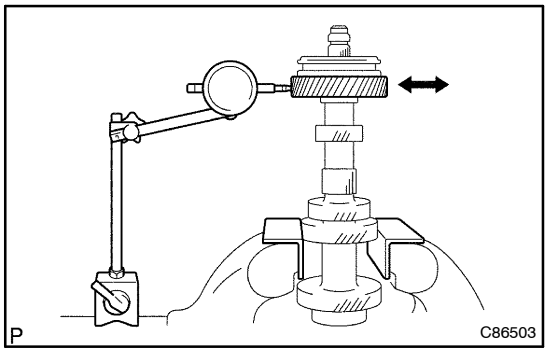
COUNTER GEAR ASSY (G52)

4103G–02

OVERHAUL

HINT:

COMPONENTS: See page 41–1



1. INSPECT COUNTER SHAFT 5TH GEAR RADIAL CLEARANCE

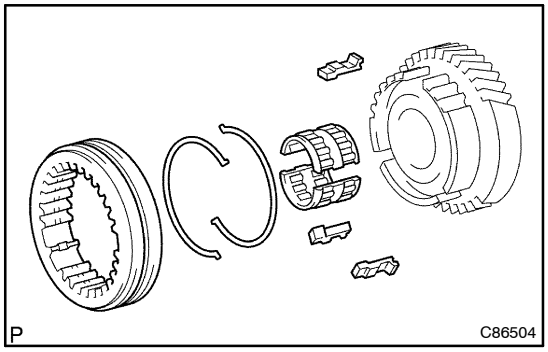
(a) Install the 5th gear bearing inner lace lock ball, the 5th gear thrust washer and the counter shaft 5th gear assy to the counter gear.

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

Standard clearance:

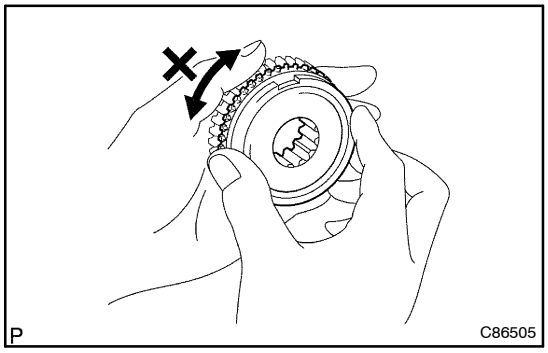
0.008 – 0.034 mm (0.0003 – 0.00134 in.)

If the clearance is outside the standard, replace the counter 5th gear bearing.



2. REMOVE TRANSMISSION HUB SLEEVE NO.3

(a) Remove the transmission hub sleeve No. 3, the 3 clutch hub No. 3 synchromesh shifting keys, the 2 synchromesh shifting key springs No. 3 and the counter 5th gear bearing form the counter shaft 5th gear.



3. INSPECT SYNCHRONIZER RING NO.3

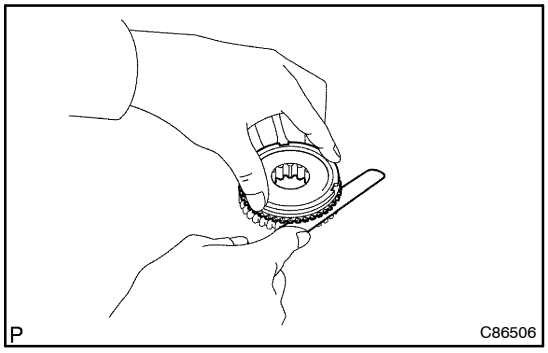
(a) Coat the gear spline piece No. 5 cone with with gear oil. Check the braking effect of the synchronizer ring No. 3. Turn the synchronizer ring No. 3 in one direction while pushing it to the gear spline piece No. 5 cone. Check that the ring locks.

If the braking effect is insufficient, apply a small amount of the fine lapping compound between the synchronizer ring No. 3 and the gear spline piece No. 5 cone together.

NOTICE:

Ensure the fine lapping compound is completely washed off after rubbing.

(b) Check again the braking effect of the synchronizer ring No. 3.



(c) Using a feeler gauge, measure the clearance between the synchronizer ring No. 3 back and the gear spline piece No. 5 spline end.

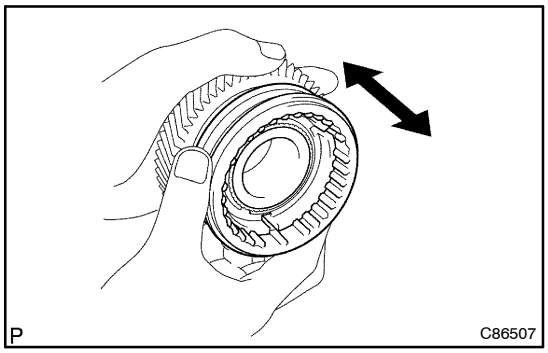
Standard clearance:

0.85 – 1.55 mm (0.0335 – 0.0610 in.)

If the clearance is outside the standard, replace the synchronizer ring No. 3, and apply a small amount of the fine lapping compound on the gear spline piece No. 5 cone.

NOTICE:

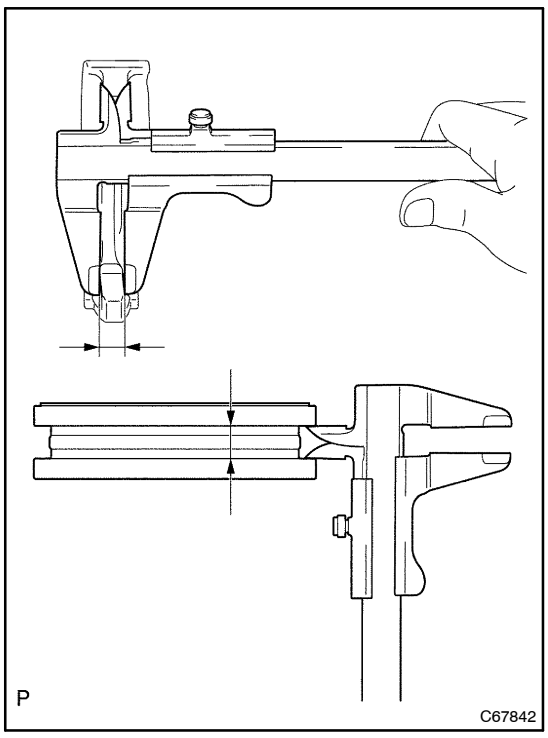
Ensure the fine lapping compound is completely washed off after rubbing.



4. INSPECT TRANSMISSION HUB SLEEVE NO.3

(a) Check the sliding condition between the transmission hub sleeve No. 3 and the transmission clutch hub No. 3.

(b) Check that the spline gear's edges of the transmission hub sleeve No. 3 are not worn down.

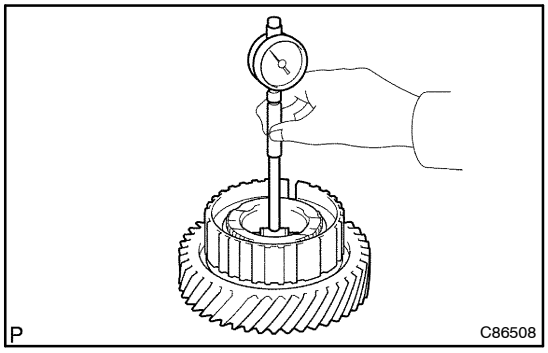


(c) Using a vernier calipers, inspect the transmission hub sleeve No. 3 and gear shift fork No. 3 as shown in the illustration.

Standard clearance:

0.25 – 0.45 mm (0.0098 – 0.0177 in.)

If the clearance is outside the standard, replace the transmission hub sleeve No. 3 and the gear shift fork No. 3.

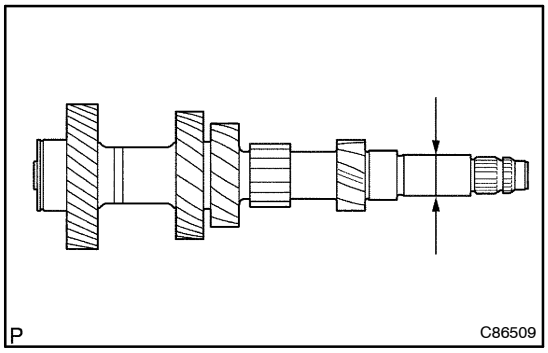


5. INSPECT COUNTERSHAFT 5TH GEAR

(a) Using a cylinder gauge, measure the inside diameter of counter shaft 5th gear.

Standard clearance:
33.015 – 33.040 mm (1.2998 – 1.3008 in.)
Maximum clearance: 33.040 mm (1.3008 in.)

If the clearance exceeds the maximum, replace the counter shaft 5th gear.

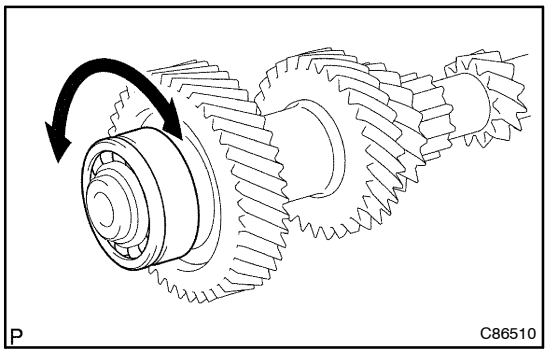


6. INSPECT COUNTER GEAR

(a) Using a micrometer, measure the outer diameter of the counter gear journal surface.

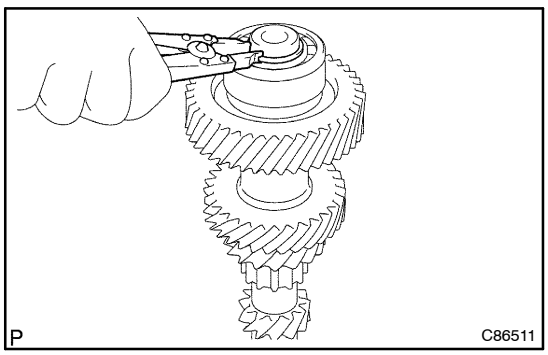
Standard clearance:
25.984 – 26.000 mm (1.0230 – 1.0236 in.)
Minimum clearance: 25.984mm (1.0230 in.)

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



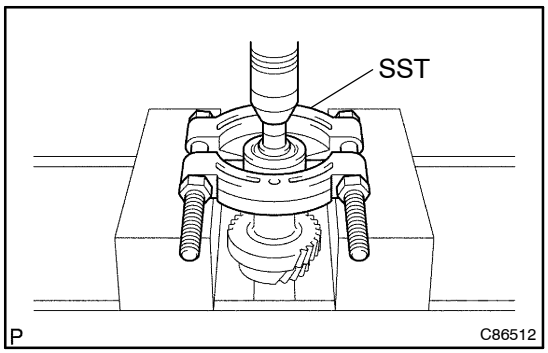
7. INSPECT COUNTER GEAR FRONT BEARING OR ROLLER

(a) Make sure the counter gear front bearing or roller rotates smoothly.



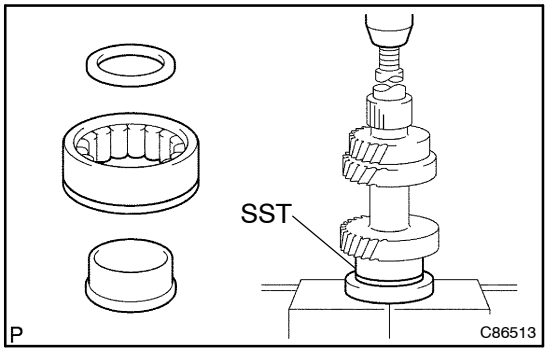
8. REMOVE COUNTER GEAR FRONT BEARING OR ROLLER

(a) Using a snap ring pliers, remove the counter gear front bearing snap ring No. 2 from the counter gear.



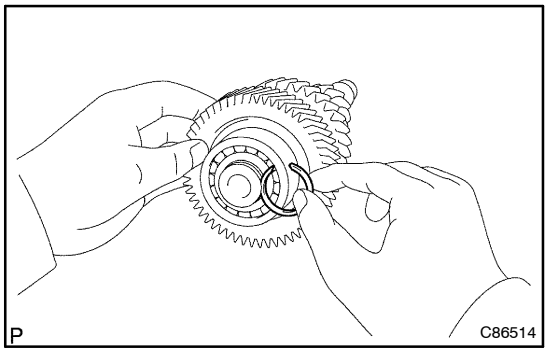
(b) Using SST, a press and a socket wrench 14 mm, remove the counter gear front bearing or roller from the counter gear.

SST 09950–00020



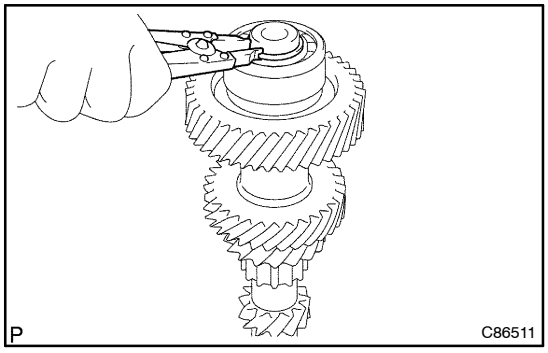
9. INSTALL COUNTER GEAR FRONT BEARING OR ROLLER

(a) Using SST and a press, install a new counter gear front bearing to the counter gear.
SST 09515–10010

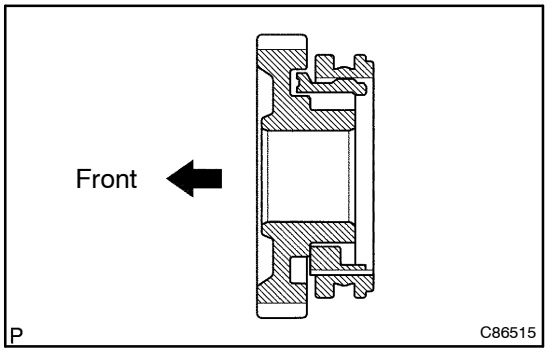


(b) Select a counter gear front bearing snap ring No. 2 that will allow minimum axial play.
Standard clearance: 0.1 mm (0.0039 in.) or less
Counter gear front bearing snap ring No. 2 thickness: mm (in)

Mark	Thickness
1	2.05 – 2.10 (0.0807 – 0.0827)
2	2.10 – 2.15 (0.0827 – 0.0847)
3	2.15 – 2.20 (0.0847 – 0.0866)
4	2.20 – 2.25 (0.0866 – 0.0886)
5	2.25 – 2.30 (0.0886 – 0.0906)
6	2.30 – 2.35 (0.0906 – 0.0925)
7	2.35 – 2.40 (0.0925 – 0.0945)
8	2.40 – 2.45 (0.0945 – 0.0965)



(c) Using a snap ring pliers, install the counter gear front bearing snap ring No. 2 to the counter gear.



10. INSTALL TRANSMISSION HUB SLEEVE NO.3

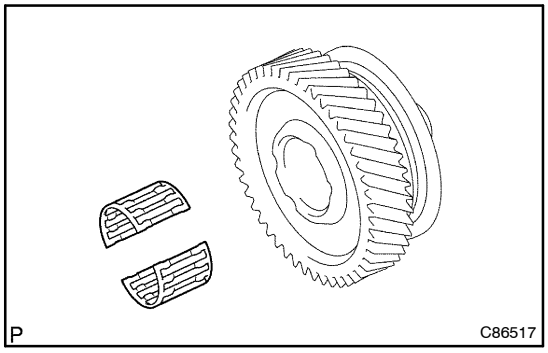
(a) Coat the counter shaft 5th gear with gear oil.

(b) Install the transmission hub sleeve No. 3 and the 3 clutch hub No. 3 synchromesh shifting keys to the counter shaft 5th gear.

HINT:
Be sure to set the transmission hub sleeve No.3 and the 3 clutch hub No,3 syncromesh shifting keys to the couter shaft 5th gear in correct direction

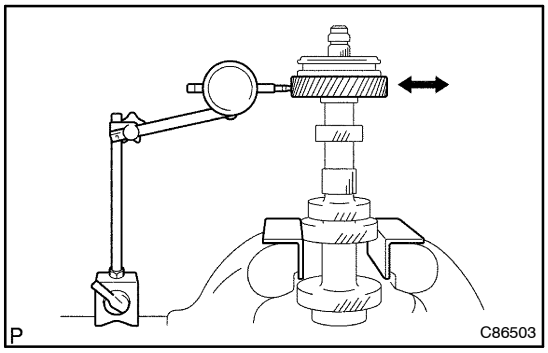
(c) Install the 2 synchromesh shifting key springs No. 3 to the clutch hub No. 3 synchromesh shifting key.

HINT:
Do not set both openings of the shifting key springs in the same position.



11. INSTALL COUNTER 5TH GEAR BEARING

(a) Coat the counter 5th gear bearing with gear oil, and install it to the counter 5th gear.



12. INSPECT COUNTER SHAFT 5TH GEAR RADIAL CLEARANCE

(a) Install the 5th gear bearing inner lace lock ball, the 5th gear thrust washer and the counter shaft 5th gear assy to the counter gear.

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

Standard clearance:
0.008 – 0.034 mm (0.0003 – 0.00134 in.)