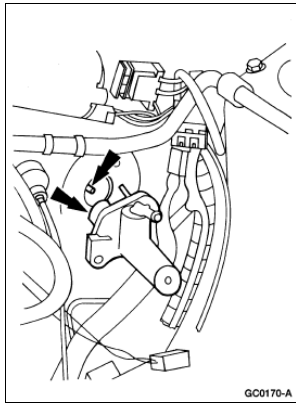
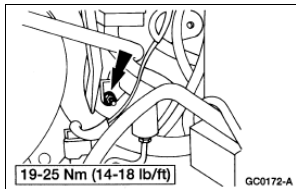


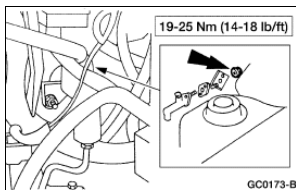
1. Align the clutch pedal to clutch release lever rod with the clutch master cylinder and install the clutch master cylinder.



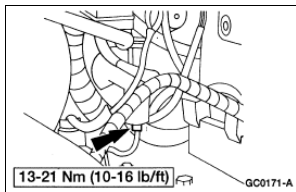
2. Install the clutch master cylinder nut in the engine compartment.



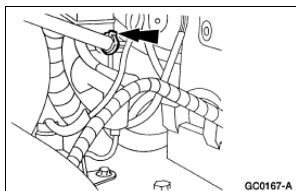
3. Install the clutch master cylinder nut in the passenger compartment.



4. Connect the lower clutch slave cylinder tube to the clutch master cylinder.



5. Connect the clutch master cylinder hose to the clutch master cylinder.



6. Install the battery. For additional information, refer to [Section 414-01](#) .

7. Bleed the air from the system; refer to [Section 308-00](#) .



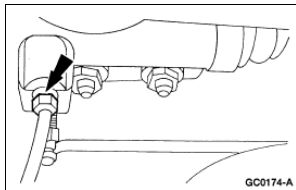
## Slave Cylinder

### Removal

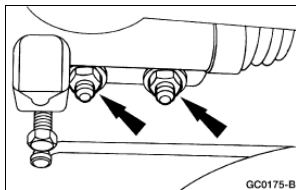
1. **⚠ WARNING: Brake fluid contains polyglycols ethers and polyglycols. Avoid contact with eyes. Wash hands thoroughly after handling. If brake fluid contacts eyes, flush eyes with running water for 15 minutes, get medical attention if irritation persists. If taken internally, drink water and induce vomiting. Get medical attention immediately.**

**⚠ CAUTION: Brake fluid is harmful to painted and plastic surfaces. If brake fluid is spilled onto a painted or plastic surface, wash it with water immediately.**

Disconnect the lower clutch slave cylinder tube (7T502) and plug it to prevent excess fluid loss.

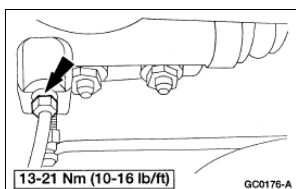
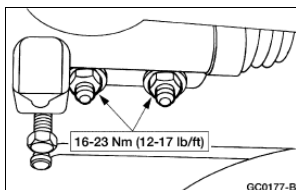


2. Remove the clutch slave cylinder nuts and the clutch slave cylinder (7A508).



### Installation

1. To install, reverse the removal procedure.
  - Bleed the air from the system; refer to [Section 308-00](#) .





## General Specifications

Item	Specification
First Gear and Differential Gear mm (in)	0.05-0.33 (0.002-0.013)
Second Gear and Secondary Third Gear mm (in)	0.18-0.51 (0.007-0.020)
Second Gear and Third Gear mm (in)	0.05-0.25 (0.002-0.010)
Fourth Gear and Bearing Cone mm (in)	0.17-0.42 (0.007-0.017)
<b>Clearance</b>	
Synchronizer Blocking Ring to Gear mm (in)	0.8-1.5 (0.031-0.059)
First/Second Synchronizer to Shift Fork mm (in)	0.1-0.95 (0.004-0.037)
Third/Forth Synchronizer to Shift Fork mm (in)	0.1-0.9 (0.004-0.035)
Fifth/Reverse Synchronizer to Shift Fork mm (in)	0.1-0.86 (0.004-0.034)
<b>End Play</b>	
Input Shaft mm (in)	0-0.05 (0-0.002)
Output Shaft mm (in)	0-0.05 (0-0.002)
<b>Runout</b>	
Input Shaft Gear mm (in)	0.05 (0.002)
Output Shaft Gear mm (in)	0.015 (0.0006)
<b>Backlash</b>	
Side Gears and Pinions mm (in)	0.025-0.1 (0.001-0.004)
<b>Lubricants and Sealants</b>	
Motorcraft MERCON Multi-Purpose (ATF) Transmission Fluid XT-2-QDX	MERCON®
Alternative Transaxle Fluid - SAE 75W90 Gear Oil F32Z-19C547-MA	API GL-4
Premium Long Life Grease XG-1-C or -K	ESA-M1C75-B
Silicone Gasket and Sealant F6AZ-19562-AA	WSE-M4G323-A6

## Torque Specifications

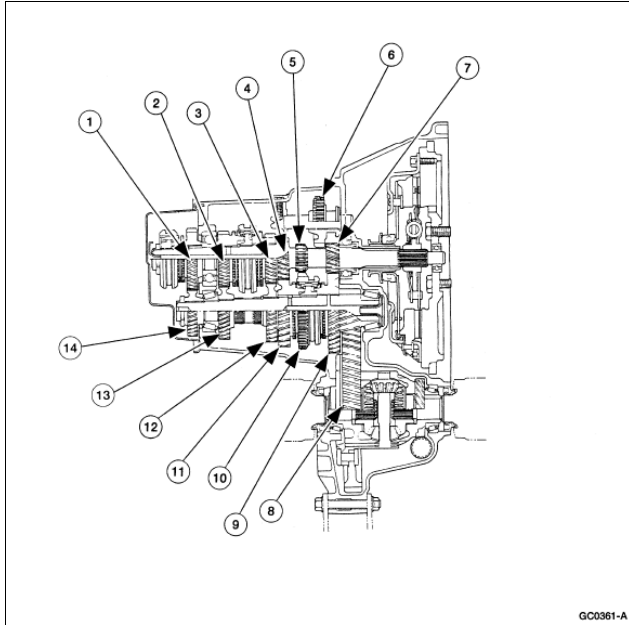
Description	Nm	lb-ft	lb-in
Backup Lamp Switch	20-29	15-21	
Case Cover Bolts	8-12		69-104
Clutch Slave Cylinder Nuts	19-25	14-18	
Clutch Slave Cylinder Tube Nuts	13-21	10-16	
Crossmember Bolts	94-126	69-93	
Differential Turning Torque	0.5		4.3
Drain Plug	39-54	29-40	
Electrical Connector Bracket Bolt	8-12		69-104
Engine Support Crossmember Nuts	64-89	47-65	
Engine Support Crossmember Bolts	64-89	47-65	

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Gearshift Stabilizer Bar to Transaxle Nut	31-46	23-34	
Input Shaft Lock Nut	130-190	95-140	
LH Support Insulator to Body Bolts	44-60	32-44	
LH Support Insulator to Body Nuts	44-60	32-44	
LH Support Insulator to Transaxle Nuts	67-93	50-68	
Lock Bolt	15-20	11-15	
Lower Rear Support Insulator Bolts	67-93	50-68	
Lower Transaxle to Engine Bolts	38-51	28-38	
Middle Transaxle to Engine Bolts	38-51	28-38	
Output Shaft Locknut	130-190	95-140	
Park/Neutral Position (PNP) Switch	20-29	15-21	
Reverse Idler Shaft Lock Bolt	18-26	14-19	
Selector Arm Bolt	12-14		104-122
Splash Shield Bolts	8-10		70-95
Selector Plate Bolts	8-10		70-95
Shift Gate Bolt	12-14		104-122
Shift Rail Guide Bolt	9-14		80-124
Shift Control Shaft Selector Lever Bolt	12-14		104-122
Support Insulator Through Bolts	67-93	50-68	
Support Insulator to Crossmember Nuts	38-51	28-37	
Transaxle Case to Flywheel Housing Bolts	38-51	28-38	
Transaxle Gearshift Rod Nut and Bolt	16-23	12-17	
Transaxle Mount Bolts	38-51	28-38	
Upper Transaxle to Engine Bolts	38-51	28-38	
Vehicle Speed Sensor (VSS) Bolt	8-11		70-99

**Manual Transaxle**

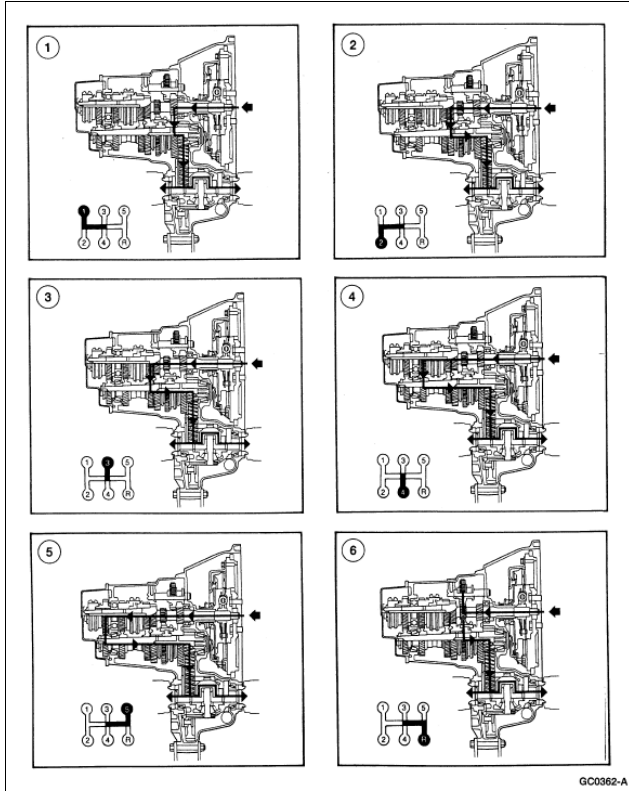
**Manual Transaxle**



Item	Part Number	Description
1	7144	Fifth Speed Cluster Gear
2	7112	Fourth Gear
3	7B340	Third Gear
4		Input Second Gear
5		Reverse Gear
6	7141	Reverse Idler Gear and Bushing
7		Input First Gear
8	4026	Differential
9	7100	First Gear
10		Reverse Output Gear
11	7102	Second Gear
12		Third Speed Gear
13		Fourth Speed Gear
14	7K316	Fifth Speed Gear

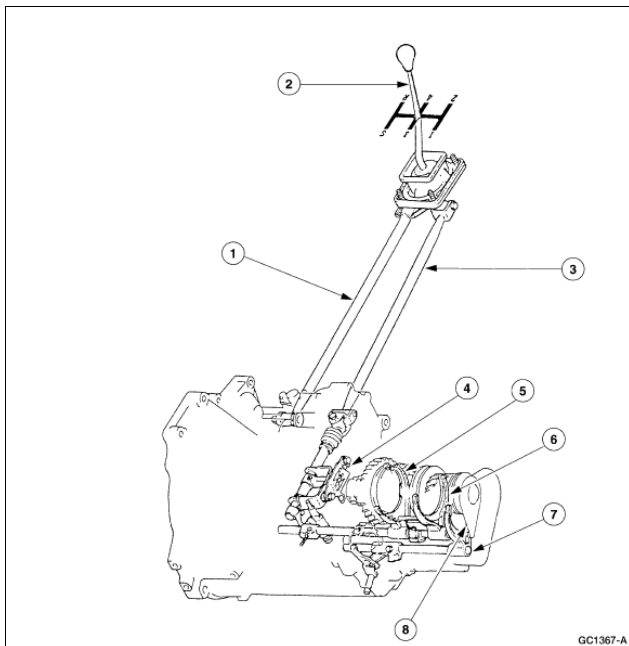
The G15M-R manual transaxle is a fully synchronized five-speed transaxle. The forward gears are selected by a synchronizer mechanism. Third gear (3GR) (7B340), fourth gear (4GR) (7112) and the fifth speed cluster gear (7144) are mounted on the input shaft (7017). First gear (1GR) (7100), second gear (2GR) (7102) and the reverse output gear are mounted on the output shaft. The helical-cut forward gears are in constant mesh with the corresponding gears on the opposing shaft. The G15M-R features a synchronized reverse gear. The reverse gears have straight-cut teeth and are engaged through the reverse idler gear and bushing (7141).

**Power Flow**



Item	Part Number	Description
1		First Gear
2		Second Gear
3		Third Gear
4		Fourth Gear
5		Fifth Gear
6		Reverse Gear

**Shift Linkage**





Item	Part Number	Description
1	7L257	Gearshift Lever Stabilizer Bar and Support
2	7210	Gearshift Lever
3	7B140	Transmission Gearshift Rod and Clevis
4	7F476	Control Selector Plate
5	7230	Gear Shifter Fork, First/Second
6	7230	Gear Shifter Fork, Third/Fourth
7	7230	Gear Shifter Fork, Fifth/Reverse
8		Reverse Gear Blocking Ring

**External Shift Linkage**

The G15M-R manual transaxle is controlled by a floor-mounted gearshift lever (7210) located in the console panel (045A36). The gearshift lever is attached to the transaxle case through the gearshift lever stabilizer bar and support (7L257). Gearshift lever movements are transferred through the transmission gearshift rod and clevis (7B140). For more information, refer to Section 308-06 .

**Internal Shift Linkage**

The G15M-R manual transaxle is shifted internally by three shift forks. The fifth and reverse gear shifter fork shifts in and out of the fifth and reverse gears. The first/second and the third/fourth shift forks control all other forward gear shifts.

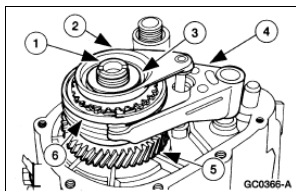
**Reverse Gear**

The reverse idler gear and bushing is mounted on a reverse idler gear shaft (7140) supported at one end in the flywheel housing and at the other in the transaxle case. Because the reverse idler gear and bushing slides and rotates on the reverse idler gear shaft, the bushing is necessary to prevent metal-to-metal contact and wear.

When the reverse idler gear and bushing slides on the reverse idler gear shaft, it engages the reverse drive gear on the input shaft and the reverse gear on the output shaft. The driving gear is part of the input shaft and the reverse gear is machined on the outside diameter of the first/second synchronizer sleeve.

When the reverse idler gear and bushing rotates on the reverse idler gear shaft, it reverses the power flow to the output shaft.

To engage the reverse idler gear and bushing, the motion of the shift fork selector lever (7F116) is transferred to the reverse gearshift lever (7K002) through the shift gate. The reverse gearshift lever is mounted on a meshlock plunger (7233) that allows it to act as a fulcrum. When the fifth/reverse gearshift selector arm moves its end of the shift fork selector lever, the opposite end slides the reverse idler gear and bushing into engagement with the input shaft and output shaft reverse gears.

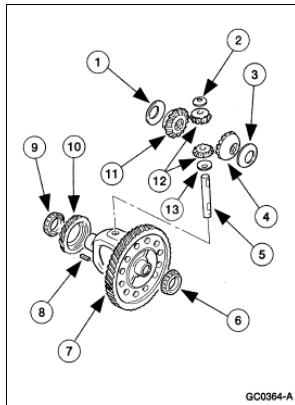


Item	Part Number	Description
1	7017	Input Shaft
2		Reverse Blocking Ring
3		Reverse Blocking Ring Retainer

4	7230	Gear Shifter Fork, Fifth/Reverse
5	7144	Fifth Speed Cluster Gear
6		Fifth Gear Synchronizer

The G15M-R uses a reverse blocking ring mounted to the input shaft above the fifth speed gear. When the transaxle is engaged in reverse, the fifth gear synchronizer hub is pressed against the reverse blocking ring, which is pressed against the reverse blocking ring retainer. This retainer is connected to the input shaft. As the blocking ring cone surface engages the cone surface of the retainer, it stops rotation of the input shaft and allows the smooth meshing of the reverse idler and the reverse speed gear.

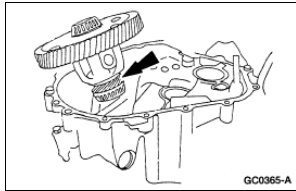
### Differential



Item	Part Number	Description
1	4228	Differential Side Gear Thrust Washer
2	4230	Differential Pinion Thrust Washer
3	4228	Differential Side Gear Thrust Washer
4	4236	Differential Side Gear
5	4211	Differential Pinion Shaft
6	4221	Differential Bearing (Ring Gear End)
7	4026	Differential
8	4241	Differential Pinion Shaft Lock Pin
9	4221	Differential Bearing (Speedometer Drive Gear End)
10	17285	Speedometer Drive Gear
11	4236	Differential Side Gear
12	4215	Differential Pinion Gear
13	4230	Differential Pinion Thrust Washer

The ends of the differential (4026) are supported on tapered roller differential bearings (4221). The cups for these differential bearings are seated in the transaxle case and the flywheel housing. Preload on the differential bearings is set using a selective differential bearing shim (4067) that is installed under the differential bearing cup in the transaxle case.

The differential includes the differential side gears (4236) and the shaft mounted differential pinion gears (4215). Direct contact between the four gears and the differential case is prevented by the differential side gear thrust washers (4228) installed under the gears. The differential pinion shaft (4211) is held in position by a differential pinion shaft lock pin (4241) that extends through the end of the differential pinion shaft and the differential case.



The speedometer drive gear (17285) is also mounted on the differential case. It is located between the tapered roller differential bearing and the differential case. A tab on the speedometer drive gear and a matching slot in the differential case prevent the speedometer drive gear from spinning on the differential case.

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