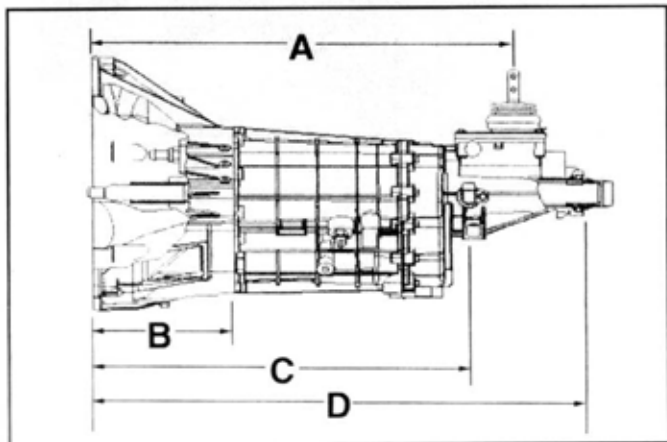


Two New Tremec Transmissions for the Ford Mustang

**By Mike Weinberg
Contributing Editor**

The only constant in our business is change. The competition for market share and the rapid growth of new technology keep us busy just learning the new components being introduced in the cars we work on.

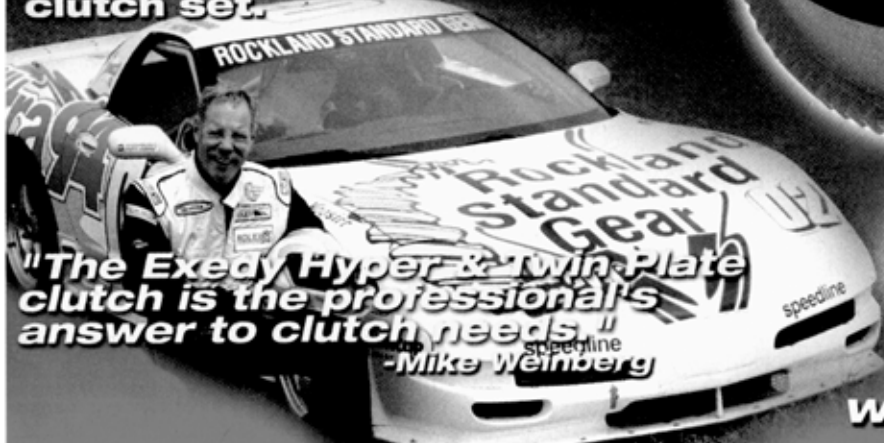
The venerable Mustang is still the performance vehicle of choice for Ford Motor Co., and Ford has upgraded the driveline with two transmissions that are new to the company. The Mustang comes equipped with a 4.6-liter "modular" engine with either two or four valves per cylinder. For 2003 models the two-valve engines are coupled with a TR3650 5-speed manual transmission, and the four-valve engines use a T56 6-speed manual transmission.



HYPER Single & Multi Plate

CORVETTE CLUTCH

Compact & lightweight design using a high rigidity aluminum cover. Reduced inertia improves engine and shift response. The Exedy patented Hyper & Twin clutch comes as a set with a chrome-moly flywheel. The aluminum cover is stiffer than a stamped cover and provides comfortable pedal effort with increased torque capacity. Pedal effort, shift times and durability are greatly improved over a stock or aftermarket clutch set.



"The Exedy Hyper & Twin Plate clutch is the professional's answer to clutch needs."
-Mike Weinberg

EXEDY RACING CLUTCH

www.ExedyUSA.com

Model #	A	B	C	D
TR-3650	689.0	230.0	623.0	802.0

Model	Torque Range (lb. ft.)	Dry Weight lbs.	Spline Data		Gear Ratio Chart						
			Input	Output	1st	2nd	3rd	4th	5th	6th	Rev
TR-3650	360 lb. ft.	120 lbs.	10 T	31T	3.38	2.00	1.32	1.00	.67	N/A	3.38

Features and Benefits:

Two-wheel drive

Five speed application with overdrive Applicable for a wide range of passenger car and compact utility vehicles

Advanced synchronizer design Enhanced shifting and improved durability

Optimized multi-rail shift linkage Improved durability

Improved shifter design Enhanced isolation

Constant mesh synchronized reverse

End-load design with integral clutch housing Improved structure

The T56 is not new, having been used for years by General Motors in the F-body (Camaro/Firebird) cars and the Corvette and by Daimler/Chrysler in the mighty Viper model. The TR3650 was introduced into the Mustang in 2001 and continues in use behind the two-valve 4.6-liter engine. New in 2003 is the T56 model. This article will concentrate on the TR3650.

The TR3650 is manufactured by Tremec Corp., a state-of-the-art transmission manufacturer with facilities in the United States and Mexico. Tremec bought the standard-transmission line from BorgWarner Corp. and continues to manufacture the T5, T45, TR3550, TKO and T56 transmissions.

continues next page

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, 241DLD, 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!

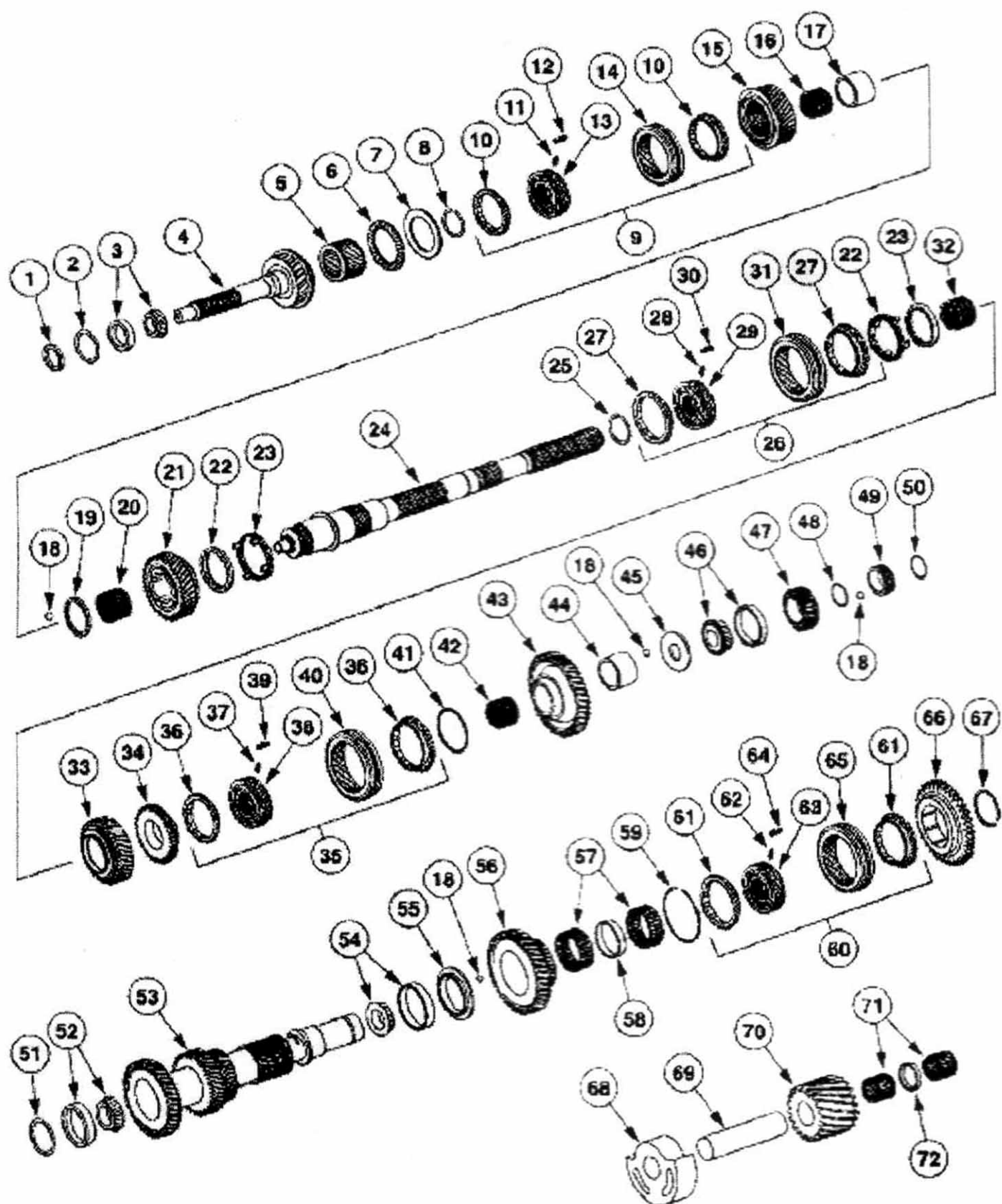
Call **1-800-227-1528**

Fax **1-877-774-3294** (TOLL FREE)

ONLINE AT www.regear.com

Largest Inventory of Stock & Custom Applications

Up To Standards



Item	Part #	Description
1	7052	Input-shaft seal
2	7L172	Shim
3	7025	Input-shaft front bearing and cup
4	7017	Input shaft
5	7025	Input-shaft pocket bearing
6	—	Input-shaft thrust bearing
7	—	Input-shaft thrust washer
8	7064	Retaining ring
9	7124	Third/fourth-gear synchronizer assembly
10	7107	Third/fourth-gear synchronizer blocking ring
11	—	Third/fourth-gear synchronizer spring (part of 7124)
12	—	Third/fourth-gear synchronizer insert (part of 7124)
13	—	Third/fourth-gear synchronizer hub (part of 7124)
14	—	Third/fourth-gear synchronizer sleeve (part of 7124)
15	7B340	Third gear
16	7B369	Third-gear needle bearing
17	—	Third-gear bushing
18	—	Checkball
19	—	Thrust washer
20	—	Second-gear needle bearing
21	7102	Second gear
22	7175	First/second-gear synchronizer inner cone
23	7174	First/second-gear synchronizer outer cone
24	7061	Output shaft
25	—	Retaining ring
26	7124	First/second-gear synchronizer assembly
27	7107	First/second-gear synchronizer blocking ring
28	—	First/second-gear synchronizer spring (part of 7124)
29	—	First/second-gear synchronizer hub (part of 7124)
30	—	First/second-gear synchronizer insert (part of 7124)
31	—	First/second-gear synchronizer sleeve (part of 7124)
32	7127	First-gear needle bearing
33	7100	First gear
34	—	Reverse-clutch cone
35	7124	Reverse-gear synchronizer assembly
36	7107	Reverse-gear synchronizer blocking ring

Item	Part #	Description
37	—	Reverse-gear synchronizer spring (part of 7124)
38	—	Reverse-gear synchronizer hub (part of 7124)
39	—	Reverse-gear synchronizer insert (part of 7124)
40	—	Reverse-gear synchronizer sleeve (part of 7124)
41	—	Retaining ring
42	7N168	Reverse needle bearing
43	7C238	Reverse driven gear
44	—	Reverse-gear bushing
45	—	Selector gate
46	7025	Mainshaft rear bearing and cup
47	7K316	Mainshaft fifth gear
48	—	Retaining ring
49	7H150	Output-shaft speed (OSS) sensor
50	—	Retaining ring
51	7L172	Shim
52	7025	Countershaft front bearing and cup
53	7113	Countershaft
54	7025	Countershaft rear bearing and cup
55	—	Thrust bearing
56	7144	Countershaft fifth gear
57	—	Countershaft fifth-gear needle bearing
58	—	Countershaft fifth-gear bearing spacer
59	—	Retaining ring
60	7124	Fifth-gear synchronizer assembly
61	7107	Fifth-gear synchronizer blocking ring
62	—	Fifth-gear synchronizer spring (part of 7124)
63	—	Fifth-gear synchronizer hub (part of 7124)
64	—	Fifth-gear synchronizer insert (part of 7124)
65	—	Fifth-gear synchronizer sleeve (part of 7124)
66	—	Fifth-gear clutch cone
67	—	Retaining ring
68	—	Reverse idler-gear support
69	7140	Reverse idler-gear shaft
70	7141	Reverse idler gear
71	7E169	Reverse idler-gear needle bearing
72	—	Reverse idler-gear bearing spacer

You can trace the design evolution through the Ford Mustang models. In developing the 5-speed manual transmission they started with the T5. The T45 then replaced the T5, and in 2001 models the TR3650 was introduced.

The TR3650 is a 5-speed manual transmission with an aluminum bellhousing, main case and extension housing. All forward gears are helical cut and syn-

chronized with 5th being overdrive. The reverse gearset is fully synchronized and is in constant mesh. A shift interlock system prevents the driver from engaging more than one gear at a time. The 5th/reverse synchronizer assembly is mounted on the countershaft to make a more-compact design. The TR3650 weighs 120 pounds dry and is capable of handling 360 lb.-ft. of torque.

continues next page

Up To Standards

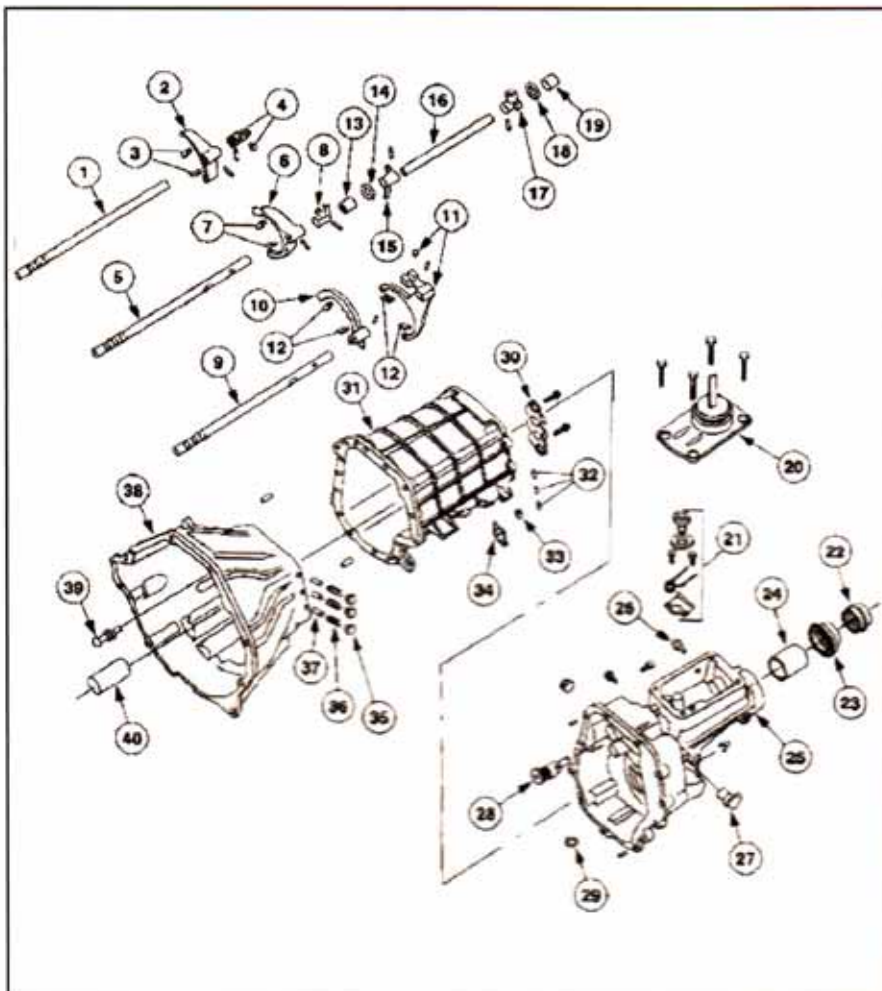
Ratios:

1st gear	3.38-1
2nd gear	2.00-1
3rd gear	1.32-1
4th gear	1.00-1
5th gear	0.67-1
Reverse	3.38-1

A metal tag bolted to the extension housing contains a Ford part number, and a Tremec part number also identifies the unit. The Tremec part number will begin with 1381 followed by three zeroes, which indicate a complete

transmission assembly, and the final three digits indicate the design level of the gearbox. See the identification chart on page 107.

This unit uses double-lined synchro rings for improved shifting, and the required lube fill is 7.5



Item	Part #	Description
1	7358	First/second shift rail
2	7239	First/second shift fork
3	7L082	Shift-fork inserts
4	—	First/second shift finger
5	7241	Third/fourth shift rail
6	7230	Third/fourth shift fork
7	7L082	Shift fork inserts
8	—	Third/fourth shift finger
9	7242	Fifth/reverse shift rail
10	—	Reverse-gear shift fork
11	—	Fifth-gear shift fork
12	7L082	Shift fork inserts
13	—	Shift-arm bearing
14	—	Spacer
15	—	Shift-arm selector inhibitor
16	7240	Main shift rail
17	7F018	Gearshift offset lever
18	—	Spacer
19	—	Bearing
20	7210	Gearshift lever
21	—	Gearshift plate and spring
22	—	Shipping seal
23	7052	Output-shaft seal
24	—	Extension-housing bushing
25	7A039	Extension housing
26	7034	Vent
27	—	Vehicle-speed sensor (VSS)
28	—	Fifth/reverse-gear lockout
29	7L027	Magnet
30	7K201	Shift interlock plate
31	7005	Transmission main case
32	—	Interlock pins
33	7A010	Drain plug
34	15520	Reverse-lamp switch
35	—	Detent plug
36	—	Detent spring
37	—	Detent
38	6392	Clutch housing
39	7B602	Ball stud
40	—	Bearing

