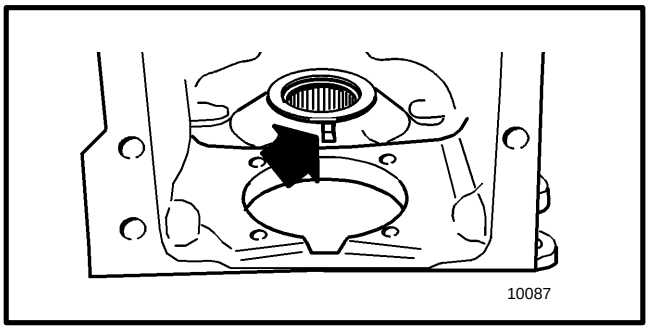

FIGURE 13. ALIGN THE THRUST WASHER WITH THE NOTCHES

12. Install a new gasket on the bearing retainer for the cluster gear. Lubricate the bearing cup with gear oil.

Install the bearing retainer and tighten the capscrews to 20 to 35 N.m *(*15 to 25 lbf ft). See FIGURE 14.

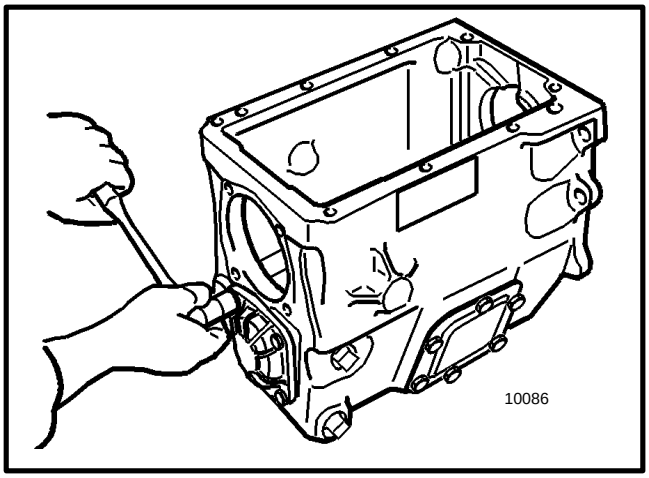

FIGURE 14. INSTALLING THE BEARING RETAINER FOR THE CLUSTER GEAR

13. Assemble the second gear synchronizer and spring into second gear. See FIGURE 16. Install the snap ring with the ends of the snap ring away from the gear. Put the mainshaft in a vise with soft jaws with the input end of the shaft up.

14. Lubricate the second gear assembly with oil and install it on the input end of the mainshaft. Install second gear with the synchronizer toward the output end of the mainshaft. Install the special snap ring in the groove on the mainshaft.

15. Install third gear on the mainshaft with the splines up. Install the synchronizer stop ring on third gear. Install the synchronizer hub on the mainshaft as shown in FIGURE 16. Install the synchronizer assembly and stop ring on the mainshaft.

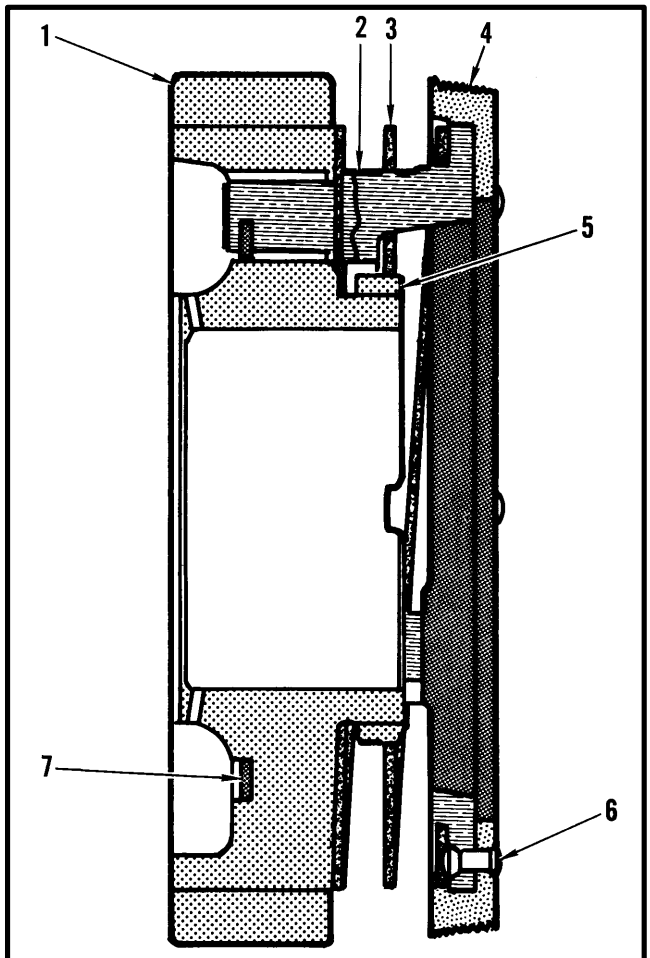

FIGURE 15. SYCHRONIZER ASSEMBLY FOR SECOND GEAR

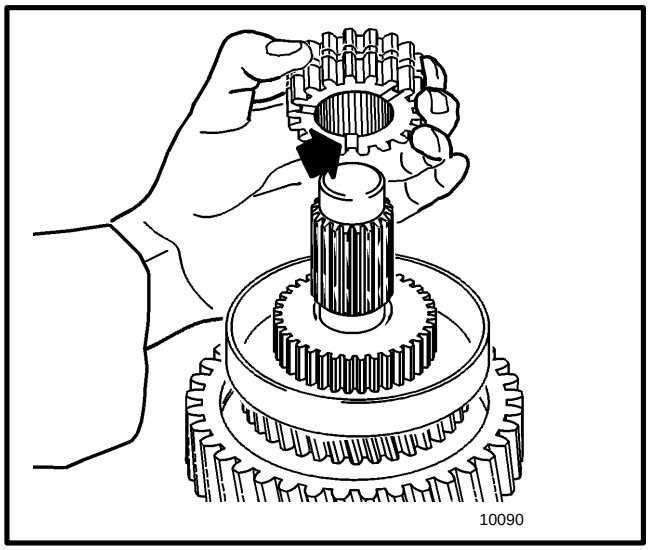

FIGURE 16. INSTALL THE HUB WITH THE OIL GROOVE TOWARD THIRD GEAR

16. Install the thrust bearing. Temporarily install the input shift with the synchronizer stop ring on the end of the mainshaft. Measure the clearance between the synchronizer stop ring for fourth gear and the teeth on the input shaft gear. See FIGURE 17. The clearance must be 1.6 to 2.1 mm (0.063 to 0.081 in). If the clearance is greater than 2.1 mm (0.081 in), put shims between the third gear teeth and the synchronizer stop ring. When the clearance is correct, remove the input shaft and thrust bearing from the mainshaft.

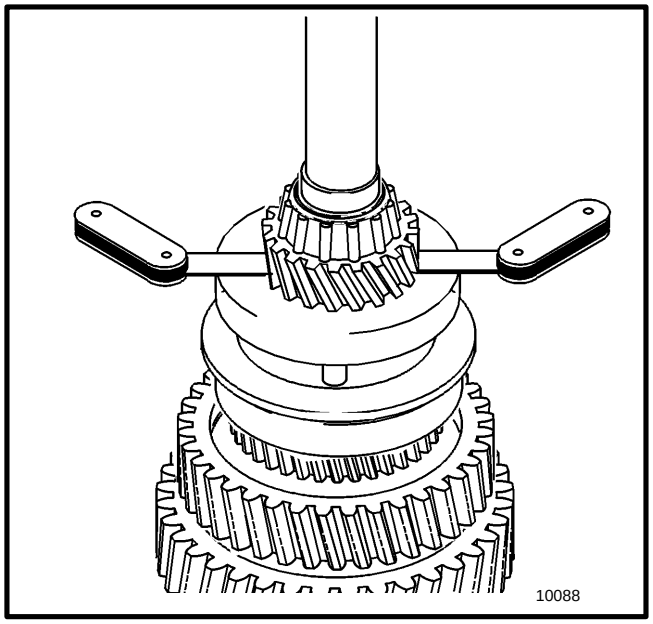

FIGURE 17. CHECK THE CLEARANCE BETWEEN THE STOP RING AND GEAR

17. Remove the mainshaft from the vise. Slide first gear on the output end of the mainshaft. The groove for the selector fork must be toward the output end of the mainshaft. Install the spacer against the splines of the mainshaft.

18. Hold first gear and the spacer to prevent them from falling from the mainshaft. Tilt the output end of the mainshaft and slide it into the bore for the mainshaft bearing.

19. Put a wood block between the input end of the mainshaft and the case. Use a large hammer and a piece of pipe to install the bearing on the mainshaft.

See FIGURE 18. Make sure the pipe touches only the inner race of the bearing. The yoke can also be used to install the mainshaft bearing. Tighten the mainshaft nut to push the yoke, spacer and bearing onto the mainshaft. Remove the nut, yoke and spacer.

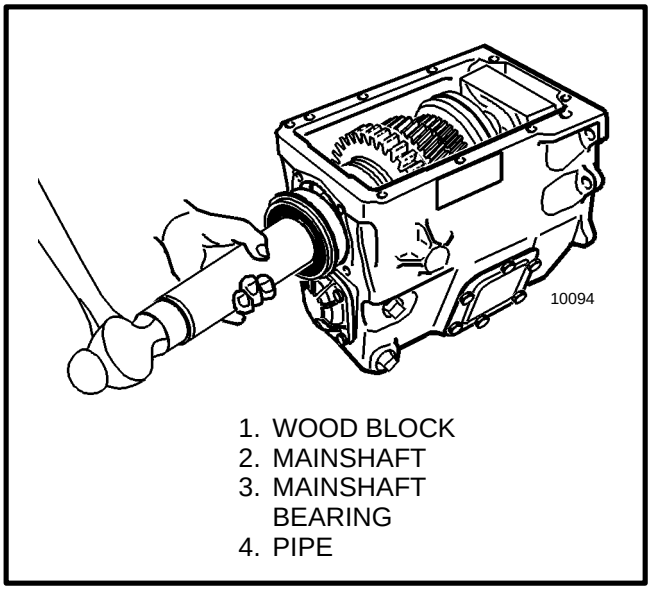

FIGURE 18. INSTALLING THE MAINSHAFT BEARING

20. Remove the wood block. Align the mainshaft so that the bearing will fit into the bore in the block. Use a plastic hammer to move the outer race into the case.

21. Install a new gasket on the mainshaft bearing retainer. Install the mainshaft bearing retainer on the case. Tighten the capscrews to 20 to 35 N.m *(*15 to 25 lbf ft). Put the transmission in two gears at once. Slide the spacer and yoke onto the mainshaft. See FIGURE 19. Install the nut and tighten to 120 to 175 N.m (90 to 130 lbf ft).

22. Install the thrust bearing on the input end of the mainshaft. Install the input shaft into the mainshaft. Rotate the input shaft so that the notch in the splines is