MT0AR–02

DISASSEMBLY

HINT:

When placing a part in a vise, be sure to use a cloth or something similar.

1. REMOVE FILLER AND DRAIN PLUGS WITH 2 GASKETS

HINT:

At the time of reassembly, install 2 new gaskets.

Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

2. REMOVE CLUTCH RELEASE FORK BOOT

3. REMOVE CLUTCH RELEASE BEARING AND FORK

4. REMOVE CLUTCH RELEASE FORK BALL

Using a deep socket wrench (19 mm), remove the clutch release fork ball.

Torque: 47 N·m (480 kgf·cm, 35 ft·lbf)

5. REMOVE SPEED SENSOR

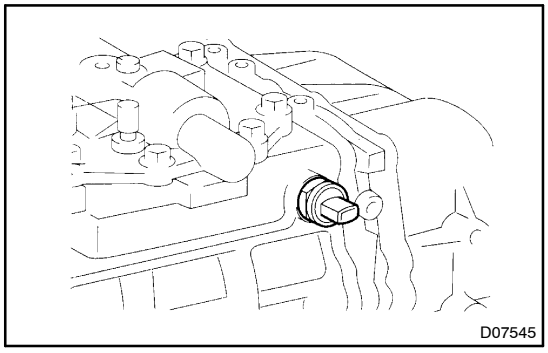
(a) Remove the bolt and speed sensor.

Torque: 11 N·m (115 kgf·cm, 8 ft·lbf)

(b) Using a small screwdriver, remove the O–ring from the speed sensor.

(c) Using a small screwdriver, remove the clip from the speed sensor.

(d) Remove the speed sensor driven gear from the speed sensor.


D07545

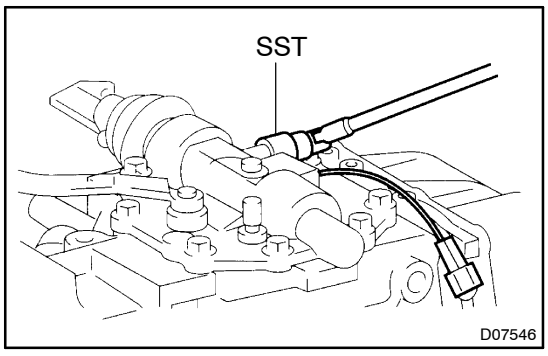
6. REMOVE BACK–UP LIGHT SWITCH

Using a socket wrench (27 mm), remove the back–up light switch and gasket.

HINT:

At the time of reassembly, install a new gasket.

Torque: 44 N·m (450 kgf·cm, 32 ft·lbf ft·lbf)



D07546

7. REMOVE NEUTRAL START SWITCH

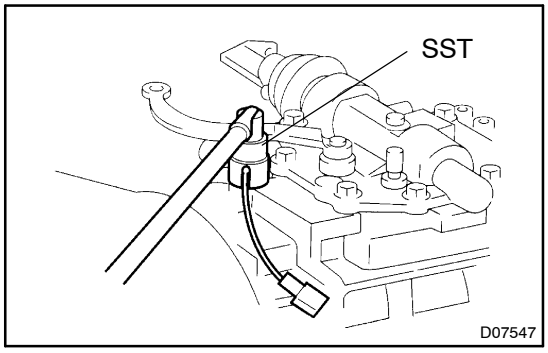
Using SST, remove the neutral start switch and gasket.

SST 09817–16011

HINT:

At the time of reassembly, install a new gasket.

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



8. REMOVE SHIFT POSITION SWITCH

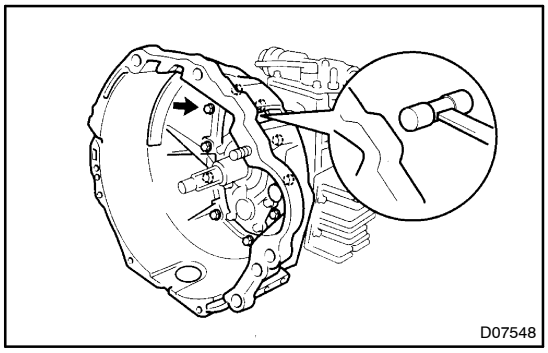
Using SST, remove the shift position switch and gasket.

SST 09817–16011

HINT:

At the time of reassembly, install a new gasket.

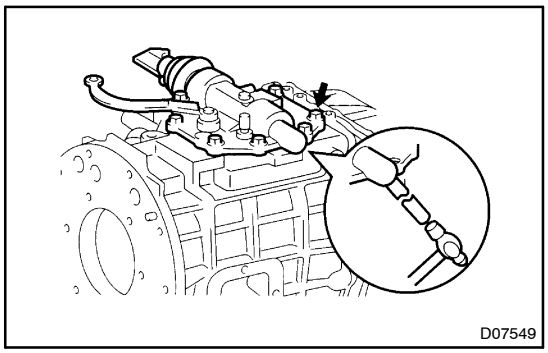
Torque: 44 N·m (450 kgf·cm, 32 ft·lbf)



9. REMOVE CLUTCH HOUSING

Remove the 10 bolts.

Torque: 37 N·m (380 kgf·cm, 27ft·lbf ft·lbf)



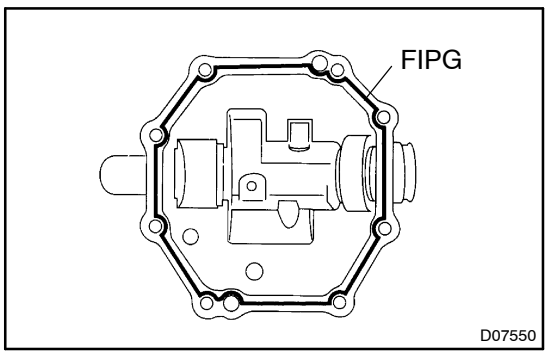
10. CHECK SHIFT POSITION (NEUTRAL)

11. REMOVE SHIFT LEVER SHAFT HOUSING

Remove the 8 bolts and 2 clamps.

Sealant: Part No. 08833–00080, THREE BOND 1344, LOCTITE 242 or equivalent

Torque: 17 N·m (170 kgf·cm, 12 ft·lbf)



HINT:

At the time of reassembly, apply FIPG to the transmission case.

FIPG: Part No. 08826–00090, THREE BOND 1281 or equivalent

12. REMOVE POWER TAKE OFF COVER

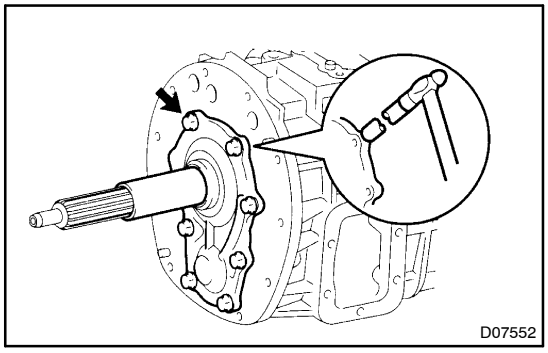
Remove the 6 bolts, power take off cover and gasket.

HINT:

At the time of reassembly, install a new gasket.

Sealant: Part No. 08833–00080, THREE BOND 1344, LOCTITE 242 or equivalent

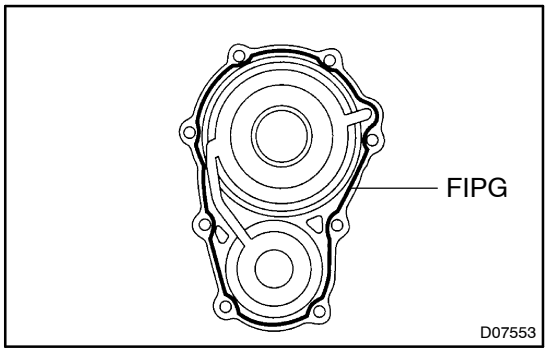
Torque: 14 N·m (145 kgf·cm, 10 ft·lbf)



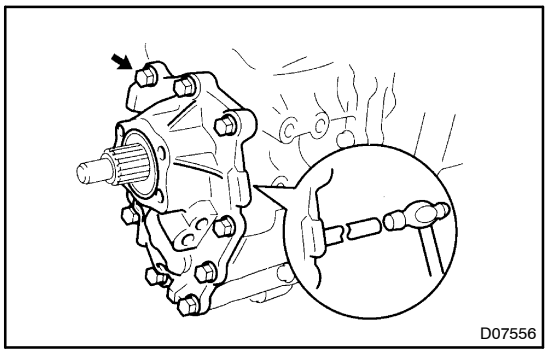
13. REMOVE FRONT BEARING RETAINER

(a) Remove the 8 bolts.
Sealant: Part No. 08833–00080, THREE BOND 1344, LOCTITE 242 or equivalent
Torque: 17 N·m (170 kgf·cm, 12 ft·lbf)

(b) Using a brass bar and hammer, remove the front bearing retainer.



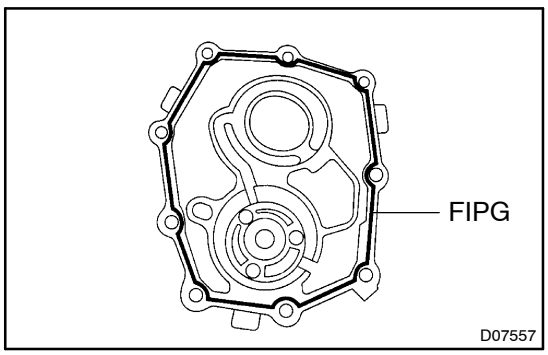
HINT:
At the time of reassembly, apply FIPG to the front bearing retainer.
FIPG: Part No. 08826–00090, THREE BOND 1281 or equivalent



14. REMOVE OUTPUT SHAFT REAR BEARING RETAINER

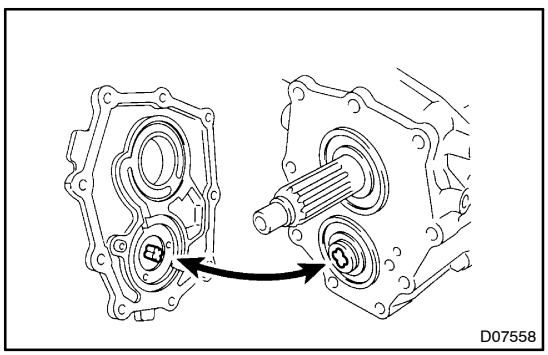
(a) Remove the 9 bolts.
Sealant: Part No. 08833–00080, THREE BOND 1344, LOCTITE 242 or equivalent
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

(b) Using a brass bar and hammer, remove the output shaft rear bearing retainer.

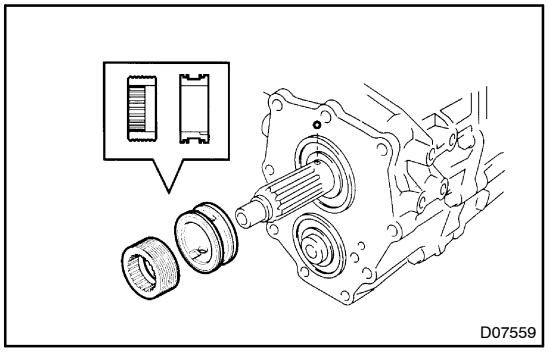


HINT:

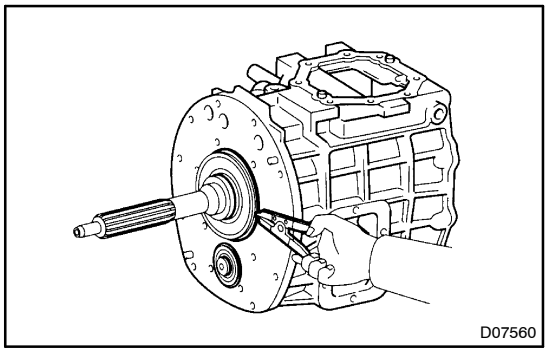
- At the time of reassembly, apply FIPG to the output shaft rear bearing retainer.
FIPG: Part No. 08826–00090, THREE BOND 1281 or equivalent



- Install it properly so that the projected part fits in the concave part of the oil pump drive shaft counter gear.

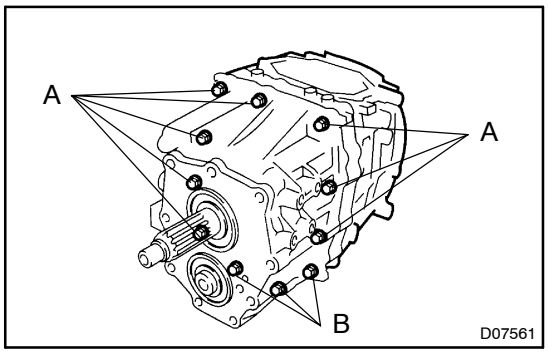


15. REMOVE SPEED SENSOR DRIVE GEAR, SPACER AND KEY



16. REMOVE TRANSMISSION FRONT CASE

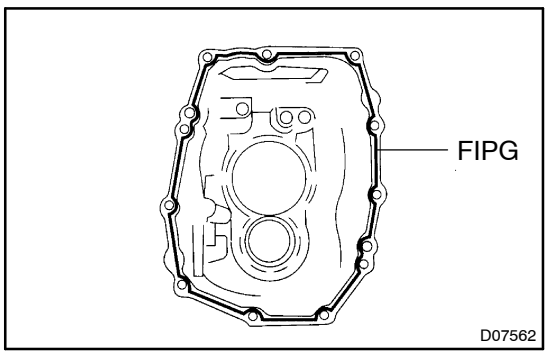
(a) Using a snap ring expander, remove the 2 snap rings.



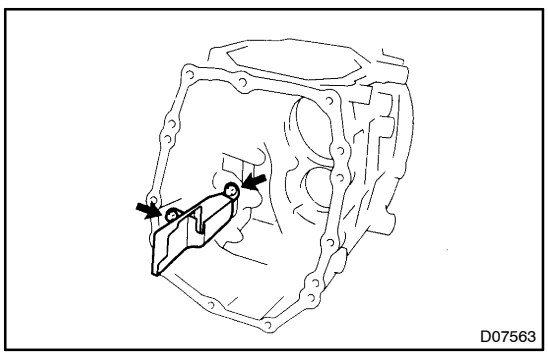
(b) Remove the 11 bolts and transmission front case.
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

HINT:
Bolt length:
Bolt A: 70 mm (2.756 in.)
Bolt B: 100 mm (3.937 in.)

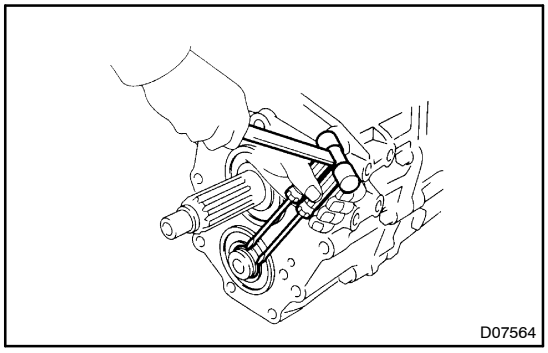
(c) Using a hexagon wrench (12 mm) and hammer, drive out the 3 plugs.



HINT:
At the time of reassembly, apply FIPG to the transmission front case.
FIPG: Part No. 08826–00090, THREE BOND 1281 or equivalent

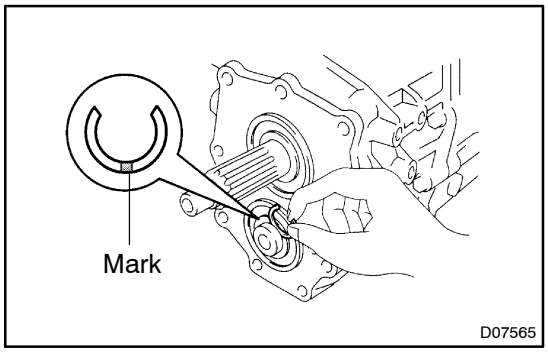


(d) Remove the 2 bolts and oil receiver.
Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)


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17. REMOVE BALL BEARING

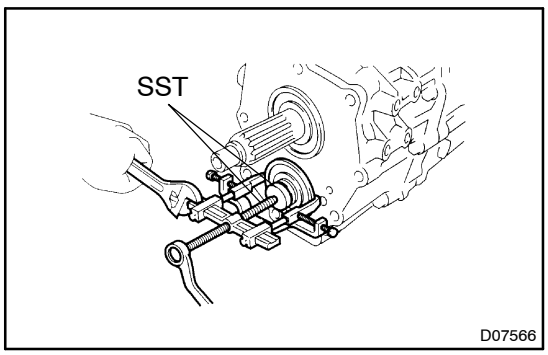
(a) Using 2 screwdrivers and a plastic hammer, drive out the snap ring.



D07565

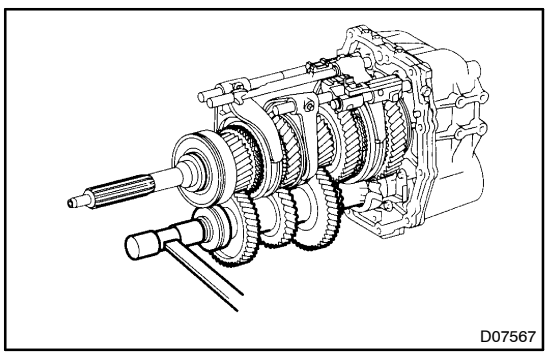
HINT:
At the time of reassembly, select a snap ring that allows the minimum axial play.

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)

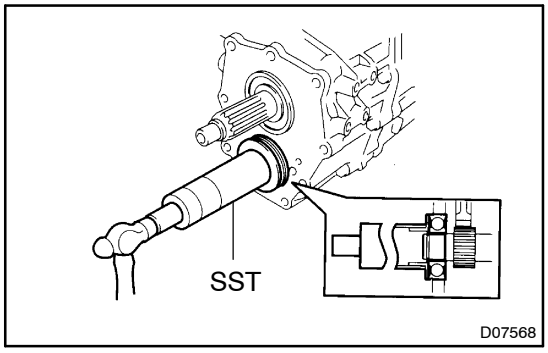


D07566

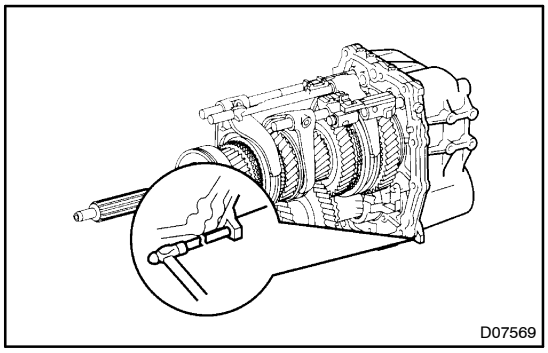
(b) Using SST, remove the ball bearing.
SST 09950–40011 (09951–04010, 09952–04010, 09953–04030, 09954–04010, 09955–04011, 09957–04010, 09958–04011) 09950–60010 (09951–00300)


D07567

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



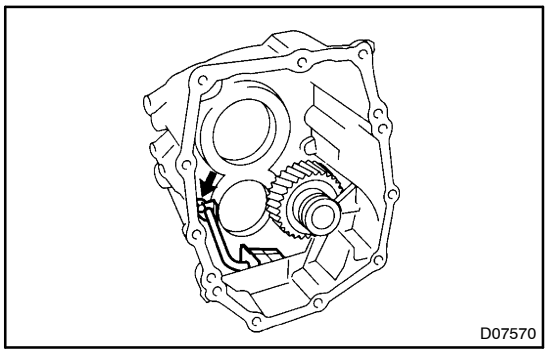
HINT:
At the time of reassembly, install the ball bearing using SST.
SST 09316–00011, 09316–00041



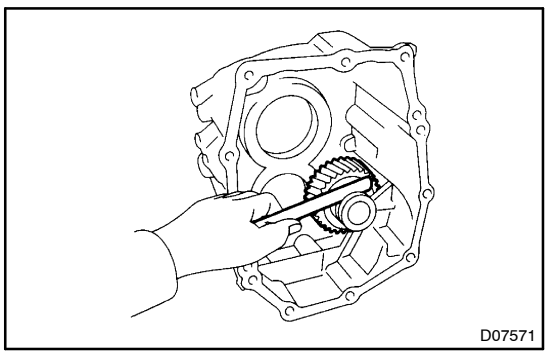
18. REMOVE TRANSMISSION REAR CASE

(a) Using a brass bar and hammer, remove the transmission rear case.

NOTICE:
Attach the brass bar to the rib of the case.

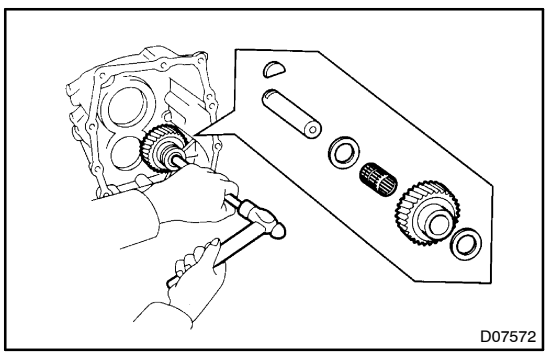


(b) Remove the bolt and oil strainer.
Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)
(c) Remove the O–ring from the oil strainer.
HINT:
At the time of reassembly, install a new O–ring to the oil strainer.

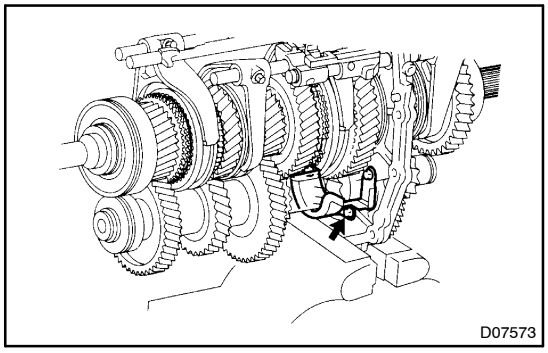


19. REMOVE REVERSE IDLER GEAR

(a) Using a feeler gauge, measure the thrust clearance of the reverse idler gear.
Standard clearance:
0.10 – 0.55 mm (0.0039 – 0.0217 in.)
Maximum clearance:
0.55 mm (0.0217in.)



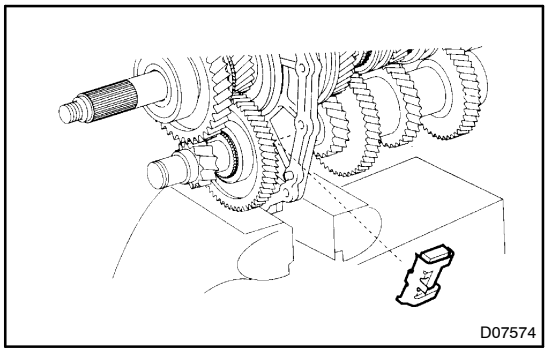
(b) Remove the woodruff key from the reverse idler gear shaft.
(c) Using a brass bar and hammer, remove the reverse idler gear shaft.
(d) Remove the reverse idler gear, 2 thrust washers and needle roller bearing.



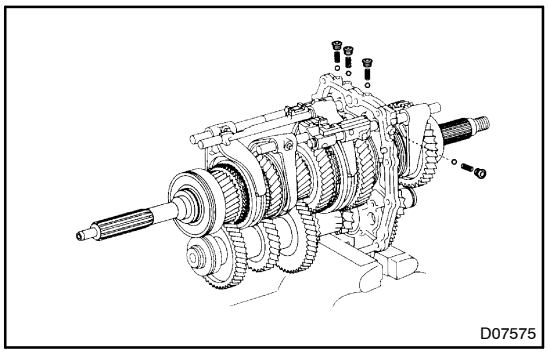
20. REMOVE CASE RECEIVER

Remove the 3 bolts and case receiver.

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



21. REMOVE MAGNET

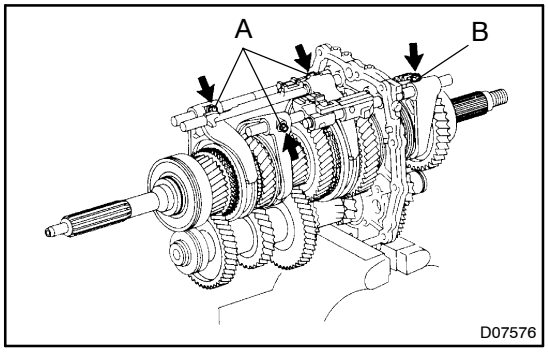


22. REMOVE PLUG, SPRING AND BALL

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

Torque: 19 N·m (190 kgf·cm, 14 ft·lbf)

(b) Using a magnetic finger, remove the 4 spring and balls.



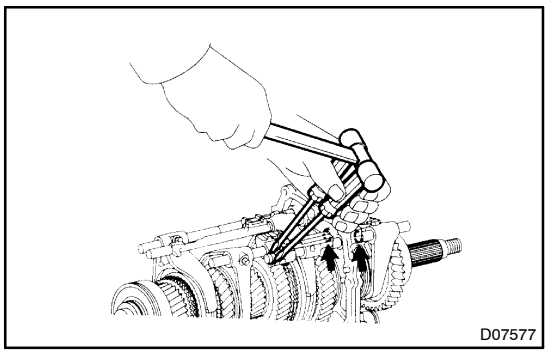
23. REMOVE SHIFT FORK BOLT

Remove the 4 shift fork bolts.

Torque:

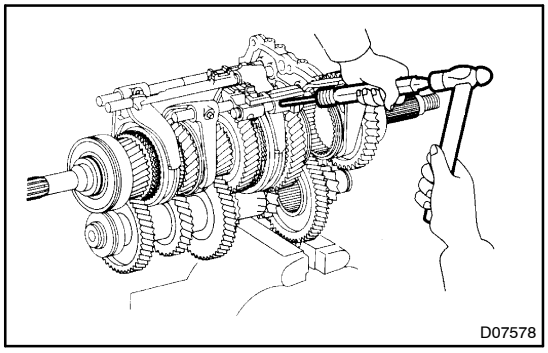
Bolt A: 36 N·m (370 kgf·cm, 27 ft·lbf)

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



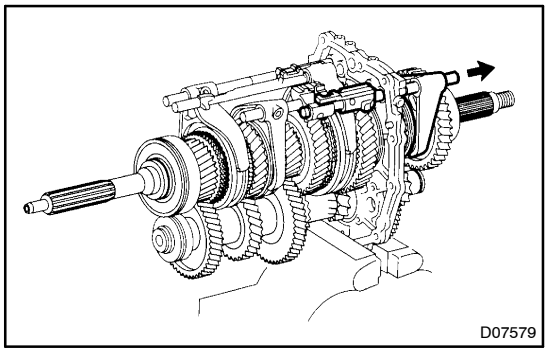
24. REMOVE SHIFT FORK SHAFT SNAP RING

Using 2 screwdrivers and a hammer, drive out the 3 snap rings.



25. REMOVE SLOTTED PIN

Using a pin punch and hammer, drive out the slotted pin.



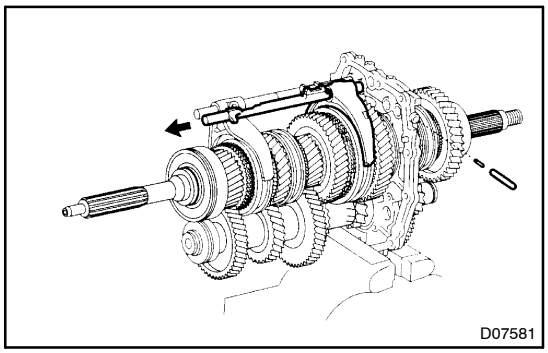
26. REMOVE SHIFT FORK SHAFT NO. 4, SHIFT FORK NO. 4 AND REVERSE SHIFT HEAD

Pull out the shift fork shaft No. 4 to the rear and remove the shift fork No. 4 and reverse shift head.

27. REMOVE SHIFT FORK SHAFT NO. 3, SHIFT FORK NO. 3 AND SHIFT HEAD NO. 1

(a) Using a magnetic finger, remove the interlock pin No. 1 and 2 balls.

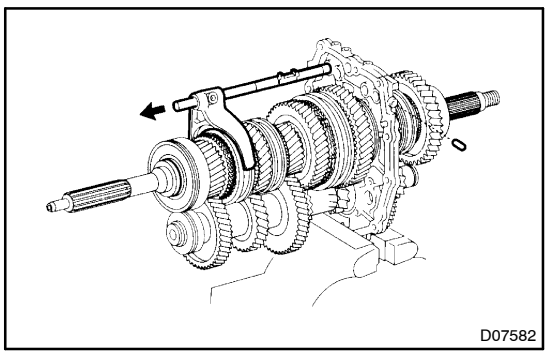
(b) Remove the shift fork shaft No. 3, shift fork No. 3 and shift head No. 1.



28. REMOVE SHIFT FORK SHAFT NO. 1 AND SHIFT FORK NO. 1

(a) Using a magnetic finger, remove the interlock pin No. 1 and No. 2.

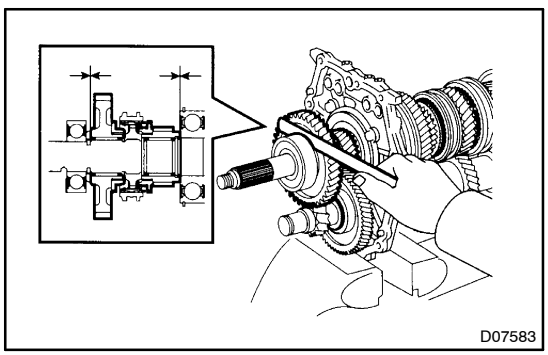
(b) Remove the shift fork shaft No. 1 and shift fork No. 1.



29. REMOVE SHIFT FORK SHAFT NO. 2 AND SHIFT FORK NO. 2

(a) Using a magnetic finger, remove the interlock roller No. 1.

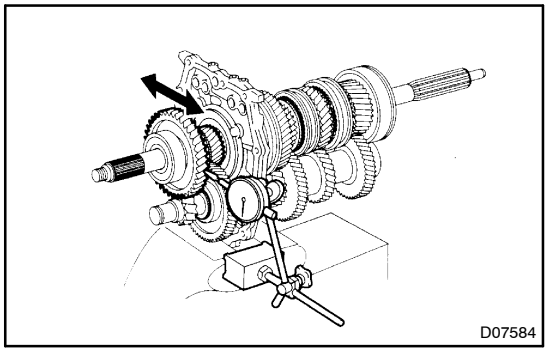
(b) Pull out the shift fork shaft No. 1 to the front and remove the shift fork No. 1.



30. INSPECT REVERSE GEAR AND 6TH GEAR THRUST CLEARANCE

Using a feeler gauge, measure the thrust clearance.

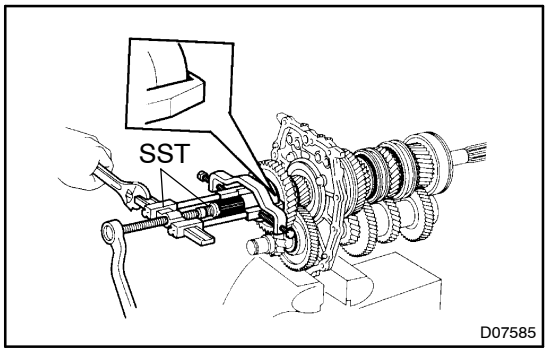
Standard clearance:
Reverse gear: 0.10 – 0.45 mm (0.0039 – 0.0177 in.)
6th gear: 0.10 – 0.57 mm (0.0039 – 0.0224 in.)
Maximum clearance:
Reverse gear: 0.45 mm (0.0177 in.)
6th gear: 0.57 mm (0.0224 in.)


D07584

31. INSPECT REVERSE GEAR AND 6TH GEAR RADIAL CLEARANCE

Using a dial indicator, measure the radial clearance between the gear and shaft.

Standard clearance:
0.020 – 0.073 mm (0.0008 – 0.0029 in.)
Maximum clearance:
0.073 mm (0.0029 in.)

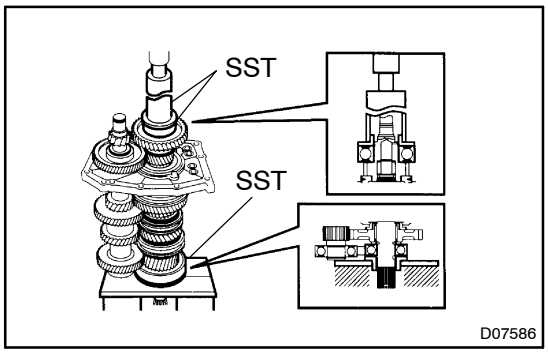


D07585

32. REMOVE REVERSE GEAR

(a) Using SST, remove the rear bearing.

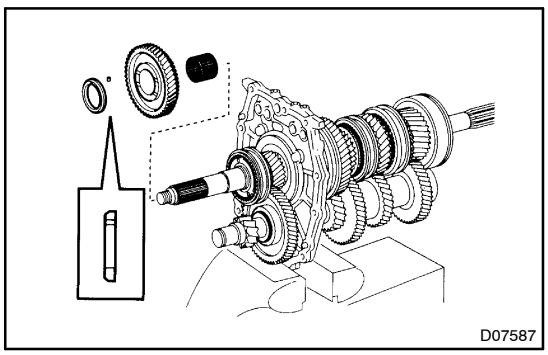
SST 09950–40011 (09951–04020, 09952–04010, 09953–04020, 09954–04020, 09955–04061, 09957–04010, 09958–04011) 09950–60010 (09951–00180)



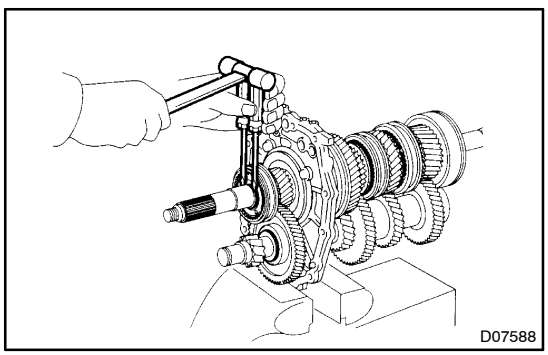
D07586

HINT:
At the time of reassembly, press in the rear bearing using a press and SST.

SST 09316–20011, 09316–60011 (09316–00011, 09316–00041) 09527–10011


D07587

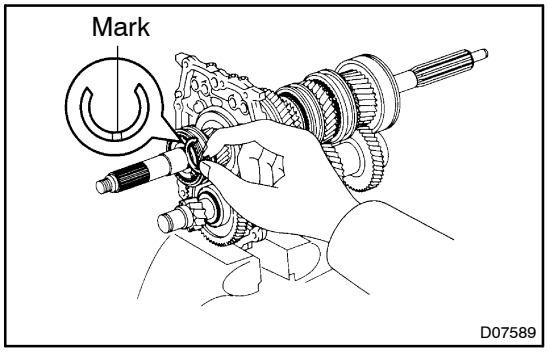
(b) Remove the thrust washer, pin, reverse gear and needle roller bearing.


D07588

33. REMOVE 6TH GEAR

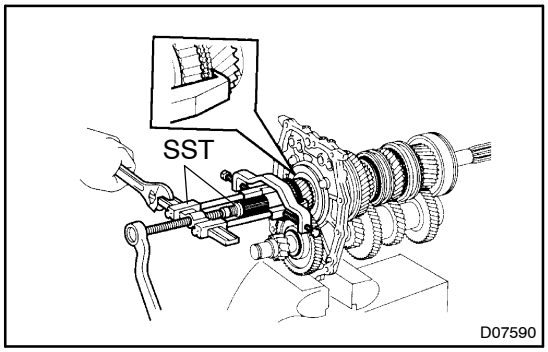
(a) Using 2 screwdriver and a hammer, drive out the snap ring.

(b) Remove hub sleeve No. 4.

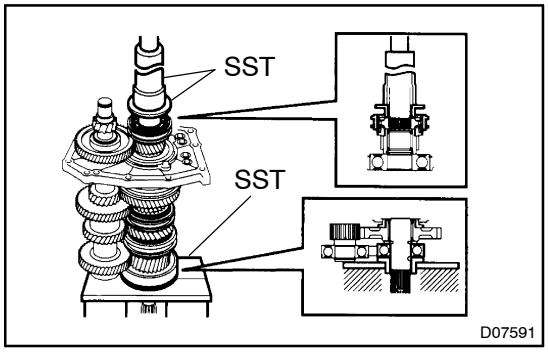


HINT:
At the time of reassembly, select a snap ring that allows the minimum axial play.

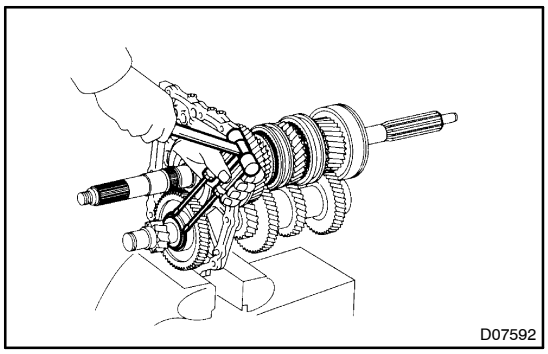
Mark	Thickness mm (in.)
A	2.40 – 2.45 (0.0945 – 0.0965)
B	2.45 – 2.50 (0.0965 – 0.0984)
C	2.50 – 2.55 (0.0984 – 0.1004)
D	2.55 – 2.60 (0.1004 – 0.1024)
E	2.60 – 2.65 (0.1024 – 0.1043)
F	2.65 – 2.70 (0.1043 – 0.1063)



(c) Using SST, remove the clutch hub No. 4, synchronizer ring No. 2, 6th gear and needle roller bearing.
SST 09950–40011 (09951–04020, 09952–04010, 09953–04020, 09954–04030, 09955–04061, 09957–04010, 09958–04011) 09950–60010 (09951–00180)

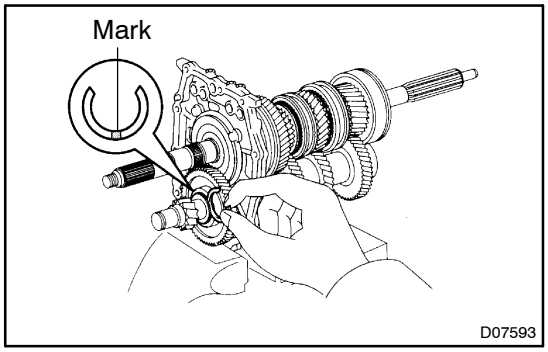


HINT:
At the time of reassembly, press in the clutch hub No. 4 using a press and SST.
SST 09316–20011, 09316– 60011 (09316–00041) 09527–10011



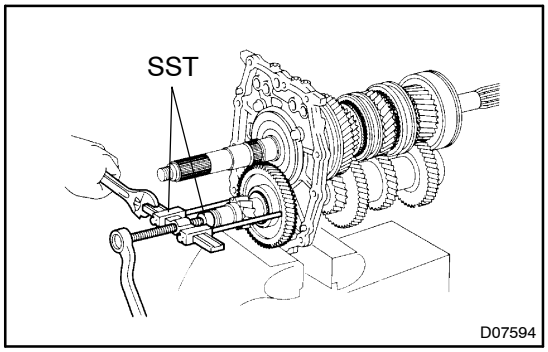
34. REMOVE 6TH COUNTER GEAR

(a) Using 2 screwdriver and a hammer, drive out the snap ring.

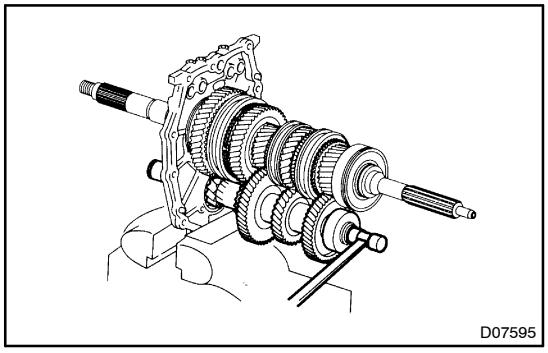


HINT:
At the time of reassembly, select a snap ring that allows the minimum axial play.

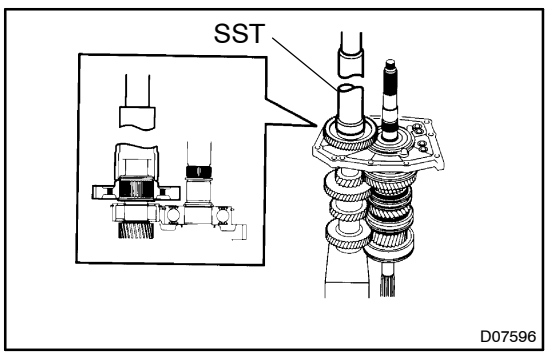
Mark	Thickness mm (in.)
A	2.40 – 2.45 (0.0945 – 0.0965)
B	2.45 – 2.50 (0.0965 – 0.0984)
C	2.50 – 2.55 (0.0984 – 0.1004)
D	2.55 – 2.60 (0.1004 – 0.1024)
E	2.60 – 2.65 (0.1024 – 0.1043)
F	2.65 – 2.70 (0.1043 – 0.1063)



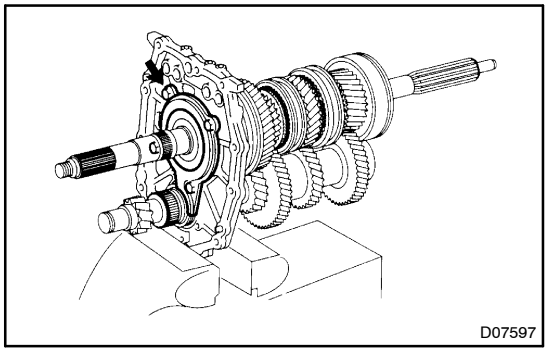
(b) Using SST, remove the 6th counter gear.
SST 09950–50012 (09951–05010, 09952–05010, 09953–05020, 09954–05040) 09950–40011 (09957–04010) 09950–60010 (09951–00300)



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



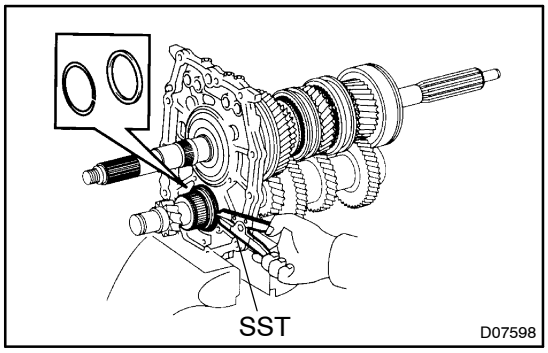
HINT:
At the time of reassembly, press in the 6th counter gear using a press and SST.
SST 09613–26010



35. REMOVE CENTER BEARING RETAINER

Remove the 4 bolts and center bearing retainer.

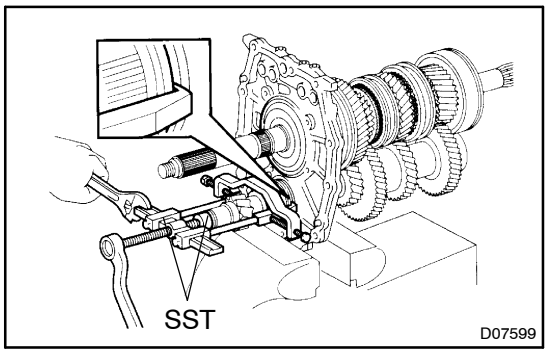
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)



36. REMOVE COUNTER GEAR

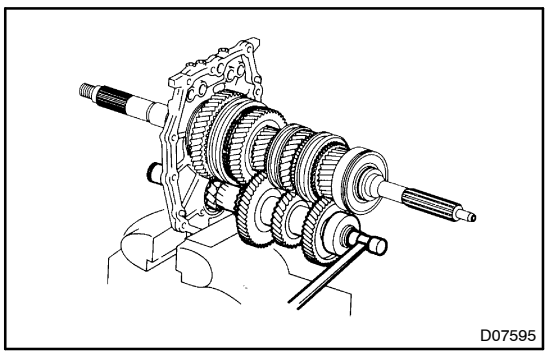
(a) Using a snap ring expander, remove the snap ring.

(b) Remove the spacer.



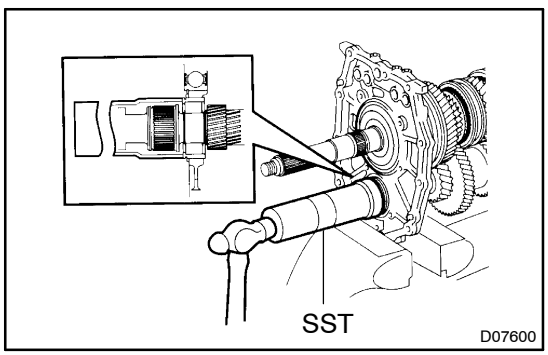
(c) Using SST, remove the center bearing.

SST 09950–40011 (09951–04020, 09952–04010, 09953–04020, 09954–04020, 09955–04011, 09957–04010, 09958–04011) 09950–60010 (09951–00300)



HINT:

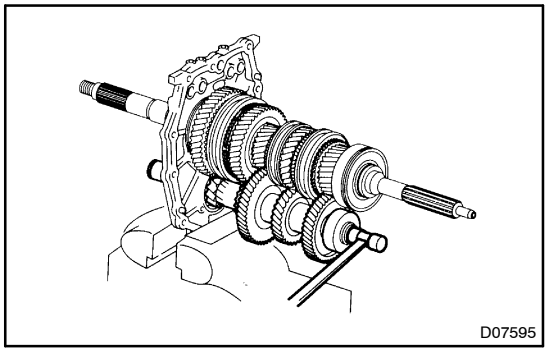
Remove the bearing while tapping the tip of the counter gear with a plastic hammer to prevent the counter gear from being pushed to front and attaching to the side of the gear.



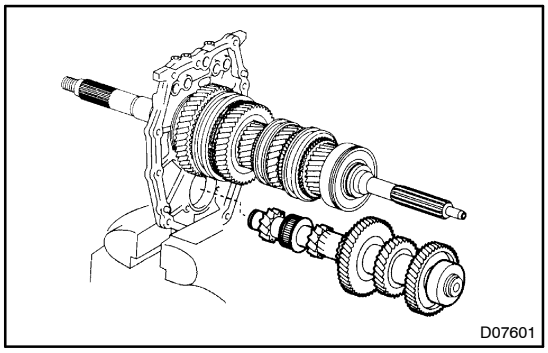
HINT:

- At the time of reassembly, drive in a new counter shaft center bearing using a hammer and SST.

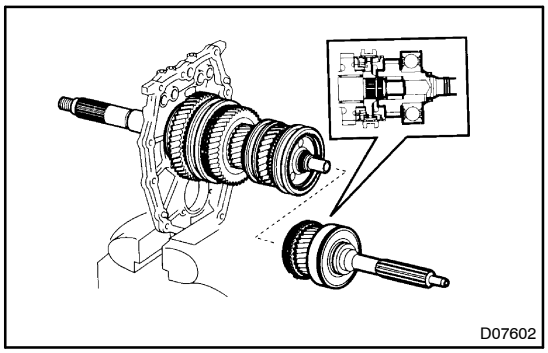
  SST 09316–60011 (09316–00011)


D07595

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

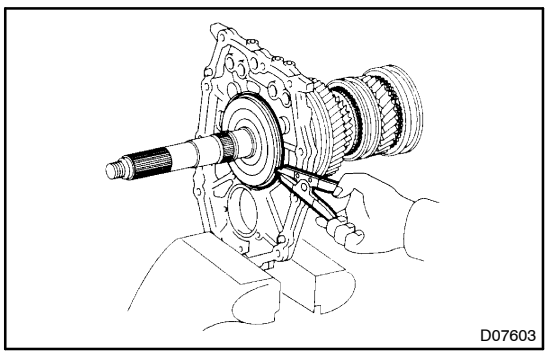

D07601

(d) Remove the counter gear form intermediate plate.


D07602

37. REMOVE INPUT SHAFT ASSEMBLY

Remove the input shaft assembly from the output shaft.

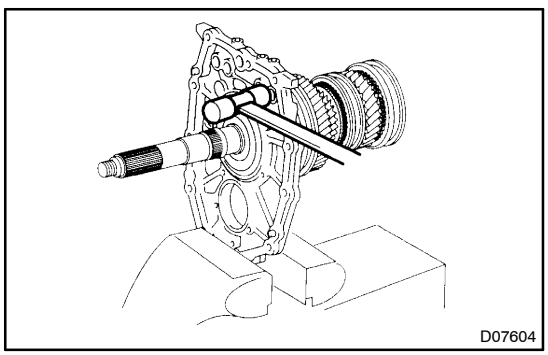

D07603

38. REMOVE OUTPUT SHAFT ASSEMBLY

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

NOTICE:

Do not expander the snap ring more than necessary.


D07604

(b) Using a plastic hammer, remove the output shaft assembly from the intermediate plate.