TR03T–02

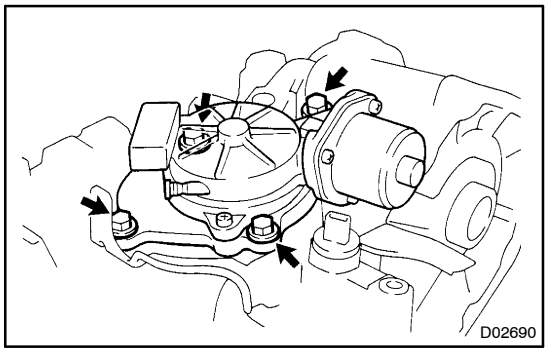
DISASSEMBLY

1. REMOVE BREATHER HOSE

2. REMOVE SPEED SENSOR DRIVEN GEAR

Remove the bolt and driven gear.

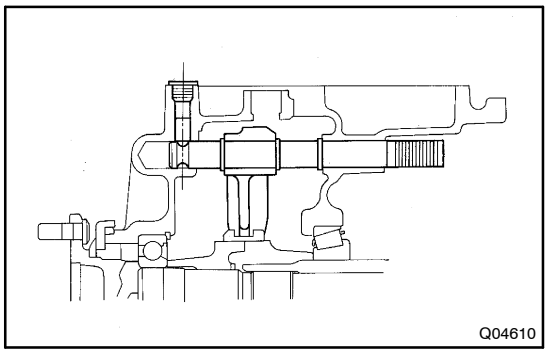
Torque: 11 N·m (115 kgf·cm, 8 ft·lbf)



3. REMOVE MOTOR ACTUATOR

Remove the 4 bolts and motor actuator.

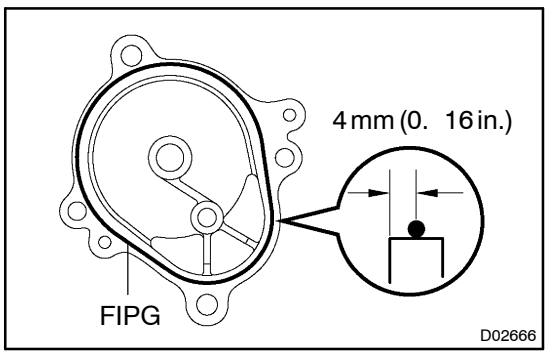
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)



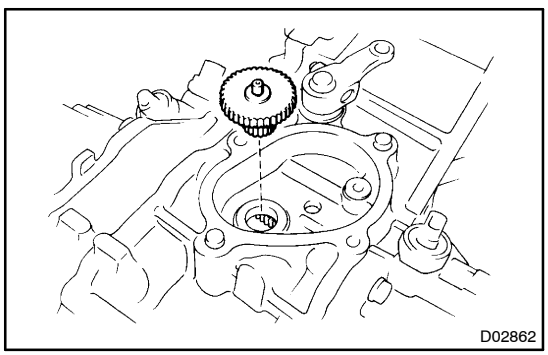
HINT:

At the time of reassembly, please refer to the following items.

- Set the motor actuator in differential lock condition.



- Apply FIPG to the motor actuator.
  FIPG:
  Part No. 08826 –00090, THREE BOND 1281 or equivalent



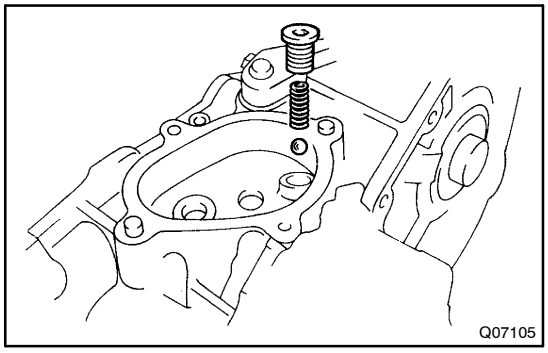
4. REMOVE OUTPUT GEAR FROM FRONT CASE

HINT:

At the time of reassembly, apply gear oil to the output gear.

NOTICE:

At the time of reassembly, do not turn the output gear.



5. REMOVE SCREW PLUG, SPRING AND BALL

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

HINT:

At the time of reassembly, apply liquid sealer to the screw plug threads.

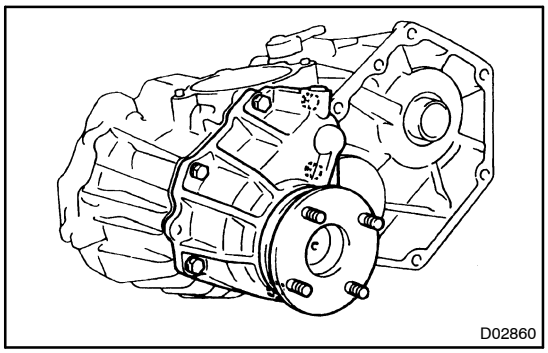
Sealant:
Part No.08833 –00080, THREE BOND 1344, LOCTITE 242 or equivalent
Torque: 19 N·m (190 kgf·cm, 14 ft·lbf)

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

6. REMOVE TRANSFER INDICATOR SWITCH

Remove the center diff. lock indicator switch, L position switch, neutral position switch and 3 gaskets.

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



7. REMOVE FRONT EXTENSION HOUSING

Remove the 6 bolts and front extension housing.

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

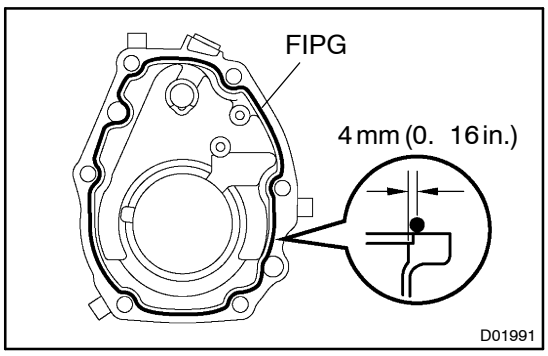
HINT:

If necessary, tap the front extension housing lightly with a plastic hammer.

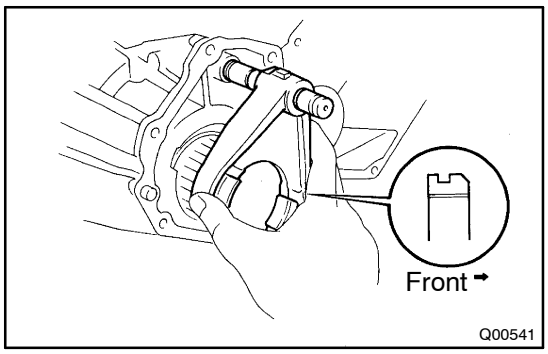
HINT:

At the time of reassembly, please refer to the following items.

- Set the clutch sleeve in differential lock condition.



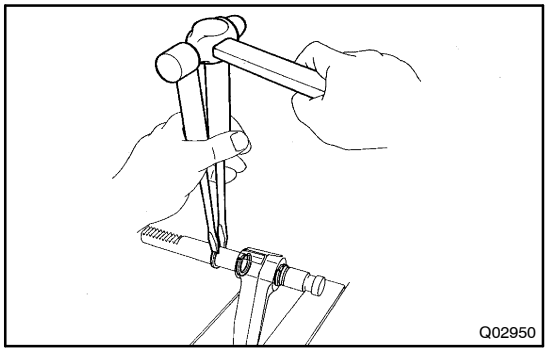
- Apply FIPG to the front extension housing.
  FIPG:
  Part No. 08826 –00090, THREE BOND 1281 or equivalent



8. REMOVE CLUTCH SLEEVE WITH SHIFT FORK NO.2 SHAFT AND SHIFT FORK NO.2

HINT:

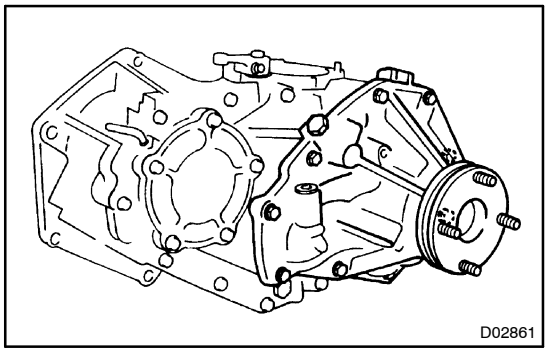
At the time of reassembly, make sure to install the clutch sleeve in the correct direction.



9. SEPARATE SHIFT FORK NO.2 SHAFT AND SHIFT FORK NO.2

(a) Using 2 screwdrivers and a hammer, tap out the 3 snap rings from the shift fork No.2 shaft.

(b) Separate the shift fork No.2 shaft and shift fork No.2.



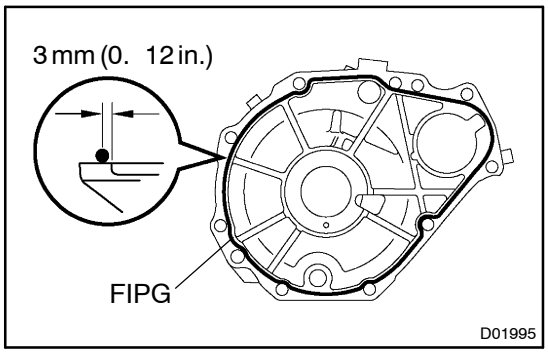
10. REMOVE REAR EXTENSION HOUSING

Remove the 9 bolts and rear extension housing.

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

HINT:

If necessary, tap the rear extension housing lightly with a plastic hammer.

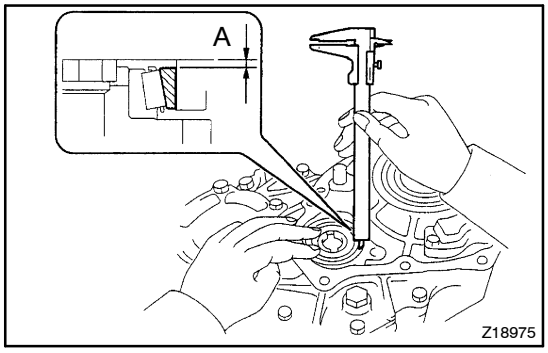


HINT:

At the time of reassembly, apply FIPG to the rear extension housing.

FIPG:

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



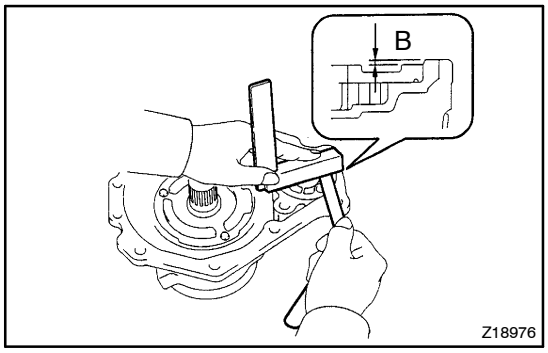
11. REMOVE ADJUSTING SHIM

HINT:

At the time of reassembly, select a adjusting shim for the idler gear rear taper roller bearing.

(a) Using vernier calipers, measure dimension ”A”.

(b) Lightly hold down the bearing outer race in the thrust direction to eliminate any looseness before making the measurement.



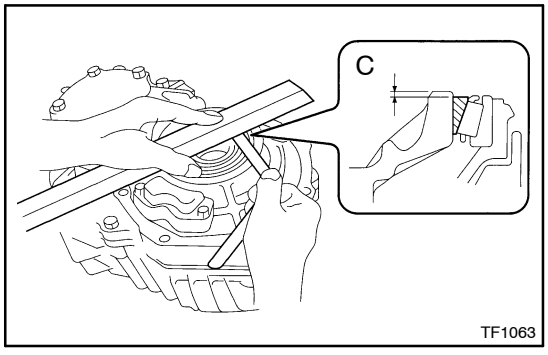
(c) Using a steel straight edge and feeler gauge, measure the clearance of dimension ”B”.

(d) Calculate the required thickness of the adjusting shim.

Thickness: Dimension ”A” + Dimension ”B” + [0.022 – 0.049 mm, (0.0009 – 0.0019 in.)]

(e) From the following table, select a shim so that its thickness is within the range of the calculation.

Mark	Thickness mm (in.)	Mark	Thickness mm (in.)
2	0.30 (0.0 118)	8	3.20 (0. 1260)
3	0.45 (0.0 177)	9	3.40 (0. 1339)
4	2.40 (0.0945)	10	3.60 (0. 1417)
5	2.60 (0. 1024)	11	3.80 (0. 1496)
6	2.80 (0. 1102)	12	4.00 (0. 1575)
7	3.00 (0. 1181)	13	0.55 (0.02 16)

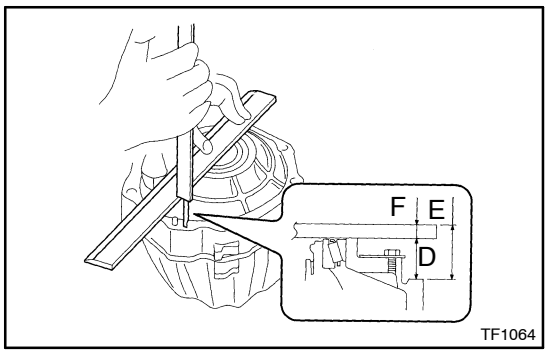


HINT:

At the time of reassembly, select a adjusting shim for the output shaft taper roller bearing.

(f) Using a steel straight edge and feeler gauge, measure the clearance of dimension ”C”.

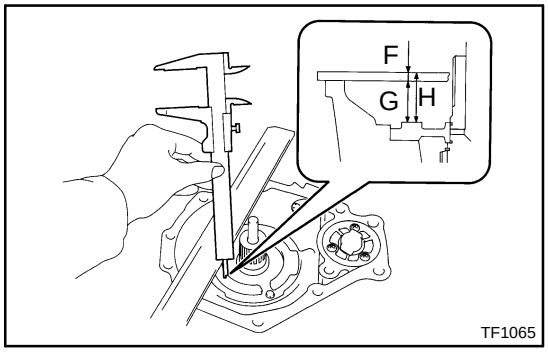
(g) Lightly hold down the bearing outer race in the thrust direction to eliminate any looseness before making the measurement.



(h) Using a steel straight edge and vernier calipers with a depth gauge, measure dimension ”D”.

(i) Dimension ”D” is the straight edge thickness (Dimension ”F”) subtracted from dimension ”E” in the illustration to the left.

Dimension ”D”: Dimension ”E” – Dimension ”F”



(j) Using a steel straight edge and vernier calipers with a depth gauge, measure dimension ”G”.

(k) Dimension ”G” is the straight edge thickness (Dimension ”F”) subtracted from dimension ”H”.

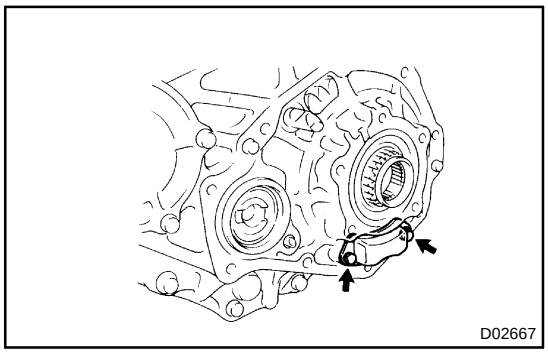
Dimension ”G”: Dimension ”H” − Dimension ”F”

(l) Calculate the required thickness of the adjusting shim.

Thickness: Dimension ”G” − (Dimension ”D” − Dimension ”C”) + [0.014 − 0.039 mm, (0.0006 − 0.0015 in.)]

(m) From the following table, select a shim so that its thickness is within the range of the calculation.

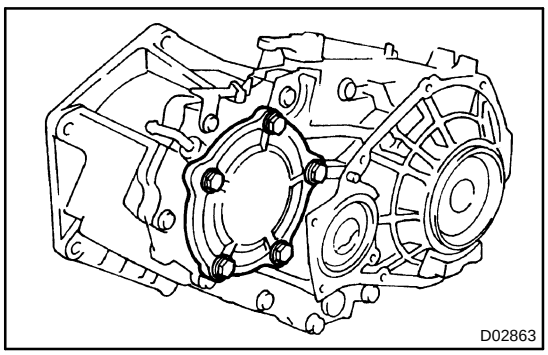
Mark	Thickness mm (in.)	Mark	Thickness mm (in.)
B	0.30 (0.0118)	H	1.80 (0.0709)
C	0.45 (0.0177)	J	2.00 (0.0787)
D	1.00 (0.0394)	K	2.20 (0.0866)
E	1.20 (0.0472)	L	2.40 (0.0945)
F	1.40 (0.0551)	M	2.60 (0.1024)
G	1.60 (0.0630)	N	0.55 (0.0216)



12. REMOVE OIL STRAINER FROM REAR CASE

Remove the 2 bolts and oil strainer.

Torque: 4.9 N·m (50 kgf·cm, 43 in.·lbf)



13. REMOVE CASE COVER

(a) Remove the 5 bolts.

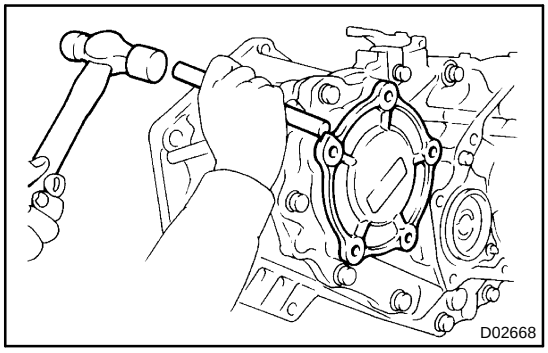
HINT:

At the time of reassembly, apply liquid sealer to the bolt threads.

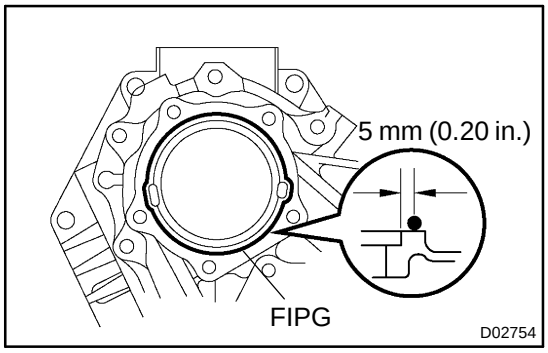
Sealant:

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

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

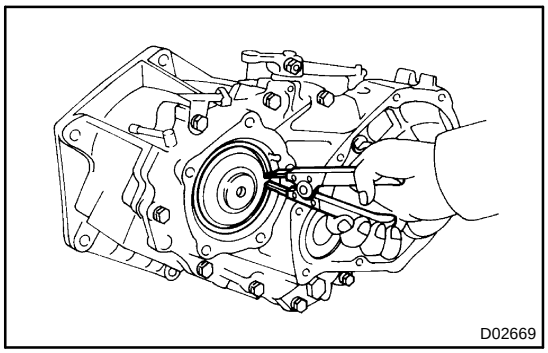


(b) Using a brass bar and hammer, tap the case cover and remove it.



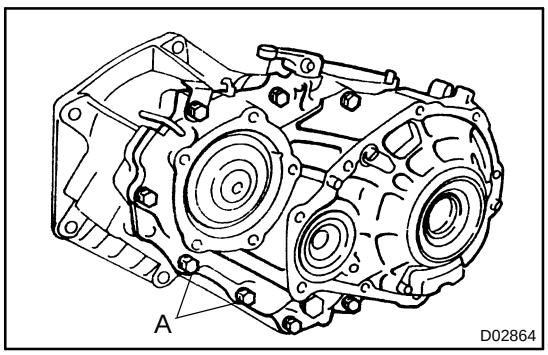
HINT:
At the time of reassembly, apply FIPG to the rear case.

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



14. SEPARATE FRONT CASE AND REAR CASE

(a) Using a snap ring expander, remove the snap ring from the rear case.

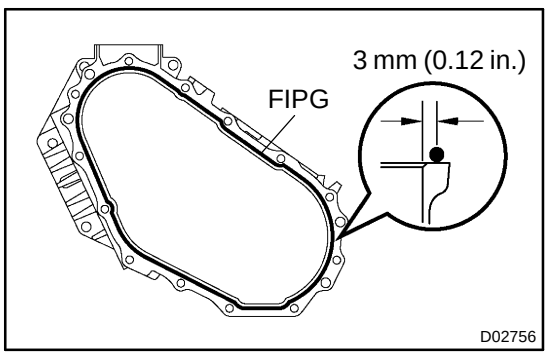


(b) Remove the 8 bolts.

HINT:
At the time of reassembly, apply liquid sealer to the ”A” bolt threads.

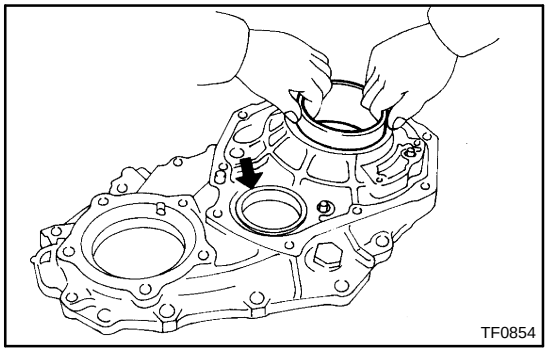
Sealant:
Part No.08833−00080, THREE BOND 1344, LOCTITE 242 or equivalent
Torque: 37 N·m (380 kgf·cm, 27 ft·lbf)

(c) Using a brass bar and hammer, tap the rear case and separate it.

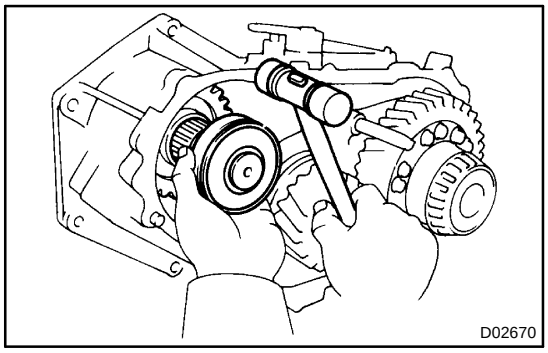


HINT:
At the time of reassembly, apply FIPG to the front case.

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

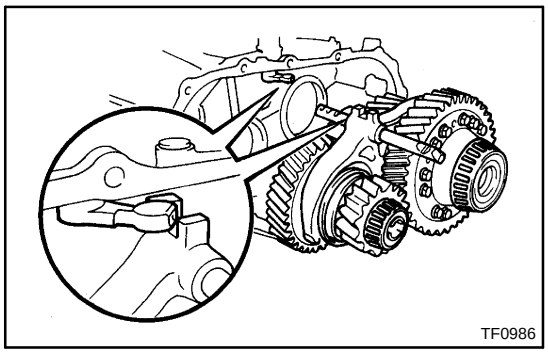

TF0854

15. REMOVE 2 BEARING RACES FROM REAR CASE


D02670

16. REMOVE INPUT SHAFT ASSEMBLY

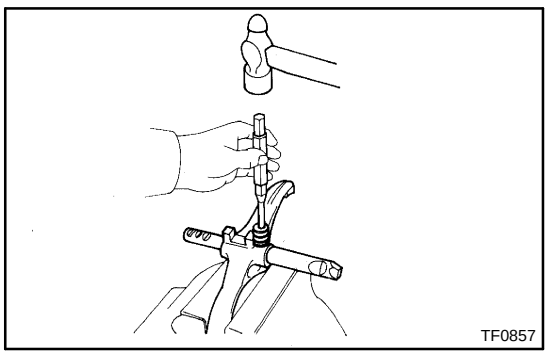
Using a plastic hammer, remove the input shaft assembly from the front case.


TF0986

17. REMOVE IDLER GEAR ASSEMBLY WITH CENTER DIFFERENTIAL ASSEMBLY, SHIFT FORK NO.1 AND SHIFT FORK NO.1 SHAFT FROM FRONT CASE

NOTICE:

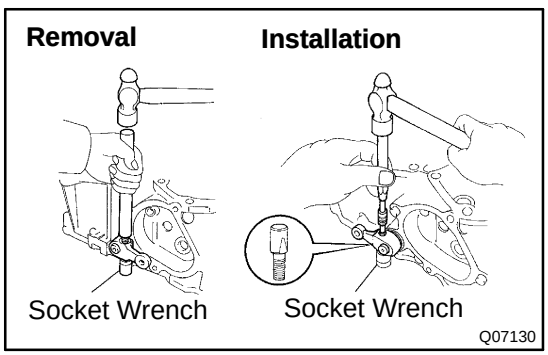
At the time of reassembly, set the shift inner lever into the fork head part of the shift fork No.1 securely.


TF0857

18. SEPARATE SHIFT FORK NO.1 AND SHIFT FORK NO.1 SHAFT

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

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

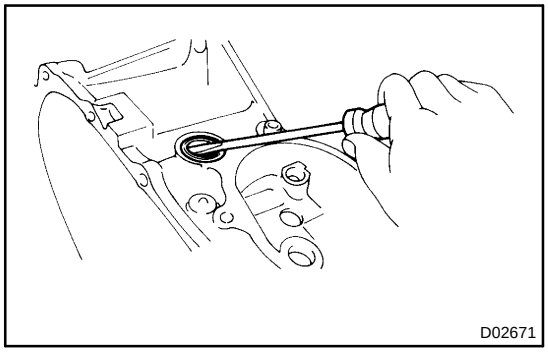


19. REMOVE SHIFT OUTER LEVER AND INNER LEVER

(a) Remove the nut and washer from the shift outer lever.
Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)

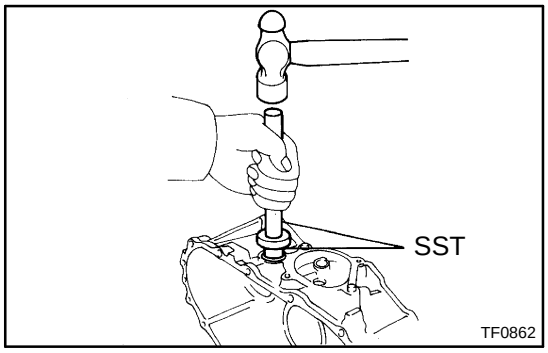
(b) Using a brass bar, hammer and socket wrench, tap out the lever lock pin.

(c) Remove the shift outer lever, washer and inner lever from the front case.


D02671

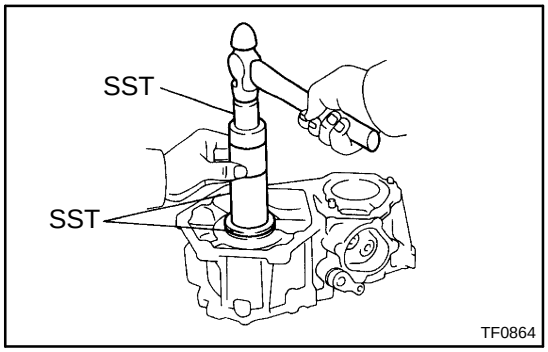
20. IF NECESSARY, REPLACE INNER SHIFT LEVER OIL SEAL

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



TF0862

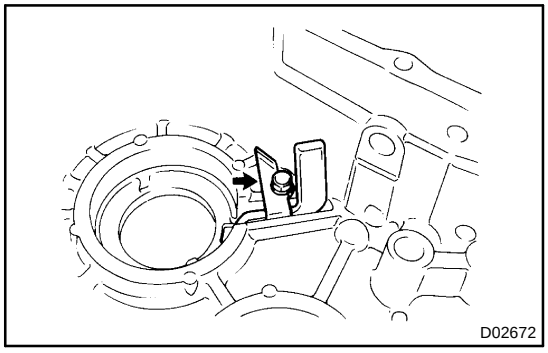
(b) Apply MP grease to the lip of a new oil seal.
(c) Using SST and a hammer, drive in a new oil seal.
SST 09950−60010 (09951−00270), 09950−70010 (09951−07150)



TF0864

21. IF NECESSARY, REPLACE INPUT SHAFT OIL SEAL

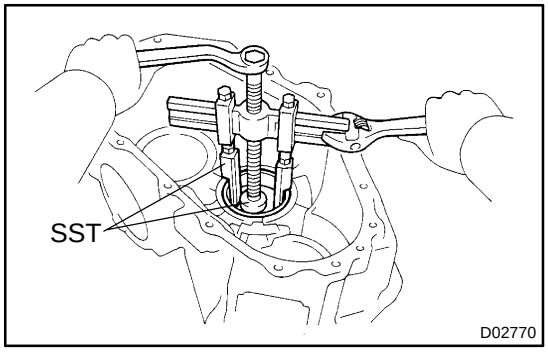
(a) Using SST and a hammer, drive out the oil seal.
SST 09316−60011 (09316−00011)
(b) Apply MP grease to the lip of a new oil seal.
(c) Using SST and a hammer, drive in a new oil seal.
SST 09316−60011 (09316−00011, 09316−00031)


D02672

22. REMOVE OIL RECEIVER FROM FRONT CASE

Remove the bolt and oil receiver.

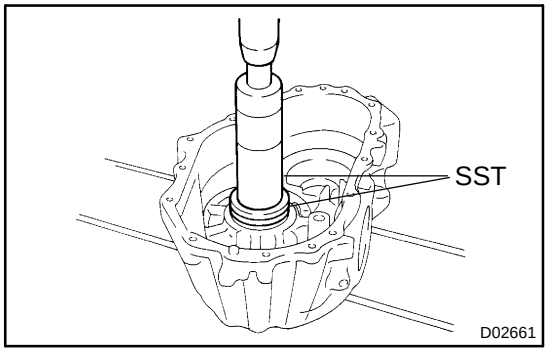
Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)



D02770

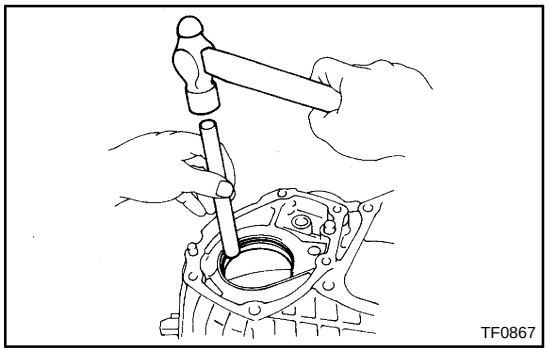
23. REMOVE 2 BEARING RACES FROM FRONT CASE

(a) Using SST, remove the bearing race (for the idler gear).
SST 09950−40011 (09951−04020, 09952−04010, 09953−04030, 09954−04010, 09955−04060, 09957−04010), 09950−60010 (09951−00320)

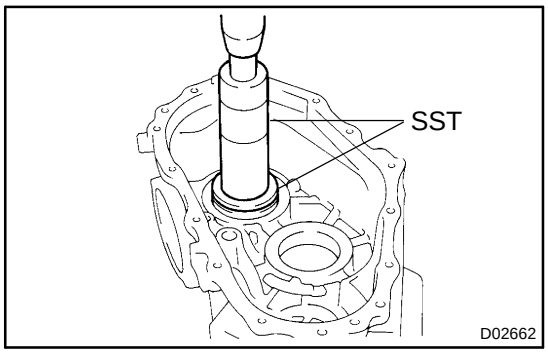


HINT:
At the time of reassembly, please refer to the following item.
Using SST and a press, install the bearing race (for the idler gear).

SST 09316−60011 (09316−00011, 09316−00031), 09950−60020 (09951−00790)

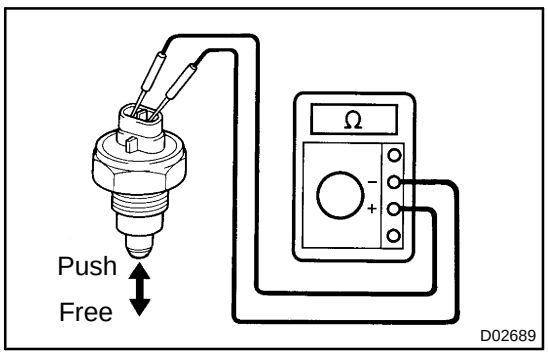


(b) Using a brass bar and hammer, remove the bearing race (for the output shaft).



HINT:
At the time of reassembly, please refer to the following item.
Using SST and a press, install the bearing race (for the output shaft).

SST 09316−60011 (09316−00011, 09316−00031), 09950−60020 (09951−00890)

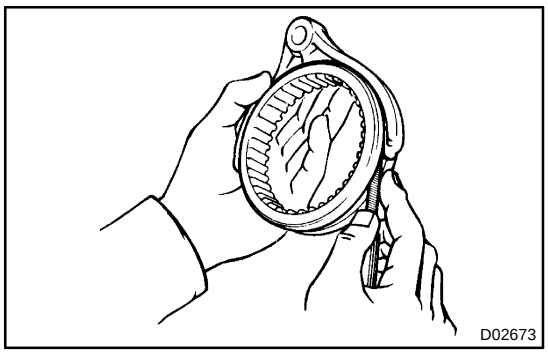


24. INSPECT TRANSFER INDICATOR SWITCH

Check that continuity exists between the terminals, as shown.

Switch Position	Specified Condition
Push	Continuity
Free	No continuity

If continuity is not as specified, replace the switch.



25. INSPECT SHIFT FORK NO.2 AND CLUTCH SLEEVE CLEARANCE

Using a feeler gauge, measure the clearance between the shift fork No.2 and clutch sleeve.

Standard clearance: 0.1 − 0.4 mm (0.0039 − 0.0157 in.)
Maximum clearance: 0.4 mm (0.0157 in.)