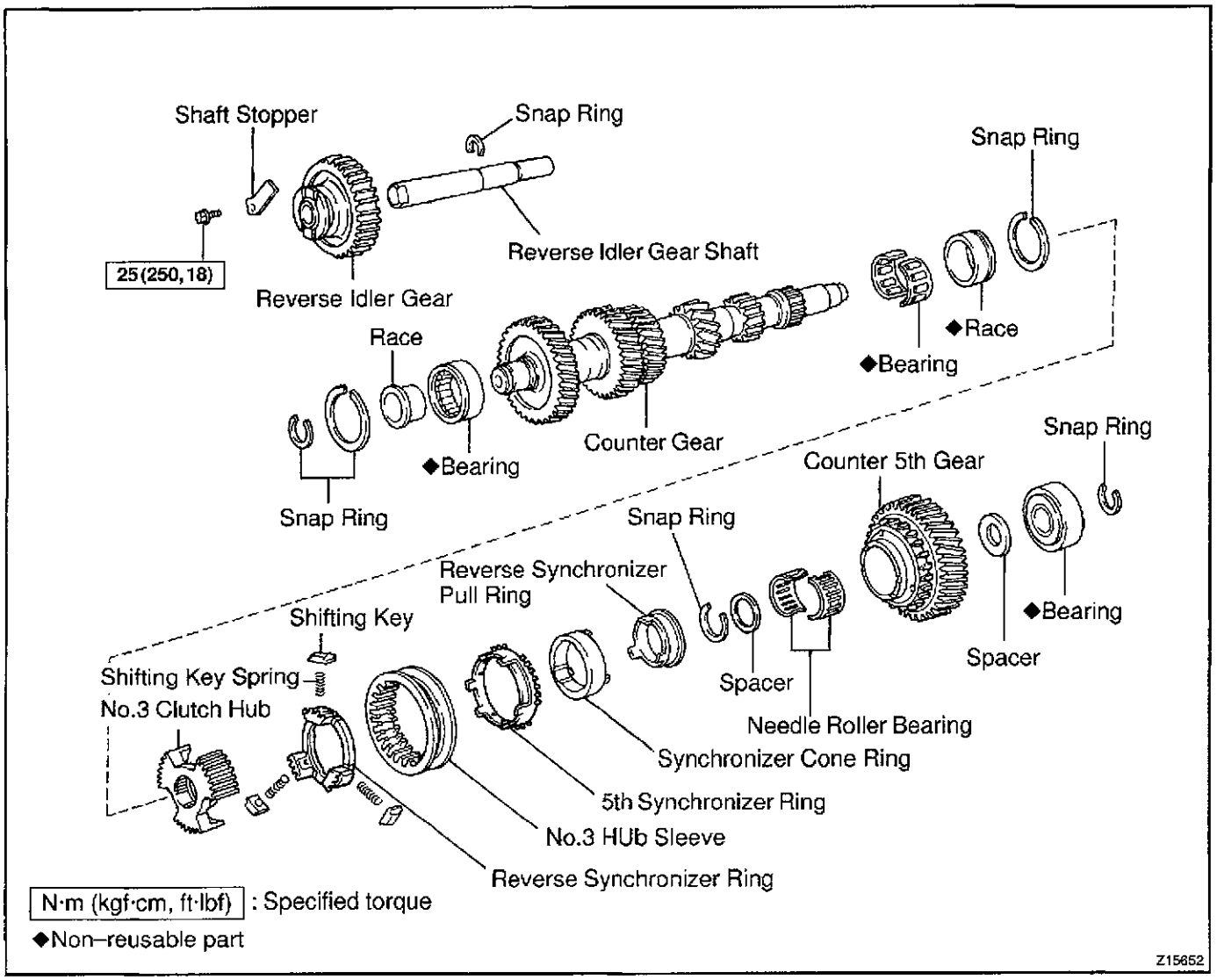
COUNTER GEAR AND REVERSE IDLER GEAR

COMPONENTS



N·m (kgf·cm, ft·lbf) : Specified torque

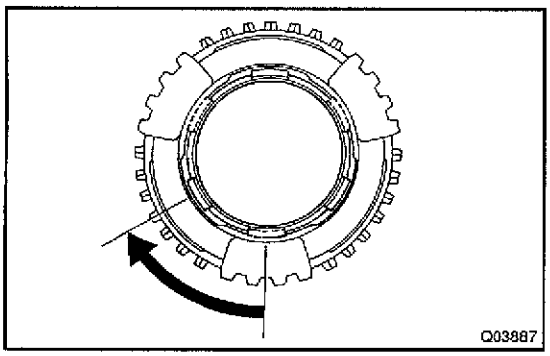
◆Non–reusable part

Z15652

MT00Y–03

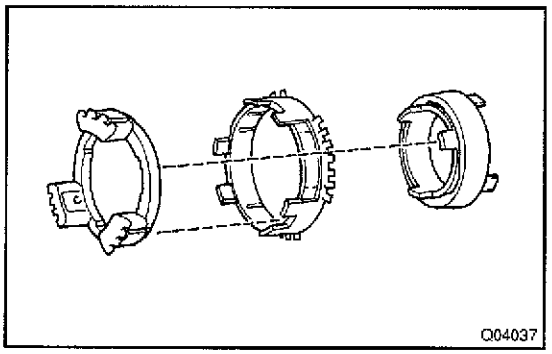
DISASSEMBLY

REMOVE NO.3 HUB SLEEVE, SHIFTING KEY AND SPRING FROM SYNCHRONIZER RING

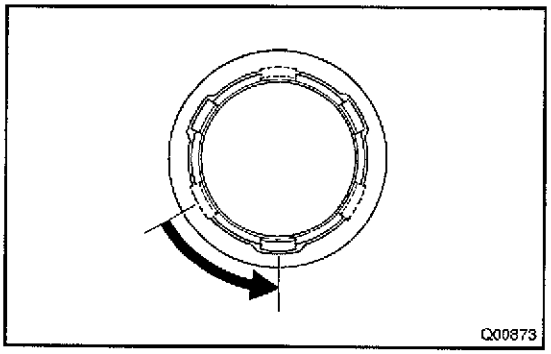


(a) Remove the synchronizer ring assembly from the No.3 hub sleeve.

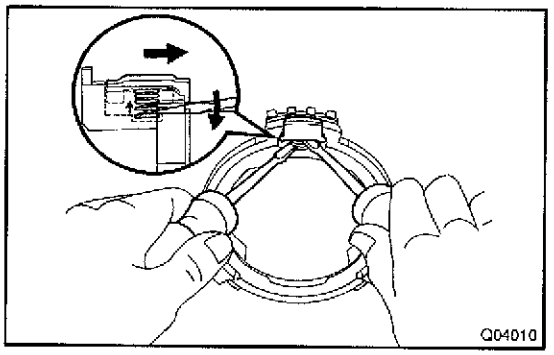
(b) Turn the reverse synchronizer pull ring.



(c) Remove the reverse synchronizer ring and 5th synchronizer ring from the synchronizer pull ring and cone ring.



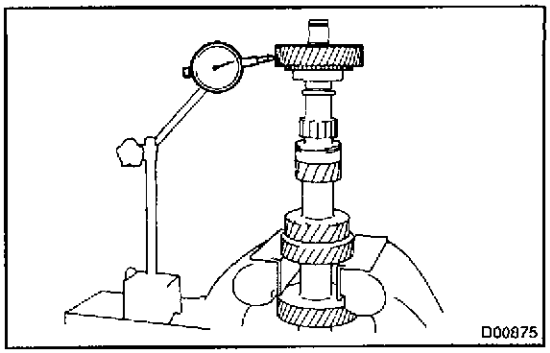
(d) Turn the reverse synchronizer pull ring and separate the pull ring and cone ring.



(e) Remove the 3 shifting keys and key springs by carefully levering up the shifting key spring with one screwdriver and levering the shifting key away from the reverse synchronizer ring with the other screwdriver.

MT05D-01

INSPECTION



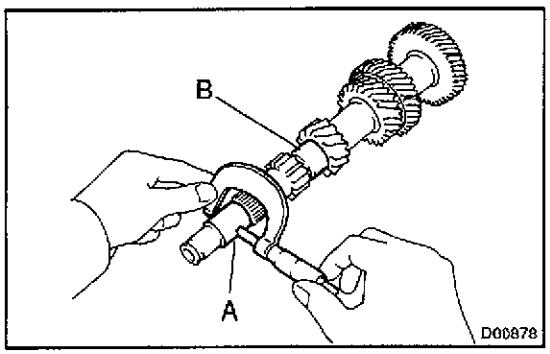
1. INSPECT COUNTER 5TH GEAR RADIAL CLEARANCE

(a) Install the spacer, counter 5th gear and needle roller bearing to the counter gear.

(b) Using a dial indicator, measure the counter 5th gear radial clearance.

Standard clearance:
0.009 – 0.060 mm (0.0004 – 0.0024 in.)
Maximum clearance:
0.150 mm (0.0059 in.)

If the clearance exceeds the maximum, replace the counter gear, needle roller bearing or counter 5th gear.

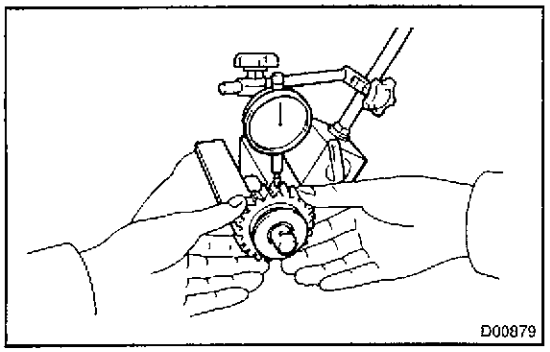


2. INSPECT COUNTER GEAR

Using a micrometer, measure the outer diameter of the counter shaft journal.

Minimum diameter:
Part A: 26.975 mm (1.0620 in.)
Part B: 29.950 mm (1.1791 in.)

If the outer race is less than the minimum, replace the counter gear.

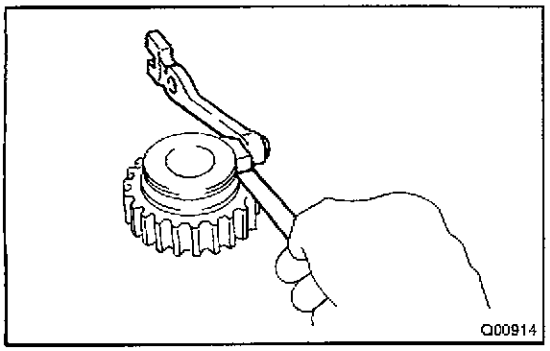


3. INSPECT REVERSE IDLER GEAR RADIAL CLEARANCE

Using a dial indicator, measure the reverse idler gear radial clearance.

Standard clearance:
0.041 – 0.074 mm (0.0016 – 0.0029 in.)
Maximum clearance:
0.194 mm (0.0076 in.)

If the clearance exceeds the maximum, replace the gear or shaft.

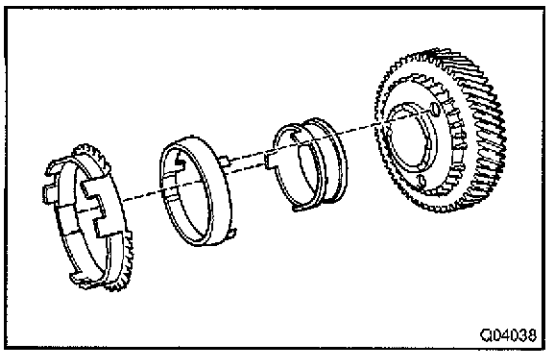


4. INSPECT REVERSE IDLER GEAR AND SHIFT ARM SHOE CLEARANCE

Using a feeler gauge, measure the clearance between the reverse idler gear and shift arm shoe.

Standard clearance:
0.20 – 0.41 mm (0.0079 – 0.0161 in.)
Maximum clearance:
0.90 mm (0.0354 in.)

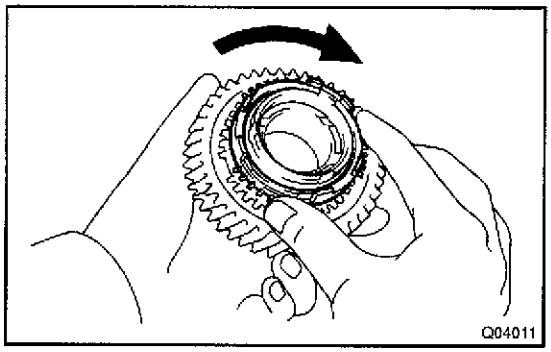
If the clearance exceeds the maximum, replace the shift arm shoe or reverse idler gear.



5. INSPECT 5TH GEAR SYNCHRONIZER RING

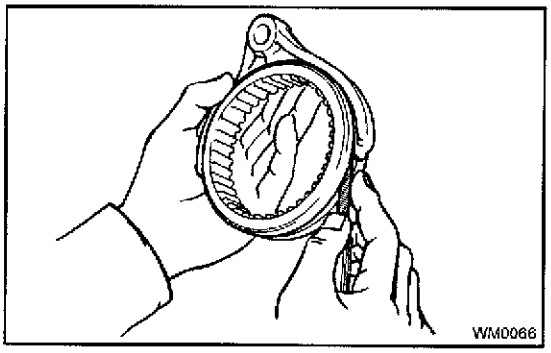
(a) Check for wear or damage.

(b) Install the synchronizer pull ring, cone ring and outer ring to the 5th gear.



(c) Check the braking effect of the synchronizer ring. Turn the synchronizer ring in one direction while pushing it to the gear cone. Check that the ring locks.

If it does not lock, replace the synchronizer ring.



6. INSPECT SHIFT FORK AND HUB SLEEVE CLEARANCE

Using a feeler gauge, measure each clearance between the hub sleeves and shift forks.

Maximum clearance:
1.0 mm (0.039 in.)

If the clearance exceeds the maximum, replace the shift fork or hub sleeve.

M1R5C-01

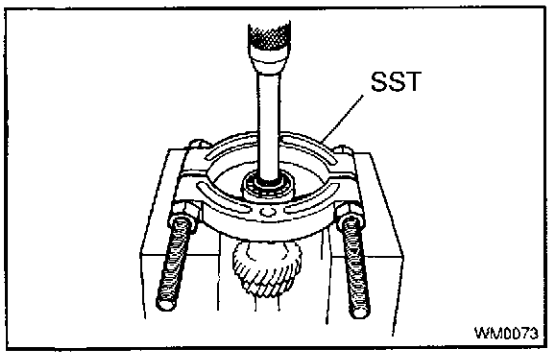
REPLACEMENT

1. IF NECESSARY, REPLACE COUNTER GEAR FRONT BEARING AND SIDE RACE

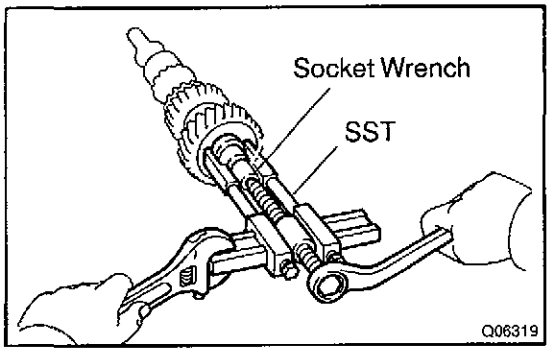
(a) Using a snap ring expander, remove the snap ring.

(b) Using SST and a press, press out the bearing.
SST 09950–00020

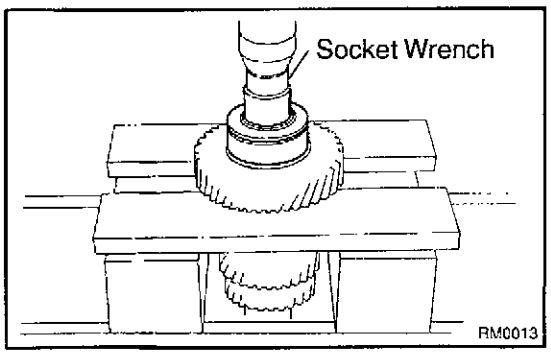
(c) Check the side race for wear or damage.



(d) If necessary, remove the side race.
Using SST and a socket wrench, remove the side race.
SST 09950–40010

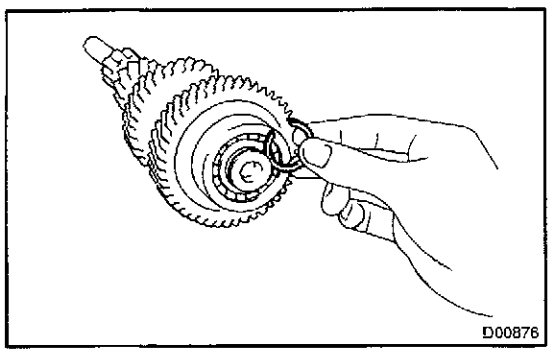


(e) Using a socket wrench and press, install a new bearing, side race and inner race.



(f) Select a snap ring that allows the minimum axial play.

Mark	Thickness mm (in.)
A	2.05 – 2.10 (0.0807 – 0.0827)
B	2.10 – 2.15 (0.0827 – 0.0846)
C	2.15 – 2.20 (0.0846 – 0.0866)
D	2.20 – 2.25 (0.0866 – 0.0886)
E	2.25 – 2.30 (0.0886 – 0.0906)
F	2.30 – 2.35 (0.0906 – 0.0925)



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

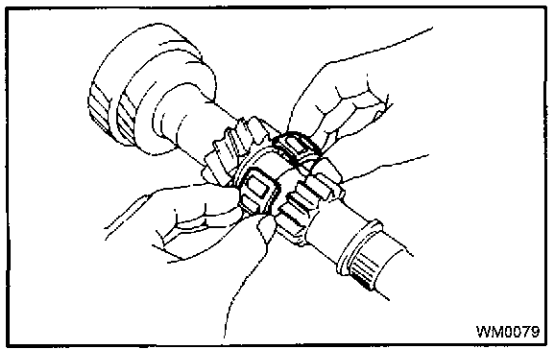
2. IF NECESSARY, REPLACE COUNTER GEAR CENTER BEARING

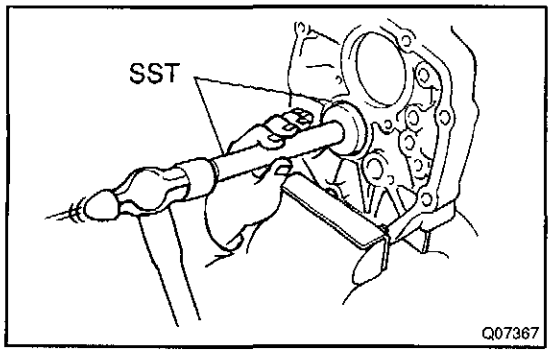
(a) Remove the bearing from the counter gear.

(b) Install a new bearing on the counter gear.

HINT:

Engage the roller cages.





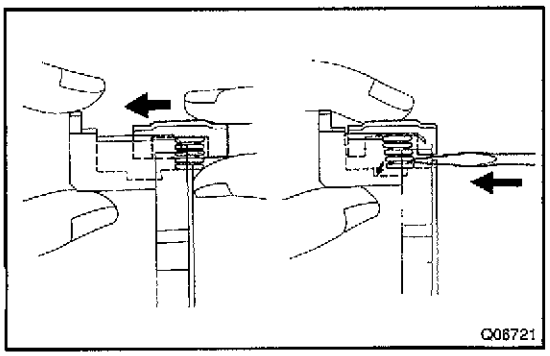
(c) Using SST, tap out the bearing outer race.
SST 09950–60010 (09951–00510), 09950–70010 (09951–07150)

HINT:
After the outer race has been installed, the transmission is reassembled.

MT010-03

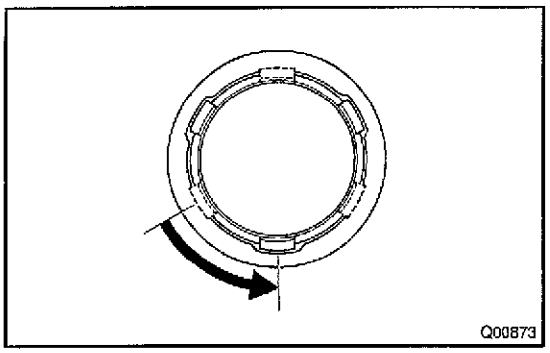
REASSEMBLY

INSTALL SYNCHRONIZER RING ASSEMBLY TO NO.3 HUB SLEEVE

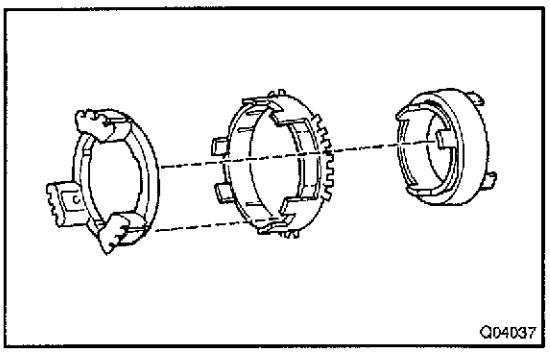


(a) Push the synchronizer key spring, install the shifting key and key spring to the reverse synchronizer ring.

(b) Using a screwdriver, push the 3 key springs into the synchronizer ring spring gaps.

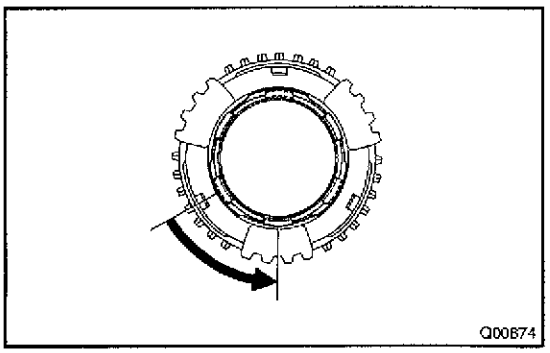


(c) Install the synchronizer cone ring to the reverse synchronizer pull ring and turn the pull ring.

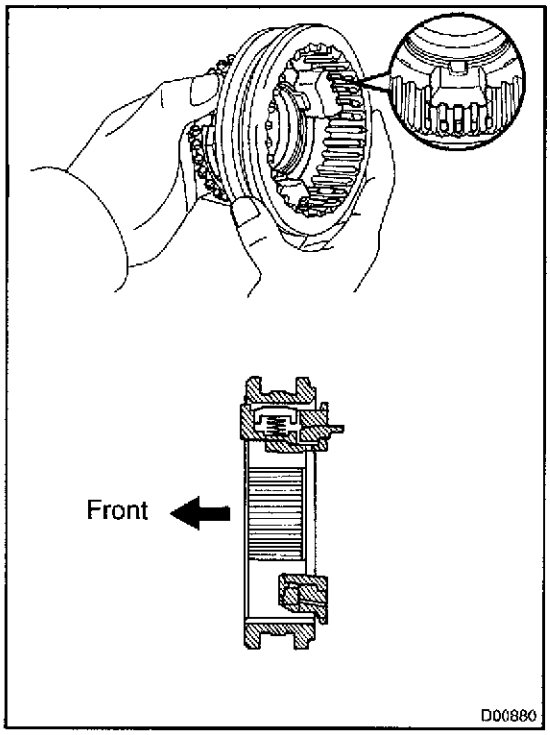


(d) Install the 5th synchronizer ring.

(e) Install the reverse synchronizer ring.



(f) Turn the reverse synchronizer pull ring.



(g) While pushing 3 shifting keys, install the synchronizer ring assembly to the No.3 hub sleeve.