (in.)
A	2.40 – 2.45 (0.0945 – 0.0965)
B	2.45 – 2.50 (0.0965 – 0.0984)
C	2.50 – 2.55 (0.0984 – 0.1004)
D	2.55 – 2.60 (0.1004 – 0.1024)
E	2.60 – 2.65 (0.1024 – 0.1043)
F	2.65 – 2.70 (0.1043 – 0.1063)
G	2.70 – 2.75 (0.1063 – 0.1083)
H	2.75 – 2.80 (0.1083 – 0.1102)

(b) Using snap ring pliers (expander), install the snap ring.



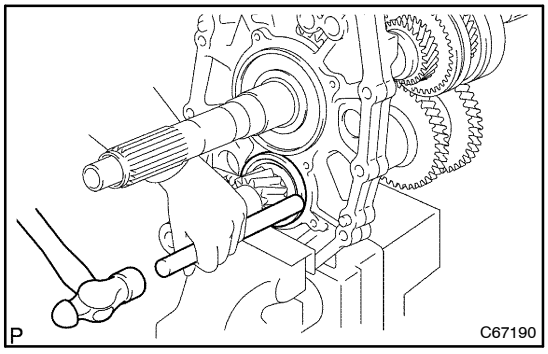
77. INSTALL INPUT SHAFT ASSY

(a) Install the input shaft assy to the output shaft assy.
(b) Check that the input shaft assy rotates smoothly.



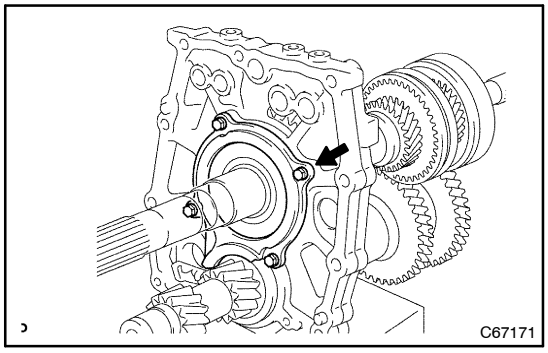
78. INSTALL COUNTER SHAFT ASSY

(a) Apply gear oil to the counter shaft center bearing.
(b) Temporarily install the counter gear assy to the intermediate plate.



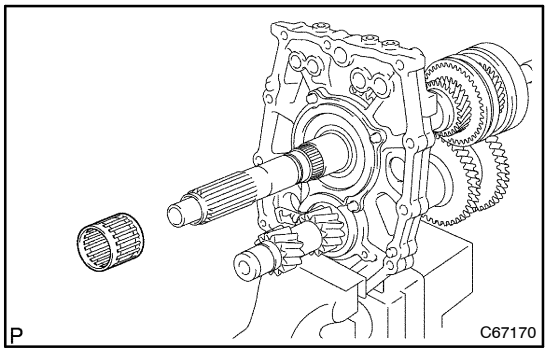
79. INSTALL COUNTER GEAR CENTER BEARING OUTER RACE

(a) Using a brass bar and hammer, tap in the bearing outer race.



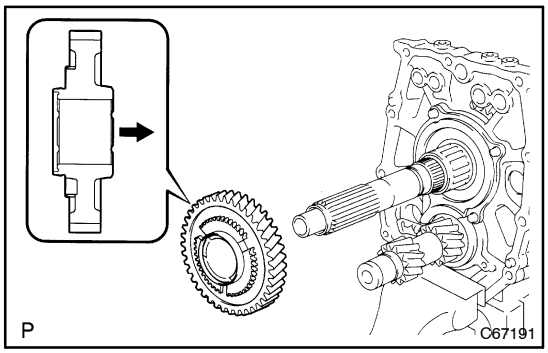
80. INSTALL BEARING RETAINER CTR

(a) Install the bearing retainer with the 4 bolts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

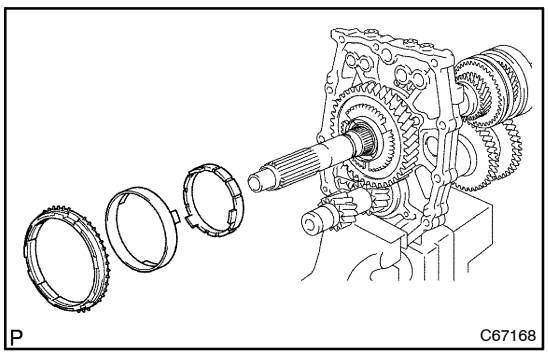


81. INSTALL 1ST GEAR

(a) Apply gear oil to the 1st gear needle roller bearing.
(b) Install the 1st gear needle roller bearing to the output shaft.



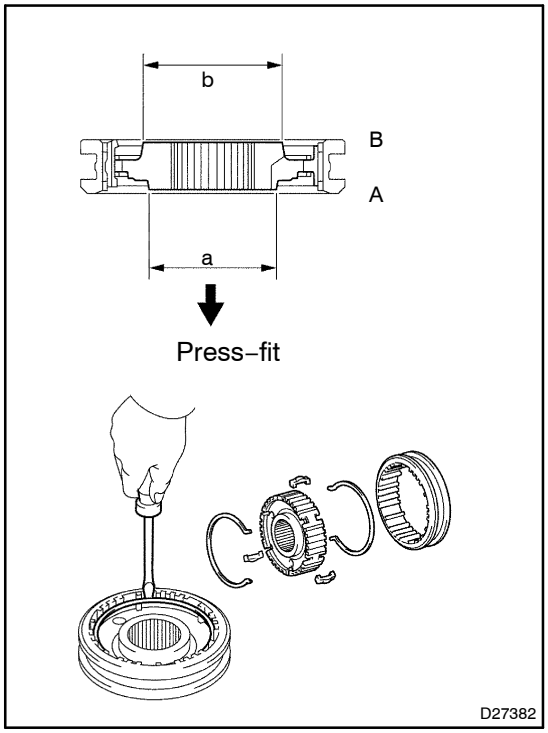
(c) Apply gear oil to the inside and thrust of the 1st gear.
(d) Install the 1st gear to the output shaft.



82. INSTALL SYNCHRONIZER RING SET NO.1

(a) Apply gear oil to the taper cone of the synchronizer ring set No.1.
(b) Install the synchronizer ring set No. 1 to the 1st gear.

NOTICE:
Align the claw of the middle ring with the cut–out of the 1st gear.
Align the claw of the inner ring with the key groove of the outer ring.



83. INSTALL TRANSMISSION CLUTCH HUB NO.1

(a) Install the hub sleeve No. 1 to the clutch hub No. 1.

NOTICE:

The orientation of the clutch hub can be recognized by the dimensions (a, b) of the boss part.

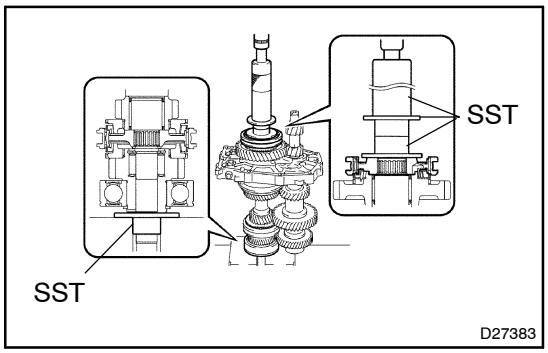
The orientation of the hub sleeve can be recognized by the shape (A, B) of the outer circumference.

(b) Install the 3 shifting keys.

(c) Using a screwdriver, install the 2 shifting key springs.

NOTICE:

The opening part of the key spring must not be placed in the same direction.



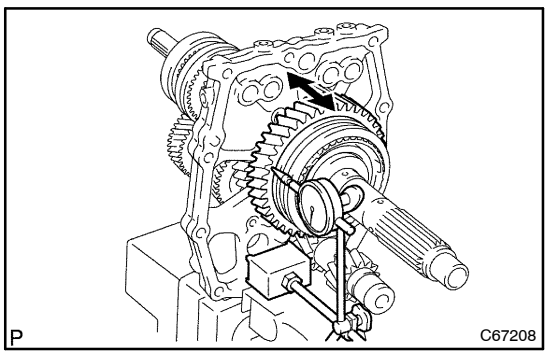
(d) Using SST and a press, press in the clutch hub No. 1 assy.
SST 09316–60011 (09316–00011, 09316–00021, 09316–00031, 09316–00041)

NOTICE:

Take care not to install the clutch hub No. 1 assembly in the wrong direction.

Aligning the key groove of the outer ring with synchromesh shifting key, install them.

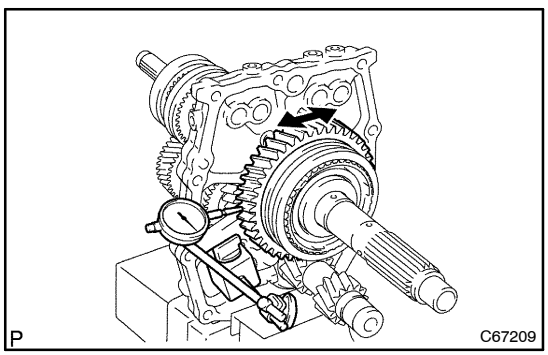
(e) Check that the 1st gear rotates smoothly and that the synchronizer ring set No. 1 is not stuck.



84. INSPECT 1ST GEAR THRUST CLEARANCE

(a) Using a dial indicator,measure the thrust clearance of the 1st gear.

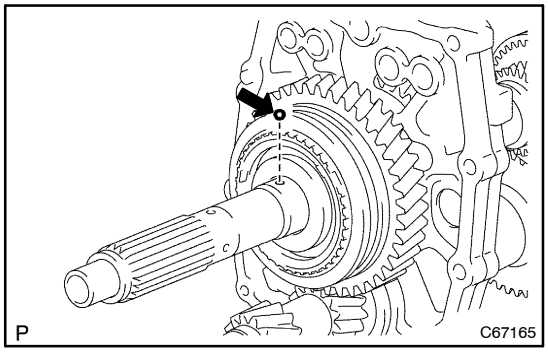
Standard thrust clearance:
0.10 – 0.47 mm (0.0039 – 0.0185 in.)
Maximum thrust clearance: 0.47 mm (0.0185 in.)



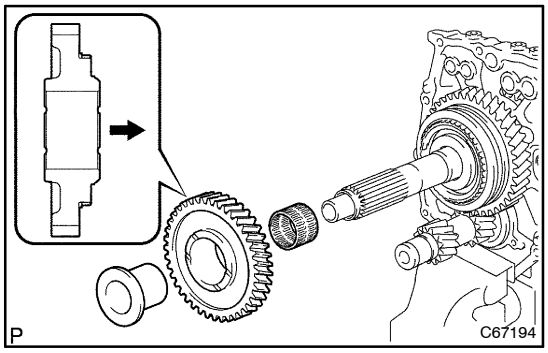
85. INSPECT 1ST GEAR RADIAL CLEARANCE

(a) Using a dial indicator, measure the radial clearance of the 1st gear.

Standard radial clearance:
0.015 – 0.068 mm (0.0006 – 0.0027 in.)
Maximum radial clearance: 0.068 mm (0.0027 in.)



86. INSTALL SPEEDOMETER DRIVE GEAR (MTM) KEY OR BALL

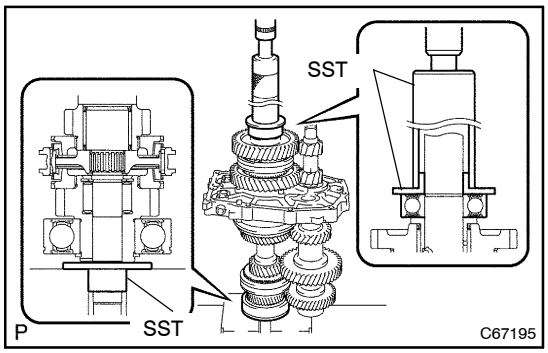


87. INSTALL REVERSE GEAR

(a) Apply gear oil to the reverse gear bearing and reverse gear.

(b) Install the reverse gear bearing and inner race to the reverse gear.

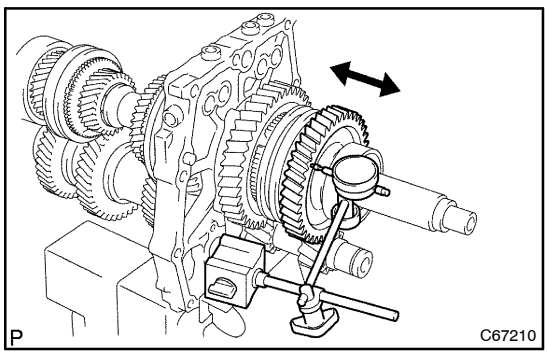
(c) Install the reverse gear to the output shaft.



88. INSTALL OUTPUT SHAFT REAR BEARING

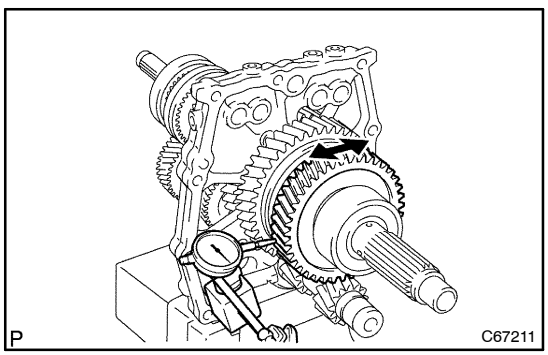
(a) Using SST and a press, press in the bearing.
SST 09316–20011, 09316–60011 (09316–00011, 09316–00041), 09527–10011

(b) Check that the reverse gear and bearing rotates smoothly.



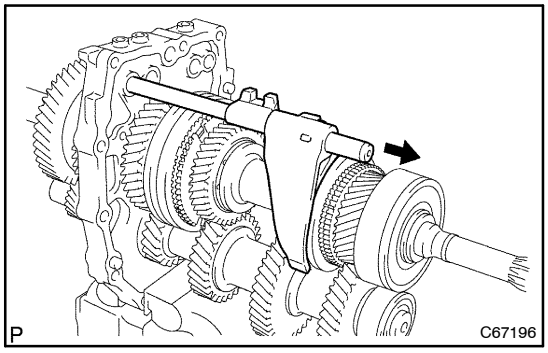
89. INSPECT REVERSE GEAR THRUST CLEARANCE

(a) Using a dial indicator, measure the thrust clearance of the reverse gear.
Standard thrust clearance:
0.10 – 0.25 mm (0.0039 – 0.0098 in.)
Maximum thrust clearance: 0.25 mm (0.0098 in.)



90. INSPECT REVERSE GEAR RADIAL CLEARANCE

(a) Using a dial indicator, measure the radial clearance of the reverse gear.
Standard radial clearance:
0.015 – 0.067 mm (0.0006 – 0.0026 in.)
Maximum radial clearance: 0.067 mm (0.0026 in.)

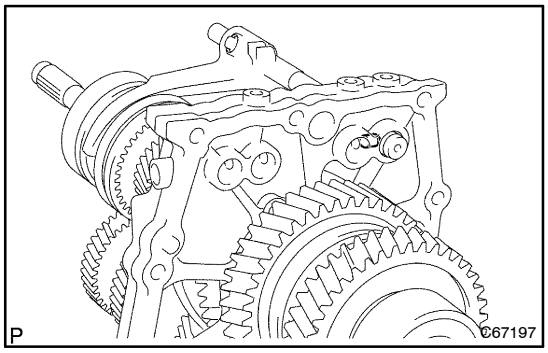


91. INSTALL GEAR SHIFT FORK SHAFT NO.3

(a) Install the shift fork shaft No. 3 and shift fork No. 2.

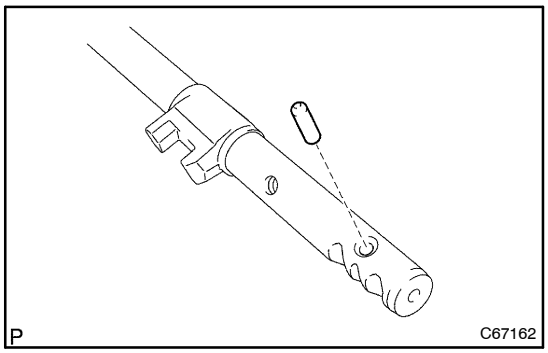
(b) Install the bolt.

Torque: 36 N·m (370 kgf·cm, 27 ft·lbf)



92. INSTALL SHIFT INTER LOCK NO.1 ROLLER

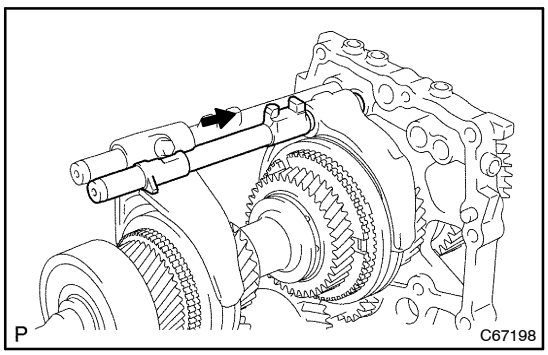
(a) Using a screw driver, push in the inter lock roller.



93. INSTALL SHIFT INTER LOCK PIN

(a) Apply MP grease to the shift inter lock pin.

(b) Install the shift inter lock pin to the shift fork shaft No. 2.

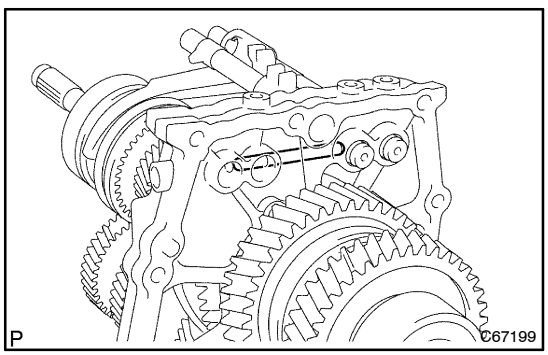


94. INSTALL GEAR SHIFT FORK SHAFT NO.2

(a) Install the shift fork shaft No. 2 and front shift fork No. 1.

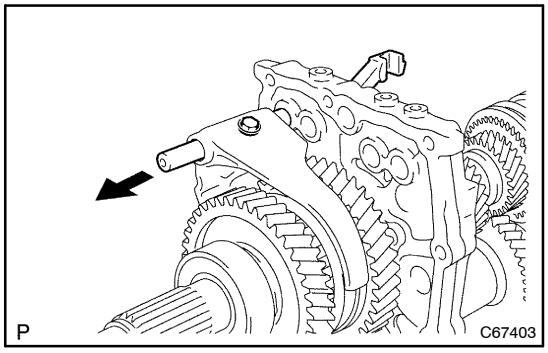
(b) Install the bolt.

Torque: 36 N·m (370 kgf·cm, 27 ft·lbf)



95. INSTALL SHIFT INTER LOCK PIN NO.2

(a) Using a screw driver, install the inter lock pin No. 2 to the intermediate plate.

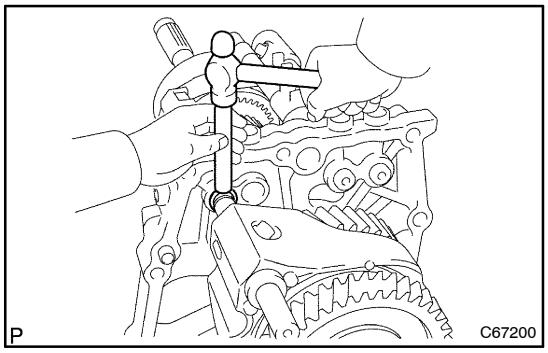


96. INSTALL GEAR SHIFT FORK SHAFT NO.1

(a) Install the shift fork shaft No. 1 and rear shift fork No. 1.

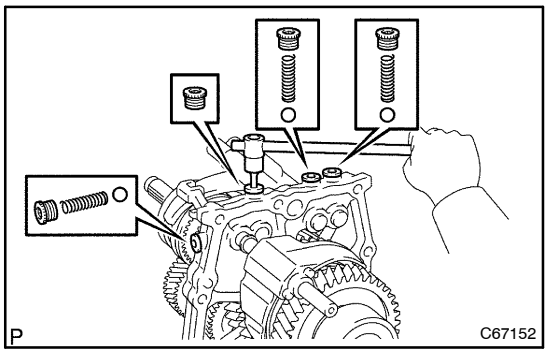
(b) Install the bolt.

Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)



97. INSTALL 3RD & 4TH SHIFT FORK SHAFT SHAFT SNAP RING

(a) Using a brass bar and hammer, tap in a new snap ring.



98. INSTALL SHIFT INTER LOCK BALL

(a) Install the 3 balls.

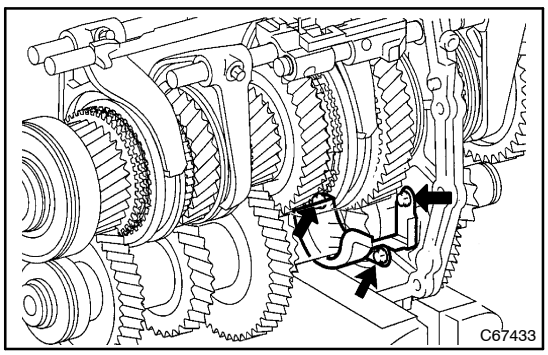
99. INSTALL SHIFT DETENT BALL LOW SIDE COMPRESSION SPRING

(a) Install the 3 springs.

100. INSTALL INTER LOCK HOLE PLUG

(a) Using a torx socket wrench (T40), install the 4 plugs.

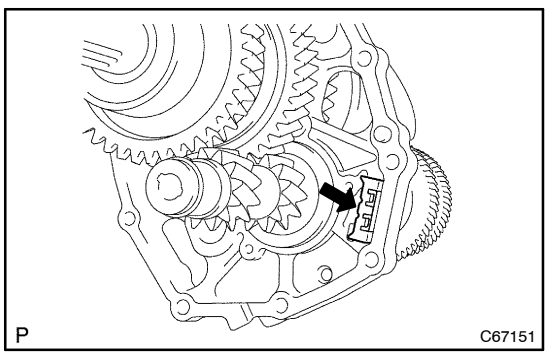
Torque: 18.6 N·m (190 kgf·cm, 14 ft·lbf)



101. INSTALL MANUAL TRANSMISSION CASE RECEIVER

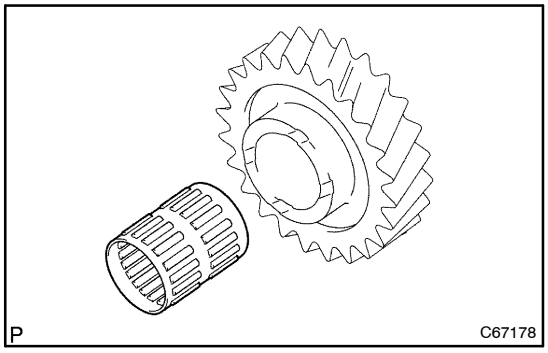
(a) Install the case receiver to the intermediate plate with the 3 bolts.

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



102. INSTALL TRANSMISSION MAGNET

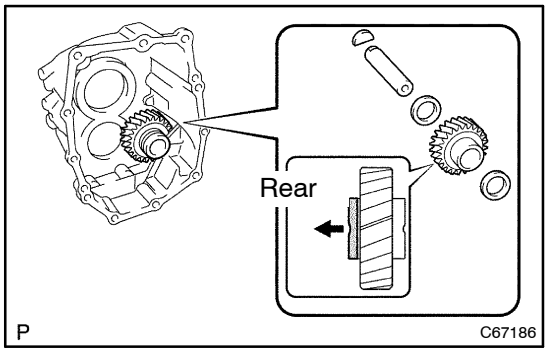
(a) Install the transmission magnet to the intermediate plate.



103. INSTALL REVERSE IDLER GEAR BEARING

(a) Apply gear oil to the reverse idler gear bearing.

(b) Install the reverse idler gear bearing to the reverse idler gear.



104. INSTALL REVERSE IDLER GEAR

(a) Apply MP grease to the 2 thrust washers.

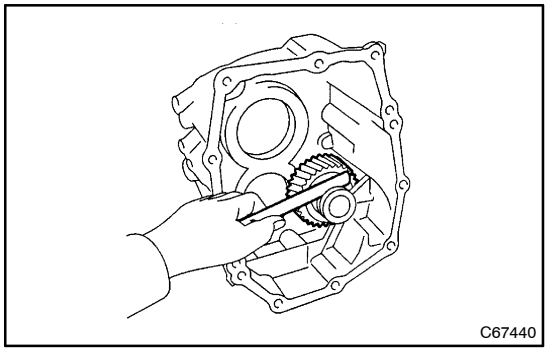
(b) Install the reverse idler gear and 2 thrust washers to the rear case, and then insert the reverse idler gear shaft into the rear case.

NOTICE:

When assembling the washers, the washers must be assembled with dimple facing to the thrust side of the gear.

(c) Install the reverse idler gear shaft woodruff key with the rear case.

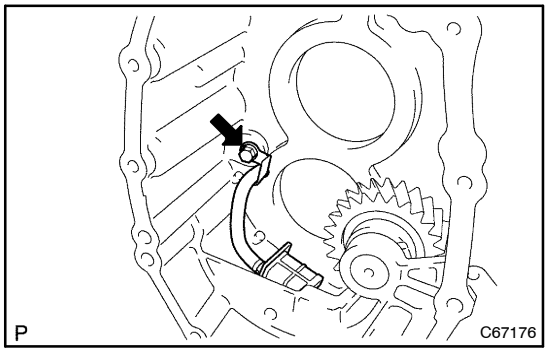
(d) Check that the reverse idler gear rotates smoothly.



105. INSPECT REVERSE IDLER GEAR THRUST CLEARANCE

(a) Using a feeler gauge, measure the thrust clearance of the reverse idler gear.

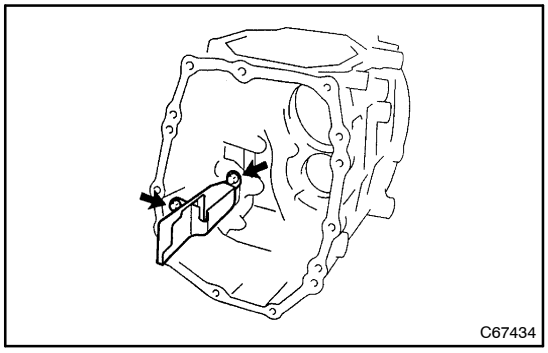
Standard thrust clearance:
0.10 – 0.55 mm (0.0039 – 0.0217 in.)
Maximum thrust clearance: 0.55 mm (0.0217 in.)



106. INSTALL REAR CASE MANUAL TRANSMISSION OIL STRAINER SUB–ASSY

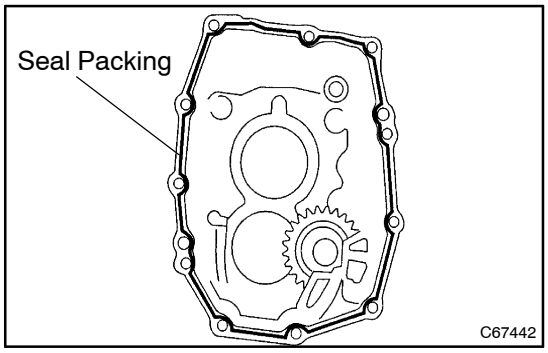
(a) Install the oil strainer to the rear case with the bolt.

Torque: 11.7 N·m (120 kgf·cm, 9 ft·lbf)



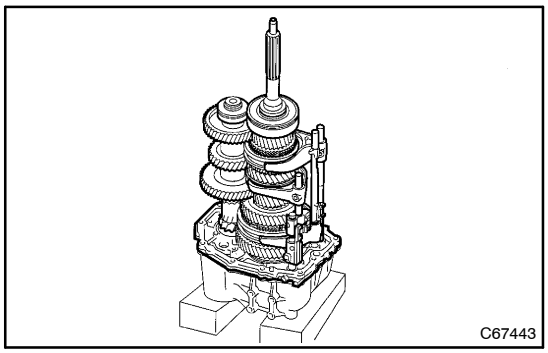
107. INSTALL OIL RECEIVER PIPE NO.1 (MTM)

(a) Install the oil receiver pipe to the rear case with the 2 bolts.
Torque: 11.7 N·m (120 kgf·cm, 9 ft·lbf)



108. INSTALL TRANSMISSION CASE RR

(a) Apply seal packing to the rear transmission case as shown.
Seal packing:
Part No. 08826 – 00090, THREE BOND 1281 or equivalent

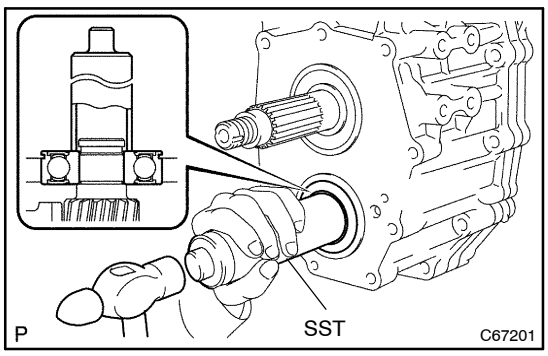


(b) Fix the transmission case onto a vise through a wooden block.

(c) Using a plastic hammer, lightly tap the intermediate plate to press–fit the plate with the case.

NOTICE:
Install the intermediate plate straight so as not to put excessive force onto the bearing.

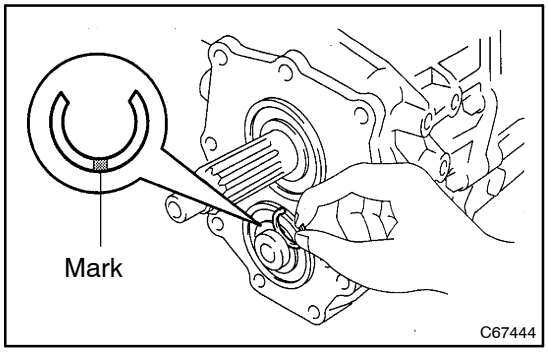
(d) Lay down the transmission.



109. INSTALL COUNTER SHAFT REAR BEARING

(a) Using SST and a hammer, tap in the bearing to the rear case.
SST 09608–06041

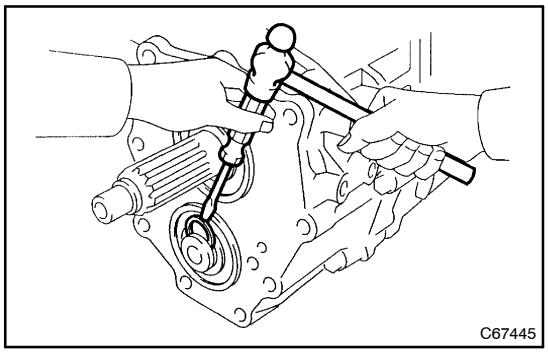
HINT:
Fit a press to the inner race of the bearing.



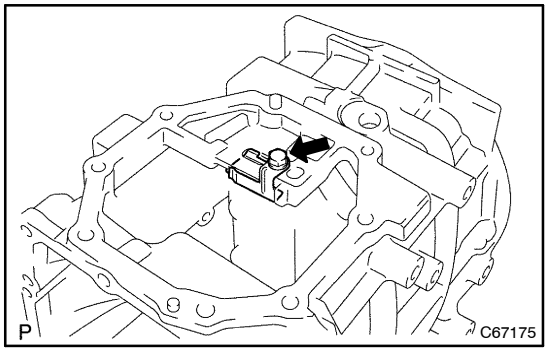
110. INSTALL SNAP RING COUNTER GEAR REAR BEARING

(a) Select a snap ring by making the thrust clearance of the bearing by 0 to 0.1mm (0.004 in.).

Mark	Thickness mm (in.)
A	2.40 – 2.45 (0.0945 – 0.0965)
B	2.45 – 2.50 (0.0965 – 0.0984)
C	2.50 – 2.55 (0.0984 – 0.1004)
D	2.55 – 2.60 (0.1004 – 0.1024)
E	2.60 – 2.65 (0.1024 – 0.1043)
F	2.65 – 2.70 (0.1043 – 0.1063)
G	2.70 – 2.75 (0.1063 – 0.1083)

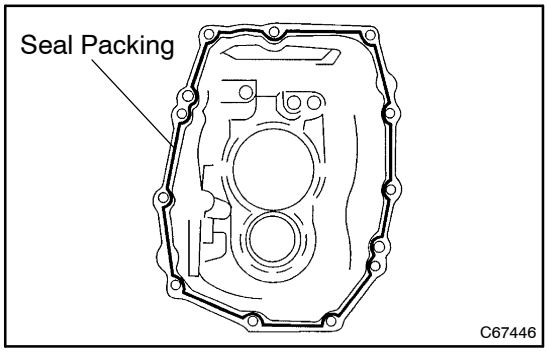


(b) Using a screwdriver and a hammer, tap in the snap ring.



111. INSTALL TRANSMISSION OIL FILTER PLATE

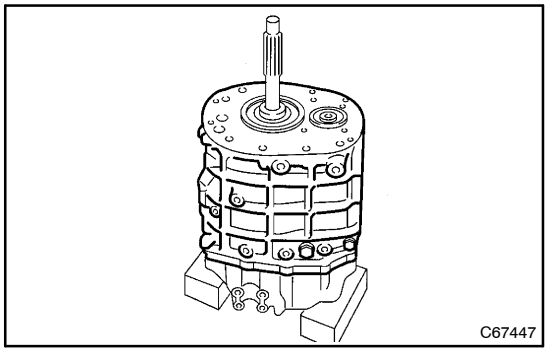
(a) Install the oil filter plate with the bolt.
Torque: 12 N·m (122 kgf·cm, 8.9 ft·lbf)



112. INSTALL MANUAL TRANSMISSION CASE

(a) Apply adhesive to the 11 bolts.
Adhesive:
Part No. 08833 – 00080, THREE BOND 1344, LOCTITE 242 or equivalent

(b) Apply seal packing to the transmission case as shown.
Seal packing:
Part No. 08826 – 00090, THREE BOND 1281 or equivalent

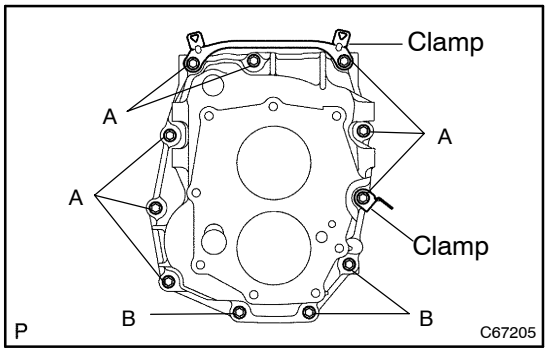


(c) Fix the transmission case onto a vise through a wooden block.

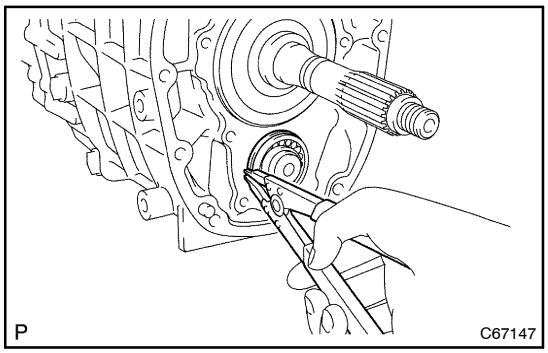
(d) Using a plastic hammer, pat the transmission case to attach to the intermediate plate.

NOTICE:

Install the transmission case straight so as not to put excessive force onto the bearing.

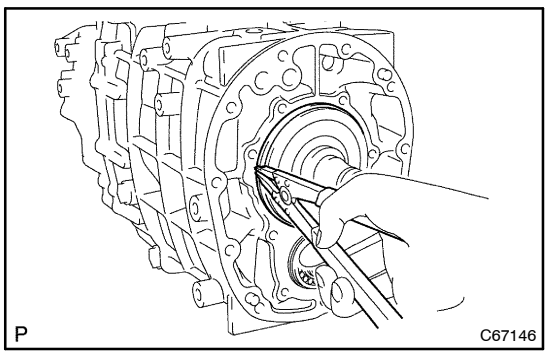


(e) Install the 11 bolts and 2 clamps.
Bolt A: 70 mm (2.76 in.)x 8
Bolt B: 100 mm (3.94 in.)x 3
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)



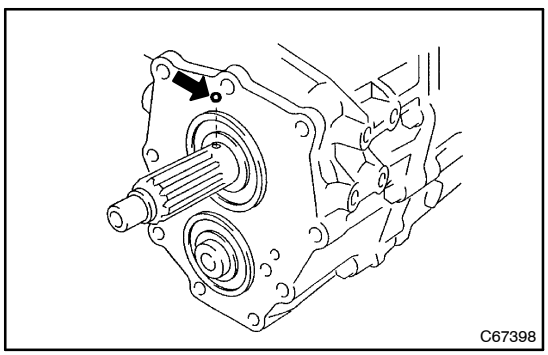
113. INSTALL FRONT BEARING SHAFT SNAP RING

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

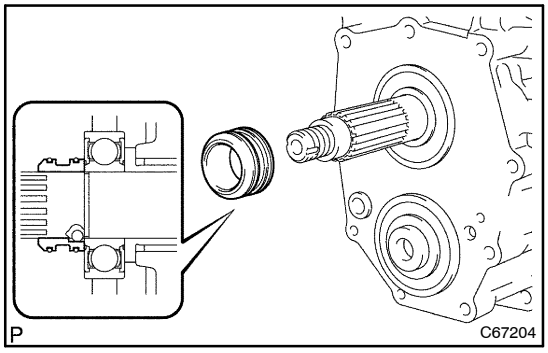


114. INSTALL COUNTER GEAR FRONT BEARING SNAP RING NO.1

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



115. INSTALL SPEEDOMETER DRIVE GEAR (MTM) KEY OR BALL

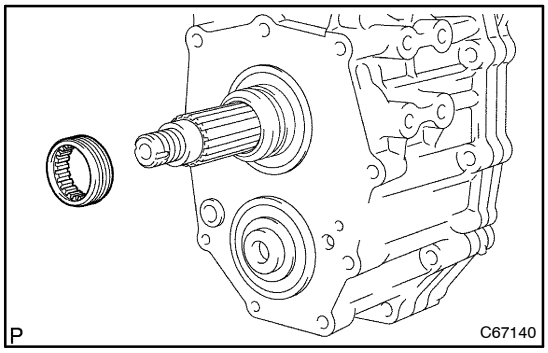


116. INSTALL SPEEDOMETER DRIVE GEAR SPACER

(a) Apply gear oil to 2 new oil seal rings and speedometer drive gear spacer.

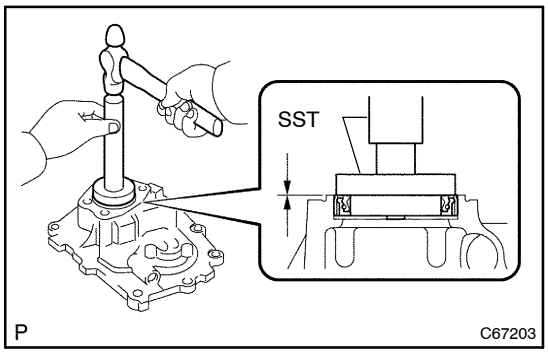
(b) Install the 2 oil seal rings to the speedometer drive gear spacer.

(c) Install the speedometer drive gear spacer to the output shaft.



117. INSTALL SPEEDOMETER DRIVE (MTM) GEAR

(a) Install the speedometer drive gear to the output shaft.



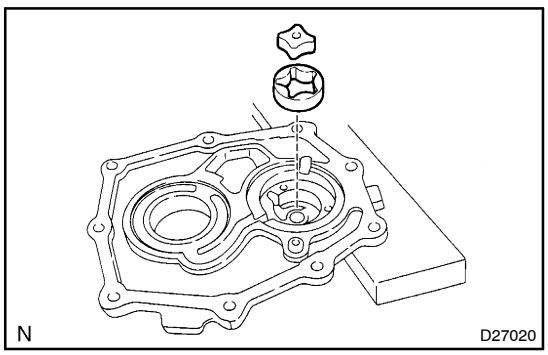
118. INSTALL TYPE T OIL SEAL

(a) Using SST and a hammer, tap in a new oil seal.

SST 09950–60010 (09951–00330, 09951–00480, 09952–06010), 09950–70010 (09951–07100)

Standard protrusion: 0 – 0.5 mm (0 – 0.020 in.)

(b) Apply MP grease to the seal lip.

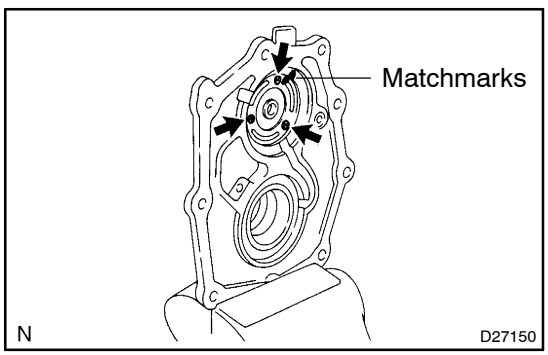


119. INSTALL OIL PUMP ASSY

(a) Install the drive and driven rotors.

(1) Apply gear oil to the rear bearing retainer, drive and driven rotors.

(2) Install the drive and driven rotors.



(b) Install the oil pump cover.

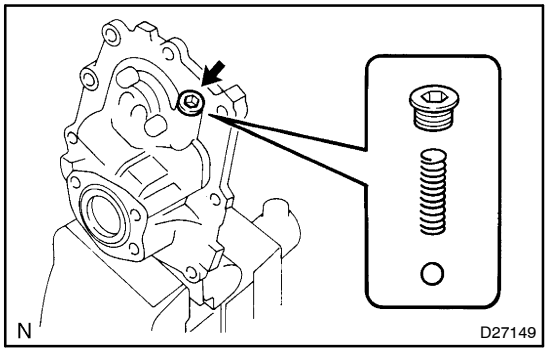
(1) Align the matchmarks and install the oil pump cover.

(2) Fix the rear bearing retainer onto a vise through the aluminum plate.

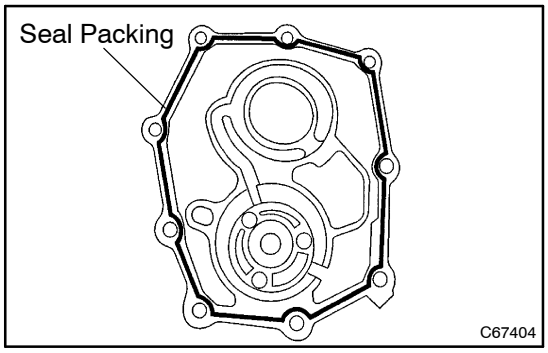
(3) Using a torx socket wrench (T30), install the 3 bolts.

Torque: 3.9 N·m (40 kgf·cm, 35 in.·lbf)

(4) Install the oil pump drive shaft.



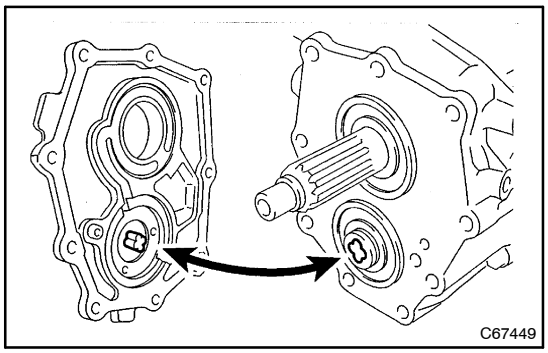
(c) Install the ball, compression spring and plug.
(1) Insert the ball and spring into the rear bearing retainer.
(2) Using a torx socket wrench (T40), install the plug.
Torque: 19 N·m (190 kgf·cm, 14 ft·lbf)
(3) Rotate the oil pump drive shaft lightly and check that the drive rotor turns smoothly.



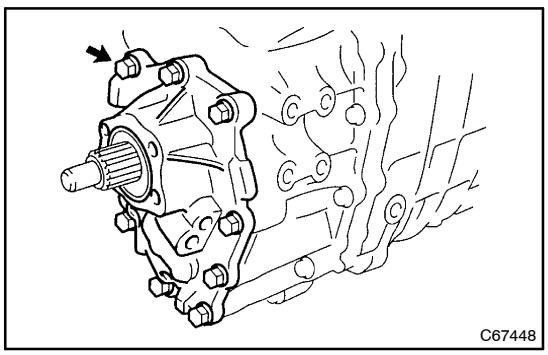
120. INSTALL OUTPUT SHAFT REAR BEARING (MTM) RETAINER

(a) Apply adhesive to the 9 bolts.
Adhesive:
Part No. 08833 – 00080, THREE BOND 1344, LOCTITE 242 or equivalent

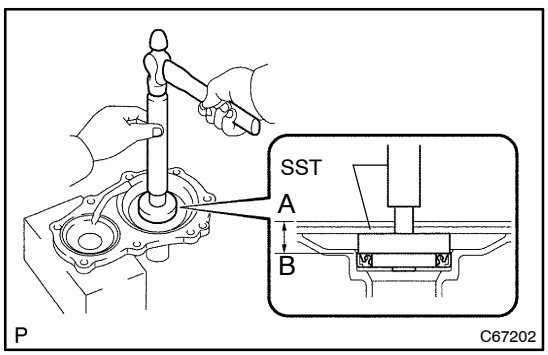
(b) Apply seal packing to the bearing retainer as shown.
Seal packing:
Part No. 08826 – 00090, THREE BOND 1281 or equivalent



(c) Install the rear bearing retainer to the rear case.



(d) Install the 9 bolts.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)



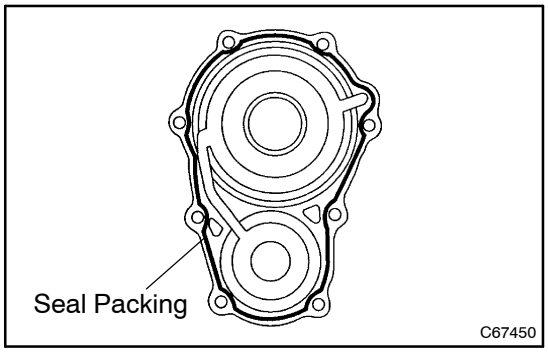
121. INSTALL TRANSMISSION FRONT BEARING RETAINER OIL SEAL

(a) Using SST and a hammer, tap in a new oil seal.
Standard clearance (A – B):
15.4 – 16.2 mm (0.606 – 0.638 in.)

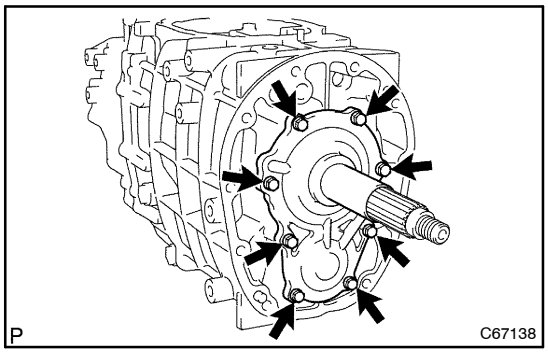
(b) Apply MP grease to the seal lip.
SST 09950–60010 (09951–00330, 09951–00480, 09952–06010), 09950–70010 (09951–07100)

122. INSTALL BEARING RETAINER FRONT (MTM)

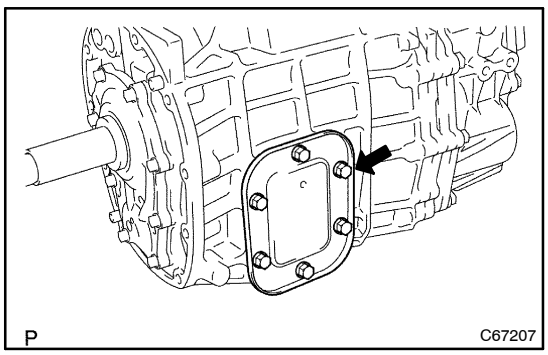
(a) Apply adhesive to the 8 bolts.
Adhesive:
Part No. 08833–00080, THREE BOND 1344, LOCTITE 242 or equivalent



(b) Apply seal packing to the output shaft front bearing retainer as shown.
Seal packing:
Part No. 08826–00090, THREE BOND 1281 or equivalent



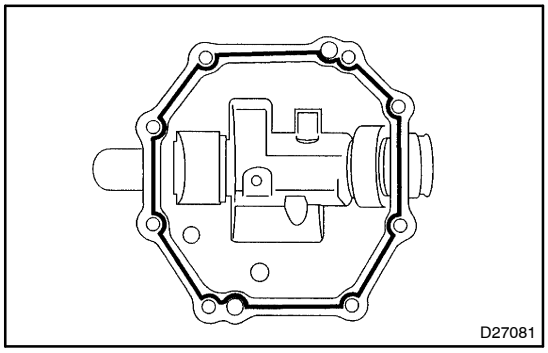
(c) Install the bearing retainer to the transmission case with the 8 bolts.
Torque: 17 N·m (170 kgf·cm, 12 ft·lbf)



123. INSTALL MANUAL TRANSMISSION POWER TAKE–OFF COVER (W/O POWER TAKE OFF)

(a) Install the 6 bolts, cover and gasket.
Torque: 14 N·m (145 kgf·cm, 10 ft·lbf)

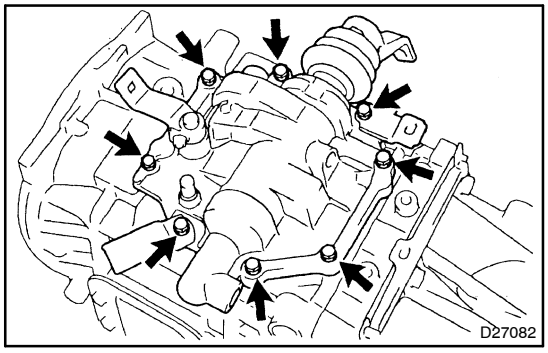
124. INSTALL POWER TAKE–OFF ASSY (W/ POWER TAKE OFF)
(See pub. No. RM931E on page 87 – 2)



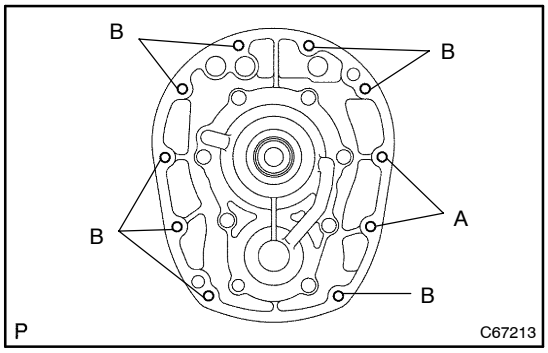
125. INSTALL SHIFT LEVER SHAFT HOUSING ASSY

(a) Apply adhesive to the 8 bolts.
Adhesive:
Part No. 08833 – 00080, THREE BOND 1344, LOCTITE 242 or equivalent

(b) Apply seal packing to the shift lever shaft housing as shown.
Seal packing:
Part No. 08826 – 00090, THREE BOND 1281 or equivalent

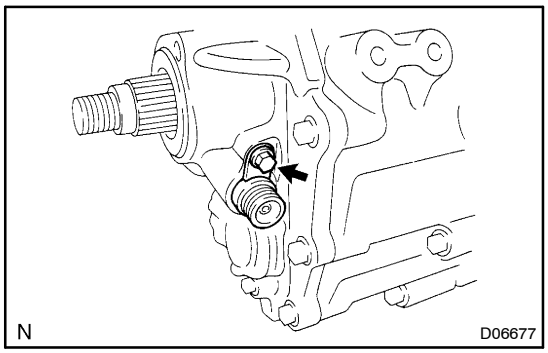


(c) Install the 2 clamps and housing assy to the transmission case with the 8 bolts.
Torque: 17 N·m (170 kgf·cm, 12 ft·lbf)



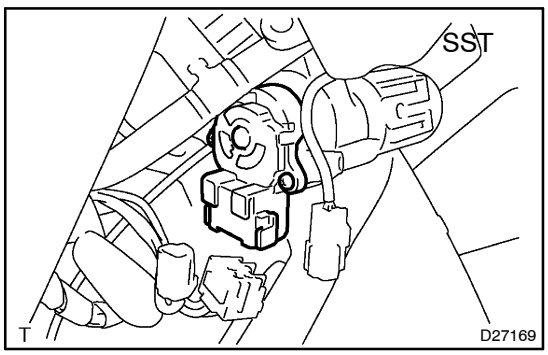
126. INSTALL CLUTCH HOUSING

(a) Install the clutch housing to the transmission case with the 10 bolts.
Bolt A: 35 mm (1.38 in.) x 2
Bolt B: 45 mm (1.77 in.) x 8
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)



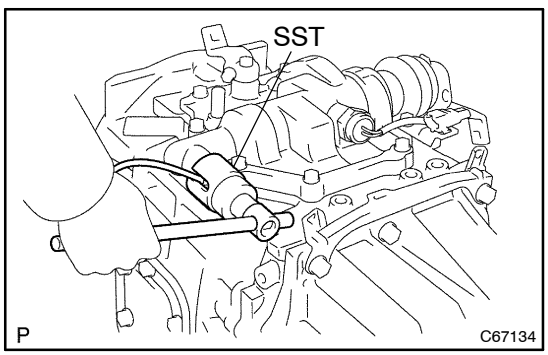
127. INSTALL SPEEDOMETER DRIVEN (MTM) GEAR SUB–ASSY

(a) Apply gear oil to a new O–ring.
(b) Install the O–ring to the driven gear sub–assy.
(c) Install the driven gear sub–assy with the lock plate and bolt.
Torque: 11 N·m (115 kgf·cm, 8 ft·lbf)



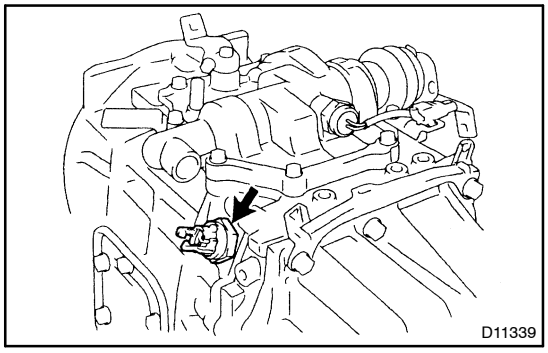
128. INSTALL EXHAUST BRAKE NEUTRAL SWITCH ASSY

(a) Install a new gasket to the neutral switch.
(b) Using SST, install the neutral switch.
SST 09817–16011
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)



129. INSTALL SHIFT POSITION SWITCH

(a) Install a new gasket to the shift position switch.
(b) Using SST, install the switch.
SST 09817–16011
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)



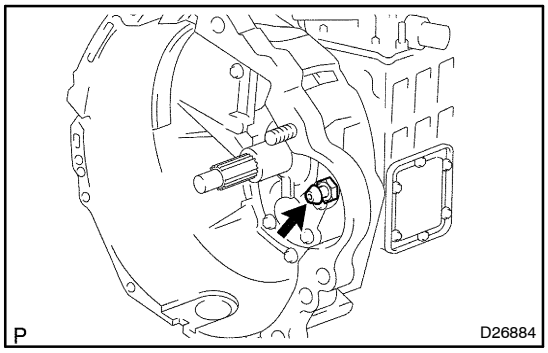
130. INSTALL BACK UP LAMP SWITCH ASSY

(a) Install a new gasket to the back up lamp switch.

(b) Install the back up lamp switch to the transmission case.

Torque: 44 N·m (450 kgf·cm, 33 ft·lbf)

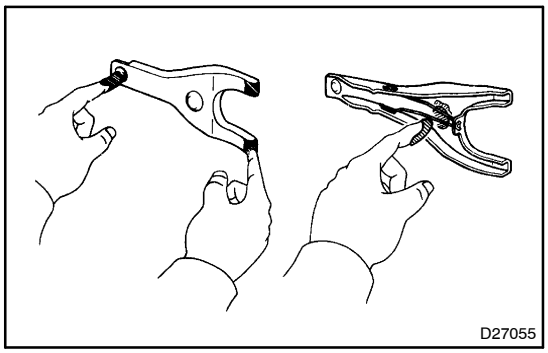
131. INSTALL CLUTCH RELEASE FORK BOOT



132. INSTALL RELEASE FORK SUPPORT

(a) Using a socket wrench (19 mm), install the release fork support.

Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

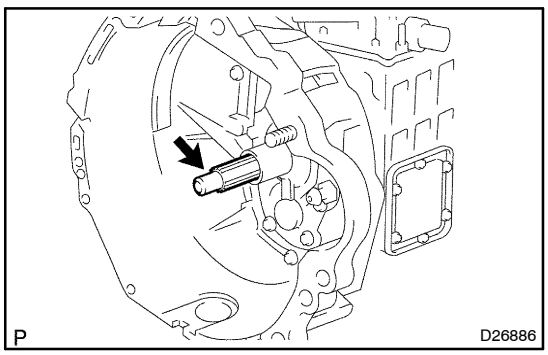


133. INSTALL CLUTCH RELEASE FORK SUB–ASSY

(a) Apply release hub grease to the release fork and hub contact, release fork and push rod contact and release fork pivot points.

Grease:

Part No. 08887–01806, RELEASE HUB GREASE or equivalent

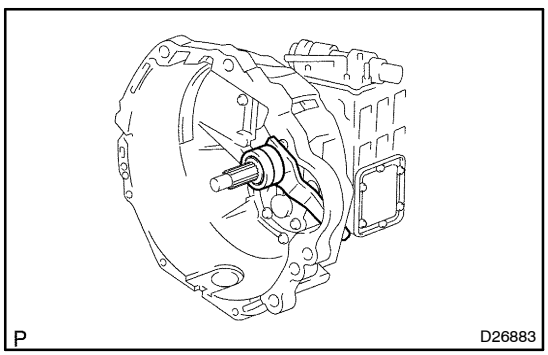


134. INSTALL CLUTCH RELEASE BEARING ASSY

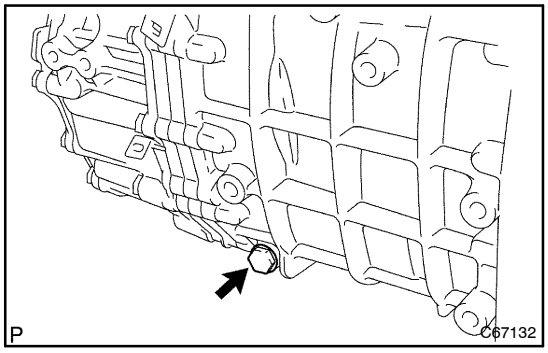
(a) Apply clutch spline grease to the input shaft spline.

Grease:

Part No. 08887–01706, CLUTCH SPLINE GREASE or equivalent

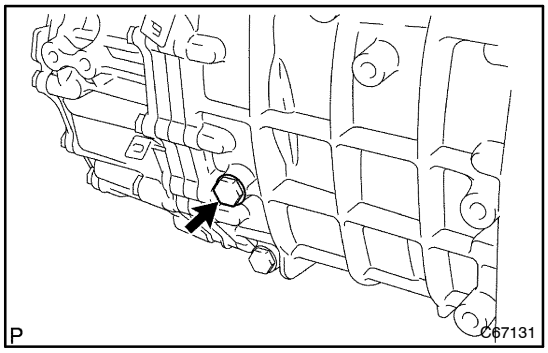


(b) Install the bearing to the release fork, and then install them to the transmission.



135. INSTALL DRAIN PLUG

(a) Install the drain plug to the transmission case through a new gasket.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)



136. INSTALL FILLER PLUG

(a) Install the filler plug to the transmission case through a new gasket.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)