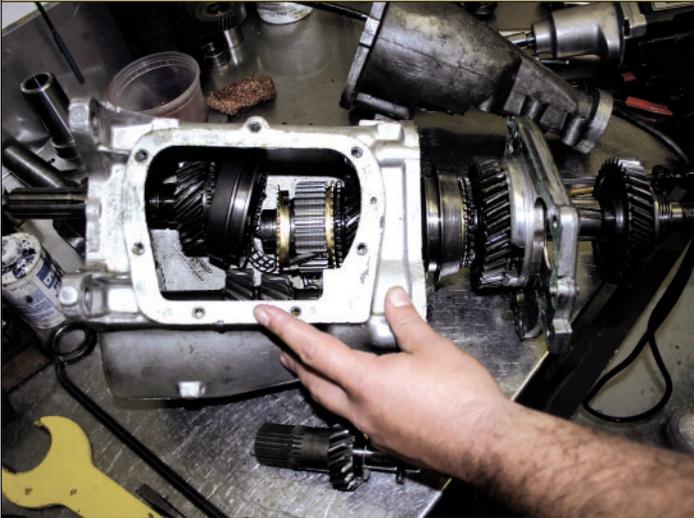


13 Remove Output Shaft and Upper Gearset



Remove the output shaft and upper gearset from the main case. Sometimes you have to pry between the main case and the mid plate. Don't worry about things flying apart.

Important!



15 Remove Reverse Idler and Thrust Washer



! Remove forward or inside reverse idler and thrust washer. If you are reusing any thrust washers, make sure that the washer tangs are still able to prevent it from spinning.

14 Remove Input Shaft



Pick out as many loose parts as possible, and then remove the input shaft. Broken inputs, such as this one, make great clutch-alignment tools.

Critical Inspection



16 Inspect Reverse Idler Gear



! Inspect the forward edge of the inside reverse idler. The groove cut into the forward edge is due to the 1-2 slider hitting it. This causes a whirring noise heard only in first gear. Worn forks and slider grooves can aggravate this common design flaw.

Critical Inspection, Special Tool, Performance Tip**17 Fix Countershaft Bore**

The front countershaft bore of the main case reveals a severe elongation. Boring it and installing a bushing is a common fix. This needs to be done in a machine shop on a vertical mill. Since this is a 7/8-inch-diameter countershaft, we can just bore the case to the 1-inch size and use a later-style head set. I'll scrap this case and use a new Auto Gear Supercase. If the countershaft bore is no longer a press fit and the shaft can slide in or out of the case by hand, the case needs to be repaired or replaced.

18 Update Input Shaft

The newer-style M20 input (left) has 21 teeth on a larger diameter, in contrast to 24 teeth on a smaller diameter (right). This makes for thicker and stronger gear teeth, and as a result, the input shaft can transmit more torque.

Performance Tip**19 Install Updated Countergear**

The M20 countergear (right) is the new design with 25 teeth, in contrast to the early 29-tooth finer pitch (left). It also takes a 1-inch countershaft. This upgrade started in 1966. The three holes in the new gear's front face are for an anti-backlash plate. Remove these plates on every M20 countergear because they have a tendency to break or loosen.