

TEMPEST SPRINT (6 CYLINDER WITH 4 BBL CARBURETOR) FOUR-SPEED MANUAL (SAGINAW) TRANSMISSION

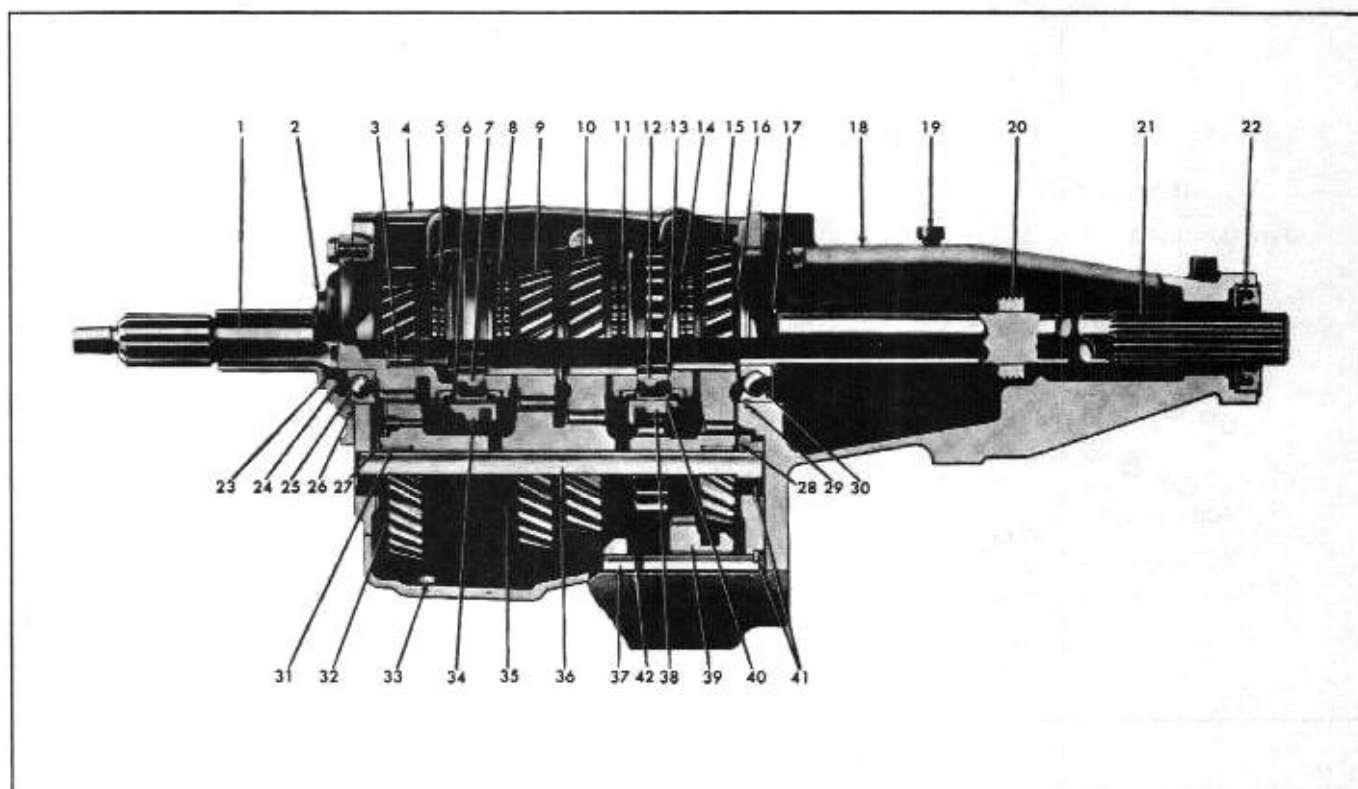
GENERAL DESCRIPTION

The four speed manual transmission is available only on special order and is engineered to operate on the Tempest six cylinder with four barrel carburetor (Fig. 7D-1).

The gear ratios for this transmission are 3.11 in first, 2.20 in second, 1.47 in third, 1.00 in fourth and

3.11 in reverse.

A great deal of similarity exists between the three-speed and four-speed manual transmissions. Service procedures that differ from the standard three-speed transmission are listed below; refer to section 7B for all other procedures.



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|---|--|---|
| 1. Main Drive Gear | 14. First Speed Blocking Ring | 29. Bearing To Extension Snap Ring |
| 2. Front Bearing Retainer | 15. First Gear | 30. Rear Bearing |
| 3. Bearing Roller | 16. Reverse Gear Thrust and Spring Washers | 31. Countergear Bearing Rollers |
| 4. Case | 17. Bearing To Mainshaft Snap Ring | 32. Anti-Rattle Plate Assy. |
| 5. Fourth Speed Blocking Ring | 18. Case Extension | 33. Magnet |
| 6. Third and Fourth Synchronizer Snap Ring | 19. Vent | 34. Third and Fourth Synchronizer Sleeve (Sliding) |
| 7. Third and Fourth Synchronizer Hub | 20. Speedometer Drive Gear | 35. Countergear Assy. |
| 8. Blocking Ring | 21. Mainshaft | 36. Counter shaft |
| 9. Third Speed Gear | 22. Rear Oil Seal | 37. Reverse Idler Shaft |
| 10. Second Speed Gear | 23. Bearing Retainer Oil Seal | 38. First and Second Speed Synchronizer Sleeve and Reverse Gear |
| 11. Blocking Ring | 24. Bearing To Gear Snap Ring | 39. Reverse Idler Gear |
| 12. First and Second Synchronizer Hub | 25. Front Bearing | 40. Clutch Keys |
| 13. First and Second Synchronizer Snap Ring | 26. Bearing To Case Snap Ring | 41. Woodruff Key |
| | 27. Thrust Washer (Front) | 42. Reverse Idler Gear Stop Ring |
| | 28. Thrust Washer (Rear) | |

Fig. 7D-1 Four-Speed Manual Transmission - Cross Section

However, the synchronizer assembly at the front of the mainshaft is used for the third and fourth rather than the second and third shift. The synchronizer assembly at the rear of the mainshaft is used for the first and second rather than the first and reverse shift. Gear teeth cut in the first and second synchronizer sleeve distinguish it from the third and fourth synchronizer sleeve. All parts except the gears and the first and second synchronizer sleeve in the four-speed transmission mainshaft assembly are also used in the three-speed manual transmission mainshaft assembly. However, starting from the front, gears on the mainshaft are third, second and first rather than second, first and reverse. A fourth blocker ring is used between the 1-2 synchronizer assembly and first gear on the four speed transmission.

REVERSE IDLER GEAR PARTS

This is a sliding reverse idler gear. Elimination of the thrust washer between the gear and case and removal of the snap ring groove to allow movement of the reverse idler gear, distinguishes this shaft from the three-speed transmission reverse idler

shaft. Otherwise service procedure is the same as for the three-speed transmission.

MINOR REPAIRS

COVER ASSEMBLY

The cover on the four-speed transmission is located on the left side of the case. It is similar to the three-speed cover with the addition of a reverse shifter shaft assembly, detent ball and detent spring. Disassembly and assembly procedures are covered in section 7B (Manual Three Speed Transmission).

TRANSMISSION IDENTIFICATION

An identifying code is marked in yellow paint on all four-speed manual transmissions. This code consists of two letters, 1 inch high, on the R.H. side of the transmission case. The letters "FS" identify this Tempest 6 cylinder, 4 barrel carburetor equipped, four-speed manual (Saginaw) transmission. Also, on a case pad, just below side cover, is stamped the letter "S" (Saginaw) followed by four numbers.