

# Ford's M5 Car And Truck Transmissions

By Mike Weinberg  
Contributing Editor

Ford, through its part ownership of Mazda, uses several Mazda-design transmissions. The MTX front-wheel-drive standard transmissions, the Toyo Kogyo light-truck units, and the large M5 car and truck gear boxes will all find their way into your shop. The M5 series has three separate models. The M5R2 is found in the '89 and up T-Birds and Cougars equipped with the 3.8 liter supercharged engine. The M50D-R1 is found in the '88 and up Ranger, Bronco II and Aerostar models. The

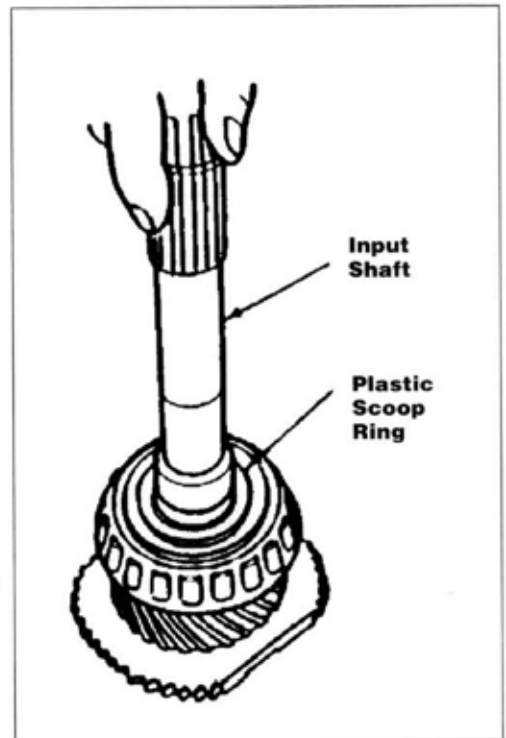
depending on which vehicle the unit is used in. It is extremely important to identify which unit you are working on in order to obtain the correct parts. There is an ID tag on the main case that contains model code numbers which make a positive ID of the gear box for your parts supplier. Go one step farther and make sure that the model of transmission matches the vehicle you are working on. It is possible that someone swapped-in a junkyard unit along the way and you may wind up fighting a driveability problem that has nothing to do with your workmanship.

This series of transmissions

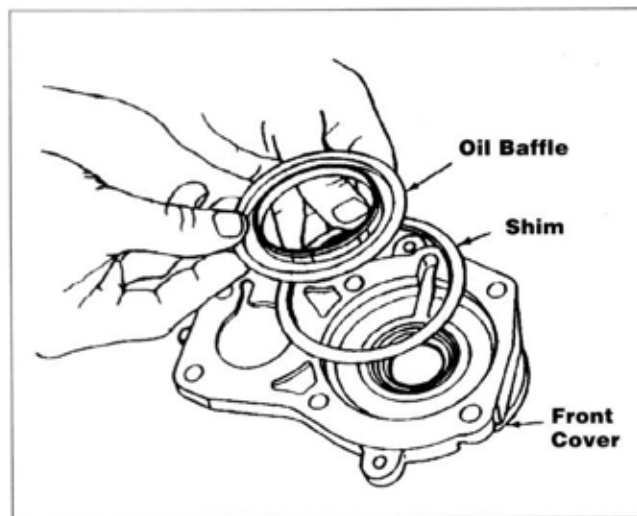
has five forward speeds (5th being over-driven) and reverse. All speeds including reverse are synchronized, and all gears are in constant mesh. Ratios vary with application. This is a big, beefy unit with good sized bearings to support the gear train. The input is a large tapered roller bearing.

The mainshaft

center bearing and the countershaft front and rear bearings are straight roller bearings. The main shaft and countershaft rear bearings are ball type. If oil is kept in the unit, low-mileage bearing failure will not be common. The input bearing is oiled



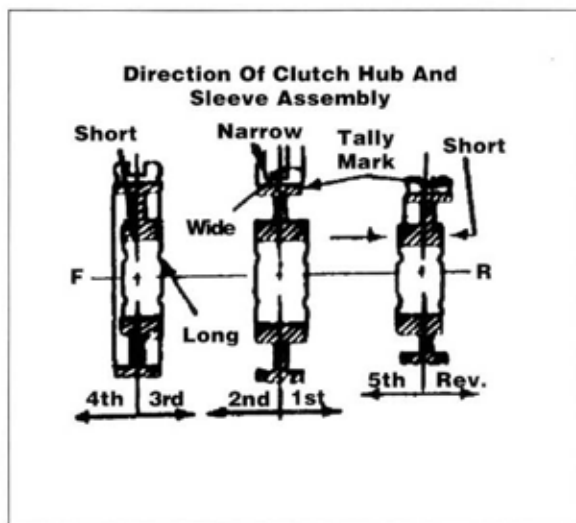
by a plastic scoop in combination with a rubber-coated oil baffle in front of the input bearing. The scoop indexes in two blind holes in the input shaft and receives oil through case passage fed by a stamped-steel oil trough in the main case. The oil is scooped up and fed through the input to lube the pocket bearing and the nose of the main shaft. We have seen many of these units come in low on oil with the plastic scoop melted and the baffle seal damaged, with corresponding damage to the front bearings. A word to the wise: if you get one of the units low on oil from a leak, remove the unit and check the input oiling system for damage. The truck models use rubber plugs to seal the ends of the shift rail bores in the shift cover, and it is common for them to leak. If this leak goes undetected, major unit failure is sure to follow.



M50D-R2 unit is found in F series pickups, full-sized Broncos and Econoline vans. The M50D-R1 and R2 models come in two- and four-wheel-drive versions. All these units are similar in appearance with the placement of the shifter varying,

Endplay is set by selective shims under the front bearing retainer. Input endplay should be 2-6/1000 and the countershaft endplay should be 6-10/1000. It should be noted that the input shim has an inner groove to accommodate the oil baffle and that the baffle goes on the input bearing with the shim between the baffle and the front bearing retainer.

The 5th-reverse synchro assembly and speed gears are mounted on the countershaft. The most common failure on this unit is caused by the driver shifting into reverse before the clutch has spun down. This peens over the coupling teeth on the 5th-reverse synchro sleeve. When the damage gets severe enough, the unit will fall out of reverse and will not make a shift to 5th. Ford has redesigned this gear set and replacement parts are sold as a kit. Individual parts are not avail-



able. Endplay for the 5th-reverse gear train is set by selective split washers behind the 5th synchro hub. Clearance between the split washer and the hub should be 9-13/1000.

This unit is sealed with RTV silicone except for the shift cover which has a REUSABLE formed

rubber gasket. The factory lube fill is Mercon ATF. Early models were equipped with brass synchro rings and later models were updated to use paper-lined rings. Any unit that has paper-lined rings should only use ATF for lube.

It is a smart move to make index marks on the synchro assemblies on teardown. This way if the synchros have to be disassembled they can be put back together with the proper mating surfaces together. Indexing the synchros also helps you to remember which direction the hubs go on the shafts after the unit is on the bench

for a few days waiting for parts. This is a well-designed unit that is fairly easy to work on. The addition of a factory manual to your collection will put all the specs and rebuilding procedures at your fingertips. Work smarter, work easier, and make more money. ■

Sell The BEST Remanufactured Transfer Cases & Transmissions in the Business...

Switch To

**ROCKLAND STANDARD GEAR!**

Higher Quality, Service & Profits • Custom Units Our Specialty!

Put an End to Transfer Case Failures FOR GOOD!

• Extreme HD • AWD-To-Part-Time Conversions • Slip-Yoke Eliminator Kits • AWD Low-Range Lockups • AWD Viscous Eliminators



**Jeep Transfer Cases**



- 231J Command Trac
- 242J Select Trac
- 247J Pump Coupler AWD
- 249 J AWD

Rockland Standard Gear can custom fit all of these transfer cases to any TJ, YJ, ZJ, WJ, XJ & KJ model

**Ford Transfer Cases**



All Ford Transfer Cases are Remanufactured with the Latest O.E. Borg Warner Components

\*Includes New Morse Chain  
Models Available: 1350, 1354, 1356, 4404, 4405, 4406, 4407, 4410, 4411, 4416

**GM Transfer Cases**



All GM Transfer Cases are Remanufactured with the Latest O.E. Components with Updated Clutch Packs to Eliminate Chatter Problems

\* Includes New Morse Chain  
Models Available: 136GM, 226GM, 246GM, non-clutch style 231C-263GMXHD

**Dodge Transfer Cases**



All Dodge Transfer Cases are Remanufactured with O.E. Components

• Durango RT - Converts Full Time AWD to Select Trac or Command Trac  
\* Includes New Morse Chain  
Models Available: 231D, 231DHD, 241DL, 241DHD, 242 Select Trac

RSG Has A Full Line Of Remanufactured Transmissions IN STOCK - READY TO SHIP!



- Ford M5R1 & M5R2
- ZF 5 & 6-Speeds (Ford Full-Series)
- AX5 & AX15 (Dodge & Jeep)
- New Venture 4500 (GM & Dodge)
- Call for other models!
- 3-Day Delivery - Same Price as Ground
- We Drop Ship & Handle Core Returns

CALL THE TC SPECIALISTS FOR LOWEST PRICES!

Call **1-800-227-1528**  
Fax **1-877-774-3294** (TOLL FREE)  
ONLINE AT [www.regear.com](http://www.regear.com)  
Largest Inventory of Stock & Custom Applications

Circle No. 25 on Reader Card