

Fig. 22A Spicer four speed models 8041, 8045, 8241, 8245, 8440, 8445

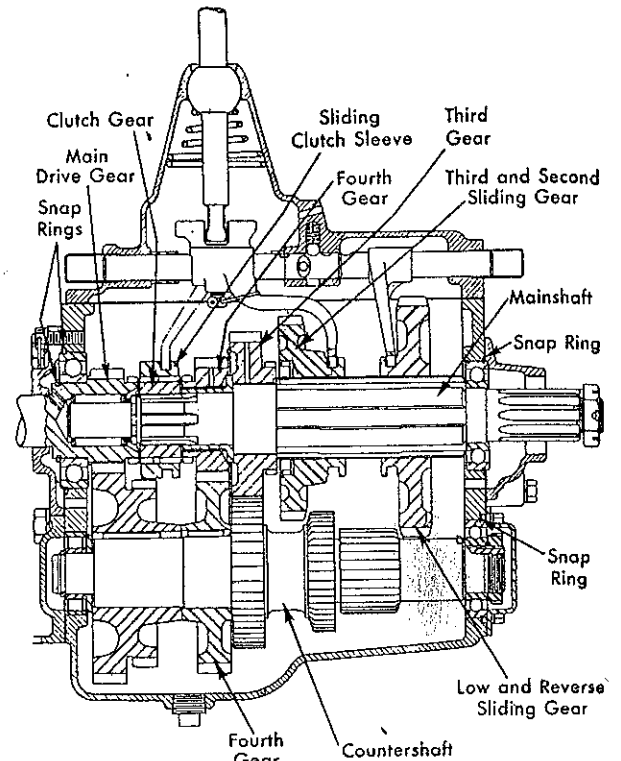


Fig. 23 Spicer models 2252, 2253, 2352, 2353, 3352, 3353. Five speeds forward with direct drive on fifth on 2252, 2352, 3352. On models 2253, 2353, 3353 direct drive is on fourth with overdrive on fifth. One reverse-speed is used on models 2252 and 2253; all other models have two reverse gears

case with shift fork collar to rear of case.

2. Make sure flat on rear end of reverse idler shaft is lined up so countershaft rear bearing cap will lock shaft in place.

3. Main drive gear bearing cap is marked "Top" and should be so installed.

4. Be sure mainshaft rear bearing cap and gasket are installed with oil drain holes lined up.

2252, 2253, 2352, 2353, 3352, 3353

FIVE-SPEED UNITS

See Fig. 23 and disassemble these transmissions as follows:

1. Shift the transmission into first speed and lift off the transmission cover.
2. Remove universal flange nut and pull off flange.
3. Take off mainshaft and countershaft rear bearing caps.
4. Unscrew lock nut from rear of countershaft and push both the mainshaft and countershaft assemblies to the rear at the same time until both bearings are clear of case. Then pull off the bearings.
5. Tilt the front end of the mainshaft upward, grasp the sliding gears and pull the mainshaft with stationary gears out through the top.
6. Remove the clutch release mechanism and take off the main drive gear bearing retainer.
7. Withdraw the drive gear from the front of the case.
8. On models equipped with two reverse

speeds, take out the high speed reverse shift rail and yoke.

9. On all models, withdraw the reverse gear shaft (or shafts) and remove the gear or gears.
10. Push the countershaft to the rear and lift the assembly out through the top by its front end.
11. To disassemble the mainshaft, remove the pilot bearing and sliding clutch sleeve. Remove the snap ring or nut which retains the clutch gear and strip the mainshaft of all parts.

ASSEMBLY—Reverse the order of the above procedure to assemble the unit. When assembling the mainshaft, however, clamp it in a vise with its front end up and install the rear thrust washer. Then place the third speed gear and bushing on the shaft. Assemble the fourth speed gear and sleeve (fifth on overdrive models) and install the clutch gear, locking the entire assembly with the nut or snap ring (whichever is used). Slip on the sliding clutch sleeve and pilot bearing.

The countershaft helical gears may be removed by pressing them off the shaft one at a time. And when new gears are installed, be sure the keys are a tight fit and stake them in place.

752, 752A, 753, 753A, 4452, 4453, 4453A, 4552, 4553, 5552, 5552A, 5553, 5553A, 6252, 6253

FIVE-SPEED UNITS

Figs. 24, 24A, 24B—In these transmissions, two synchronizer assemblies are used, one for 2nd and 3rd speeds and another for 4th and 5th speeds. All mainshaft and countershaft gears which are constantly meshed are helical type.

In some models the mainshaft constant mesh gear bearings are pressure lubricated by a transmission oil pump which forces gear lubricant through passages to bearing surfaces.

The mainshaft pilot bearing on some models is a double-row ball bearing assembly, while the pilot bearing on other models is a roller bearing assembly.

TRANSMISSION, DISASSEMBLE

1. Take off transmission cover and shift lever and then remove shift lever housing.
2. Unscrew flange nut and use a puller to remove companion flange.
3. Remove mainshaft and main drive gear bearing caps.
4. Remove main drive gear bearing retaining nut and plate.

sh mainshaft to rear far enough to permit removal of speedometer drive gear and rear bearing.

6. Tilt front end of mainshaft up slightly to permit main drive gear to clear countershaft drive gear. Then pull main drive gear out through front of case.

7. Lift mainshaft assembly out of case and at the same time slip low and reverse gear from the shaft.

8. Take off countershaft rear bearing cap and remove capscrews from rear end of shaft.

9. Push countershaft to rear far enough to permit removal of rear bearing.

10. Lift countershaft out of case.

11. The reverse idler gear shaft is tapped to rear for use of a puller when necessary to remove these parts.

MAINSHAFT, DISASSEMBLE

1. Clamp rear end of mainshaft in vise.

2. Remove pilot bearing and snap ring and take off high speed synchronizer.

3. Remove snap ring or T-shaped key from slot in shaft.

4. Rotate thrust washer to align its lugs with shaft splineways and slide it off shaft.

5. Lift off fourth speed (or overdrive) gear, bearings, rollers and spacer; also sleeve on models so equipped.

6. Remove snap ring (if equipped) from third speed gear sleeve.

Take off third speed gear with rollers and spacer. The sleeve used on some models will come off with the gear and bearings, whereas on other models the sleeve is removed after the gear and bearings.

8. Lift off the rear synchronizer. Care should be exercised on models with spring and ball type synchronizer to prevent the loss of springs, retainers and balls. This may be accomplished by wrapping a piece of wire around the poppet spring retainers after partially removing the unit.

9. Use a puller to remove rear synchronizer clutch gear, if necessary.

MAINSHAFT, ASSEMBLE

1. Fasten rear end of shaft in a vise and slip on second speed gear thrust washer (if unit has one).

2. On models so equipped, assemble bearing rollers and spacer in second speed gear, using grease to hold them in position.

3. Place second speed gear on shaft with clutch teeth facing front.

4. Install rear synchronizer clutch gear.

5. On models having poppet ball and spring type synchronizers, position poppet springs on clutch gear and insert balls. Use a piece of wire to compress plungers in order to slip on synchronizer sleeve, pulling wire out gradually as sleeve is being installed.

6. Slip synchronizer over clutch gear and sleeve in place. If sleeve has an oil hole be sure to line it up with oil hole in mainshaft.

7. On models so equipped, assemble roller bearings and spacer in third speed gear in same manner outlined for second speed

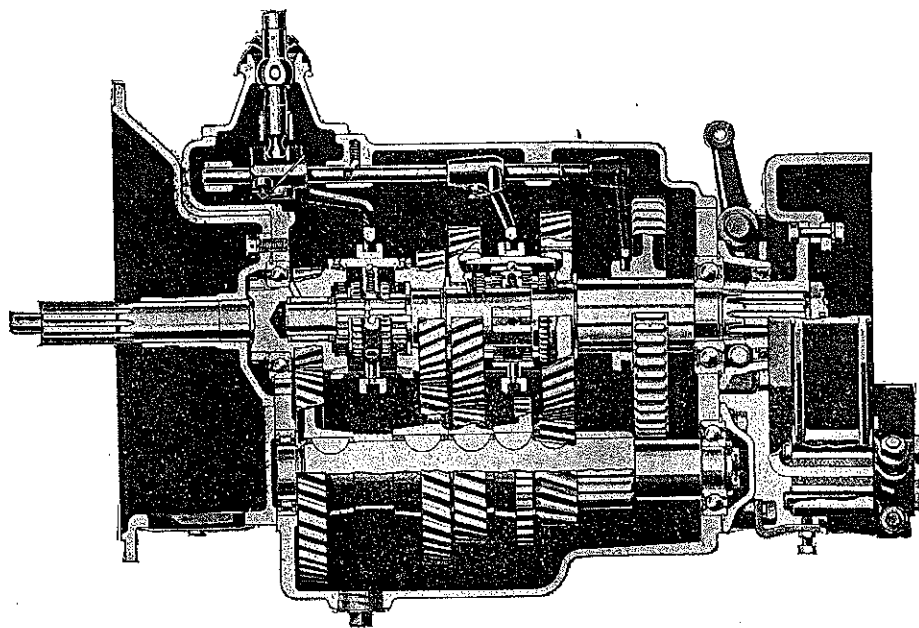


Fig. 24. Spicer models 752, 752A, 4452, 5552, 5552A (5-speed direct drive) and 753, 753A, 4453, 4453A, 5553, 5553A (5-speed overdrive)

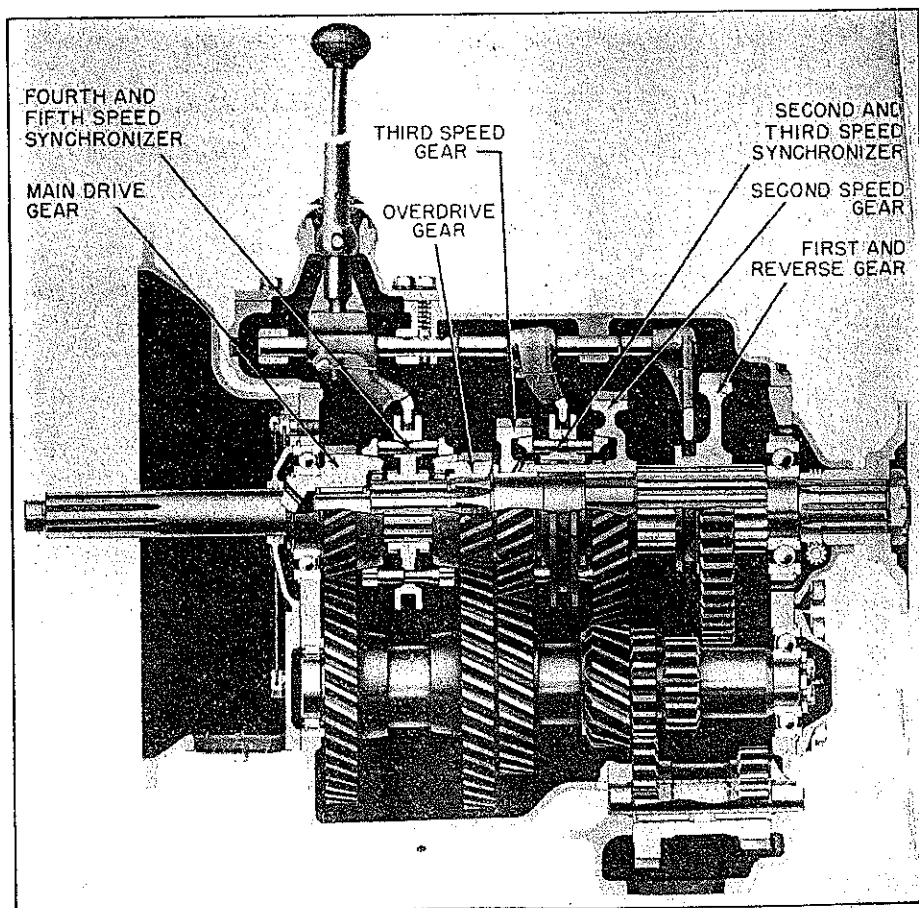


Fig. 24A Spicer five speed models 4552, 4553

gear. Then place this assembly on mainshaft, facing clutch gear teeth to rear. On some models the sleeve has lugs which must register with keyways of clutch gear. After sleeve is installed in these units, lock in place with a snap ring.

8. On models so equipped, slide fourth speed (or overdrive) gear sleeve and dowel in place, being sure oil hole in sleeve lines up with oil hole in mainshaft.

9. Assemble bearing rollers and spacer in fourth speed (or overdrive) gear in same manner as already set forth and slide assembly in place with clutch gear teeth facing front.

10. Slip on thrust washer and lock it in place with T-shaped key or snap ring, whichever is used.

11. Install front synchronizer.

12. Install pilot bearing spacer ring on shaft to complete the assembly.

MAINSHAFT, INSTALL

1. Hold low and reverse gear in case at an angle and pass rear end of shaft through gear and out through rear of case; then forward to a position where mainshaft and countershaft line up.

2. Lubricate pilot bearing and slip it on mainshaft.

3. Raise front of mainshaft slightly and, at the same time, install main drive gear.

4. Install main drive gear bearing and snap ring, locking bearing with nut and lock plate.

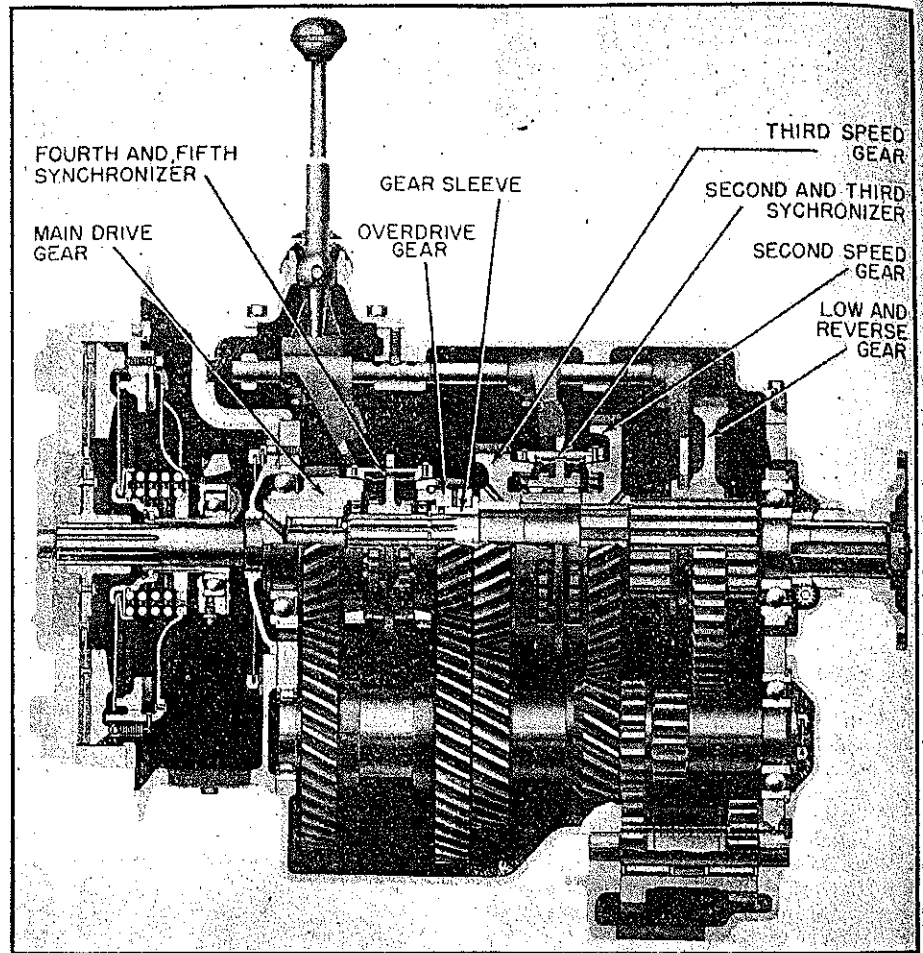


Fig. 24B Spicer five speed models 6252, 6253

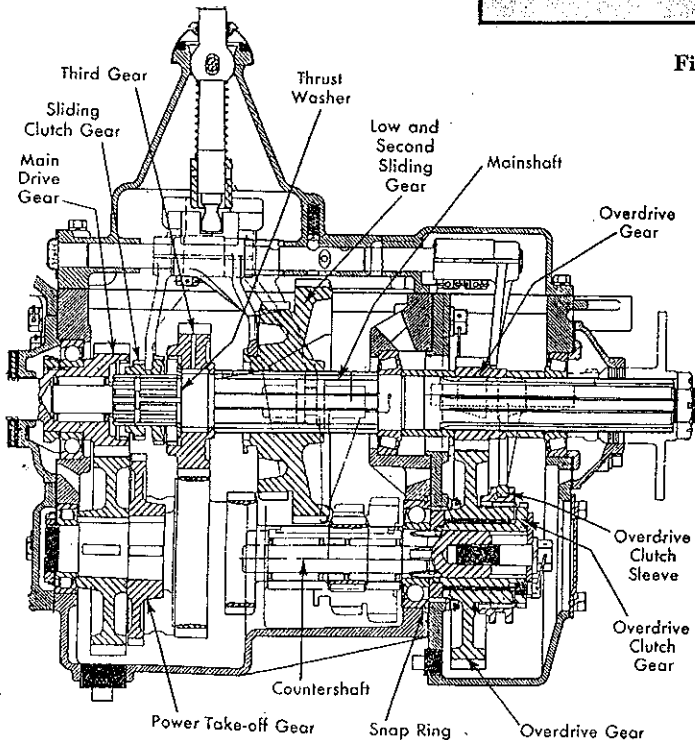


Fig. 25 Spicer model 5351. Five speeds forward and one reverse with direct drive on fourth and overdrive on fifth. Overdrive gearing is contained in a separate housing attached to rear of main case

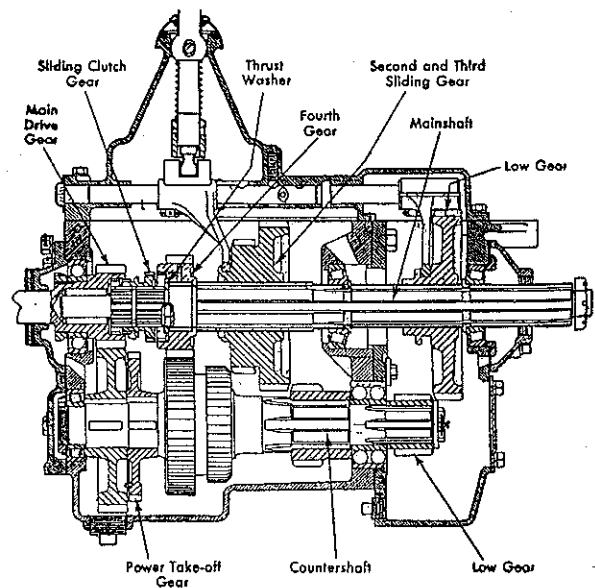


Fig. 26 Spicer model 5352. Five speeds forward and one reverse with direct drive on fifth. Low gear is contained in a separate housing attached to the rear of main case

Tap mainshaft rear bearing in place its snap ring to rear.

6. Slip bearing cap over main drive gear and bolt it in place. The oil holes in bearing cap and gasket must line up. The leather oil seal on models with an oil pump should be installed with the aid of a piece of shim stock covering the splines to prevent cutting the leather.

OIL PUMP

The oil pump (most models) is bolted to the inner side of the clutch housing. The pump is fitted with a non-adjustable pressure relief valve consisting of a ball and spring held in place by a pipe plug in the side of the oil pump housing.

When assembling the pump, press the drive gear on the shaft so that the distance from the front end of the shaft to the front side of the gear measures $17/32"$. This dimension should be maintained to prevent excessive wear on the side of the gear.

Assemble the oil pump driving gear and shaft in the housing. Press the driven gear shaft in the housing and then on the shaft. Assemble the relief valve and spring and install the pipe plug. Position the housing gasket, being sure the oil holes in the case are not covered by the gasket. Fill the oil pump with gear oil and fasten the assembly in place, being sure the oil holes line up.

5351

FIVE-SPEED UNIT

See Fig. 25 and disassemble the transmission as follows:

1. Take off the transmission cover.
2. Unscrew the universal flange nut and pull off the flange.
3. Unfasten the retainer cap from the rear of the case and remove the speedometer drive gear and rear bearing retainer.
4. Pull the overdrive shift shaft out through the rear and lift out the fork.
5. Remove the overdrive housing countershaft cover and unscrew the lock bolts which retain the overdrive gears to the countershaft.
6. Reach into the overdrive housing and remove the bolts which fasten this housing to the main case.
7. Pull the overdrive housing and gears to the rear end, at the same time, force the rear bearing from the mainshaft.
8. Remove the bell housing and the main drive gear bearing cap and pull the drive gear out through the front.
9. Slip the sliding clutch gear from the shaft and take it out through the front of the case.
10. Push the mainshaft to the rear until the intermediate bearing is free of the housing.
11. Take the T-shaped key from the slot in the mainshaft and disengage it from the thrust washer.
12. Withdraw the mainshaft through the gears and out of the case through the

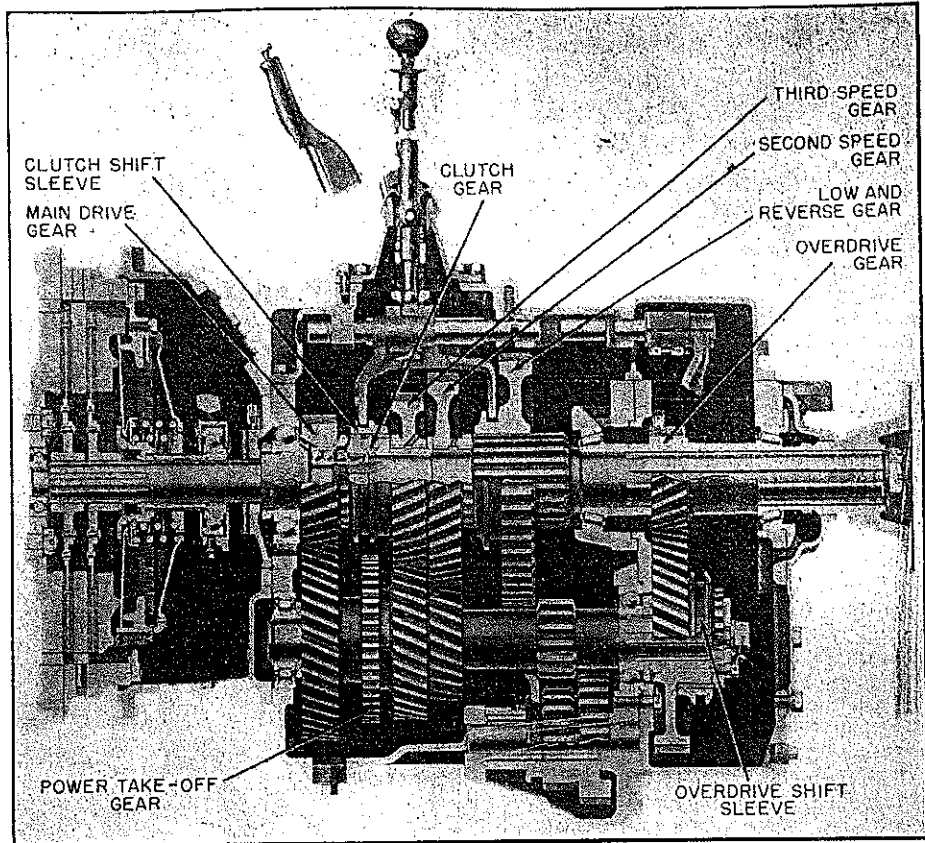


Fig. 27 Spicer five speed models 7451, 7651, 7751, 7751A 7851, 7851A

rear. Then lift the loose gears from the case.

13. Unscrew the nut from the front end of the countershaft.
14. Push the countershaft far enough to the rear to permit removal of the rear bearing.
15. Tilt the front end of the countershaft and lift it out through the top.
16. Push out the reverse idler shaft and lift out the gear.

ASSEMBLY—Reverse the order of the above procedure to assemble the transmission.

5352

FIVE-SPEED UNIT

See Fig. 26 and disassemble the transmission as follows:

1. Take off transmission cover.
2. Unscrew universal flange nut and pull off flange.
3. Unfasten the retainer cap from the rear of the case and remove the speedometer drive gear and rear bearing retainer.
4. Reach into the low gear housing and remove the bolts which fasten this housing to the main case.
5. Pull the low gear housing and gear to the rear, and at the same time force the rear bearing from the mainshaft.
6. Remove the bell housing and the main drive gear bearing cap.

7. Pull the drive gear out through the front.

8. Slip the sliding clutch from the mainshaft and take it out through the front of the case.
9. Push the mainshaft to the rear until the mainshaft intermediate bearing is free of the housing.
10. Use a pointed tool to depress the fourth speed gear thrust washer plunger, then rotate the thrust washer to align its inner lugs with the mainshaft splines and slide the washer and gear toward the front of the shaft. Use care when sliding off the gear that the plunger does not stick in the oil hole.

11. Withdraw the mainshaft through the gears and out of the case through the rear. Then lift the loose gears from the case.

12. Unscrew the nut from the front end of the countershaft.
13. Remove the two bolts from the rear of the countershaft, remove the retainer and pull the low speed gear from the shaft.
14. Force the countershaft far enough to the rear to permit removal of rear bearing.
15. Lift countershaft out through top by its front end.
16. Push out reverse idler shaft and lift out gear.