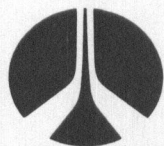
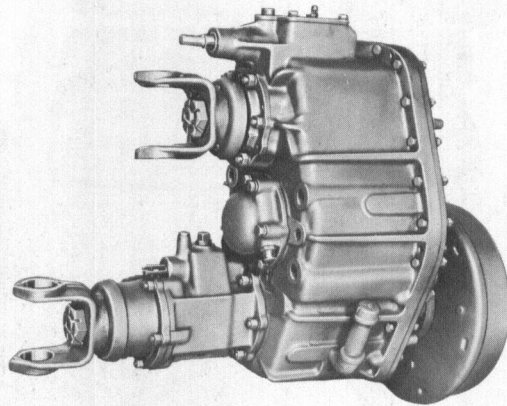


Field Maintenance Manual No. 3

Transfer Cases

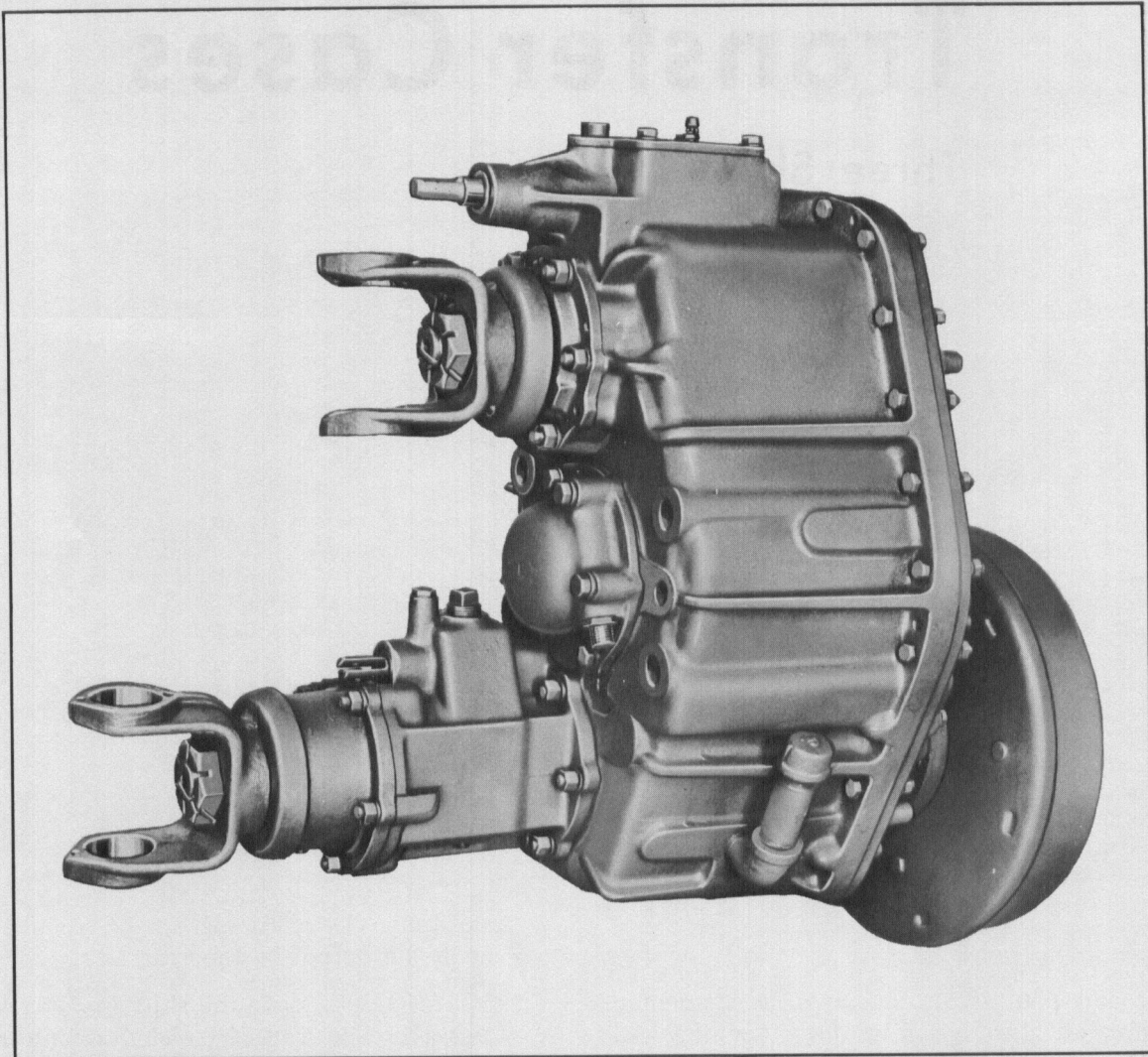
Three Shaft Design



Rockwell International

...where science gets down to business

THREE SHAFT DESIGN



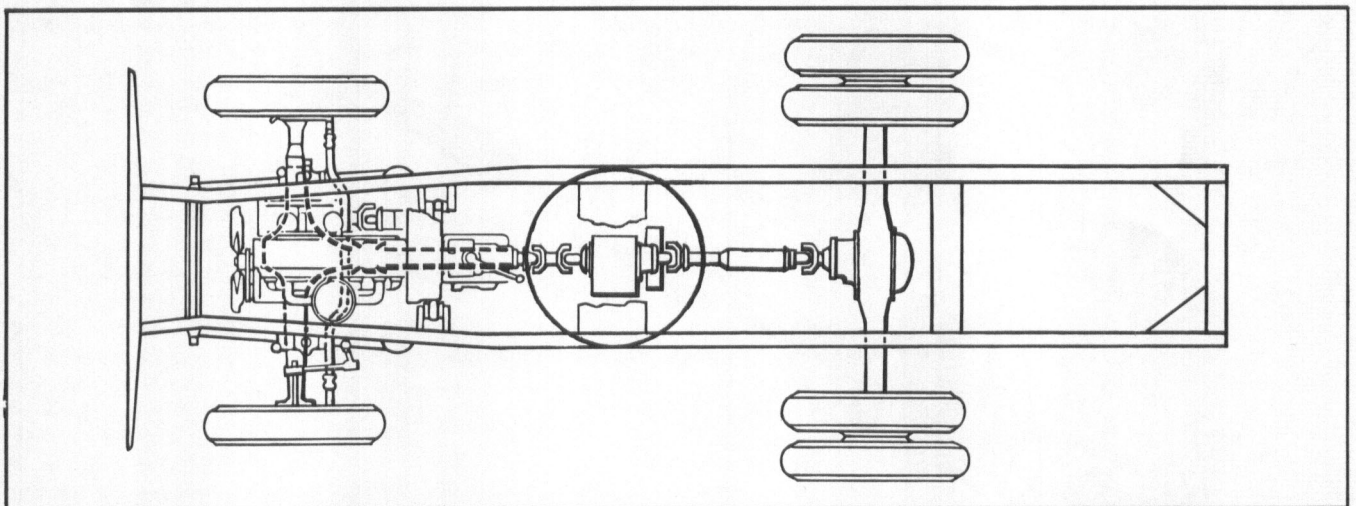
ROCKWELL TRANSFER CASE

FUNCTION AND DESIGN

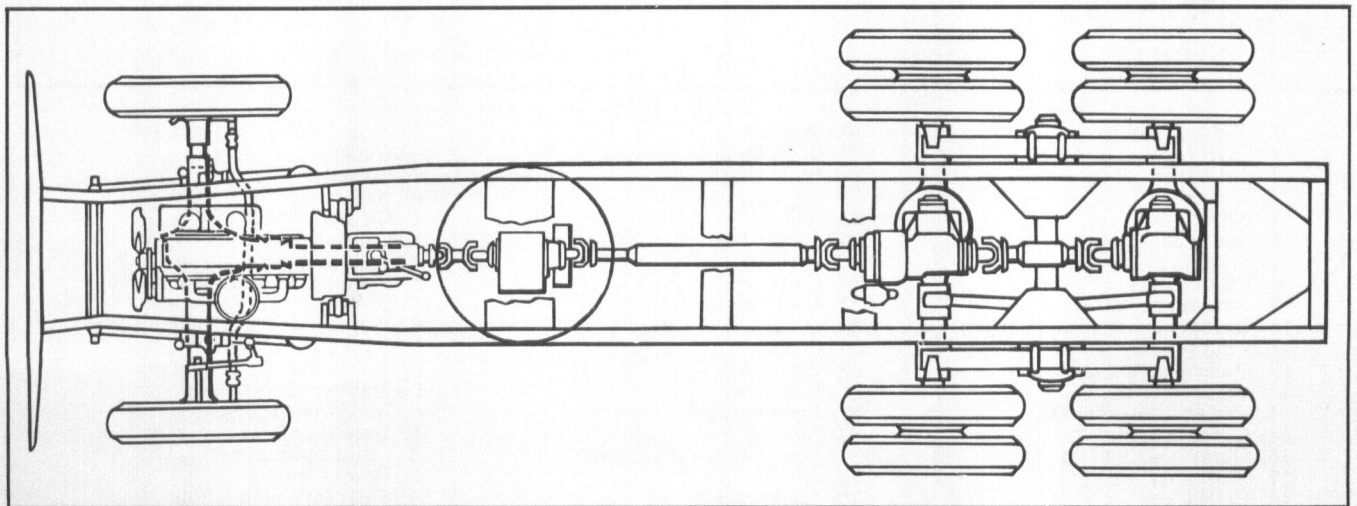
A transfer case is a gear box located between the main transmission and the rear axle. Its purpose is to transfer power from the transmission to the front driving axles as well as the rear driving axles. It also provides an extra gear reduction (Lo) in the power train of the vehicle. The drop box design enables the front axle drive line to clear the underside of the engine.

All Rockwell Transfer Cases incorporate the counter shaft design; each shaft is mounted on roller or ball bearings. Most units are available with a power take-off (with or without an auxiliary oil pump for stationary operation) and a front axle declutch, which is used to drive the front axle whenever the vehicle encounters deep grades or rough terrain. These accessories are actuated by separate shift levers located in the cab of the vehicle.

In addition, the transfer case unit may be equipped with an optional parking brake, as shown on the opposite page, and a speedometer drive gear, which can be installed on the idler assembly.



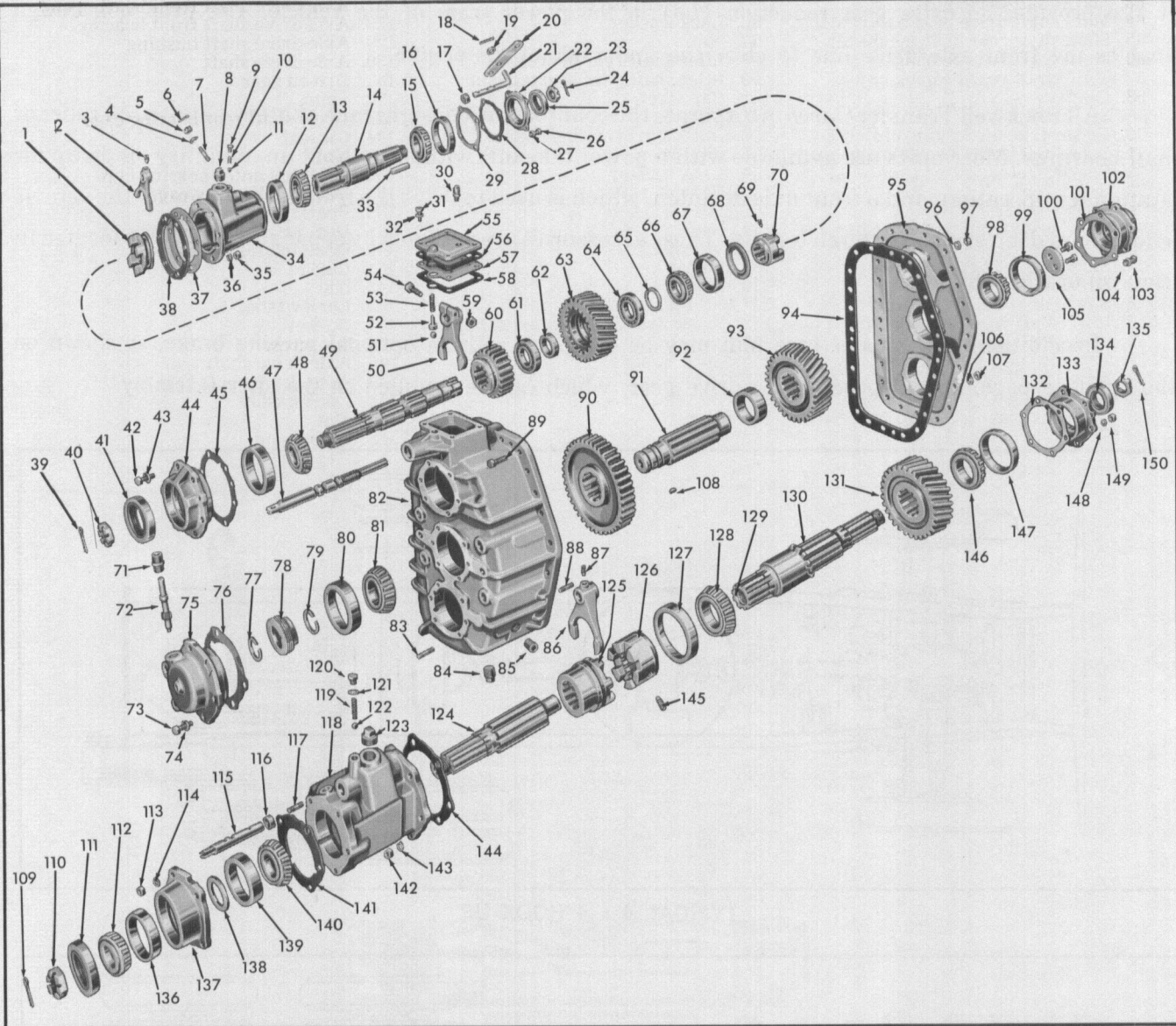
TYPICAL 4 x 4 HOOK-UP



TYPICAL 6 x 6 HOOK-UP

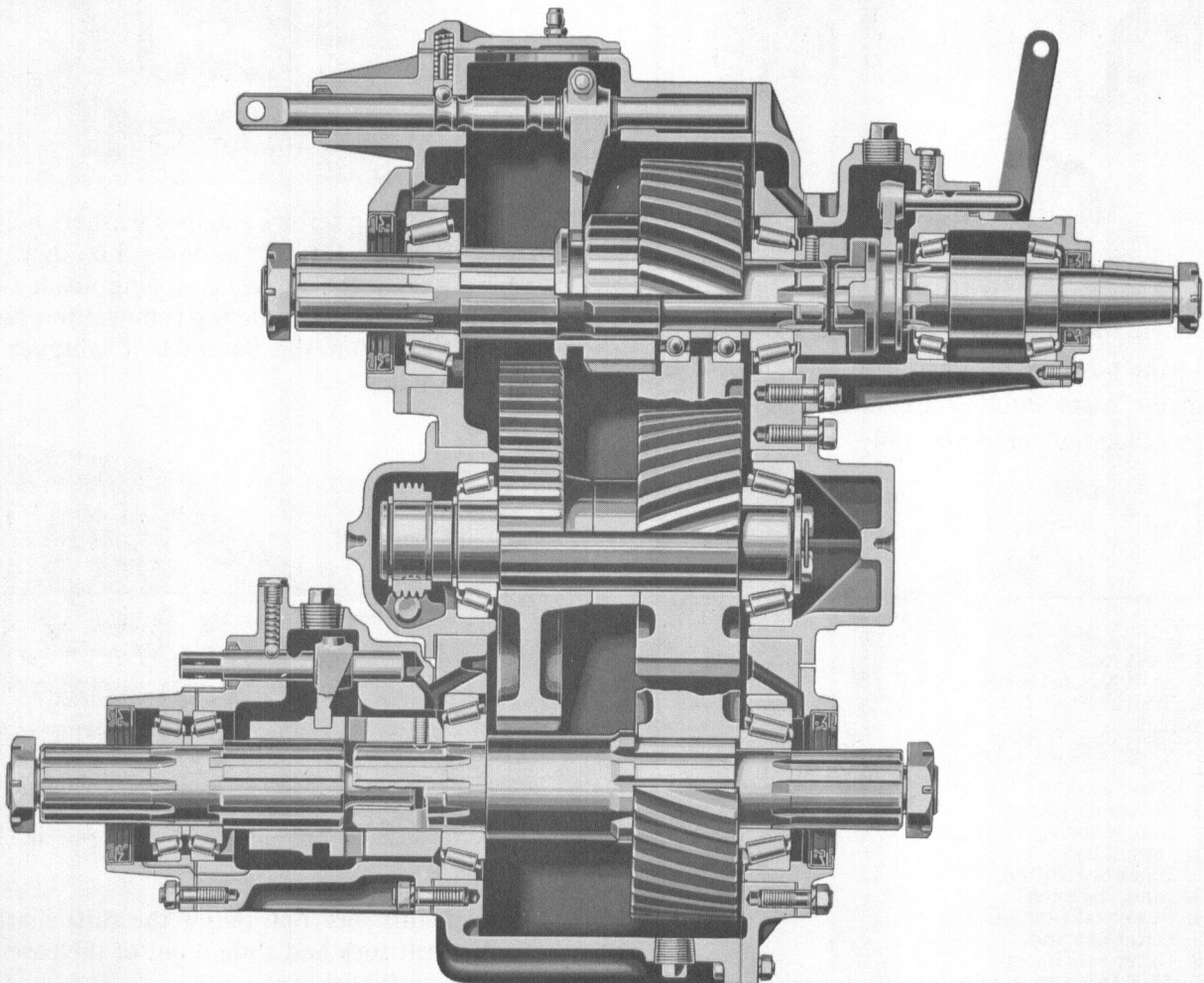
CONVENTIONAL THREE SHAFT DESIGN

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 |

- | | | |
|--|--|--|
| 55. Shift cover | 87. Set screw | 119. Detent spring |
| 56. Gasket | 88. Cover to housing stud | 120. Detent cap screw |
| 57. Shift cover breather plate | 89. Cover to housing bolt | 121. Detent cap screw washer |
| 58. Gasket | 90. Idler shaft Lo gear | 122. Detent ball |
| 59. Shift fork clamp bolt nut | 91. Idler shaft | 123. Filler plug |
| 60. Main shaft sliding gear | 92. Idler shaft gear spacer | 124. Front axle drive shaft |
| 61. Main shaft drive gear ball bearing | 93. Idler shaft Hi gear | 125. Declutch sliding clutch |
| 62. Main shaft dr. gear ball brg. spacer | 94. Cover to housing gasket | 126. Fr. axle drive shaft driving clutch |
| 63. Main shaft drive gear | 95. Transfer case cover | 127. Axle drive shaft front bearing cup |
| 64. Main shaft drive gear ball bearing | 96. Lock washer | 128. Axle drive shaft front bearing |
| 65. Main shaft rear bearing spacer | 97. Nut | 129. Axle drive shaft bushing |
| 66. Main shaft rear bearing | 98. Idler shaft rear bearing | 130. Axle drive shaft |
| 67. Main shaft rear bearing cup | 99. Idler shaft rear bearing cup | 131. Driven gear |
| 68. Oil dam | 100. Cap screw | 132. Shim |
| 69. Set screw | 101. Shim | 133. Drive shaft rear bearing cage |
| 70. Power take-off driving clutch | 102. Idler shaft rear bearing cap | 134. Oil seal |
| 71. Speedometer driven gear bushing | 103. Cap screw | 135. Nut |
| 72. Speedometer driven gear | 104. Lock washer | 136. Declutch outer bearing cup |
| 73. Cap screw | 105. Bearing retainer | 137. Declutch bearing cage |
| 74. Lock washer | 106. Lock washer | 138. Bearing spacer |
| 75. Idler shaft front bearing cap | 107. Nut | 139. Declutch inner bearing cup |
| 76. Gasket | 108. Woodruff key | 140. Declutch inner bearing |
| 77. Snap ring | 109. Cotter key | 141. Gasket |
| 78. Speedometer drive gear | 110. Nut | 142. Nut |
| 79. Snap ring | 111. Oil seal | 143. Lock washer |
| 80. Idler shaft front bearing cup | 112. Front axle declutch outer bearing | 144. Gasket |
| 81. Idler shaft front bearing | 113. Nut | 145. Set screw |
| 82. Transfer case housing | 114. Lock washer | 146. Axle drive shaft rear bearing |
| 83. Stud | 115. Declutch shift shaft | 147. Axle drive shaft rear bearing cup |
| 84. Drain plug | 116. Oil seal | 148. Lock washer |
| 85. Oil level plug | 117. Stud | 149. Nut |
| 86. Declutch shift fork | 118. Declutch housing | 150. Cotter key |

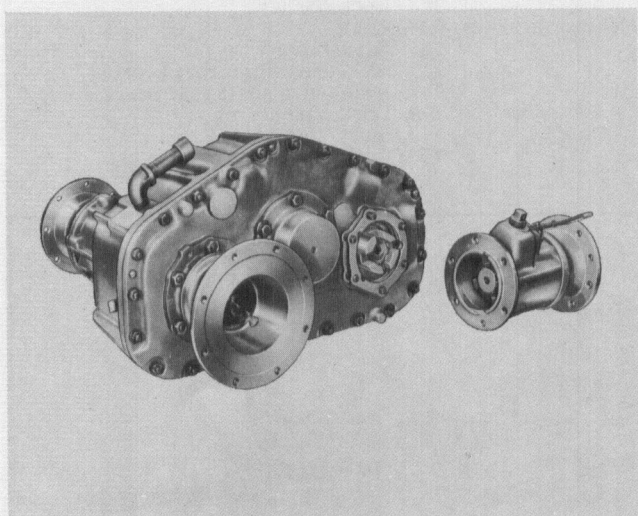


GENERAL MAINTENANCE

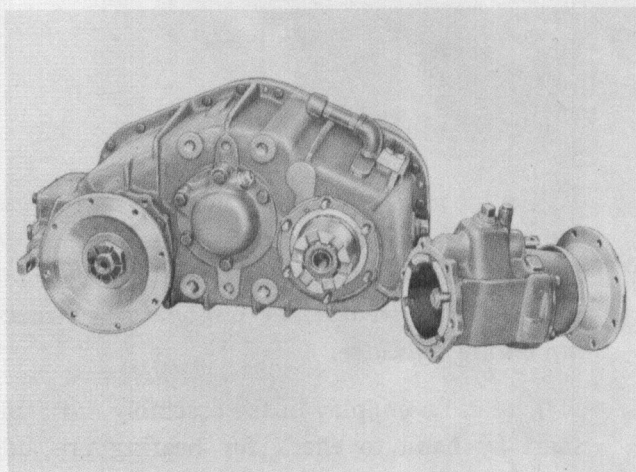
REMOVAL AND DISASSEMBLY

- A. After removing the unit from the vehicle, thoroughly clean the exterior portion before disassembling.
- B. Remove the drain plug at the bottom and drain the lubricant.

REMOVE THE POWER TAKE-OFF AND FRONT AXLE DECLUTCH



- A. Remove the stud nuts and lock washers that hold the power take-off unit to the cover of the transfer case. Pull off the unit and wire the shims together for reassembly.

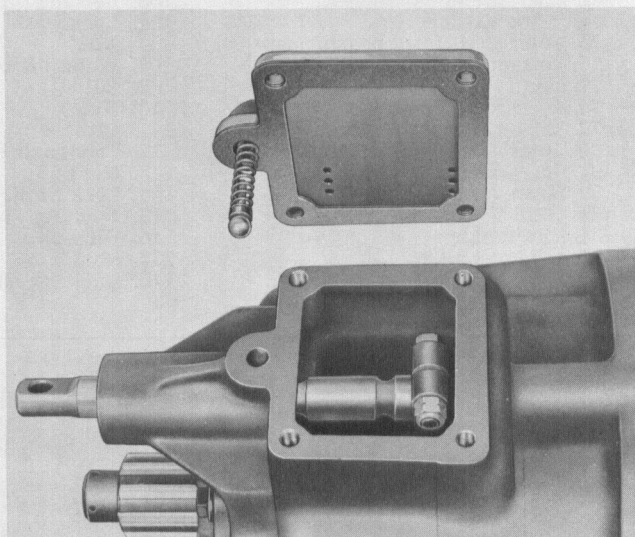


- B. Remove the front axle declutch and the gasket.

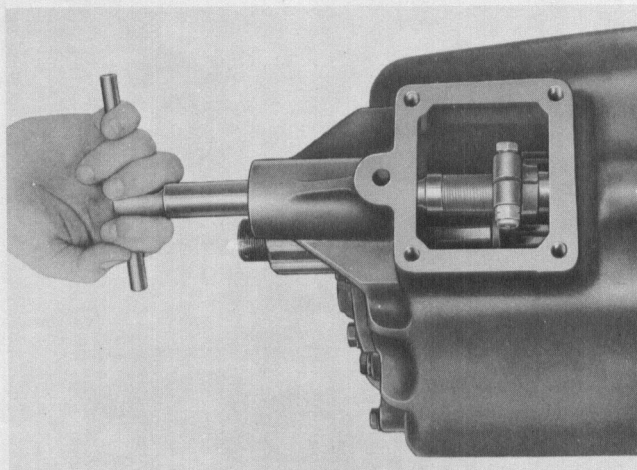
- C. Remove the cotter pin and nuts from front input shaft and rear output shaft. Remove the yokes or companion flanges.

DISASSEMBLE THE CASE ASSEMBLY

Remove range shift shaft and shift fork

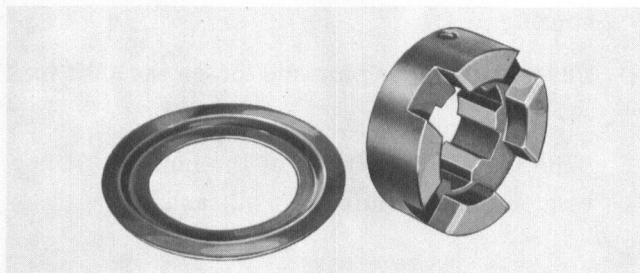


- A. Remove the cap screws and lock washers holding the shift cover. Lift off the cover, breather plate and gaskets; the cover is spring loaded and should be held down during removal to prevent injury. Take out the detent ball, plunger and detent spring.

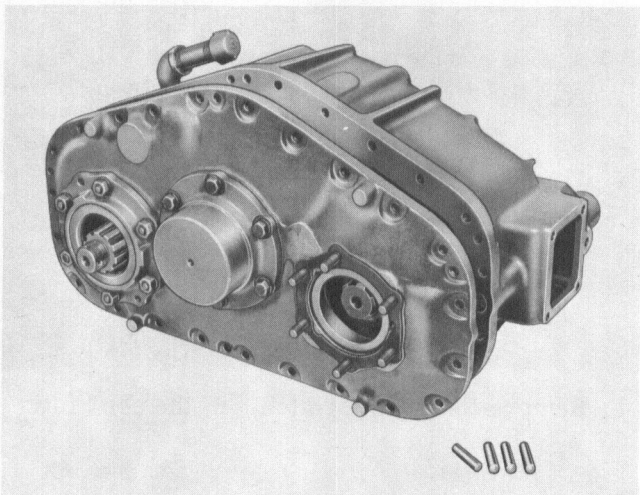


- B. Loosen shift fork nut. Screw the shift shaft out of the shift fork and slide it out of the case. Lift out the shift fork.

REMOVE THE CASE COVER

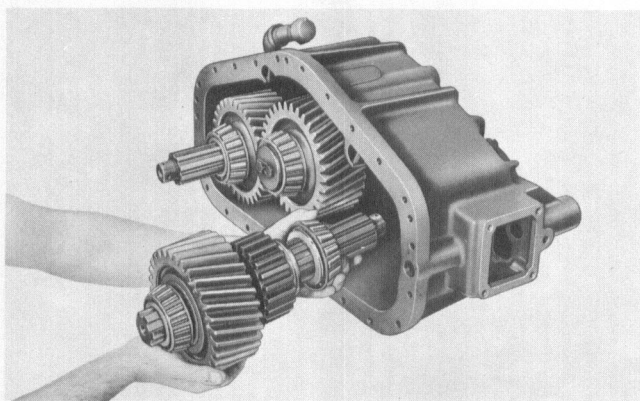


- A. Loosen the set screw in the main shaft driving clutch and remove the clutch. Remove the oil dam.

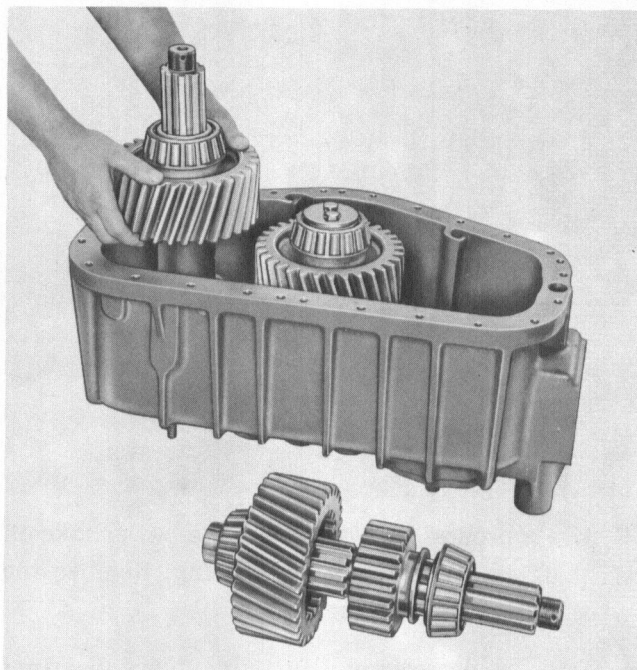


- B. Drive the tapered dowel pins from the cover and remove the cover to case bolts, nuts and lock washers.
C. Remove the cover and take off the gasket.

REMOVE THE SHAFT ASSEMBLIES



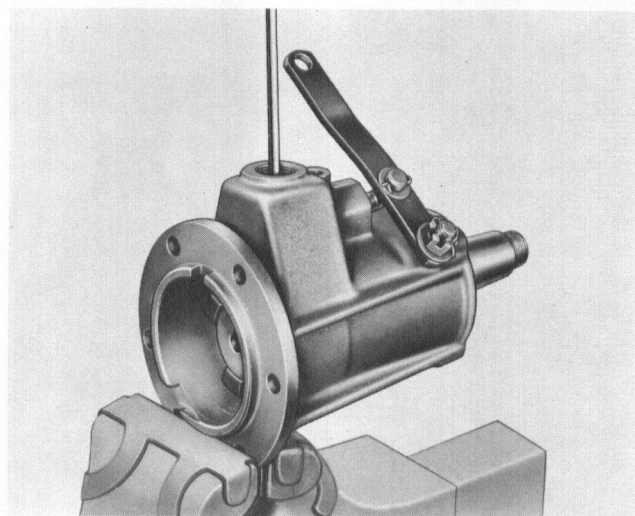
- A. Lift the main shaft assembly from the case. This assembly should be removed before the idler shaft or axle drive shaft are taken out.



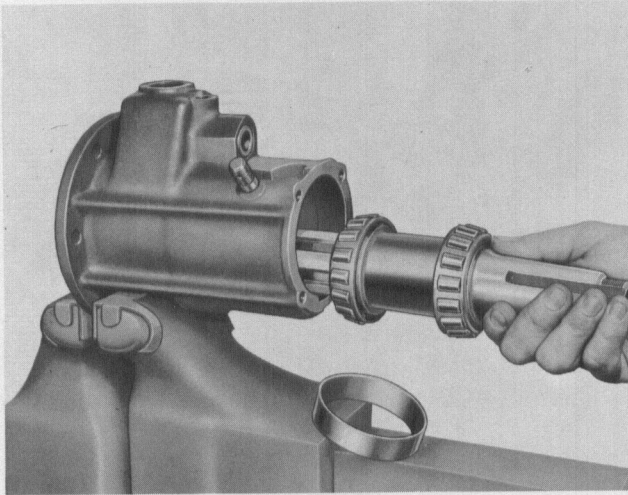
- B. Lift out the axle drive shaft assembly and then remove the idler assembly.

DISASSEMBLE POWER TAKE-OFF ASSEMBLY

- A. Remove the cotter pin and nut from the end of the power take-off shaft. Remove the yoke and key.
B. Remove the oil filler plug from the cage. Then remove the detent cap screw, lock washer, spring and detent ball.
C. Remove the oil seal cage assembly, shims and gasket.



- D. Through the oil filler plug hole, loosen the shift fork set screw. Disconnect the shift lever and pull the shift shaft from the housing.

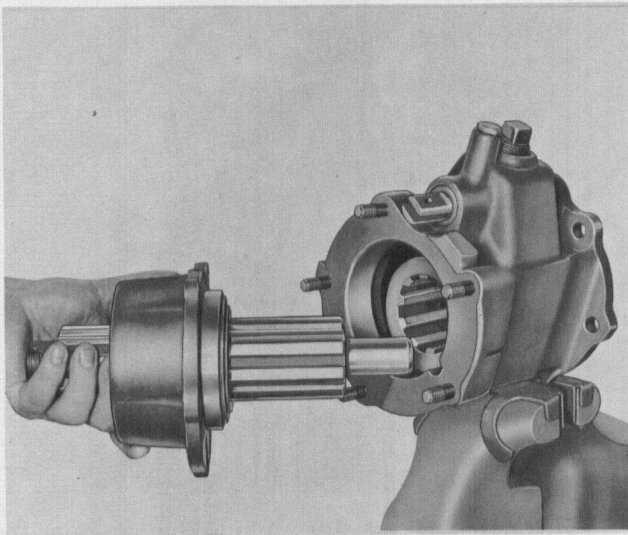


E. Use a bronze drift and drive the power take-off shaft assembly from the housing. Remove the shift fork and sliding clutch.

Do not disassemble further unless bearings need replacing. Remove and replace the bearing cups if necessary.

DISASSEMBLE FRONT AXLE DECLUTCH UNIT

A. Take out the cotter key and remove the nut from the declutch shaft. Remove the yoke with a suitable puller.

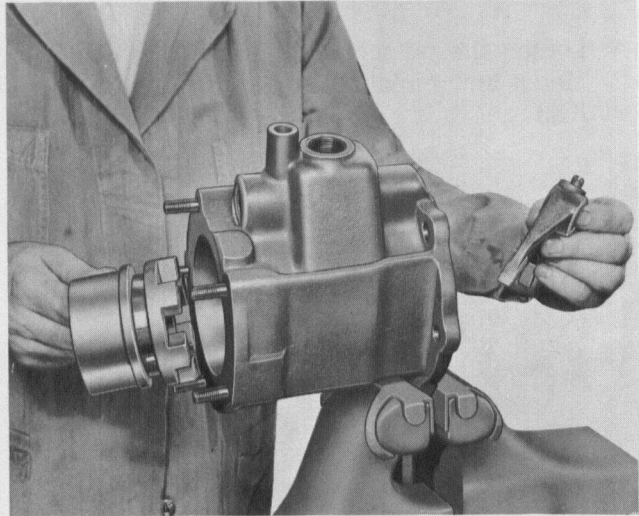


B. Remove the bearing cage assembly from the declutch housing.

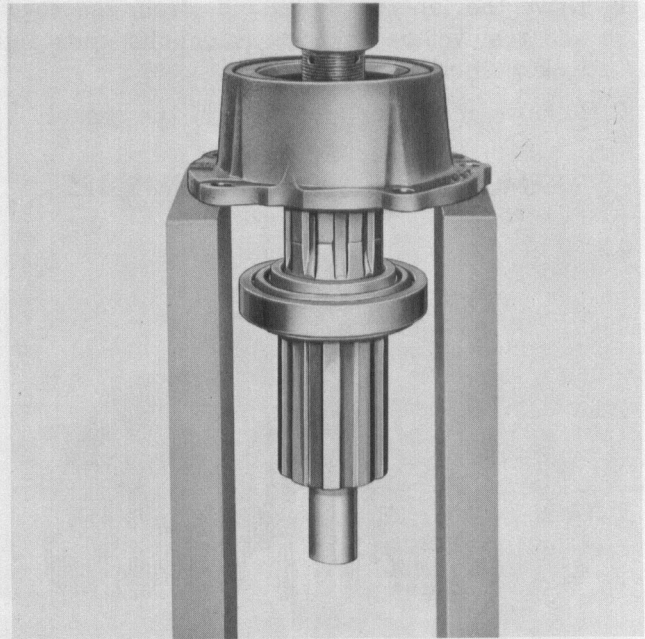
C. Remove the detent cap screw, star washer, detent spring and detent ball from the declutch housing.

D. Unscrew the filler plug and loosen the shift fork set screw.

E. Slide the shift shaft out of the housing. If necessary, remove shift shaft oil seal.

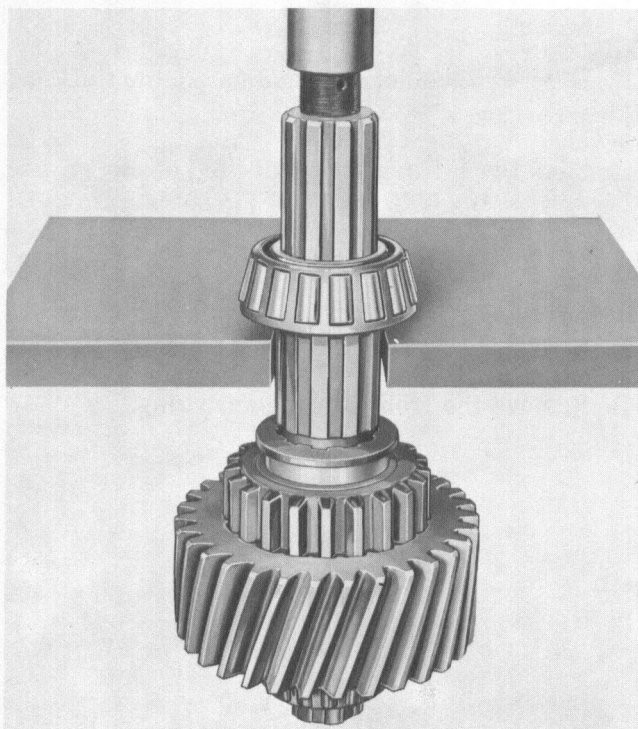


F. Remove the sliding clutch and the shift fork.

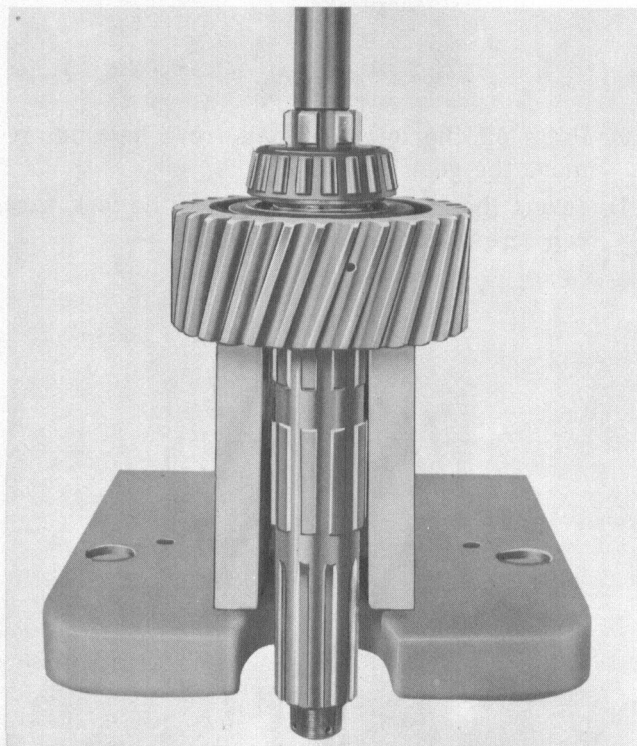


G. If necessary, press apart the bearing cage assembly. Remove the outer bearing cup and oil seal.

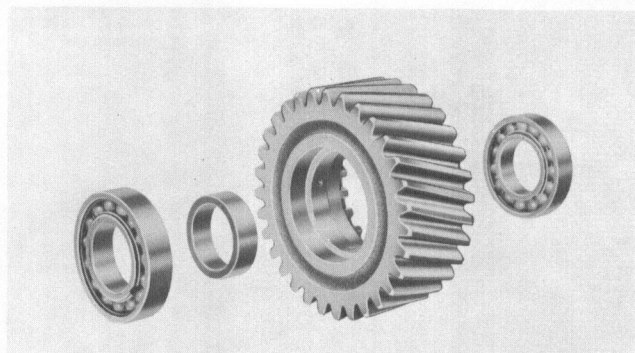
DISASSEMBLE MAIN SHAFT



- A. Press front bearing from shaft.
B. Slide off the sliding gear.

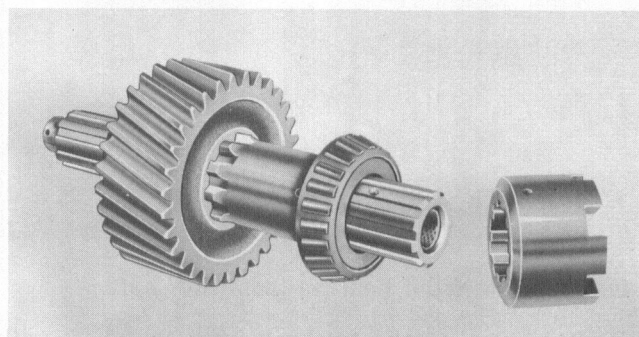


- C. Press the main shaft drive gear assembly, bearing spacer and rear tapered bearing from the shaft.

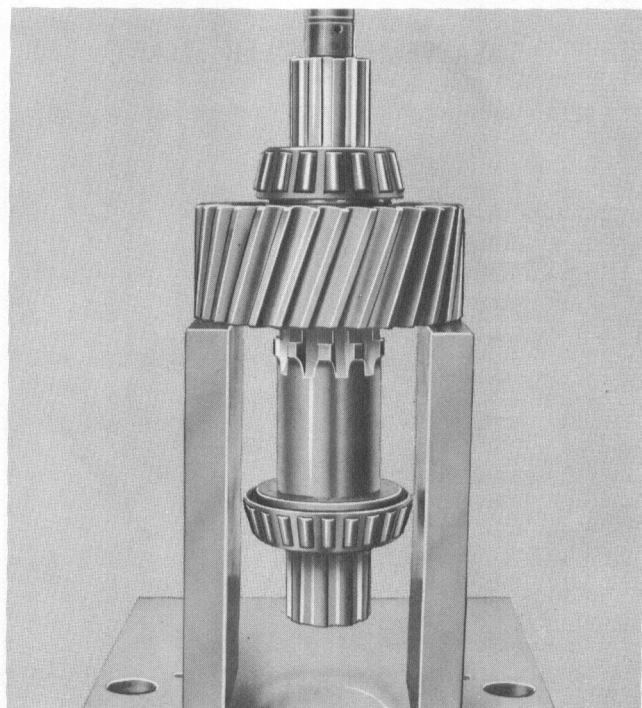


- D. Remove ball bearings and spacer from the drive gear.

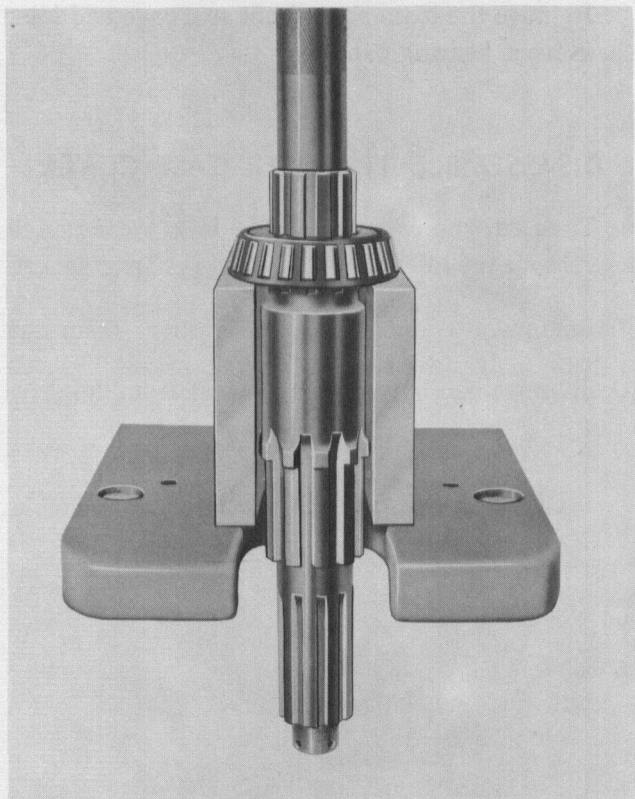
DISASSEMBLE AXLE DRIVE SHAFT



- A. Remove the set screw and pull off the driving clutch.



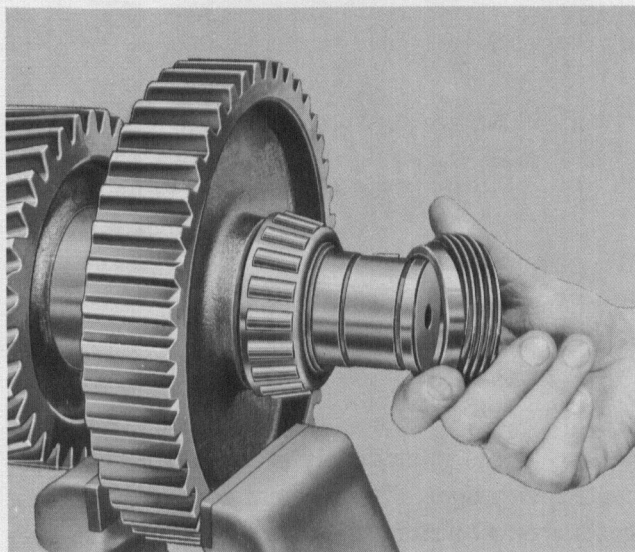
- B. Press the rear bearing and gear from the shaft.



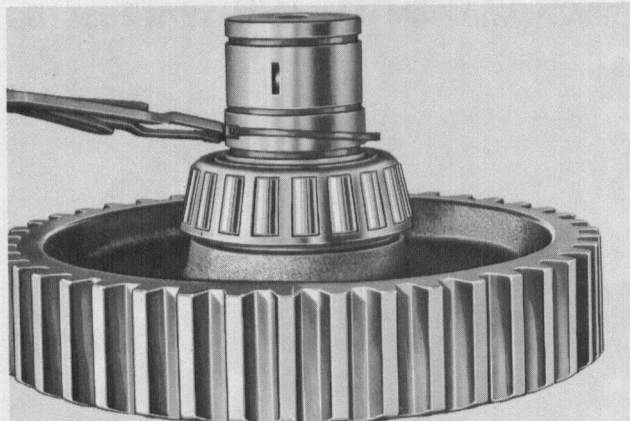
C. Press the front bearing from the shaft.

D. Remove the pilot bushing from the shaft with a suitable puller if necessary.

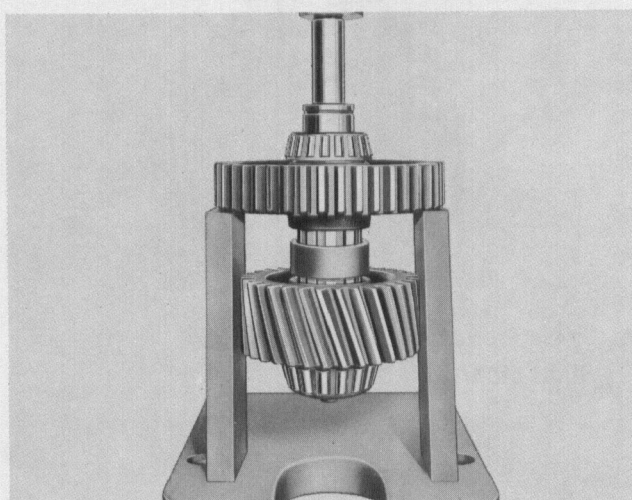
DISASSEMBLE IDLER SHAFT



A. Remove the snap ring at the low gear end. Slide off the speedometer drive gear. Remove the Woodruff key.

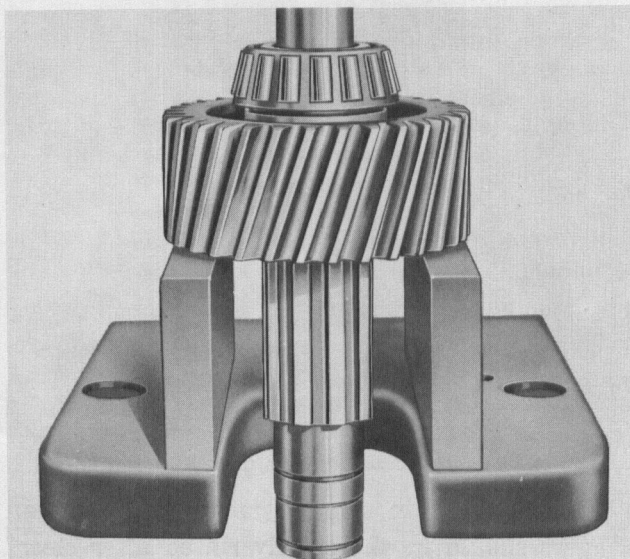


B. Remove the front bearing snap ring.



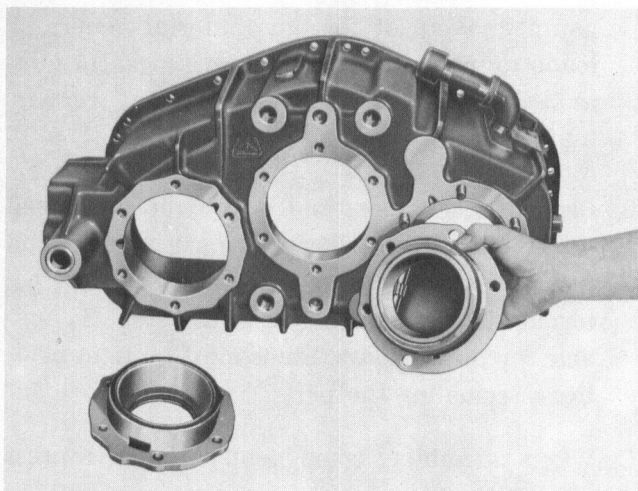
C. Press off the low gear and front bearing; remove the gear spacer.

D. Invert the assembly and remove the lock wire, cap screws and bearing retainer.



E. Press off the high gear and rear bearing.

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.

INSPECT

It is impossible to overstress the importance of careful and thorough inspection of drive unit parts prior to reassembly. Thorough visual inspection for indications of wear or stress, and the replacement of such parts as are necessary will eliminate costly and avoidable drive unit failure.

- A. Inspect all bearings, cups and cones, including those not removed from parts of the drive unit, and replace if rollers or cups are worn, pitted or damaged in any way. Remove parts needing replacement with a suitable puller or in a press with sleeves. Avoid the use of drifts and hammers. They may easily mutilate or distort component parts.
- B. Inspect spur gears and clutches for wear or damage. Gears which are scored, pitted, ridged or worn should be replaced.

REPAIR

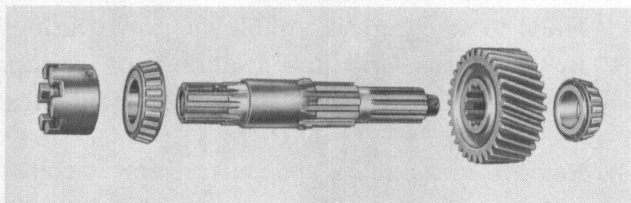
- A. Replace all worn or damaged parts. Hex nuts with rounded corners, all lock washers, oil seals and gaskets should be replaced at the time of overhaul.

Use only genuine Rockwell replacement parts for satisfactory service. For example, using gaskets of foreign material generally leads to mechanical trouble due to variations in thickness and the inability of certain materials to withstand compression, oil, etc.

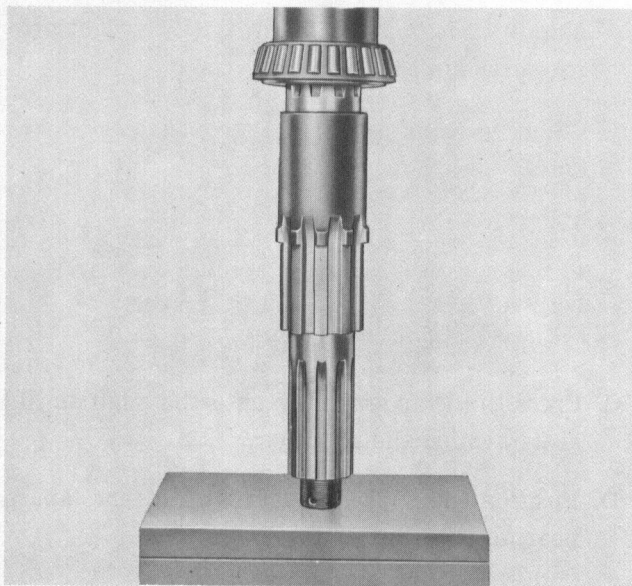
- B. Remove nicks, mars and burrs from machined or ground surfaces. Threads must be clean and free to obtain accurate adjustment and correct torque. A fine mill file or India stone is suitable for this purpose. Studs must be tight prior to reassembling the parts.
- C. When assembling component parts use a press where possible.
- D. Tighten all the nuts to the correct torque. (See torque limits following service instructions.) Use soft iron locking wire to prevent possibility of wire breakage.
- E. The burrs, caused by lock washers, at the spot face of stud holes of cages and covers should be removed to assure easy reassembly of these parts.

REASSEMBLE

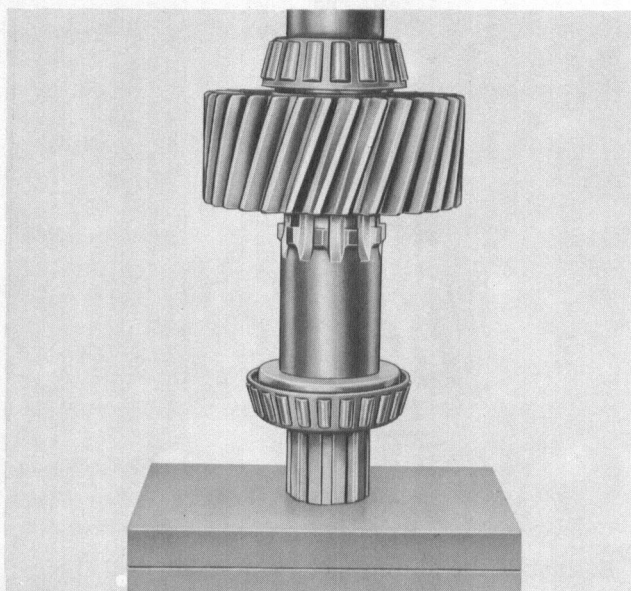
REBUILD AXLE DRIVE SHAFT



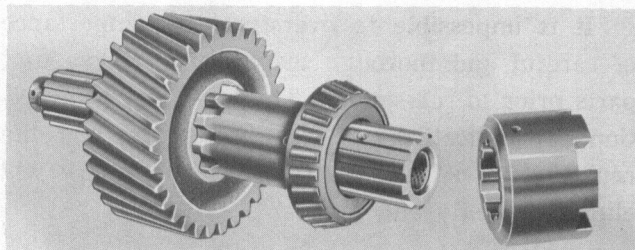
- A. Press the pilot bushing into the bore at the front of the shaft.



- B. Press the front bearing into place.

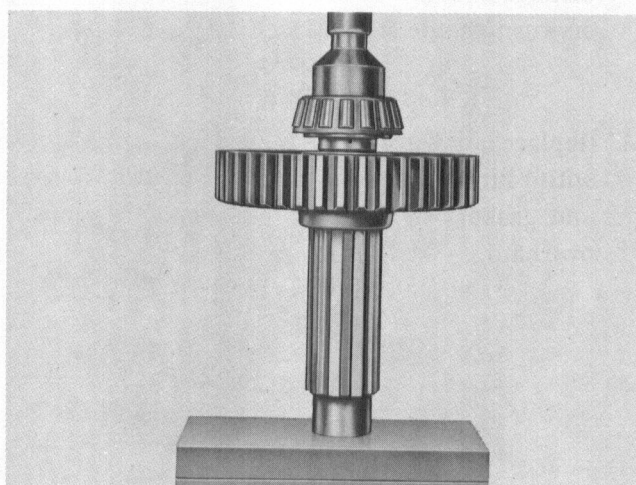
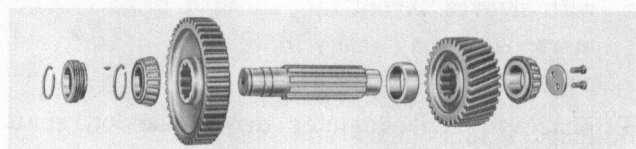


- C. Press the driven gear and the rear bearing into place using a suitable sleeve that bears against the inner race.

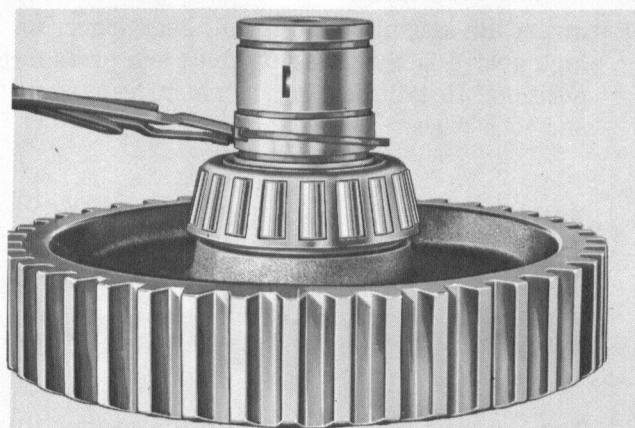


- D. Slide the driving clutch onto the shaft and install the set screw. The screw must enter the recess in the shaft.

REBUILD THE IDLER SHAFT ASSEMBLY

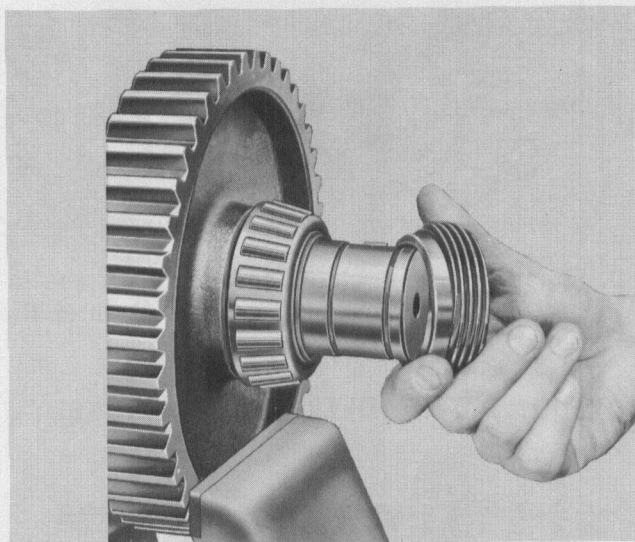


- A. Press low speed gear and tapered bearing into place on idler shaft. Use a sleeve that will clear the bearing journal.

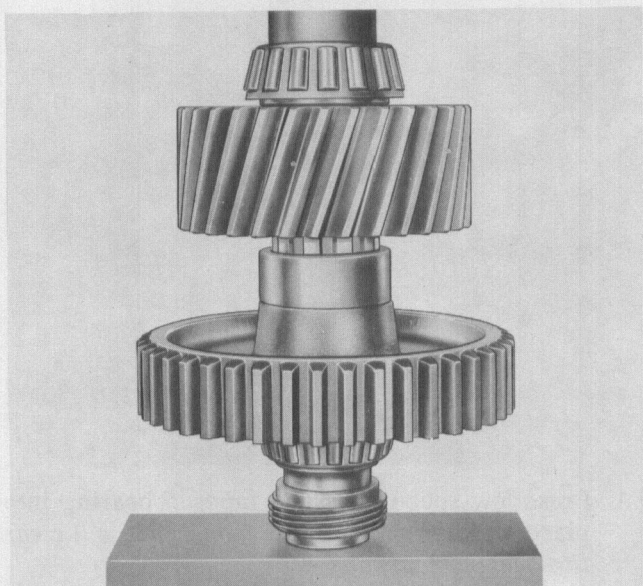


- B. Install the bearing snap ring.

C. Install the Woodruff key in the keyway.

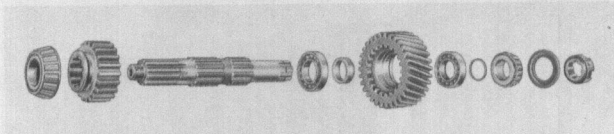


D. Place the speedometer drive gear on shaft. Install the outer snap ring.



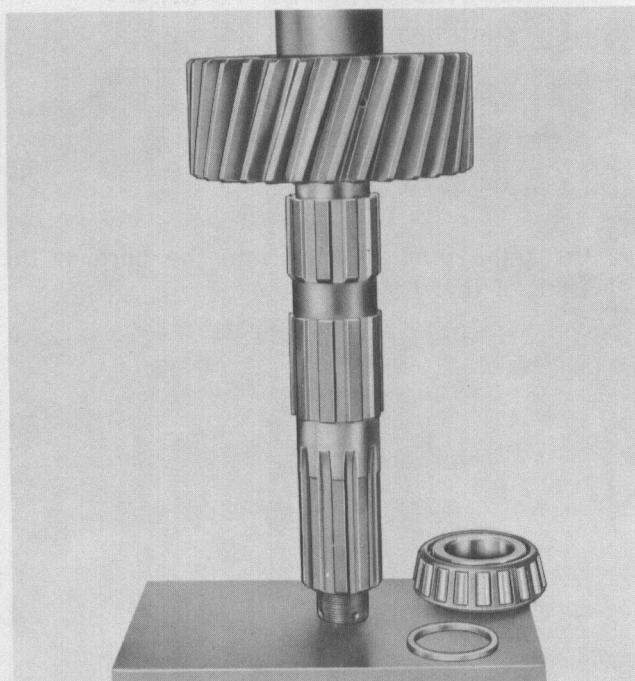
E. Invert the assembly and install gear spacer and high gear. Place bearing on shaft and press into position. Install bearing retainer, cap screws and lock wire.

REBUILD THE MAIN SHAFT ASSEMBLY



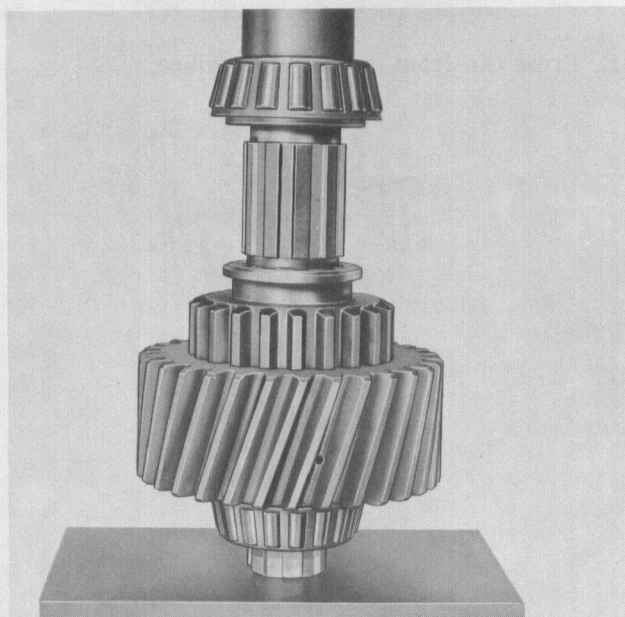
A. Tap the rear ball bearing into the gear with a suitable sleeve against outer race.

B. Position the bearing spacer in gear and tap front ball bearing into the gear.



C. Press the gear assembly onto the shaft until it seats against the shoulder.

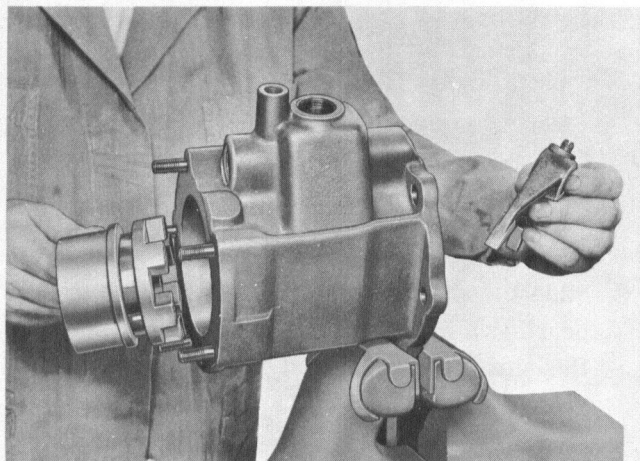
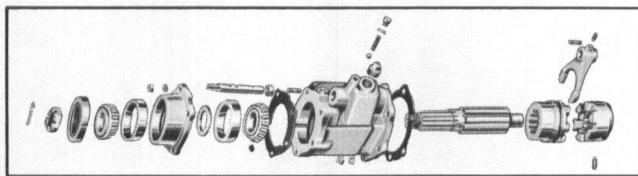
D. Position the spacer and press the rear tapered bearing onto the shaft.



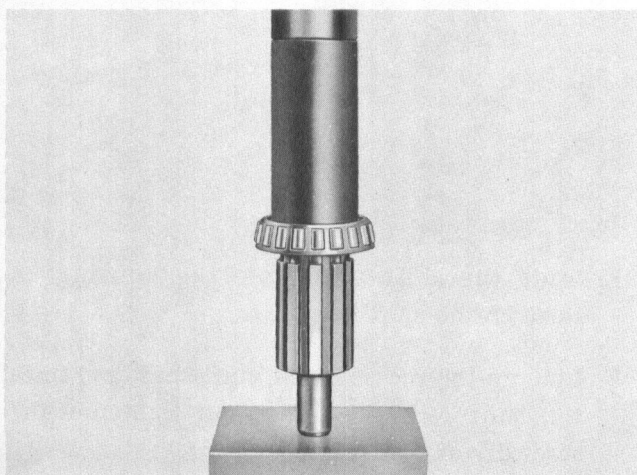
E. Install the sliding gear and front bearing.

Do not install the oil dam and power take-off driving clutch until after the transfer case cover has been attached.

REBUILD THE FRONT AXLE DECLUTCH

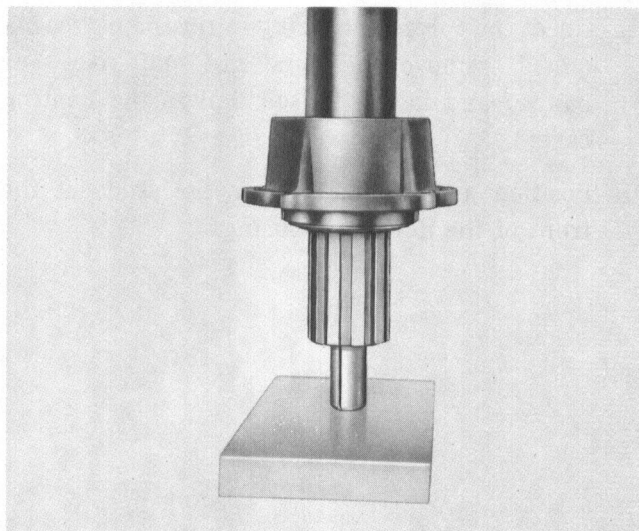


- A. Hold the shift fork in place inside the declutch housing and install the sliding clutch. Position the fork in the groove.
- B. Slide the shift shaft through the housing bore and into the shift fork. Install and tighten the set screw. Install the oil filler plug.
- C. Install the detent ball, spring, lock washer and lock screw in the housing. Tighten the lock screw.
- D. Install the inner and outer bearing cups in the declutch bearing cage.



- E. Press the inner bearing on the shaft with a suitable sleeve.

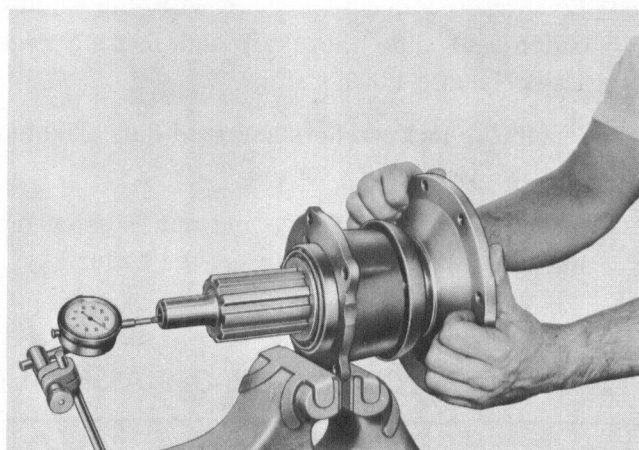
- F. Position the bearing spacer on the shaft and then position the bearing cage over the shaft.



- G. Press the outer bearing onto the shaft.

Do not install the oil seal at this time.

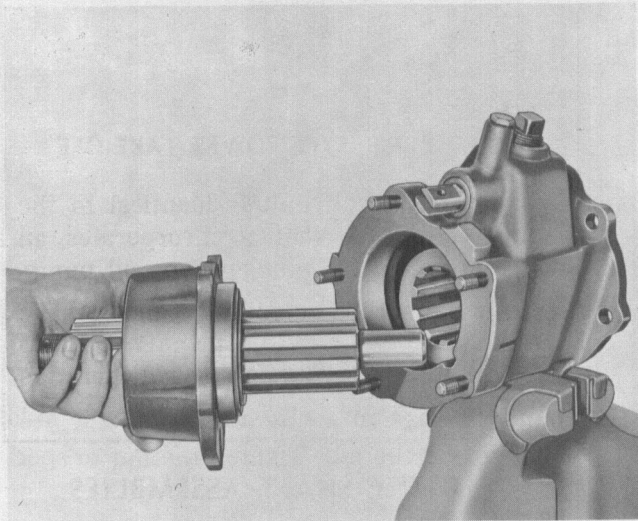
- H. Mount the cage in a vise and install the yoke or flange and the nut. Tighten the nut to specified torque.



- I. Check the bearing adjustment by using a dial indicator at the end of the shaft as shown. *Since the specified bearing adjustment is zero endplay and zero preload, there should be no reading on the indicator.*
- J. If there is no endplay in the assembly, turn the shaft by hand to check for bearing preload. There should be no more than a slight drag on the shaft.

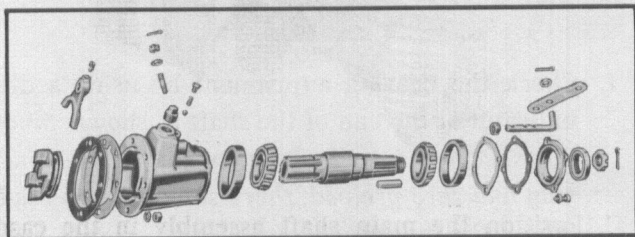
If there is endplay in the assembly, use a thinner spacer between the bearings; if there is preload, use a thicker spacer.

- K. Once the proper bearing adjustment is obtained, remove the yoke nut and yoke (or flange) and install the oil seal in the bearing cage.
- L. Position a new gasket over the studs at the front of the declutch housing.

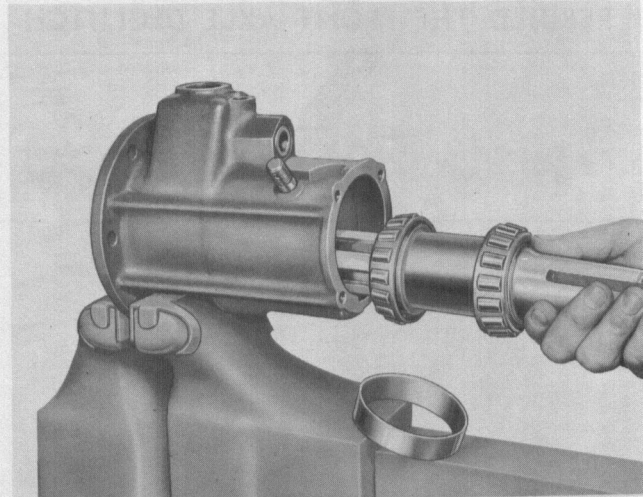


- M. Line up the declutch shaft with the sliding clutch and slide the shaft and bearing cage assembly into the housing.
- N. Install the lock washers and stud nuts. Tighten the nuts to specified torque.
- O. Install the yoke or flange and nut. Tighten the nut to specified torque. Insert the cotter key.

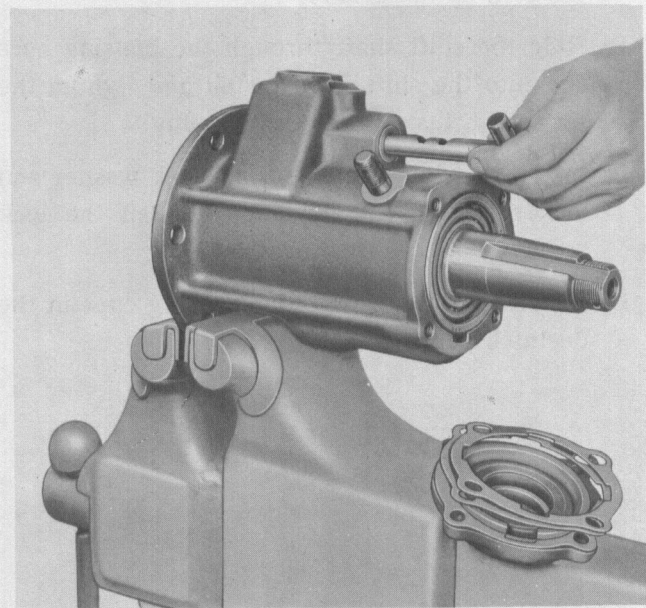
REBUILD THE POWER TAKE-OFF ASSEMBLY



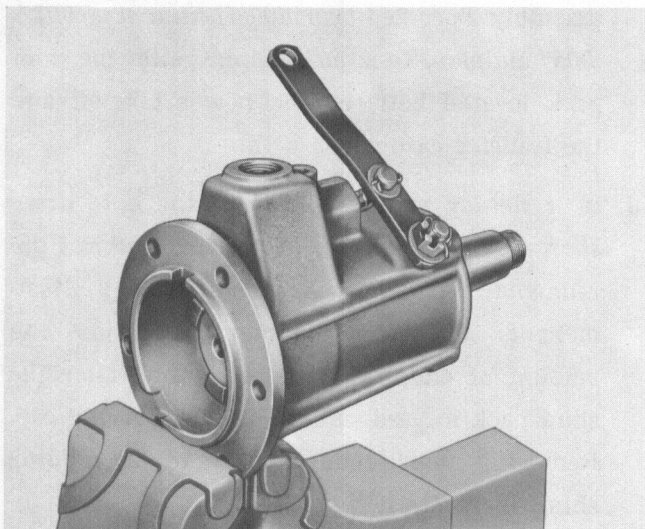
- A. Press the inner bearing cup into the power take-off housing with a suitable sleeve.
- B. Hold the shift fork and sliding clutch in place inside the housing.



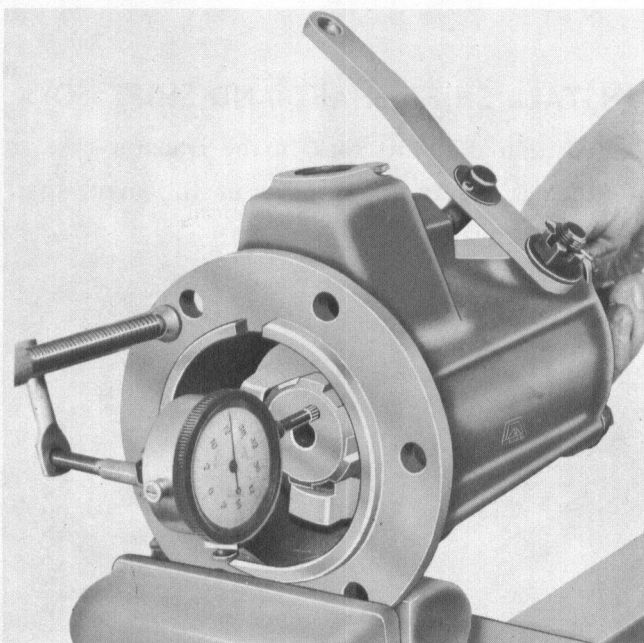
- C. Slide the shaft assembly (with inner and outer bearings) into the housing. Check to see that the shift fork is seated in the sliding clutch groove.
- D. Install the outer tapered bearing cup with a suitable sleeve.



- E. Slide the shift shaft into the housing and through the shift fork.
- F. Line up the recess in the shift shaft and install the shift fork set screw and tighten with a screwdriver.
- G. Install the detent ball, spring, lock washers and cap screw. Tighten the cap screw.

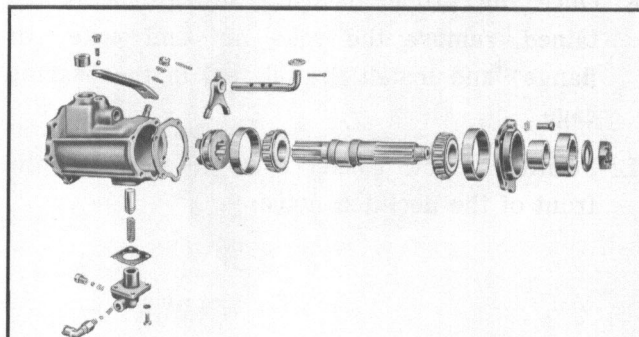


- H. Attach the shift lever to the shift shaft.
- I. Position a new gasket and install enough bearing adjustment shims to set up endplay in the assembly.
- J. Attach the seal cage assembly to the housing and tighten the cap screws.



- 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.



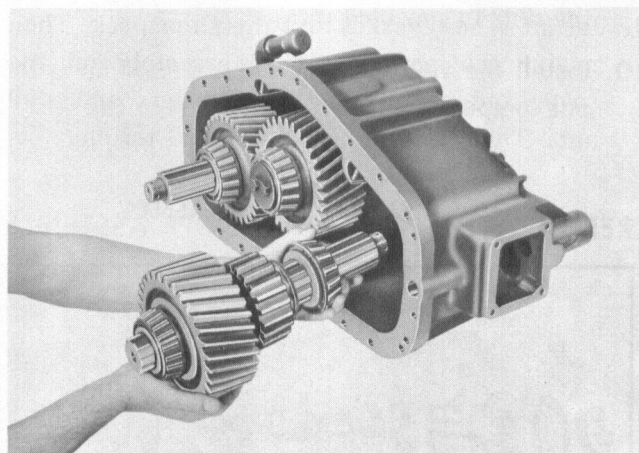
OPTIONAL PUMP TYPE POWER TAKE-OFF

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

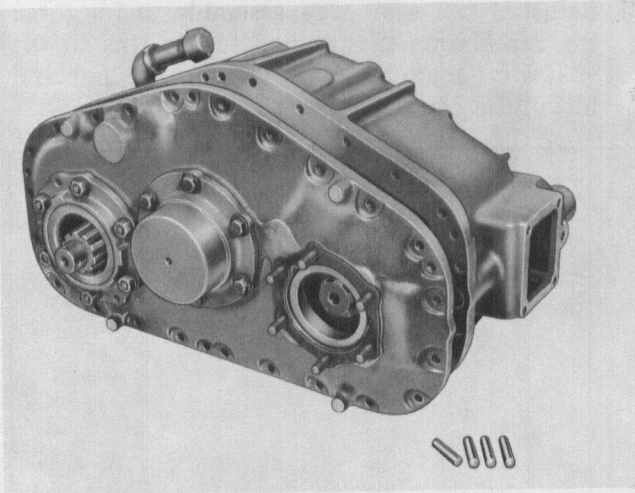
The pump, which is actuated by an eccentric located on the power take-off shaft, insures proper lubrication during "stationary" operation of the power take-off.

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.



- E. Install a new case to cover gasket and position the cover over the case. Install the bolts, lock washers and nuts; do not tighten the nuts at this time.

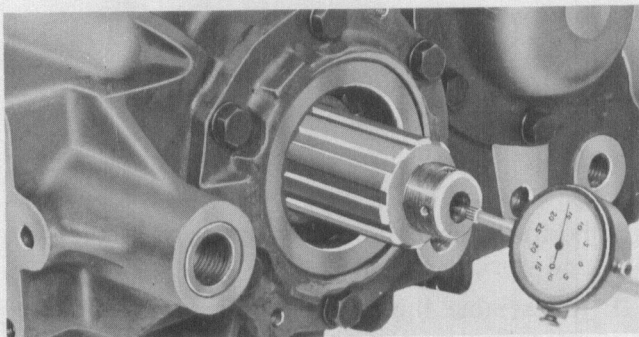
Line up the dowel holes and install the dowels; then tighten the nuts to specified torque.

- F. Position a new gasket and the front axle declutch unit on the transfer case. Install the lock washers and stud nuts; tighten the nuts to specified torque.

- G. Position the oil dam and power take-off driving clutch on the main shaft and install the set screw to hold.

- H. Install a new gasket and the shim pack. Then mount the power take-off assembly on the cover and install the lock washers and stud nuts. Tighten the nuts to specified torque.

CHECK BEARING ADJUSTMENTS



- I. Mount a dial indicator at the forward end of the main shaft and measure the endplay in the

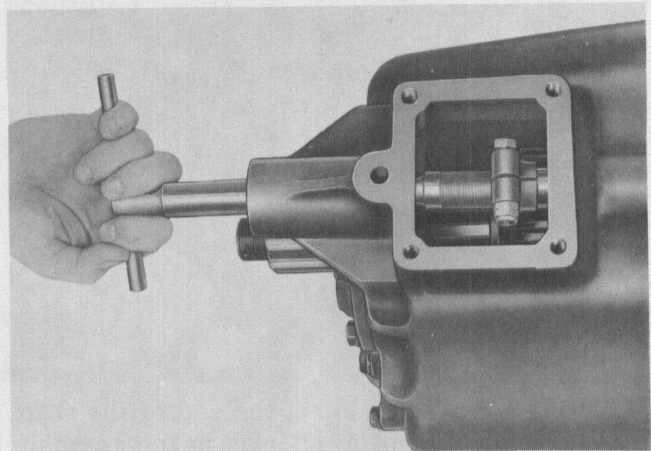
assembly. Specified bearing adjustment is .003"-.005" endplay. To adjust endplay, alter the shim pack located between the power take-off and the transfer case cover.

- J. In a similar manner, measure the axle drive shaft assembly endplay with an indicator at the rear end of the shaft. Specified bearing adjustment is .003"-.005" endplay. To adjust the amount of endplay in the assembly, alter the shim pack located under the rear bearing cap. Removing shims reduces the endplay, adding shims increases it.

- K. Idler shaft endplay can be checked by inserting a prybar through the shift cover hole at the top of the case and working the idler shaft low gear back and forth. No more than a very slight bit of endplay should be felt.

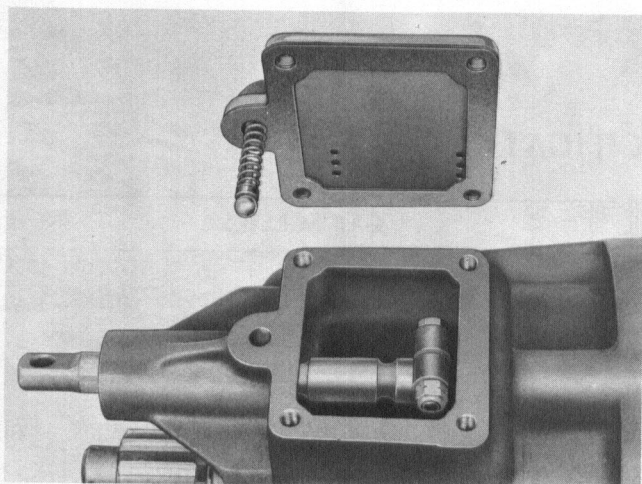
INSTALL SHIFT SHAFT AND SHIFT FORK

- A. Position the shift fork in the transfer case so that it fits in the groove of the main shaft sliding gear.



- B. Slide the shift shaft into the case and screw it into the shift fork. The shift fork should be centered in the groove of the sliding gear (check spacing of fork in both Hi and Lo positions).

- C. Tighten the bolt in the shift fork.



- D. Install the detent ball in the transfer case. Position the plunger in the detent spring and install in case.
- E. Place the shift cover, breather plate and gaskets on the case. Hold the cover down to compress the detent spring and install the lock washers and cap screws.

INSTALL COMPANION FLANGE OR YOKE ON DRIVE SHAFTS

- A. Install the yoke or flange on the main shaft. Tighten the nut to specified torque. Insert the cotter key.
- B. Install the companion flange at the rear of the axle drive shaft. Install the nut and tighten to specified torque. Insert cotter key.

LUBRICATION

Install the drain plug and tighten. Turn the unit upright and pour one-half pint of recommended gear lubricant through filler plug opening. Add some oil to the power take-off and the front axle

declutch. Do not fill the unit to specified level until it is installed under the vehicle.

Gear lubricant specifications are listed in Rockwell Field Maintenance Manual No. 1, "Lubrication."

TEST THE OPERATION OF THE UNIT

SHIFT TEST — power take-off and front axle declutch disengaged:

- A. **HIGH RANGE.** Move the shift shaft to the innermost position; turning the main shaft should also turn the output to the rear axle.
- B. **LOW RANGE.** Move the shift shaft to the outermost position. Turning the main shaft should also turn the output to the rear axle.
- C. **NEUTRAL.** Move the shift shaft to the intermediate position between Lo and Hi. Turning the main shaft should not turn the output to the rear axle.

TEST OPERATION OF POWER TAKE-OFF UNIT

- A. **ENGAGE.** Move the shift shaft to the inner position. The power take-off shaft should revolve with the main shaft.
- B. **DISENGAGE.** Move the shift shaft to the outer position. The power take-off shaft should not revolve with the main shaft.

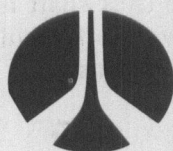
TEST OPERATION OF FRONT AXLE DECLUTCH

- A. **ENGAGE.** Move the shift shaft to the inner position. The front drive shaft should revolve with the output to the rear axle.
- B. **DISENGAGE.** Move the shift shaft to the outer position. The front drive shaft should not turn with the output to the rear axle.

TORQUE SPECIFICATIONS

BOLT AND STUD NUTS					CAP SCREWS				
LOCATION ON UNIT	DIA. INCH	NO. THDS.	TORQUE—LB. FT.		LOCATION ON UNIT	DIA. INCH	NO. THDS.	TORQUE—LB. FT.	
			MIN.	MAX.				MIN.	MAX.
Case and Cover	3/8"	16	38	42	Shift Cover	3/8"	16	38	42
Main Shaft and Rear Bearing Cap	7/16"	14	60	66	Idler Shaft Front and Rear Bearing Caps	7/16"	14	60	66
P.T.O. to Cover	7/16"	14	60	66	Main Shaft Front Bearing Cap	7/16"	14	60	66
Drive Shaft Rear Bearing Cap	7/16"	14	60	66	Idler Shaft Bearing Retainer	7/16"	14	60	66
Declutch to Case	7/16"	14	60	66	P.T.O. Housing Cap	5/16"	18	22	24
Declutch Housing Cap	3/8"	16	38	42					
Main Shaft Yoke Nut	1 1/4"	18	300	400					
Declutch Shaft Yoke Nut	1 1/4"	18	300	400					
Drive Shaft Yoke Nut	1 1/4"	18	300	400					
P.T.O. Shaft Yoke Nut	1"	20	300	400					

Torques given apply to parts coated with machine oil; for dry (or "as received") parts, increase torques 10%; for parts coated with multi-purpose gear oil, decrease torques 10%. Nuts on studs to use same torque as for driving the stud.



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