

ASSEMBLY OF TRANSMISSION

(See pages [MT1-26](#) to [28](#))

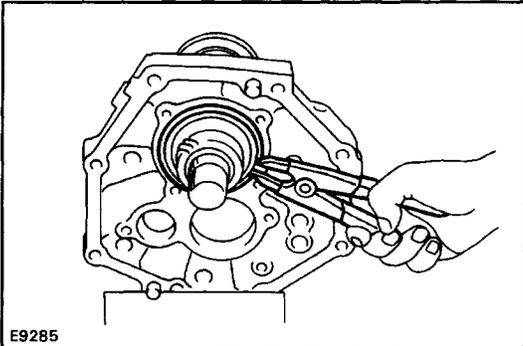
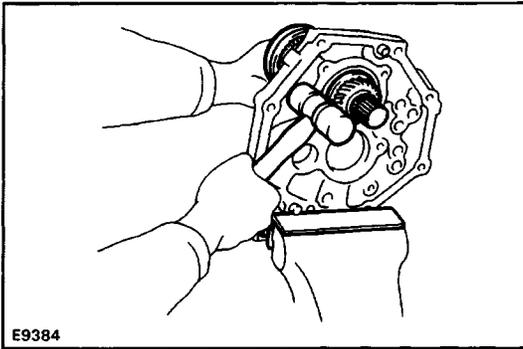
HINT: Coat all of the sliding and rotating surface with gear oil before assembly.

1. INSTALL OUTPUT SHAFT TO INTERMEDIATE PLATE

- (a) Install the output shaft into the intermediate plate by pushing on the output shaft and tapping on the intermediate plate.

- (b) Using a snap ring expander, install the output shaft center bearing snap ring.

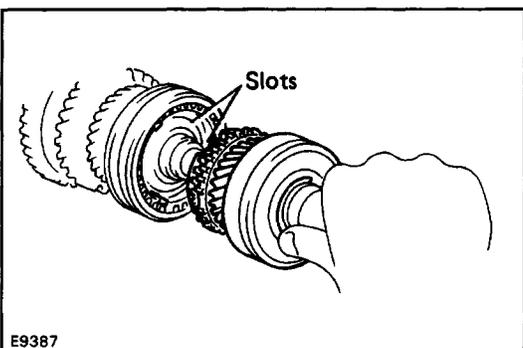
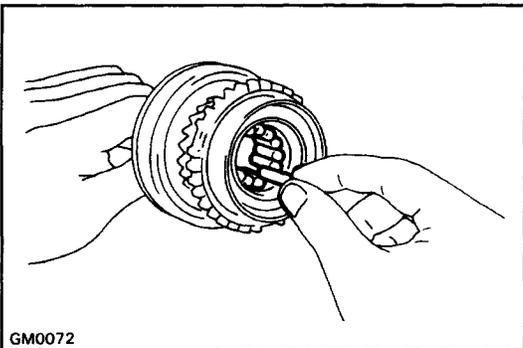
HINT: Be sure the snap ring is flush with the intermediate plate surface.



2. INSTALL INPUT SHAFT TO OUTPUT SHAFT

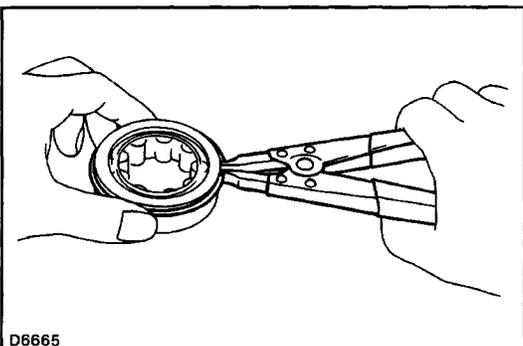
- (a) Apply MP grease to the 13-needle roller bearing and install them into the input shaft.

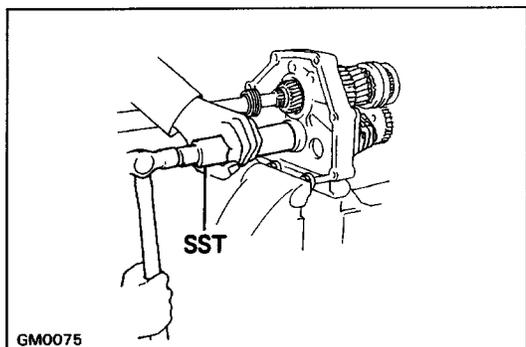
- (b) Install the input shaft to the output shaft with the synchronizer ring slots aligned with the shifting keys.



3. INSTALL COUNTER GEAR TO INTERMEDIATE PLATE

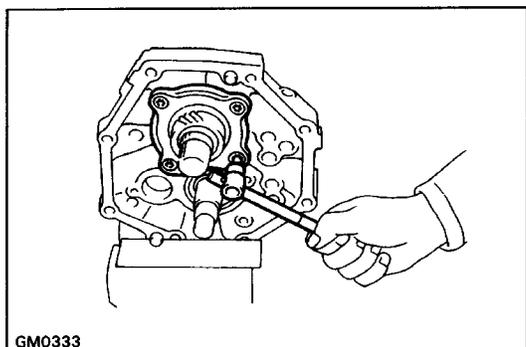
- (a) Using a snap ring expander, install snap ring to counter gear rear bearing.





- (b) Install the counter gear into the intermediate plate while holding the counter gear and install the counter break bearing with SST.

SST 09316-60010

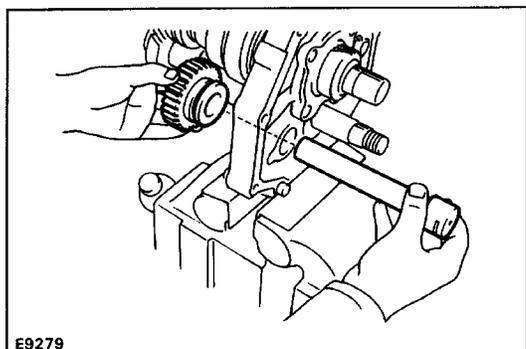


4. INSTALL REAR BEARING RETAINER

Using a torx socket wrench, install and torque the screws.

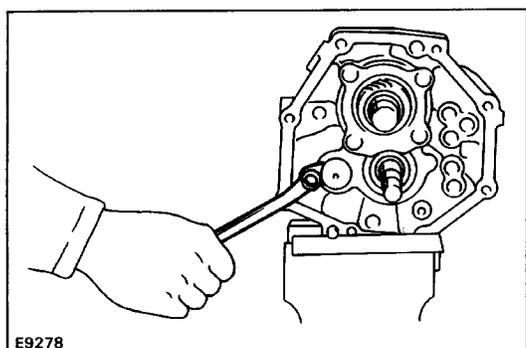
(Torx socket wrench T40 09042-00020)

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



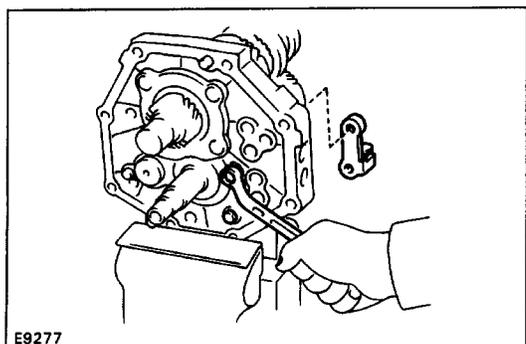
5. INSTALL REVERSE IDLER GEAR AND SHAFT

- (a) Install reverse idler gear and shaft.



- (b) Install the shaft stopper and torque the bolt.

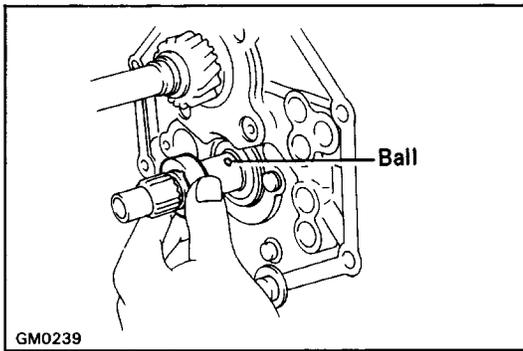
Torque: 17 N-m (175 kgf-cm, 13 ft-lbf)



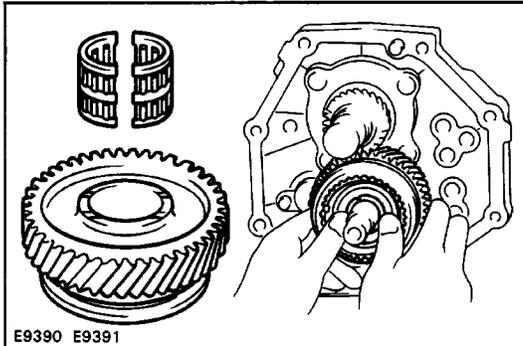
6. INSTALL REVERSE SHIFT ARM BRACKET

Install the reverse shift arm bracket and torque the two bolts.

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

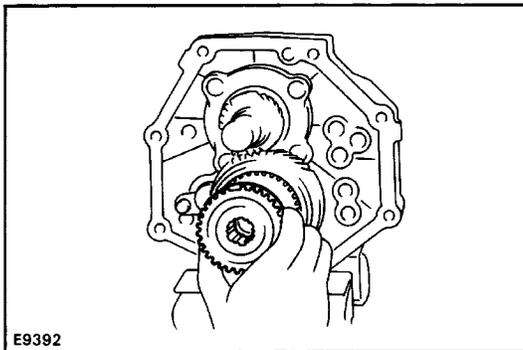


7. INSTALL BALL AND SPACER



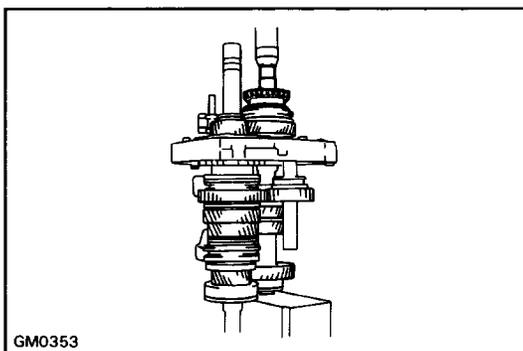
8. INSTALL COUNTER FIFTH GEAR WITH HUB SLEEVE NO.3 ASSEMBLY AND NEEDLE ROLLER BEARINGS

- (a) Apply gear oil to the needle roller bearings.
- (b) Install the counter 5th gear with hub sleeve No.3 and needle roller bearings.

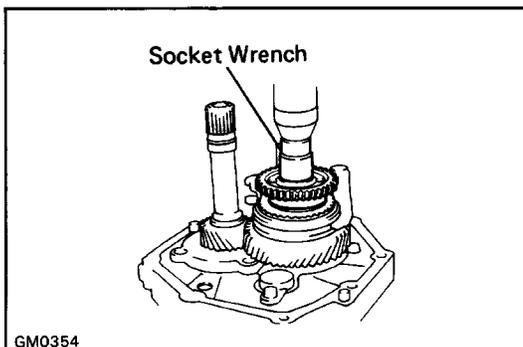


9. INSTALL SYNCHRONIZER RING AND GEAR SPLINE PIECE NO.5

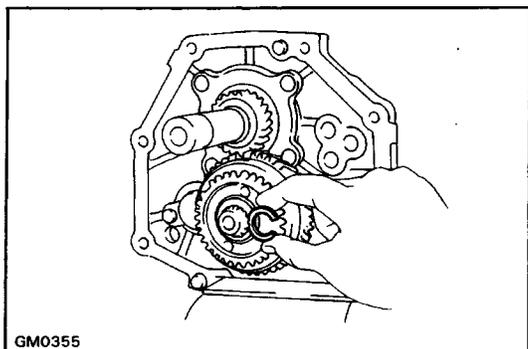
- (a) Install the synchronizer ring on gear spline piece No. 5.



- (b) Dismount the intermediate plate from the vise.
- (c) Stand the transmission as shown.



- (d) Using a press and 22 mm socket wrench, install gear spline piece No.5 with the synchronizer ring slots aligned with the shifting keys.
- (e) Mount the intermediate plate to the vise.

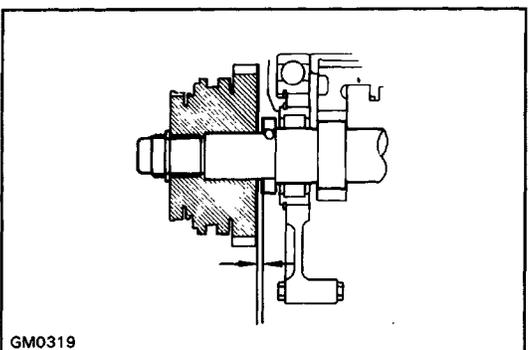
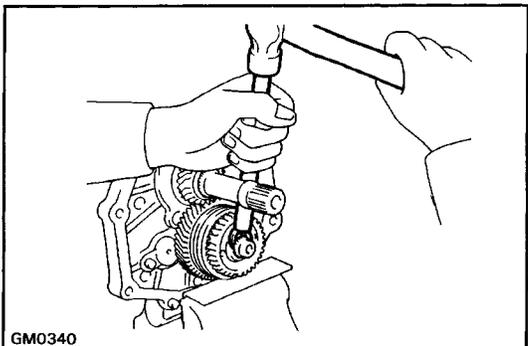


10. INSTALL SNAP RING

(a) Select snap ring that will allow minimum axial play.

Mark	Thickness mm (in.)
A	2.80 – 2.85 (0.110 – 0.112)
B	2.85 – 2.90 (0.112 – 0.114)
C	2.90 – 2.95 (0.114 – 0.116)
D	2.95 – 3.00 (0.116 – 0.118)
E	3.00 – 3.05 (0.118 – 0.120)
F	3.05 – 3.10 (0.120 – 0.122)
G	3.10 – 3.15 (0.122 – 0.124)

(b) Using a brass bar and hammer, install the snap ring.

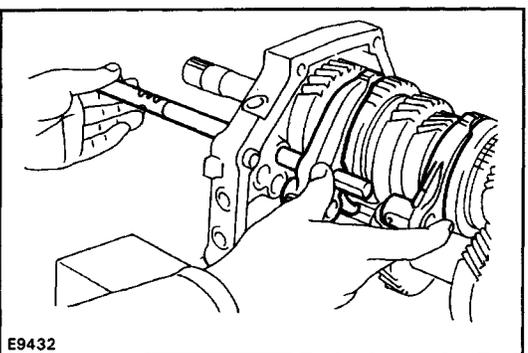


11. MEASURE COUNTER FIFTH GEAR THRUST CLEARANCE

Using a feeler gauge, measure the counter 5th gear thrust clearance.

Standard clearance: 0.10 – 0.30 mm
(0.0039 – 0.0118 in.)

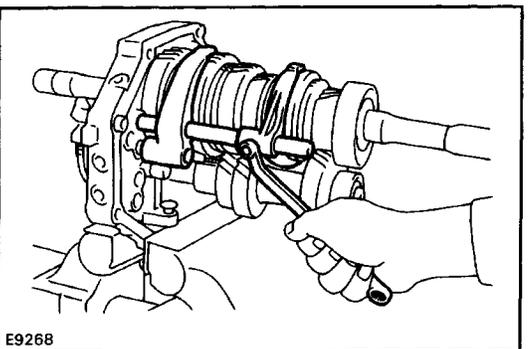
Maximum clearance: 0.30 mm (0.0118 in.)



12. INSTALL SHIFT FORK SHAFT NO.2 AND SHIFT FORK NO.2

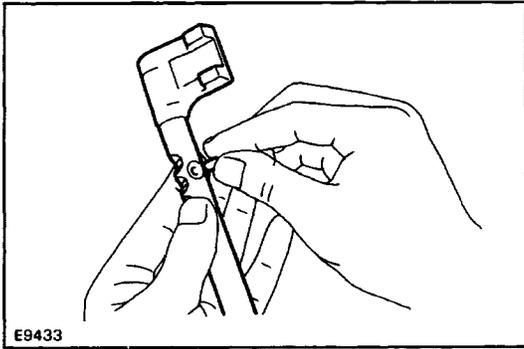
(a) Install the shift fork No. 1 and No. 2.

(b) Install the shift fork shaft No.2 through the intermediate plate and shift forks.



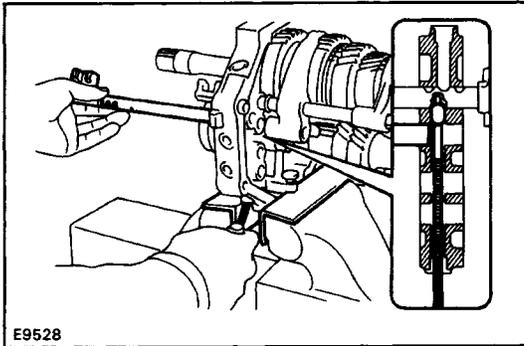
(c) Install the shift fork No.2 set bolt and torque the bolt.

Torque: 20 N-m (200 kgf-cm, 14 ft-lbf)



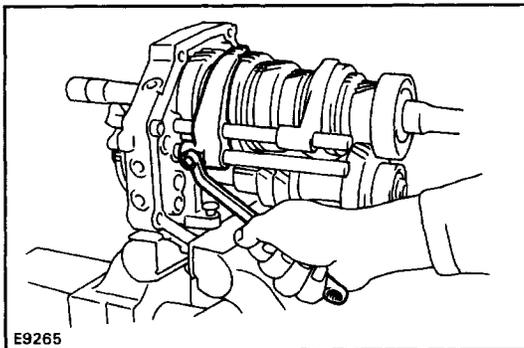
13. INSTALL SHIFT FORK SHAFT NO. 1 AND SHIFT FORK NO. 1

- (a) Apply MP grease to the interlock pin No. 2 and install them into the shift fork shaft No. 1.



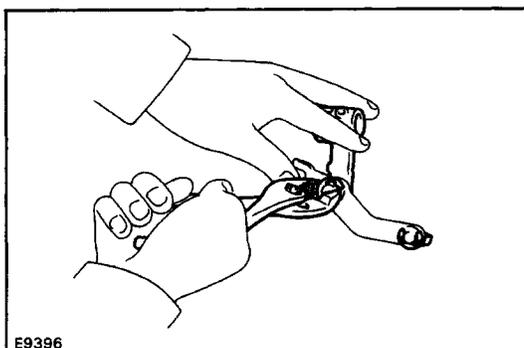
- (b) Using a magnetic finger, install the interlock pin No-1 to intermediate plate.

- (c) Install shift fork shaft No. 1 through the intermediate plate and shift fork No. 1.



- (d) Install the shift fork No. 1 set bolt and torque the bolt.

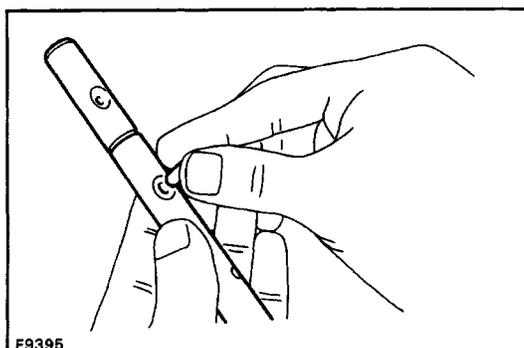
Torque: 20 N-m (200 kgf -cm, 14 ft-lbf)



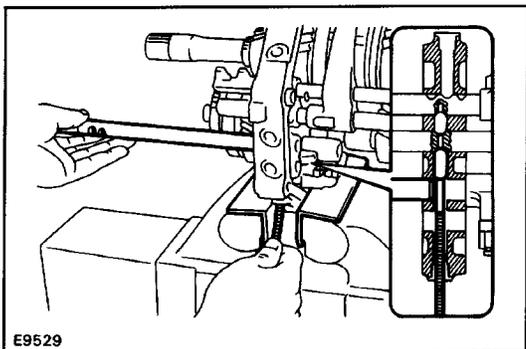
14. INSTALL SHIFT FORK SHAFT NO.3 AND REVERSE SHIFT FORK

- (a) Install the shift arm shoe, shift fork and two E-rings to reverse shift arm.

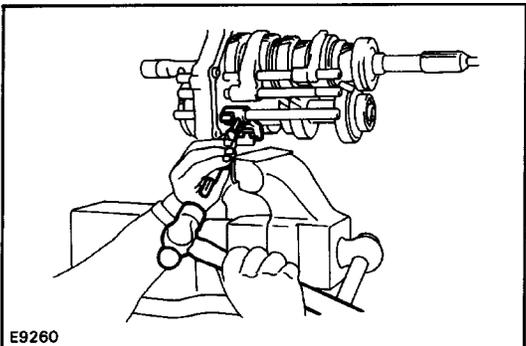
- (b) Install the reverse shift arm to reverse shift arm bracket.



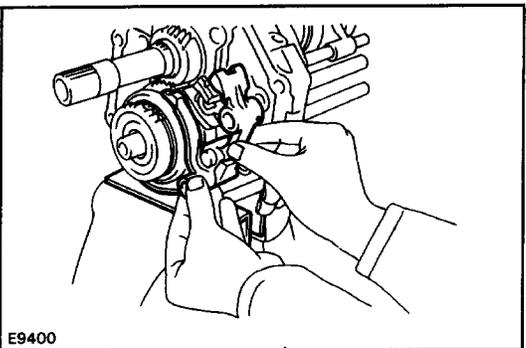
- (c) Apply MP grease to the interlock pin No. 2 and install them into the shift fork shaft No.3.



- (d) Using a magnetic finger, install the interlock pin No. 1 to the intermediate plate.
- (e) Install the shift fork shaft No.3 through the intermediate and reverse shift fork.

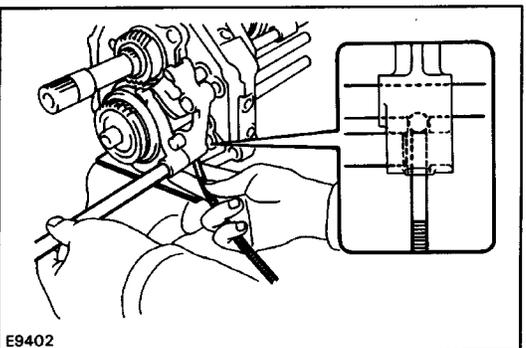


- (f) Using a pin punch and hammer, drive in the slotted spring pin.



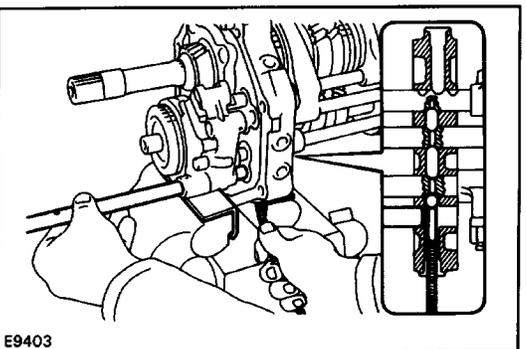
15. INSTALL REVERSE SHIFT HEAD, FIFTH SHIFT FORK, SHIFT FORK SHAFT NO.4 AND NO.5

- (a) Install the reverse shift head to shift fork shaft No.3.
- (b) Install the shift fork No.3.

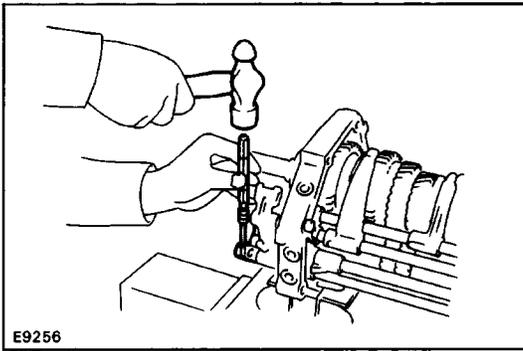


Using a magnetic finger, install the ball to reverse shift head.

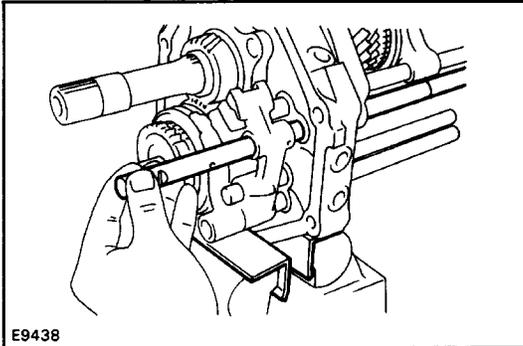
- (d) Install the shift fork shaft No.4 as shown.



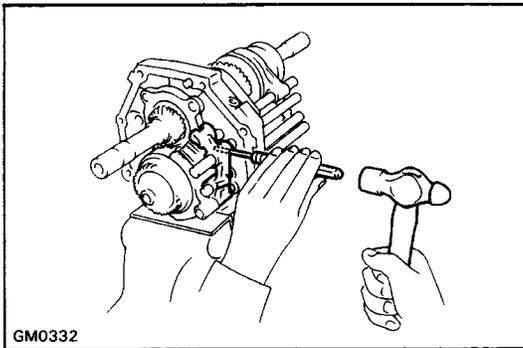
- (e) Using a magnetic finger, install the interlock ball No.1 to intermediate plate.
- (f) Install the shift fork shaft No.4 through the intermediate plate.



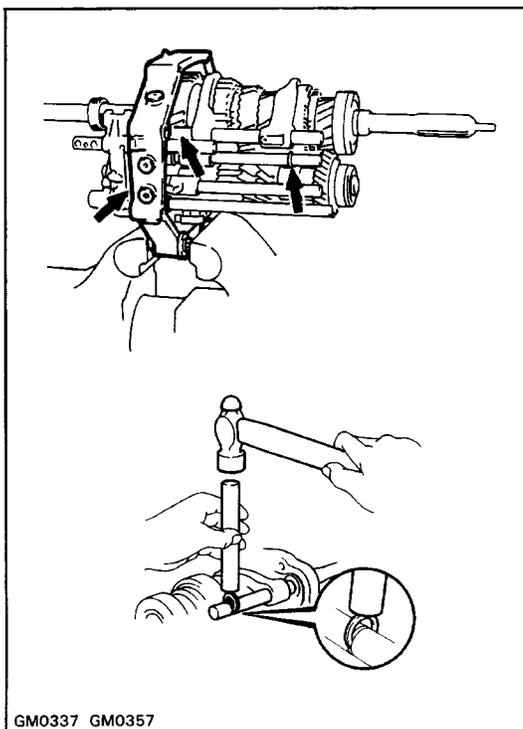
(g) Using a pin punch and hammer, drive in the slotted spring pin to the shift fork R1o.3.



(h) Install the shift fork shaft No.5 through the reverse shift head and intermediate plate.

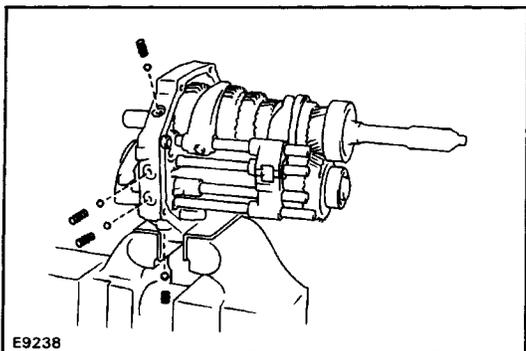


(i) Using a pin punch and hammer, drive in the slotted spring pin to the reverse shift head.



16. INSTALL SHIFT FORK SHAFT SNAP RINGS

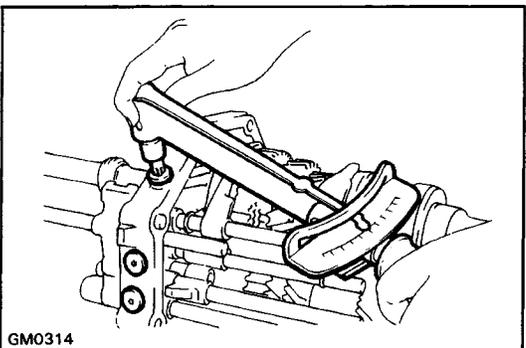
Using a brass bar and hammer tap in the three snap rings.



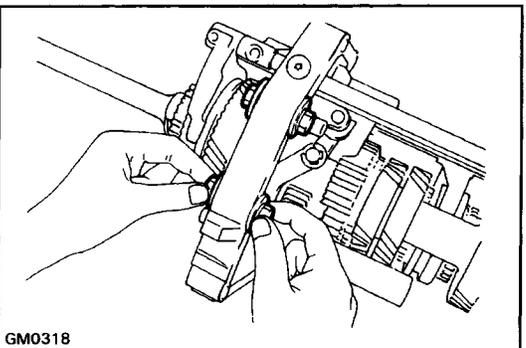
17. INSTALL LOCKING BALLS, SPRINGS AND SCREW PLUGS

- (a) Install the four locking balls and four springs.

HINT: Install the short spring into the bottom of the intermediate plate.

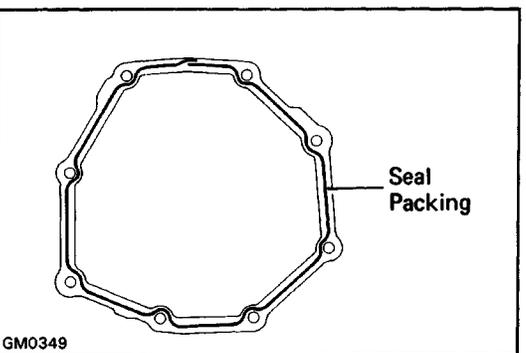


- (b) Apply liquid sealer to the plug threads.
Sealant: Part No. 08833-00080, THREE BOND 1344 LOCTITE 242 or equivalent
- (c) Install the screw plugs and torque the screw plugs with a torx socket wrench.
 (Torx socket wrench T40 09042-00020)
Torque: 19 N – m (190 kgf – cm, 14 ft – lbf)



18. DISMOUNT INTERMEDIATE PLATE FROM VISE

- (a) Dismount the intermediate plate from the vise.
 (b) Remove the bolts, nuts and plate washers.



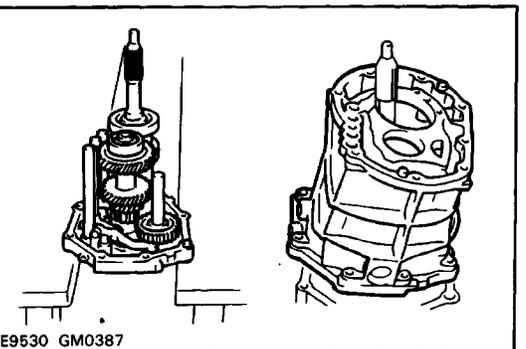
19. INSTALL TRANSMISSION CASE

- (a) Remove the any packing material and be careful not to drop oil on the contacting surfaces of the transmission case or intermediate plate.
 (b) Apply seal packing to the transmission case as shown.

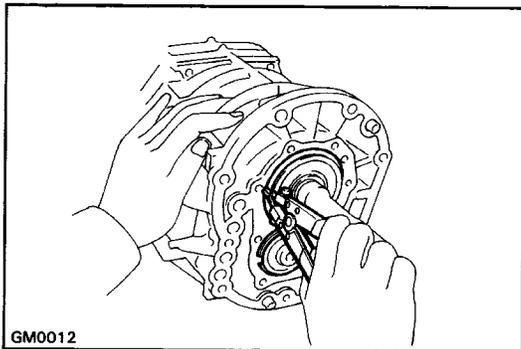
Seal packing: Part No. 08826-00090, THREE BOND 1281 or equivalent

HINT: Install the transmission case as soon as the seal packing is applied.

- (c) Stand the intermediate plate as shown.
 (d) Install the transmission case to the intermediate plate as shown.

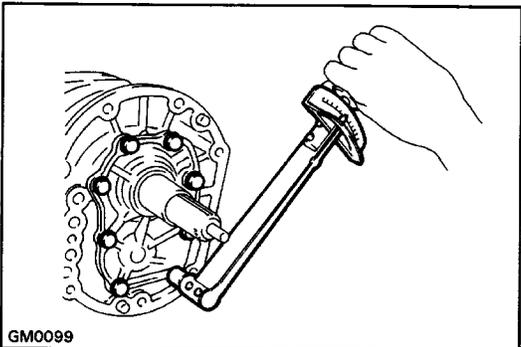


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20. INSTALL FRONT BEARING RETAINER

(a) Using a snap ring expander, install the two snap rings to input shaft bearing and counter gear front bearing.



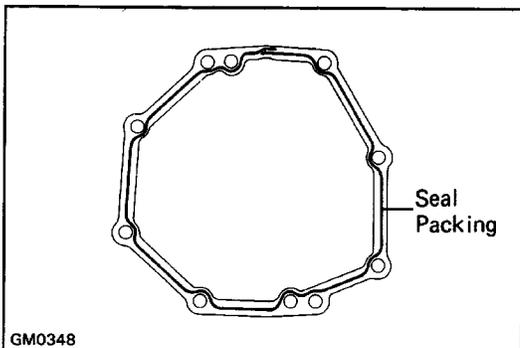
(b) Install the bearing retainer with a new gasket.

(c) Apply liquid sealer to the bolt threads.

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

(d) Install and torque the bolts.

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



21. INSTALL TRANSFER ADAPTOR, SHIFT LEVER SHAFT AND SHIFT LEVER HOUSING

(a) Remove the any packing material and be careful not to drop oil on the contacting surfaces of the transfer adaptor or intermediate plate.

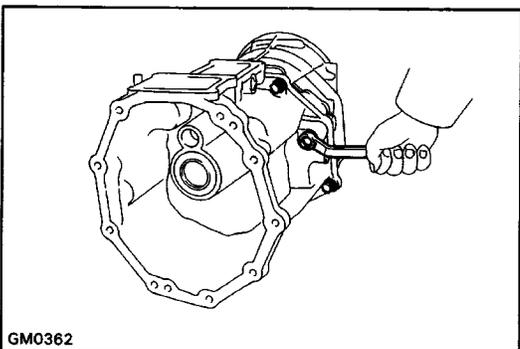
(b) Apply seal packing to the transfer adaptor as shown.

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

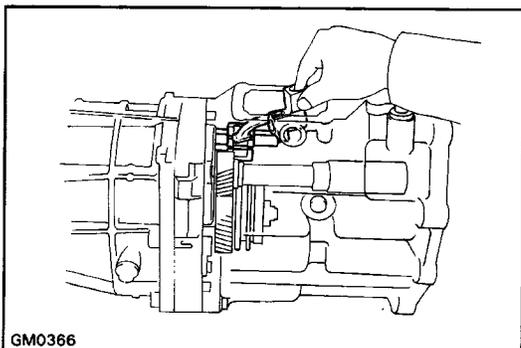
HINT: Install the transfer adaptor as soon as the seal packing is applied.

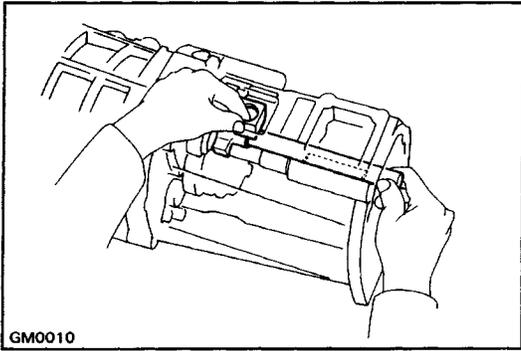
(c) Install and torque the transfer adaptor with the eight bolts.

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

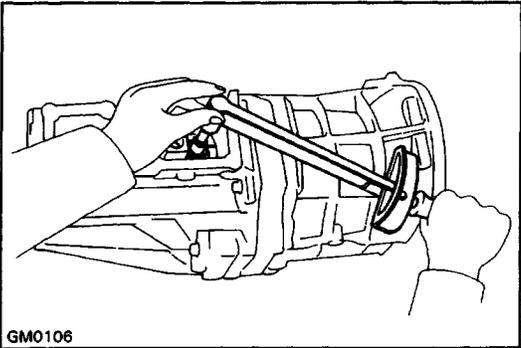


(d) Install the shift lever housing to the transfer adaptor and connect the fork shafts.



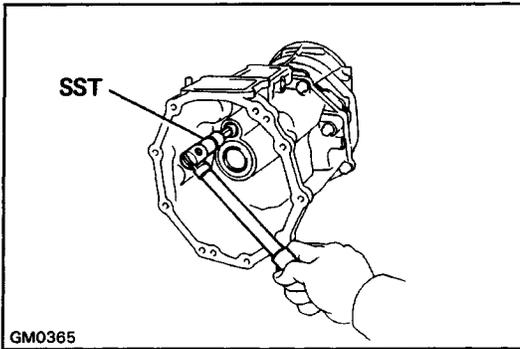


- (e) Install the shift lever shaft to the transfer adaptor and shift lever housing.



- (f) Install and torque the shift lever housing bolt.

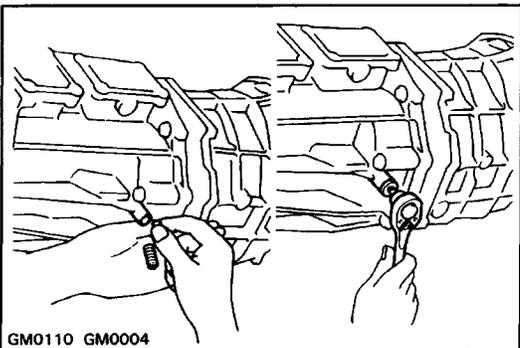
Torque: 38 N-m (390 kgf-cm, 28 ft-lbf)



- (g) Using SST, install and torque the plug.

SST 09923-00010

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



22. INSTALL LOCKING BALL, SPRING AND SCREW PLUG

- (a) Apply liquid sealer to the plug threads.

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

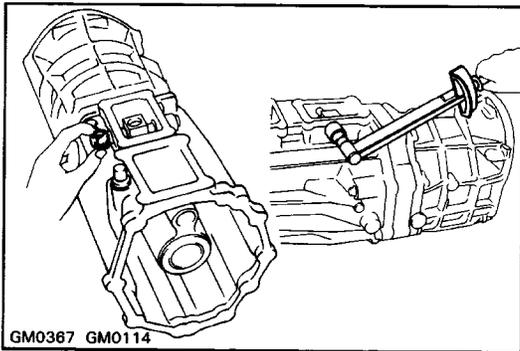
- (b) Install the locking ball, spring and plug, and torque the plug.

(Torx socket wrench T40 09042-00020)

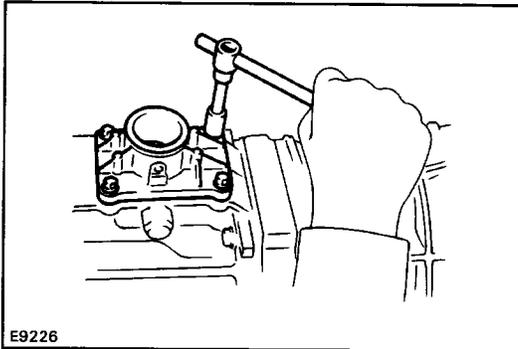
Torque: 19 N - m (190 kgf - cm, 14 ft - lbf)

23. AFTER INSTALLING TRANSFER ADAPTOR CHECK FOLLOWING ITEMS

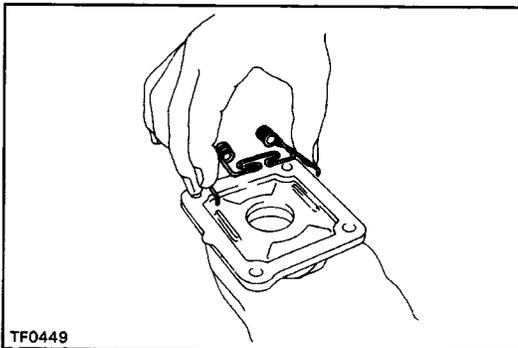
- (a) Check to see that the input and output shafts rotate smoothly.
- (b) Check to see that shifting can be made smoothly to all positions.

**24. INSTALL RESTRICT PINS**

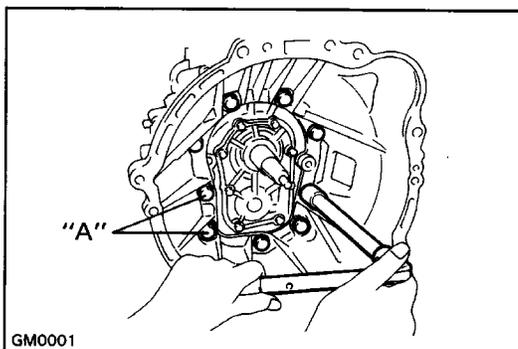
- (a) Install the black pin on the reverse gear/5th gear side.
 - (b) Install another pin and torque the pins.
- Torque: 27 N-m (280 kgf-cm, 20 ft-lbf)**

**25. INSTALL TRANSMISSION SHIFT LEVER CONTROL RETAINER**

- (a) Install shift lever control retainer and new gasket.
 - (b) Install four bolts and torque the bolts.
- Torque: 18 N-m (185 kgf-cm, 13 ft-lbf)**

**26. INSTALL TRANSFER SHIFT LEVER CONTROL RETAINER**

- (a) Install the select return spring from the retainer.
 - (b) Install shift lever control retainer and new gasket.
 - (c) Install four bolts and torque the bolts.
- Torque: 18 N-m (185 kgf-cm, 13 ft-lbf)**

**27. INSTALL CLUTCH HOUSING**

- (a) Install clutch housing.
 - (b) Apply liquid sealer to the "A" bolt threads.
Sealant: Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent.
 - (c) Install nine bolts and torque the bolts.
- Torque: 37 N - m (380 kgf - cm, 27 ft - lbf)**

28. INSTALL BACK-UP LIGHT SWITCH

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

29. INSTALL RELEASE FORK AND BEARING

(See page [CL-14](#))