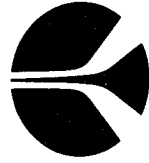
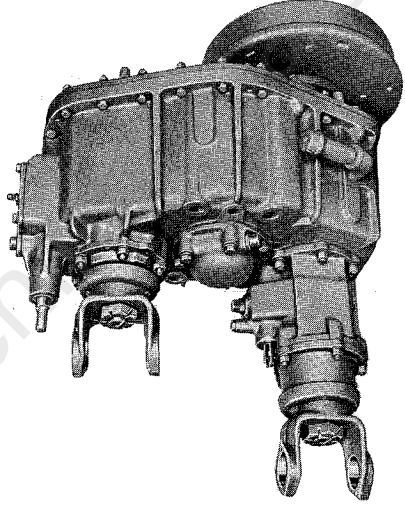


Field Maintenance Manual No. 3

Transfer Cases

Three Shaft Design



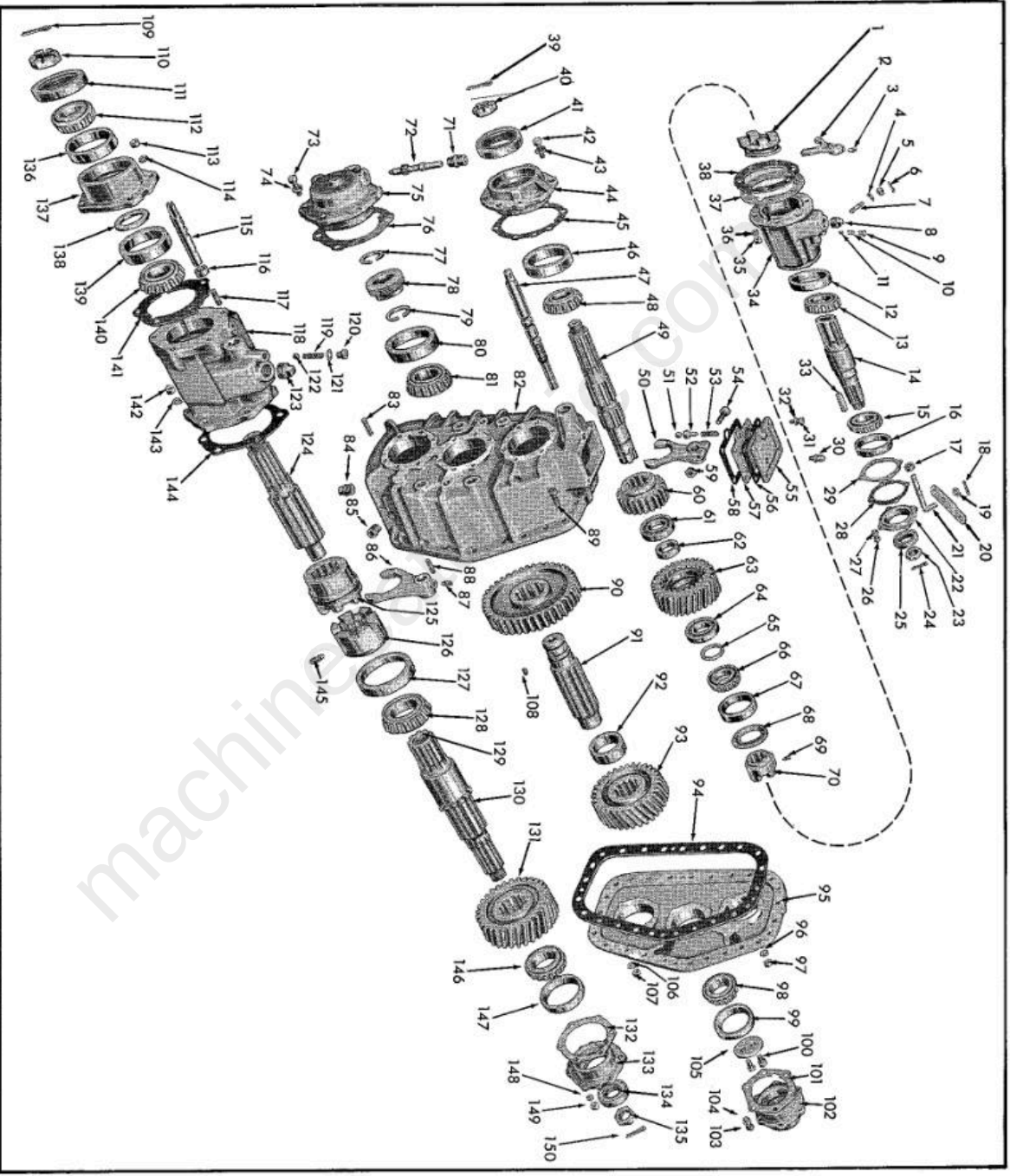
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PREVENTIVE MAINTENANCE

CONVENTIONAL THREE SHAFT DESIGN

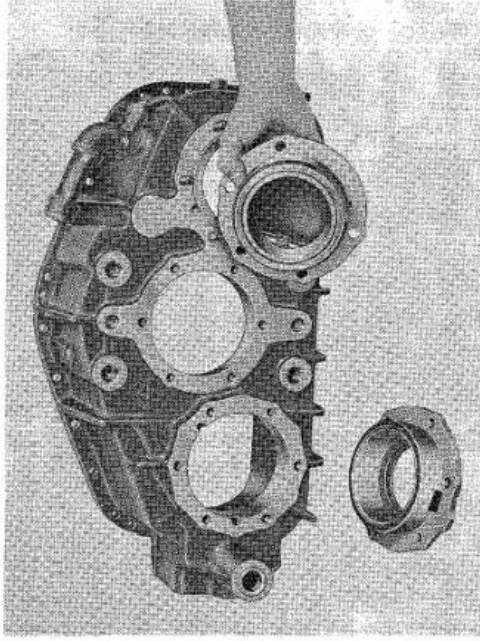
The Conventional Type Transfer Case is the two-speed, three shaft design. It can be adapted to incorporate a power take-off and front axle declutch as optional equipment. A mechanical type auxiliary brake is mounted on the rear axle drive shaft as optional equipment.



- | | | |
|---------------------------------|----------------------------|-----------------------------------|
| 1. Sliding clutch | 19. Washer | 37. Shim |
| 2. Shift fork | 20. Shift lever | 38. Gasket |
| 3. Shift fork set screw | 21. Shift shaft | 39. Cotter key |
| 4. Washer | 22. Bearing cap | 40. Nut |
| 5. Nut | 23. Nut | 41. Oil seal |
| 6. Cotter key | 24. Cotter key | 42. Cap screw |
| 7. Stud | 25. Oil seal | 43. Lock washer |
| 8. Filler plug | 26. Cap screw | 44. Main shaft front bearing cage |
| 9. Detent cap screw | 27. Lock washer | 45. Gasket |
| 10. Detent spring (and plunger) | 28. Gasket | 46. Main shaft front bearing cup |
| 11. Detent ball | 29. Shim | 47. Range shift shaft |
| 12. Inner bearing cup | 30. Breather | 48. Main shaft front bearing |
| 13. Inner bearing | 31. Cap screw | 49. Main shaft |
| 14. Power take-off shaft | 32. Lock washer | 50. Range shift fork |
| 15. Outer bearing | 33. Square key | 51. Detent ball |
| 16. Outer bearing cup | 34. Power take-off housing | 52. Detent plunger |
| 17. Shift shaft oil seal | 35. Nut | 53. Detent spring |
| 18. Cotter key | 36. Lock washer | 54. Shift fork clamp bolt |

DISASSEMBLE TRANSFER CASE HOUSING

Remove the main shaft front seal cage and idler shaft front bearing cap.



DISASSEMBLE TRANSFER CASE COVER

- A. Take out the cap screws and lock washers and remove the idler shaft bearing cover and gasket.
 - B. Remove the nuts and lock washers from the axle drive shaft rear bearing cage. Pull the cage, using puller screws. Wire the shims together for reassembly.
- Press the main shaft rear bearing cup from the cover, if necessary.

PREPARE FOR REASSEMBLY CLEAN, INSPECT AND REPAIR

Clean parts having ground and polished surfaces, such as gears, bearings and shafts, with solvent type cleaners such as emulsion cleaners, carbon tetrachloride or petroleum solvents excluding gasoline. Do not clean these parts in a hot solution tank or with water and alkaline solutions such as sodium hydroxide, orthosilicates or phosphates.

CAUTION: *Exercise care to avoid skin rashes, fire hazards and inhalation of vapors when using solvent type cleaners.*

ROUGH PARTS

Rough parts such as transfer case housings, accessory housings and some brake parts may be cleaned in hot solution tanks with mild alkali solutions providing these parts are not ground or polished. The parts should remain in the tank long enough to be thoroughly cleaned and heated through. This will aid the evaporation of the cleaning solution and the rinse water.

CAUTION: *Exercise care to avoid skin rashes and inhalation of vapors when using alkali cleaners.*

Parts cleaned in solution tanks or with alkali cleaners should be thoroughly rinsed after cleaning to remove all traces of alkali.

COMPLETE ASSEMBLIES

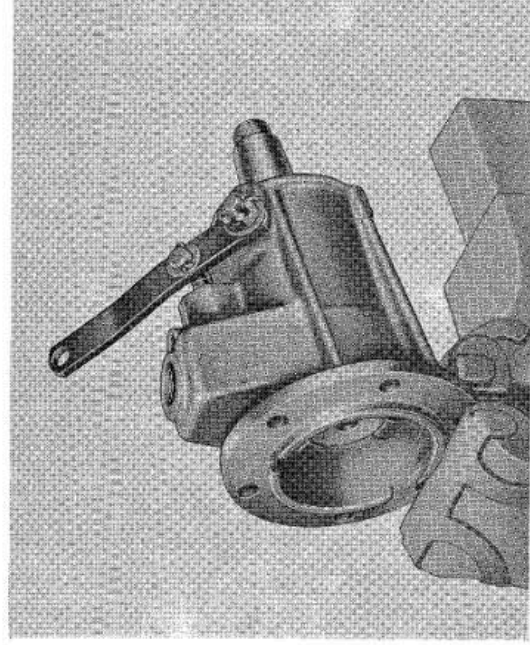
Completely assembled transfer cases may be steam cleaned, on the outside only, to facilitate initial removal and disassembly, providing all openings are closed. Breathers, vented shift units, and all other openings should be tightly covered or closed to prevent the possibility of water entering the assembly.

DRYING

Parts should be thoroughly dried immediately after cleaning. Use soft, clean, lintless absorbent paper towels or wiping rags free of abrasive material such as lapping compound, metal filings or contaminated oil. Bearings should never be dried by spinning with compressed air.

CORROSION PREVENTION

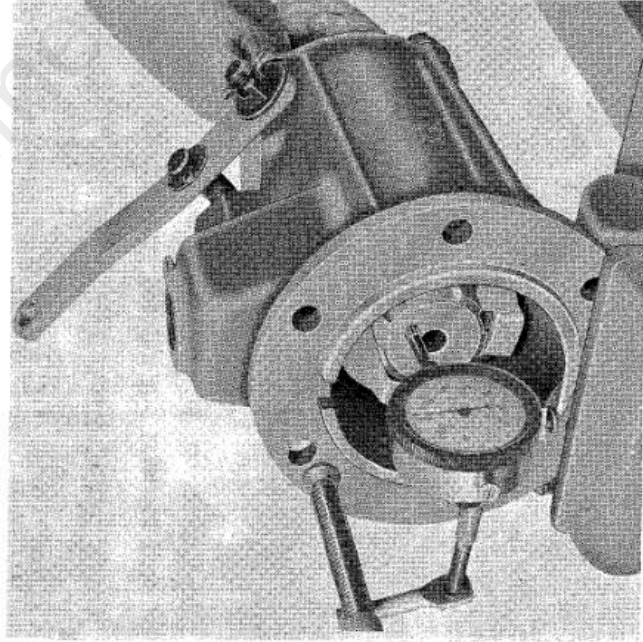
Parts that have been cleaned, dried, inspected and are to be immediately reassembled should be coated with light oil to prevent corrosion. If these parts are to be stored for any length of time, they should be treated with a good **RUST PREVENTIVE** and wrapped in special paper or other material designed to prevent corrosion.



H. Attach the shift lever to the shift shaft.

I. Position a new gasket and install enough bearing adjustment shims to set up endplay in the assembly.

J. Attach the seal cage assembly to the housing and tighten the cap screws.

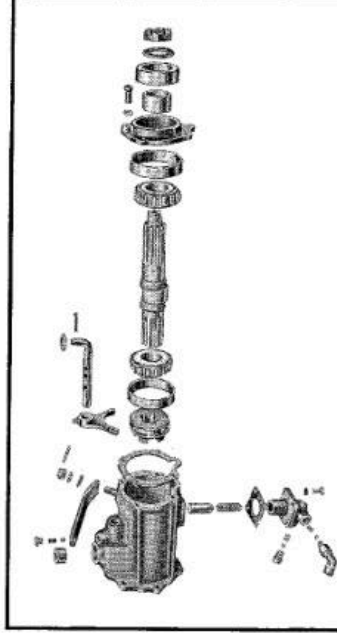


K. Using a dial indicator at the end of the shaft, check the amount of endplay in the assembly. *Specified endplay is .003"-.005".*

L. Take off the seal cage assembly and remove sufficient shims to establish a bearing adjustment of .003"-.005" endplay.

Example: If the dial indicator reading is .009", it will be necessary to remove .005" shims to arrive at an adjustment of .004", which is within specified limits.

M. Reinstall the seal cage assembly and tighten the cap screws to specified torque. Install the yoke or flange and nut. Tighten the nut and install the cotter key.



OPTIONAL PUMP TYPE POWER TAKE-OFF

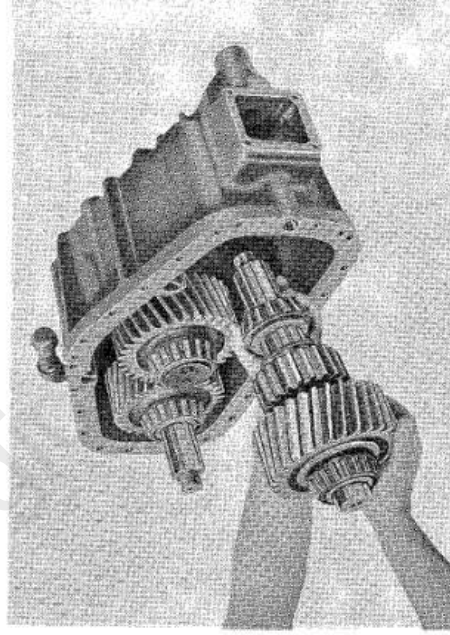
This power take-off unit is identical to the standard unit except that it incorporates an auxiliary spring loaded plunger type oil pump.

The pump, which is actuated by an eccentric located on the power take-off shaft, insures proper lubrication during "stationary" operation of the power take-off.

INSTALL THE SHAFT ASSEMBLIES

A. Position the axle drive shaft assembly in the transfer case.

B. Tilt the axle drive shaft assembly to the side and install the idler shaft assembly. Work both assemblies into position.



C. Position the main shaft assembly in the case and work it into place.

D. Reassemble the transfer case cover if it was disassembled. Use the original shim packs under the idler shaft and axle drive shaft rear bearing caps.

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