MANUAL TRANSMISSION

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TROUBLESHOOTING

Problem	Possible cause	Remedy	Page
Hard to shift or will not shift	Splines on input shaft dirty or burred	Repair as necessary	MT-3
	Transmission faulty	Disassemble and inspect transmission	MT-3
Transmission jumps out of gear	Transmission faulty	Disassemble and inspect transmission	MT-3

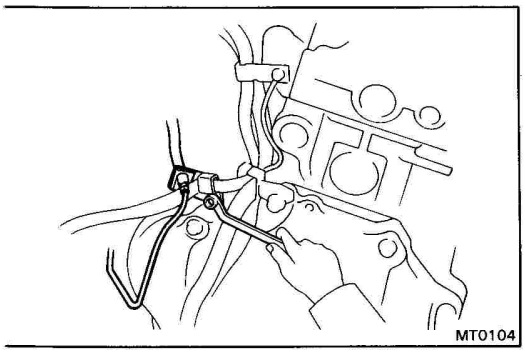
REMOVAL OF TRANSMISSION

1. **DISCONNECT BATTERY CABLE FROM NEGATIVE TERMINAL**

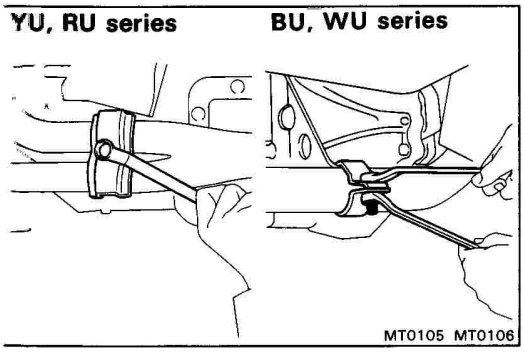
2. **RAISE VEHICLE AND DRAIN TRANSMISSION**

   CAUTION: Be sure the vehicle is securely supported.

3. **DISCONNECT PROPELLER SHAFT**
   (See page PR-3)


MT0104

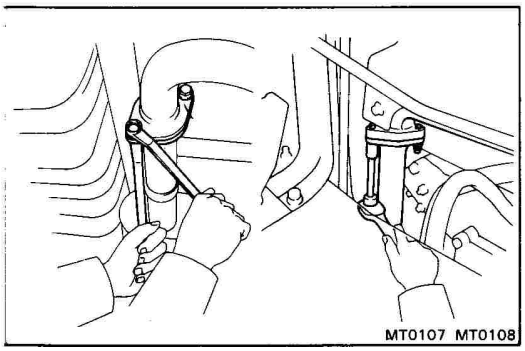
4. **(BU series only)**
   REMOVE CLUTCH RELEASE CYLINDER TUBE BRACKET



MT0105 MT0106

5.-1 **(w/o Exhaust Retarder)**
REMOVE EXHAUST FRONT PIPE

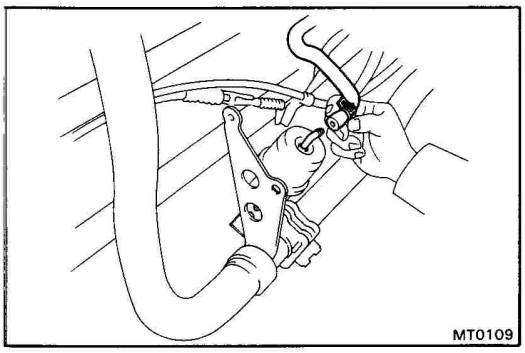
(a) Remove the exhaust front pipe clamp from the bracket.


MT0107 MT0108

(b) Disconnect the exhaust front pipe from the exhaust center pipe.

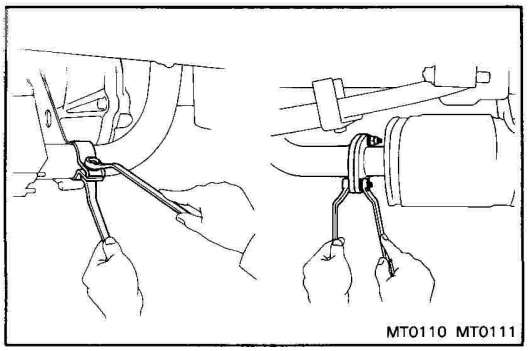
(c) Disconnect the exhaust front pipe from the exhaust manifold.

(d) Remove the exhaust front pipe.


MT0109

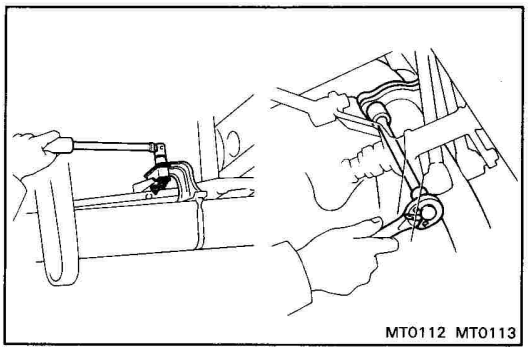
5.-2 **(w/ Exhaust Retarder)**
REMOVE EXHAUST FRONT PIPE AND EXHAUST CENTER PIPE

(a) Remove the vacuum hose from the exhaust retarder.


MT0110 MT0111

(b) Remove the two exhaust pipe clamps from the bracket.

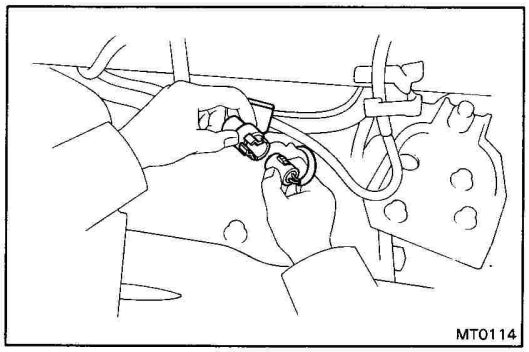
(c) Disconnect the exhaust center pipe from the tail pipe.


MT0112 MT0113

(d) Disconnect the exhaust center pipe bracket from the frame.

(e) Disconnect the exhaust front pipe from the exhaust manifold.

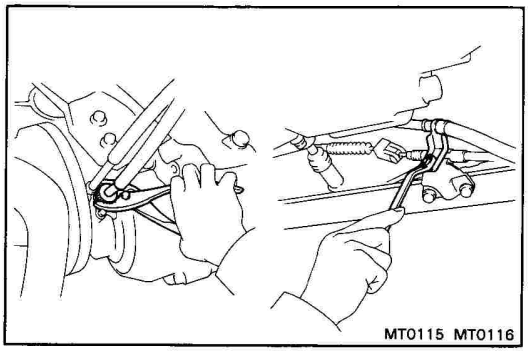
(f) Remove the exhaust pipe with exhaust retarder.


MT0114

6. REMOVE WIRE HARNESS FROM CLAMP

7. DISCONNECT BACK-UP LIGHT SWITCH CONNECTOR

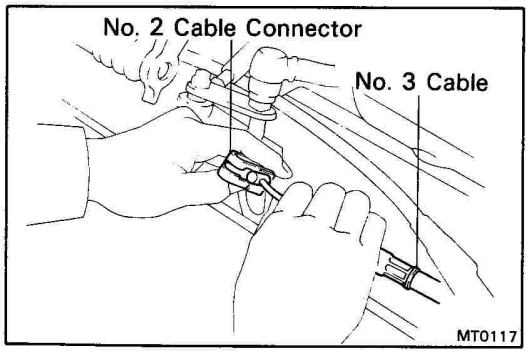
8. (Exhaust Brake only)
DISCONNECT NEUTRAL SWITCH CONNECTOR


MT0115 MT0116

9. DISCONNECT SPEEDOMETER CABLE

10. DISCONNECT PARKING BRAKE CABLE NO. 3

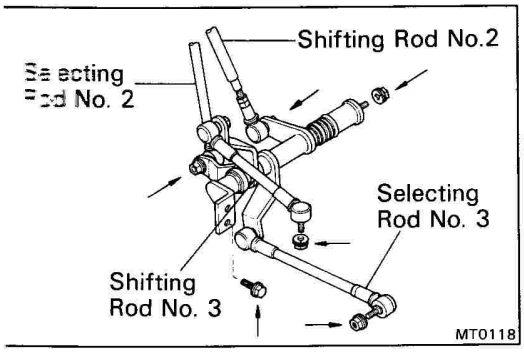
(a) Remove the cable clamp from the frame.



MT0117

(b) Disconnect the parking brake cable No. 3.

- The No. 2 cable connector is perpendicular to the No. 3 cable.
- Turn the No. 3 cable 90° and remove the end of the No. 3 cable from the No. 2 cable connector.

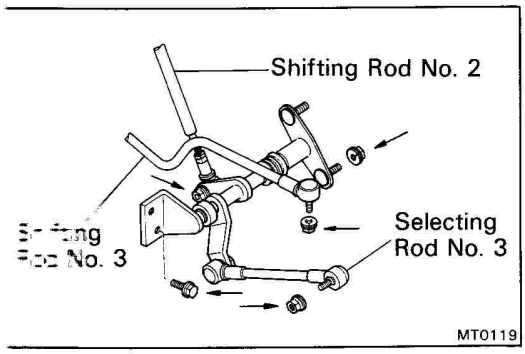


11. DISCONNECT SHIFTING ROD NO. 3 AND SELECTING ROD NO. 3

12.-1 (Regular Cab)
REMOVE CROSS SHAFT ASSEMBLY

(a) Disconnect the shifting rod No. 2 and selecting rod No. 2 from the cross shaft.

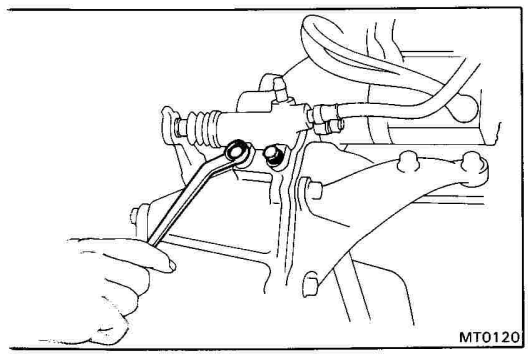
(b) Remove the cross shaft bracket from the transmission and frame.



12.-2 (Wide Cab)
REMOVE CROSS SHAFT ASSEMBLY

(a) Disconnect the shifting rod No. 2 from the cross shaft.

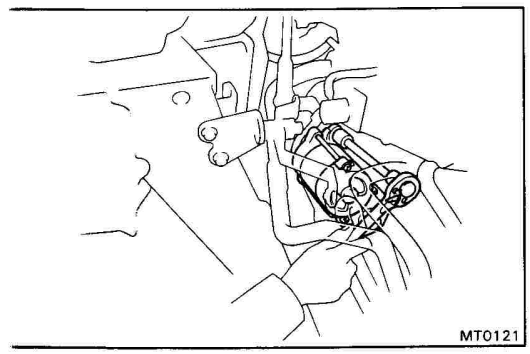
(b) Remove the cross shaft bracket from the transmission and frame.



13. (Ex. WU series)
REMOVE CLUTCH RELEASE CYLINDER

Remove the mounting bolts and lay the release cylinder alongside the engine.

NOTE: Do not disconnect the clutch line.



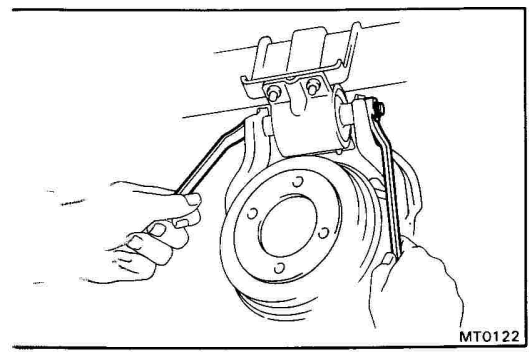
14. (Ex. WU series)
REMOVE STARTER

Lay the starter alongside the engine.

15. (Dump only)
REMOVE THE P.T.O ASSEMBLY
(See page DM-9)

Remove the five nuts and one bolt, and lay the P.T.O assembly alongside the frame.

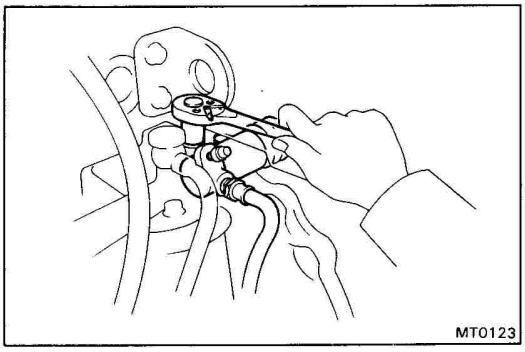
NOTE: Do not disconnect the P.T.O line.



16. SUPPORT ENGINE WITH JACK AND PIECE OF WOOD

17. REMOVE ENGINE REAR MOUNTING BOLT AND NUT

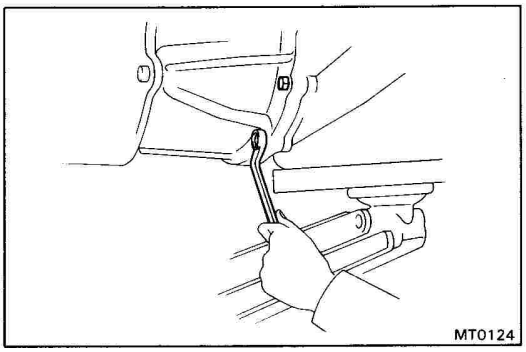
18. LOWER TRANSMISSION


MT0123

19. (WU series only)
REMOVE CLUTCH RELEASE CYLINDER

Remove the mounting bolts and lay the release cylinder alongside the engine.

NOTE: Do not disconnect the clutch line.


MT0124

20. REMOVE STIFFENER PLATES

21. REMOVE REMAINING TRANSMISSION BOLTS, BOND CABLE AND WIRE HARNESS CLAMP

22. REMOVE TRANSMISSION

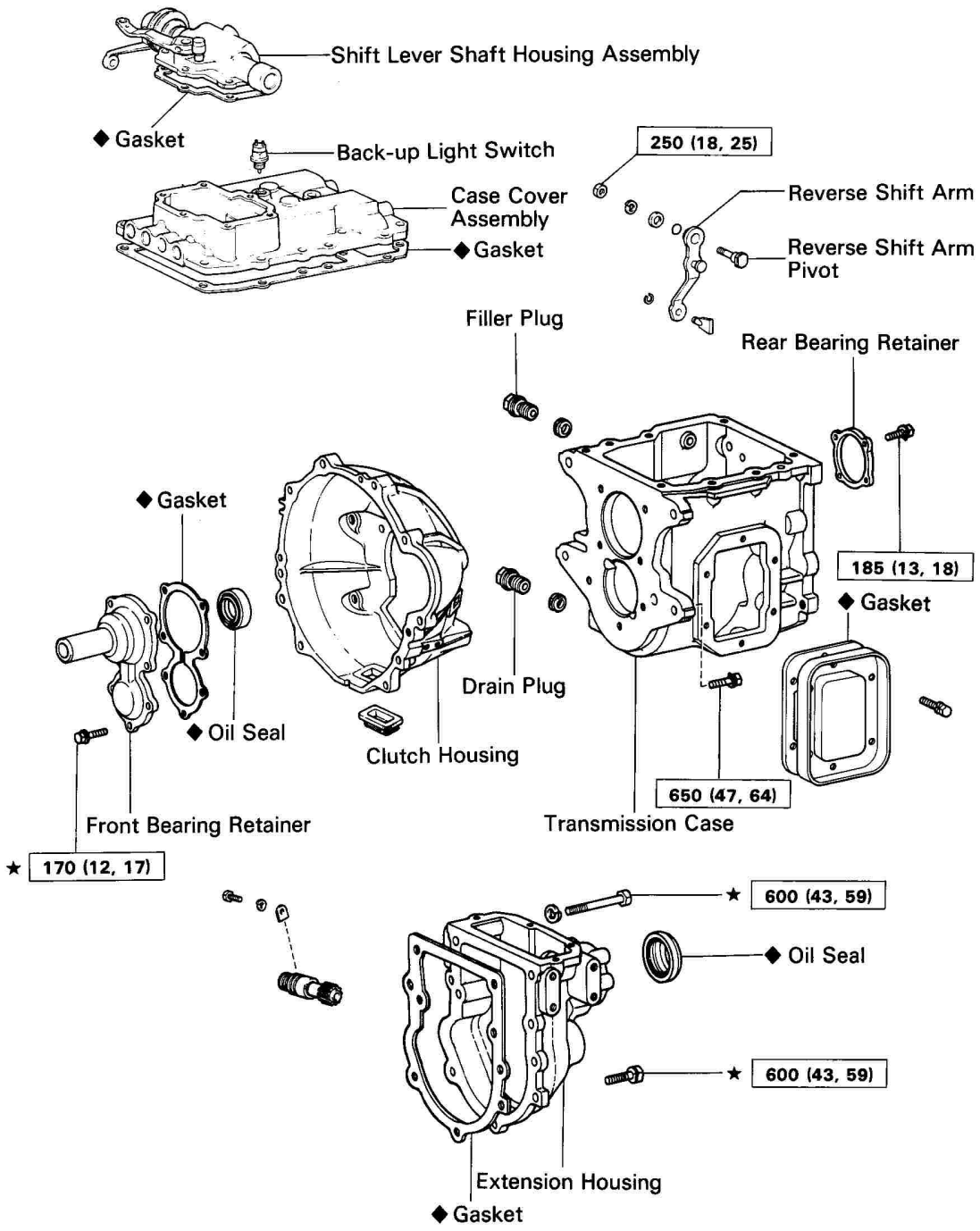
23. REMOVE PARKING BRAKE ASSEMBLY
(See page BR-66 or 72)

24. REMOVE ENGINE REAR MOUNTING BRACKET

25. REMOVE EXHAUST PIPE CLAMP

M52 TRANSMISSION

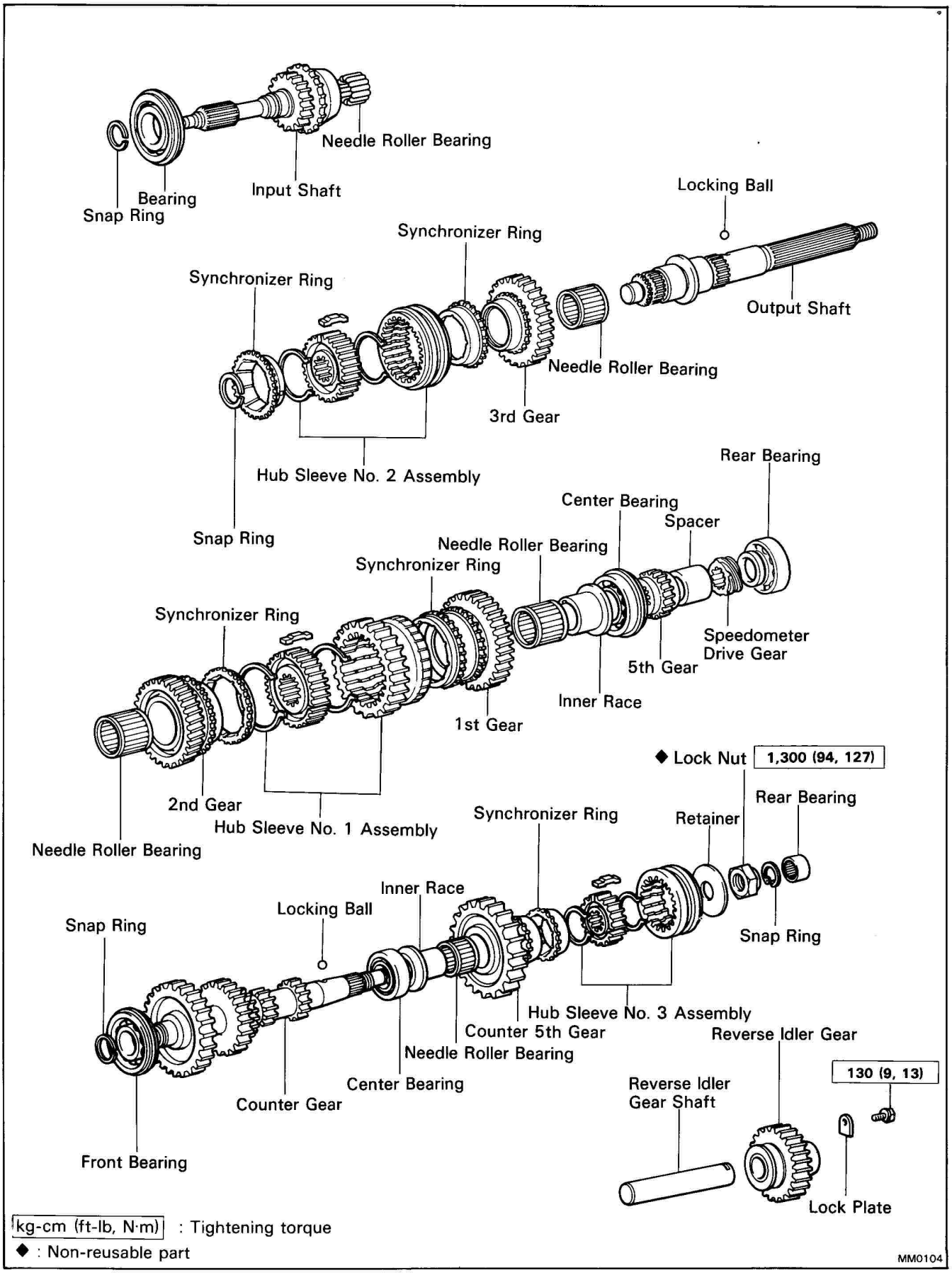
COMPONENTS



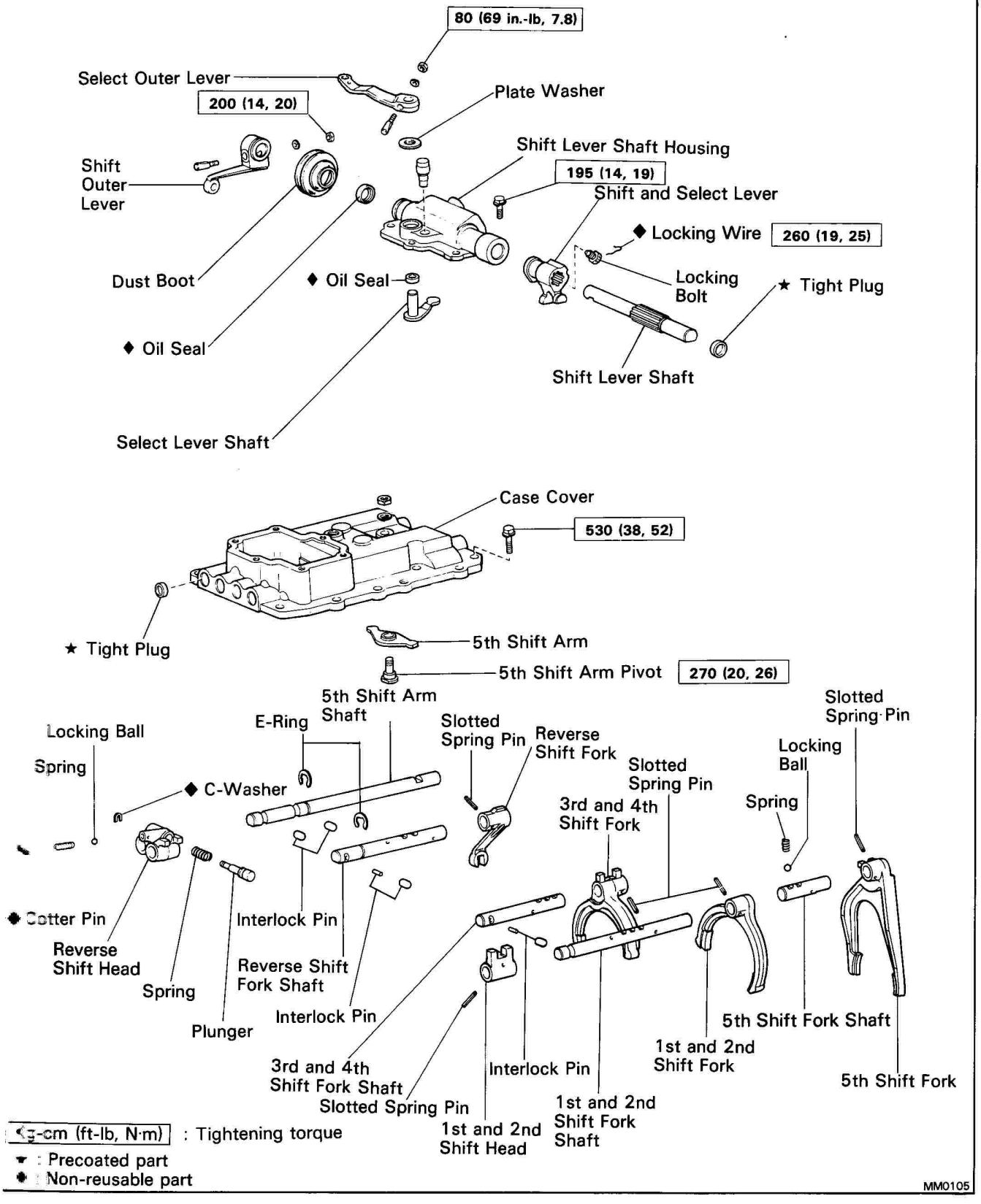
g-cm (ft-lb, N·m) : Tightening torque
★ Precoated part
◆ Non-reusable part

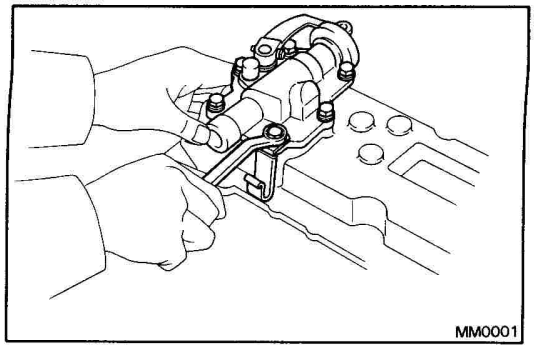
MM0103

COMPONENTS (Cont'd)



COMPONENTS (Cont'd)




MM0001

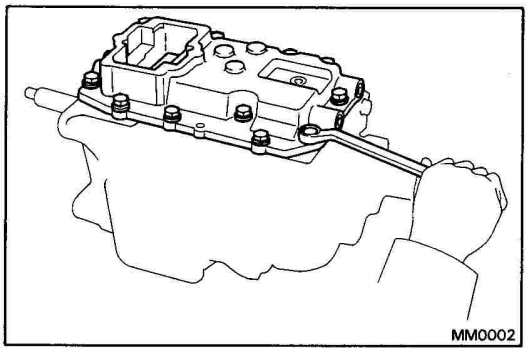
DISASSEMBLY OF TRANSMISSION

(See pages MT-7,8)

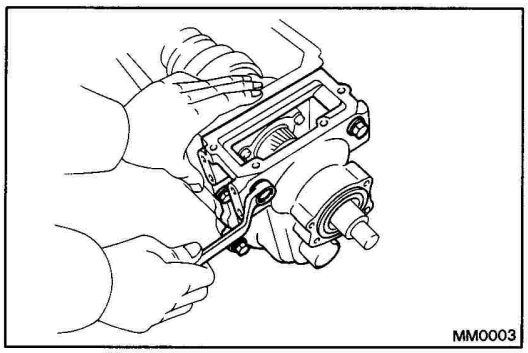
1. **REMOVE RELEASE HUB WITH BEARING, FORK AND CLUTCH HOUSING**

2. **REMOVE BACK-UP LIGHT SWITCH AND SPEEDOMETER DRIVEN GEAR**

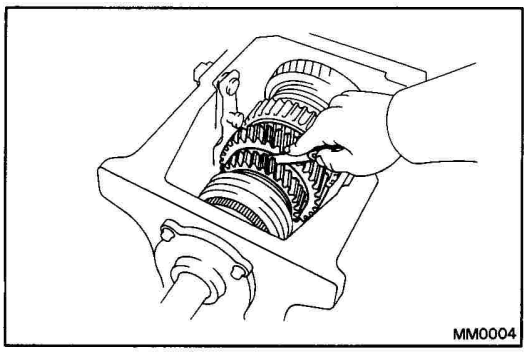
3. **REMOVE SHIFT LEVER SHAFT HOUSING**


MM0002

4. **REMOVE CASE COVER**


MM0003

5. **REMOVE EXTENSION HOUSING**
   (a) Remove the bolts.
   (b) Using a brass bar and hammer, carefully tap off the extension housing.
   (c) Pull the extension housing from the transmission case.


MM0004

6. **MEASURE EACH GEAR THRUST CLEARANCE**

   Using a feeler gauge, measure the thrust clearance of each gear.

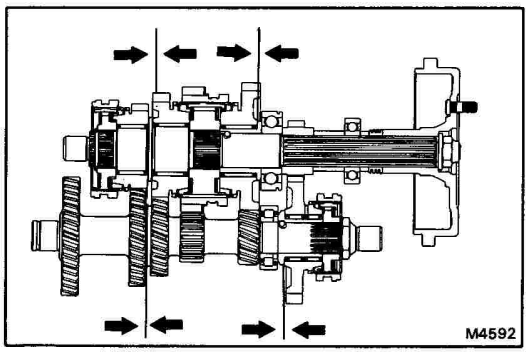
   NOTE: For later reference, write down the thrust clearance.

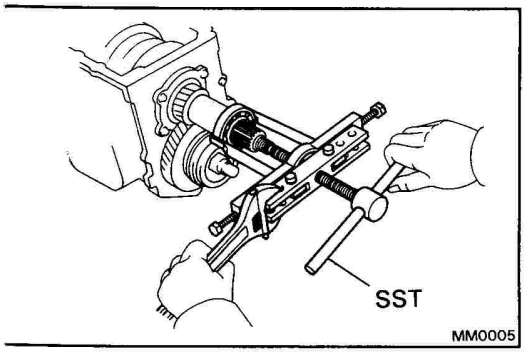
   Standard clearance:

1st and counter 5th	**0.15 – 0.25 mm (0.0059 –0.0098 in.)**
2nd and 3rd	**0.15 – 0.30 mm (0.0059 –0.0118 in.)**

   Maximum clearance:

1st and counter 5th	**0.55 mm (0.0217 in.)**
2nd and 3rd	**0.60 mm (0.0236 in.)**


M4592

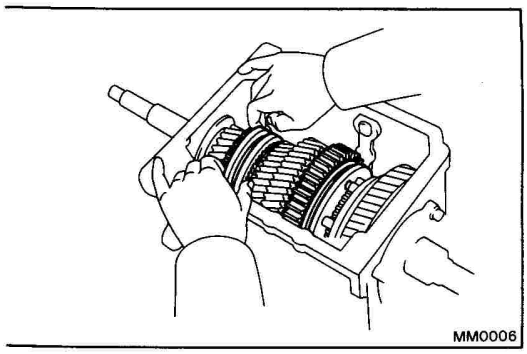


7. REMOVE OUTPUT SHAFT REAR BEARING

Using SST, remove the rear bearing.

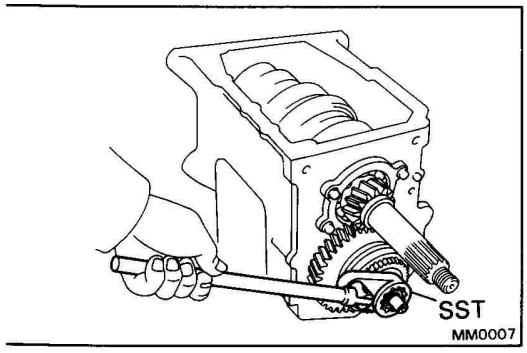
SST 09950-20015

8. REMOVE SPACERS AND SPEEDOMETER DRIVE GEAR



9. REMOVE COUNTER GEAR REAR LOCK NUT AND RETAINER

(a) Engage the gear double meshing.



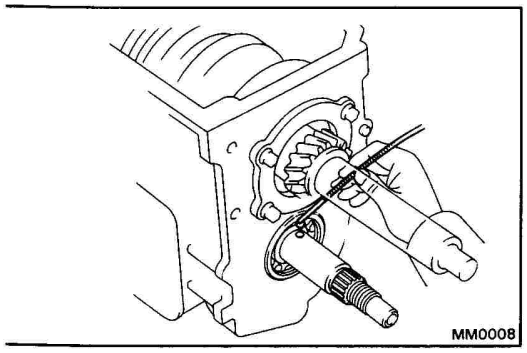
(b) Using a chisel and hammer, loosen the staked part of the nut.

(c) Using SST, remove the lock nut.

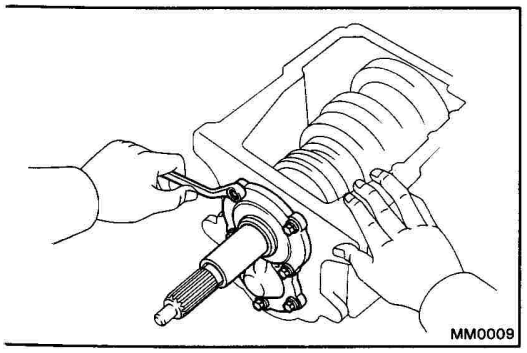
SST 09326-20011

(d) Remove the retainer.

(e) Disengage the gear double meshing.

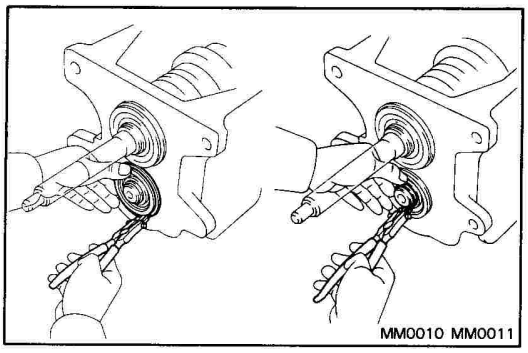


10. REMOVE CLUTCH HUB NO. 3 ASSEMBLY, SYNCHRONIZER RING AND LOCKING BALL



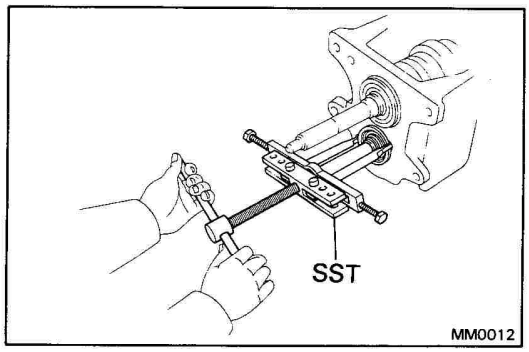
11. REMOVE FRONT BEARING RETAINER

NOTE: Be careful not to damage the oil seal.

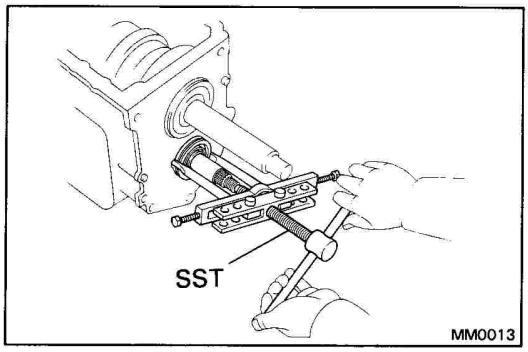


12. REMOVE COUNTER GEAR FRONT BEARING

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



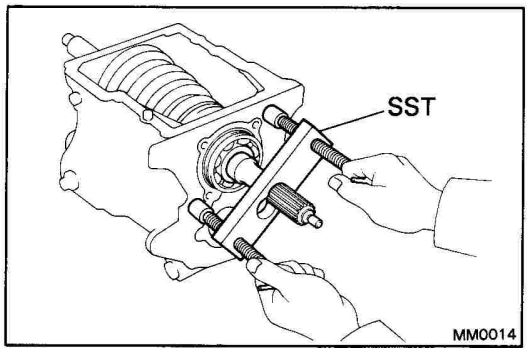
(b) Using SST, remove the counter gear front bearing.
SST 09950-20015



13. REMOVE COUNTER GEAR CENTER BEARING

(a) Using SST, remove the counter gear center bearing.
SST 09950-20015

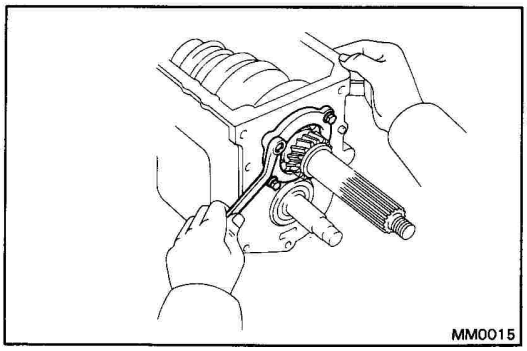
(b) Lay the counter gear on the bottom of the case.



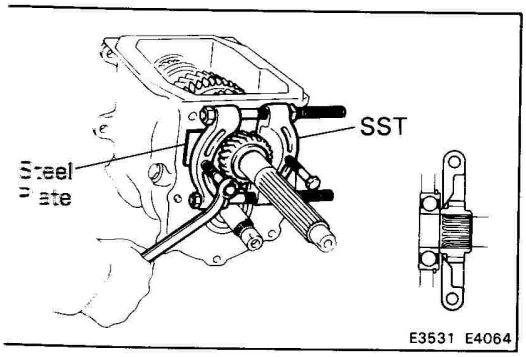
14. REMOVE INPUT SHAFT AND BEARING

(a) Using SST, remove the input shaft and bearing.
SST 09312-36010

(b) Remove the synchronizer ring.



15. REMOVE REAR BEARING RETAINER



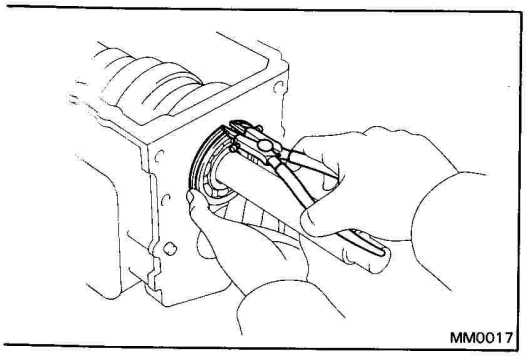
16. REMOVE FIFTH GEAR FROM OUTPUT SHAFT

Using SST and the two bolts, remove the 5th gear from the output shaft.

SST 09950-00020

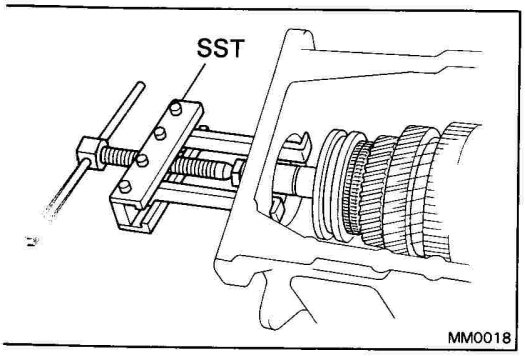
NOTE:

- Use steel plates etc. (approx. 2 mm thick) as a backplate to prevent the case from being damaged by the bolts.
- Tighten the two bolts evenly.
- Use bolts with a 12 mm nominal diameter, 1.5 pitch, and approx. 80 mm thread length.
  (Reference: Part No. 90101-12034)



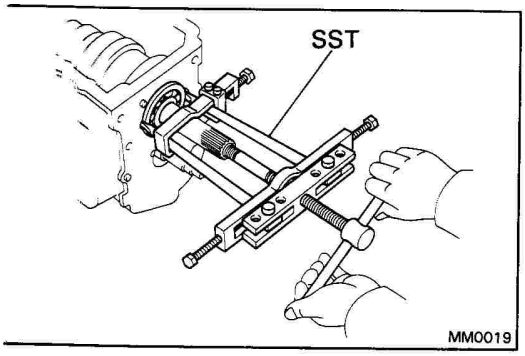
17. REMOVE OUTPUT SHAFT CENTER BEARING

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



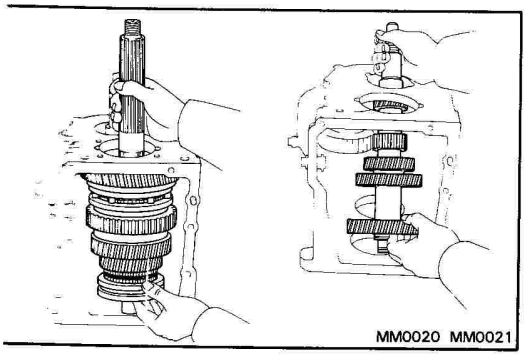
(b) Using SST, support the output shaft front end.

SST 09213-27010



(c) Using SST, remove the output shaft center bearing.

SST 09950-20015

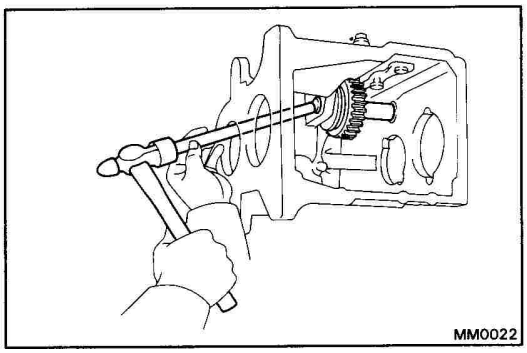


18. REMOVE OUTPUT SHAFT AND COUNTER GEAR

(a) Stand the transmission case on its front end.

(b) Remove the output shaft.

(c) Remove the counter gear.

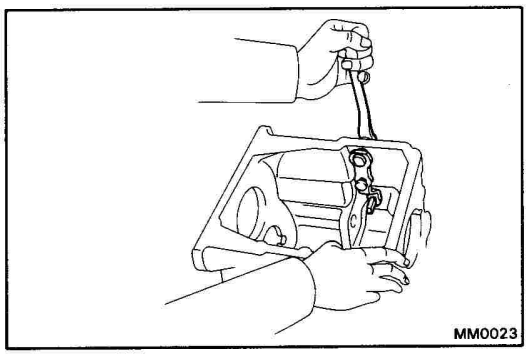


19. REMOVE REVERSE IDLER GEAR AND SHAFT

(a) Remove the bolt and lock plate.

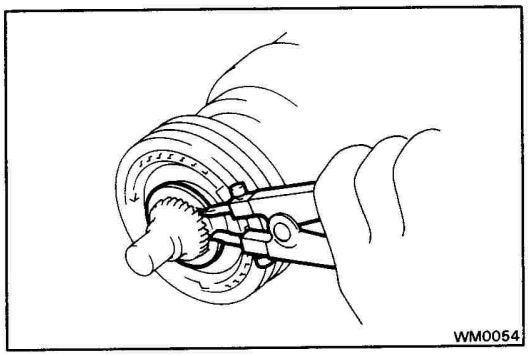
(b) Tap out the reverse idler gear shaft toward the rear.

(c) Remove the reverse idler gear.



20. REMOVE REVERSE SHAFT ARM FROM TRANSMISSION

Remove the nut, washer, pivot arm and shift arm.



21. REMOVE HUB SLEEVE NO. 2 ASSEMBLY, SYNCHRONIZER RING, THIRD GEAR AND NEEDLE ROLLER BEARING FROM OUTPUT SHAFT

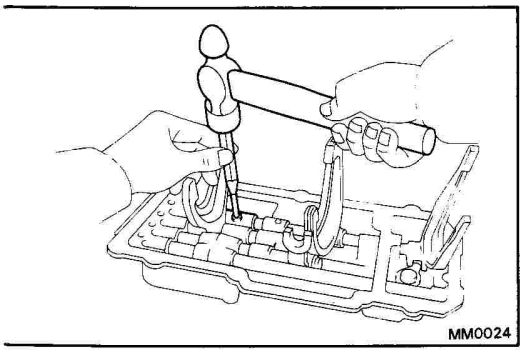
(a) Using snap ring pliers, remove the snap ring.

(b) Remove the hub sleeve No. 2 assembly, synchronizer ring, 3rd gear and needle roller bearing.

22. REMOVE FIRST GEAR, BEARING INNER RACE, FIRST GEAR, NEEDLE ROLLER BEARING AND LOCKING BALL FROM OUTPUT SHAFT

23. REMOVE CLUTCH HUB NO. 1 ASSEMBLY AND SYNCHRONIZER RINGS FROM OUTPUT SHAFT

24. REMOVE SECOND GEAR AND NEEDLE ROLLER BEARING FROM OUTPUT SHAFT


MM0024

DISASSEMBLY OF CASE COVER ASSEMBLY

(See page MT-9)

CAUTION: When removing the shaft, place each shift fork into neutral position and release the interlock.

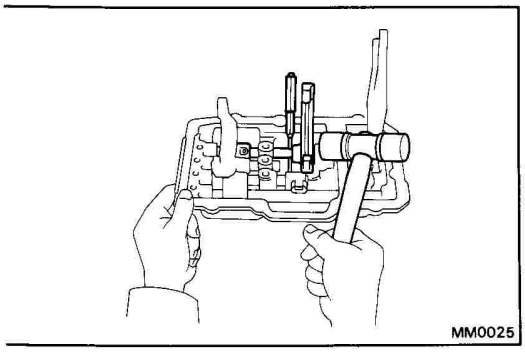
1. REMOVE FIRST AND SECOND SHIFT FORK SHAFT, SHIFT HEAD AND SHIFT FORK

(a) Using a pin punch and hammer, drive out the slotted spring pins from the shift head and shift fork.

(b) Insert a pin punch to the slotted spring pin hole for the 1st and 2nd shift fork.

(c) Drive out the tight plug by the shift fork shaft and then remove the pin punch and shift fork shaft.

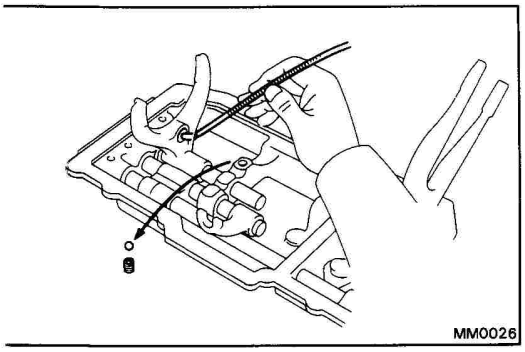
NOTE: Be careful not to lose the locking ball.


MM0025

(d) Remove the shift head and shift fork.

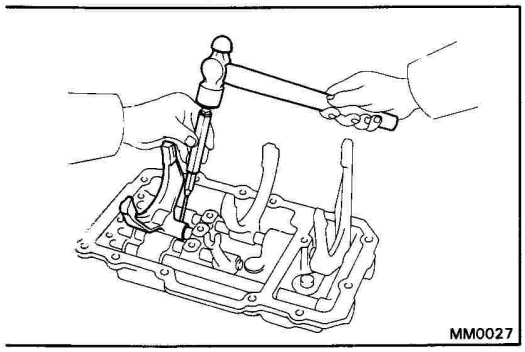
(e) Using a magnetic finger, remove the locking ball and spring.

(f) Using a magnetic finger, remove the interlock pin.


MM0026

2. REMOVE THIRD AND FOURTH SHIFT FORK AND SHAFT

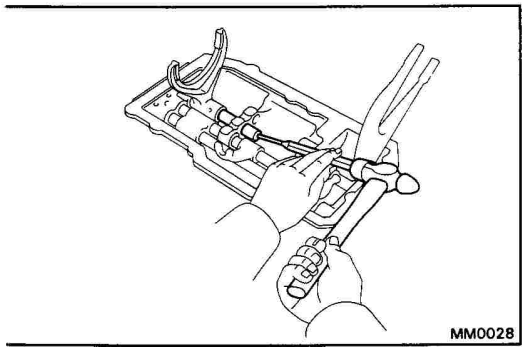
(a) Using a pin punch and hammer, drive out the slotted spring pin from the shift fork.

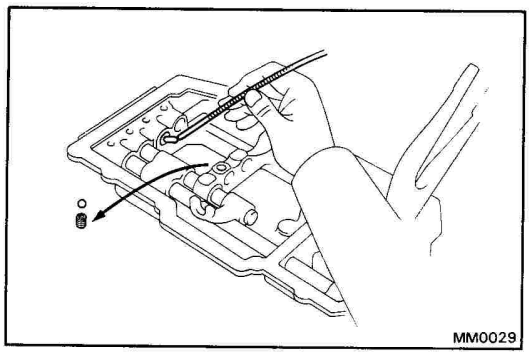

MM0027

(b) Drive out the shift fork shaft and tight plug.

NOTE: Be careful not to lose the locking ball.

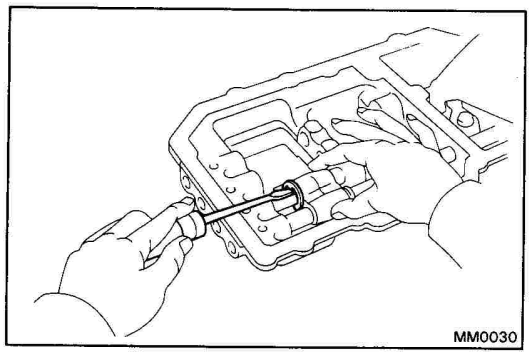
(c) Remove the shift fork.


MM0028



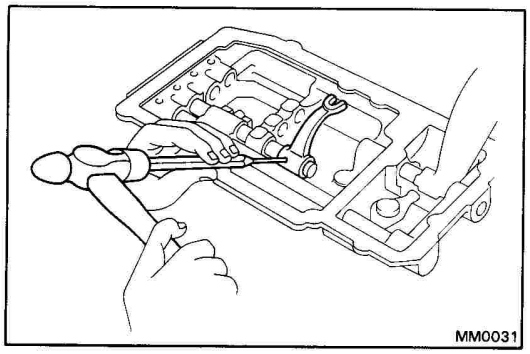
(d) Using a magnetic finger, remove the locking ball and spring.

(e) Using a magnetic finger, remove the interlock pin.

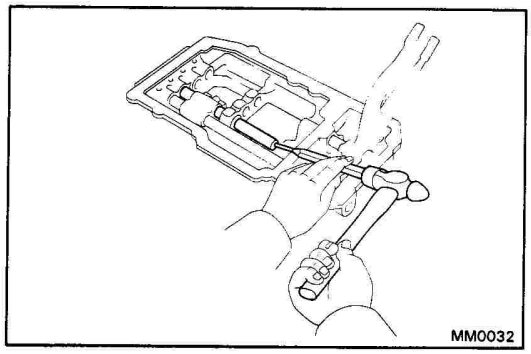


3. REMOVE REVERSE SHIFT FORK AND SHAFT

(a) Using a screwdriver, remove the E-ring from the shaft.



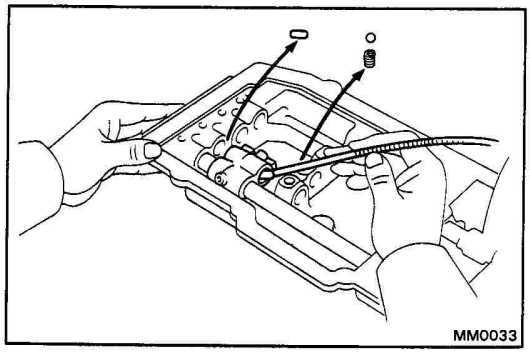
(b) Using a pin punch and hammer, remove slotted spring pin from the shift fork.



(c) Drive out the shift fork shaft and tight plug.

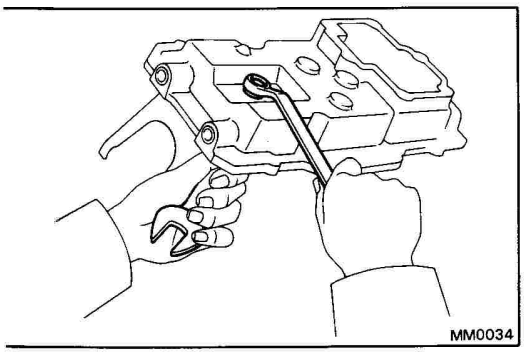
NOTE: Be careful not to lose the locking ball.

(d) Remove the shift fork.

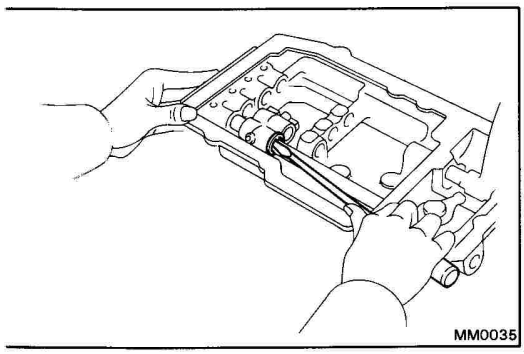


(e) Using a magnetic finger, remove the locking ball and spring.

(f) Using a magnetic finger, remove the interlock pin.

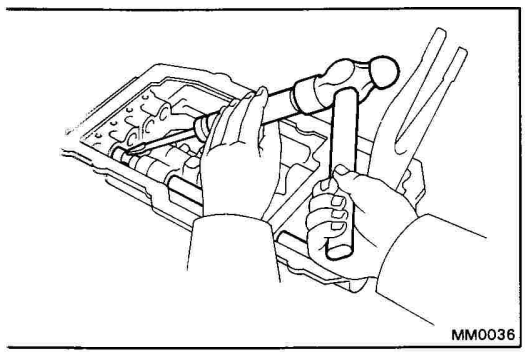


4. REMOVE FIFTH SHIFT ARM AND PIVOT



5. REMOVE FIFTH SHIFT ARM SHAFT AND REVERSE SHIFT HEAD

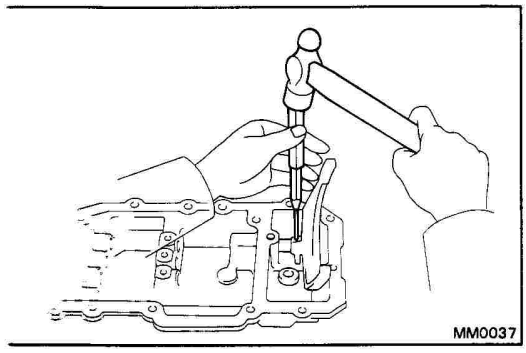
(a) Using a screwdriver, remove the E-ring from the shaft.



(b) Drive out the shift arm shaft and tight plug.

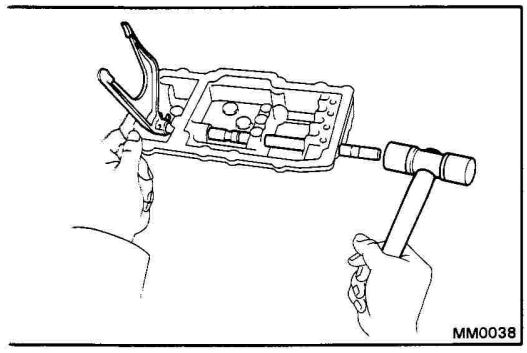
NOTE: Be careful not to lose the locking ball.

(c) Remove the reverse shift head.



6. REMOVE FIFTH SHIFT FORK AND SHAFT

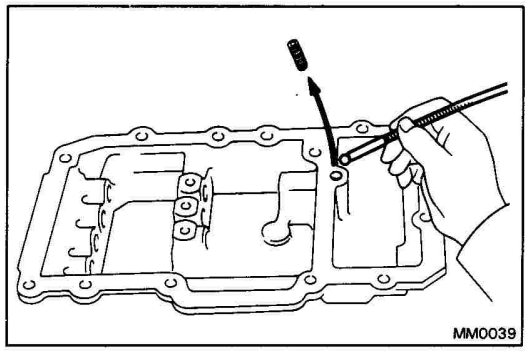
(a) Using a pin punch and hammer, drive out the slotted spring pin.



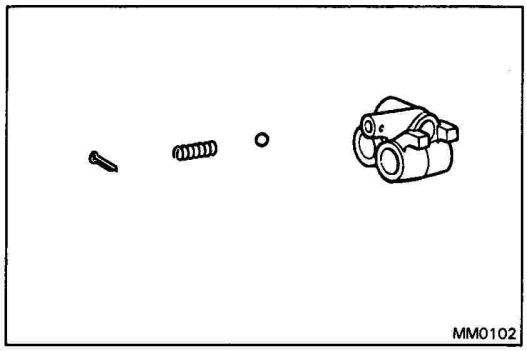
(b) Using the shift arm shaft, insert it from forward and then drive out the shift fork shaft and tight plug.

NOTE: Be careful not to lose the locking ball.

(c) Remove the shift fork and shift arm shaft.



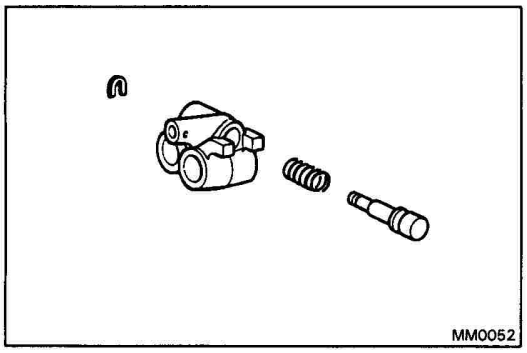
(d) Using a magnetic finger, remove the locking ball and spring.



7. DISASSEMBLY REVERSE SHIFT HEAD

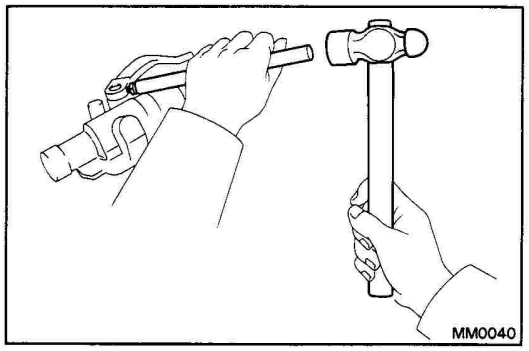
(a) Using long nose pliers, remove the cotter pin.

(b) Remove the locking ball and spring.



(c) Using a screwdriver, remove the C-washer.

(d) Remove the plunger and spring.

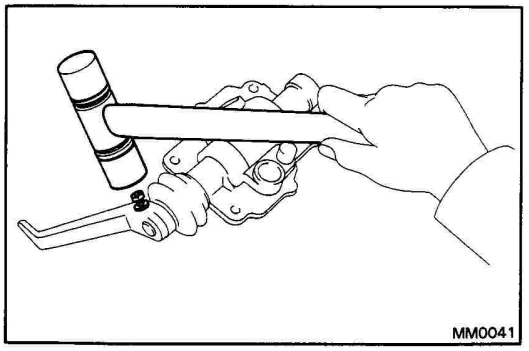


8. REMOVE SELECT OUTER LEVER AND SELECT LEVER SHAFT

(a) Loosen the lock pin nut.

(b) Using a plastic hammer, tap off the lock pin.

(c) Remove the nut, lock pin, select outer lever, washer and select lever shaft.

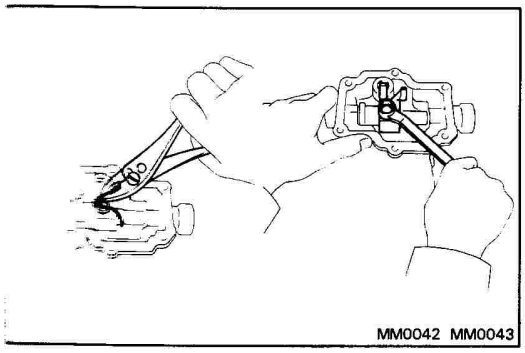


9. REMOVE SHIFT OUTER LEVER, SHIFT LEVER SHAFT AND SHIFT AND SELECT LEVER

(a) Loosen the lock pin nut.

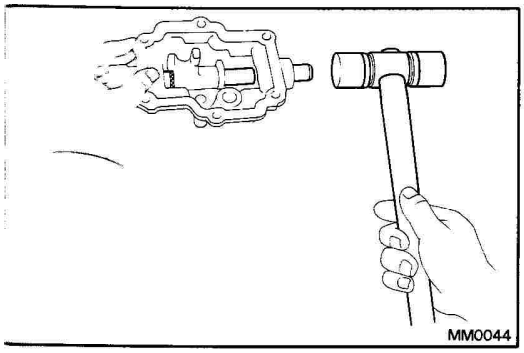
(b) Using a plastic hammer, tap off the lock pin.

(c) Remove the nut, lock pin and shift outer lever.



MM0042 MM0043

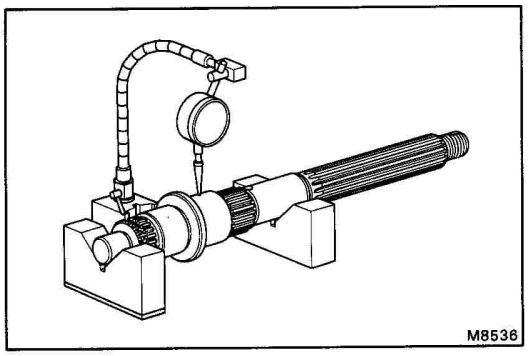
(d) Remove the locking wire and bolt from the shift and select lever.

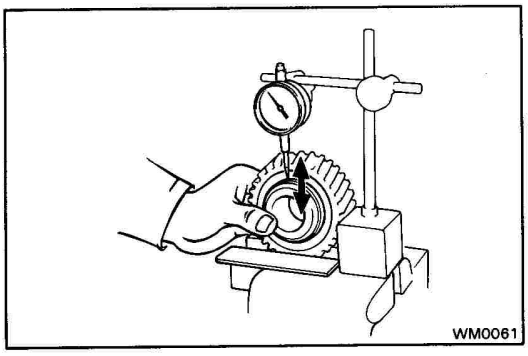


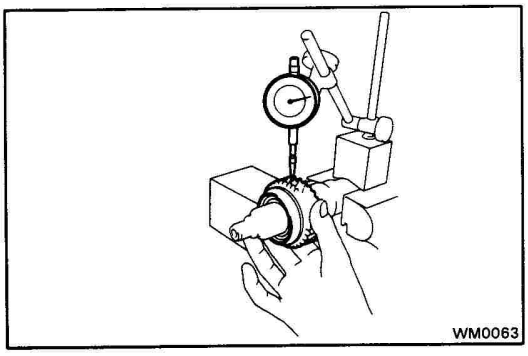
MM0044

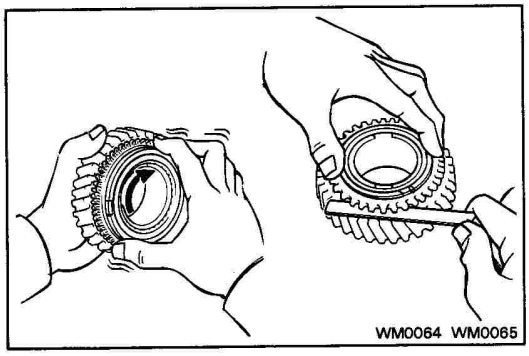
(e) Drive out the shift lever shaft and tight plug.

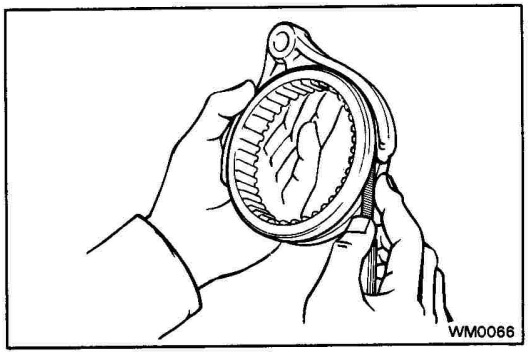
(f) Remove the shift and select lever.


M8536


WM0061


WM0063


WM0064 WM0065


WM0066

INSPECTION OF TRANSMISSION COMPONENTS

1. INSPECT OUTPUT SHAFT

Using a dial indicator, measure the shaft runout.

Maximum runout: 0.06 mm (0.0024 in.)

2. CHECK OIL CLEARANCE OF FIRST AND COUNTER FIFTH GEAR

Using a dial indicator, measure the oil clearance between the gear and inner race with the needle roller bearing installed.

Standard clearance:

1st gear	0.009 –0.062 mm (0.0004 – 0.0024 in.)
5th gear	0.065 – 0.115 mm (0.0026 – 0.0045 in.)

Maximum clearance:

1st gear	0.16 mm (0.0063 in.)
5th gear	0.21 mm (0.0083 in.)

3. CHECK OIL CLEARANCE OF SECOND AND THIRD GEAR

Using a dial indicator, measure the oil clearance between the gear and output shaft with the needle roller bearing installed.

Standard clearance:

2nd gear	0.009 – 0.062 mm (0.0004 – 0.0024 in.)
3rd gear	0.065 – 0.115 mm (0.0026 – 0.0045 in.)

Maximum clearance:

2nd gear	0.16 mm (0.0063 in.)
3rd gear	0.21 mm (0.0083 in.)

4. INSPECT SYNCHRONIZER RINGS

(a) Check for wear or damage.

(b) Turn the ring and push it into check the braking action.

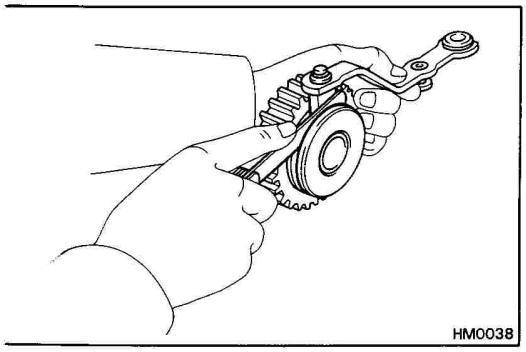
(c) Measure the clearance between the synchronizer ring back and the gear spline end.

Standard clearance: 1.1 – 1.9 mm (0.043 – 0.075 in.)
Minimum clearance: 0.9 mm (0.035 in.)

5. MEASURE CLEARANCE OF SHIFT FORKS AND HUB SLEEVES

Using a feeler gauge, measure the clearance between the hub sleeve and shift fork.

Maximum clearance: 0.8 mm (0.035 in.)

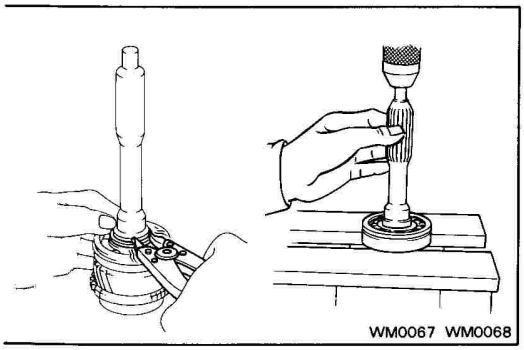

HM0038

6. INSPECT REVERSE SHIFT ARM AND REVERSE IDLER GEAR

(a) Check for wear or damage.

(b) Measure the clearance between the shift arm shoe and idler gear groove.

Maximum clearance: 0.8 mm (0.035 in.)


WM0067 WM0068

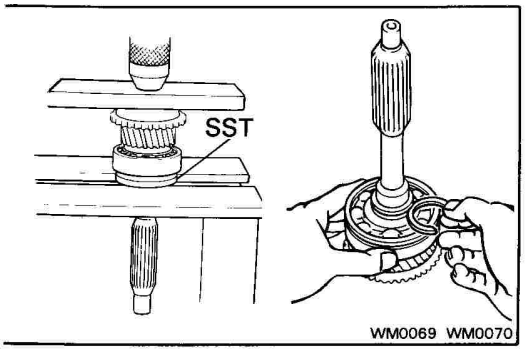
7. INSPECT INPUT SHAFT AND BEARING

Check for wear or damage.

8. IF NECESSARY, REPLACE INPUT SHAFT BEARING

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

(b) Using a press, remove the bearing.



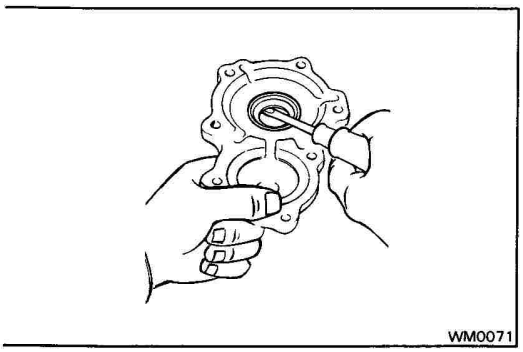
WM0069 WM0070

(c) Using a press and SST, install a new bearing.

SST 09506-30011

(d) Select a snap ring that will allow minimum axial play and install it on the shaft.

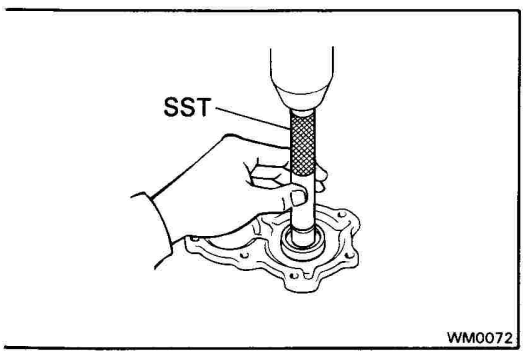
Mark	Thickness mm (in.)
11	2.30 – 2.35 (0.0906 – 0.0925)
12	2.35 – 2.40 (0.0925 – 0.0945)
13	2.40 – 2.45 (0.0945 – 0.0965)
14	2.45 – 2.50 (0.0965 – 0.0984)
15	2.50 – 2.55 (0.0984 – 0.1004)
16	2.55 – 2.60 (0.1004 – 0.1024)


WM0071

9. INSPECT FRONT BEARING RETAINER

(a) Check for damage.

(b) Check the oil seal for wear or damage.



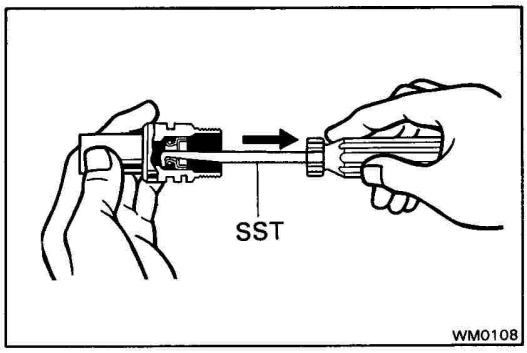
WM0072

10. IF NECESSARY, REPLACE FRONT BEARING RETAINER OIL SEAL

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

(b) Using SST, press in a new oil seal.

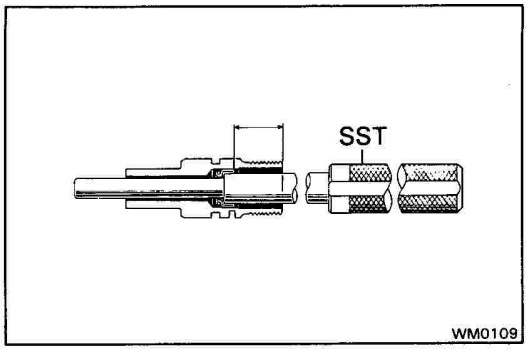
SST 09608-12010



11. IF NECESSARY, REPLACE SPEEDOMETER DRIVEN GEAR OIL SEAL

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

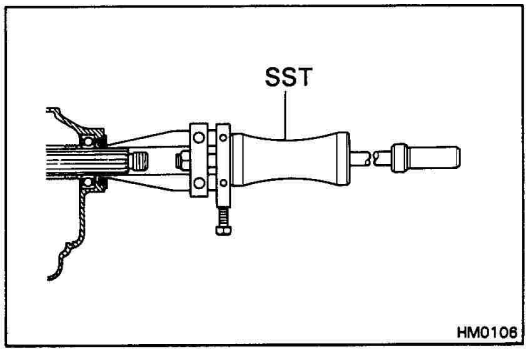
SST 09921-00010



(b) Using SST, drive in a new oil seal.

SST 09201-60011

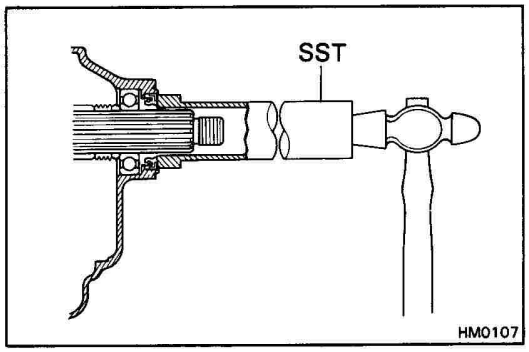
Drive in depth: 19.7 — 20.3 mm (0.776 — 0.799 in.)



12. IF NECESSARY, REPLACE REAR OIL SEAL

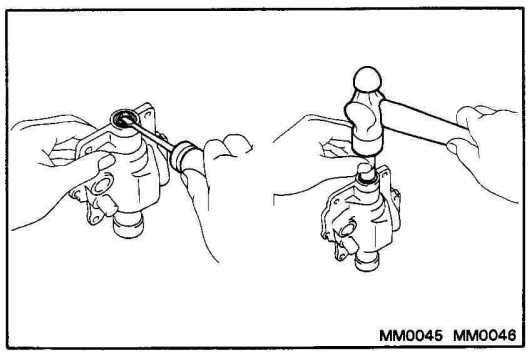
(a) Using SST, remove the oil seal.

SST 09308-00010



(b) Using SST, drive in a new oil seal.

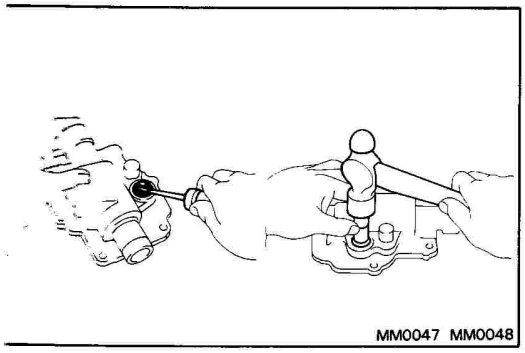
SST 09316-60010



13. IF NECESSARY, REPLACE SHIFT LEVER SHAFT OIL SEAL

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

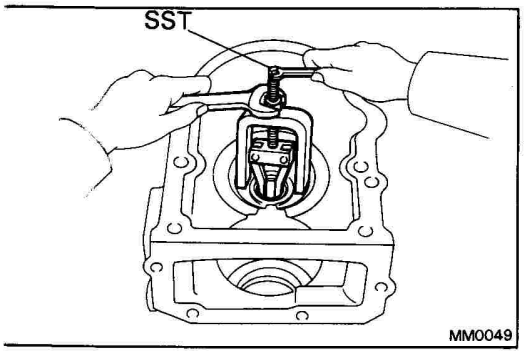
(b) Using a socket wrench, drive in a new oil seal.


MM0047 MM0048

14. IF NECESSARY, REPLACE SELECT LEVER SHAFT OIL SEAL

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

(b) Using a socket wrench, drive in a new oil seal.



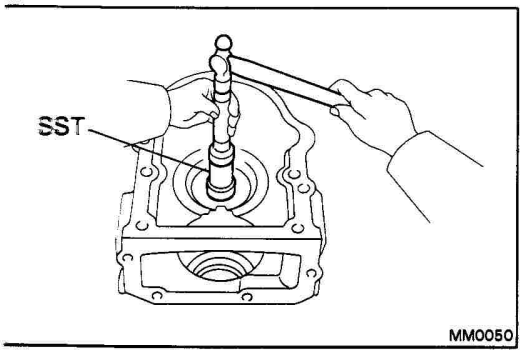
MM0049

15. IF NECESSARY, REPLACE COUNTER GEAR REAR BEARING

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

(b) Using SST, remove the rear bearing.

SST 09307-12010

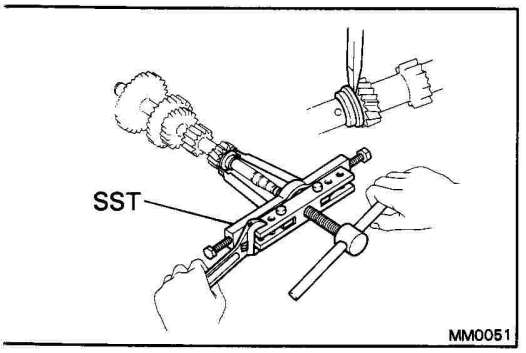


MM0050

(c) Using SST, install the rear bearing.

SST 09310-36021

(d) Using snap ring pliers, install the snap ring.



MM0051

16. IF NECESSARY, REPLACE COUNTER GEAR CENTER BEARING INNER RACE

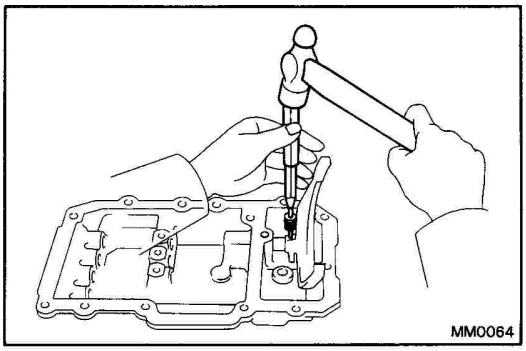
(a) In this condition SST cannot be used so make a clearance with a chisel.

NOTE: Be careful not to damage the gear with the chisel.

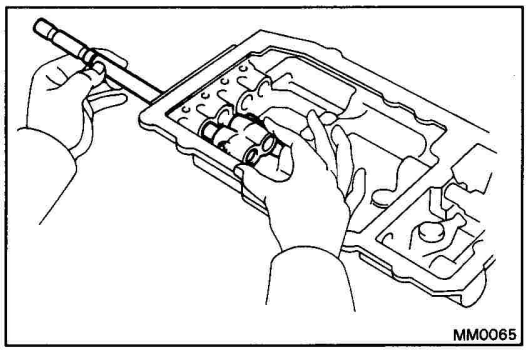
(b) Using SST, remove the center bearing inner race.

SST 09950-20015

NOTE: When assembling the center bearing, press in the outer race, roller and inner race together when installing to the transmission case.



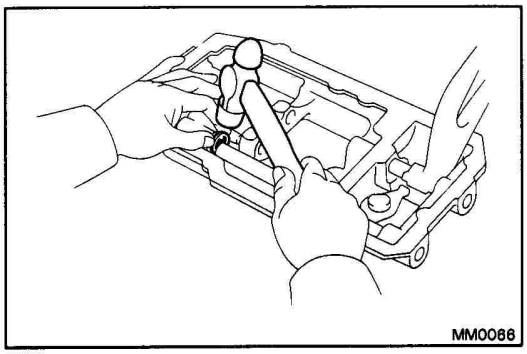
(c) Using a pin punch and hammer, drive in the slotted spring pin.



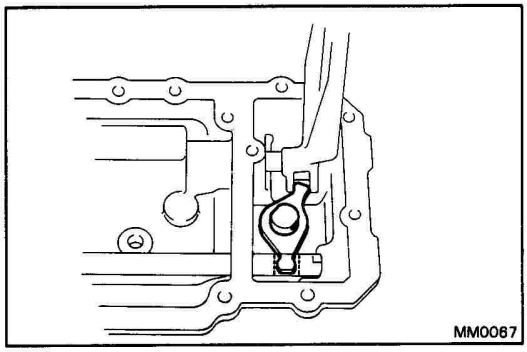
5. INSTALL FIFTH SHIFT ARM SHAFT AND REVERSE SHIFT HEAD

(a) Put the reverse shift head into the case cover.

(b) Install the 5th shift arm shaft into the reverse shift head through the case cover.

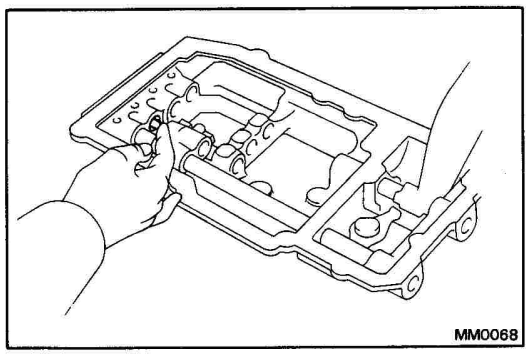


(c) Install the E-ring.



6. INSTALL FIFTH SHIFT ARM AND PIVOT

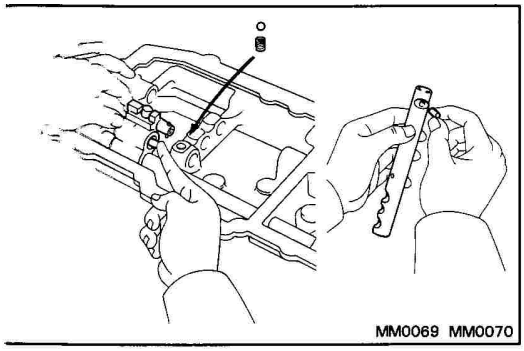
Torque: 270 kg-cm (20 ft-lb, 26 N·m)



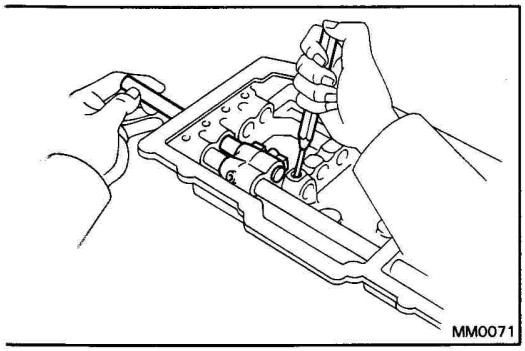
7. INSTALL REVERSE SHIFT FORK AND SHAFT

(a) Apply MP grease to the interlock pin.

(b) Install the interlock pin into the case cover.

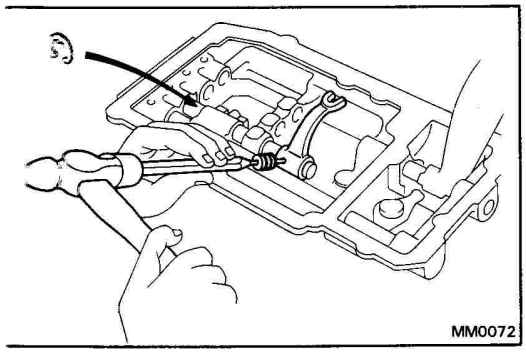

MM0069 MM0070

(c) Install the interlock pin into the reverse shift head.
(d) Install the spring and locking ball.
(e) Install the small interlock pin into the fork shaft hole.

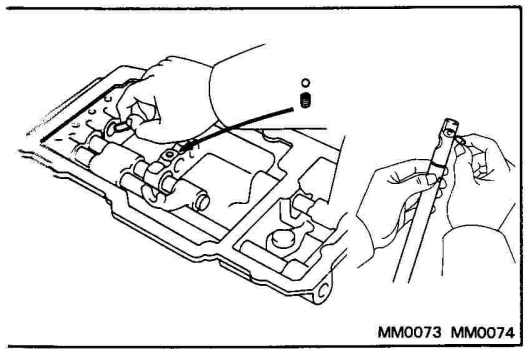

MM0071

(f) Put the reverse shift fork into the case cover and install the fork shaft into the shift fork and reverse shift head through the case cover.

NOTE: When installing the shaft, depress the locking ball with a pin punch.

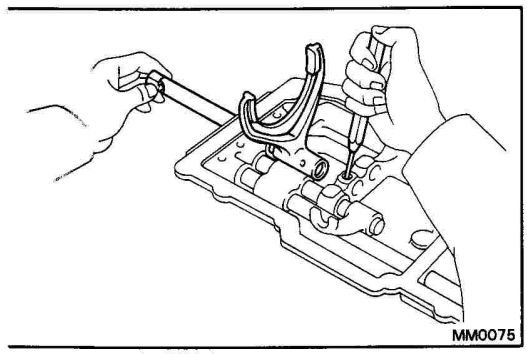

MM0072

(g) Install the E-ring.
(h) Install the shift fork to the shaft.
(i) Using a pin punch and hammer, install the slotted spring pin.


MM0073 MM0074

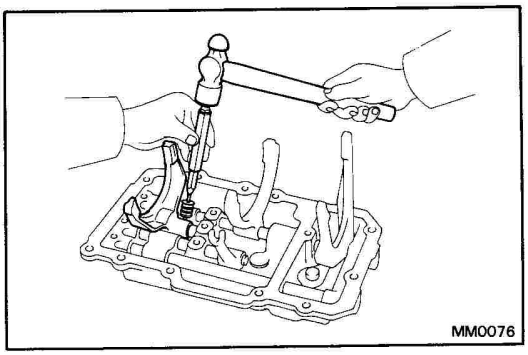
8. INSTALL THIRD AND FOURTH SHIFT FORK AND SHAFT

(a) Apply MP grease to the interlock pin.
(b) Install the interlock pin into the case cover.
(c) Install the spring and locking ball.
(d) Install the small interlock pin into the fork shaft hole.

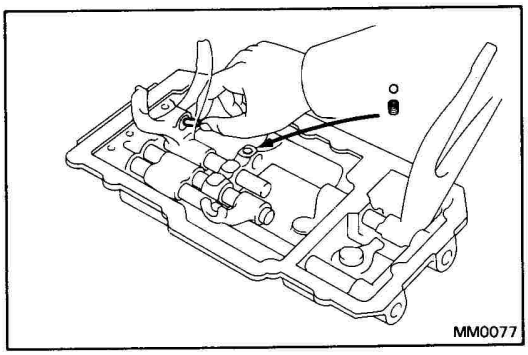

MM0075

(e) Put the 3rd and 4th shift fork shaft into the case cover and install the fork shaft into the fork through the case cover.

NOTE: When installing the shaft, depress the locking ball with a pin punch.


MM0076

(f) Using a pin punch and hammer, install the slotted spring pin.

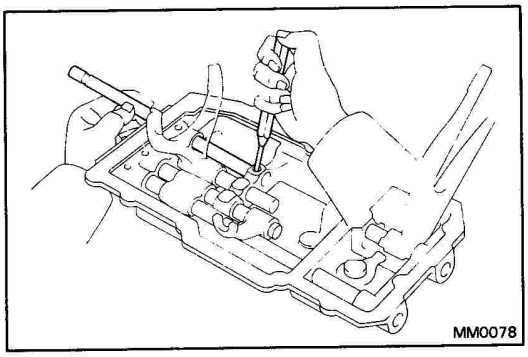

MM0077

9. INSTALL FIRST AND SECOND SHIFT FORK, SHIFT HEAD AND FORK SHAFT

(a) Apply MP grease to the interlock pin.

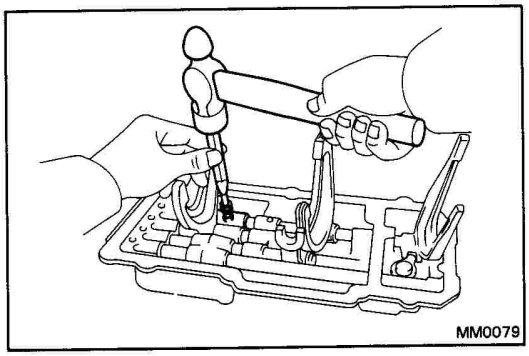
(b) Install the interlock pin into the case cover.

(c) Install the spring and locking ball.

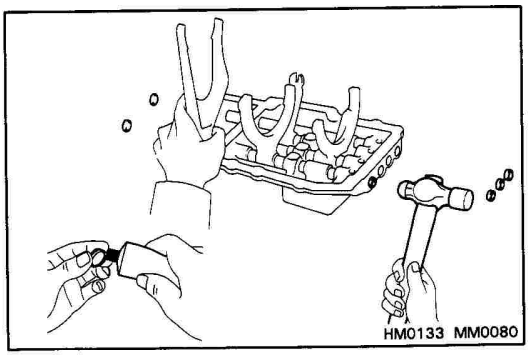

MM0078

(d) Put the 1st and 2nd shift fork, and shift head into the case cover and install the fork shaft into the shift fork and shift fork and shift head through the case cover.

NOTE: When installing the shaft, depress the locking ball with a pin punch.


MM0079

(e) Using a pin punch and hammer, install the slotted spring pins.

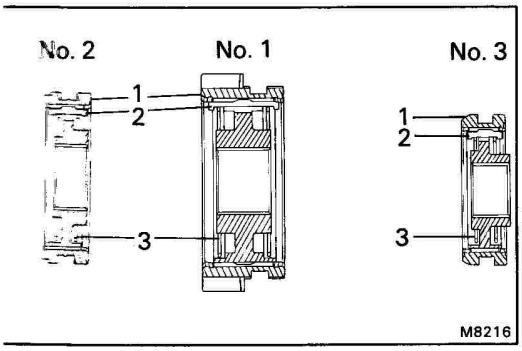

HM0133 MM0080

10. INSTALL TIGHT PLUGS

(a) Apply liquid sealer to the tight plugs.

(b) Install the tight plugs as shown.

Drive in depth: about 1.5 mm (0.059 in.)



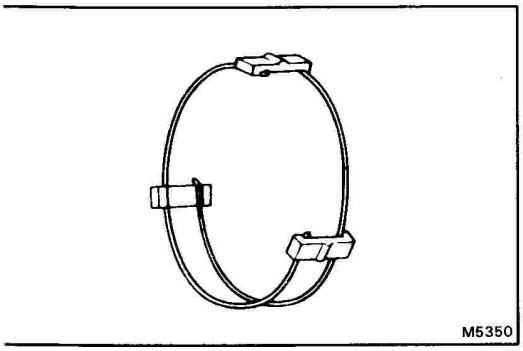
ASSEMBLY OF TRANSMISSION

(See pages MT-7, 8)

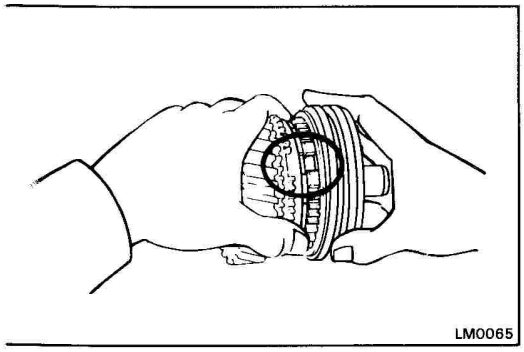
1. INSERT CLUTCH HUB NO. 1, NO. 2 AND NO. 3 INTO HUB SLEEVE

(a) Install the clutch hub and shifting keys.

(b) Install the shifting key springs under the shifting keys.



CAUTION: Install the key springs positioned so that their end gaps are not in line.



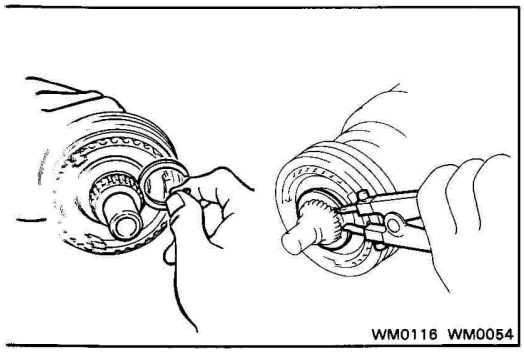
2. INSTALL NEEDLE ROLLER BEARING, THIRD GEAR, SYNCHRONIZER RING AND HUB SLEEVE NO. 2 ASSEMBLY

(a) Apply gear oil to the shaft and needle roller bearing.

(b) Install the needle roller bearing and 3rd gear onto the shaft.

(c) Place the synchronizer ring on the gear and align the ring slots with the shifting keys.

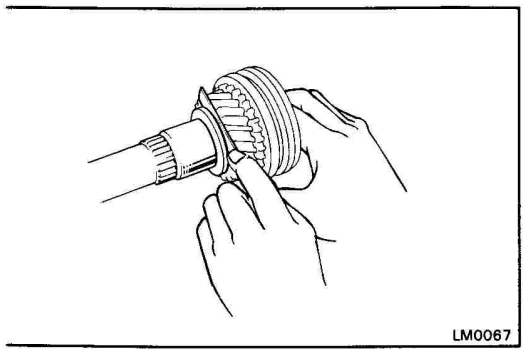
(d) Install the hub sleeve No. 2.



3. INSTALL SNAP RING

Select a snap ring that will allow minimum axial play and install it on the shaft with snap ring pliers.

Mark	Thickness mm (in.)
0	2.40 – 2.45 (0.0945 – 0.0965)
1	2.45 – 2.50 (0.0965 – 0.0984)
2	2.50 – 2.55 (0.0984 – 0.1004)
3	2.55 – 2.60 (0.1004 – 0.1024)
4	2.60 – 2.65 (0.1024 – 0.1043)
5	2.65 – 2.70 (0.1043 – 0.1063)

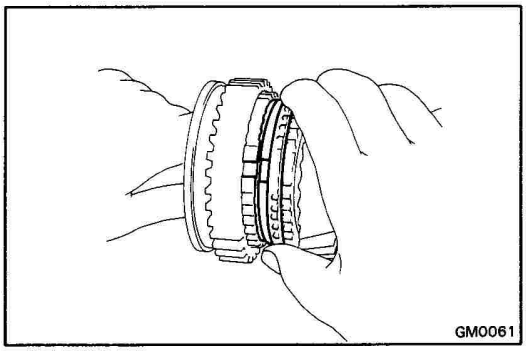


4. MEASURE THIRD GEAR THRUST CLEARANCE

Using a feeler gauge, measure the 3rd gear thrust clearance.

Standard clearance: 0.15 – 0.30 mm (0.0059 – 0.0118 in.)

Maximum clearance: 0.60 mm (0.0236 in.)


GM0061

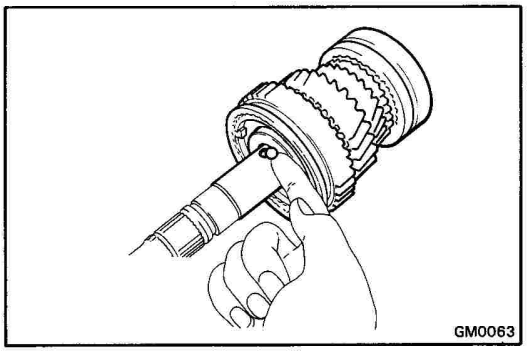
5. INSTALL NEEDLE ROLLER BEARING, SECOND GEAR, SYNCHRONIZER RING AND HUB SLEEVE NO. 1 ASSEMBLY

(a) Apply gear oil to the shaft and needle roller bearing.

(b) Install the needle roller bearing and 2nd gear onto the shaft.

(c) Place the synchronizer ring on the gear and align the ring slots with the shifting keys.

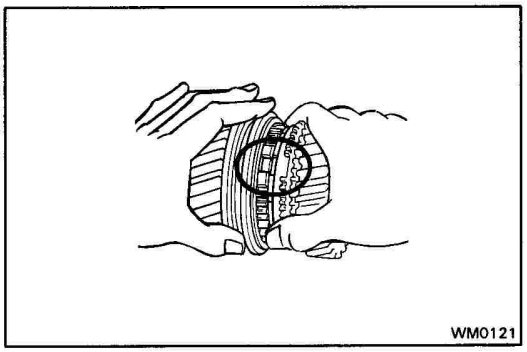
(d) Install the hub sleeve No. 1 assembly.


GM0063

6. INSTALL LOCKING BALL, SYNCHRONIZER RING, FIRST GEAR, NEEDLE ROLLER BEARING AND INNER RACE

(a) Apply gear oil to the needle roller bearing and inner race.

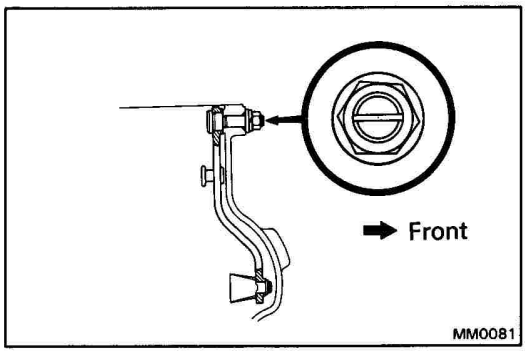
(b) Install the locking ball on the output shaft.


WM0121

(c) Assemble the 1st gear, needle roller bearing, inner race and synchronizer ring.

(d) Install the assembly on the output shaft with the synchronizer ring slots aligned with shifting keys.

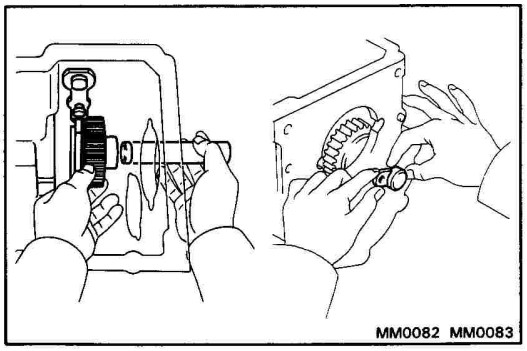
(e) Turn the inner race to align with the locking ball.



MM0081

7. INSTALL REVERSE SHIFT ARM

Install the reverse shift arm to the transmission case with pivot arm, washer and nut.


MM0082 MM0083

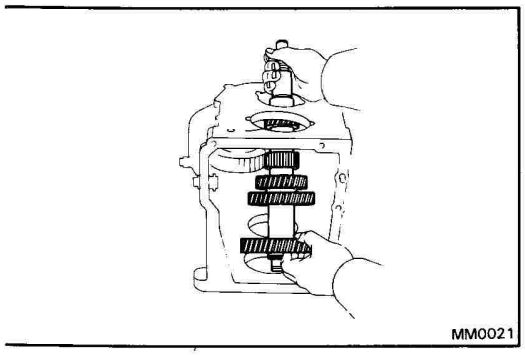
8. INSTALL REVERSE IDLER GEAR AND SHAFT

(a) Align the reverse idler gear groove with the reverse shift arm shoe.

(b) Install the reverse idler gear shaft through the gear.

(c) Install the lock plate and bolt.

Torque: 130 kg-cm (9 ft-lb, 13 N·m)

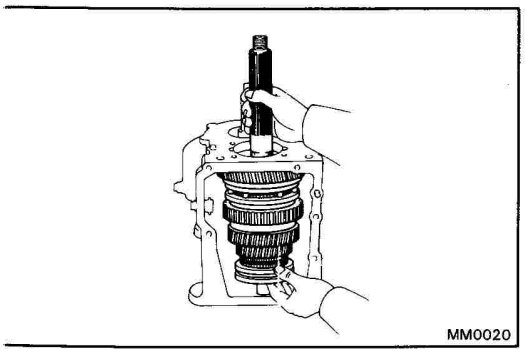

MM0021

9. PUT COUNTER GEAR INTO TRANSMISSION CASE

(a) Stand the transmission case on its front end.

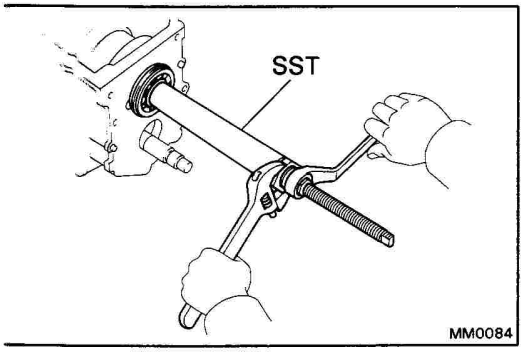
(b) Put the counter gear into the case.

CAUTION: Be careful not to damage either end.


MM0020

10. PUT OUTPUT SHAFT ASSEMBLY INTO TRANSMISSION

CAUTION: Be careful not to damage the front end of the shaft.



MM0084

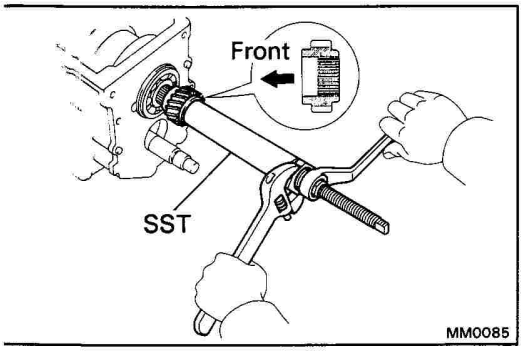
11. INSTALL OUTPUT SHAFT CENTER BEARING

(a) Using snap ring pliers, install the snap ring onto the bearing.

(b) Confirm that the groove of the 1st gear inner race and locking ball are aligned.

(c) Using SST, install the bearing until it comes into contact with the 1st gear thrust washer.

SST 09309-36031



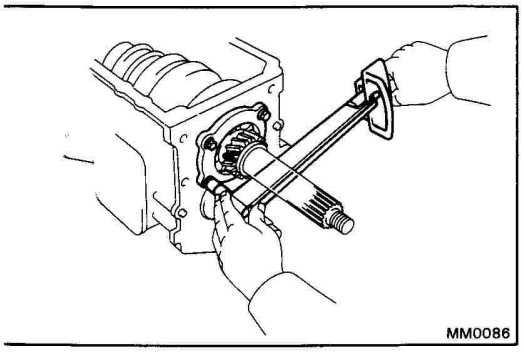
MM0085

12. INSTALL FIFTH GEAR

(a) Apply MP grease to the inside surface of the 5th gear.

(b) Using SST, install the 5th gear to the output shaft.

SST 09309-36031

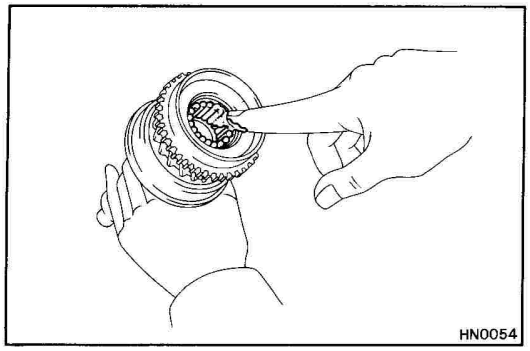

MM0086

13. INSTALL REAR BEARING RETAINER

Install the rear bearing retainer to the transmission case.

Torque the bolts.

Torque: 185 kg-cm (13 ft-lb, 18 N·m)

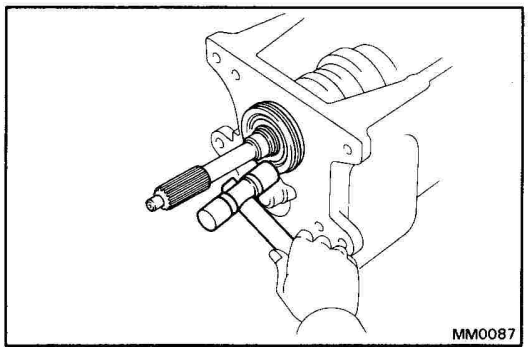

HN0054

14. INSTALL SYNCHRONIZER RING AND INPUT SHAFT

(a) Using snap ring pliers, install the snap ring onto the bearing.

(b) Install the 17 needle roller bearings into the input shaft.

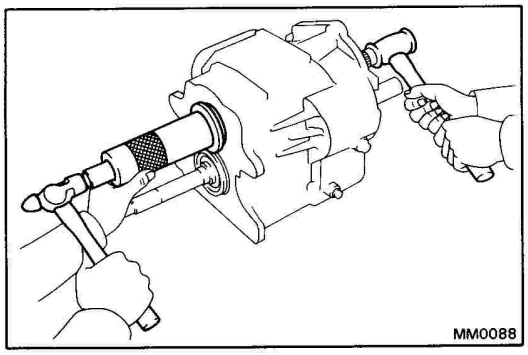
(c) Apply MP grease to the needle roller bearings.


MM0087

(d) Align the synchronizer ring slots with the shifting keys.

(e) Using a plastic hammer, drive in the input shaft.

NOTE: Be sure that the counter gear is low enough so as not to interfere with the input shaft.


MM0088

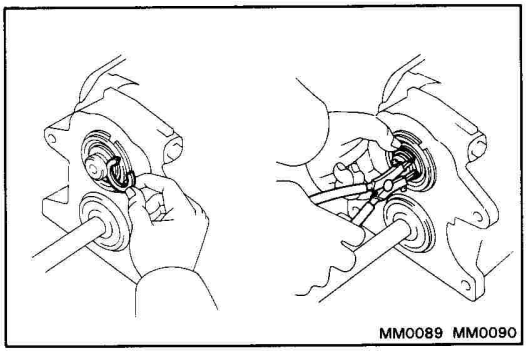
15. INSTALL COUNTER GEAR FRONT BEARING

(a) Turn the transmission over and align the counter gear center.

(b) Using SST, drive in the bearing.

SST 09316-60010

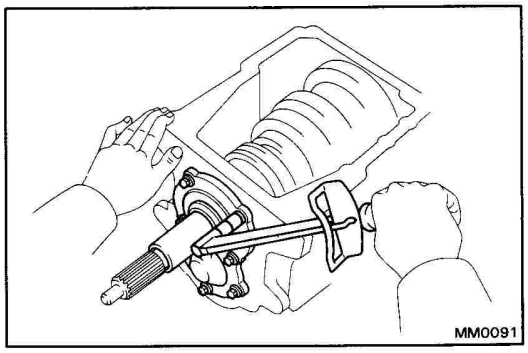
NOTE: When driving in the bearing, support the counter gear in rear with a 3–5 lb hammer or equivalent.


MM0089 MM0090

(c) Using snap ring pliers, install the snap ring onto the bearing outer race.

(d) Select a snap ring that will allow minimum axial play and install it on the counter gear front end.

Mark	Thickness mm (in.)
E	1.90 – 1.95 (0.0748 – 0.0768)
F	2.00 – 2.05 (0.0787 – 0.0807)
G	2.10 – 2.15 (0.0827 – 0.0846)


MM0091

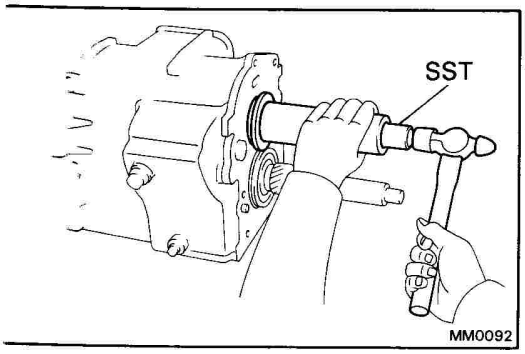
16. INSTALL FRONT BEARING RETAINER WITH NEW GASKET

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

(b) Apply liquid sealer to the bolts.

(c) Install and torque the bolts.

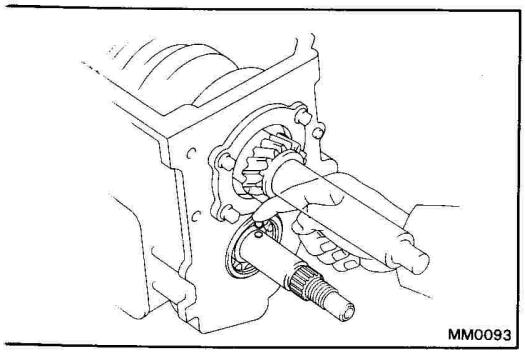
Torque: 170 kg-cm (12 ft-lb, 17 N·m)



17. INSTALL COUNTER GEAR CENTER BEARING

Using SST, drive in the center bearing.

SST 09316-60010



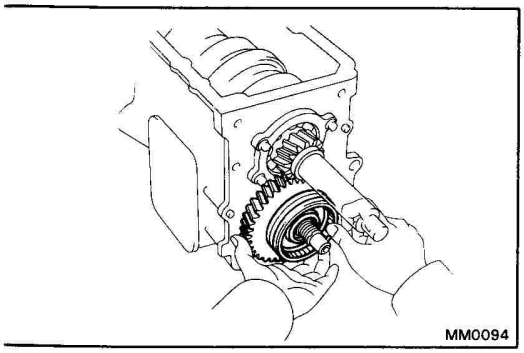
18. INSTALL LOCKING BALL, INNER RACE, NEEDLE ROLLER BEARING AND COUNTER FIFTH GEAR

(a) Apply MP grease to the locking ball.

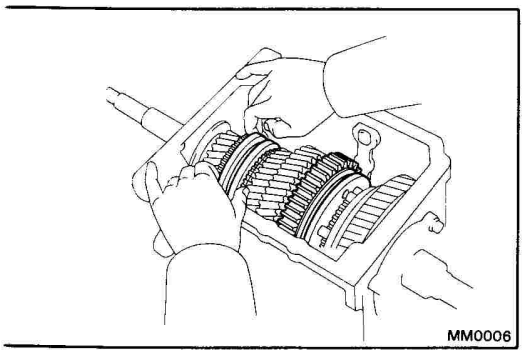
(b) Install the locking ball on the counter shaft.

(c) Apply gear oil to the needle roller bearing and inner race.

(d) Install the inner race, needle roller bearing and counter 5th gear.

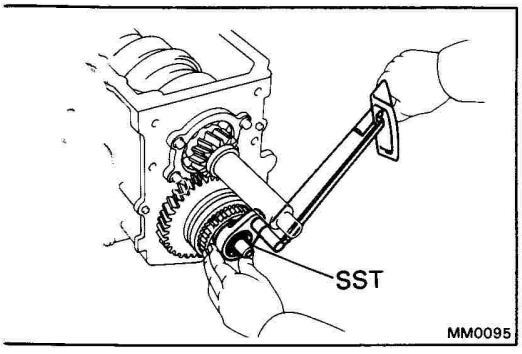


19. INSTALL SYNCHRONIZER RING, HUB SLEEVE NO. 3 ASSEMBLY AND RETAINER



20. INSTALL LOCK NUT TO COUNTER GEAR REAR END

(a) Engage the gear double meshing.

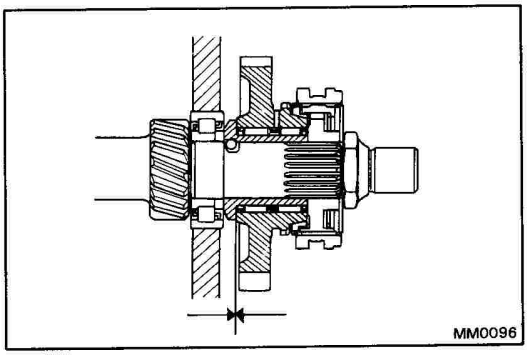


(b) Using SST, install a new lock nut.
Torque the nut.

SST 09326-20011

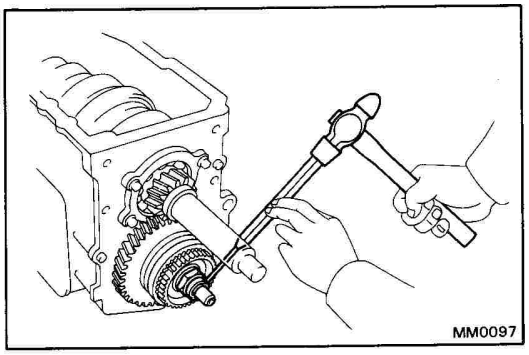
Torque: 1,300 kg-cm (94 ft-lb, 127 N·m)

(c) Disengage the gear double meshing.

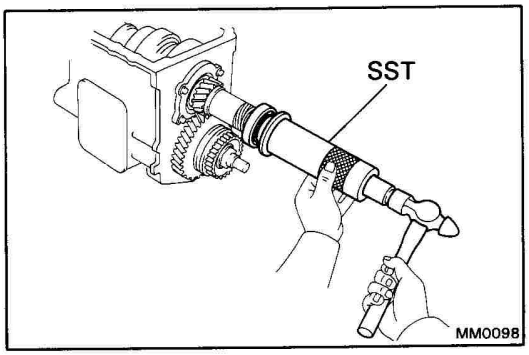


(d) Using a feeler gauge, measure the counter 5th gear thrust clearance.

Standard clearance: 0.15 – 0.25 mm (0.0059 – 0.0098 in.)



(e) Using a punch and hammer, stake the lock nut.



21. INSTALL SPACER, SPEEDOMETER DRIVE GEAR AND SPEEDOMETER DRIVE GEAR SPACER

22. INSTALL OUTPUT SHAFT REAR BEARING

Using SST, drive in the rear bearing.

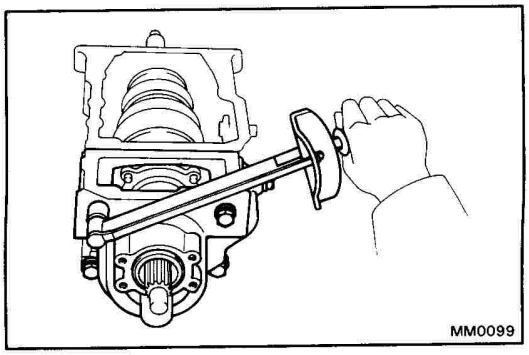
SST 09316-60010

23. MEASURE EACH GEAR THRUST CLEARANCE

Using a feeler gauge, measure the thrust clearance. (See step 6 on page MT-10)

Standard clearance:

1st and 5th gears	**0.15 – 0.25 mm (0.0059 – 0.0098 in.)**
2nd and 3rd gears	**0.15 – 0.30 mm (0.0059 – 0.0118 in.)**



24. INSTALL EXTENSION HOUSING WITH NEW GASKET

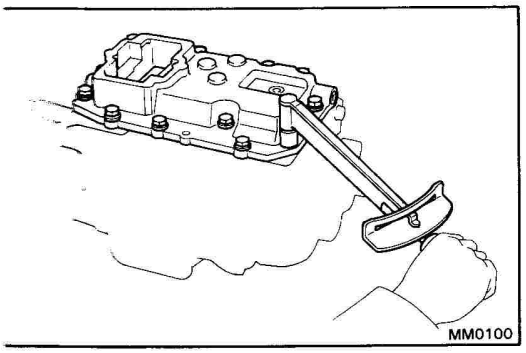
(a) Apply MP grease to the oil seal.

(b) Install the extension housing with a new gasket.

(c) Apply liquid sealer to the bolts.

(d) Install and torque the bolts.

Torque: 600 kg-cm (43 ft-lb, 59 N·m)


MM0100

25. INSTALL CASE COVER WITH NEW GASKET

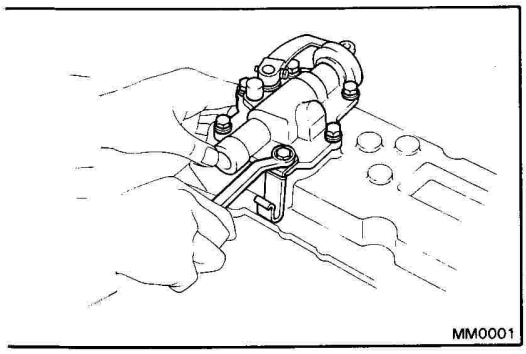
(a) Place each shift fork in neutral.

(b) Place each hub sleeve and reverse shift arm in neutral.

(c) Install the case cover with a new gasket.

(d) Install and torque the bolts.

Torque: 530 kg-cm (38 ft-lb, 52 N·m)


MM0001

26. INSTALL SHIFT LEVER SHAFT HOUSING WITH NEW GASKET

(a) Apply MP grease to the oil seal.

(b) Install the shift lever shaft housing with a new gasket.

(c) Install and torque the bolts.

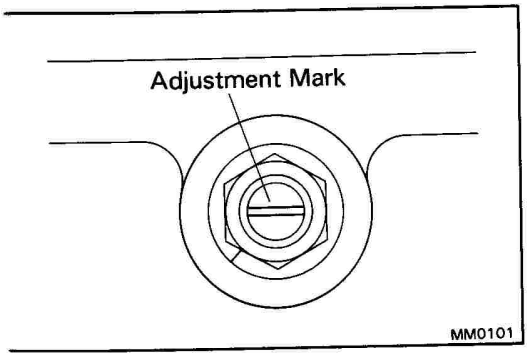
Torque: 195 kg-cm (14 ft-lb, 19 N·m)

27. INSTALL BACK-UP LIGHT SWITCH AND SPEEDOMETER DRIVEN GEAR

28. INSTALL CLUTCH HOUSING

Torque the bolts.

Torque: 650 kg-cm (47 ft-lb, 64 N·m)



MM0101

29. ADJUST REVERSE SHIFT ARM PIVOT POSITION

(a) Position the adjustment mark on the shift arm pivot end toward the front side as shown.

(b) If the select lever is catching on something, adjust by moving the position of the alignment mark within 60°.

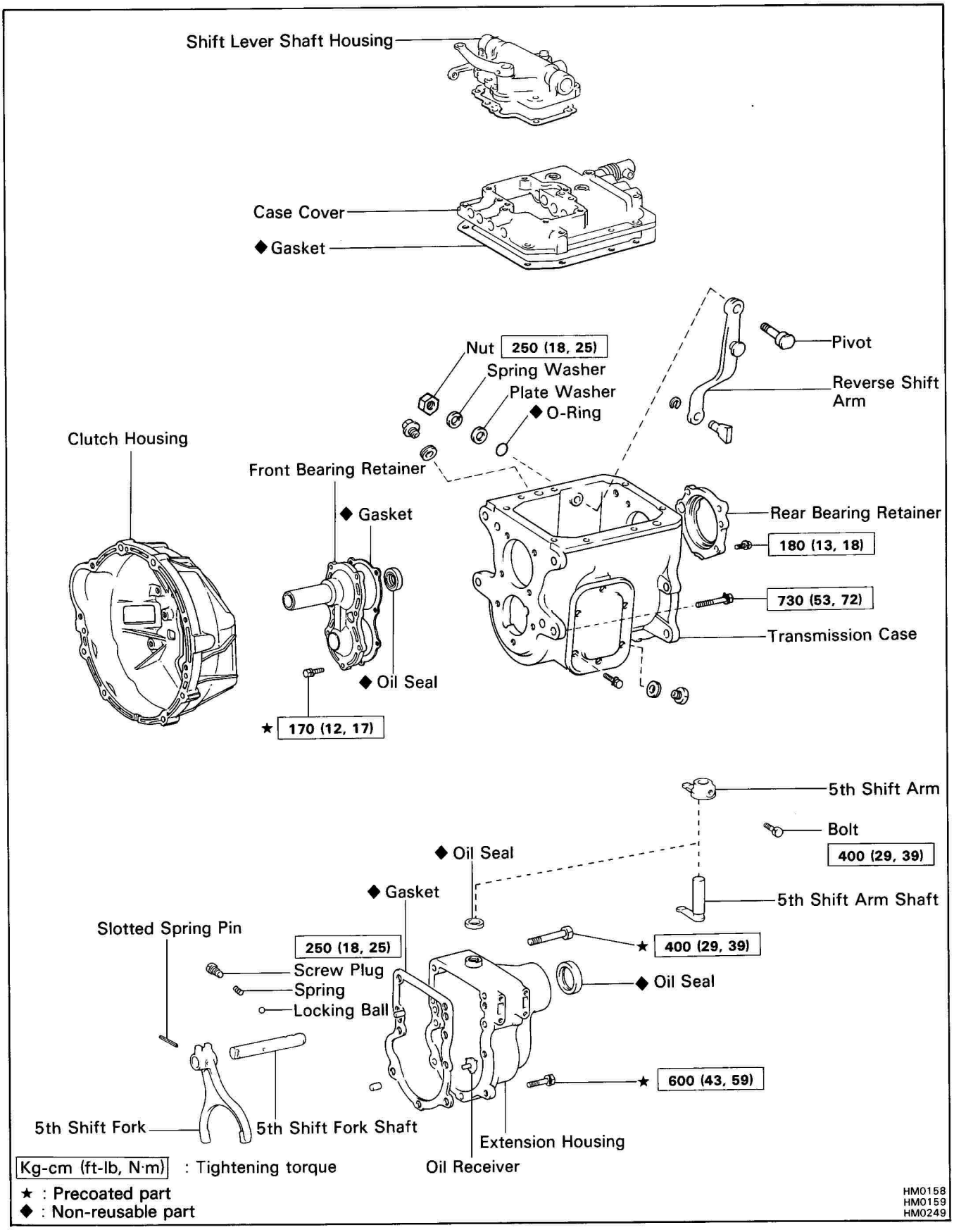
(c) Torque the nut.

Torque: 250 kg-cm (18 ft-lb, 25 N·m)

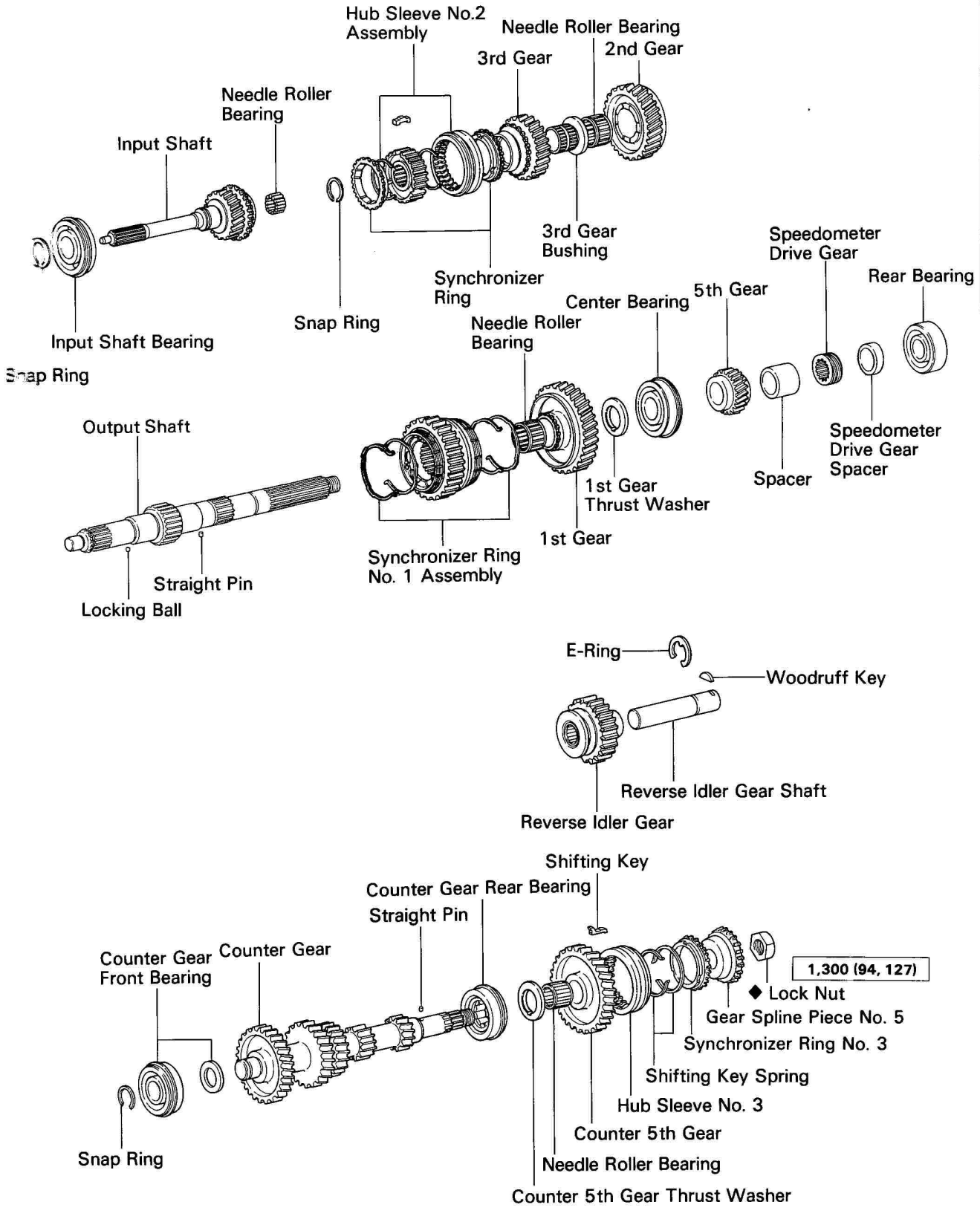
30. INSTALL RELEASE FORK AND HUB WITH BEARING

H50 TRANSMISSION

COMPONENTS



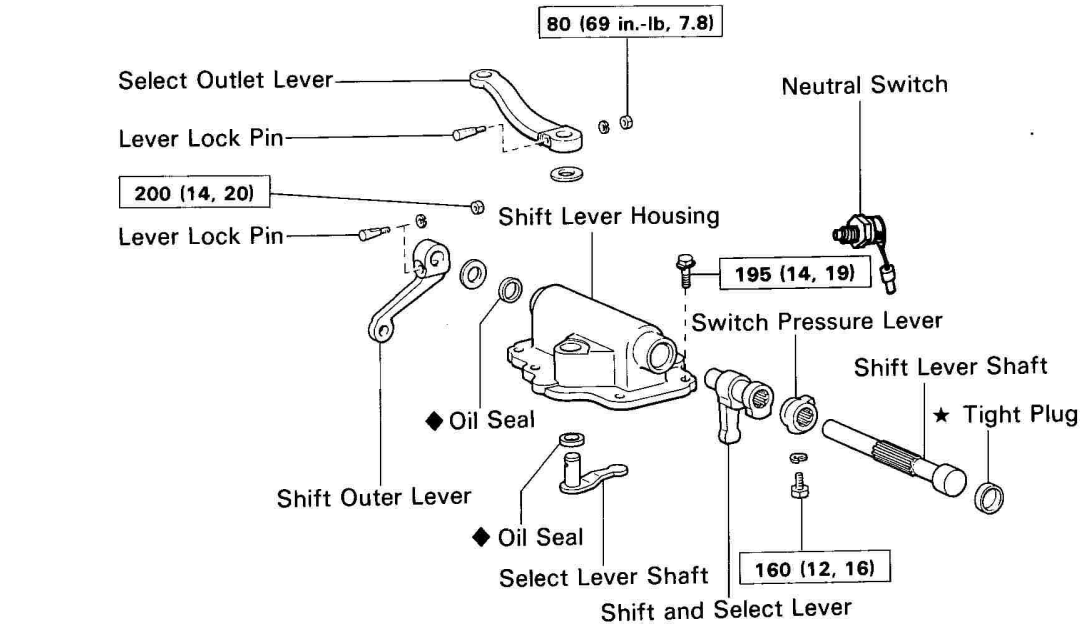
COMPONENTS (Cont'd)

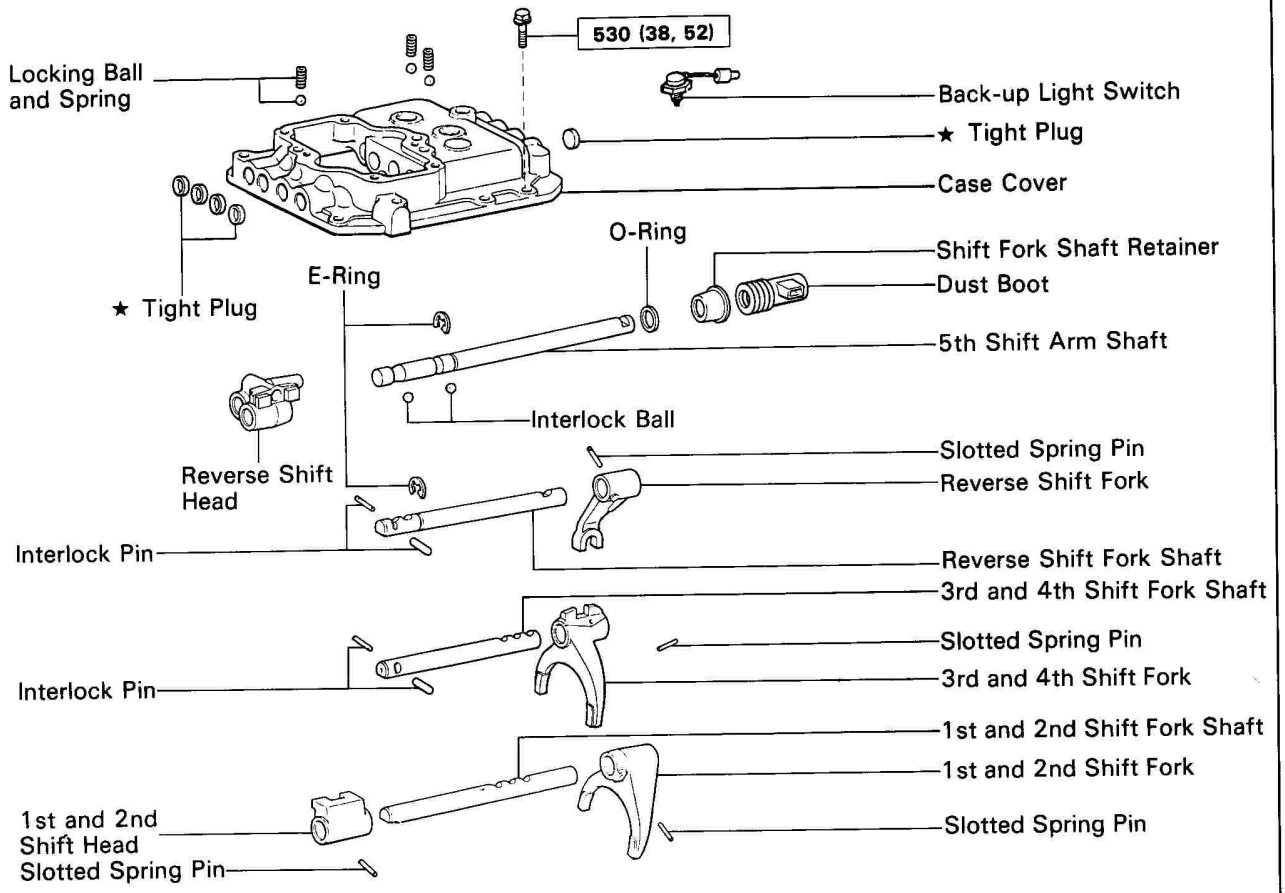


kg-cm (ft-lb, N·m) : Tightening torque

HM0162
HM0163

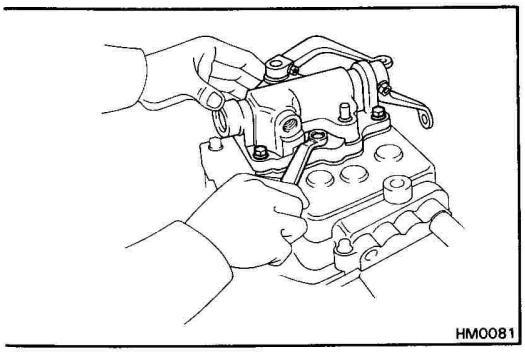
COMPONENTS (Cont'd)





kg-cm (ft-lb, N·m) : Tightening torque
★ : Precoated part
◆ : Non-reusable part

HM0164
HM0165


HM0081

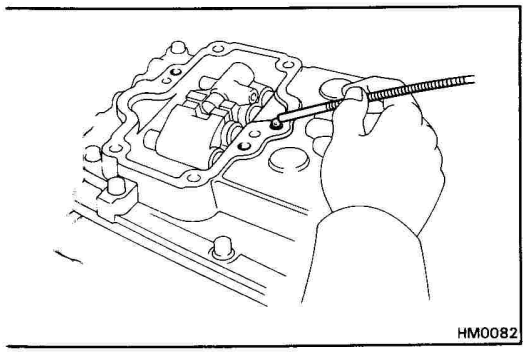
DISASSEMBLY OF TRANSMISSION

(See pages MT-36, 37)

1. **REMOVE NEUTRAL SWITCH, BACK-UP LIGHT SWITCH AND SPEEDOMETER DRIVEN GEAR**

2. **REMOVE RELEASE HUB WITH BEARING, FORK AND CLUTCH HOUSING**

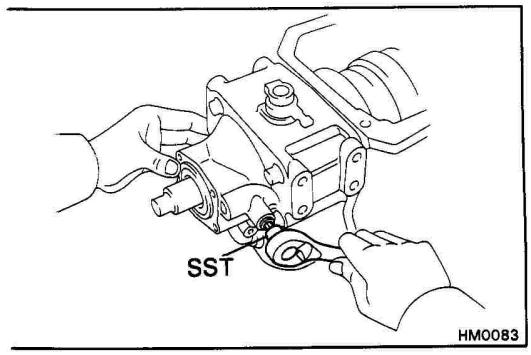
3. **REMOVE SHIFT LEVER SHAFT HOUSING**


HM0082

4. **REMOVE LOCKING BALLS AND SPRINGS**

   Using a magnetic finger, remove the springs and balls.

5. **REMOVE CASE COVER**



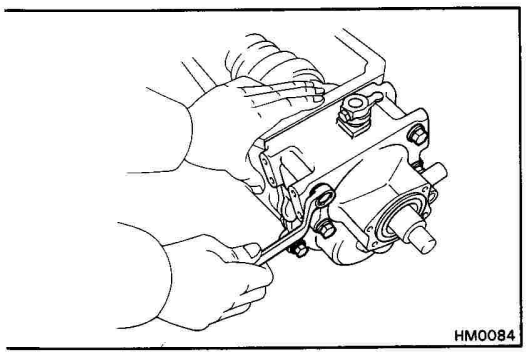
HM0083

6. **REMOVE FIFTH LOCKING BALL AND SPRING**

   (a) Using SST, remove the screw plug.

   SST 09313-30021

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

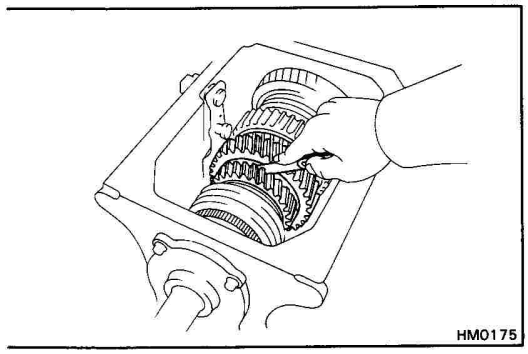

HM0084

7. **REMOVE EXTENSION HOUSING**

   (a) Remove the bolts.

   (b) Using a brass bar and hammer, carefully tap off the extension housing.

   (c) Pull up the 5th shift arm and pull the extension housing from the transmission case.


HM0175

8. **MEASURE EACH GEAR THRUST CLEARANCE**

   Using a feeler gauge, measure the thrust clearance of each gear.

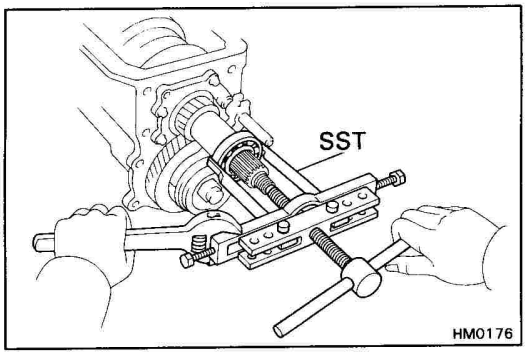
   NOTE: For later reference, write down the thrust clearance.

Standard clearance:

1st and 2nd gears	**0.175 — 0.325 mm (0.0069 — 0.0128 in.)**
3rd gear	**0.125 — 0.275 mm (0.0049 — 0.0108 in.)**
Counter 5th gear	**0.10 — 0.30 mm (0.0039 — 0.0118 in.)**

Maximum clearance:

1st and 2nd gears	**0.62 mm (0.0244 in.)**
3rd gear	**0.57 mm (0.0224 in.)**
Counter 5th gear	**0.60 mm (0.0236 in.)**

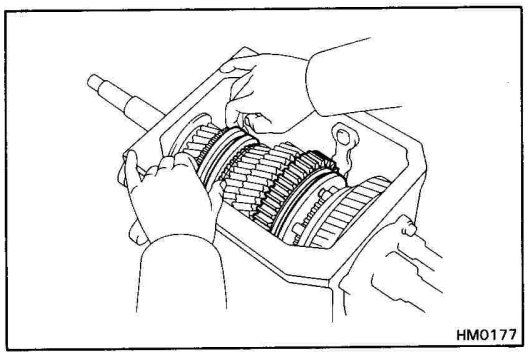


9. REMOVE OUTPUT SHAFT REAR BEARING

Using SST, remove the rear bearing.

SST 09950-20015

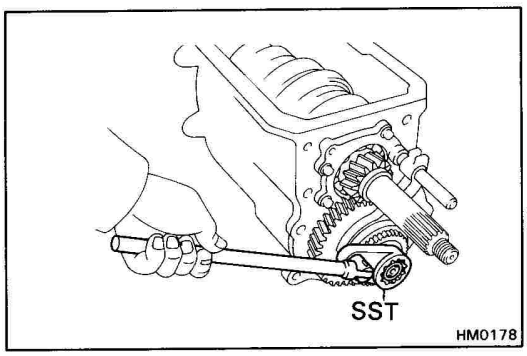
10. REMOVE SPACERS AND SPEEDOMETER DRIVE GEAR



11. REMOVE COUNTER GEAR REAR LOCK NUT

(a) Engage the gear double meshing.

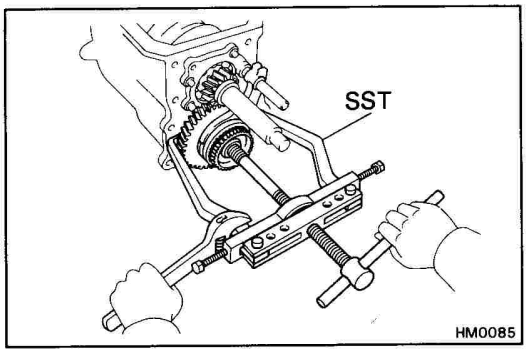
(b) Using a chisel and hammer, loosen the staked part of the nut.



(c) Using SST, remove the lock nut.

SST 09326-20011

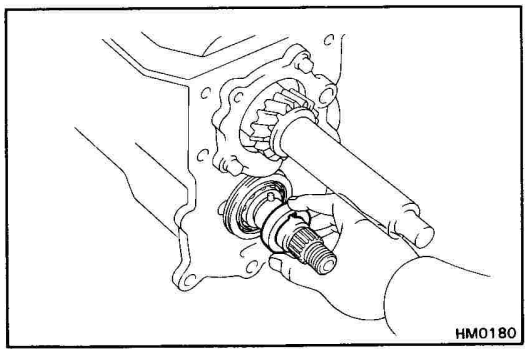
(d) Disengage the gear double meshing.



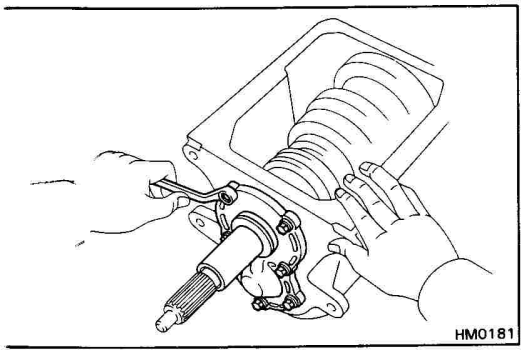
12. REMOVE GEAR SPLINE PIECE NO. 5, COUNTER FIFTH GEAR ASSEMBLY AND FIFTH SHIFT FORK

Using SST, pull the counter 5th gear out of the counter gear rear end with gear spline piece No. 5 and 5th shift fork.

SST 09950-20015

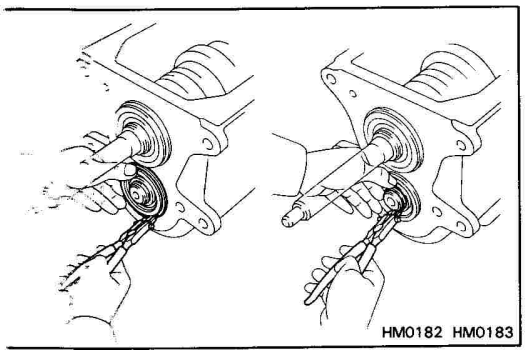


13. REMOVE STRAIGHT PIN AND COUNTER FIFTH GEAR THRUST WASHER


HM0181

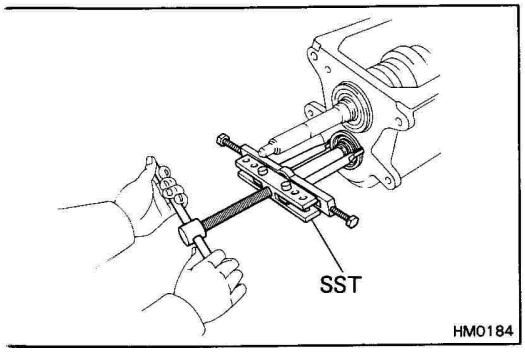
14. REMOVE FRONT BEARING RETAINER

NOTE: Be careful not to damage the oil seal.


HM0182 HM0183

15. REMOVE COUNTER GEAR FRONT BEARING

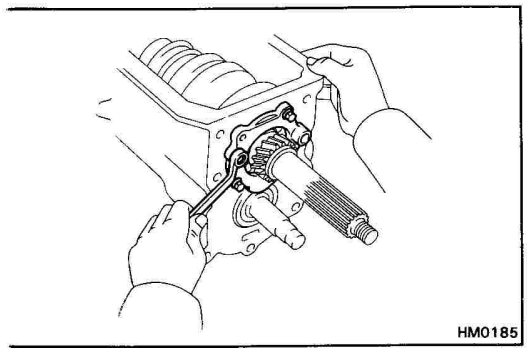
(a) Using snap ring pliers, remove the snap rings.



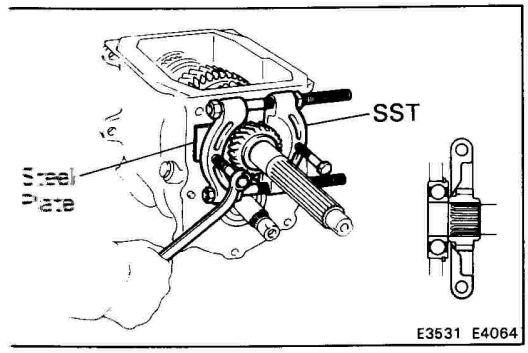
HM0184

(b) Using SST, remove the counter gear front bearing.

SST 09950-20015


HM0185

16. REMOVE REAR BEARING RETAINER



E3531 E4064

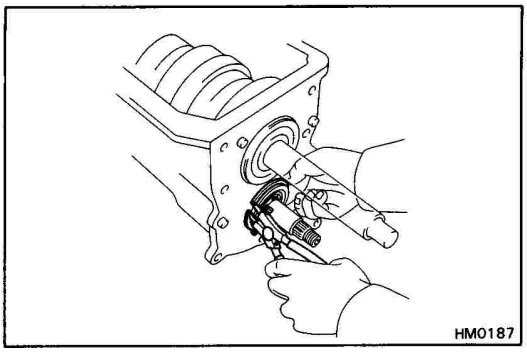
17. REMOVE FIFTH GEAR FROM OUTPUT SHAFT

Using SST and the two bolts, remove the 5th gear from the output shaft.

SST 09950-00020

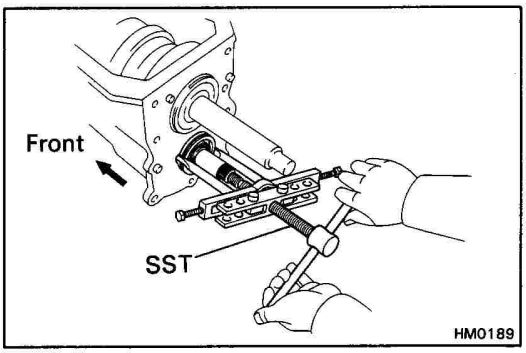
NOTE:

- Use steel plates etc. (approx. 2 mm thick) as a backplate to prevent the case from being damaged by the bolts.
- Tighten the two bolts evenly.
- Use bolts with a 12 mm nominal diameter, 1.5 pitch, and approx. 80 mm thread length.
  (Reference: Part No. 90101-12034)



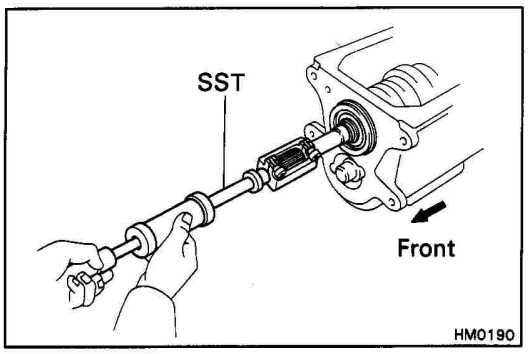
18. REMOVE COUNTER GEAR SHAFT REAR BEARING

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



(b) Using SST, remove the counter gear rear bearing.

SST 09950-20015



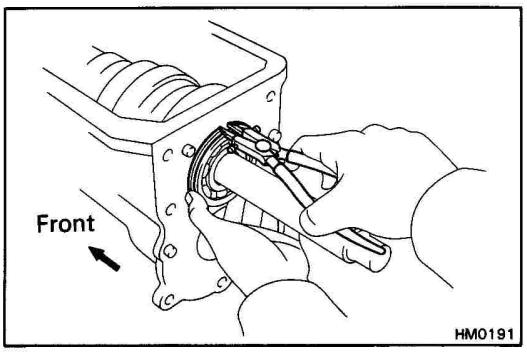
19. REMOVE INPUT SHAFT AND BEARING

(a) Using SST, remove the input shaft and bearing.

SST 09910-00015

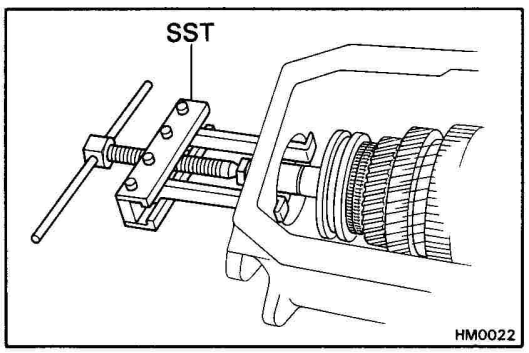
NOTE: Insure that the input shaft and counter gear do not strike against each other. Be careful not to lose the 17 needle roller bearings.

(b) Remove the synchronizer ring.



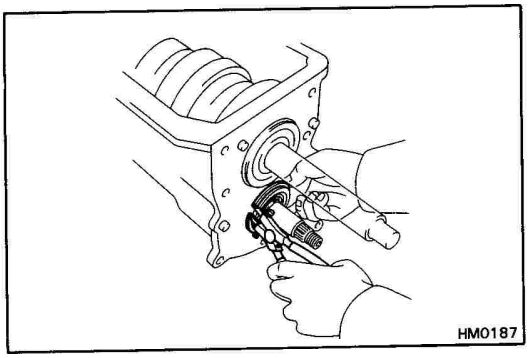
20. REMOVE OUTPUT SHAFT CENTER BEARING

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



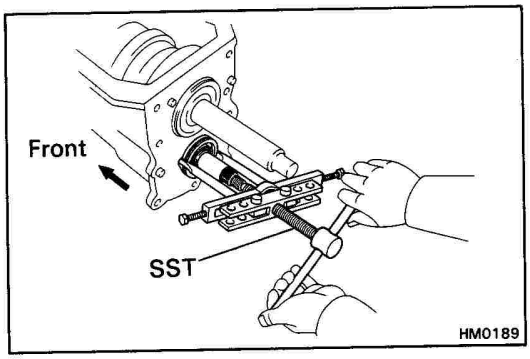
(b) Using SST, support the output shaft front end.

SST 09213-27010



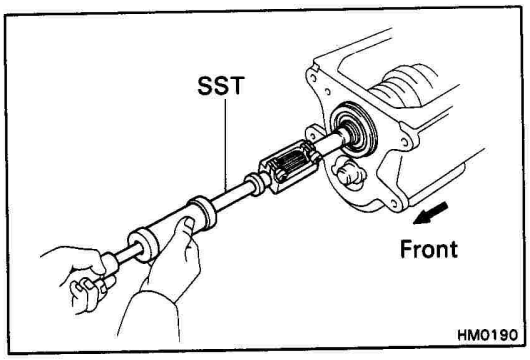
18. REMOVE COUNTER GEAR SHAFT REAR BEARING

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



(b) Using SST, remove the counter gear rear bearing.

SST 09950-20015



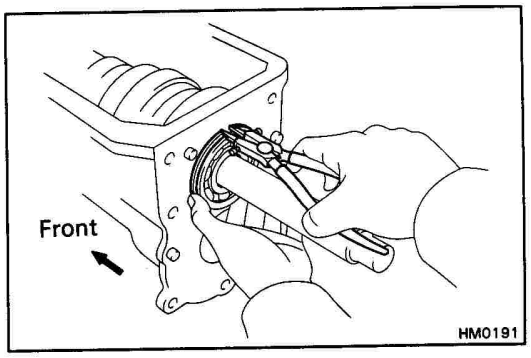
19. REMOVE INPUT SHAFT AND BEARING

(a) Using SST, remove the input shaft and bearing.

SST 09910-00015

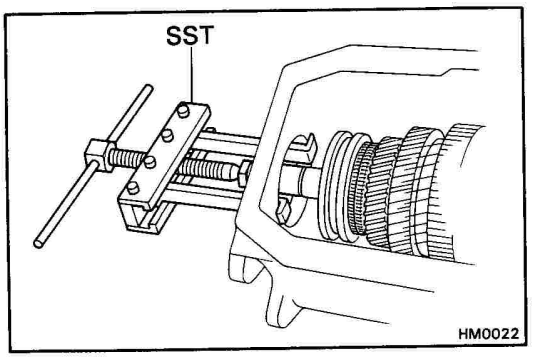
NOTE: Insure that the input shaft and counter gear do not strike against each other. Be careful not to lose the 17 needle roller bearings.

(b) Remove the synchronizer ring.



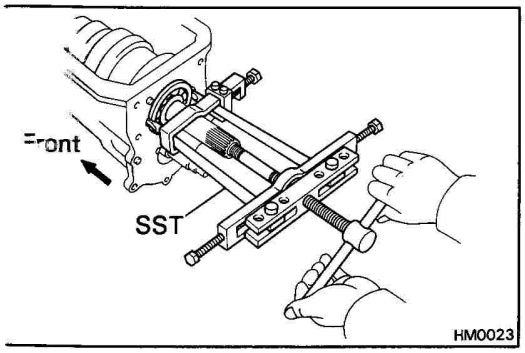
20. REMOVE OUTPUT SHAFT CENTER BEARING

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

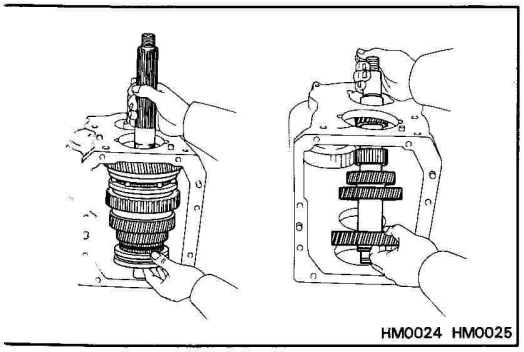


(b) Using SST, support the output shaft front end.

SST 09213-27010

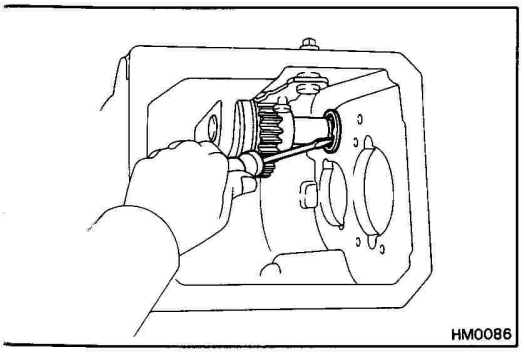


(c) Using SST, remove the center bearing.
SST 09950-20015



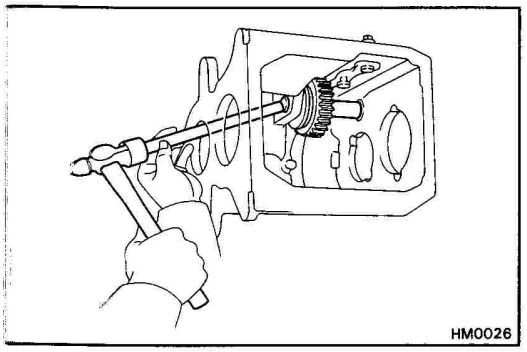
21. REMOVE OUTPUT SHAFT AND COUNTER GEAR

(a) Stand the transmission case on its front end.
(b) Remove the output shaft.
(c) Remove the counter gear.

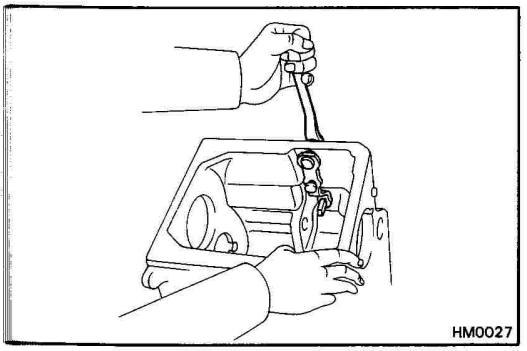


22. REMOVE REVERSE IDLER GEAR AND SHAFT

(a) Remove the E-ring from the shaft.



(b) Tap out the reverse idler gear shaft toward the rear.
(c) Remove the gear and the woodruff key.

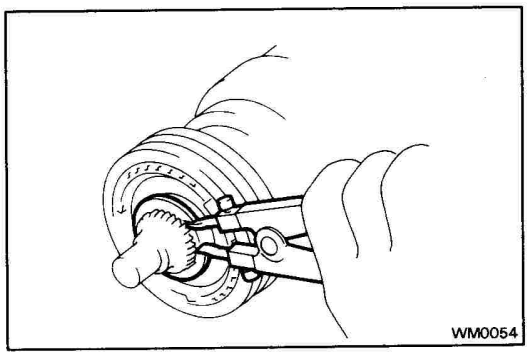


23. REMOVE REVERSE SHIFT ARM FROM TRANSMISSION CASE

Remove the nut, washers, O-ring, pivot arm and reverse shift arm.

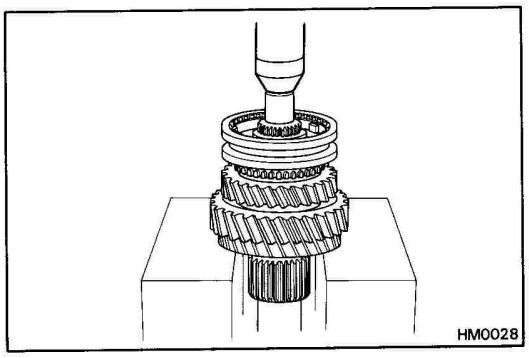
24. REMOVE FIRST GEAR THRUST WASHER, STRAIGHT PIN, FIRST GEAR AND NEEDLE ROLLER BEARING FROM OUTPUT SHAFT

25. REMOVE SYNCHRONIZER RING NO. 1 ASSEMBLY FROM OUTPUT SHAFT

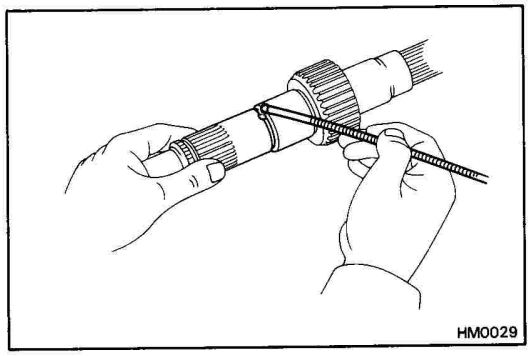


26. REMOVE HUB SLEEVE NO. 2 ASSEMBLY, SYNCHRONIZER RING, THIRD GEAR, THIRD GEAR BUSHING, NEEDLE ROLLER BEARING AND SECOND GEAR

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

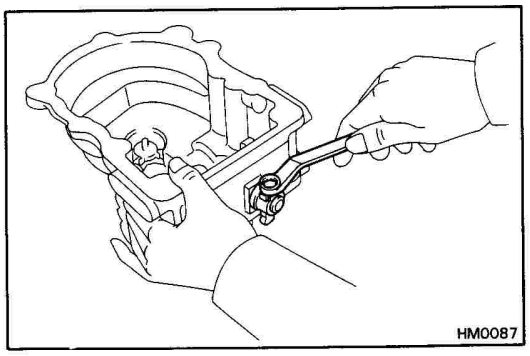


(b) Using a press, remove the hub sleeve No. 2 assembly, synchronizer ring, 3rd gear, 3rd gear bushing, needle roller bearing and 2nd gear.



27. REMOVE LOCKING BALL

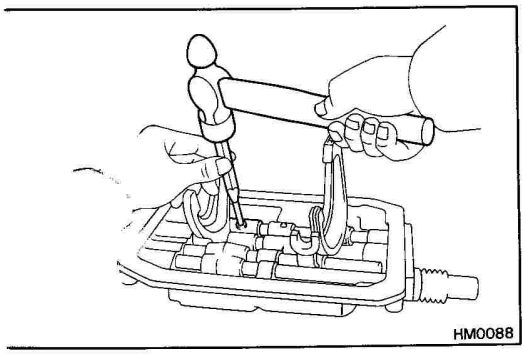
Using a magnetic finger, remove the locking ball.



28. REMOVE FIFTH SHIFT ARM AND SHAFT

(a) Remove the bolt.

(b) Remove the 5th shift arm and shaft.


HM0088

DISASSEMBLY OF CASE COVER ASSEMBLY

(See page MT-38)

1. REMOVE FIRST AND SECOND SHIFT FORK SHAFT, SHIFT HEAD AND SHIFT FORK

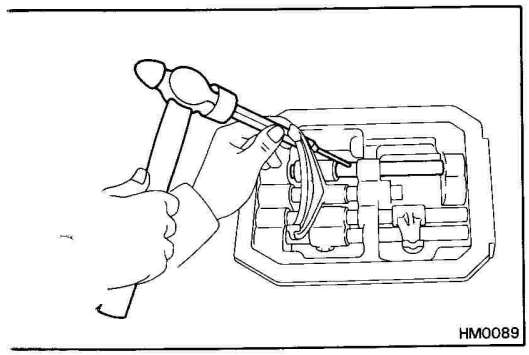
CAUTION: When removing the shaft, place each shift fork into neutral position and release the interlock pin.

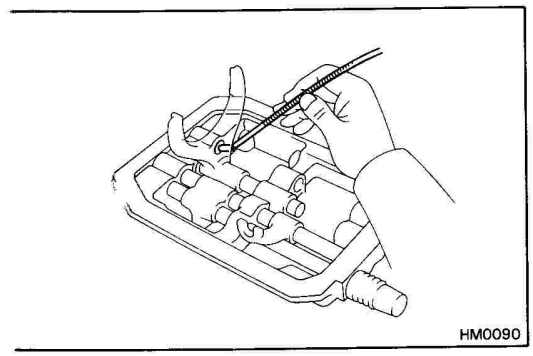
(a) Using a pin punch and hammer, drive out the slotted spring pins from the shift head and shift fork.

NOTE: When driving out the slotted spring pins, tilt the fork so the pins do not make contact with the case cover.

(b) Using a pin punch and hammer, drive out the shift fork shaft and tight plug.

(c) Remove the shift head and shift fork.

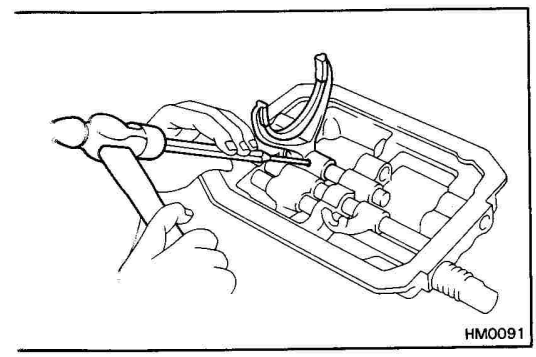

HM0089

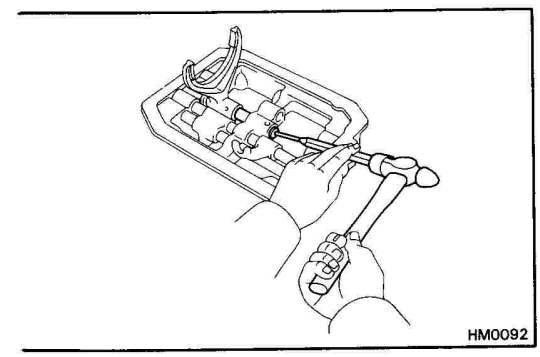

HM0090

(d) Using a magnetic finger, remove the interlock pin from the case cover.

2. REMOVE THIRD AND FOURTH SHIFT FORK AND SHAFT

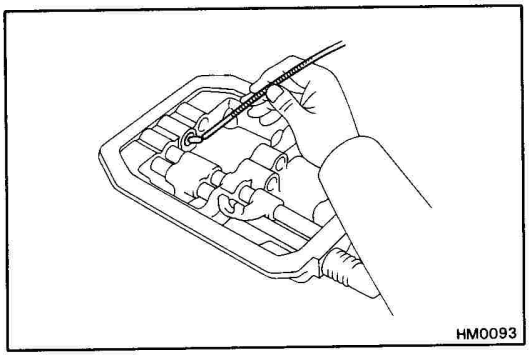
(a) Using a pin punch and hammer, drive out the slotted spring pin.


HM0091

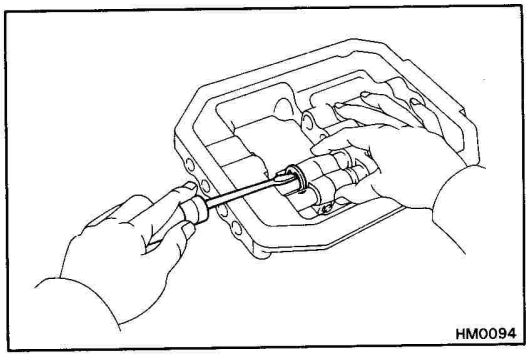

HM0092

(b) Using a pin punch and hammer, drive out the shift fork shaft, small interlock pin and tight plug.

(c) Remove the shift fork.

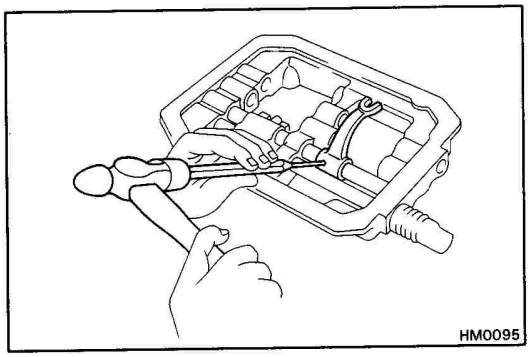


(d) Using a magnetic finger, remove the interlock pin from the case cover.

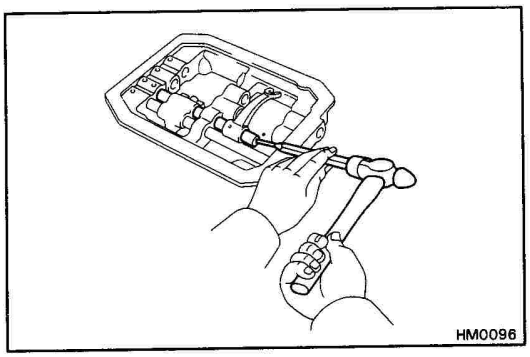


3. REMOVE REVERSE SHIFT FORK AND SHAFT

(a) Using a screwdriver, remove the E-ring from the reverse shift fork shaft.

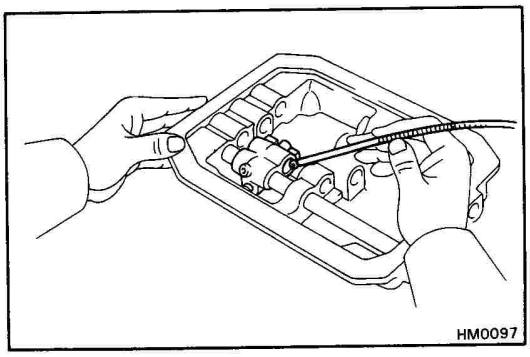


(b) Using a pin punch and hammer, drive out the slotted spring pin from the shift fork.

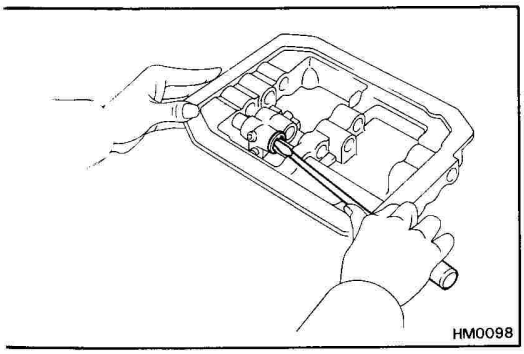


(c) Using a pin punch and hammer, drive out the shift fork shaft, small interlock pin and tight plug.

(d) Remove the shift fork.



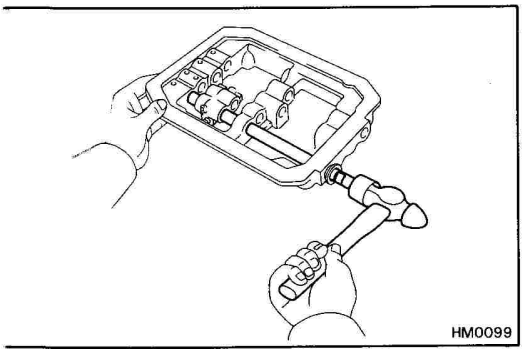
(e) Using a magnetic finger, remove the interlock balls from the case cover and reverse shift head.


HM0098

4. REMOVE FIFTH SHIFT ARM SHAFT

(a) Remove the dust boot.

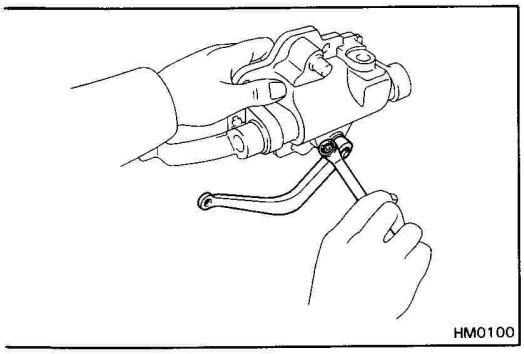
(b) Remove the E-ring


HM0099

(c) Drive out the 5th shift arm shaft and tight plug.

(d) Remove the reverse shift head.

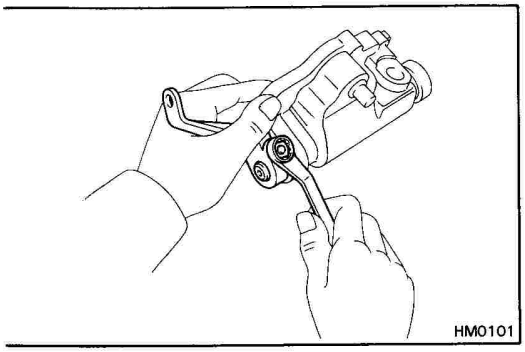
(e) Remove the shift fork shaft retainer and O-ring.


HM0100

5. REMOVE SELECT LEVER SHAFT

(a) Remove the lock pin on the select outer lever.

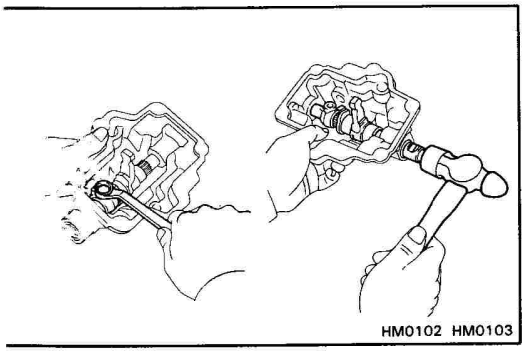
(b) Remover the select outer lever, washer and select lever shaft.


HM0101

6. REMOVE SHIFT LEVER SHAFT

(a) Remove the lock pin on the shift outer lever.

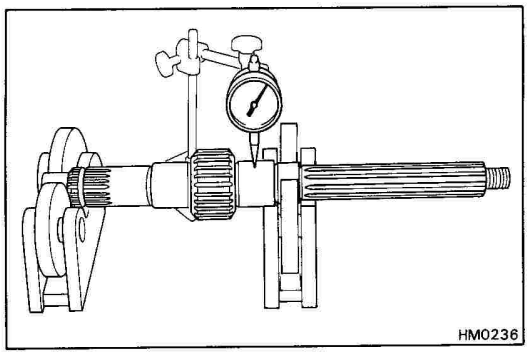
(b) Remove the shift outer lever and washer.


HM0102 HM0103

(c) Remove the bolt.

(d) Drive out the shift lever shaft and tight plug.

(e) Remove the switch pressure lever and shift and select lever.

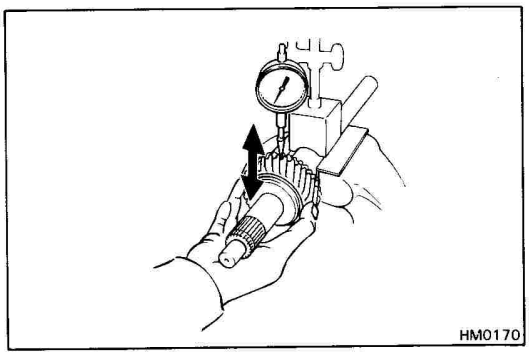

HM0236

INSPECTION OF TRANSMISSION COMPONENTS

1. INSPECT OUTPUT SHAFT

Using a dial indicator, measure the shaft runout.

Maximum runout: 0.06 mm (0.0024 in)


HM0170

2. INSPECT OIL CLEARANCE OF FIRST, SECOND AND COUNTER FIFTH GEARS

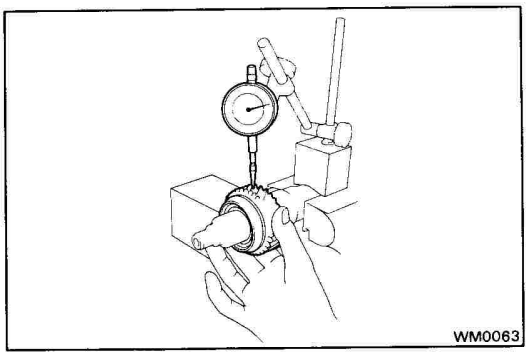
Using a dial indicator, measure the oil clearance between the gear and shaft with the needle roller bearing installed.

Standard clearance:

1st and 2nd gears	**0.020 –0.073 mm (0.0008 – 0.0029 in.)**
Counter 5th gear	**0.015 – 0.068 mm (0.0006 – 0.0027 in.)**

Maximum clearance:

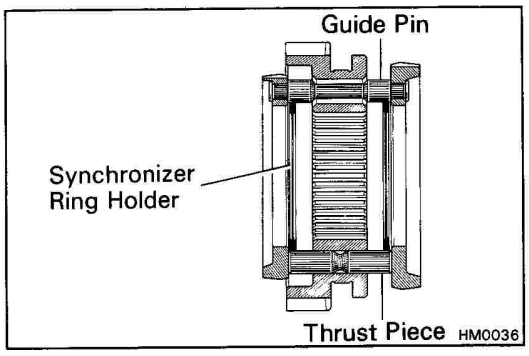
1st and 2nd gears	**0.17 mm (0.0067 in.)**
Counter 5th gear	**0.16 mm (0.0063 in.)**


WM0063

3. INSPECT OIL CLEARANCE OF THIRD GEAR

Using a dial indicator, measure the oil clearance between the gear and bushing.

Standard clearance:	**0.065 – 0.115 mm (0.0026 – 0.0045 in.)**
Maximum clearance:	**0.21 mm (0.0083 in)**



HM0036

4. INSPECT SYNCHRONIZER RINGS OF FIRST AND SECOND GEARS

(a) Check the inner spline for wear or damage.

(b) Check the raised portion of the guide pins for wear or damage.

(c) Check the thrust pieces and gear moving parts for wear or damage.

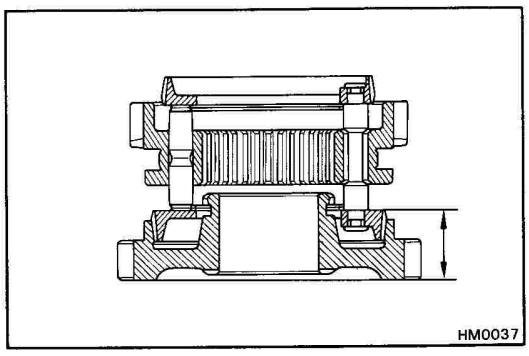
(d) Check the guide pin rivet staked parts for play or damage.

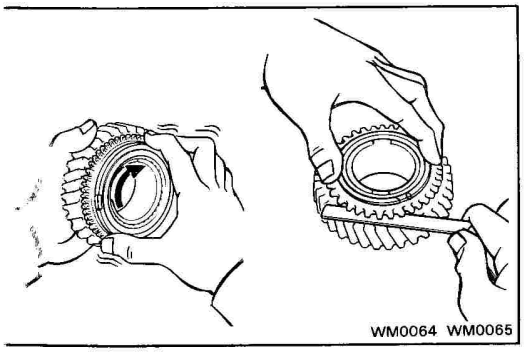
(e) Check the synchronizer ring holders for deterioration or wear.

(f) With the synchronizer ring pressed into the gear, measure the distance as shown.

Minimum distance:

1st gear	**32.5 mm (1.280 in.)**
2nd gear	**38.0 mm (1.496 in.)**


HM0037


WM0064 WM0065

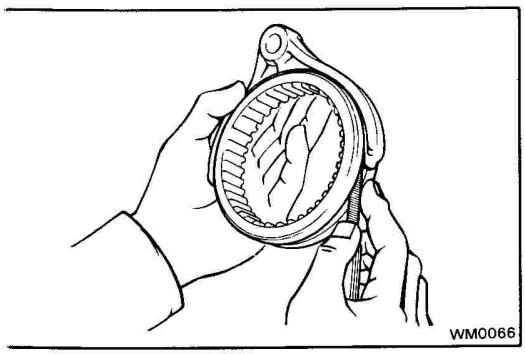
5. INSPECT SYNCHRONIZER RINGS OF THIRD GEAR, INPUT SHAFT AND GEAR SPLINE PIECE NO.5

(a) Check the synchronizer rings for wear or damage.

(b) Turn the ring and push it in to check the braking action.

(c) Measure the clearance between the synchronizer ring back and the gear spline end.

Standard clearance: 1.1 – 1.9 mm (0.043 – 0.075 in.)
Minimum clearance: 0.9 mm (0.035 in.)

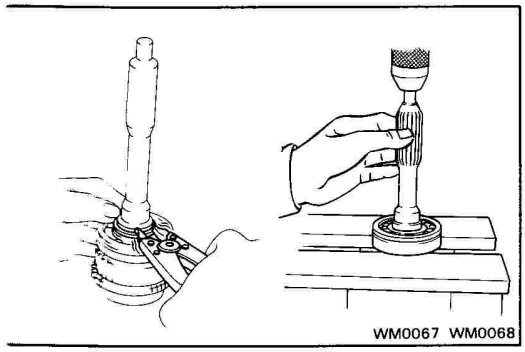

WM0066

6. INSPECT SHIFT FORKS AND HUB SLEEVES

(a) Check the contact surface for wear or damage.

(b) Measure the clearance between the hub sleeve and the shift fork.

Maximum clearance: 0.8 mm (0.031 in.)


WM0067 WM0068

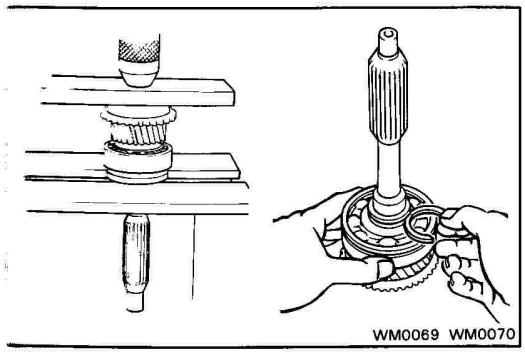
7. INSPECT INPUT SHAFT AND BEARING

Check for wear or damage.

8. IF NECESSARY, REPLACE INPUT SHAFT BEARING

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

(b) Using a press, remove the bearing.


WM0069 WM0070

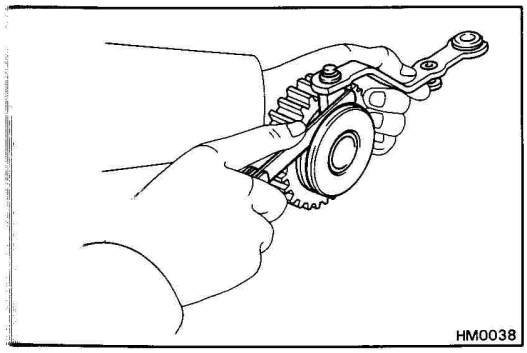
(c) Using a press, install the bearing.

CAUTION: Do not press in the bearing outer race.

(d) Select a snap ring that will allow minimum axial play and install it on the shaft.

Standard play: 0 – 0.10 mm (0 – 0.0039 in.)

Thickness	mm (in.)
3.20 – 3.31	(0.1260 – 0.1303)
3.31 – 3.42	(0.1303 – 0.1346)

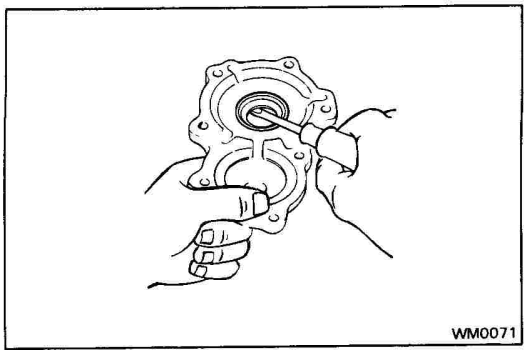

HM0038

9. INSPECT REVERSE SHIFT ARM AND REVERSE IDLER GEAR

(a) Check for wear or damage.

(b) Measure the clearance between the shift arm shoe and idler gear groove.

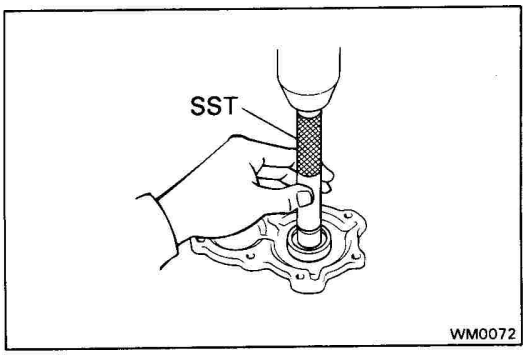
Maximum clearance: 0.8 mm (0.031 in.)


WM0071

10. INSPECT FRONT BEARING RETAINER

(a) Check for damage.

(b) Check the oil seal for wear or damage.



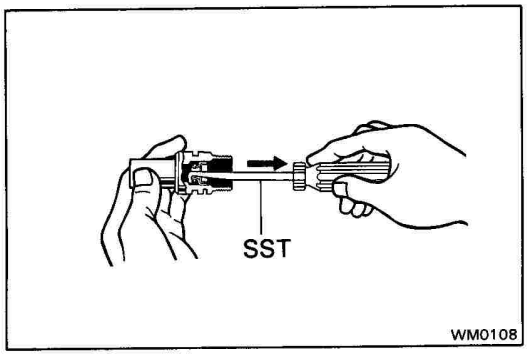
WM0072

11. IF NECESSARY, REPLACE FRONT BEARING RETAINER OIL SEAL

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

(b) Using SST, press in a new oil seal.

SST 09608-12010

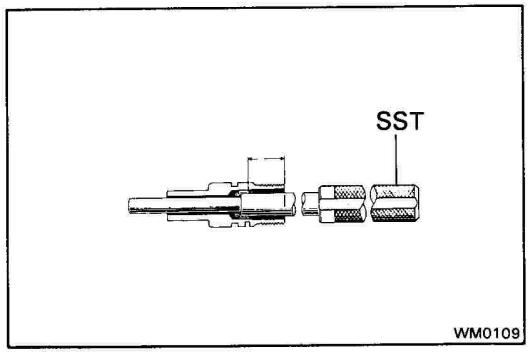


WM0108

12. IF NECESSARY, REPLACE SPEEDOMETER DRIVEN GEAR OIL SEAL

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

SST 09921-00010

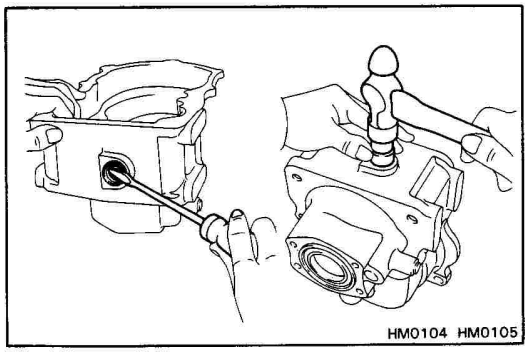


WM0109

(b) Using SST, drive in a new oil seal.

SST 09201-60011

Drive in depth: 19.7 – 20.3 mm (0.776 – 0.799 in.)


HM0104 HM0105

13. INSPECT EXTENSION HOUSING

(a) Check for damage.

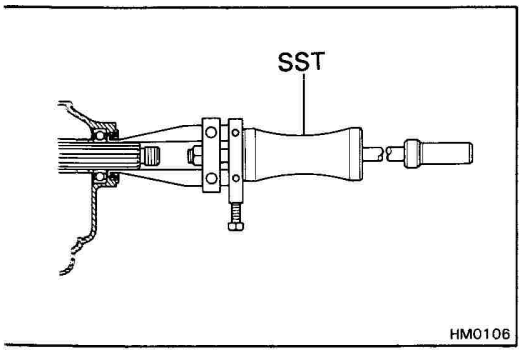
(b) Check the oil seals for wear or damage.

14. IF NECESSARY, REPLACE FIFTH SHIFT ARM SHAFT OIL SEAL

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

(b) Using a socket wrench, drive in a new oil seal.

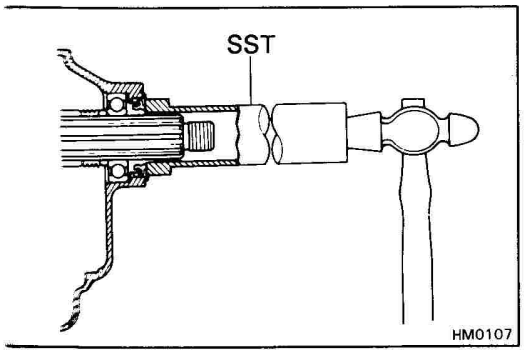
Drive in depth: 1.0 mm (0.039 in.)



15. IF NECESSARY, REPLACE REAR OIL SEAL

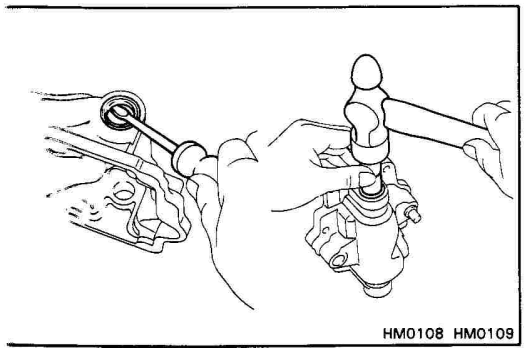
(a) Using SST, remove the oil seal.

SST 09308-00010



(b) Using SST, drive in a new oil seal.

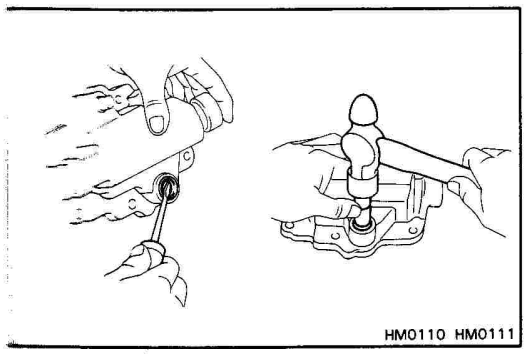
SST 09316-60010



16. IF NECESSARY, REPLACE SHIFT LEVER SHAFT OIL SEAL

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

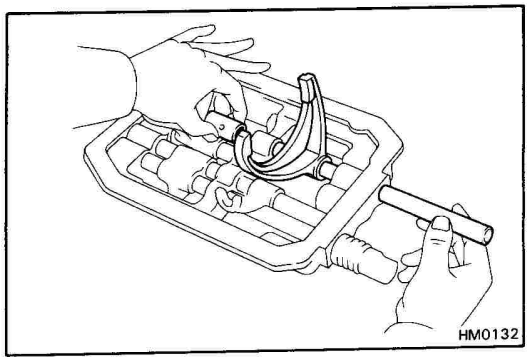
(b) Using a socket wrench, drive in a new oil seal.



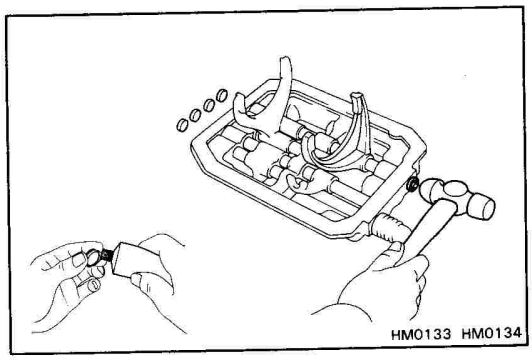
17. IF NECESSARY, REPLACE SELECT LEVER SHAFT OIL SEAL

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

(b) Using a socket wrench, drive in a new oil seal.



(c) Put the shift head and shift fork into the case cover and install the fork shaft into the case cover through the shift head and shift fork.

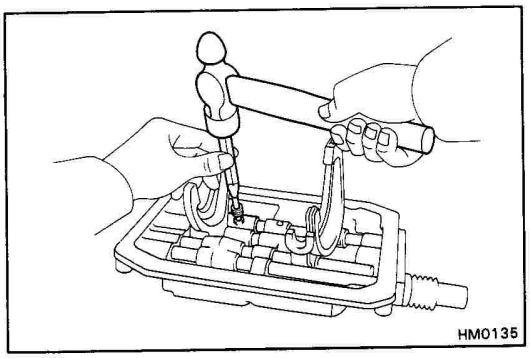


5. INSTALL TIGHT PLUGS

(a) Apply liquid sealer to the tight plugs.

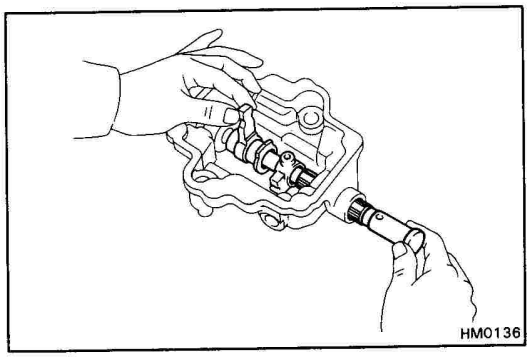
(b) Drive in the tight plugs.

Drive in depth: 1 −2 mm (0.04 − 0.08 in.)



6. INSTALL SLOTTED SPRING PINS

Using a pin punch and hammer, drive in the slotted spring pins.

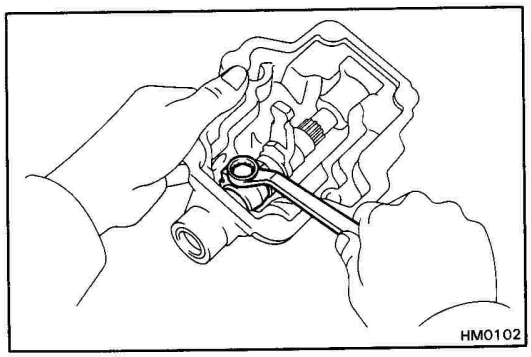


7. INSTALL SHIFT LEVER SHAFT

(a) Apply MP grease to the oil seal.

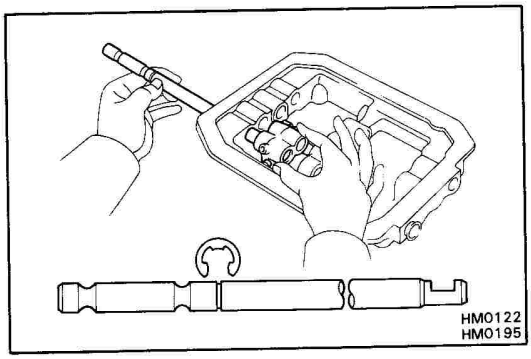
(b) Put the shift and select lever and pressure switch lever into the shift lever housing.

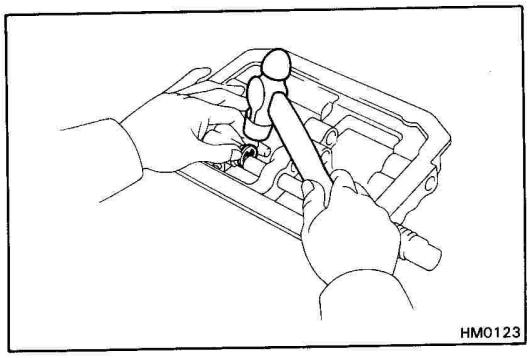
(c) Install the shift lever shaft into the shift and select lever and pressure switch lever through the shift lever shaft housing.

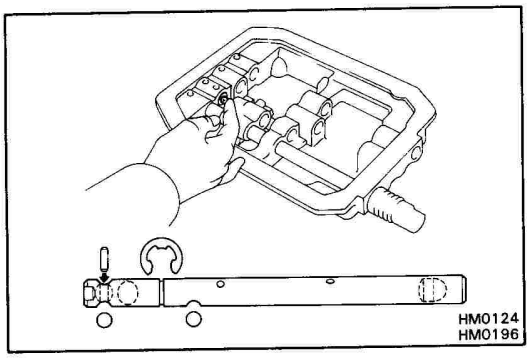


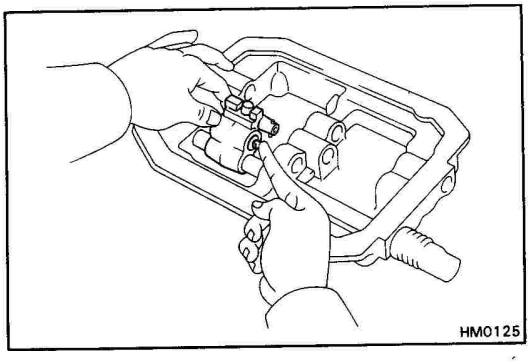
(d) Install and torque the bolt.

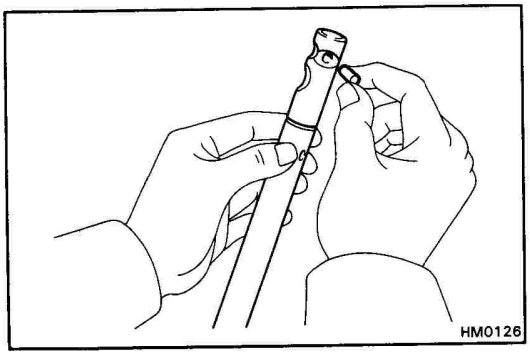
Torque: 160 kg-cm (12 ft-lb, 16 N·m)











ASSEMBLY OF CASE COVER ASSEMBLY

(See page MT-38)

1. INSTALL FIFTH SHIFT FORK SHAFT

(a) Install the O-ring and shift fork shaft retainer.

(b) Put the reverse shift head into the case cover.

(c) Install the 5th shift fork shaft into the reverse shift head through the case cover.

(d) Install the E-ring.

(e) Install the dust boot.

2. INSTALL REVERSE SHIFT FORK AND SHAFT

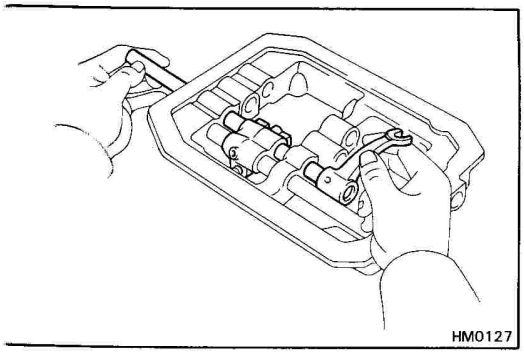
(a) Apply MP grease to the interlock.

(b) Install the interlock ball into the case cover.

(c) Install the interlock ball into the reverse shift head.

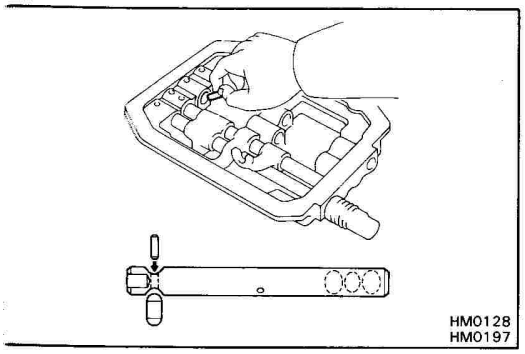
(d) Apply MP grease to the interlock pin.

(e) Install the small interlock pin into the fork shaft hole.


HM0127

(f) Put the reverse shift fork into the case cover and install the fork shaft into the shift fork and reverse shift head through the case cover.

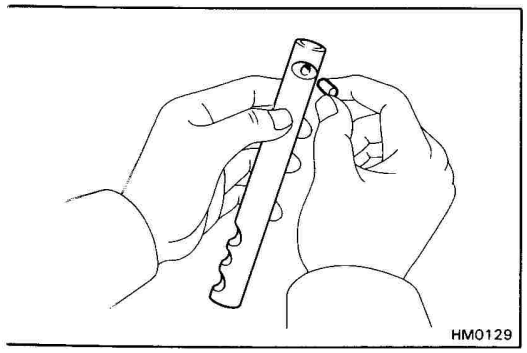
(g) Install the E-ring


HM0128
HM0197

3. INSTALL THIRD AND FOURTH SHIFT FORK AND SHAFT

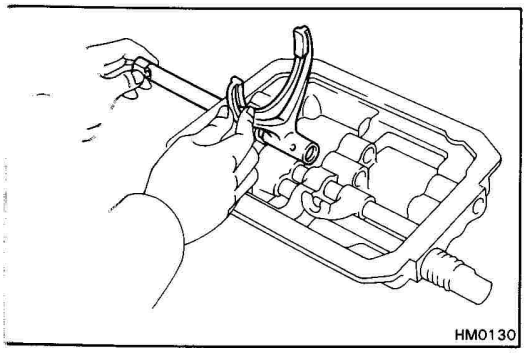
(a) Apply MP grease to the interlock pin.

(b) Install the interlock pin into the case cover.

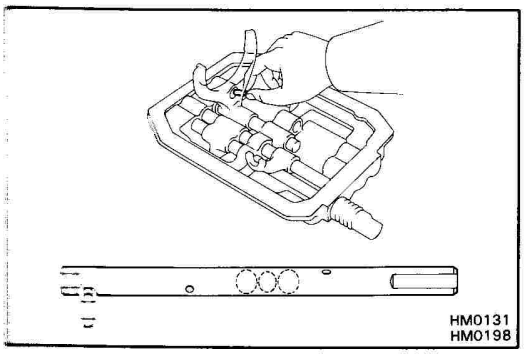

HM0129

(c) Apply MP grease to the small interlock pin.

(d) Install the small interlock pin into the fork shaft hole.


HM0130

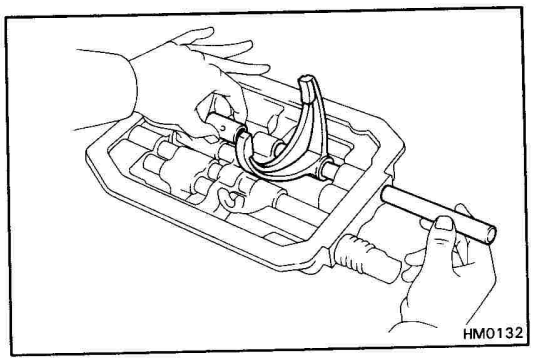
(e) Put the 3rd and 4th shift fork into the case cover and install the fork shaft into the case cover through the shift fork.


HM0131
HM0198

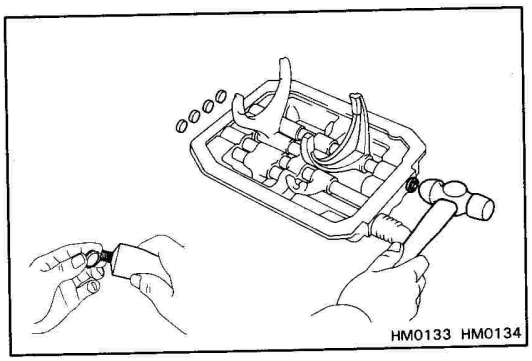
4. INSTALL FIRST AND SECOND SHIFT FORK SHAFT, SHIFT HEAD AND SHIFT FORK

(a) Apply MP grease to the interlock pin.

(b) Install the interlock pin into the case cover.


HM0132

(c) Put the shift head and shift fork into the case cover and install the fork shaft into the case cover through the shift head and shift fork.

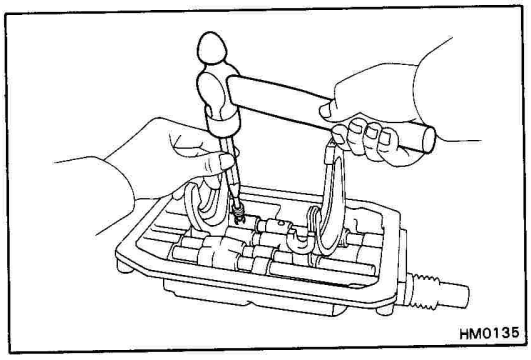

HM0133 HM0134

5. INSTALL TIGHT PLUGS

(a) Apply liquid sealer to the tight plugs.

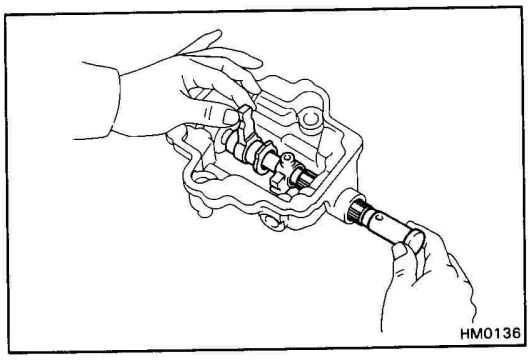
(b) Drive in the tight plugs.

Drive in depth: 1 −2 mm (0.04 − 0.08 in.)


HM0135

6. INSTALL SLOTTED SPRING PINS

Using a pin punch and hammer, drive in the slotted spring pins.

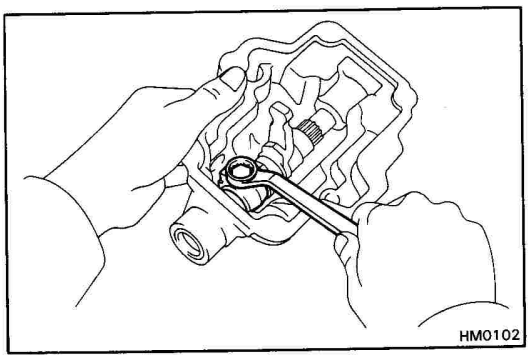

HM0136

7. INSTALL SHIFT LEVER SHAFT

(a) Apply MP grease to the oil seal.

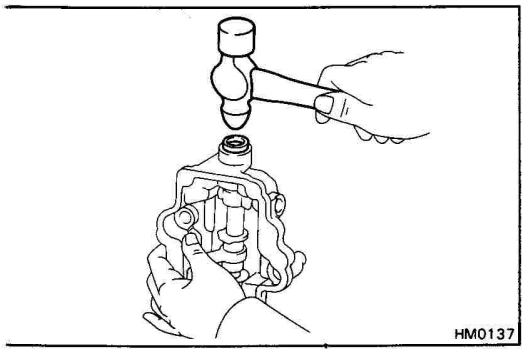
(b) Put the shift and select lever and pressure switch lever into the shift lever housing.

(c) Install the shift lever shaft into the shift and select lever and pressure switch lever through the shift lever shaft housing.


HM0102

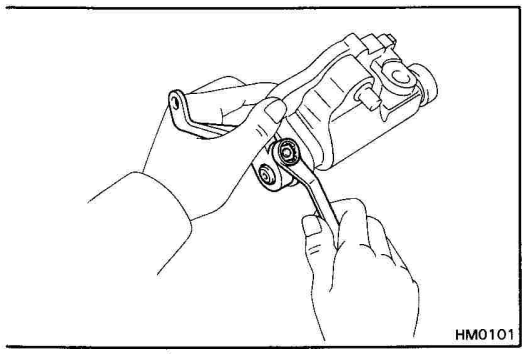
(d) Install and torque the bolt.

Torque: 160 kg-cm (12 ft-lb, 16 N·m)



(e) Apply liquid sealer to the tight plug and drive in it.

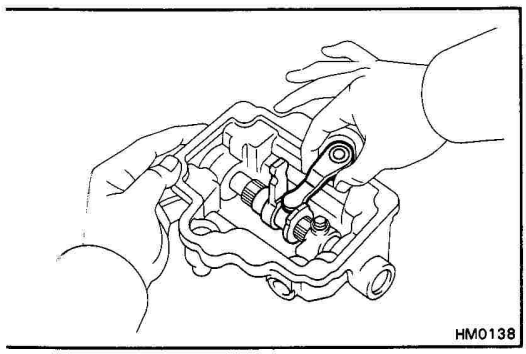
Drive in depth: 1.0 – 2.8 mm from shift lever shaft (0.039 – 0.110 in.)



(f) Install the washer and shift outer lever.

(g) Install the lock pin and nut.

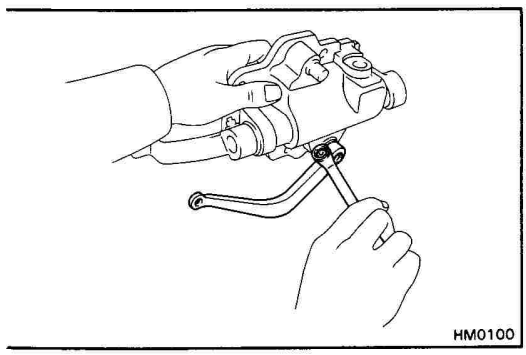
Torque: 200 kg-cm (14 ft-lb, 20 N·m)



8. INSTALL SELECT LEVER SHAFT

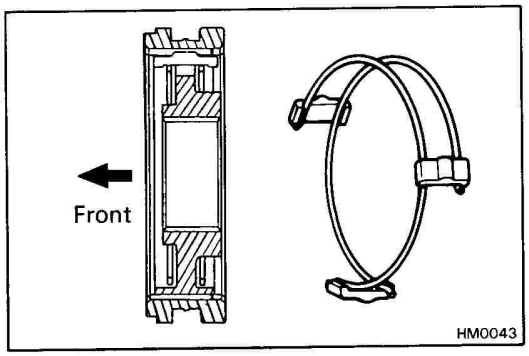
(a) Apply MP grease to the oil seal.

(b) Install the select lever shaft, washer and select outer lever.



(c) Install the lock pin and nut.

Torque: 80 kg-cm (69 in.-lb, 7.8 N·m)



ASSEMBLY OF TRANSMISSION

(See pages MT-36, 37)

1. INSERT CLUTCH HUB NO.2 INTO HUB SLEEVE

(a) Install the clutch hub and shifting keys to the hub sleeve.

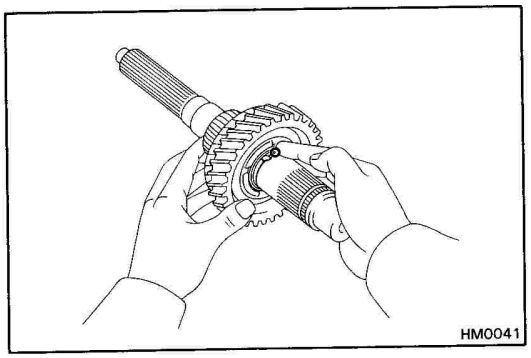
(b) Install the shifting key springs under the shifting keys.

CAUTION: Install the key springs positioned so that their ends are not in line.

2. INSTALL SECOND GEAR AND NEEDLE ROLLER BEARING

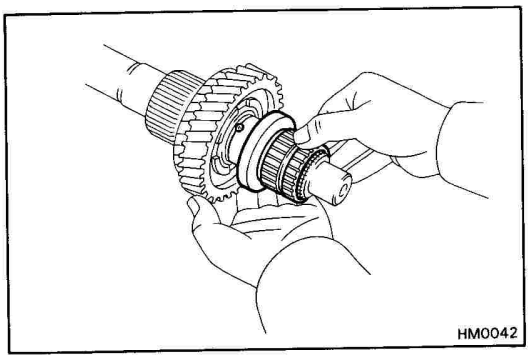
(a) Apply gear oil to the output shaft.

(b) Install the needle roller bearing and 2nd gear.



3. INSTALL LOCKING BALL, BUSHING AND THIRD GEAR

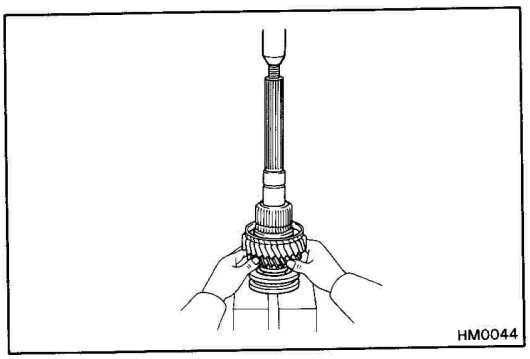
(a) Install the locking ball in the shaft.



(b) Install the bushing on the output shaft and align the bushing notch and locking ball.

(c) Apply gear oil to the bushing.

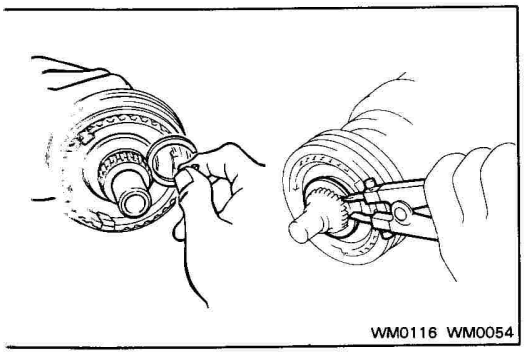
(d) Install the 3rd gear on the bushing.

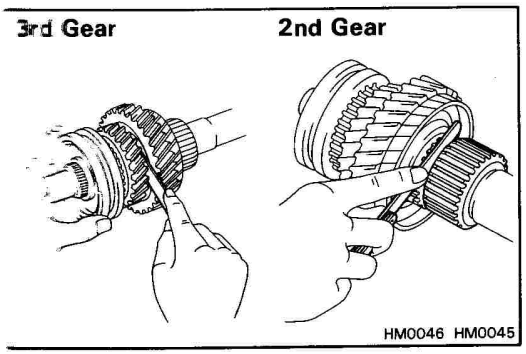


4. INSTALL HUB SLEEVE NO. 2 ASSEMBLY

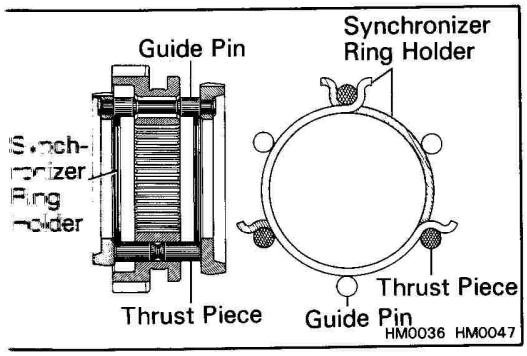
Using a press, install the hub sleeve No. 2 assembly.

CAUTION: Hold the 3rd gear to prevent the bushing from falling. Be sure that the shifting keys align with the synchronizer ring slots.

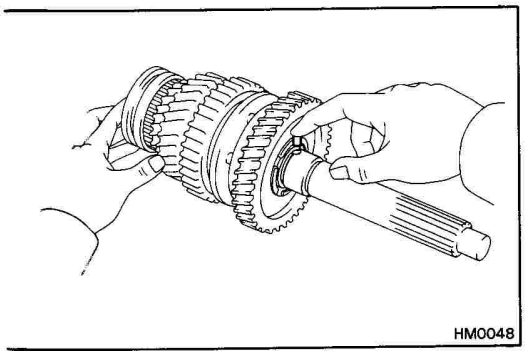

WM0116 WM0054

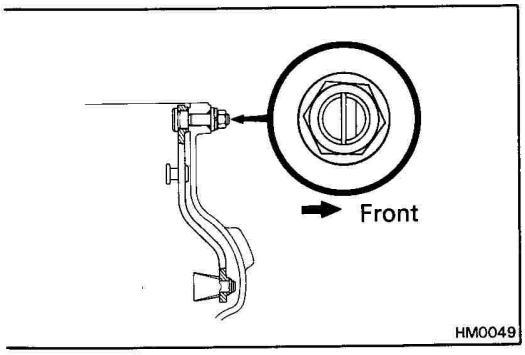


HM0046 HM0045



HM0036 HM0047


HM0048



HM0049

5. INSTALL SNAP RING

Select a snap ring that will allow minimum axial play and install it on the shaft.

Mark	Thickness	mm (in.)
0	2.40 – 2.45	(0.0945 – 0.0965)
1	2.45 – 2.50	(0.0965 – 0.0984)
2	2.50 – 2.55	(0.0984 – 0.1004)
3	2.55 – 2.60	(0.1004 – 0.1024)
4	2.60 – 2.65	(0.1024 – 0.1043)
5	2.65 – 2.70	(0.1043 – 0.1063)

6. MEASURE SECOND AND THIRD GEARS THRUST CLEARANCE

Using a feeler gauge, measure the 2nd and 3rd gear thrust clearances.

Standard clearance:

2nd gear 0.175 – 0.325 mm (0.0069 – 0.0128 in.)
3rd gear 0.125 – 0.275 mm (0.0049 – 0.0108 in.)

Maximum clearance:

2nd gear 0.35 mm (0.0138 in.)
3rd gear 0.30 mm (0.0118 in.)

7. ASSEMBLE SYNCHRONIZER RING HOLDER

Hook the synchronizer ring holder ends to the thrust piece.

NOTE:

- Align the synchronizer ring holder ends so they are not both facing in the same direction.
- So sure that the synchronizer ring holders are parallel and not intersecting.

8. INSTALL SYNCHRONIZER RING NO. 1 AND FIRST GEAR

(a) Install synchronizer ring No. 1.

(b) Apply gear oil to the needle roller bearing.

(c) Install the needle roller bearing and 1st gear.

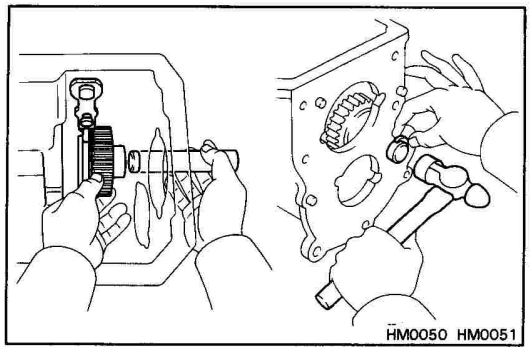
(d) Apply MP grease to the straight pin and 1st gear thrust washer.

(e) Install the 1st gear thrust washer on the output shaft with the straight pin aligned with the 1st gear thrust washer.

9. INSTALL REVERSE SHIFT ARM

(a) Install the reverse shift arm so its pivot is positioned as shown.

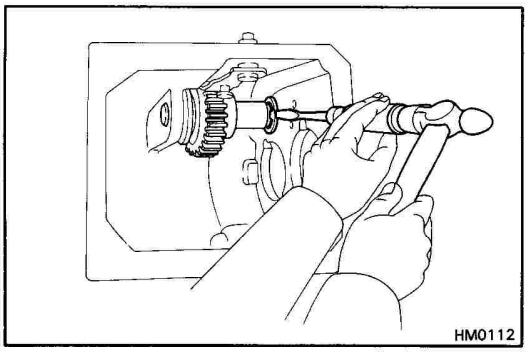
(b) Install the O-ring, plate washer, spring washer and nut.


HM0050 HM0051

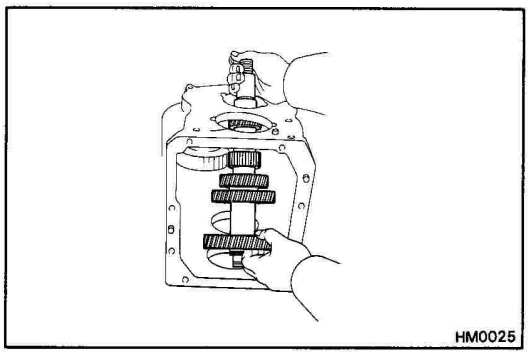
10. INSTALL REVERSE IDLER GEAR AND SHAFT

(a) Align the reverse idler gear groove with the reverse shift arm shoe.

(b) Install the reverse idler gear shaft with the woodruff key through the gear.


HM0112

(c) Install the E-ring onto the shaft.

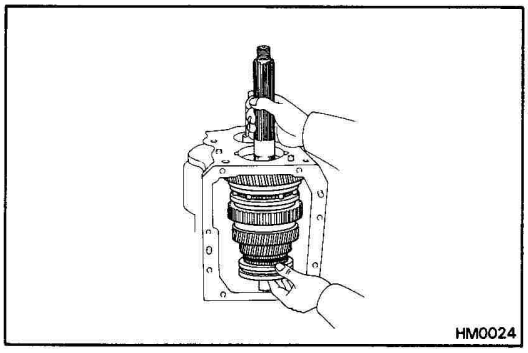

HM0025

11. PUT COUNTER GEAR INTO TRANSMISSION CASE

(a) Stand the transmission case on its front end.

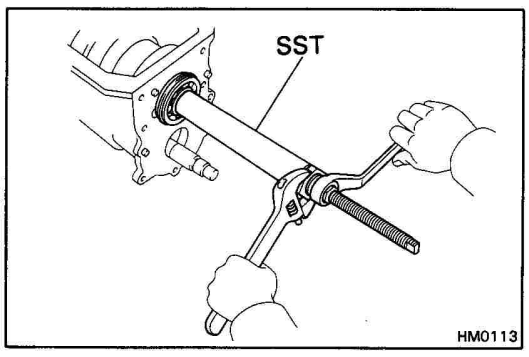
(b) Put the counter gear into the case.

CAUTION: Be careful not to damage either end.


HM0024

12. PUT OUTPUT SHAFT ASSEMBLY INTO TRANSMISSION CASE

CAUTION: Be careful not to damage the front end of the shaft.



HM0113

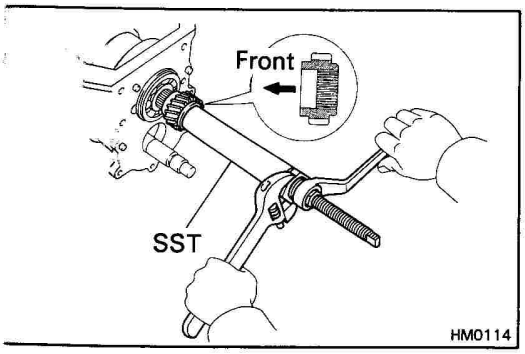
13. INSTALL OUTPUT SHAFT CENTER BEARING

(a) Using snap ring pliers, install the snap ring onto the bearing.

(b) Confirm that the groove of the 1st gear thrust washer and the straight pin are aligned.

(c) Using SST, install the bearing until it comes into contact with the 1st gear thrust washer.

SST 09309-36041

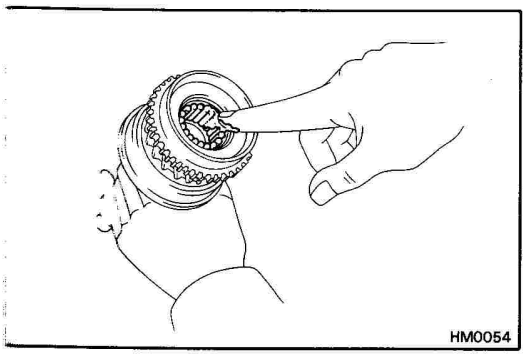


14. INSTALL FIFTH GEAR TO OUTPUT SHAFT

(a) Apply MP grease to the inside surface of the 5th gear.

(b) Using SST, install the 5th gear to the output shaft.

SST 09309-36041

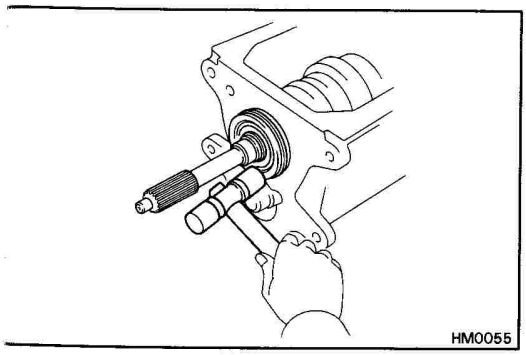


15. INSTALL INPUT SHAFT

(a) Using snap ring pliers, install the snap ring onto the bearing.

(b) Install the 17 needle roller bearings into the input shaft.

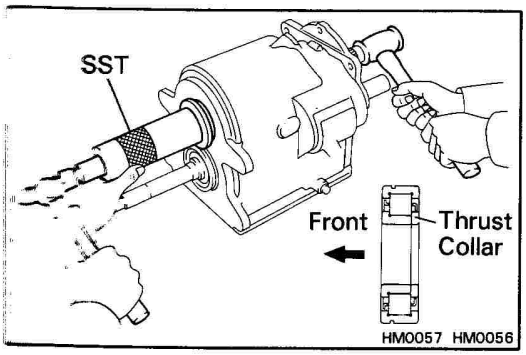
(c) Apply MP grease to the needle roller bearings.



(d) Align the synchronizer ring slots with the shifting keys.

(e) Using a plastic hammer, drive in the input shaft.

NOTE: Be sure that the counter gear is low enough so as not to interfere with the input shaft.



16. INSTALL COUNTER GEAR FRONT BEARING

(a) Turn the transmission over and align the counter gear center.

(b) Install the thrust collar for the front bearing onto the counter gear.

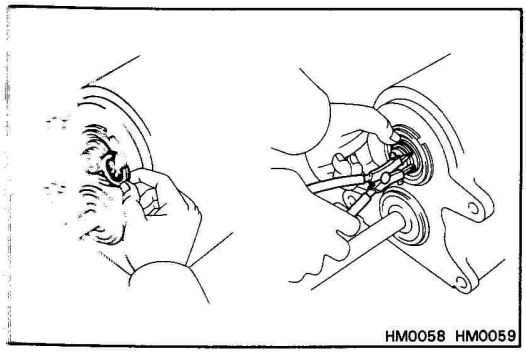
(c) Using SST, drive in the bearing.

SST 09316-60010

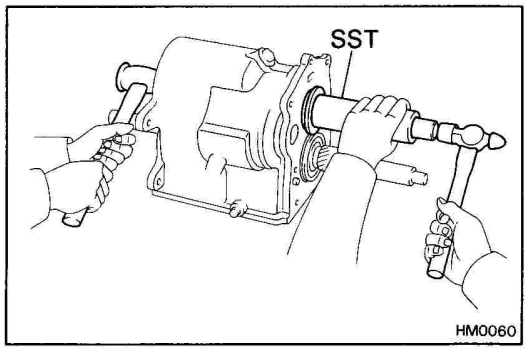
NOTE: When driving in the bearing, support the counter gear in rear with a 3–5 lb hammer or equivalent.

(d) Install the snap ring onto the bearing outer race.

(e) Select a snap ring that will allow minimum axial play and install it on the counter gear front end.



Mark	Thickness mm (in.)
0	2.05 – 2.10 (0.0807 – 0.0827)
2	2.15 – 2.20 (0.0846 – 0.0866)
4	2.25 – 2.30 (0.0886 – 0.0906)



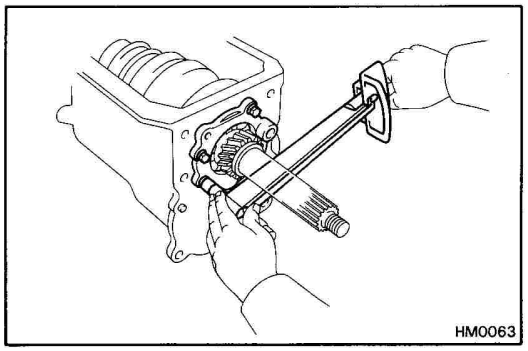
17. INSTALL COUNTER GEAR REAR BEARING

(a) Install the snap ring to the counter gear rear bearing.

(b) Using SST, drive the rear bearing into the transmission case.

SST 09316-60010

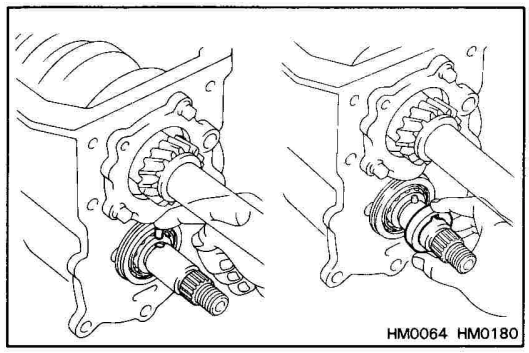
NOTE: When driving in the bearing, support the counter gear in front with 3–5 lb hammer or equivalent.



18. INSTALL REAR BEARING RETAINER

Install the rear bearing retainer to the transmission case. Torque the bolts.

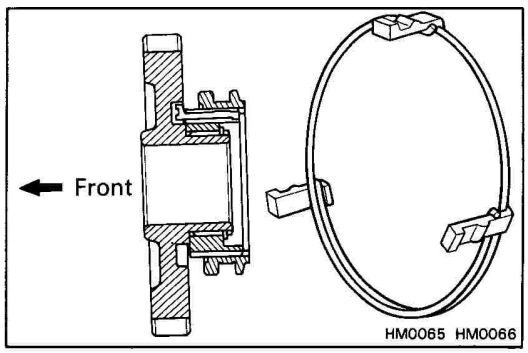
Torque: 185 kg-cm (13 ft-lb, 18 N·m)



19. INSTALL STRAIGHT PIN AND COUNTER FIFTH GEAR THRUST WASHER

(a) Install the straight pin onto the counter shaft.

(b) Align the thrust washer slot with the straight pin, and install the thrust washer.



20. ASSEMBLE COUNTER FIFTH GEAR

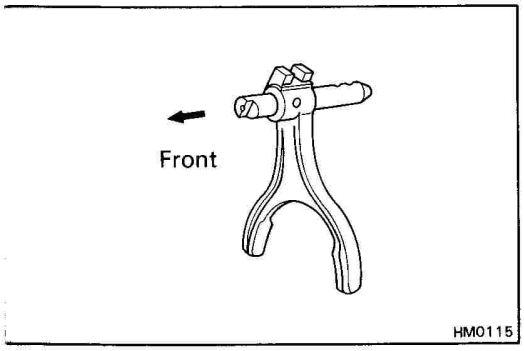
(a) Install the No. 3 hub sleeve and shifting keys to the counter 5th gear.

(b) Install the shifting key springs under the shifting keys so that the spring ends are not in line, as shown in the figure.

21. INSTALL NEEDLE ROLLER BEARING

(a) Apply MP grease to the needle roller bearing.

(b) Install the needle roller bearing into the counter 5th gear.

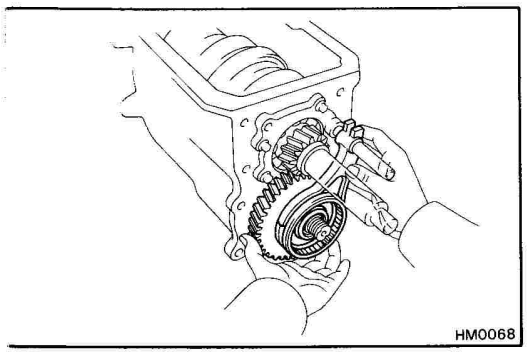


22. ASSEMBLE FIFTH SHIFT FORK

(a) Install the 5th shift fork to the shaft.

(b) Align the pin holes with the 5th shift fork and shaft.

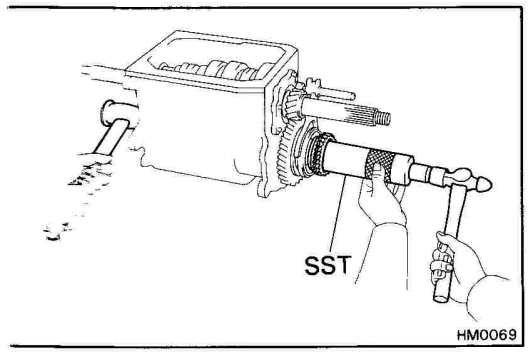
(c) Using a pin punch and hammer, drive in the slotted spring pin.



23. INSTALL COUNTER FIFTH GEAR ASSEMBLY WITH FIFTH SHIFT FORK

(a) Install the 5th shift fork and fork shaft onto hub sleeve No. 3.

(b) Install the counter 5th gear assembly with the 5th shift fork.



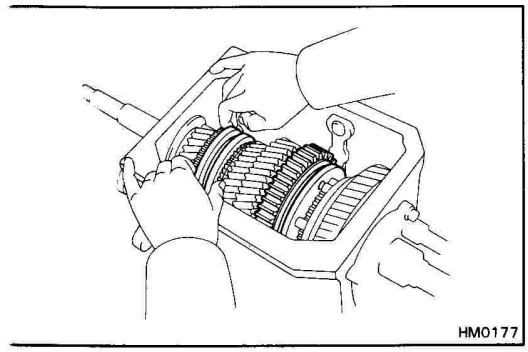
24. INSTALL SYNCHRONIZER RING AND GEAR SPLINE PIECE NO. 5

(a) Align the synchronizer ring slots with the shifting keys, and place the synchronizer ring on the counter 5th gear rear end.

(b) Using SST, drive gear spline piece No. 5 into the counter gear to where the lock nut can be installed.

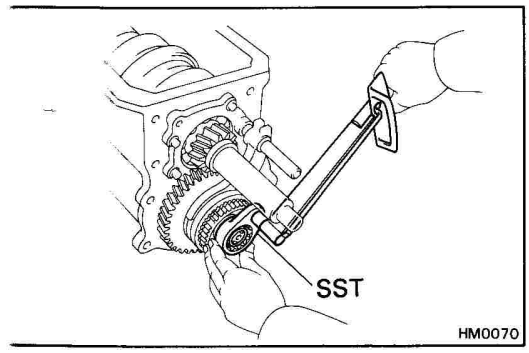
SST 09316-60010

NOTE: When driving in gear spline piece No. 5, support the counter gear in front with a 3–5 lb hammer or equivalent.



25. INSTALL LOCK NUT TO COUNTER GEAR REAR END

(a) Engage the gear double meshing.

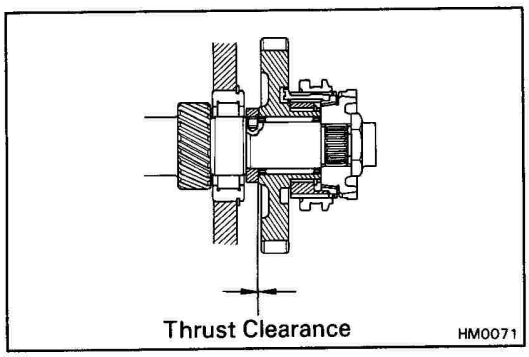


(b) Using SST, install a new lock nut.
Torque the nut.

SST 09326-20011

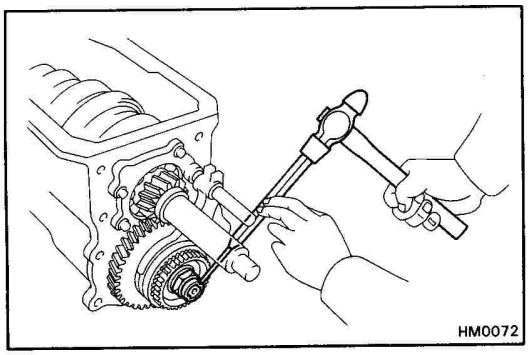
Torque: 1,300 kg-cm (94 ft-lb, 127 N·m)

(c) Disengage the gear double meshing.

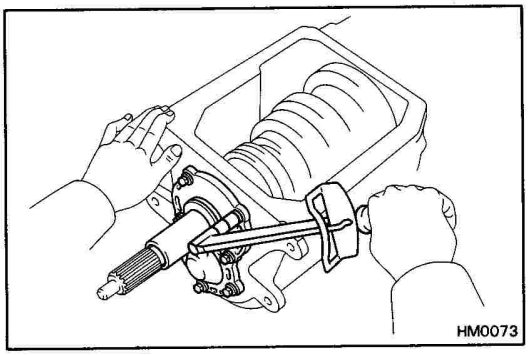


(d) Using a feeler gauge, measure the counter 5th gear thrust clearance.

Standard clearance: 0.10 — 0.30 mm (0.0039 — 0.0118 in.)
Maximum clearance: 0.60 mm (0.0236 in.)



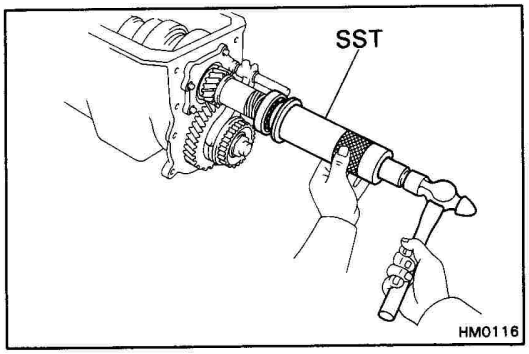
(e) Using a punch, stake the lock nut.



26. INSTALL FRONT BEARING RETAINER WITH A GASKET

(a) Install the front bearing retainer with a gasket.
(b) Apply liquid sealer to the bolts.
(c) Install and torque the bolts.

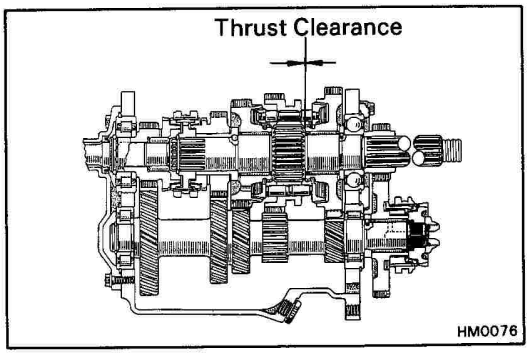
Torque: 170 kg-cm (12 ft-lb, 17 N·m)



27. INSTALL SPACER, SPEEDOMETER DRIVE GEAR AND SPEEDOMETER DRIVE GEAR SPACER

28. INSTALL OUTPUT SHAFT REAR BEARING

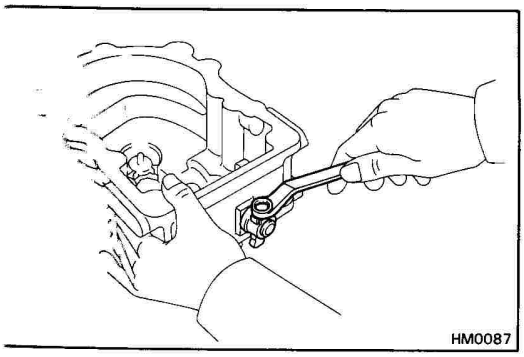
Using SST, drive in the rear bearing.
SST 09316-60010



29. MEASURE FIRST GEAR THRUST CLEARANCE

Using a feeler gauge, measure the thrust clearance.

Standard clearance: 0.175 mm — 0.325 mm (0.0069 — 0.0128 in.)
Maximum clearance: 0.62 mm (0.0244 in.)



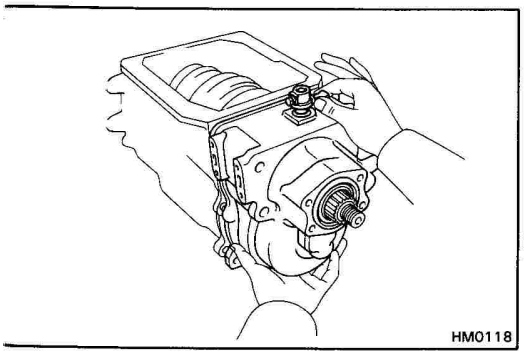
30. INSTALL FIFTH SHIFT ARM AND SHAFT

(a) Apply MP grease to the oil seal.

(b) Install the 5th shift arm shaft through the extension housing and install the 5th shift arm.

(c) Install and torque the bolt.

Torque: 400 kg-cm (29 ft-lb, 39 N·m)



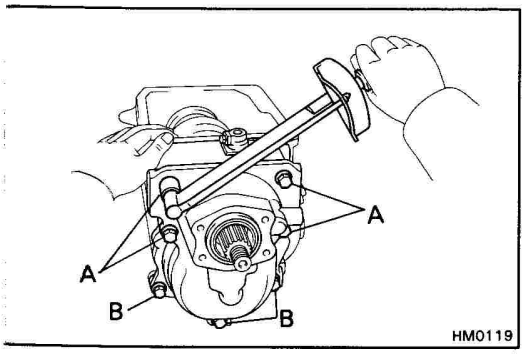
31. INSTALL EXTENSION HOUSING WITH NEW GASKET

(a) Apply MP grease to the oil seal.

(b) Pull up the 5th shift arm and install the extension housing with a new gasket.

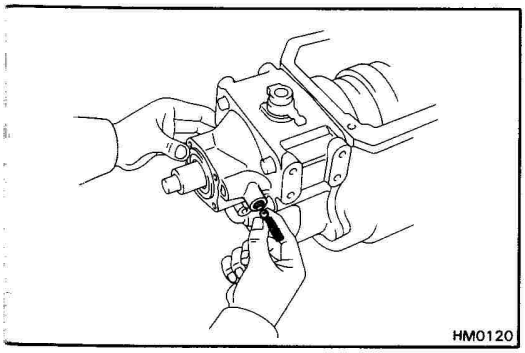
(c) Align the 5th shift arm with the 5th shift fork.

(d) Apply liquid sealer to the bolts.



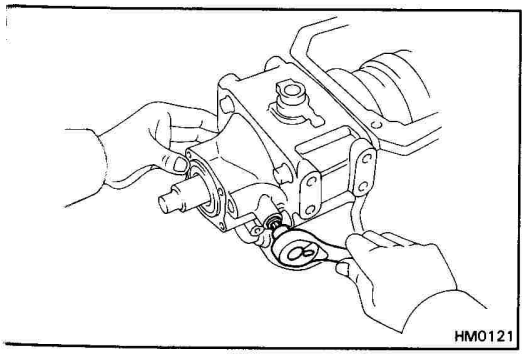
(e) Install and torque the bolts.

Torque: A 400 kg-cm (29 ft-lb, 39 N·m)
B 600 kg-cm (43 ft-lb, 59 N·m)



(f) Install the locking ball and spring.

(g) Apply liquid sealer to the screw plug.

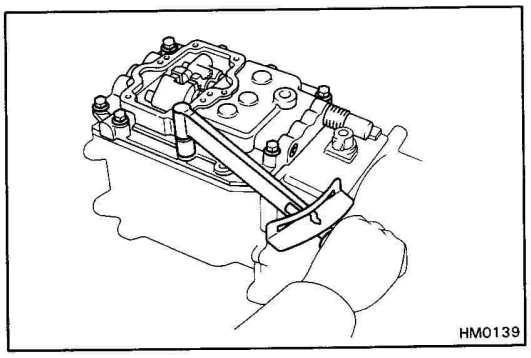


(h) Using SST, install and torque the screw plug.

SST 09313-30021

Torque: 250 kg-cm (18 ft-lb, 25 N·m)

32. INSTALL SPEEDOMETER DRIVEN GEAR

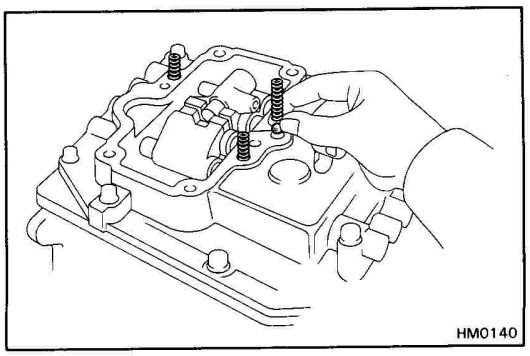


33. INSTALL CASE COVER WITH NEW GASKET

(a) Install the case cover with a new gasket.

(b) Install and torque the bolts.

Torque: 530 kg-cm (38 ft-lb, 52 N·m)



34. INSTALL SHIFT LEVER SHAFT HOUSING WITH NEW GASKET

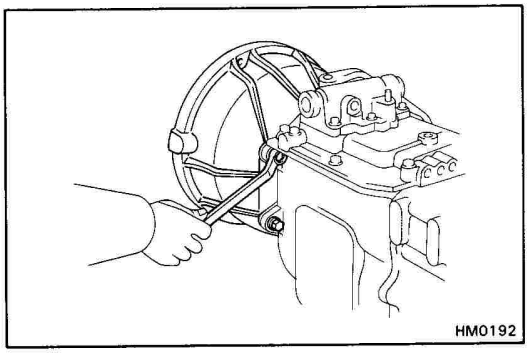
(a) Install the locking balls and springs.

(b) Install the shift lever housing with a new gasket.

(c) Install and torque the bolts.

Torque: 195 kg-cm (14 ft-lb, 19 N·m)

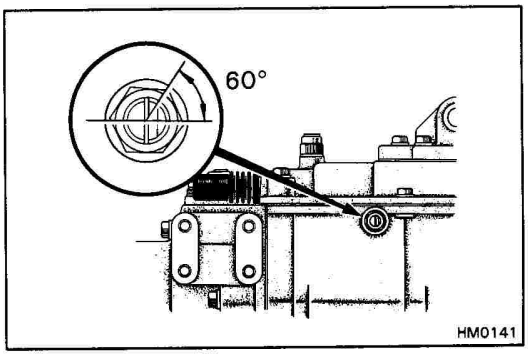
35. INSTALL NEUTRAL SWITCH AND BACK-UP LIGHT SWITCH



36. INSTALL CLUTCH HOUSING

Torque the bolts.

Torque: 730 kg-cm (53 ft-lb, 72 N·m)



37. ADJUST REVERSE SHIFT ARM PIVOT POSITION

(a) Position the adjustment mark on the shift arm pivot end toward the front side.

(b) If the select lever is catching on something, adjust by moving the position of the alignment mark within 60°.

(c) Torque the nut.

Torque: 250 kg-cm (18 ft-lb, 25 N·m)

38. INSTALL RELEASE FORK AND HUB WITH BEARING

INSTALLATION OF TRANSMISSION

1. INSTALL ENGINE REAR MOUNTING BRACKET

Torque: 770 kg-cm (56 ft-lb, 76 N·m)

2. INSTALL EXHAUST PIPE CLAMP

Torque:

YU, RU, BU serise	**650 kg-cm (47 ft-lb, 64 N·m)**
WU series	**600 kg-cm (43 ft-lb, 59 N·m)**

3. INSTALL PARKING BRAKE ASSEMBLY

(See page BR-69 or 76)

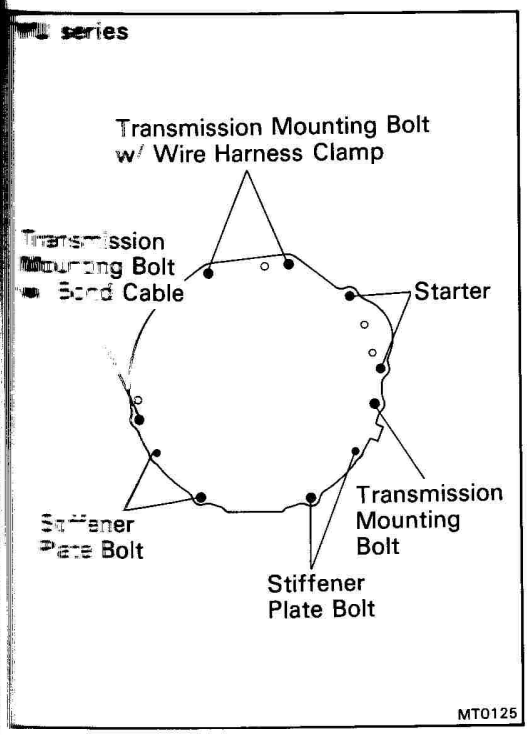
4. PLACE TRANSMISSION AT INSTALLATION POSITION

Align the input shaft spline with the clutch disc and push the transmission fully into position.

5.-1 (YU series)
INSTALL TRANSMISSION BOLTS, STIFFENER PLATES, BOND CABLE AND WIRE HARNESS CLAMP

Torque:

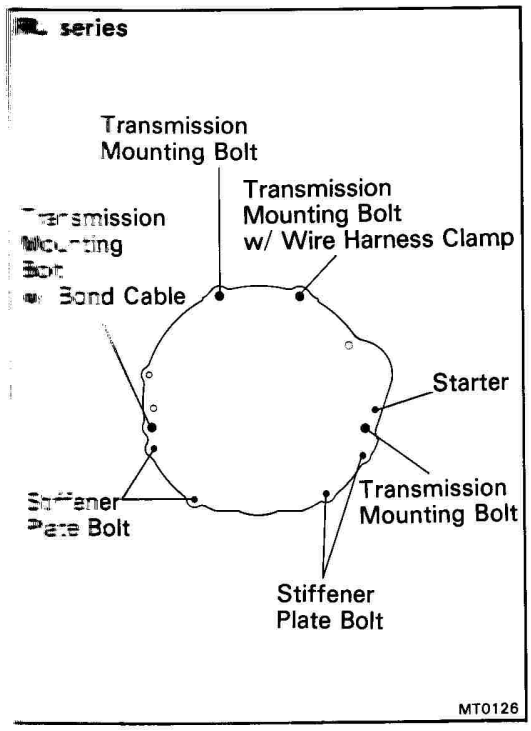
Transmission mounting bolt	**730 kg-cm (53 ft-lb, 72 N·m)**
Stiffener plate bolt —	
Transmission side	**380 kg-cm (27 ft-lb, 37 N·m)**
Engine side	**380 kg-cm (27 ft-lb, 37 N·m)**

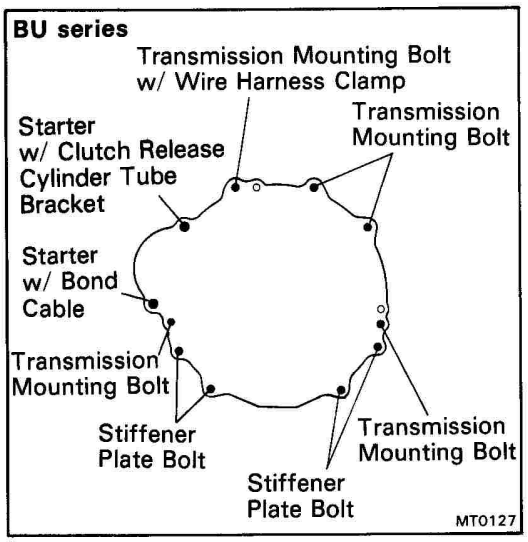


5.-2 (RU series)
INSTALL TRANSMISSION BOLTS, STIFFENER PLATES, BOND CABLE AND WIRE HARNESS CLAMP

Torque:

Transmission mounting bolt	**730 kg-cm (53 ft-lb, 72 N·m)**
Stiffener plate bolt —	
Transmission side	**380 kg-cm (27 ft-lb, 37 N·m)**
Engine side	**380 kg-cm (27 ft-lb, 37 N·m)**

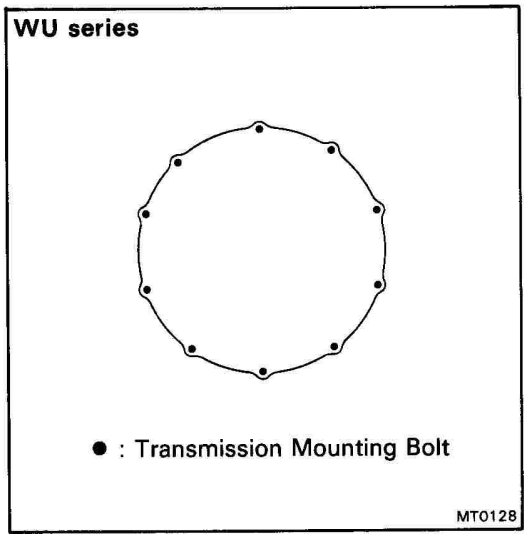




5.-3 (BU series)
INSTALL TRANSMISSION BOLTS, STIFFENER PLATES, BOND CABLE AND WIRE HARNESS CLAMP

Torque:

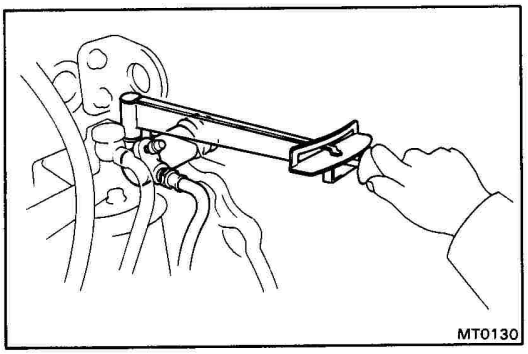
Transmission mounting bolt	**730 kg-cm (53 ft-lb, 72 N·m)**
Stiffener plate bolt –	
Transmission side	**380 kg-cm (27 ft-lb, 37 N·m)**
Engine side	**700 kg-cm (51 ft-lb, 69 N·m)**



5.-4 (WU series)
INSTALL TRANSMISSION BOLTS

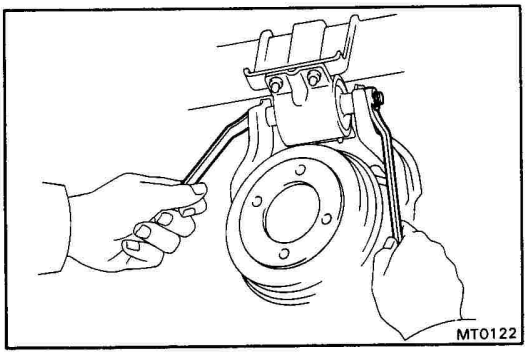
Torque:

Transmission mounting bolt	**360 kg-cm (26 ft-lb, 35 N·m)**



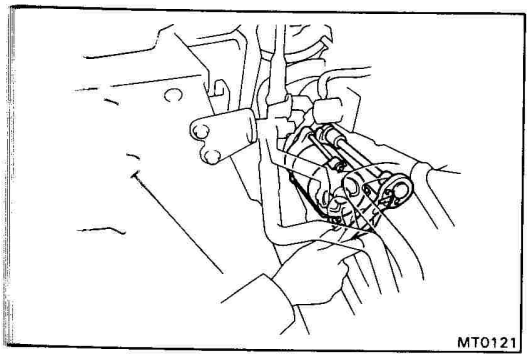
6. (WU series only)
INSTALL CLUTCH RELEASE CYLINDER

Torque: 120 kg-cm (9 ft-lb, 12 N·m)



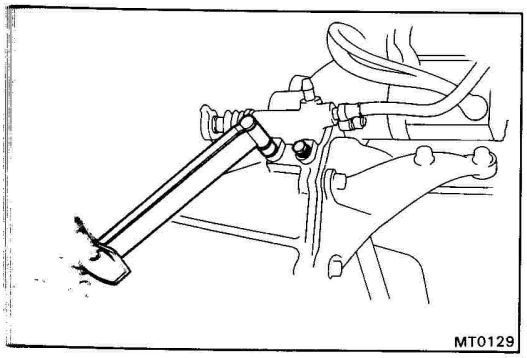
7. INSTALL ENGINE REAR MOUNTING BOLT AND NUT

Torque: 1,650 kg-cm (119 ft-lb, 162 N·m)

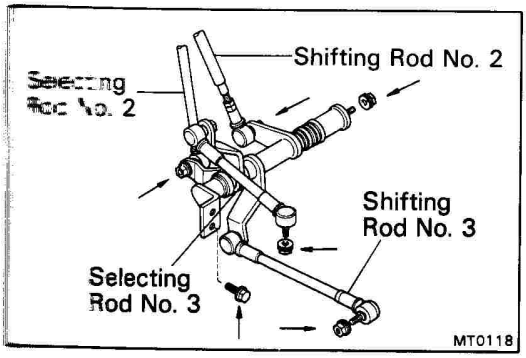


8. (Dump only)
INSTALL P.T.O ASSEMBLY
(See page DM-9)

9. (Ex. WU series)
INSTALL STARTER



10. (Ex. WU series)
INSTALL CLUTCH RELEASE CYLINDER
Torque: 120 kg-cm (9 ft-lb, 12 N·m)

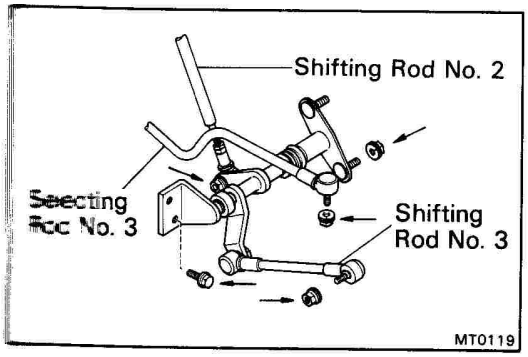


11.-1 (Regular Cab)
INSTALL CROSS SHAFT ASSEMBLY

(a) Install the cross shaft bracket to the transmission and frame.

Torque:	**Transmission side**	**360 kg-cm (26 ft-lb, 35 N·m)**
	Frame side	**150 kg-cm (11 ft-lb, 15 N·m)**

(b) Connect the shifting rod No. 2 and selecting rod No. 2 to the cross shaft.

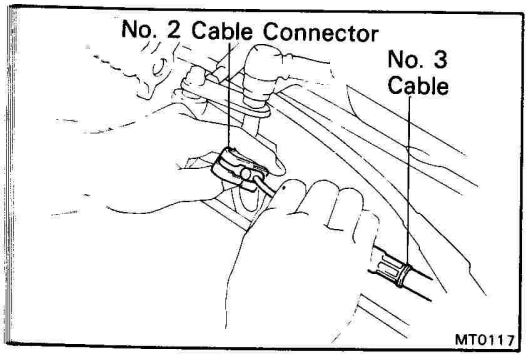


11.-2 (Wide Cab)
INSTALL CROSS SHAFT ASSEMBLY

(a) Install the cross shaft bracket to the transmission and frame.

Torque:	**Transmission side**	**360 kg-cm (26 ft-lb, 35 N·m)**
	Frame side	**150 kg-cm (11 ft-lb, 15 N·m)**

(b) Connect the shifting rod No. 2 to the cross shaft.

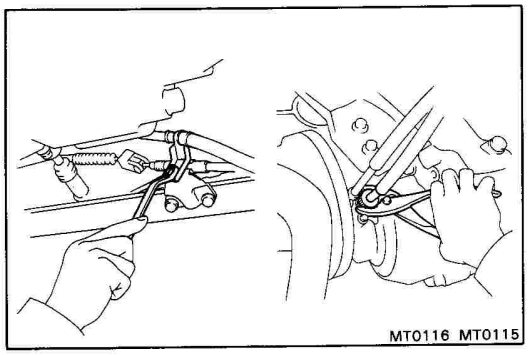


12. CONNECT SHIFTING ROD NO. 3 AND SELECTING ROD NO. 3

13. CONNECT PARKING BRAKE CABLE NO. 3

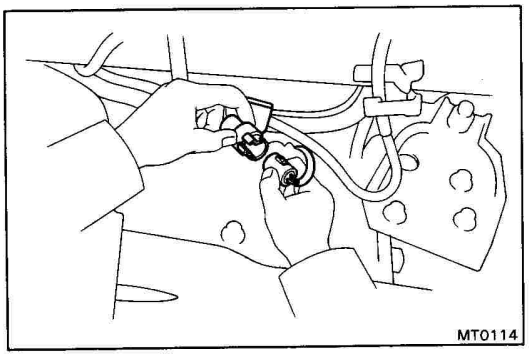
(a) Connect the parking brake cable No. 3.

- Insert the end of the No. 3 cable into the No. 2 cable connector, and turn the No. 3 cable 90° to attach it.



(b) Install the cable clamp to the frame.

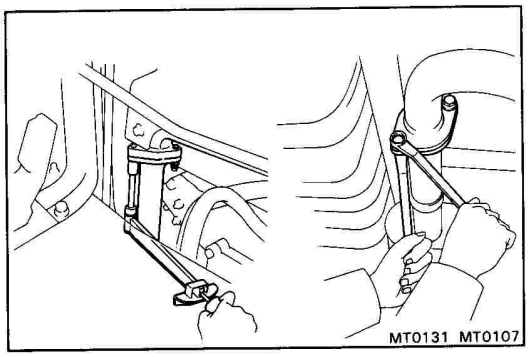
14. CONNECT SPEEDOMETER CABLE



15. (Exhaust Brake only)
CONNECT NEUTRAL SWITCH CONNECTOR

16. CONNECT BACK-UP LIGHT SWITCH CONNECTOR

17. INSTALL WIRE HARNESS TO CLAMP



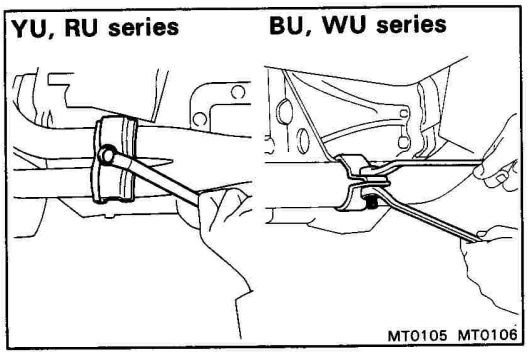
18.-1 (w/o Exhaust Retarder)
CONNECT EXHAUST FRONT PIPE

(a) Connect the exhaust front pipe to the exhaust manifold.

Torque: 630 kg-cm (46 ft-lb, 62 N·m)

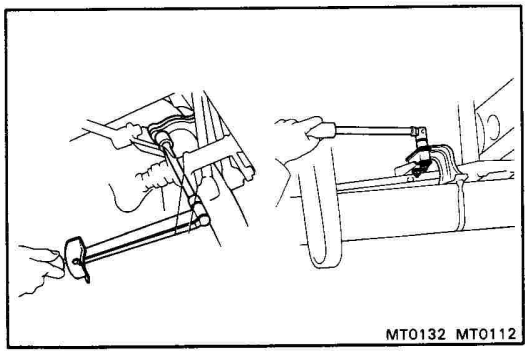
(b) Connect the exhaust front pipe to the exhaust center pipe.

Torque: 130 kg-cm (9 ft-lb, 13 N·m)



(c) Install the exhaust front pipe clamp to the bracket.

Torque:
YU, RU series 480 kg-cm (35 ft-lb, 47 N·m)
BU, WU series 230 kg-cm (17 ft-lb, 23 N·m)



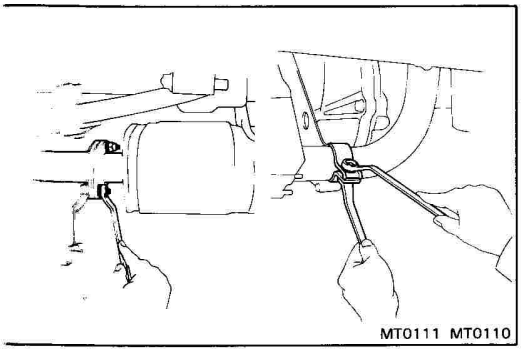
18.-2 (w/ Exhaust Retarder)
CONNECT EXHAUST FRONT PIPE AND EXHAUST CENTER PIPE

(a) Connect the exhaust front pipe to the exhaust manifold.

Torque: 630 kg-cm (46 ft-lb, 62 N·m)

(b) Connect the exhaust center pipe bracket to the frame.

Torque: 130 kg-cm (9 ft-lb, 13 N·m)

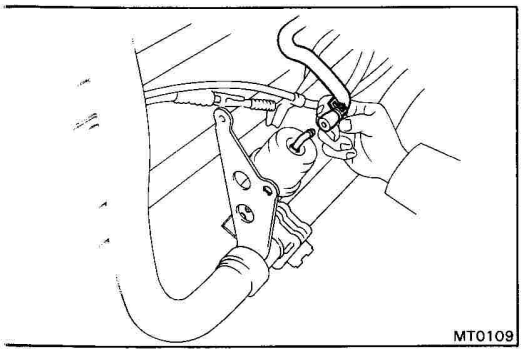


(c) Connect the exhaust center pipe to the tail pipe.

Torque: 420 kg-cm (30 ft-lb, 41 N·m)

(d) Install the two exhaust pipe clamps to the bracket.

Torque: 230 kg-cm (17 ft-lb, 23 N·m)

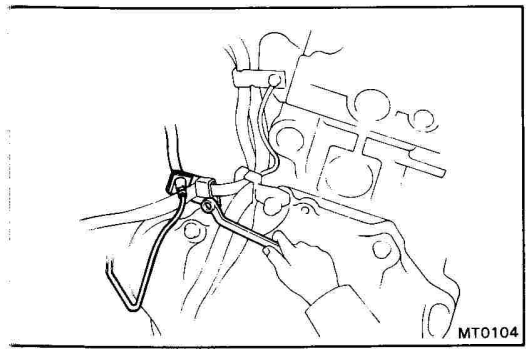


(e) Install the vacuum hose to the exhaust retarder.

19. CONNECT PROPELLER SHAFT
(See page PR-3)

20. FILL TRANSMISSION WITH OIL

M52 Type
Oil grade: API GL-4 SAE90
Capacity: 3.0 liters (3.2 US qts, 2.6 Imp. qts)
H50 Type
Oil grade: API GL-4 SAE90
Capacity: 4.0 liters (4.2 US qts, 3.5 Imp. qts)



21. LOWER VEHICLE

22. (BU series only)
INSTALL RELEASE CYLINDER TUBE BRACKET

23. CONNECT BATTERY CABLE TO NEGATIVE TERMINAL

24. PERFORM ROAD TEST

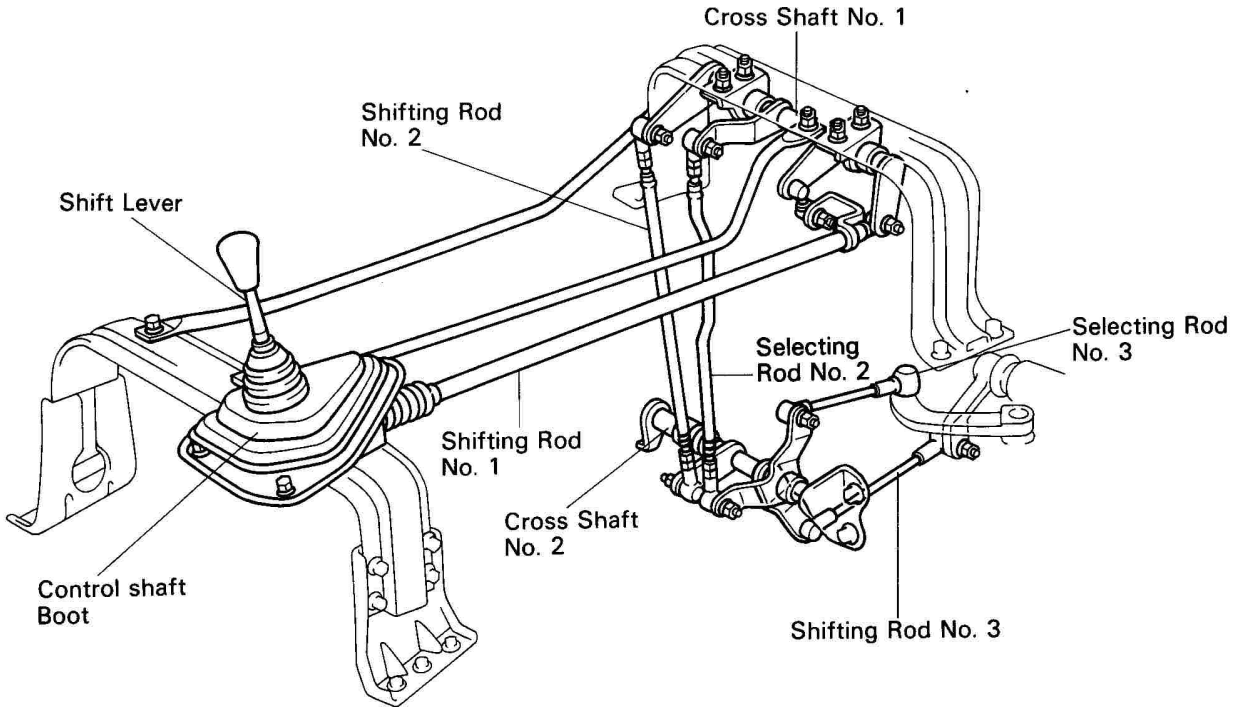
Check for abnormal noise and smooth operation.

REMOTE CONTROL

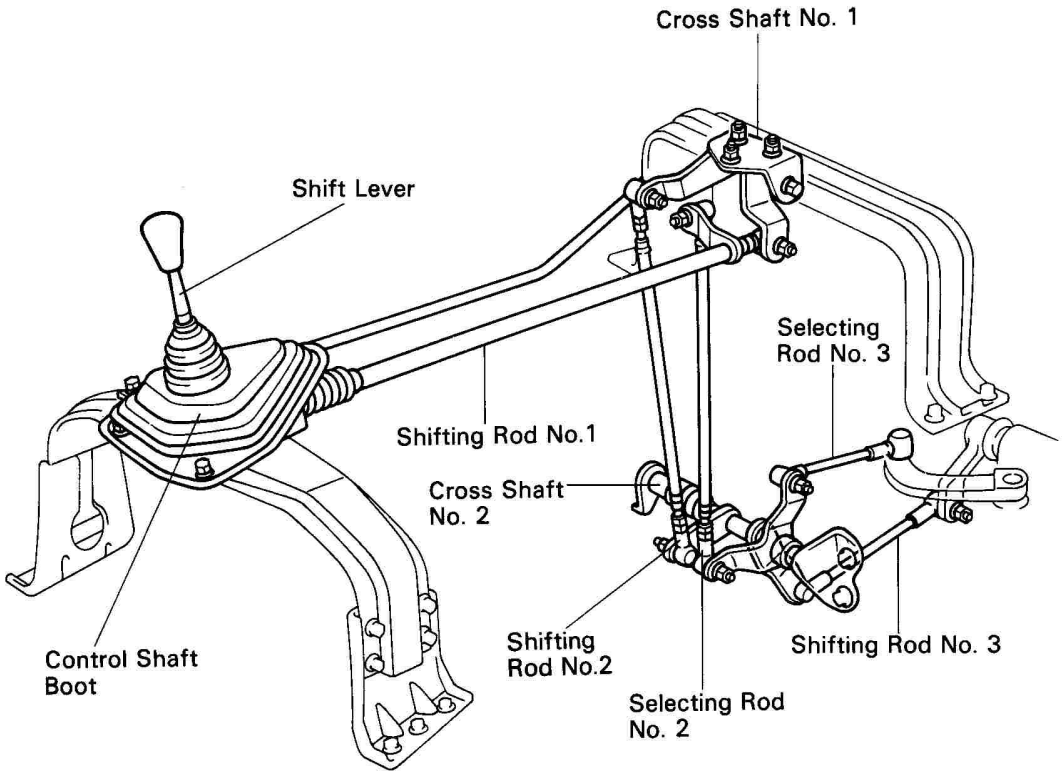
COMPONENTS

Regular Cab

LHD



RHD

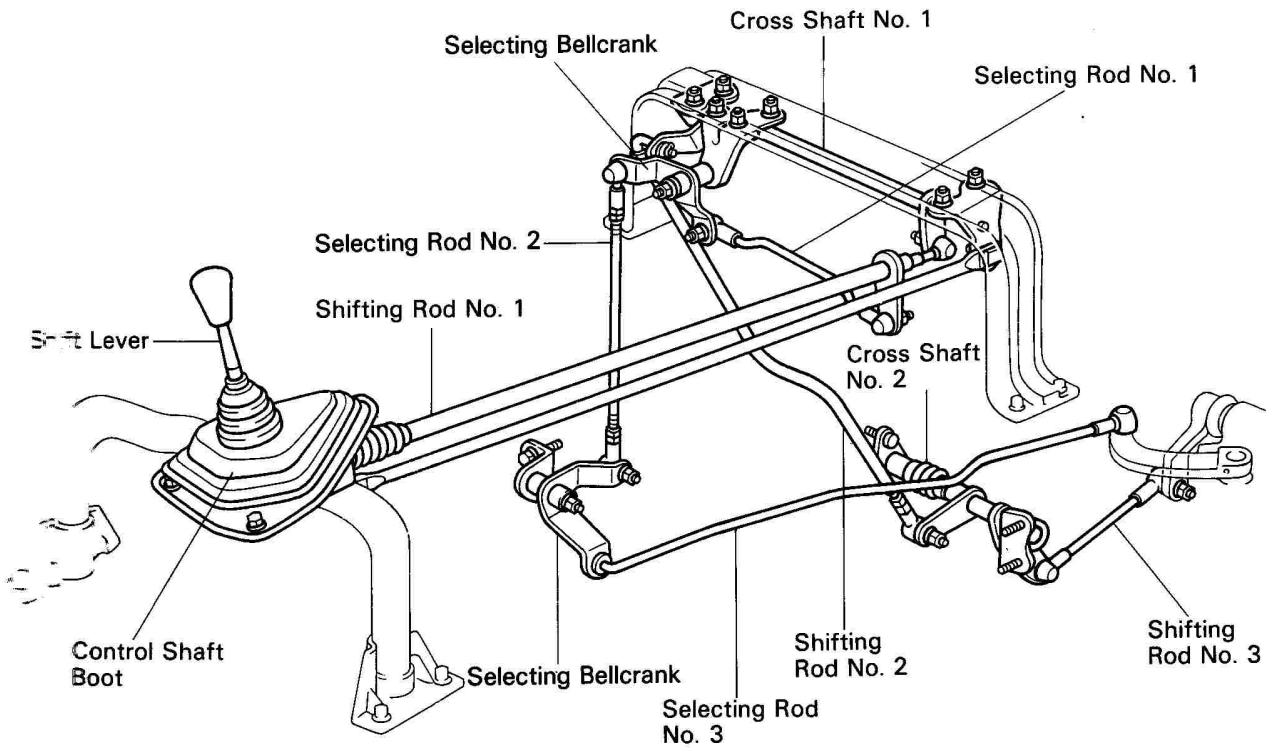


MT0133
MT0134

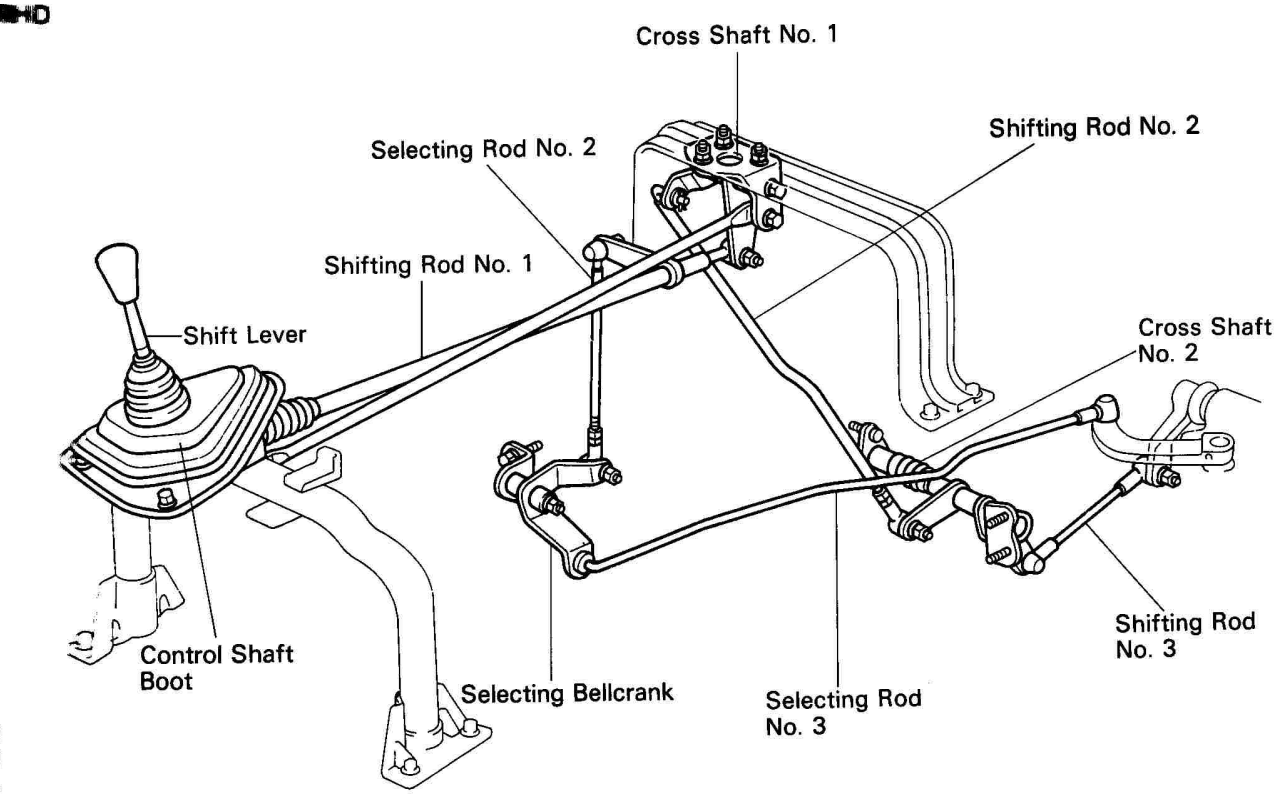
COMPONENTS (Cont'd)

Cab

UD



HD

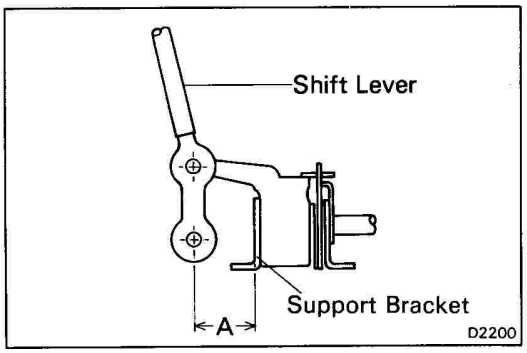


MT0135
MT0136

ADJUSTMENT OF SHIFT LEVER NEUTRAL POSITION

1. REMOVE CONTROL SHAFT BOOT

Remove the three bolts and pull off the control shaft boot.



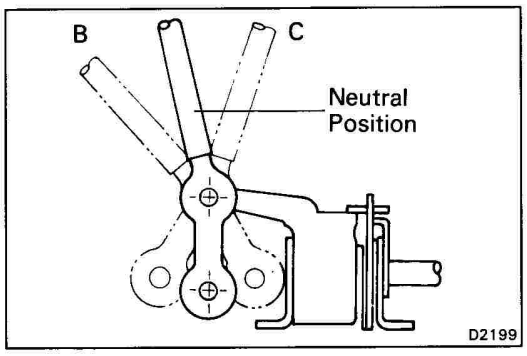
(Shift Direction Adjustment)

2. CONFIRM THAT SHIFT OUTER LEVER IS IN NEUTRAL POSITION

3. ADJUST SHIFTING ROD NO. 2

(a) Adjust shifting rod No. 2 so that the clearance between the surface of support bracket and the shift lever end center hole is the standard dimension.

Standard clearance "A":
Regular cab 43 mm (1.69 in.)
Wide cab 42 mm (1.65 in.)



(b) When the shifting lever is in position "B", lengthen shifting rod No. 2.

(c) When the shifting lever is in position "C", shorten shifting rod No. 2.

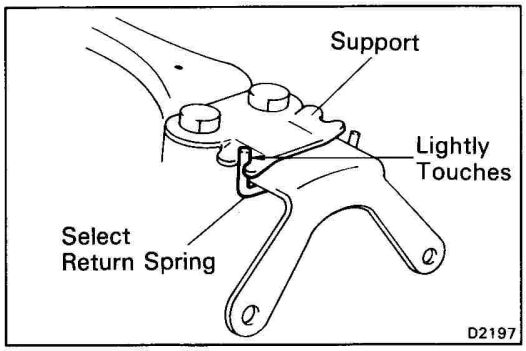
(d) (Tilt cab only)
With the shift position in neutral and the cab tilted up, check that the clearance between the shift lever and the hole in the floor panel is more than 15 mm (0.59 in.)

(Select Direction Adjustment)

4. CONFIRM THAT SELECT OUTER LEVER IS IN NEUTRAL POSITION

5. ADJUST SELECTING ROD NO. 2

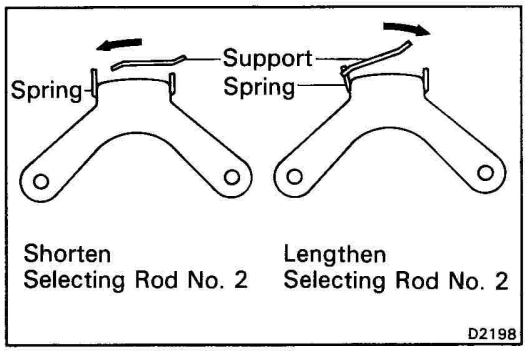
(a) Adjust selecting rod No. 2 so it lightly touches the select return spring and the support.



(b) When there is clearance between the support and spring, shorten selecting rod No. 2.

(c) When the support is pushing against the spring, lengthen selecting rod No. 2.

(d) (Tilt cab only)
With the shift position in neutral and the cab tilted up, check that the clearance between the shift lever and the hole in the floor panel is more than 15 mm (0.59 in.)



6. INSTALL CONTROL SHAFT BOOT WITH THREE BOLTS