

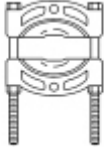
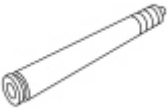


Output Shaft

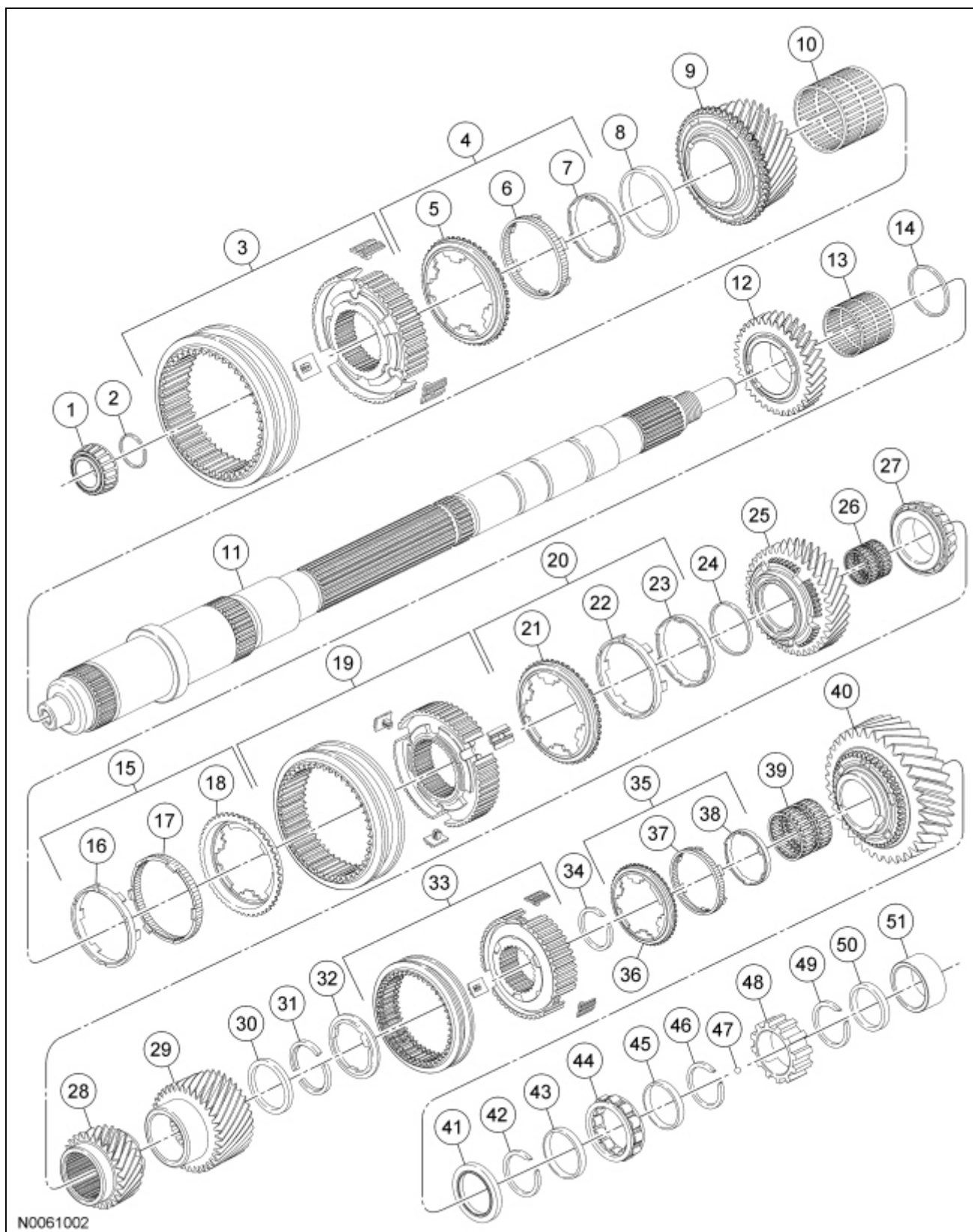
Special Tool(s)

 ST1255-A	Handle 205-153 (T80T-4000-W)
 ST2231-A	Installer, Output Shaft Rear Bearing 308-401
 ST1368-A	Puller, Bearing 205-D064 (D84L-1123-A)
 ST2163-A	Remover/Installer, Bearing Tube 308-025 (T75L-7025-C)

Material

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM (or XT-5-QMC) (US); CXT-5-LM12 (Canada)	MERCON® V

Disassembly



N0061002

Item	Part Number	Description
1	7025	Output shaft front bearing
2	7A082	Snap ring
3	7124	3rd/4th synchronizer assembly
4	7107	3rd/4th synchronizer blocking ring assembly
5	—	Synchronizer blocking ring (part of 7107)
6	—	Synchronizer outer cone (part of 7107)
7	—	Synchronizer inner cone (part of 7107)

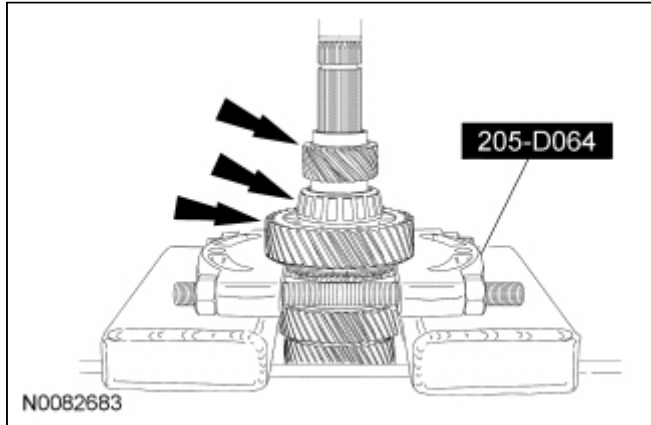
8	7117	Spacer
9	7B340	3rd gear
10	7025	3rd gear needle bearing
11	7061	Output shaft
12	7102	2nd gear
13	7025	2nd gear needle bearing
14	7117	Spacer
15	7107	2nd gear synchronizer blocking ring assembly
16	—	Synchronizer inner cone (part of 7107)
17	—	Synchronizer outer cone (part of 7107)
18	—	Synchronizer blocking ring (part of 7107)
19	7124	1st/2nd synchronizer assembly
20	7107	1st gear synchronizer blocking ring assembly
21	—	Synchronizer blocking ring (part of 7107)
22	—	Synchronizer outer cone (part of 7107)
23	—	Synchronizer inner cone (part of 7107)
24	7117	Spacer
25	7100	1st gear
26	7025	1st gear needle bearing
27	7025	Output shaft rear bearing
28	7L047	6th driven gear
29	7K316	5th driven gear
30	7A385	Thrust washer
31	—	Split washer
32	—	Synchronizer cone (part of 7107)
33	7124	Reverse synchronizer assembly
34	7A082	Snap ring
35	7107	Reverse gear synchronizer blocking ring assembly
36	—	Synchronizer blocking ring (part of 7107)
37	—	Synchronizer outer cone (part of 7107)
38	—	Synchronizer inner cone (part of 7107)
39	7N168	Reverse gear needle bearing
40	7C238	Reverse gear
41	7A385	Thrust washer
42	7A082	Snap ring
43	—	Spacer
44	7025	Rear output shaft bearing
45	—	Spacer
46	7A082	Snap ring
47	7E172	Check ball
48	7H150	Speedometer rotor
49	7A082	Snap ring
50	—	Spacer
51	—	Output shaft bearing race

1. Remove the 3rd/4th synchronizer sleeve.
2. **NOTICE:** Hand-tighten the Bearing Puller to prevent gear damage.

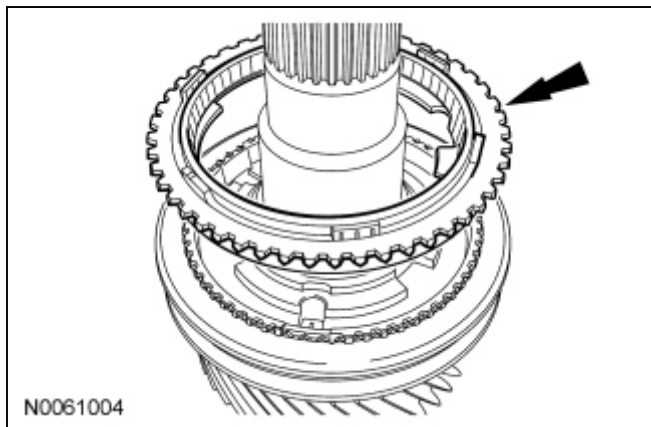
NOTICE: Support the output shaft while using the press to prevent damage to the shaft or gears.

Using the Bearing Puller and a press, remove 1st gear, the output shaft rear bearing and the 6th driven gear.

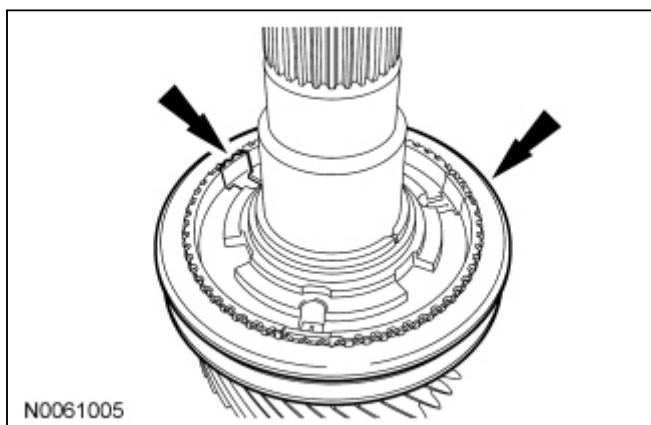
- Discard the output shaft bearing.
- Inspect the gears for wear or damage. Install a new gear as necessary.



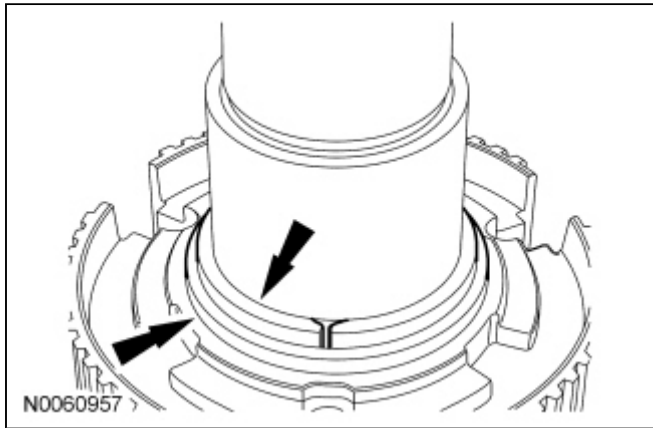
3. Remove the 1st gear needle bearing.
 - Inspect the needle bearing for wear or damage. Install a new needle bearing as necessary.
4. Remove the 1st gear synchronizer inner cone, the outer cone and the blocking ring.
 - Inspect all components for wear or damage. Install new components as necessary.



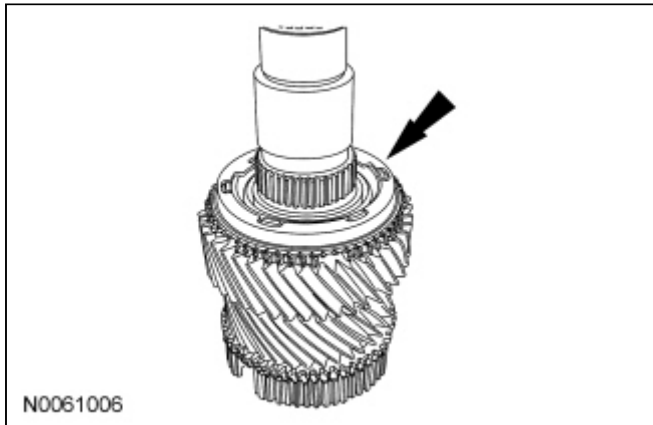
5. Remove the synchronizer sleeve and the 3 synchronizer keys.



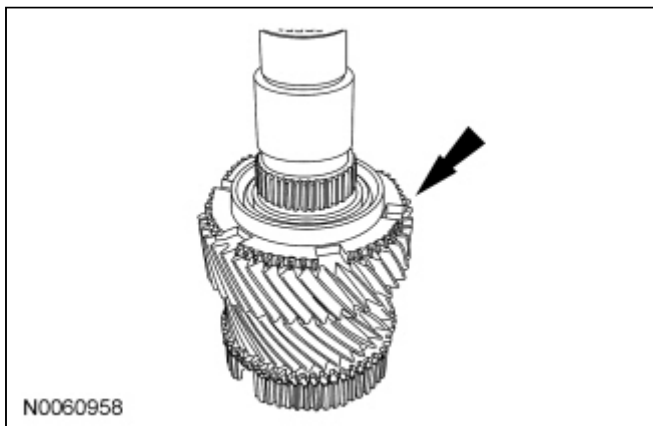
6. Remove the split washer.



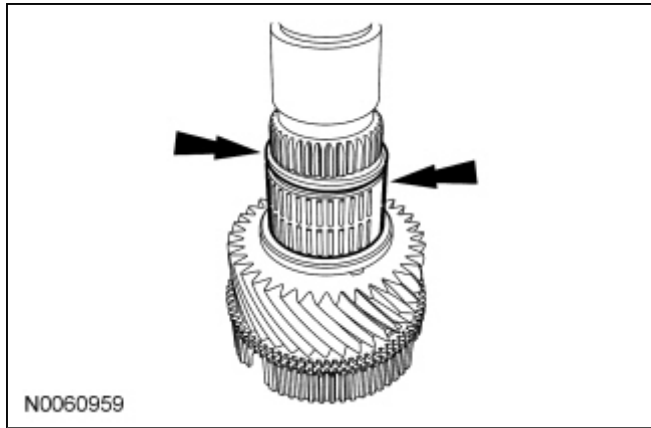
7. Remove the 1st/2nd gear synchronizer hub.
8. Remove the inner cone, the outer cone, the 2nd gear synchronizer blocking ring and the synchronizer hub.
 - Inspect all synchronizer components for wear or damage. Install new components as necessary.



9. Remove 2nd gear.
 - Inspect 2nd gear for wear or damage. Install a new gear as necessary.



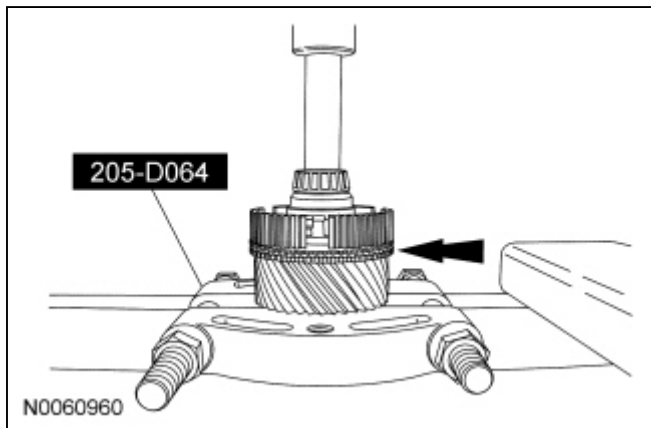
10. Remove the 2nd gear needle bearing and the spacer.
 - Inspect the needle bearing for wear or damage. Install a new needle bearing as necessary.



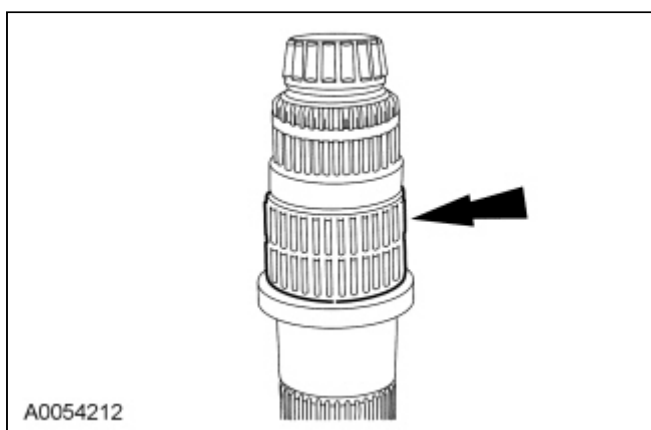
11. **NOTE:** Reposition the output shaft on the press with the input shaft end facing upward.

Remove and discard the snap ring, then using the Bearing Puller, remove the 3rd/4th gear synchronizer assembly, the 3rd gear synchronizer double cone and the 3rd gear.

- Inspect the gear for broken or cracked teeth. Install a new gear as necessary.
- Inspect all synchronizer components for wear or damage. Install new components as necessary.

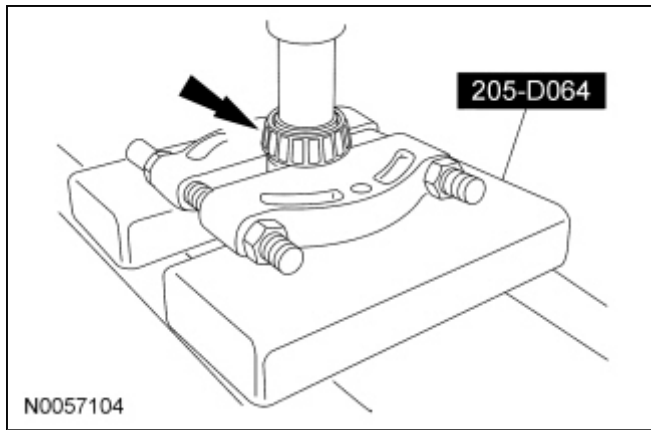


12. Remove the 3rd gear needle bearing and the spacer.
- Inspect the needle bearing for wear or damage. Install a new needle bearing as necessary.

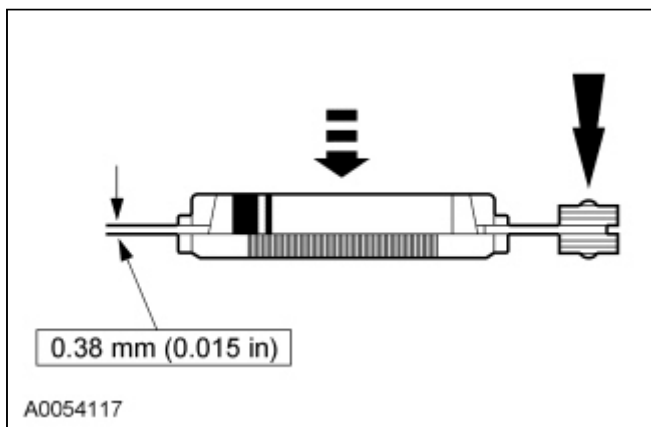


13. **NOTE:** Install the Bearing Puller with the flat side facing the bearing.

Using the Bearing Puller, press the output shaft front bearing from the output shaft. Discard the bearing.



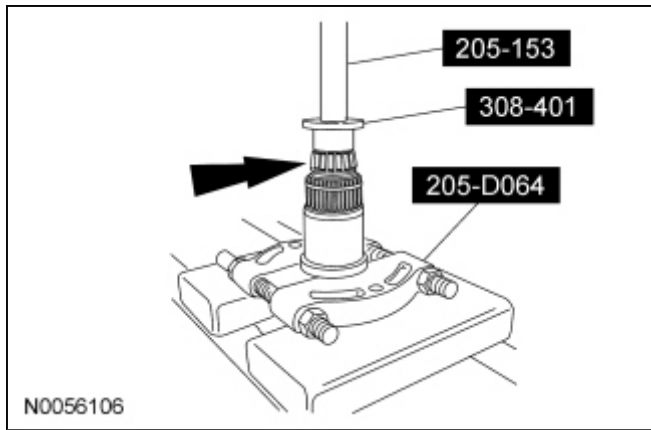
14. Inspect the synchronizers.
 - Check for worn, nicked or broken teeth. Install a new synchronizer as necessary.
 - Check keys for wear or damage. Install a new synchronizer as necessary.
15. Inspect the synchronizer blocking rings.
 - Check for wear or damage. Install new synchronizer blocking rings as necessary.
 - Check the clearance between the synchronizer blocking ring and the gear.
 - Position the blocking ring onto the gear. Make sure the correct blocking ring is measured with the correct gear and that the blocking ring is fully seated on the gear.
 - Insert a feeler gauge and measure the clearance, while applying pressure and rotating the blocking ring. The measurement should be the same around the entire circumference. If the clearance is less than 0.38 mm (0.015 in), install new blocking rings.



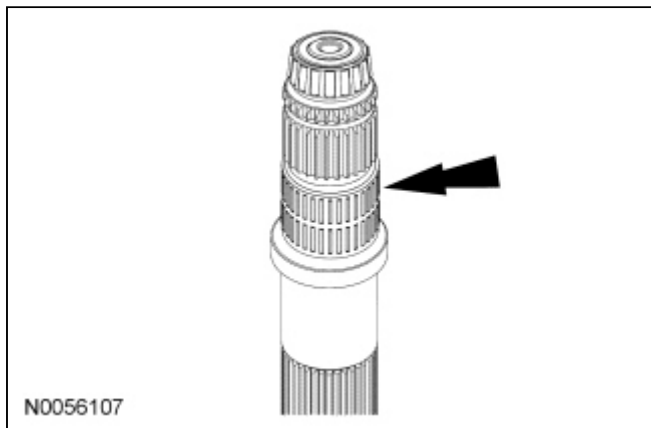
16. Inspect the output shaft for scoring or worn or damaged splines. Install a new output shaft as necessary.

Assembly

1. Lubricate all components with the recommended transmission fluid when reassembling.
2. Using the Bearing Puller, Output Shaft Rear Bearing Installer and the Handle, press the new output shaft front bearing on the output shaft.



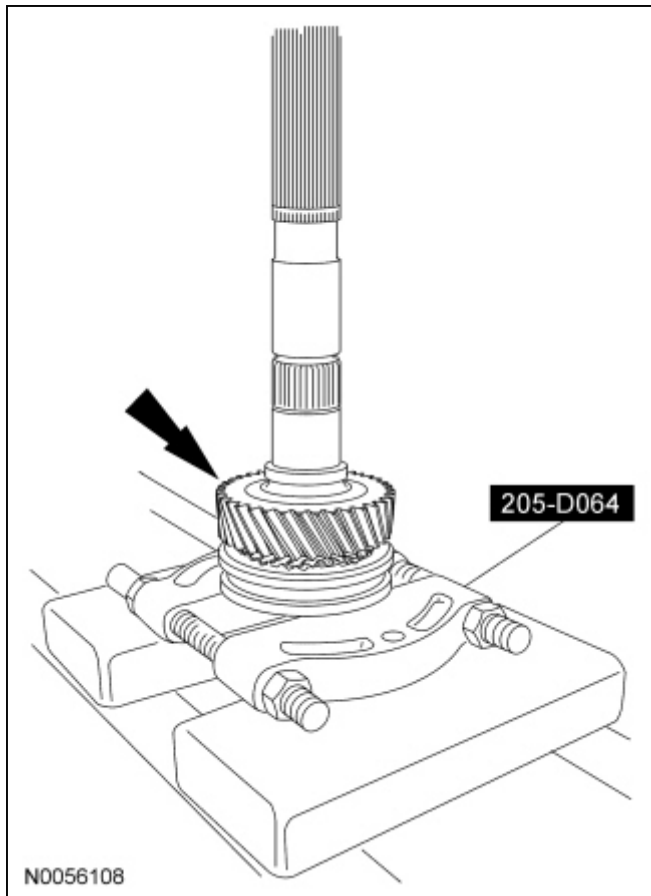
3. Install the 3rd gear bearing and the spacer.
 - Apply petroleum jelly to the bearing.



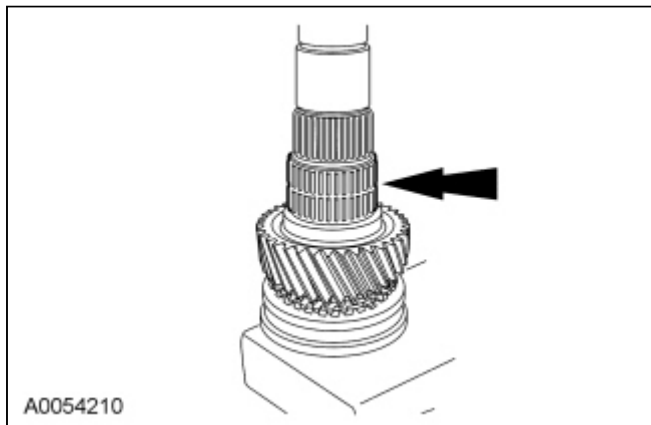
4. **NOTE:** If there is no groove present on the synchronizer body, orientation does not matter.

Install 3rd gear, the 3rd gear synchronizer double cones and the 3rd/4th gear synchronizer assembly. Position the output shaft with the output end facing upward. Using the Bearing Puller, press the 3rd/4th gear synchronizer assembly into place.

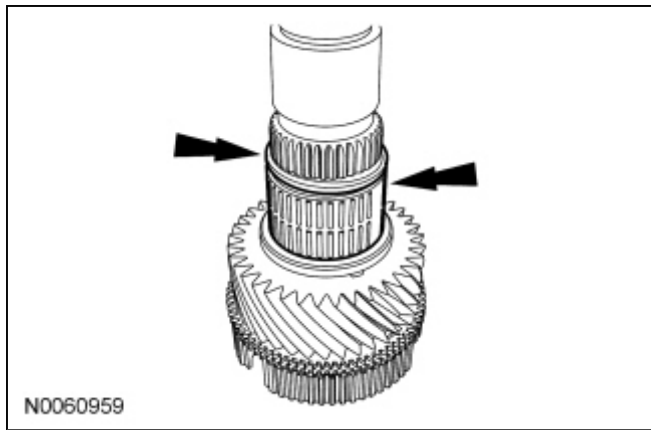
- Install the synchronizer body with the groove facing 3rd gear.
- Stop press operation before keys engage the blocking ring slots. Lift and rotate the 3rd gear and the blocking ring until the keys are seated in the blocking ring.



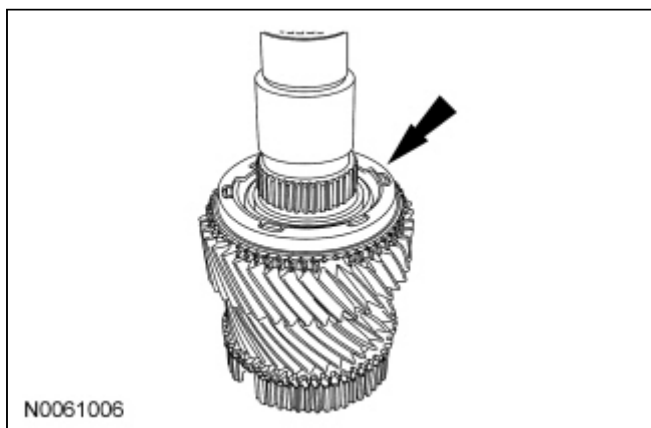
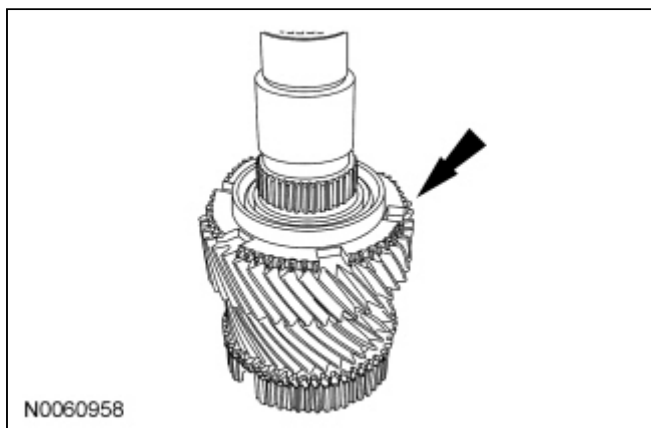
5. Install a new snap ring.
6. Install the 2nd gear needle bearing.
 - Apply petroleum jelly to the bearing.



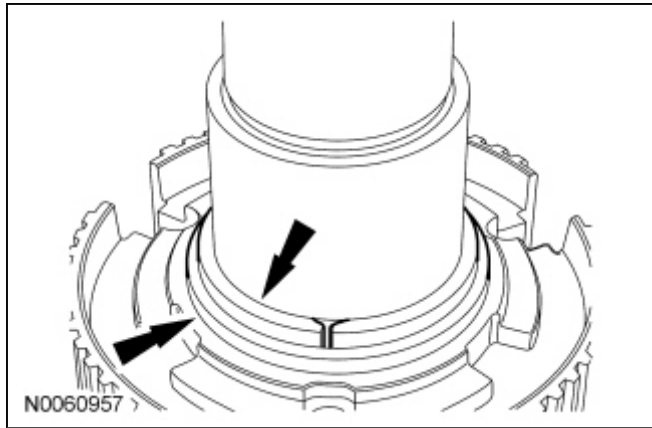
7. Install 2nd gear and the bearing spacer.



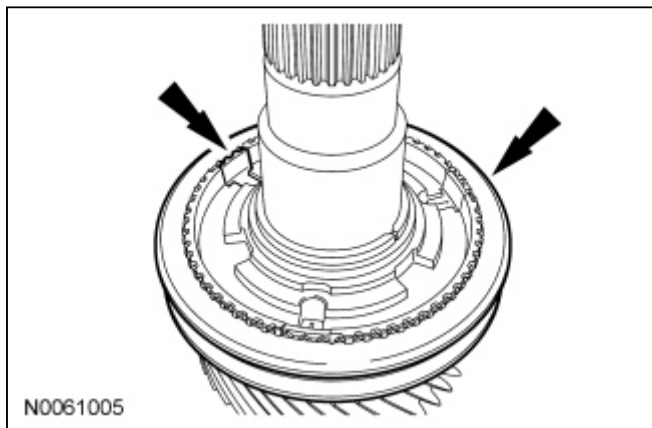
8. Install the 2nd gear, the inner cone, the intermediate cone and the 2nd gear synchronizer blocking ring.
 - Align the blocking ring tabs with the 2nd gear slots.



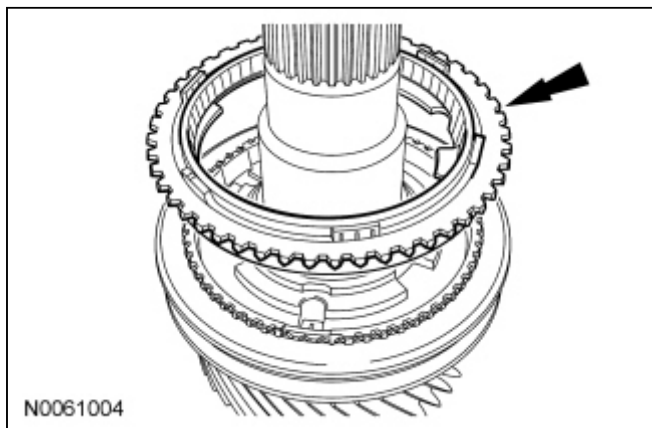
9. Install the 1st/2nd gear synchronizer hub assembly into place.
 - Install the synchronizer with the groove on the sleeve facing 1st gear.
 - Lift and rotate the 2nd gear and the blocking ring until the keys are seated in the blocking ring.
10. Install the split washer.



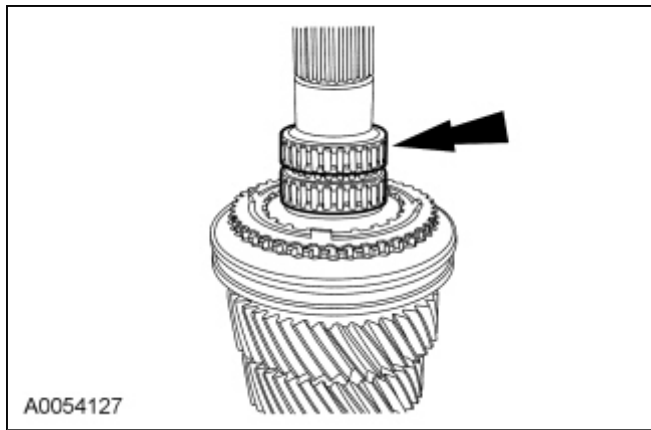
11. Install the 1st gear synchronizer sleeve and 3 synchronizer keys.



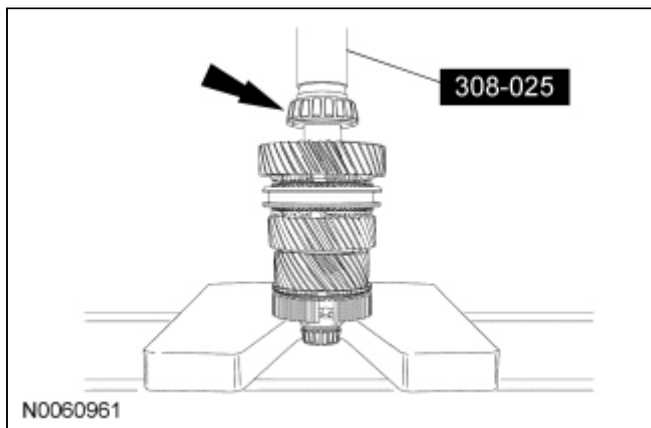
12. Install the 1st gear synchronizer inner cone, the intermediate cone and the 1st gear synchronizer blocking ring.



13. Install the 1st gear needle bearing.
 - Apply petroleum jelly to the bearing.



14. Install 1st gear.
 - Rotate the gear to align the gear slots with the intermediate cone tabs.
15. Using the Bearing Tube Remover/Installer, install a new rear output shaft bearing.



16. Using the Bearing Tube Remover/Installer, install the 6th driven gear.

